SMC

Expertise – Passion – Automation

Product overview

One single supplier for your automation needs

Product overview

Dear Customer:

We put in your hands a summary of SMC´s solutions for several of your automation needs. A guide for you to be able to do a fi rst product selection; to see what best suits you.

Simple, comprehensive, with easy codes to make the product selection smooth, effortless.

Main solutions from basic pneumatics to more sophisticated electric products, through an extensive range of ionizers and thermo control solutions.

Everything we've got for you at your disposal in the following pages.

And if any questions arise remember that our online Digital Catalogue is open 24/7 and your SMC Sales Engineer will always be glad to give you a hand.

- 365 Series.
- All lines of product represented: Air preparation, actuators, valves, vacuum, …
- Main technical Info to allow a first product selection.
- Stock Info.
- QR Codes.

All to ease your job: a first review in a simple way.

Introduction
Page 4

Valves
Page 21

Actuators
Page 99

Air line
Page 267

Piping equipment
Page 313

Instrumentation
Page 409

Process valves
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Vacuum
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Electric actuators
Page 547

Others
Page 569

How to use this catalogue

Simplicity & easiness for you

A few simple indications to guide you through SMC´s Product overview

How to use this catalogue

QR Codes

Look for the QR Codes to access additional product Information through your smart phone. Quickly & comfortably.

Product indications

- **New Products –** Symbol for all New Products launched to the market in the past 2 years
- **Energy efficiency –** Symbol for those products that save energy and more importantly save money
- **Enhanced products –** These are improved versions of existing products. Products that our engineers have made more compact, lighter, with improved materials…
- **Range extensions –** This includes products that incorporate added features: to cover more of your applications: New sizes, more mounting options, further communication protocols…
- **Highlighted products –** Marked with blue boxes in the Index.

Which type of information is included?

- Main technical product features
- Main product benefits
- Part number level information
- Main technical specifications
- Mounting accessories information & the standard stock
- Accessories information & the standard stock
- Auto switch information & the standard stock.

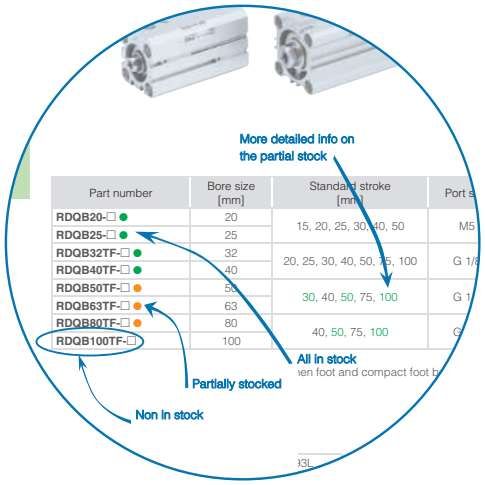
NOTE: This is meant to be a catalogue for a first product selection.

For detailed technical and product information please go to SMC´s online Product Catalogue or contact your sales engineer.

Stocked products

- Stocked items - All the options in that part number are stocked in Europe and ready for Fast Delivery
- Partly stocked items - Only a few options within that Part Number are stocked in Europe; the stocked options are highlighted in green

If more detailed information is required please check SMC´s online Digital Catalogue or contact your nearest SMC sales office.



How to find a product

Comprehensive indexes to facilitate the search: 3 Levels of index plus an alphabetical one.

- Family index – The overview is divided into 8 product family indexes (Page 3)
- Series index – List of all the product series contained in each family
- Index by descriptions – At the end of the catalogue there is an exhaustive list of products together with their general description (Page 596)
- Series index – The last section contains a comprehensive list of all included series in alphabetical order (Page 592).

SMC Information

The last part of the catalogue includes:

- Safety Instructions & Common Precautions – Generic Information intended to prevent hazardous situations and/or equipment damage
- Some General Technical Information on: Threads, Pressure and Flow characteristics
- Most Common Pneumatic Symbols
- SMC´s acknowledgment and Product conformity to International Directives and Standards
- SMC´s Global Service Network – List of SMC´s regional offices worldwide

Disclaimer – Please be aware that “Stocked items and product information could be subject to change without prior notice”.

Highlighted products

Each of the 8 Sections incorporates a selection of solutions that will bring you specific added value … Because they are highly cost-effective, because they will make your application considerably faster, because they will make your machine much lighter or because they will substantially save you money.

24/7 in the internet. SMC´s digital catalogue

Do you want access to SMC anywhere and at any time?

SMC´s Product Catalogue never closes. Our online platform is open 24/7 for you to be able to:

Personal product library

You can save the chosen SMC Solutions in your own library.

Search & select

12,000 basic models, 700,000 variations, available online for you to find the exact solution for your needs.

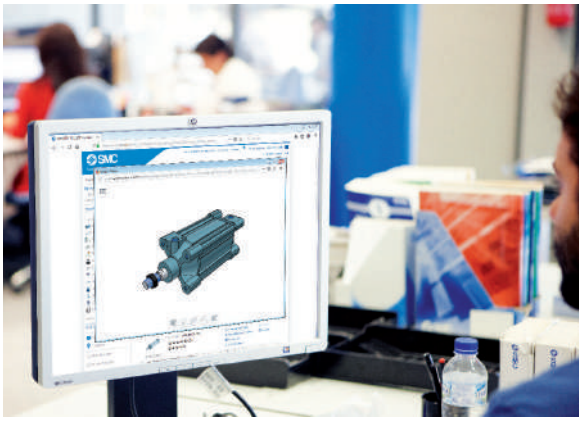
Configure

Interactive How to order to help you find the exact model that fits your requirements.

Information on standard stock items and related products

Find your distributor

Easy to find map with location, address and contact details to find the distributor nearest to your area.



Download any required documentation

- 3D CAD – Any drawing you might need for your design purposes accessible in a quick and easy way
- Technical Documentation – IMMs, Operation Manuals, CE Conformity, product catalogues etc. All the technical documents you might need available for you at a click.

Ask SMC

If any question of any type arises, in a couple of minutes you can send us an e-mail and one of the SMC support team will happily help you out.

SMC Online

Another way to be close to you.

"Coming together is a beginning. Keeping together is progress. Working together is success." – Henry Ford.

That is why at SMC we have built up the biggest Sales Engineers Network in the market, so we always have the possibility of standing shoulder to shoulder with you to find the most appropriate solution for your automation needs.

However, we are aware that you do not always need us there, by your side. There are some moments in the purchasing or in the designing process, or just for simpler requirements, which are not dependent on direct individual assistance.

This is why we have developed our online platform, as an extra way to be close to you; so you are able to find everything you require, whenever and wherever: all product information accessible at a click 24/7.

But remember, your sales engineers and our technical support teams behind them will always be happy to work closely with you, to work together to achieve your success.

Are you one of those people who never gets separated from your smartphone

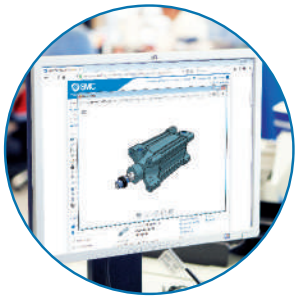
If you are included in this statistic: "one third of Europeans use the Internet on mobile devices" (Eurostat), we recommend our Mobile Digital Catalogue.
All the features of the online Digital Catalogue listed above accessed directly on your mobile phone.

Flexibility for your own comfort…

Need help with the design of your customised SMC solutions

We have an extensive range of Configurators and Selectors, ready either online or to download in your PC.
Size it up for cylinders, valves, air line equipment, process valves or for your whole pneumatic system.

Designing can get very lonely; we want to be there…



What´s going on

Become a member of our local Facebook and Youtube communities to be filled in on anything and everything that is happening within the industry and why not to let us know your thoughts and opinions?

Your opinion matters to us…

How this benefits you?

…and then what?!

- Available 24 hours a day, 365 days a year
- One-stop solution – all the information you need brought together in one place
- Fast
- Reliable – eliminates any sort of mistake. The model you will get through our Product Configuration will be always the correct one.

What's the point if you don't get a benefit?!

But remember, this only tops up our commitment towards ONE-ON-ONE RELATIONSHIPS

SMC boasts the largest global sales network: a sales force of over 4,800 to maintain close contact with you.
Your Sales Engineer will be glad to assist you at all times with your business projects or any day-to-day issue.

Let's keep in touch…

SMC services

Our commitment to you goes beyond the traditional, commercial transaction

We also strive to offer you the services that will increase the quality and efficiency of your process and raise your cost-efficiency.

Just ask us about our services for you

Energy efficiency activities

Do you want to reduce your energy consumption and operating costs?

There are so many different reasons that drive all of us to start conducting good energy practices that it is difficult to disregard for any longer.

CO_2 effects on global warming, progressively restrictive European environmental laws and the increasing and constant pressure to minimize costs as the only way to maintain competitive advantages in our respective markets.

These are the ways we propose for you to increase you competitiveness:

- Energy efficiency activities
- Energy/Activity - Energy efficiency
- Leak detection service
- Full range of energy efficiency products
- Energy efficiency assessment tools
- Energy efficiency software.

Go to page 16 for more detailed information.

Air quality management support

Are you really aware of the importance of having high-quality air in your system?

In short, impurities in your compressed air can easily end up in your final product thereby diminishing its quality. With nearly 60 years of experience in compressed air we can assist you in eliminating pollutants such as oil, water, scale or rust, to ensure you get the air quality you require.

With our support in Air Quality Management, you will benefit from:

- Optimized performance due to less downtime
- Reduction of your maintenance hours
- The increased lifetime of your system.

Ad-hoc training

Because we want you to take the best decisions

And a good decision is based on knowledge.

Education and Training is the premise of progress, the road to success. Conscious of this, we put our experts at your disposal to ensure that your staff has the necessary knowledge to take the best decisions.

The best part is that we can customize the training solution for you. Ad-hoc training means:

- On-site training on your premises or training courses at local SMC Training Centers.
- Practical hands-on training sessions or
- Theoretical classes for: Sizing & calculating, or related to a specific technology area: pneumatics, electronics, vacuum technology, energy efficiency, etc.

By qualifying your staff you will also benefit from the appropriate maintenance of your facilities.

Bottleneck checks

Let's guarantee production flows

To tackle the problem from the root, we provide you with assistance in examining which elements are likely to cause a breakdown, frequent maintenance stops or quality issues.

The benefits for you are:

- The increased lifetime of the equipment
- Safe operation.

e-procurement

Time to apply innovation; technology applied to the processes

The New Technologies put at our disposal, offer a set of advantages that can also certainly be applied to the processes. It is time to be innovative in our processes and benefit from the competitive advantages that this will bring.

It is as simple as using electronic interfaces that will save you time. By eliminating orders by fax, e-mail or telephone, a high degree of order accuracy is ensured with the added safeguard of electronic order confirmation.

Having efficiency in your processes will mean a direct reduction in the procurement costs and less capital outlay.

Tailor-made logistics solutions

Stock management can be a real headache, we can find the option that best fits you

Both we and our distributors have the capabilities to guarantee a constant global supply and the immediate availability of spare parts to help you reduce capital outlay. Among the options we have for you are the following:

- Consignment stock
- C-part management
- Kits preparation
- Emergency delivery
- Just-in-time delivery
- Re-usable packaging.

With this you will benefit from a consistent supply and the immediate availability of spare parts.

Our commitment to you

SMC: Continuing to pursue worldwide customer satisfaction and support automation.

We contribute with our expertise and passion to find the best possible solution for you.

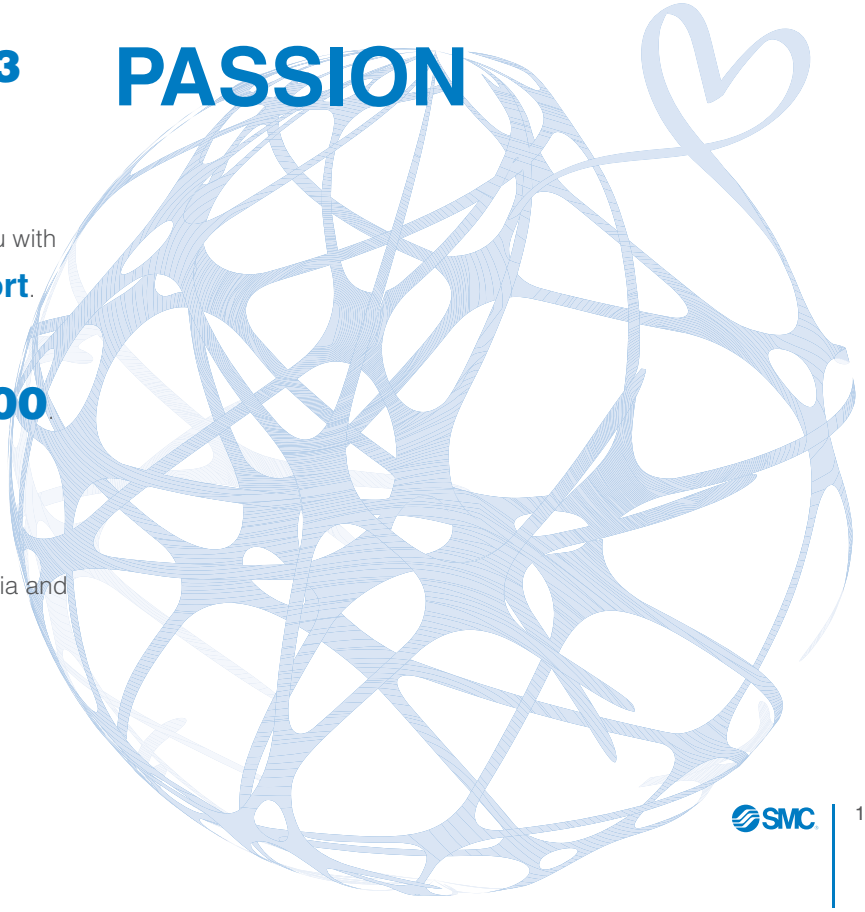
EXPERTISE

- **Since 1959** we have had our customers' trust.
- Our experts are always at your disposal to find **the best solution for you**.
- With a team of **1,500 experienced engineering** employees to provide quick solutions for our customers' specific needs.
- **5 worldwide Technical Centres** Japan, China, US, UK & Germany.

AUTOMATION

- Your Automation solutions provider **12,000 basic models** with over **700,000 variations**.
- Covering main product families – **basic pneumatics, electric actuators, vacuum & sensoring solutions, ionizers or thermo-chillers**.
- For the main **automation industries**.
- Solutions delivered to you when you need them – **SMC´s fast-track delivery service**: over **30,000** products can be sent to you within **24 to 48 hours**, depending on the destination.

PASSION



- **500 sales offices** in **83 countries** (29 in Europe).
- By your side, ready to provide you with the **best technical support**.
- With a sales force of over **8,300**.
- **36 production centres**
  6 in Japan, 13 in Europe, 12 in Asia and 5 in America.

SMC International training

SMC's Didactic Essence

SMC International Training is the educational division of SMC Corporation.

Our target is to meet automated industry's requirements in the didactic field. We offer companies and educational centers a wide range of products and solutions designed to develop the professional skills required by today's and tomorrow's technical experts.

Join us on the ascent through the different levels of the "Automation Pyramid"

Since the beginning of industrialization, the automation of manufacturing and production processes has been constantly evolving. This evolution has been made possible due to the integration in classic technologies, such as mechanics and electricity, of more modern ones such as electronics, computer science, communications, etc.

This integration of technologies is well represented by the "Automation Pyramid", which includes the five technological levels which can be considered in an industrial environment. The technologies interrelate, both within each level and between the different levels, by using industrial communications.

With our product range you can reach the different levels of the pyramid to obtain the exact skills your job needs.

Technologies

- Programmable controllers
- Continuous processes
- Electric motors
- Motion control
- Manipulators
- Pneumatics
- Sensors
- M.E.S.
- E.R.P.
- Industrial communications
- Identification systems
- Electrical panel
- Artificial vision
- SCADA/HMI
- Hydraulics
- Robotics
- Vacuum.

The training system for **Industry 4.0**

Digitalization is changing our lives. The way we work, relate with each other and consume are different and companies need to adapt to that reality.

Companies must adapt themselves to that reality and they need highly qualified experts able to interact with factories and intelligent machines, to respond to the needs of customers.

Composed of up to 14 stations, the **SIF-400** training system simulates a highly automated smart factory, including **Industry 4.0** technologies, advanced manufacturing concepts and the reality of the connected enterprise.

Technologies

- Connected and open system
- Plug & Play
- Flexible
- Modular
- Real process
- Management software
- IIoT (Industrial Internet of Things)
- Ideal for academics and research.

Relevant items and technologies: Industrial controllers, web services, Ethernet communication, industrial management system, OPC-UA, RFID, BCR, NFC and QR identification systems, distributed input and output, energy efficiency, HMI, electric actuators, collaborative robot, safety, SCARA robot, augmented reality, artificial vision, IO-Link smart devices, indoor autonomous vehicle…

SIF-400: Designed to help develop the skills required by **Industry 4.0**

IO-Link
Regulator

IO-Link
Fieldbus system

IO-Link
Sensor

Fieldbus wireless system

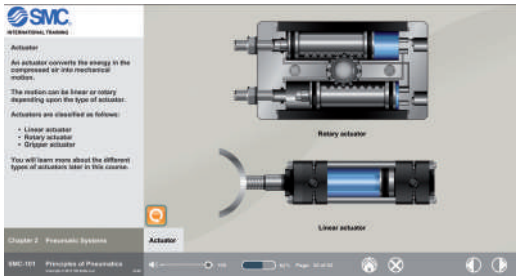
SMC International training

This is our product range to get you fully qualified

Products to get knowledge E-Learning courses

There is a portfolio available with 13 different eLEARNING courses intended for users to acquire the theoretical knowledge in the relevant technologies; covering areas such as pneumatics, hydraulics or robotics. All courses are fully interactive and their only requirement is to have an internet connection; whenever and wherever you please.

Under the name of eLEARNING-200, our courses are aimed at anyone interested in achieving the required knowledge in automation technologies.



Our products for skill development

Our didactic equipment consists of 18 different training families that will allow skills development in mechatronics, industrial automation and Industry 4.0 technologies. Each system emulates a real industrial environment, using state-of-the-art technologies and components.

Automation simulator software

autoSIM-200 is a software for training in automation technologies. With this software it is possible to:

- Design and simulate pneumatic, hydraulic, electric and electronic circuits
- Program virtual PLC
- Design, monitor and control 3D processes
- Connect with some of our training systems.

Training systems for pneumatics & electro-pneumatics

For the Pneumatics and Electro-Pneumatics Training there are 2 units: PNEUMATE-200 and PNEUTRAINER-400. Both have different options and compositions, which make them very adaptable solutions.

As a complement to these systems, and / or to be trained in more specific topics:

- VAC-200 for vacuum technology
- ENS-200 Energy efficiency trainer in compressed air installations.

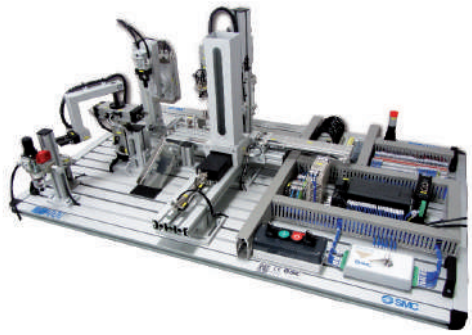
Training systems for hydraulics & electro-hydraulics

Two training systems to cover Hydraulics and Electro-Hydraulics: HYDROMODEL-200 and HYDROTRAINER-200.

The difference between them is based on the components:

- HYDROTRAINER-200 components are completely industrial
- HYDROMODEL-200 components are transparent methacrylate bodies with industrial parts inside, so it is possible to see how they work.

Both solutions also offer different compositions to adapt to different requirements.



Handling systems

This category includes various product families: MAP-200, AUTOMATE-200 or LOG-200.

Each of these training systems is focussed on different technologies and skills to provide you with the most suitable solution:

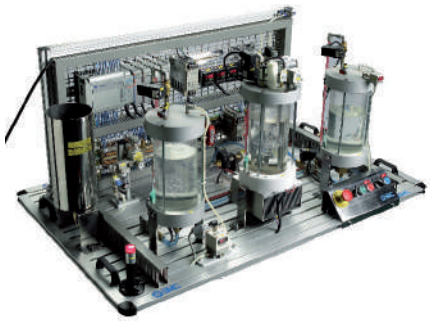
- Troubleshooting
- Installation and assembly
- Programming PLCs & SCADA
- Electrical actuators and handling systems
- Etc.

Industrial preocess control

IPC-200 emulates liquid production and a bottling plant and it includes the technologies used in continuous process industry.

IPC-200 main system features are:

- Open and closed loop control of pressure, flow, temperature and level
- Up to 3 stations: Production, bottling and palletizing
- Main technologies: Continuous Processes, PLCs, Industrial Communications, Motion Control, SCADA.



Flexible assembly systems

To learn about Flexible Assembly Systems we have: MAS-200, FAS-200 or FMS-200.Their main features are:

- Emulation of a real industrial assembly process
- All their stations are autonomous, but they can be combined to form a complete manufacturing cell
- They include a wide number of technologies including robotics, artificial vision systems, PLCs and SCADA.

Highly automated systems

HAS-200 is a training system that reproduces a highly automated factory with the capability of full production management.

HAS-200's main features are:

- You can reach the top of the "Automation Pyramid" working with technologies such as E.R.P or M.E.S (Manufacturing Execution System)
- It is a fully modular system consisting of up to 11 workstations, which can work independently or fully integrated
- It Includes a Manufacturing Execution System which is formed by multiple software applications such as: Order & Dispatcher, Inventory Tracking & WIP, Statistical Process Control, Maintenance Management, Alarm Summary, Overall Equipment Efficiency (OEE) Estimations, etc.

And, to top it off, we incorporate a complete certification program endorsed by the SMC Competence Centre.

Check out all the information at www.smctraining.com

Energy efficiency

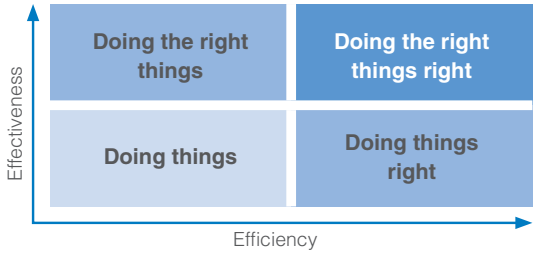
Energise your efficiency

Transform energy into a boost for your competitiveness

At SMC we are fully committed to different energy efficiency activities addressed at assisting our customers in reducing their bills and why not, making our modest contribution to global sustainability. We have accomplished different levels of actions in our customers factories, always dedicated to increasing their productivity and, as the ultimate goal, their competitiveness.

Doing the right things right

Productivity is, in fact, a major decisive factor in economic growth and responsible for most of the technological advances of this era. But, what is productivity?
We can conclude that, narrowly related with efficiency, productivity is nothing more than “DOING THE RIGHT THINGS RIGHT”.



What does ISO 50001 involve?

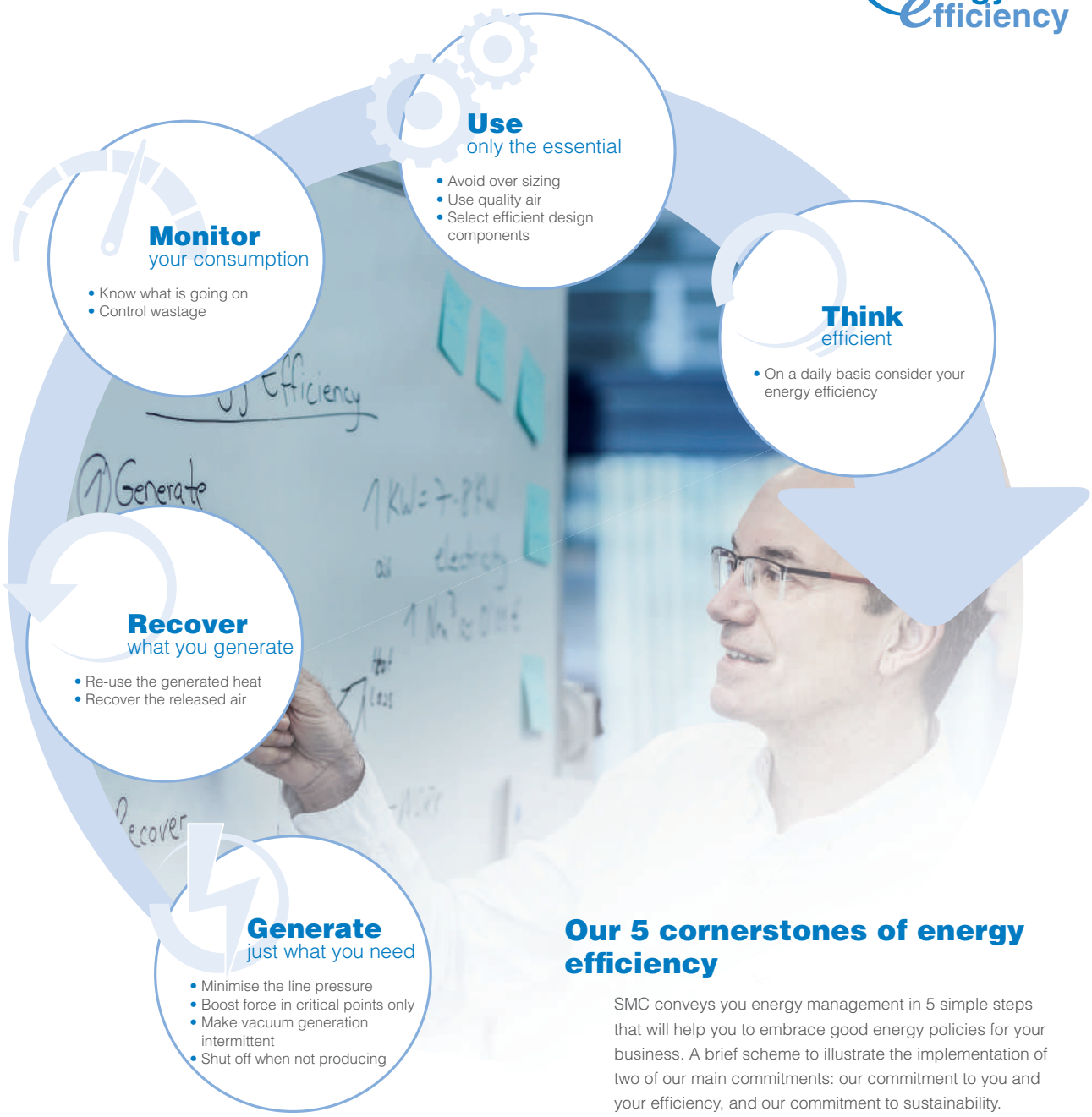
In recent years we have seen how legislation has become more restrictive in terms of energy efficiency. Many governments are actively pushing it through new EU directives.

ISO 50001 is the path increasingly taken by more companies, primarily because the emphasis is on continuous improvement, rather than on externally imposed targets. We are delighted to accompany our customers through this process.

Breathe new life into the world

Leaving business objectives, efficiency or income statements aside for a moment, sustainability is really the move towards a better future for us and our planet.
SMC is fully committed to sustainable growth and works with this in mind every day. And, we are fully aware that we are on the right track. By 2030 we will be 31 % more efficient than we are today, as energy demand has started to grow slower than the economy.

Energy efficiency



Use
only the essential

- Avoid over sizing
- Use quality air
- Select efficient design components

Monitor
your consumption

- Know what is going on
- Control wastage

Think
efficient

- On a daily basis consider your energy efficiency

Recover
what you generate

- Re-use the generated heat
- Recover the released air

Generate
just what you need

- Minimise the line pressure
- Boost force in critical points only
- Make vacuum generation intermittent
- Shut off when not producing

Our 5 cornerstones of energy efficiency

SMC conveys you energy management in 5 simple steps that will help you to embrace good energy policies for your business. A brief scheme to illustrate the implementation of two of our main commitments: our commitment to you and your efficiency, and our commitment to sustainability.

Let's go towards energy efficiency together, we count on worldwide teams of specialists ready to support you.

Energy efficiency

Time is gold – Software and online tools

We reckon your time is too precious to be spent doing endless manual calculations. That is why we have developed a software with several online tools so they can carry out that tedious work for you.

All of them have a user-friendly interface which, in just a few steps, will provide the desired calculations. Besides, they ensure that potential errors are avoided.
Check them out so you can see how much money you'll save when you start using SMC's energy efficient solutions. User-friendly, question-based and, more importantly, with clear results.

Our list of e-Tools for you include:

Energy efficiency software

Partial calculations such as air consumption, cost of air, cost of a leak or pressure drops, are now as easily done by downloading this software from our website.

Factory assessment

By answering a simple set of questions you'll discover your factory's saving potential. It's as simple as it seems.

Machine assessment

For each of the different areas (solenoids, air blow, actuators, etc.) this tool provides the savings in euros and their ROI.

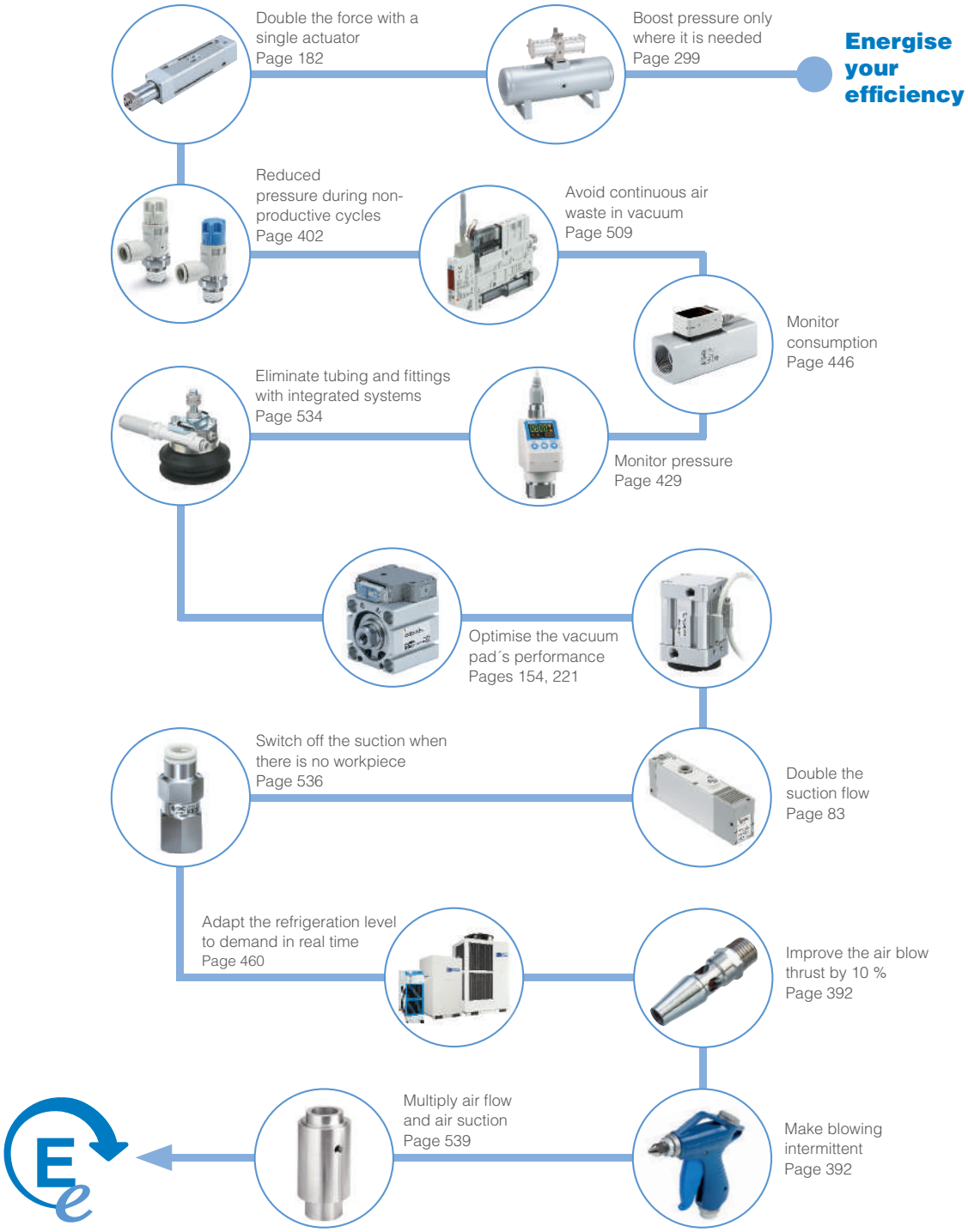
Simple saving calculators

Check the savings you'll achieve by using:
- Energy saving valve VXE Series
- Blow gun VMG Series
- Air saving speed controllers ASR, ASQ Series.

Ready to start?

Visit our web page and start your calculations

Find some of our highlighted energy-efficient products throughout this document and discover how much we can do for you:



Valves

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4/5 Port solenoid valves
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3 Port solenoid valves
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Serial transmission
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Air operated valves
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Mechanical and hand valves
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Logic valves
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Multi regulator valves
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Silencers and exhaust cleaners
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Pneumatics 4/5 port
Solenoid valves

Optimum size for driving air cylinders

Main valve seal method	Series	Flow characteristics A, B→E (2 position/ Single) Cv factor	Applicable cylinder Speed: **100 mm/s** or less Ø 6 Ø 10 Ø 16 Ø 20 Ø 25 Ø 32 Ø 40 Ø 50 Ø 63 Ø 80 Ø 100 Ø 125 Ø 140 Ø 160	Power consumption [W]	Connection size: Thread piping [Rc]	Connection size: One-touch fittings [Ø] Applicable tubing size [mm]
Rubber seal	SJ	0.04 to 0.12	SJ2000 SJ3000	0.55/0.4 (0.23/0.15)*1	M3, M5	2, 4, 6
	SY	0.27 to 1.6	SY3000 SY5000 SY7000	0.35 (0.1)*1	M5, 1/8, 1/4, 1/2	2, 3.2, 4, 6, 8, 10, 12
	SV	0.28 to 1.6	SV1000 SV2000 SV3000 SV4000	0.6	1/8, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SYJ	0.12 to 0.74	SYJ3000 SYJ5000 SYJ7000	0.35 (0.1)*1	M3, M5, 1/8, 1/4	4, 6, 8
	S0700	0.08 to 0.10	S0700 Example 1)	0.35	M3, M5	2, 3.2, 4
	VQC	0.21 to 4.4	VQC1000 VQC2000 VQC4000 VQC5000	0.95, 0.4	M5, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SQ	0.19 to 0.71	SQ1000 SQ2000	0.95, 0.4	M5	3.2, 4, 6, 8
	VQ7	1.4 to 3.3	VQ7-6 VQ7-8	1	1/4, 3/8, 1/2, 3/4	6, 8, 10, 12
	VQD	0.07	VQD1000	3.2 (2.4)*1	M5	4
	EVS	1.4 to 4.4	EVS7-6 EVS7-8 EVS7-10	1.8	1/4, 3/8, 1/2, 3/4	—
Metal seal	SY	0.24 to 1.1	SY3000 SY5000 SY7000	0.35 (0.1)*1	M5, 1/8, 1/4, 1/2	2, 3.2, 4, 6, 8, 10, 12
	VQC	0.18 to 3.4	VQC1000 VQC2000 VQC4000 VQC5000	0.95, 0.4	M5, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SQ	0.14 to 0.57	SQ1000 SQ2000	0.95, 0.4	M5	3.2, 4, 6, 8
	VQ7	1.1 to 3	VQ7-6 VQ7-8	1	1/4, 3/8, 1/2, 3/4	6, 8, 10, 12
	EVS	1.1 to 4.0	EVS7-6 EVS7-8 EVS7-10	1.8	1/4, 3/8, 1/2, 3/4	—

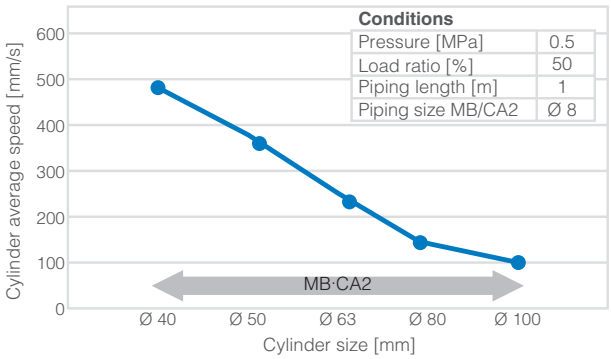
∗ 1: ( ) stands for power saving circuit.

Conditions
- Pressure: 0.5 MPa
- Piping length: 1 m
- Load ratio: 50 %
- Stroke: 200 mm
- Speed: **100** mm/s or less

Size of air cylinder and its speed

Example 1) Using the VQC2000 series (Cv 0.80), the average speed of air cylinder is obtained under the below condition for driving cylinders ranged Ø 40 to Ø 100.

Base mounted/Vertical, upward actuation



For details about the respective condition, make use of the SMC's Model Selection Program for air cylinder driving system for your reference.

Pneumatics 4/5 port
Solenoid valves

Optimum size for driving air cylinders

Main valve seal method	Series	Flow characteristics A, B→E (2 position/ Single) Cv factor	Applicable cylinder Speed: **300 mm/s** or less Ø 6	Ø 10	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63	Ø 80	Ø 100	Ø 125	Ø 140	Ø 160	Power consumption [W]	Connection size: Thread piping [Rc]	Connection size: One-touch fittings [Ø] Applicable tubing size [mm]
Rubber seal	SJ	0.04 to 0.12	SJ2000	SJ3000													0.55/0.4 (0.23/0.15)*1	M3, M5	2, 4, 6
	SY	0.27 to 1.6							SY3000	SY5000	SY7000						0.35 (0.1)*1	M5, 1/8, 1/4, 1/2	2, 3.2, 4, 6, 8, 10, 12
	SV	0.28 to 1.6					SV1000	SV2000	SV3000	SV4000							0.6	1/8, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SYJ	0.12 to 0.74	SYJ3000	SYJ5000	SYJ7000												0.35 (0.1)*1	M3, M5, 1/8, 1/4	4, 6, 8
	S0700	0.08 to 0.10	S0700														0.35	M3, M5	2, 3.2, 4
	VQC	0.21 to 4.4					VQC1000	VQC2000	VQC4000	VQC5000							0.95, 0.4	M5, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SQ	0.19 to 0.71					SQ1000	SQ2000									0.95, 0.4	M5	3.2, 4, 6, 8
	VQ7	1.4 to 3.3							VQ7-6	VQ7-8							1	1/4, 3/8, 1/2, 3/4	6, 8, 10, 12
	VQD	0.07	VQD1000														3.2 (2.4)*1	M5	4
	EVS	1.4 to 4.4							EVS7-6	EVS7-8	EVS7-10						1.8	1/4, 3/8, 1/2, 3/4	—
Metal seal	SY	0.24 to 1.1							SY3000	SY5000	SY7000						0.35 (0.1)*1	M5, 1/8, 1/4, 1/2	2, 3.2, 4, 6, 8, 10, 12
	VQC	0.18 to 3.4					VQC1000	VQC2000	VQC4000	VQC5000							0.95, 0.4	M5, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SQ	0.14 to 0.57					SQ1000	SQ2000									0.95, 0.4	M5	3.2, 4, 6, 8
	VQ7	1.1 to 3							VQ7-6	VQ7-8							1	1/4, 3/8, 1/2, 3/4	6, 8, 10, 12
	EVS	1.1 to 4.0							EVS7-6	EVS7-8	EVS7-10						1.8	1/4, 3/8, 1/2, 3/4	—

Example 1)

∗ 1: ( ) stands for power saving circuit.

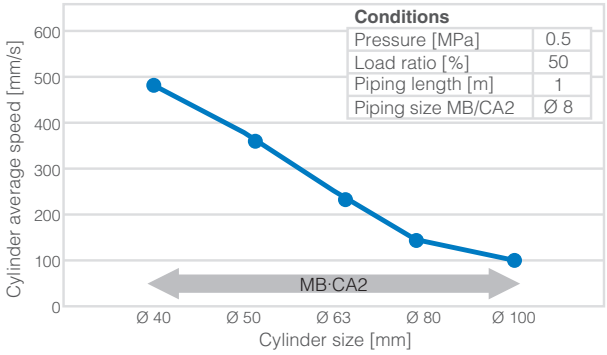
Conditions

- Pressure: 0.5 MPa
- Piping length: 1 m
- Load ratio: 50 %
- Stroke: 200 mm
- Speed: **300** mm/s or less

Size of air cylinder and its speed

Example 1) Using the VQC2000 series (Cv 0.80), the average speed of air cylinder is obtained under the below condition for driving cylinders ranged Ø 40 to Ø 100.

Base mounted/Vertical, upward actuation



For details about the respective condition, make use of the SMC's Model Selection Program for air cylinder driving system for your reference.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Pneumatics 4/5 port
Solenoid valves

Optimum size for driving air cylinders

Main valve seal method	Series	Flow characteristics A, B→E (2 position/ Single) Cv factor	Applicable cylinder Speed: **500 mm/s** or less	Power consumption [W]	Connection size: Thread piping [Rc]	Connection size: One-touch fittings [Ø] Applicable tubing size [mm]
			Ø 6 Ø 10 Ø 16 Ø 20 Ø 25 Ø 32 Ø 40 Ø 50 Ø 63 Ø 80 Ø 100 Ø 125 Ø 140 Ø 160			
Rubber seal	**SJ**	0.04 to 0.12	SJ3000	0.55/0.4 (0.23/0.15)*1	M3, M5	2, 4, 6
	SY	0.27 to 1.6	SY3000 SY5000 SY7000	0.35 (0.1)*1	M5, 1/8, 1/4, 1/2	2, 3.2, 4, 6, 8, 10, 12
	SV	0.28 to 1.6	SV1000 SV2000 SV3000 SV4000	0.6	1/8, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SYJ	0.12 to 0.74	SYJ3000 SYJ5000 SYJ7000	0.35 (0.1)*1	M3, M5, 1/8, 1/4	4, 6, 8
	S0700	0.08 to 0.10	S0700	0.35	M3, M5	2, 3.2, 4
	VQC	0.21 to 4.4	VQC1000 VQC2000 VQC4000 VQC5000 (Example 1)	0.95, 0.4	M5, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SQ	0.19 to 0.71	SQ1000 SQ2000	0.95, 0.4	M5	3.2, 4, 6, 8
	VQ7	1.4 to 3.3	VQ7-6 VQ7-8	1	1/4, 3/8, 1/2, 3/4	6, 8, 10, 12
	VQD	0.07	VQD1000	3.2 (2.4)*1	M5	4
	EVS	1.4 to 4.4	EVS7-6 EVS7-8 EVS7-10	1.8	1/4, 3/8, 1/2, 3/4	—
Metal seal	**SY**	0.24 to 1.1	SY3000 SY5000 SY7000	0.35 (0.1)*1	M5, 1/8, 1/4, 1/2	2, 3.2, 4, 6, 8, 10, 12
	VQC	0.18 to 3.4	VQC1000 VQC2000 VQC4000 VQC5000	0.95, 0.4	M5, 1/4, 3/8, 1/2	3.2, 4, 6, 8, 10, 12
	SQ	0.14 to 0.57	SQ1000 SQ2000	0.95, 0.4	M5	3.2, 4, 6, 8
	VQ7	1.1 to 3	VQ7-6 VQ7-8	1	1/4, 3/8, 1/2, 3/4	6, 8, 10, 12
	EVS	1.1 to 4.0	EVS7-6 EVS7-8 EVS7-10	1.8	1/4, 3/8, 1/2, 3/4	—

∗ 1: ( ) stands for power saving circuit.

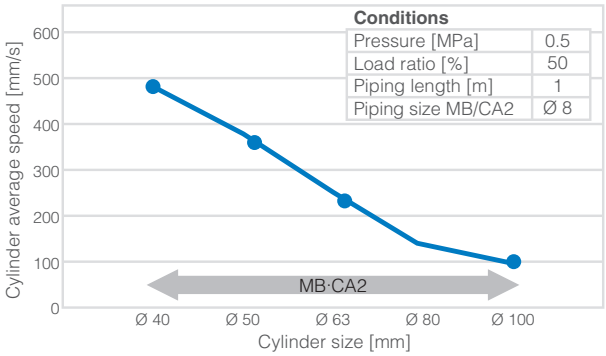
Conditions

- Pressure: 0.5 MPa
- Piping length: 1 m
- Load ratio: 50 %
- Stroke: 200 mm
- Speed: **500** mm/s or less

Size of air cylinder and its speed

Example 1) Using the VQC2000 series (Cv 0.80), the average speed of air cylinder is obtained under the below condition for driving cylinders ranged Ø 40 to Ø 100.

Base mounted/Vertical, upward actuation

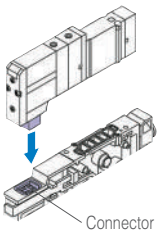


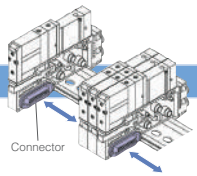
For details about the respective condition, make use of the SMC's Model Selection Program for air cylinder driving system for your reference.

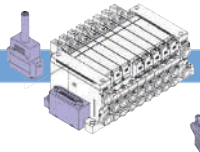
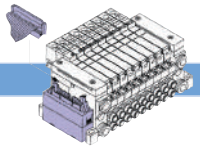
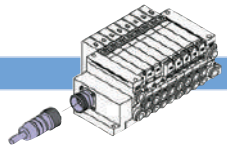
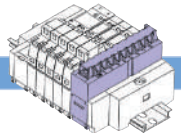
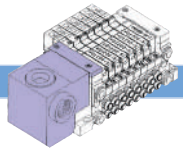
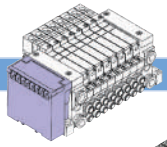
Pneumatics 4/5 port
Manifold

Points for selection	Description

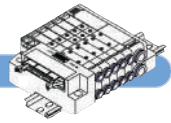
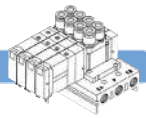
Point 1 — Reduced wiring type

- **Wiring inside the manifold**
  - A single valve is plugged-in.
  - 

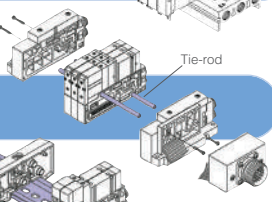
  - **Connector connection manifold**
    - 

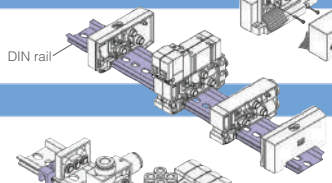
  - **D-sub connector**
    - 
  - **Flat ribbon cable**
    - 
  - **Multi-connector**
    - 
  - **Terminal block**
    - 
  - **Terminal box**
    - 
  - **Serial transmission**
    - 
- **Centralized wiring with external device**
  - Wired individually inside the manifold.
  - Connector connection

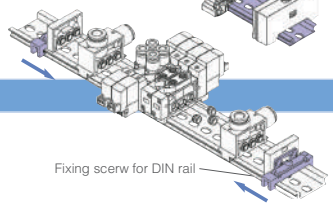
Point 2 — Space saving type

- A single valve is plugged-in. Direct wiring is possible.
  - **Height direction**
    - **Low profile cassette type**
      - 
  - **Around the valve**
    - **Single side solenoid type**
      - 

Point 3 — Stations changeable type

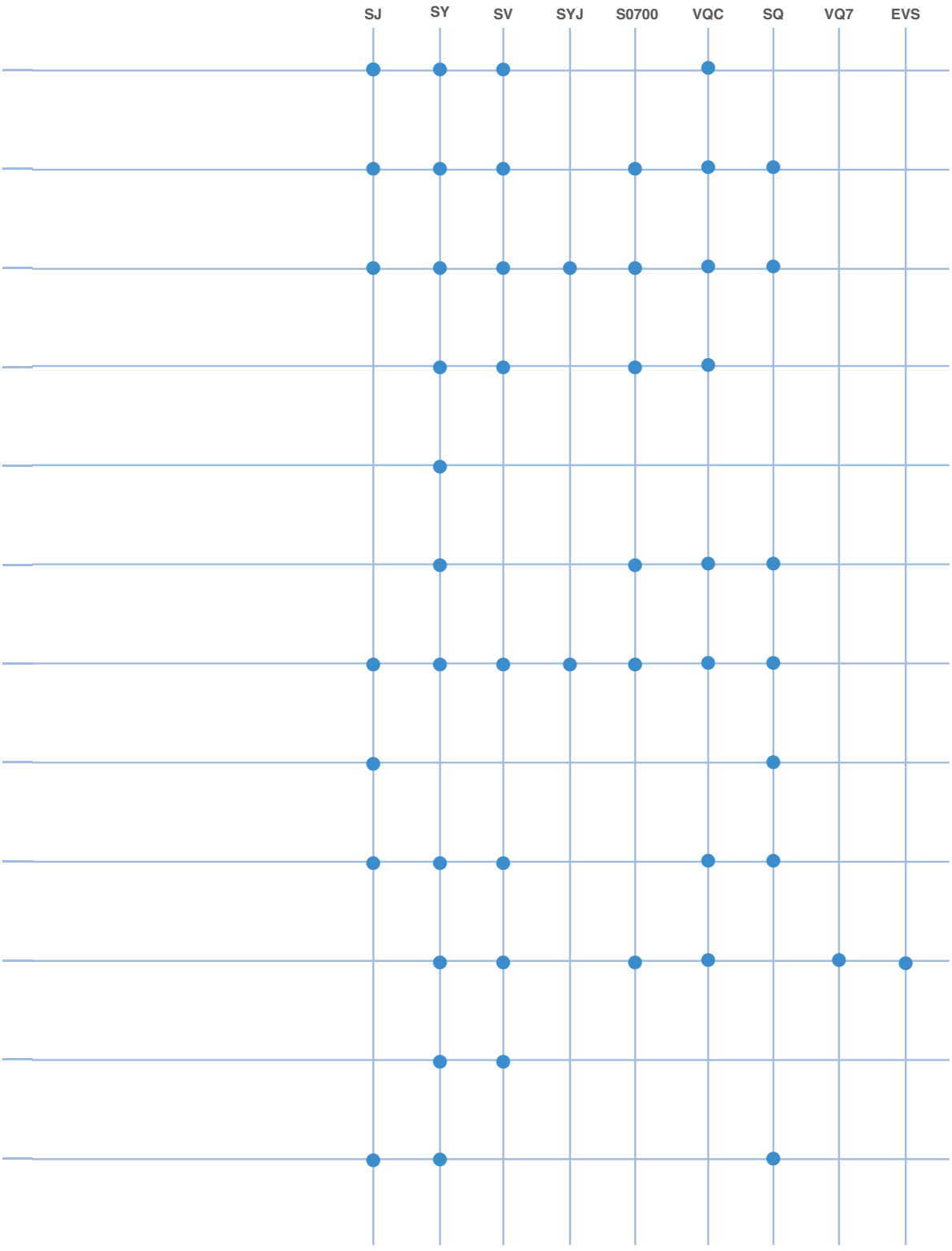
- A single valve is plugged-in. Direct wiring is possible.
  - **Number of stations**
    - **Tie-rod type Metal joint type manifold**
      - 

    - **DIN rail type manifold**
      - 

    - **Cassette type manifold**
      - 

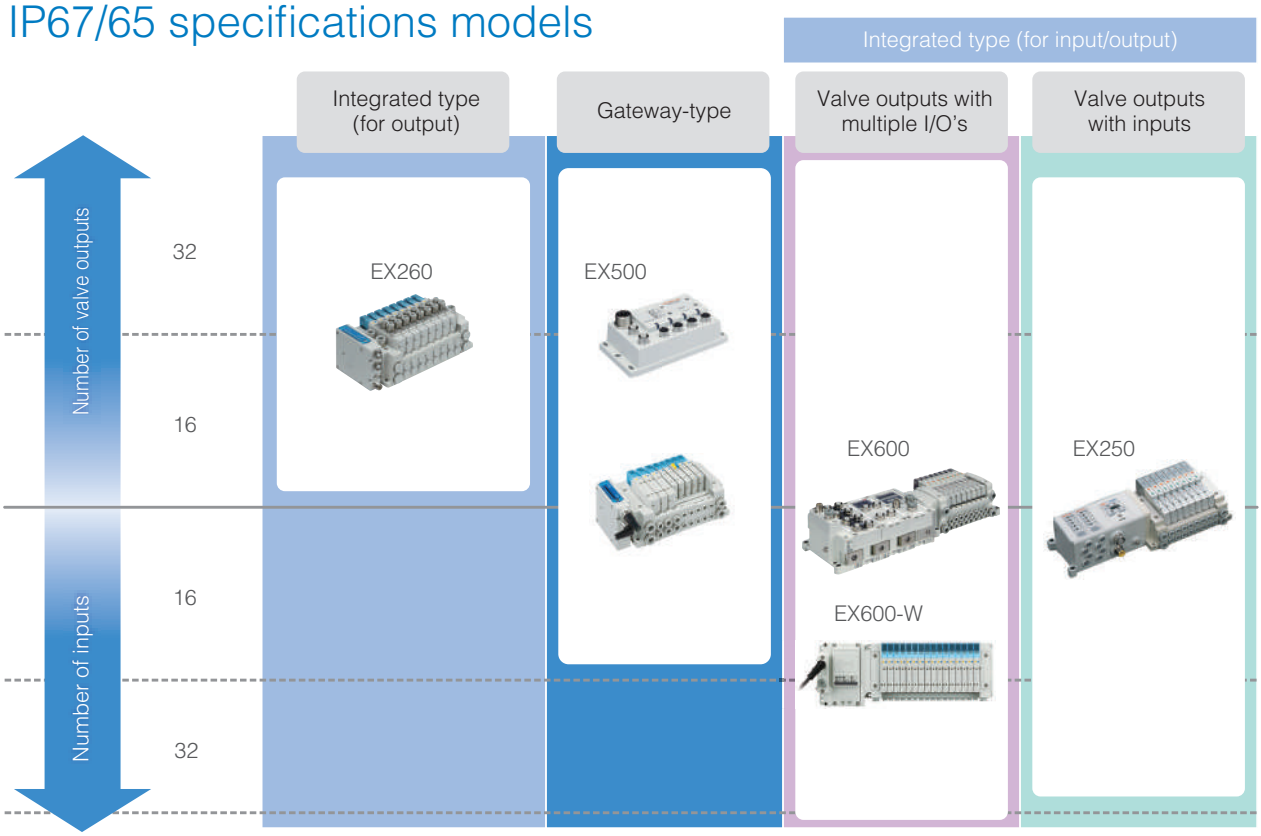
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Compliant Series



Fieldbus system variations

IP67/65 specifications models



SI unit series			EX260	EX500	EX600	EX250
Open network	PROFINET		●	● 1)	● 3)	
	EtherCAT®		●		●	
	EtherNet/IP™		●	● 1)	● 3)	●
	Ethernet POWERLINK		●			
	PROFIBUS DP		●	● 2)	●	●
	DeviceNet™		●	● 2)	●	●
	CC-Link		●		●	●
	AS-Interface					●
	CANopen					●
	IO-Link		●			
Applicable valve series	SY (Plug-in connector connecting base)	3000	●	●	●	●
		5000	●	●	●	●
		7000	●	●	●	●
	S0700 (Stacking base)	0700	●	●	●	●
	SV	1000	●	●	●	●
		2000	●	●	●	●
		3000	●	●	●	●
		4000		●		
	VQC	1000	●	●	●	●
		2000	●	●	●	●
		4000	●	●	●	●
		5000	●	●	●	●

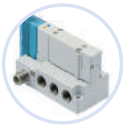
1) Only for 128 points gateway decentralised system
2) Only for 64 points gateway decentralised system
3) EX600-W wireless type, only available in PROFINET and EtherNet/IP™ types

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

4/5 port solenoid valves

4 port solenoid valve, cassette type connector type manifold
SJ2000/3000 Series p. 38

5 port solenoid valve, manifold type
SY3000/5000/7000 Series p. 40



5 port solenoid valve, plug-in sub-plate
SY3000/5000/7000 Series p. 45

5 port solenoid valve, body ported, bar stock type, individual wiring
SY3000/5000/7000/9000 Series p. 47

5 port solenoid valve, base mounted. Manifold type, stacking type, individual wiring
SY3000/5000/7000/9000 Series p. 49

5 port solenoid valve, cassette type
SY3060/5060/7060 Series p. 51

5 port solenoid valve
SV1000/2000/3000/4000 Series p. 53

5 port solenoid valve, base mounted
SYJ3000 Series p. 55

5 port solenoid valve
VF1000/3000/5000 Series p. 56

5 port solenoid valve, compact pilot type
S0700 Series p. 57

5 port solenoid valve, connector type manifold. Metal seal / Rubber seal
VQC1000/2000 Series p. 59

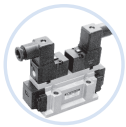
5 port solenoid valve, connector type manifold. Metal seal / Rubber seal
VQC4000/5000 Series p. 60

5 port solenoid valve Metal seal / Rubber seal
SQ1000/2000 Series p. 61

ISO standard solenoid valve, compliant with ISO 5599/1
VQ7-6/VQ7-8 Series p. 62

ISO standard solenoid valve, compliant with ISO 5599/1
EVS7-6/8 Series p. 63

ISO standard solenoid valve, compliant with ISO 5599/1
EVS7-6/8/10 Series p. 64

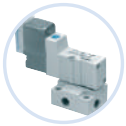


ISO/CNOMO standard solenoid valve, compliant with ISO 5599/1
EVS7-6/8/10 Series p. 65

ISO standard solenoid valve, compliant with ISO 15407-1 and VDMA 24563
EVS1-01/02 Series p. 66

5 port ISO 15407-2 valve Size 01, 02, plug-in type
VSR8/VSS8 Series p. 67

3 port solenoid valves



3 port solenoid valve, air pilot type
SYJ300 Series p. 68

3 port solenoid valve
VP(A)300/500/700 Series p. 69

3 port solenoid valve, safety standard ISO 13849-1
VP/VG Series p. 70

Dual residual pressure release valve with soft start-up function
VP-X555/X585 Series p. 71

3 port solenoid valve unit, super compact manifold type
VV061 Series p. 72

3 port solenoid valve, direct operated
V100 Series p. 72

3 port solenoid valve, super compact
S070 Series p. 73

3 port solenoid valve, direct operated poppet type
VT•VO307/317 Series p. 74

3 port 3 position valve
VEX3 Series p. 75

Serial transmission

Fieldbus system, integrated type (for output)
EX260 Series p. 76

Fieldbus system, integrated type (for input / output)
EX250 Series p. 77

Fieldbus system, integrated type (for input / output)
EX600 Series p. 78

Fieldbus wireless system
EX600-W Series p. 80

Fieldbus system, gateway type
EX500 Series p. 81

Air operated valves

Pneumatically operated 5 port valve
SYA3000/5000/7000 Series p. 83

Pneumatically operated 5 port valve
SYJA5000/7000 Series p. 83

Pneumatically operated 5 port valve
EVSA7-6/8 Series p. 84

Pneumatically operated 3 port valve
SYJA500/700 Series p. 85

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mechanical and hand valves

Mechanical valves

Micro mechanically operated 3 port valve
VM1000 Series p. 85

Mechanically operated 3 port valve
VM100 Series p. 86

Mechanically operated 3 port valve
VM200 Series p. 87

Mechanically operated 3 port valve
EVM400 Series p. 88

Mechanically operated 3 port valve
EVM800 Series p. 88

Mechanically / Manually operated 5 port valve
EVZM500 Series p. 89

Mechanically operated 5 port valve
EVFM300 Series p. 90

Hand valves

Two hand control valve
VR51 Series p. 91

3 port manually operated valve, finger valve
VHK Series p. 91

Manually operated 4 port valve, hand valve
VH Series p. 92

Pressure relief 3 port valve
VHS Series p. 92

Logic valves

Shuttle valve, metal type
VR1210/1220 Series p. 93

Shuttle valve plastic with one-touch fittings
VR1210F/1220F Series p. 93

AND logic valve
VR1211F Series p. 93

Multi regulator valves

Power valve
VEX1/VEX3 Series p. 94

Silencers and exhaust cleaners

Silencer compact resin type
AN Series p. 95

Silencer BC sintered body type
AN Series p. 95

Silencer metal body type
AN□□00 Series p. 96

Silencer 40 dB (A): High noise reduction type
ANA1 Series p. 96

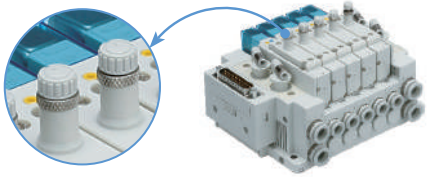
Silencer, high pressure operation: Up to 5 MPa
VCHN3/4 Series p. 97

Exhaust cleaner
AMC Series p. 97

Our highlighted product for you

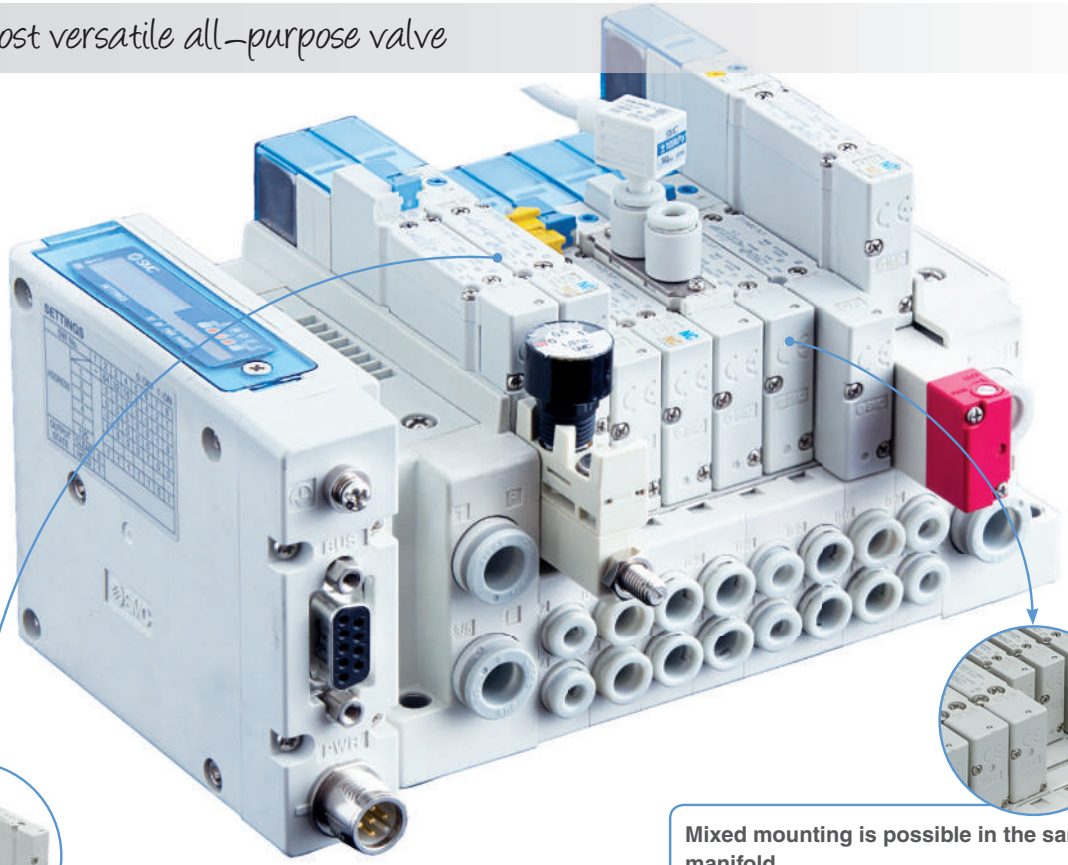
5 port solenoid valve, manifold type
SY3000/5000/7000 Series

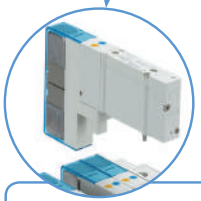
For more details
go to page 40



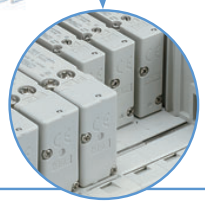
Vacuum release valve with restrictor
This allows control of both vacuum suction and release with a single valve unit, and prevents the workpieces from blowing-off thanks to gentle expulsion.

The most versatile all-purpose valve





Compact size and high flow
Outstanding flow characteristics while maintaining compact size – As narrow as 10 mm wide (SY3000)
Simple and quick valve replacement.



Mixed mounting is possible in the same manifold
Different sizes (SY3000/5000 or SY5000/7000) can be mixed.

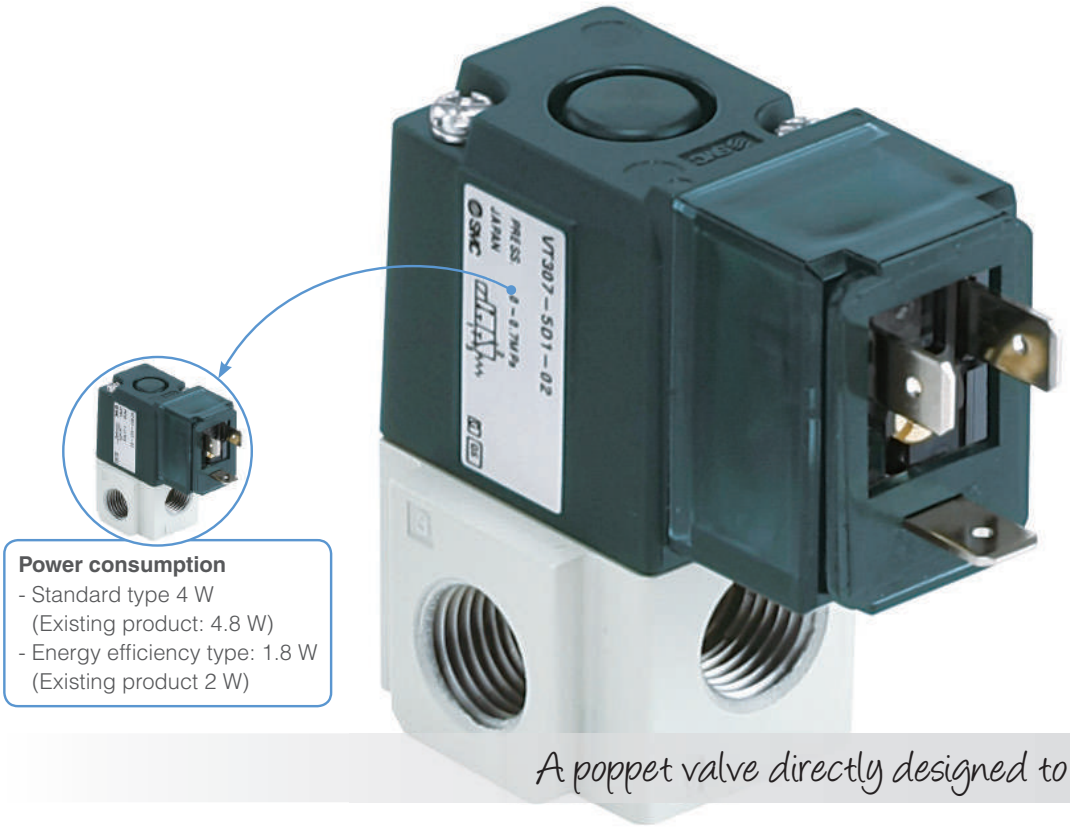
Remarkable flexibility in design
Integration of wiring, piping and operation on one side
Bottom ported available
Flexible piping – direction, size and type of piping can be changed. Possible to mount the piping on top, on the side and mixed

Back pressure check valve
This prevents cylinder malfunction caused by the exhaust from other valves.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

3 port solenoid valve direct operated poppet type
VT307 Series

For more details
go to page 74



Power consumption
- Standard type 4 W
  (Existing product: 4.8 W)
- Energy efficiency type: 1.8 W
  (Existing product 2 W)

A poppet valve directly designed to reduce costs

Types
Body ported type

Manifold type

A single valve with various valve function
(Universal porting type)
- N.C. valve
- N.O. valve
- Divider valve
- Selector valve
- etc.

A variety of valve options
- Continuous duty type
- Energy efficiency type
- Vacuum specification type
- Energy efficiency type + Vacuum specification type
  * Based on SMC test conditions

Vacuum specifications type
For vacuum applications up to -101.2 kPa

Low concentration ozone resistant
Rubber seal material: HNBR for main valve.

Our highlighted product for you

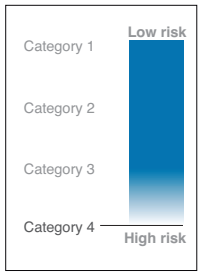
Dual residual pressure release valve with soft start-up function

VP-X555/585 Series

For more details
go to page 71

Safety Standards ISO 13849-1 compliant

Categories 3 and 4

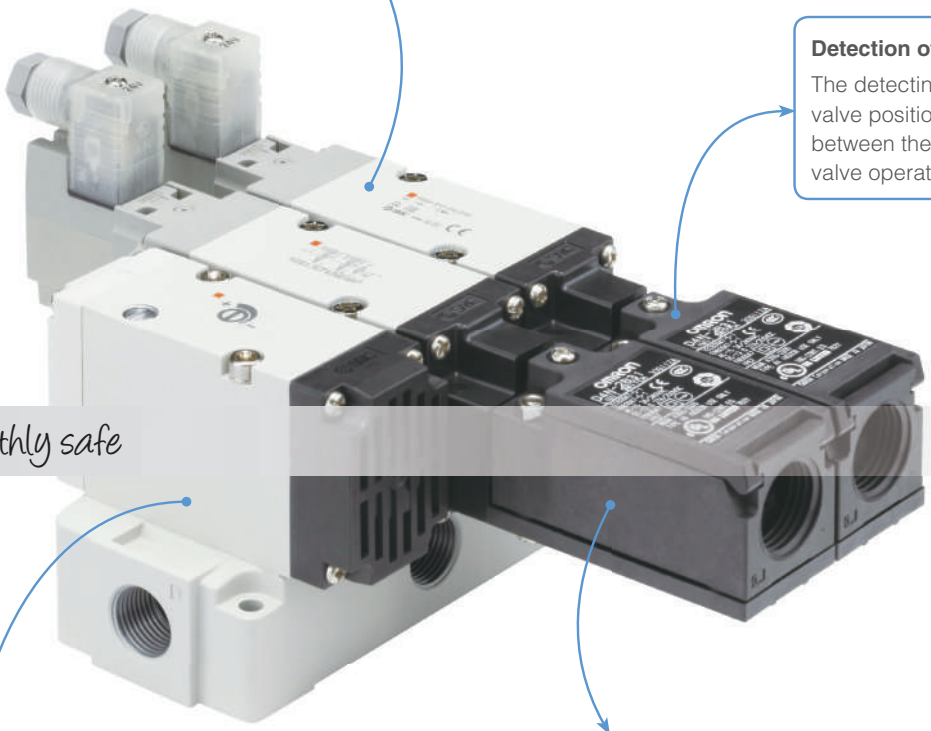


Dual pressure release valves - redundant system

By having two valves the correct functioning of the whole system is ensured even if one of the valves fails to operate.

Detection of main valve position

The detecting function of the main valve position detects a mismatch between the input signal and valve operation.



Smoothly safe

Integrated soft start-up function

It gradually increases the initial pressure of the pneumatic system, thus allowing a smoother start-up.

Selectable operation, check valve and safety limit switch

- Operation: internal pilot, external pilot
- Limit switch: OMRON, Rockwell Automation.

OMROM

Rockwell Automation

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Fieldbus system, integrated type (for output)

EX260 Series

For more details
go to page 76

Valve output system

Output device for driving 5 port solenoid valves
Applicable valve series: SY, SV, S0700, VQC.

The cost–effective solution for your communications

Internal terminal resistor

ON / OFF switching is possible with an internal terminating resistor.
(Only available for PROFIBUS-DP and CC-Link)

SPEEDCON connectors compatibility

Just insert and rotate 1/2 turn – quick connection with reduced installation and start times.

- **Daisy-chain communication & compact size**
  Product equipment size reduction – space savings
- **Wiring and piping from the same direction is possible**
- **IP67 enclosure protection**
- **Compatible protocols**

PROFIBUS DeviceNet CC-Link
PROFINET ETHERNET POWERLINK EtherCAT
EtherNet/IP

Our highlighted product for you

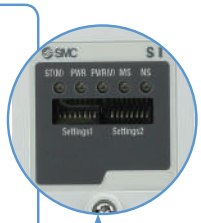
Fieldbus system, integrated type (for input / output)

EX600 Series

For more details go to page 78

▸ **Centralised multipoint fieldbus system for digital and analogue I/O**
- Up to 9 I/O units, either digital or analogue, can be connected in any order
- Possible to connect various input and output devices to the digital / analogue I/O units.

Self-diagnosis function and LED display
- Possible to ascertain the maintenance period and identify the parts that require maintenance
- In combination with the **Handheld terminal**, it allows setting parameters and monitoring I/O signals.



Increase the capabilities of your communications

Dual port SI unit (EtherNet/IP™)
- DLR topology
- Supports QuickConnect™ function
- Built-in web server function

▸ **Joint type connection method plus SPEEDCON compatible connectors**

▸ **IP67 enclosure protection**

▸ **Applicable valve series: SY, SV, S0700, VQC**

▸ **Compatible protocols**

PROFIBUS® DeviceNet® CC-Link
PROFINET® EtherNet/IP® EtherCAT®

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Fieldbus wireless system
EX600-W Series

For more details
go to page 80

Suitable for any application
Ideal for welding environments, tool changes in robot arms or rotary / indexing tables

Simple layout modification & quick connection

Applicable valve series: SY, SV, S0700, VQC

Wireless master unit
One unit to control the entire wireless network
- EtherNet/IP™ and PROFINET compatible
- Max. 1280 inputs / 1280 outputs
- Up to 127 slaves (31 for PROFINET) can be connected to one master unit.

Wireless slave unit
Management of analogue, digital and pneumatic product.

Less is definitely more

Decentralised system, point-to-multipoint communication
Only one IP address for managing the complete wireless system.

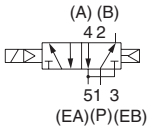
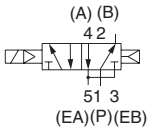
Wireless system, noise resistant
- Less cables & connectors, less installation & maintenance, less breakage & disconnection risk
- Radio wave propagation in the 2.4 GHz ISM frequency band
- Frequency hopping - every 5 ms
- Data encryption
- Wireless communication range: 10 metres.

4/5 port solenoid valves

4 port solenoid valve, cassette type connector type manifold

SJ2000/3000 Series

- 3 port (also 2 port) in standard design, for valve functions N.C., N.O.
- Card-edge type connector
- 7.5 / 10 mm width
- Power savings: 0.15 W consumption (SJ3000 with power saving circuit)
- Power supply shut-off switch for discharge of each valve individually
- SJ2000 / SJ3000 can be mounted together
- Ø 2 One-touch fitting connection possible
- Manifold serial wiring variations: EX180 DeviceNet™ compliant (16, 32 outputs), EX180 CC-Link compliant (32 outputs)
- Manifold parallel wiring variations: D-sub connector), flat ribbon cable (10 / 20 / 26 pins)
- A maximum of 32 solenoids per manifold
- Easy attach / detach of the SI unit and wiring by the connector
- Easy in maintenance.

Type of actuation	Part number solenoid valve	Flow [l/min]	Operating pressure range [MPa]	Port size A/B	Port size P/E	Voltage	Circuits symbols
2 Position single	**SJ2160-5CU-C2** ●	40	0.15 ~ 0.7	Ø 2	Ø 8	24 VDC	
	SJ3160-5CU-C2	41					
	SJ2160-5CU-C4 ●	83		Ø 4			
	SJ3160-5CU-C4 ●	105					
	SJ3160-5CU-C6 ●	128		Ø 6			
	SJ2160-5CU-M3	54		M3			
	SJ3160-5CU-M5	105		M5			
2 Position double	**SJ2260-5CU-C2**	40	0.1 ~ 0.7	Ø 2	Ø 8	24 VDC	
	SJ3260-5CU-C2	41					
	SJ2260-5CU-C4 ●	83		Ø 4			
	SJ3260-5CU-C4	105					
	SJ3260-5CU-C6 ●	128		Ø 6			
	SJ2260-5CU-M3	54		M3			
	SJ3260-5CU-M5	105		M5			

Other types of actuation, voltages, plug connectors and port sizes available on request.

Solenoid variations

Part number	Description
SJ2□60-5CU-C2 ●	Valve dedicated for centralised wiring with light / surge voltage suppressor (non-polar type); and with no power saving ☐ 1: 2 position single solenoid ☐ 2: 2 position double solenoid ☐ 3: 3 position closed centre ☐ 4: 3 position exhaust centre ☐ 5: 3 position pressure centre ☐ A: dual 3 port valve N.C. / N.C. ☐ B: dual 3 port valve N.O. / N.O. ☐ C: dual 3 port valve N.C. / N.O.
SJ2160R-5CU-C2	SJ2000 valve with external pilot
SJ2160K-5CU-C2	SJ2000 valve with built-in back pressure check valve
SJ2160T-5CU-C2	SJ2000 valve with power saving circuit
SJ2160-5CZ-C2	SJ2000 valve with light / surge voltage suppressor (polar type)
SJ2160-5MZ-C2	SJ2000 valve with individual wiring (connector and 300 mm length wiring cable)
SJ2160-5MNZ-C2	SJ2000 valve with individual wiring (connector without wiring cable)
SJ2160-5MOZ-C2	SJ2000 valve with individual wiring (no connector, no wiring cable)
SJ2160-5CZJ-C2 ●	SJ2000 valve with shut-off switch for individual disconnection
SJ2160-5CUD-C2 ●	SJ2000 valve with manual override locking switch
SJ3A6-5CU-P	SJ3000 vacuum release valve with restrictor, with plug (M-5P)
SJ2160-5CUF-C2	SJ2000 valve with slide locking type
SJ2160-5FZ-C2	SJ2000 valve dedicated for centralised wiring, cable type

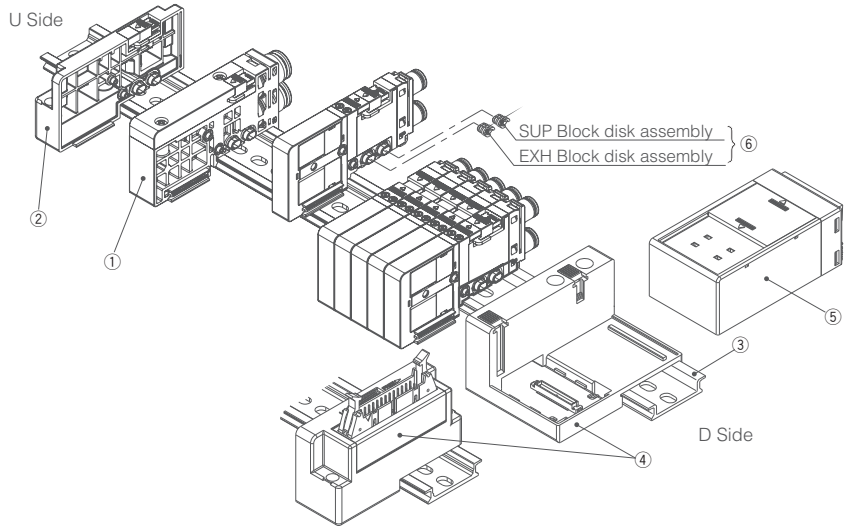
Modular manifold SJ2000, SJ3000

No.		Description	Part number	Notes
1	SUP / EXH block assembly	Internal pilot	**SJ3000-50-1A-□□** ●	□□: Reference for one-touch fittings C6: Ø 6 straight C8: Ø 8 straight L6: Ø 6 elbow upward entry L8: Ø 8 elbow upward entry B6: Ø 6 elbow downward entry B8: Ø 8 elbow (All are touch fittings)
		Internal pilot / built-in silencer	**SJ3000-50-1AS-□□** ●	
		External pilot	**SJ3000-50-1AR-□□** ●	
		External pilot / built-in silencer	**SJ3000-50-1ARS-□□**	
		For different pressure, internal pilot	**SJ3000-50-3A-□□** ●	
		For different pressure, internal pilot / built-in silencer	**SJ3000-50-3AS-□□**	
2	End block assembly		**SJ3000-53-1A** ●	—
3	DIN rail		**VZ1000-11-1-□** ●	□: reference for length
4	Connector block assembly	For D-sub connector	**SJ3000-42-1A-□** ●	□: 1 connector upward □: 2 connector lateral
		For flat ribbon cable 26 pins	**SJ3000-42-2A-□**	
		For flat ribbon cable 16 pins	**SJ3000-42-3A-□** ●	
		For flat ribbon cable 10 pins	**SJ3000-42-4A-□**	
		For serial wiring, EX180	**SJ3000-42-20A**	
5	Serial Interface unit	DeviceNet™, 32 points	**EX180-SDN5**	T-branch type
		DeviceNet™, 32 points	**EX180-SDN5A**	Straight type
		DeviceNet™, 16 points	**EX180-SDN6**	T-branch type
		DeviceNet™, 16 points	**EX180-SDN6A**	Straight type
6	SUP / EXH block disk assembly		**SJ3000-44-1A** ●	—

Manifolds

Type	Part number	Description
Connector type	**SS5J□-60SD0-■U**	Serial transmission (EX180), no SI unit
	SS5J3-M60SD0-■U	Serial transmission (EX180), no SI unit, mixed SJ2000/3000 mounting
	SS5J□-60FD1-■U	D-sub connector (25 pins)
	SS5J□-60PD1-■U	Flat ribbon cable (26 pins)
	SS5J3-V60FD1-■U	D-sub connector, vacuum release with restrictor
	SS5J□-60S6BND-■U	Serial transmission Gateway type (EX510)
Cable type	**SS5J□-60LFD1-■U**	D-sub connector (25 pins)
	SS5J□-60LPD1-■U	Flat ribbon cable (26 pins)
	SS5J3-V60LFD1-■U	D-sub connector, vacuum release with restrictor

□ 2: for SJ2000
3: for SJ3000
■ Number of stations.
Other kit types available on request.
SI units ordered separately.



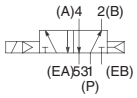
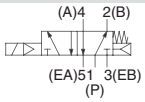
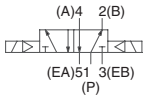
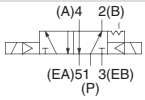
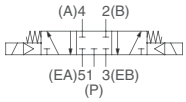
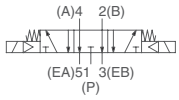
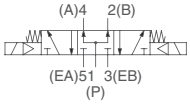
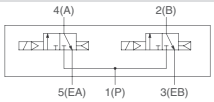
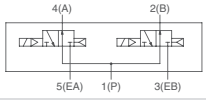
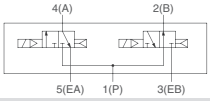
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

5 port solenoid valve, manifold type

SY3000/5000/7000 Series

- Energy efficiency:
  0.1 W with power saving circuit, 0.35 W standard
- Space saving:
  10 mm width (SY3000)
  Top, bottom, side ported available
- Wiring, piping and operation are integrated in one side
- Direction, size and type of the piping can be changed
- Applicable to various types of serial wiring
- Slide manual override provides better visibility
- Vacuum release valve with restrictor - allows control of both vacuum suction and release with a single valve unit.

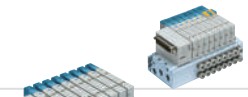
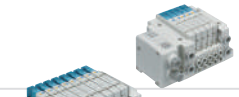
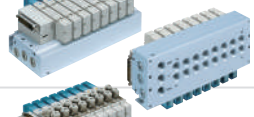
Type of actuation	Part number solenoid valve	Seal type	Operating pressure range [MPa]	Voltage	Circuits symbols
2 position single	**SY3100-5U1** ●	Rubber	0.15 ~ 0.7	24 VDC	
	SY5100-5U1 ●				
	SY7100-5U1 ●				
	SY3101-5U1 ●	Metal	0.1 ~ 0.7		
	SY5101-5U1 ●				
	SY7101-5U1				
2 position double	**SY3200-5U1** ●	Rubber	0.1 ~ 0.7	24 VDC	
	SY5200-5U1 ●				
	SY7200-5U1 ●				
	SY3201-5U1 ●	Metal			
	SY5201-5U1 ●				
	SY7201-5U1				
3 position closed centre	**SY3300-5U1** ●	Rubber	0.2 ~ 0.7	24 VDC	
	SY5300-5U1 ●				
	SY7300-5U1 ●				
	SY3301-5U1 ●	Metal	0.1 ~ 0.7		
	SY5301-5U1 ●				
	SY7301-5U1				
3 position exhaust centre	**SY3400-5U1** ●	Rubber	0.2 ~ 0.7	24 VDC	
	SY5400-5U1 ●				
	SY7400-5U1 ●				
	SY3401-5U1 ●	Metal	0.1 ~ 0.7		
	SY5401-5U1 ●				
	SY7401-5U1				
3 position pressure centre	**SY3500-5U1** ●	Rubber	0.2 ~ 0.7	24 VDC	
	SY5500-5U1 ●				
	SY7500-5U1				
	SY3501-5U1 ●	Metal	0.1 ~ 0.7		
	SY5501-5U1 ●				
	SY7501-5U1				
Dual 3 port valve NC / NC	**SY3A00-5U1** ●	Rubber	0.15 ~ 0.7	24 VDC	
	SY5A00-5U1 ●				
	SY7A00-5U1 ●				
Dual 3 port valve NO / NO	**SY3B00-5U1** ●	Rubber	0.15 ~ 0.7	24 VDC	
	SY5B00-5U1 ●				
	SY7B00-5U1				
Dual 3 port valve NC+NO	**SY3C00-5U1** ●	Rubber	0.15 ~ 0.7	24 VDC	
	SY5C00-5U1 ●				
	SY7C00-5U1				

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Vacuum release valve with restrictor

Part number	Description
SY3A0R-5U1	SY3000, vacuum release valve with restrictor, side / bottom ported
SY5A0R-5U1	SY5000, vacuum release valve with restrictor, side / bottom ported
SY3A3R-5U1-C6	SY3000, vacuum release valve with restrictor, top ported, Ø 6 one-touch fitting
SY5A3R-5U1-C8	SY5000, vacuum release valve with restrictor, top ported, Ø 8 one-touch fitting

Manifold variations

	Plug-in metal base	Plug-in connector connecting base
Side ported	 **Type 50□**	 **Type 10□**
Bottom ported	 **Type 51□**	**Type 11□**
Top ported	**Type 52□**	**Type 12□**

For complete units (valves and manifold) please use our Valve Configurator online (available at www.smc.eu)

Flow characteristics, metal base

Model	Port size		Flow [l/min]	
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	Rubber seal	Metal seal
SS5Y3-50 (Side ported)	1/8	Ø 6	262	209
SS5Y3-51 (Bottom ported)	1/8	Ø 6	307	241
SS5Y3-52 (Top ported)	1/8	Ø 6	278	256
SS5Y5-50 (Side ported)	1/4	Ø 8	653	527
SS5Y5-51 (Bottom ported)	1/4	Ø 8	709	595
SS5Y5-52 (Top ported)	1/4	Ø 8	645	568
SS5Y7-50 (Side ported)	3/8	Ø 10	948	780
SS5Y7-51 (Bottom ported)	3/8	Ø 10	1070	863
SS5Y7-52 (Top ported)	3/8	Ø 10	1123	843

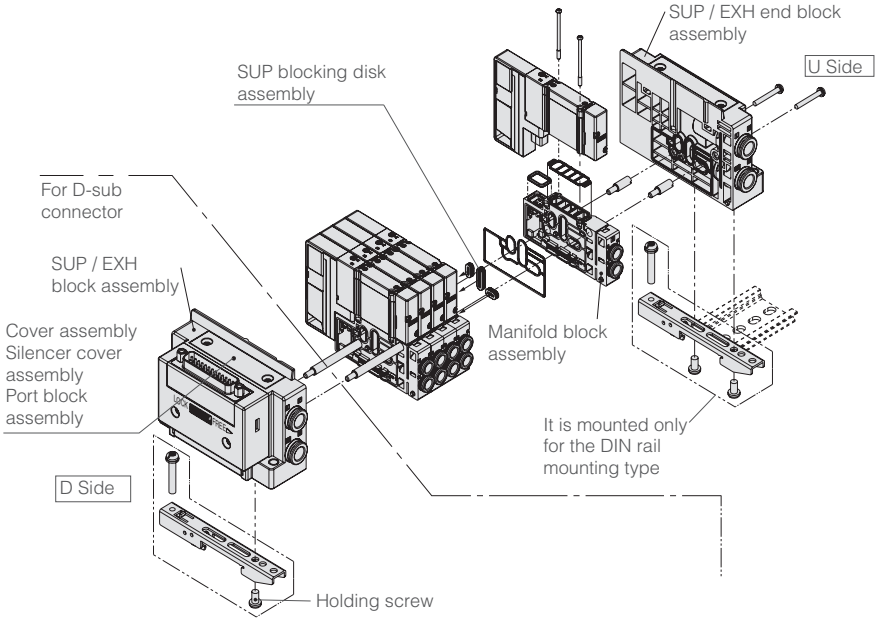
1) The value is for manifold base with 5 stations and individually operated 2-position type.

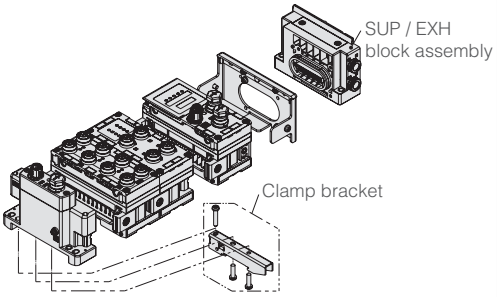
Flow characteristics, resin base

Model	Port size		Flow [l/min]	
	1, 3/5 (P, E)	4, 2 (A, B)	Rubber seal	Metal seal
SS5Y3-10 (Side ported)	Ø 8	Ø 6	356	286
SS5Y3-12 (Top ported)	Ø 8	Ø 6	303	281
SS5Y5-10 (Side ported)	Ø 10	Ø 8	839	662
SS5Y5-11 (Bottom ported)	Ø 10	Ø 8	834	690
SS5Y5-12 (Top ported)	Ø 10	Ø 8	699	616
SS5Y7-10 (Side ported)	Ø 12	Ø 12	1511	1020
SS5Y7-11 (Bottom ported)	Ø 12	Ø 12	1529	1078
SS5Y7-12 (Top ported)	Ø 12	Ø 12	1433	939

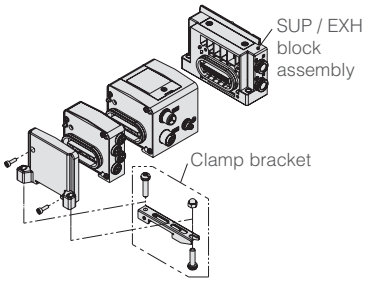
1) The value is for manifold base with 5 stations and individually operated 2-position type.

Manifold, resin base: Exploded view

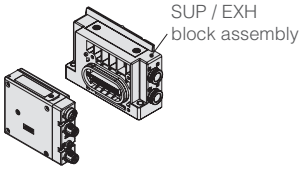




For EX600 serial transmission



For EX250 serial transmission



For EX260 serial transmission

Note: Consult SMC for detailed information

Manifolds
Resin base, type 10 side ported. P, E port entry both sides

Part number	☐ Stocked options	Description
SS5Y3-10F1-☐B-C4 ●	03, 04, 05, 06, 07, 08, 09, 10, 11, 12	Manifold for SY3000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 4 mm
SS5Y3-10F1-☐BR-C4		Manifold for SY3000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 4 mm
SS5Y3-10F1-☐B-C6 ●		Manifold for SY3000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 6 mm
SS5Y3-10F1-☐BR-C6		Manifold for SY3000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10F1-☐B-C4 ●		Manifold for SY5000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 4 mm
SS5Y5-10F1-☐BR-C4		Manifold for SY5000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 4 mm
SS5Y5-10F1-☐B-C6 ●		Manifold for SY5000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10F1-☐BR-C6		Manifold for SY5000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10F1-☐B-C8 ●		Manifold for SY5000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 8 mm
SS5Y5-10F1-☐BR-C8		Manifold for SY5000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 8 mm
SS5Y7-10F1-☐B-C10	—	Manifold for SY7000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 10 mm
SS5Y7-10F1-☐BR-C10		Manifold for SY7000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 10 mm
SS5Y7-10F1-☐B-C12		Manifold for SY7000 for ☐ stations. D-sub connector. Internal pilot. Port A/B (one-touch fitting) 12 mm
SS5Y7-10F1-☐BR-C12		Manifold for SY7000 for ☐ stations. D-sub connector. External pilot. Port A/B (one-touch fitting) 12 mm

☐ Nº of stations: 02 to 12 (all double wiring), to 24 (specified layout)

Manifolds for serial transmission (without SI unit)
Resin base, type 10 side ported. P, E port entry both sides

Part number	☐ Stocked options	Description
SS5Y3-10S60-☐B-C4 ●	04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16	Manifold for SY3000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 4 mm
SS5Y3-10S60-☐J-C4 ●		Manifold for SY3000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 4 mm
SS5Y3-10S60-☐B-C6 ●		Manifold for SY3000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 6 mm
SS5Y3-10S60-☐J-C6 ●		Manifold for SY3000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10S60-☐B-C4 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 4 mm
SS5Y5-10S60-☐J-C4 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 4 mm
SS5Y5-10S60-☐B-C6 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10S60-☐J-C6 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10S60-☐B-C8 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 8 mm
SS5Y5-10S60-☐J-C8 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 8 mm
SS5Y7-10S60-☐B-C10	—	Manifold for SY7000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 10 mm
SS5Y7-10S60-☐J-C10		Manifold for SY7000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 10 mm
SS5Y7-10S60-☐B-C12		Manifold for SY7000 for ☐ stations. Serial transmission (EX600). Internal pilot. Port A/B (one-touch fitting) 12 mm
SS5Y7-10S60-☐J-C12		Manifold for SY7000 for ☐ stations. Serial transmission (EX600). External pilot. Port A/B (one-touch fitting) 12 mm

☐ Nº of stations: 02 to 16 (all double wiring), to 24 (specified layout)

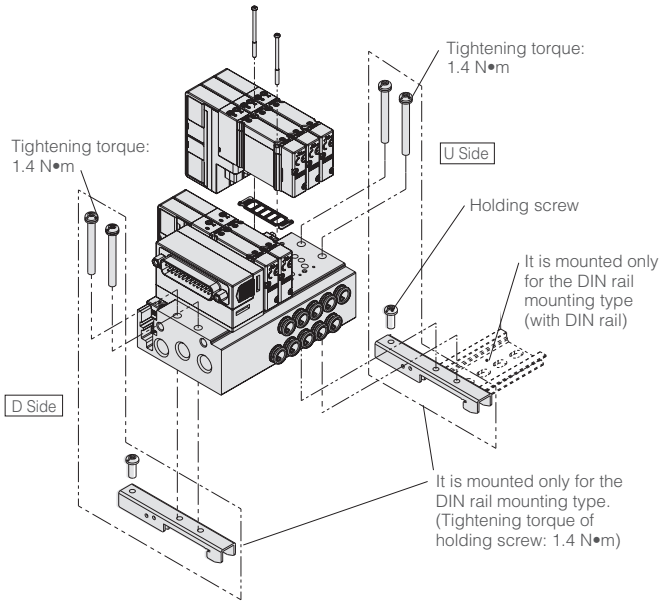
Manifolds for serial transmission (without SI unit)
Resin base, type 10 side ported. P, E port entry both sides

Part number	☐ Stocked options	Description
SS5Y3-10S0-☐B-C4 ●	04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16	Manifold for SY3000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 4 mm
SS5Y3-10S0-☐J-C4 ●		Manifold for SY3000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 4 mm
SS5Y3-10S0-☐B-C6 ●		Manifold for SY3000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 6 mm
SS5Y3-10S0-☐J-C6 ●		Manifold for SY3000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10S0-☐B-C4 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 4 mm
SS5Y5-10S0-☐J-C4 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 4 mm
SS5Y5-10S0-☐B-C6 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10S0-☐J-C6 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 6 mm
SS5Y5-10S0-☐B-C8 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 8 mm
SS5Y5-10S0-☐J-C8 ●		Manifold for SY5000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 8 mm
SS5Y7-10S0-☐B-C10	—	Manifold for SY7000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 10 mm
SS5Y7-10S0-☐J-C10		Manifold for SY7000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 10 mm
SS5Y7-10S0-☐B-C12		Manifold for SY7000 for ☐ stations. Serial transmission (EX250 / EX260). Internal pilot. Port A/B (one-touch fitting) 12 mm
SS5Y7-10S0-☐J-C12		Manifold for SY7000 for ☐ stations. Serial transmission (EX250). External pilot. Port A/B (one-touch fitting) 12 mm

☐ Nº of stations: 02 to 16 (all double wiring), to 24 (specified layout)

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Manifold, metal base: Exploded view



Manifolds
Metal base, type 51 bottom ported. P, E port entry D side

Part number	☐ Stocked options	Description
SS5Y3-51F1-☐D-KC4F ●	03, 04, 05, 06, 07, 08, 09, 10, 11, 12	Manifold for SY3000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 4 mm
SS5Y3-51F1-☐D-KC6F ●		Manifold for SY3000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 6 mm
SS5Y5-51F1-☐D-KC4F ●		Manifold for SY5000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 4 mm
SS5Y5-51F1-☐D-KC6F ●		Manifold for SY5000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 6 mm
SS5Y5-51F1-☐D-KC8F ●		Manifold for SY5000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 8 mm
SS5Y7-51F1-☐D-KC10F	—	Manifold for SY7000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 10 mm
SS5Y7-51F1-☐D-KC12F		Manifold for SY7000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 12 mm

☐ Nº of stations: 02 to 12 (all double wiring)

Metal base, type 50 side ported. P, E port entry both sides

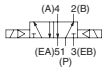
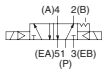
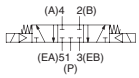
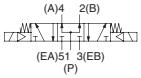
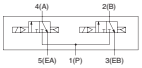
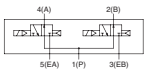
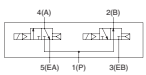
Part number	☐ Stocked options	Description
SS5Y3-50F1-☐B-KC4F ●	03, 04, 05, 06, 07, 08, 09, 10, 11, 12	Manifold for SY3000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 4 mm
SS5Y3-50F1-☐B-KC6F ●		Manifold for SY3000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 6 mm
SS5Y5-50F1-☐B-KC4F ●		Manifold for SY5000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 4 mm
SS5Y5-50F1-☐B-KC6F ●		Manifold for SY5000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 6 mm
SS5Y5-50F1-☐B-KC8F ●		Manifold for SY5000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 8 mm
SS5Y7-50F1-☐B-KC10F	—	Manifold for SY7000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 10 mm
SS5Y7-50F1-☐B-KC12F		Manifold for SY7000 for ☐ stations. D-sub connector. Port A/B (one-touch fitting) 12 mm

☐ Nº of stations: 02 to 12 (all double wiring)

5 port solenoid valve, plug-in sub-plate

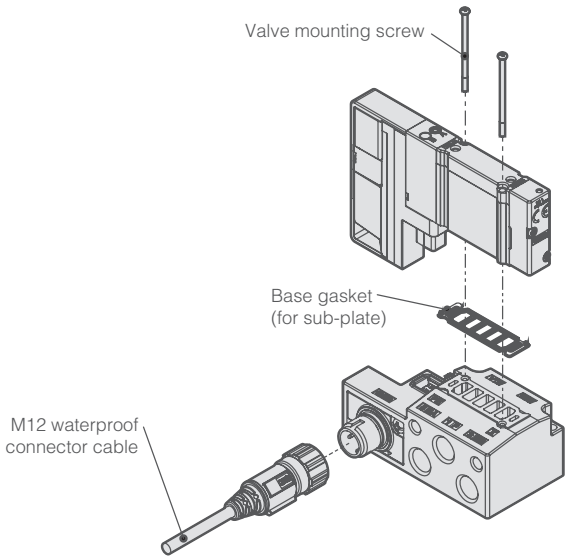
SY3000/5000/7000 Series

- Possible to be used independently
- Energy efficiency:
  0.1 W with power saving circuit
  0.35 W standard
- Space saving:
  10 mm width (SY3000)
  Top, bottom, side ported available
- Size SY7000 available.
- Easy attach / detach and wiring - M12 waterproof connector type
- IP67 enclosure.

Type of actuation	Part number solenoid valve	Seal type	Operating pressure range [MPa]	Port size A/B	Voltage	Circuit symbols
2 position single	**SY3100-5U1-WO-01F**	Rubber	0.15 ~ 0.7	G1/8	24 VDC	
	SY5100-5U1-WO-02F			G1/4		
	SY7100-5U1-WO-03F			G3/8		
	SY3101-5U1-WO-01F	Metal	0.1 ~ 0.7	G1/8		
	SY5101-5U1-WO-02F			G1/4		
	SY7101-5U1-WO-03F			G3/8		
2 position double	**SY3200-5U1-WO-01F**	Rubber	0.1 ~ 0.7	G1/8	24 VDC	
	SY5200-5U1-WO-02F			G1/4		
	SY7200-5U1-WO-03F			G3/8		
	SY3201-5U1-WO-01F	Metal		G1/8		
	SY5201-5U1-WO-02F			G1/4		
	SY7201-5U1-WO-03F			G3/8		
3 position closed centre	**SY3300-5U1-WO-01F**	Rubber	0.2 ~ 0.7	G1/8	24 VDC	
	SY5300-5U1-WO-02F			G1/4		
	SY7300-5U1-WO-03F			G3/8		
	SY3301-5U1-WO-01F	Metal	0.1 ~ 0.7	G1/8		
	SY5301-5U1-WO-02F			G1/4		
	SY7301-5U1-WO-03F			G3/8		
3 position exhaust centre	**SY3400-5U1-WO-01F**	Rubber	0.2 ~ 0.7	G1/8	24 VDC	
	SY5400-5U1-WO-02F			G1/4		
	SY7400-5U1-WO-03F			G3/8		
	SY3401-5U1-WO-01F	Metal	0.1 ~ 0.7	G1/8		
	SY5401-5U1-WO-02F			G1/4		
	SY7401-5U1-WO-03F			G3/8		
3 position pressure centre	**SY3500-5U1-WO-01F**	Rubber	0.2 ~ 0.7	G1/8	24 VDC	
	SY5500-5U1-WO-02F			G1/4		
	SY7500-5U1-WO-03F			G3/8		
	SY3501-5U1-WO-01F	Metal	0.1 ~ 0.7	G1/8		
	SY5501-5U1-WO-02F			G1/4		
	SY7501-5U1-WO-03F			G3/8		
Dual 3 port valve NC/NC	**SY3A00-5U1-WO-01F**	Rubber	0.15 ~ 0.7	G1/8	24 VDC	
	SY5A00-5U1-WO-02F			G1/4		
	SY7A00-5U1-WO-03F			G3/8		
Dual 3 port valve NO/NO	**SY3B00-5U1-WO-01F**	Rubber	0.15 ~ 0.7	G1/8	24 VDC	
	SY5B00-5U1-WO-02F			G1/4		
	SY7B00-5U1-WO-03F			G3/8		
Dual 3 port valve NC+NO	**SY3C00-5U1-WO-01F**	Rubber	0.15 ~ 0.7	G1/8	24 VDC	
	SY5C00-5U1-WO-02F			G1/4		
	SY7C00-5U1-WO-03F			G3/8		

Other voltages port sizes and wiring specifications on request.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.



Flow characteristics

Model	Sub-plate piping location	Port size		Rubber seal			Metal seal		
		(P, E)	(A, B)	C	b	Flow [l/min]	C	b	Flow [l/min]
SY3000	Side ported	01	01	1.8	0.27	449	1.4	0.14	325
	Bottom ported	01	01	1.7	0.23	414	1.3	0.13	300
	Top ported	01	Ø 6	1.3	0.34	339	1.2	0.22	291
SY5000	Side ported	02	02	4.2	0.21	1012	3.2	0.13	738
	Bottom ported	02	02	4.0	0.19	953	3.0	0.12	688
	Top ported	02	Ø 8	2.9	0.29	733	2.6	0.23	634
SY7000	Side ported	03	03	6.5	0.24	1593	4.9	0.10	1044
	Bottom ported	03	03	6.4	0.22	1551	4.9	0.10	1044
	Top ported	03	Ø 12	5.4	0.30	1373	4.7	0.18	947

1) The value is for individually operated 2-position type.

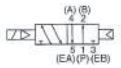
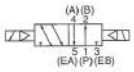
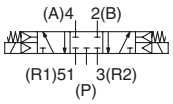
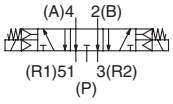
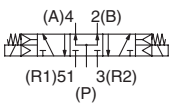
Accessories

SY30M-27-1-WO-01F ●	Sub-plate for single unit, SY3000
SY50M-27-1-WO-02F	Sub-plate for single unit, SY5000
SY70M-27-1-WO-03F	Sub-plate for single unit, SY7000
SY30M-11-1A ●	Base gasket, SY3000 (10 pcs.)
SY50M-11-1A	Base gasket, SY5000 (10 pcs.)
SY70M-11-1A	Base gasket, SY7000 (10 pcs.)
ZS-37-L	M12 waterproof connector cable, 300 mm
ZS-37-N	M12 waterproof connector cable, 1000 mm

5 port solenoid valve, body ported bar stock type; Individual wiring

SY3000/5000/7000/9000 Series

- Superior service life - at least 50 m. switching cycles
- Pilot air model available
- Body ported type
- With changeable fittings set for port A and B
- Low power consumption 0.35 W with 24 VDC
- Can be directly controlled by SPS
- 10 ms response time
- Plug combinations: 2 pin plug model with light / surge voltage suppressor integrated into plug body (miswiring protection) DIN connector for IP65 (only with valve sizes 5000/7000/9000).

Type of actuation	Part number solenoid valve	Flow [l/min]	Operating pressure range [MPa]	For electrical entry at 24 VDC	A/B port size (Stock)	Circuits symbols
2 position single	**SY3120-5LOU-☐-Q**	193	0.15 ~ 0.7	2 pin plug connector	**C6 ●, M5 ●**	
	SY5120-5LOU-☐-Q	533			**C6F ●, 01F ●**	
	SY5120-5YO-☐-Q			DIN plug connector	**C6F ●, 01F ●**	
	SY7120-5LOU-☐-Q	852		2 pin plug connector	**C8F ●, 02F ●**	
	SY7120-5YO-☐-Q			DIN plug connector	**C8F ●, 02F ●**	
	SY9120-5LOU-☐-Q	2048		2 pin plug connector	**C10F ●, 03F ●**	
	SY9120-5YO-☐-Q			DIN plug connector	**C10F, 03F ●**	
2 position double	**SY3220-5LOU-☐-Q**	193	0.1 ~ 0.7	2 pin plug connector	**C6 ●, M5 ●**	
	SY5220-5LOU-☐-Q	533			**C6F ●, 01F ●**	
	SY5220-5YO-☐-Q			DIN plug connector	**C6F ●, 01F ●**	
	SY7220-5LOU-☐-Q	852		2 pin plug connector	**C8F ●, 02F ●**	
	SY7220-5YO-☐-Q			DIN plug connector	**C8F ●, 02F ●**	
	SY9220-5LOU-☐-Q	2048		2 pin plug connector	**C10F, 03F ●**	
	SY9220-5YO-☐-Q			DIN plug connector	**C10F ●, 03F ●**	
3 position closed centre	**SY3320-5LOU-☐-Q**	233	0.2 ~ 0.7	2 pin plug connector	**C6 ●, M5 P**	
	SY5320-5LOU-☐-Q	412			**C6F ●, 01F ●**	
	SY5320-5YO-☐-Q			DIN plug connector	**C6F ●, 01F ●**	
	SY7320-5LOU-☐-Q	637		2 pin plug connector	**C8F ●, 02F ●**	
	SY7320-5YO-☐-Q			DIN plug connector	**C8F ●, 02F ●**	
	SY9320-5LOU-☐-Q	1612		2 pin plug connector	**C10F ●, 03F ●**	
	SY9320-5YO-☐-Q			DIN plug connector	**C10F ●, 03F ●**	
3 position exhaust centre	**SY3420-5LOU-☐-Q**	167	0.2 ~ 0.7	2 pin plug connector	**C6 ●, M5 ●**	
	SY5420-5LOU-☐-Q	472			**C6F ●, 01F ●**	
	SY5420-5YO-☐-Q			DIN plug connector	**C6F ●, 01F ●**	
	SY7420-5LOU-☐-Q	718		2 pin plug connector	**C8F ●, 02F ●**	
	SY7420-5YO-☐-Q			DIN plug connector	**C8F ●, 02F ●**	
	SY9420-5LOU-☐-Q	2178		2 pin plug connector	**C10F ●, 03F**	
	SY9420-5YO-☐-Q			DIN plug connector	**C10F ●, 03F ●**	
3 position pressure centre	**SY3520-5LOU-☐-Q**	201	0.2 ~ 0.7	2 pin plug connector	**C6 ●, M5 P**	
	SY5520-5LOU-☐-Q	441			**C6F ●, 01F ●**	
	SY5520-5YO-☐-Q			DIN plug connector	**C6F ●, 01F ●**	
	SY7520-5LOU-☐-Q	829		2 pin plug connector	**C8F ●, 02F ●**	
	SY7520-5YO-☐-Q			DIN plug connector	**C8F ●, 02F ●**	
	SY9520-5LOU-☐-Q	1592		2 pin plug connector	**C10F, 03F**	
	SY9520-5YO-☐-Q			DIN plug connector	**C10F, 03F ●**	

☐ A/B port; M5: M5 x 0.8
C6/C6F: Ø 6 mm
C8F: Ø 8 mm
C10F: Ø 10 mm
01F: G1/8
02F: G1/4
03F: G3/8

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Manifolds

Part number	Stocked options	Description
SS5Y3-20-☐-00F-Q ●	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12	Manifold for SY3000 for ☐ stations. Port size G1/8
SS5Y5-20-☐-00F-Q ●	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 20	Manifold for SY5000 for ☐ stations. Port size G1/4
SS5Y7-20-☐-00F-Q ●	02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12	Manifold for SY7000 for ☐ stations. Port size G1/4
SS5Y9-23-☐-00F-Q ●	02, 03, 04, 05, 06, 07, 08	Manifold for SY9000 for ☐ stations. Port size G3/8

☐ Nº of stations: 02 to 20

Accessories

Part number	Description
SY3000-26-19A-Q ●	Blanking plate with screws and gasket for SY3000
SY5000-26-1A-Q	Blanking plate with screws and gasket for SY5000
SY7000-26-1A-Q ●	Blanking plate with screws and gasket for SY7000
SY9000-26-1A-Q ●	Blanking plate with screws and gasket for SY9000
SX3000-16-1A ●	Side bracket assembly with mounting screws for SY3000
SX5000-16-1A ●	Side bracket assembly with mounting screws for SY5000
SX7000-16-1A ●	Side bracket assembly with mounting screws for SY7000

SY9000 has no bracket.

Accessory • Plug connection with cable

Cable	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without cover	SY100-30-4A-6 ●	SY100-30-4A-10 ●	SY100-30-4A-20 ●	SY100-30-4A-30 ●
With cover	SY100-68-A-6 ●	SY100-68-A-10 ●	SY100-68-A-20 ●	SY100-68-A-30 ●

Accessory • DIN connector

With indicator light and 24 VDC protective circuit	Without indicator light without protective circuit
SY100-82-3-05 ●	SY100-82-1 ●

Accessory • Replacement fittings

A/B Port size	SY3000	SY5000	SY7000	SY9000
One-touch fitting Ø 4	SY3000-6A-C4 ●	SY5000-6A-C4 ●	—	—
One-touch fitting Ø 6	SY3000-6A-C6 ●	SY5000-6A-C6 ●	—	—
One-touch fitting Ø 8	—	SY5000-6A-C8 ●	SY7000-6A-C8 ●	SY9000-6A-C8 ●
One-touch fitting Ø 10	—	—	SY7000-6A-C10 ●	SY9000-6A-C10
One-touch fitting Ø 12	—	—	—	SY9000-6A-C12 ●
M5 thread	SY3000-6A-M5 ●	—	—	—
G1/8	—	SY5000-6A-01F ●	—	—
G1/4	—	—	SY7000-6A-02F ●	SY9000-6A-02F
G3/8	—	—	—	SY9000-6A-03F ●

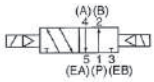
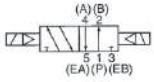
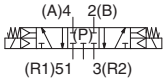
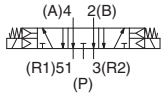
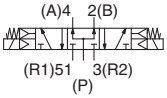
For other accessories (gaskets, silencers, etc) please contact SMC.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port solenoid valve, base mounted. Manifold type, stacking type, individual wiring

SY3000/5000/7000/9000 Series

- Body design for base mounting
- Low power consumption 0.35 W with 24 VDC (With indicator light: 0.4 W)
- Can be directly controlled by PLC
- 35 ms response type (2 position with light / surge voltage suppressor)
- 2 pin miniature socket protects against miswiring
- Long service life of at least 50 million switching cycles.

Type of actuation	Part number solenoid valve	Operating pressure range [MPa]	Electrical entry at 24 VDC	Circuits symbols
2 position single	**SY3140-5LOU-Q** ●	0.15 ~ 0.7	2 pin socket (without connector)	
	SY5140-5LOU-Q ●			
	SY7140-5LOU-Q ●			
	SY9140-5LOU-Q ●			
2 position double	**SY3240-5LOU-Q** ●	0.1 ~ 0.7		
	SY5240-5LOU-Q ●			
	SY7240-5LOU-Q ●			
	SY9240-5LOU-Q ●			
3 position closed centre	**SY3340-5LOU-Q** ●	0.2 ~ 0.7		
	SY5340-5LOU-Q ●			
	SY7340-5LOU-Q ●			
	SY9340-5LOU-Q ●			
3 position exhaust centre	**SY3440-5LOU-Q** ●	0.2 ~ 0.7		
	SY5440-5LOU-Q ●			
	SY7440-5LOU-Q ●			
	SY9440-5LOU-Q ●			
3 position pressure centre	**SY3540-5LOU-Q** ●	0.2 ~ 0.7		
	SY5540-5LOU-Q ●			
	SY7540-5LOU-Q ●			
	SY9540-5LOU-Q ●			

Other voltages, plug connectors and port sizes available on request.

Solenoid variations

Part number	Description
SY∗□40-5YO-Q ●	Electrical entry at 24 VDC: DIN plug connector (without connector cable)
SY∗□0-5WAOU-Q	Electrical entry at 24 VDC: M8 connector (without connector cable)

∗ Size of valve: 3 for SY3000, 5 for SY5000, 7 for SY7000, 9 for SY9000
□ Type of actuation: 1, 2, 3, 4, 5 (see previous table)
DIN terminal has no polarity
M8 connector conforming to IEC60947-5-2.

Manifolds

Type of actuation	Description
SS5Y3-41-☐-M5F-Q ●	SY3000 manifold for ☐ stations, compact style. Port size M5 thread port
SS5Y3-41-☐-C4F-Q ●	SY3000 manifold for ☐ stations, compact style. Port size Ø 4 (one-touch fitting)
SS5Y3-41-☐-C6F-Q ●	SY3000 manifold for ☐ stations, compact style. Port size Ø 6 (one-touch fitting)
SS5Y5-41-☐-01F-Q ●	SY5000 manifold for ☐ stations, compact style. Port size G1/8
SS5Y5-41-☐-C6F-Q ●	SY5000 manifold for ☐ stations, compact style. Port size Ø 6 (one-touch fitting)
SS5Y5-41-☐-C8F-Q ●	SY5000 manifold for ☐ stations, compact style. Port size Ø 8 (one-touch fitting)
SS5Y3-42-☐-01F-Q ●	SY3000 manifold for ☐ stations, compact style. Port size G1/8
SS5Y3-42-☐-C4F-Q ●	SY3000 manifold for ☐ stations, compact style. Port size Ø 4 (one-touch fitting)
SS5Y5-42-☐-02F-Q ●	SY5000 manifold for ☐ stations, compact style. Port size G1/4
SS5Y5-42-☐-C6F-Q ●	SY5000 manifold for ☐ stations, compact style. Port size Ø 6 (one-touch fitting)
SS5Y5-42-☐-C8F-Q ●	SY5000 manifold for ☐ stations, compact style. Port size Ø 8 (one-touch fitting)
SS5Y7-42-☐-02F-Q ●	SY7000 manifold for ☐ stations, compact style. Port size G1/4
SS5Y7-42-☐-C10F-Q ●	SY7000 manifold for ☐ stations, compact style. Port size Ø 10 (one-touch fitting)
SS5Y9-43-☐ B-03F-Q ●	SY9000 manifold for ☐ stations, compact style. Port size G3/8
SS5Y9-43-☐ B-C12-Q ●	SY9000 manifold for ☐ stations, compact style. Port size Ø 12 (one-touch fitting)

☐ N° of stations: 02 to 20

Accessories

SY3000-26-9A-Q ●	SY3000, blanking plate with gasket and screws
SY5000-26-20A-Q ●	SY5000, blanking plate with gasket and screws
SY7000-26-22A-Q ●	SY7000, blanking plate with gasket and screws
SY9000-26-2A-Q ●	SY9000, blanking plate with gasket and screws

Accessory plug connection with cable

(LOU, MOU)	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without cover	**SY100-30-4A-6** ●	**SY100-30-4A-10** ●	**SY100-30-4A-20** ●	**SY100-30-4A-30** ●
With cover	**SY100-68-A-6** ●	**SY100-68-A-10** ●	**SY100-68-A-20** ●	**SY100-68-A-30** ●

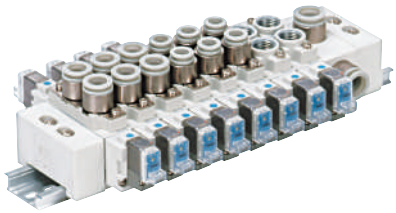
Accessory • DIN connector

With indicator light and 24 VDC protective circuit	Without indicator light without protective circuit
SY100-82-3-05 ●	**SY100-82-1** ●

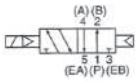
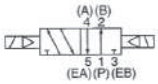
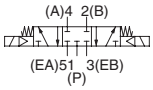
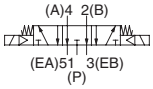
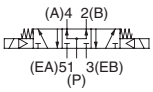
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port solenoid valve, cassette type

SY3060/5060/7060 Series



- Valve block easy to expand and disassemble
- Reduced cost through a combination of valve and manifold
- Valve width 10.5 / 16 / 19 mm
- Minimal weight means it can be mounted directly to the consumer
- 0.35 W power consumption (with indicator light: 0.4 W)
- Can be directly controlled by PLC
- 10 ms response time (SY3000)
- New gasket provides superior condensate resistance
- Manual override non-locking type as standard
- Replacement fittings mean cylinder ports are easy to change
- Minimum operating life of 50 million switching cycles
- Common exhaust type pilot air, individual SUP / EXH block assembly, SUP / EXH passage block
- Modern design.

Type of actuation	Part number solenoid valve	A/B Port size (stock)	Operating pressure range [MPa]	Port size A/B	Voltage	For electrical entry at 24 VDC	Circuits symbols
2 position single	**SY3160-5LOU-☐-Q**	C6, M5 ●	0.15 ~ 0.7	Ø 6 mm	24 VDC	LOU: bipolar 2 pin plug connector with indicator light and surge voltage suppressor (Lead wire entry direction to side)	
	SY3160-5MOU-☐-Q	C6 ●, M5 ●					
	SY5160-5LOU-☐-Q	C6 ●, 01F ●		Ø 8 mm			
	SY5160-5MOU-☐-Q	C6 ●, 01F ●					
	SY7160-5LOU-☐-Q	C8 ●, 02F ●					
	SY7160-5MOU-☐-Q	C8 ●, 02F ●					
2 position double	**SY3260-5LOU-☐-Q**	C6 ●, M5 ●	0.1 ~ 0.7	Ø 6 mm	24 VDC		
	SY3260-5MOU-☐-Q	C6 ●, M5 ●					
	SY5260-5LOU-☐-Q	C6 ●, 01F ●		Ø 8 mm			
	SY5260-5MOU-☐-Q	C6 ●, 01F ●					
	SY7260-5LOU-☐-Q	C8 ●, 02F ●					
	SY7260-5MOU-☐-Q	C8 ●, 02F ●					
3 position closed centre	**SY3360-5LOU-☐-Q**	C6 ●, M5 ●	0.2 ~ 0.7	Ø 6 mm	24 VDC		
	SY3360-5MOU-☐-Q	C6 ●, M5 ●					
	SY5360-5LOU-☐-Q	C6 ●, 01F ●		Ø 8 mm			
	SY5360-5MOU-☐-Q	C6 ●, 01F ●					
	SY7360-5LOU-☐-Q	C8 ●, 02F ●					
	SY7360-5MOU-☐-Q	C8 ●, 02F ●					
3 position exhaust centre	**SY3460-5LOU-☐-Q**	C6 ●, M5 ●	0.2 ~ 0.7	Ø 6 mm	24 VDC	MOU: bipolar 2 pin plug connector with indicator light and surge voltage suppressor (Lead wire entry direction above)	
	SY3460-5MOU-☐-Q	C6 ●, M5 ●					
	SY5460-5LOU-☐-Q	C6 ●, 01F ●		Ø 8 mm			
	SY5460-5MOU-☐-Q	C6 ●, 01F ●					
	SY7460-5LOU-☐-Q	C8 ●, 02F ●					
	SY7460-5MOU-☐-Q	C8 ●, 02F					
3 position pressure centre	**SY3560-5LOU-☐-Q**	C6 ●, M5 ●	0.2 ~ 0.7	Ø 6 mm	24 VDC		
	SY3560-5MOU-☐-Q	C6 ●, M5 ●					
	SY5560-5LOU-☐-Q	C6 ●, 01F ●		Ø 8 mm			
	SY5560-5MOU-☐-Q	C6 ●, 01F ●					
	SY7560-5LOU-☐-Q	C8 ●, 02F					
	SY7560-5MOU-☐-Q	C8, 02F					

☐ A/B port; M5: M5 x 0.8
C6: Ø 6 mm
C8: Ø 8 mm
01F: G1/8
02F: G1/4

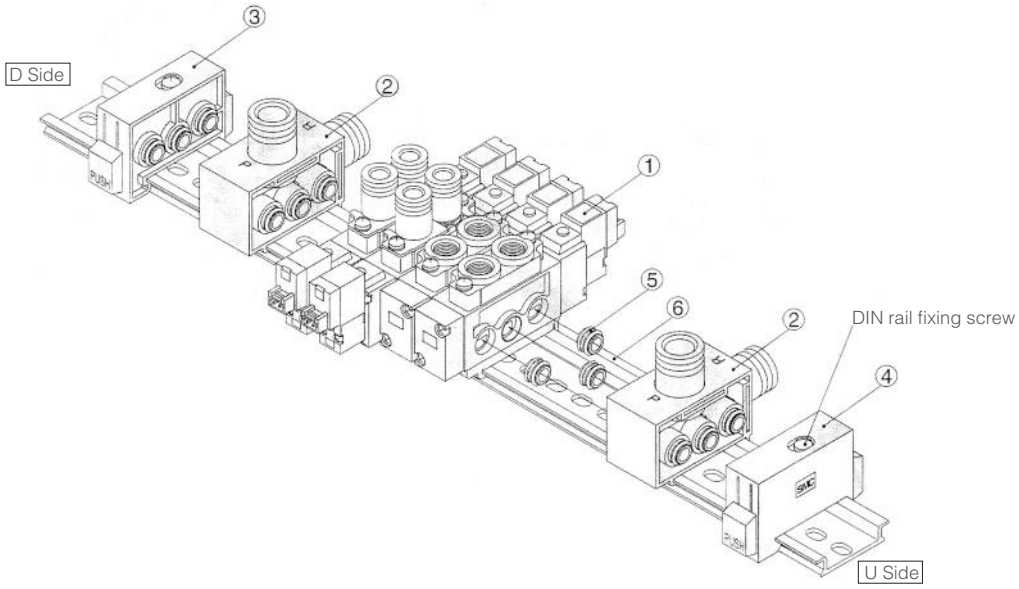
Other voltages, plug connectors and port sizes available on request.

Flow characteristics

Model	A/B Port size	Flow [l/min]
SS5Y3-60-Q	Ø 6 mm, M5	189
SS5Y5-60-Q	Ø 6 mm, G1/8	469
SS5Y7-60-Q	Ø 8 mm, G1/4	947

1) Flow valves are for manifolds base with 5 stations and individually operated 2 position type.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.



Modular manifold

No.	Item	SY3060	SY5060	SY7060
1	Valves	See table on previous page		
2	Supply station	**SY3000-55-1A-Q** ●	**SY5000-55-1A-Q** ●	**SY7000-75-1A-Q** ●
3	End plate D side	**SY3000-56-1A-Q** ●	**SY5000-56-1A-Q** ●	**SY7000-56-1A-Q** ●
4	End plate U side	**SY3000-56-1B-Q** ●	**SY5000-56-1B-Q** ●	**SY7000-56-1B-Q** ●
5	Bushing assembly	**SY3000-52-5A** ●	**SY5000-52-3A** ●	**SY7000-70-1A** ●
6	Aluminium DIN rail	**VZ1000-11-1-□** ●	**VZ1000-11-1-□** ●	**VZ1000-11-4-□** ●
7	Additional SUP block assembly	**SY3000-54-1C-Q** ●	**SY5000-54-1C-Q** ●	**SY7000-54-1C-Q** ●
8	Additional EXH block assembly	**SY3000-55-1B-Q** ●	**SY5000-55-1B-Q** ●	**SY7000-55-1B-Q** ●
9	SUP / EXH blocking disc	**SY3000-52-6A** ●	**SY5000-52-4A** ●	**SY7000-70-2A** ●
10	Silencer for EXH channel	**AN15-C08** ●	**AN20-C10** ●	**AN30-C12** ●

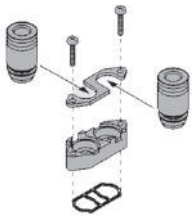
□ reference for DIN rail length

Accessories • Plug connection with cable

(LOU, MOU)	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without cover	SY100-30-4A-6 ●	SY100-30-4A-10 ●	SY100-30-4A-20 ●	SY100-30-4A-30 ●
With cover	SY100-68-A-6 ●	SY100-68-A-10 ●	SY100-68-A-20 ●	SY100-68-A-30 ●

Accessories • Port block assembly

SY3000-6A-C6 ●	For SY3060 ●
SY5000-6A-C6 ●	For SY5060 ●
SY7000-6A-C8 ●	For SY7060 ●

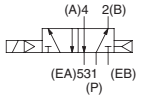
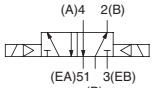
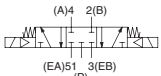
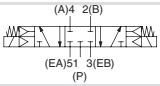
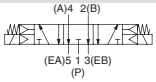
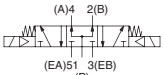
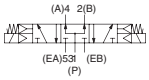
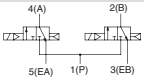
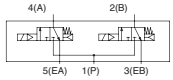
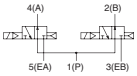
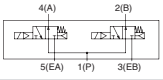
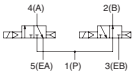
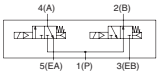


For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port solenoid valve

SV1000/2000/3000/4000 Series

- Internal wiring
- Easy to install
- Valves easily assembled / disassembled
- Small, compact design
- Push-in fittings standard
- Minimal, 10 ms. response times
- Low power consumption, 0.6 W
- Superior service life - at least 50 million switching cycles.

Type of actuation	Part number solenoid valve	Operating pressure range [MPa]	Voltage	Circuits symbols
2 position single	**SV1100-5FU** ●	0.15 ~ 0.7	24 VDC	
	SV2100-5FU ●			
	SV3100-5FU ●			
	SV4100-5FU ●			
2 position double	**SV1200-5FU** ●	0.1 ~ 0.7	24 VDC	
	SV2200-5FU ●			
	SV3200-5FU ●			
	SV4200-5FU ●			
3 position closed centre	**SV1300-5FU** ●	0.2 ~ 0.7	24 VDC	
	SV2300-5FU ●			
	SV3300-5FU ●			
	SV4300-5FU ●			
3 position exhaust centre	**SV1400-5FU** ●	0.2 ~ 0.7	24 VDC	
	SV2400-5FU ●			
	SV3400-5FU ●			
	SV4400-5FU ●			
3 position pressure centre	**SV1500-5FU** ●	0.2 ~ 0.7	24 VDC	
	SV2500-5FU ●			
	SV3500-5FU ●			
	SV4500-5FU ●			
4 position dual 3 port NC / NC	**SV1A00-5FU** ●	0.15 ~ 0.7	24 VDC	
	SV2A00-5FU ●			
4 position dual 3 port NO / NO	**SV1B00-5FU** ●	0.15 ~ 0.7	24 VDC	
	SV2B00-5FU ●			
4 position dual 3 port NC / NO	**SV1C00-5FU** ●	0.15 ~ 0.7	24 VDC	
	SV2C00-5FU ●			

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Flow characteristics

Model	Flow [l/min]
SS5V1-16	236
SS5V2-16	640
SS5V1-10	289
SS5V2-10	568
SS5V3-10	1036
SS5V4-10	1658

1) Flow valves are for manifolds base with 5 stations and individually operated 2 position type.

For complete units (valves and manifold) please use our Valve Configurator online (available at www.smc.eu)

Accessory • Replacement fittings for A/B

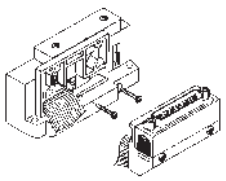
One-touch fitting	SV1000	SV2000	SV3000	SV4000
Ø 3.2 mm	VVQ1000-50A-C3	—	—	—
Ø 4 mm	VVQ1000-50A-C4	VVQ1000-51A-C4	—	—
Ø 6 mm	VVQ1000-50A-C6	VVQ1000-51A-C6	VVQ2000-51A-C6	—
Ø 8 mm	—	VVQ1000-51A-C8	VVQ2000-51A-C8	VVQ4000-50B-C8
Ø 10 mm	—	—	VVQ2000-51A-C10	VVQ4000-50B-C10
Ø 12 mm	—	—	—	VVQ4000-50B-C12

Manifolds

Part number	☐ Applicable stations	☐ Stocked options	Description
SS5V1-10FD1-☐B-C6 ●	02 to 11 (Double wiring) 02 to 20 (Specified layout)	04, 08, 10	Manifold for SV1000 for ☐ stations. D-sub connector. Port A/B 6 mm
SS5V2-10FD1-☐B-C8 ●		04, 08, 10	Manifold for SV2000 for ☐ stations. D-sub connector. Port A/B 8 mm
SS5V3-10FD1-☐B-C8 ●		06, 07, 08, 09	Manifold for SV3000 for ☐ stations. D-sub connector. Port A/B 8 mm
SS5V4-10FD1-☐B-C10		—	Manifold for SV4000 for ☐ stations. D-sub connector. Port A/B 10 mm
SS5V1-W10CD-☐B-C6 ●	02 to 12 (Double wiring) 02 to 20 (Specified layout)	04	Manifold for SV1000 for ☐ stations. Circular connector. Port A/B 6 mm
SS5V2-W10CD-☐B-C8 ●		03, 06, 09, 10	Manifold for SV2000 for ☐ stations. Circular connector. Port A/B 8 mm
SS5V3-W10CD-☐B-C8		—	Manifold for SV3000 for ☐ stations. Circular connector. Port A/B 8 mm
SS5V4-W10CD-☐B-C10		—	Manifold for SV4000 for ☐ stations. Circular connector. Port A/B 10 mm
SS5V1-W10S10D-☐B-C6 ●	02 to 16 (Double wiring) 02 to 20 (Specified layout)	04, 08, 10, 12, 13, 16	Manifold for SV1000 for ☐ stations. Serial transmission (EX250 / EX260) without SI unit. Port A/B 6 mm
SS5V2-W10S10D-☐B-C8		—	Manifold for SV2000 for ☐ stations. Serial transmission (EX250 / EX260) without SI unit. Port A/B 8 mm
SS5V3-W10S10D-☐B-C8		—	Manifold for SV3000 for ☐ stations. Serial transmission (EX250 / EX260) without SI unit. Port A/B 8 mm

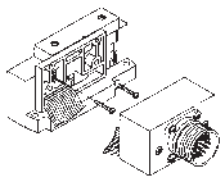
☐ Nº of stations

Other kit types available on request.
SI units ordered separately



Accessories • D sub connector with cable

GVVZS3000-21A-2	L= 3 m
GVVZS3000-21A-3	L= 5 m
GVVZS3000-21A-4	L= 8 m



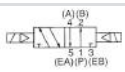
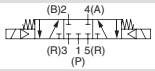
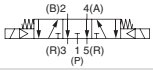
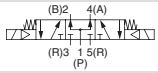
Accessories • Circular plug with cable

GAXT100-MC26-015	L= 1.5 m
GAXT100-MC26-030	L= 3 m
GAXT100-MC26-050	L= 5 m

5 port solenoid valve, base mounted

SYJ3000 Series

- Micro design
- Common exhaust for pilot and main valve
- Rubber seal
- Low power consumption 0.35 W. (With indicator light: 0.4 W)
- Minimum service life of 30 million switching cycles
- Manual override non-locking type as standard
- Minimal switching times of only 15 ms.

Type of actuation	Part number solenoid valve	Flow [l/min]	Operating pressure range [MPa]	Voltage	Electrical entry at 24 VDC	Circuits symbols
2 position single	**SYJ3143-5LOU-Q** ● **SYJ3143-5WAOU-Q** ●	122	0.15 ~ 0.7	24 VDC	LO: L plug connector (without connector)	
2 position double	**SYJ3243-5LOU-Q** ● **SYJ3243-5WAOU-Q** ●		0.1 ~ 0.7			
3 position closed centre	**SYJ3343-5LOU-Q** ● **SYJ3343-5WAOU-Q**		0.2 ~ 0.7			
3 position exhaust centre	**SYJ3443-5LOU-Q** ● **SYJ3443-5WAOU-Q** ●	164			WAO: M8 connector (without connector cable)	
3 position pressure centre	**SYJ3543-5LOU-Q** ● **SYJ3543-5WAOU-Q**	160				

M8 connector conforming to IEC60947-5-2
Other voltages, electrical entries and sizes on request

Manifolds

Part number	Description
SS5YJ3-S41-02-M5F-Q ●	Manifold for 2 valves. Port M5
SS5YJ3-S41-03-M5F-Q ●	Manifold for 3 valves. Port M5
SS5YJ3-S41-04-M5F-Q ●	Manifold for 4 valves. Port M5
SS5YJ3-S41-05-M5F-Q ●	Manifold for 5 valves. Port M5
SS5YJ3-S41-06-M5F-Q ●	Manifold for 6 valves. Port M5
SS5YJ3-S41-07-M5F-Q ●	Manifold for 7 valves. Port M5
SS5YJ3-S41-08-M5F-Q ●	Manifold for 8 valves. Port M5
SS5YJ3-S41-09-M5F-Q ●	Manifold for 9 valves. Port M5
SS5YJ3-S41-10-M5F-Q ●	Manifold for 10 valves. Port M5
SS5YJ3-S41-12-M5F-Q ●	Manifold for 12 valves. Port M5

Body ported manifold and other port sizes on request.

Accessories

Part number	Description
SYJ3000-22-1-Q	Sub-plate. M5 x 0.8 port
SYJ3000-21-2A-Q	Blanking plate

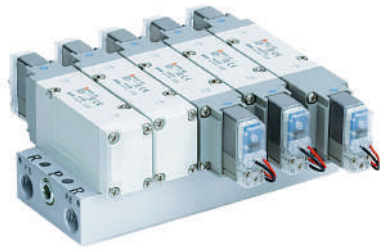
Accessories • Plug connection with cable

Cable	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without cover	SY100-30-4A-6 ●	SY100-30-4A-10 ●	SY100-30-4A-20 ●	SY100-30-4A-30 ●
With cover	SY100-68-A-6 ●	SY100-68-A-10 ●	SY100-68-A-20 ●	SY100-68-A-30 ●

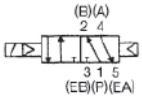
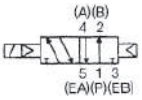
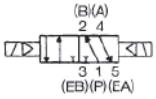
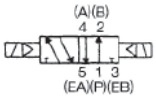
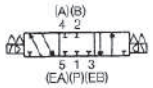
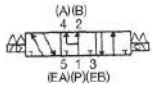
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

5 port solenoid valve

VF1000/3000/5000 Series



- Enclosure IP65 (splash proof)
- Base mounted valve also available
- Power saving circuit available
- Other electrical entries available
- High pressure type (1 MPa) available
- Also 230 VAC available
- Noise reduction and reduced apparent power (1.55 VA) with a full-wave rectifier.

Part number	Function	Flow [l/min]	Operating pressure range [MPa]	Port size	Voltage	Electrical entry and manual override ☐	Circuit symbols
VF1120-5☐1-01F ●	2-position single	184	0,15 to 0,7	G1/8	24 VDC	YOD, DU	
VF3133-5☐1-01F ●	2-position single	805	0,15 ~ 0,7	G1/8		YOD, DU	
VF3133-5☐1-02F ●	2-position single	1058	0,15 ~ 0,7	G1/4		YOD, DU	
VF5123-5☐1-02F ●	2-position single	2021	0,15 ~ 0,7	G1/4		YOD, DU	
VF5123-5☐1-03F ●	2-position single	2466	0,15 ~ 0,7	G3/8		YOD, DU	
VF1220-5☐1-01F	2-position double	185	0,1 ~ 0,7	G1/8		YOD, DU	
VF3233-5☐1-01F ●	2-position double	805	0.1 ~ 0.7	G1/8		YOD, DU	
VF3233-5☐1-02F ●	2-position double	1058	0.1 ~ 0.7	G1/4		YOD, DU	
VF5223-5☐1-02F ●	2-position double	2021	0.1 ~ 0.7	G1/4		YOD, DU	
VF5223-5☐1-03F ●	2-position double	2466	0.1 ~ 0.7	G3/8		YOD, DU	
VF3333-5☐1-01F ●	3-position closed centre	614	0.15 ~ 0.7	G1/8		YOD, DU	
VF3333-5☐1-02F ●	3-position closed centre	678	0.15 ~ 0.7	G1/4		YOD, DU	
VF5323-5☐1-02F	3-position closed centre	1907	0.15 ~ 0.7	G1/4		YOD, DU	
VF5323-5☐1-03F ●	3-position closed centre	2086	0.15 ~ 0.7	G3/8		YOD, DU	
VF3433-5☐1-01F ●	3-position exhaust centre	692	0.15 ~ 0.7	G1/8		YOD, DU	
VF3433-5☐1-02F ●	3-position exhaust centre	828	0.15 ~ 0.7	G1/4		YOD, DU	
VF5423-5☐1-02F	3-position exhaust centre	1960	0.15 ~ 0.7	G1/4		YOD, DU	
VF5423-5☐1-03F ●	3-position exhaust centre	2258	0.15 ~ 0.7	G3/8		YOD, DU	
VF3533-5☐1-01F	3-position pressure centre	828	0.15 ~ 0.7	G1/8		YOD, DU	
VF3533-5☐1-02F	3-position pressure centre	1465	0.15 ~ 0.7	G1/4		YOD, DU	
VF5523-5☐1-02F	3-position pressure centre	2016	0.15 ~ 0.7	G1/4		YOD, DU	
VF5523-5☐1-03F	3-position pressure centre	2704	0.15 ~ 0.7	G3/8		YOD, DU	

☐ YOD: DIN terminal without connector and push-turn locking slotted type.
DU: DIN terminal with connector and with light / surge voltage suppressor (non-polar).
Other voltages, plug connectors and port sizes available on request.
IP65 version available upon request.
Base mounted type available upon request.

Manifolds

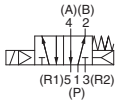
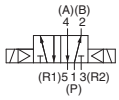
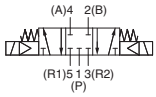
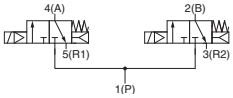
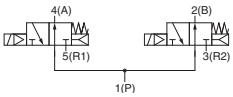
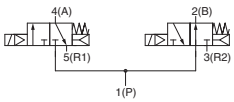
Part number	☐ Applicable stations	☐ Socked options	Description
VV5F1-30-☐1-00F	2 to 20	—	Manifold for VF1000 for ☐ stations. Body ported type. Port size G1/8
VV5F3-30-☐1-00F ●	2 to 20	02, 03, 04, 05, 06, 07, 08, 09, 10	Manifold for VF3000 for ☐ stations. Body ported type. Port size G1/4
VV5F5-20-☐1-00F ●	2 to 10	02, 03, 04, 05, 06	Manifold for VF5000 for ☐ stations. Body ported type. Port size G3/8
VV5F5-21-☐1-00F	2 to 15	—	Manifold for VF5000 for ☐ stations. Body ported type. Port size G1/2

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port solenoid valve, compact pilot type

S0700 Series

- Compact design with high flow capacity (cylinder driving size: up to Ø 32)
- Power consumption: 0.35 W
- Applicable to various types of serial wiring
- Variations:
  - Base mounted: plug lead type, plug-in type, slim compact type
  - Body ported: plug lead type, either single unit or manifold bar base.

Series		Type of actuation	Part number solenoid valve	Operating pressure range [MPa]	Flow [l/min]	Voltage	Circuits symbols
Base mounted	Slim compact type	2 position single	**S0711-5**	0.2 ~ 0.7	105	24 VDC	
	Plug-in type		**S0710-5** ●				
	Plug lead type [1]		**S0715-5MO** ●				
Body ported	Plug lead type, single unit [1]		**S0716-5MO-C4**		174		
	Plug lead type, manifold bar base [1]		**S0712-5MO-C4**		139		
Base mounted	Slim compact type	2 position double	**S0721-5**	0.2 ~ 0.7	105	24 VDC	
	Plug-in type		**S0720-5** ●				
	Plug lead type [1]		**S0725-5MO** ●				
Body ported	Plug lead type, single unit [1]		**S0726-5MO-C4**		174		
	Plug lead type, manifold bar base [1]		**S0722-5MO-C4**		139		
Base mounted	Plug lead type [1]	3 position closed centre	**S0735-5MO**	0.2 ~ 0.7	73	24 VDC	
Body ported	Plug lead type, single unit [1]		**S0736-5MO-C4**		144		
	Plug lead type, manifold bar base [1]		**S0732-5MO-C4**		144		
Base mounted	Slim compact type	4 position 3 port N.C. + N.C.	**S07A1-5**	0.2 ~ 0.7	89	24 VDC	
	Plug-in type		**S07A0-5** ●				
	Plug lead type [1]		**S07A5-5MO** ●				
Body ported	Plug lead type, single unit [1]		**S07A6-5MO-C4**		157		
	Plug lead type, manifold bar base [1]		**S07A2-5MO-C4**		154		
Base mounted	Slim compact type	4 position 3 port N.O. + N.O.	**S07B1-5**	0.2 ~ 0.7	89	24 VDC	
	Plug-in type		**S07B0-5** ●				
	Plug lead type [1]		**S07B5-5MO** ●				
Body ported	Plug lead type, single unit [1]		**S07B6-5MO-C4**		157		
	Plug lead type, manifold bar base [1]		**S07B2-5MO-C4**		154		
Base mounted	Slim compact type	4 position 3 port N.C. + N.O.	**S07C1-5**	0.2 ~ 0.7	89	24 VDC	
	Plug-in type		**S07C0-5** ●				
	Plug lead type [1]		**S07C5-5MO**				
Body ported	Plug lead type, single unit [1]		**S07C6-5MO-C4**		157		
	Plug lead type, manifold bar base [1]		**S07C2-5MO-C4**		154		

1) M-type plug connector, without lead wire (with light / surge voltage suppressor).

Solenoid variations

Part number			Description
Base mounted	Body ported, single unit	Body ported, manifold bar base	
S07☐5-5G ●	**S07☐6-5G-C4**	**S07☐2-5G-C4**	Plug lead, 24 VDC valve with grommet electrical entry and without sub-plate
S07☐5R-5G [1]	**S07☐6R-5G-C4** [1]	**S07☐2R-5G-C4** [1]	Plug lead, 24 VDC valve with external pilot and grommet electrical entry
S07☐5-6G	**S07☐6-6G-C4**	**S07☐2-6G-C4**	Plug lead, 12 VDC valve with grommet electrical entry
S07☐5-5M	**S07☐6-5M-C4**	**S07☐2-5M-C4**	Plug lead, 24 VDC valve with M plug connector for electrical entry
S07☐5-5G-M5	—	—	Plug lead, 24 VDC valve with grommet electrical entry and sub-plate

☐ Type of actuation: 1, 2, 3, A, B, C (see previous table)
1) External pilot not compatible with dual 3-port valves.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Manifolds

Type	Part number	Max. number of stations [1]	☐ Stocked options	Description
Base mounted, slim compact	**SS0751-☐C4SBN**	16	—	S kit: Serial transmission (EX510)
	SS0751-☐C4SD0	32	—	S kit: Serial transmission (EX180), no SI unit
	SS0751-☐C4FD0	24	—	F kit: D-Sub connector (25P) no cable
Base mounted, plug-in	**SS0750-☐C4SD0**	24 (16) [2]	—	S kit: Serial transmission (EX250 / EX260 / EX600 / EX500), no SI unit
	SS0750-☐C4FD0 ●	24	04, 08, 12	F kit: D-Sub connector (25P) no cable
	SS0750-☐C4MD0	24	—	M kit: Circular connector (26P), no cable
Base mounted, plug-lead	**SS0755-SAN☐C4**	16	—	S kit: Serial transmission (EX510)
	SS0755-☐C4FC ●	20	04, 05, 06, 07, 08, 10, 12	C kit: Lead wire, 8.5 manifold pitch, G thread type
Body ported, plug-lead	**SS0752-☐C**	20	—	C kit: lead wire, 7.5 manifold pitch

☐: Nº of stations
Other kit types available on request
SI units ordered separately. Please refer to pages 76 to 82.
1) Maximum stations in the case of mixed single and double wiring (special wiring specifications).
2) ( ) value for EX500.

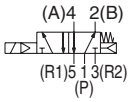
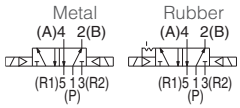
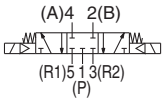
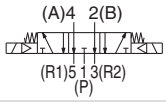
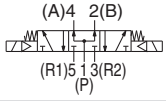
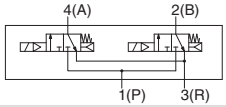
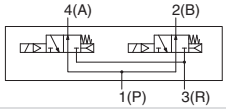
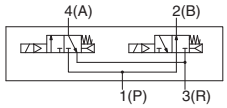
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port solenoid valve, connector type manifold Metal seal / Rubber seal

VQC1000/2000 Series

- Power saving:
  Standard: 0.4 W
  High-pressure type: 0.95 W
- Compact and high flow
- A wide variety of prepackaged wiring configurations
- Applicable to EX600 and other types of serial wiring
- IP67 enclosure compatible.

For complete units (valves and manifold) please use our Valve Configurator online (available at www.smc.eu)

Type of actuation	Part number solenoid valve	Type	Flow [l/min]	Operating pressure range [MPa]	Suitable cylinder bore size [mm]	Voltage	Circuit symbols
2 position single	**VQC1101N-51** ●	Rubber seal	204	0.15 ~ 0.7	Up to Ø 50	24 VDC	
	VQC1100N-51 ●	Metal seal	163	0.1 ~ 0.7			
	VQC2101N-51 ●	Rubber seal	552	0.15 ~ 0.7	Up to Ø 80		
	VQC2100N-51 ●	Metal seal	466	0.1 ~ 0.7			
2 position double	**VQC1201N-51** ●	Rubber seal	204	0.1 ~ 0.7	Up to Ø 50		
	VQC1200N-51 ●	Metal seal	163	0.1 ~ 0.7			
	VQC2201N-51 ●	Rubber seal	552	0.1 ~ 0.7	Up to Ø 80		
	VQC2200N-51 ●	Metal seal	466	0.1 ~ 0.7			
3 position closed centre	**VQC1301N-51** ●	Rubber seal	168	0.2 ~ 0.7	Up to Ø 50		
	VQC1300N-51 ●	Metal seal	158	0.1 ~ 0.7			
	VQC2301N-51 ●	Rubber seal	502	0.2 ~ 0.7	Up to Ø 80		
	VQC2300N-51 ●	Metal seal	466	0.1 ~ 0.7			
3 position exhaust centre	**VQC1401N-51** ●	Rubber seal	168	0.2 ~ 0.7	Up to Ø 50		
	VQC1400N-51 ●	Metal seal	158	0.1 ~ 0.7			
	VQC2401N-51 ●	Rubber seal	502	0.2 ~ 0.7	Up to Ø 80		
	VQC2400N-51 ●	Metal seal	466	0.1 ~ 0.7			
3 position pressure centre	**VQC1501N-51** ●	Rubber seal	204	0.2 ~ 0.7	Up to Ø 50		
	VQC1500N-51	Metal seal	163	0.1 ~ 0.7			
	VQC2501N-51 ●	Rubber seal	804	0.2 ~ 0.7	Up to Ø 80		
	VQC2500N-51 ●	Metal seal	565	0.1 ~ 0.7			
Dual 3 port valve NC / NC	**VQC1A01N-51** ●	Rubber seal	168	0.15 ~ 0.7	Up to Ø 50		
	VQC2A01N-51 ●	Rubber seal	452	0.15 ~ 0.7	Up to Ø 80		
Dual 3 port valve NO / NO	**VQC1B01N-51** ●	Rubber seal	168	0.15 ~ 0.7	Up to Ø 50		
	VQC2B01N-51 ●	Rubber seal	452	0.15 ~ 0.7	Up to Ø 80		
Dual 3 port valve NC+NO	**VQC1C01N-51** ●	Rubber seal	168	0.15 ~ 0.7	Up to Ø 50		
	VQC2C01N-51 ●	Rubber seal	452	0.15 ~ 0.7	Up to Ø 80		

Manifolds

Part number	☐ Stocked options	Description
VV5QC11-☐ C6FD0 ●	04, 06, 10	Manifold for VQC1000 for ☐ stations. D-sub connector without cable, Port Ø [1]
VV5QC21-☐ C8FD0 ●	04, 06, 08, 10, 12	Manifold for VQC2000 for ☐ stations. D-sub connector without cable, Port Ø [1]
VV5QC11-☐ C6SD0 ●	02, 03, 04, 05, 06, 08, 10, 12	Manifold for VQC1000 for ☐ stations. Serial transmission EX500, EX250 or EX260, Port Ø [1]
VV5QC21-☐ C8SD0 ●	02, 04, 06, 08, 10, 12	Manifold for VQC2000 for ☐ stations. Serial transmission EX500, EX250 or EX260, Port Ø [1]

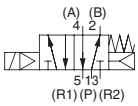
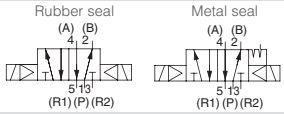
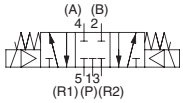
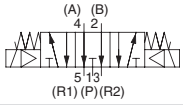
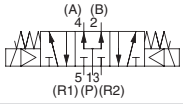
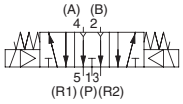
☐ Nº of stations: 01 to 12 (the maximum number depending on the electrical entry)
1) 6 for VQC1000: Ø 6 mm with A/B
8 for VQC2000: Ø 8 mm with A/B
SI units ordered separately. Please refer to pages 76 to 82

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

5 port solenoid valve, connector type manifold
Metal seal / Rubber seal
VQC4000/5000 Series

- Compact and large flow capacity
- Power consumption
  - Standard: 0.95 W
  - Low wattage type: 0.4 W
- A wide variety of prepackaged wiring configurations
- IP67 enclosure compatible.

For complete units (valves and manifold) please use our Valve Configurator online (available at www.smc.eu)

Type of actuation	Part number solenoid valve	Type	Flow [l/min]	Operating pressure range [Mpa]	Suitable cylinder bore size [mm]	Voltage	Circuits symbols
2 position single	**VQC4101-51** ●	Rubber seal	2002	0.2 ~ 1.0	Up to Ø 160	24 VDC	
	VQC4100-51 ●	Metal seal	1477	0.15 ~ 1.0			
	VQC5101-51	Rubber seal	4148	0.2 ~ 1.0	Up to Ø 180		
	VQC5100-51	Metal seal	2782	0.1 ~ 1.0			
2 position double	**VQC4201-51** ●	Rubber seal	2002	0.15 ~ 1.0	Up to Ø 160		
	VQC4200-51 ●	Metal seal	1477	0.15 ~ 1.0			
	VQC5201-51	Rubber seal	4148	0.15 ~ 1.0	Up to Ø 180		
	VQC5200-51	Metal seal	2782	0.1 ~ 1.0			
3 position closed centre	**VQC4301-51** ●	Rubber seal	1827	0.2 ~ 1.0	Up to Ø 160		
	VQC4300-51	Metal seal	1438	0.15 ~ 1.0			
	VQC5301-51	Rubber seal	3111	0.2 ~ 1.0	Up to Ø 180		
	VQC5300-51	Metal seal	2696	0.15 ~ 1.0			
3 position exhaust centre	**VQC4401-51** ●	Rubber seal	1877	0.2 ~ 1.0	Up to Ø 160		
	VQC4400-51	Metal seal	1469	0.15 ~ 1.0			
	VQC5401-51	Rubber seal	3781	0.2 ~ 1.0	Up to Ø 180		
	VQC5400-51	Metal seal	2767	0.15 ~ 1.0			
3 position pressure centre	**VQC4501-51**	Rubber seal	1877	0.2 ~ 1.0	Up to Ø 160		
	VQC4500-51	Metal seal	1469	0.15 ~ 1.0			
	VQC5501-51	Rubber seal	3348	0.2 ~ 1.0	Up to Ø 180		
	VQC5500-51	Metal seal	3824	0.15 ~ 1.0			
3 position double check	**VQC4601-51**	Rubber seal	606	0.2 ~ 1.0	Up to Ø 160		
	VQC4600-51	Metal seal	584	0.15 ~ 1.0			
	VQC5601-51	Rubber seal	1796	0.2 ~ 1.0	Up to Ø 180		
	VQC5600-51	Metal seal	1731	0.15 ~ 1.0			

Manifolds

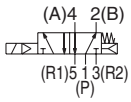
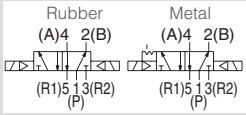
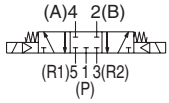
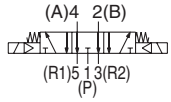
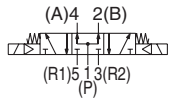
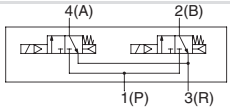
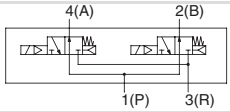
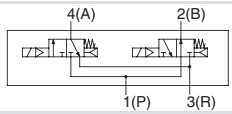
Part number	Stocked options	Description
VV5QC41-□03FFD0	—	Manifold for VQC4000 for □ stations. D-sub connector without cable. Port 3/8, G thread type
VV5QC51-□04FFD0	—	Manifold for VQC5000 for □ stations. D-sub connector without cable. Port 1/2, G thread type
VV5QC41-□03FSD0 ●	04, 06, 08, 10, 12	Manifold for VQC4000 for □ stations. Serial transmission EX250. Port 3/8, G thread type
VV5QC51-□04FSD0	—	Manifold for VQC5000 for □ stations. Serial transmission EX250, EX500, EX260. Port 1/2, G thread type
VV5QC41-□03FSD0A	—	Manifold for VQC4000 for □ stations. Serial transmission EX500, EX260. Port 3/8, G thread type
VV5QC41-□03FSD60	—	Manifold for VQC4000 for □ stations. Serial transmission EX600. Port 3/8, G thread type
VV5QC51-□04FSD60	—	Manifold for VQC5000 for □ stations. Serial transmission EX600. Port 1/2, G thread type

□ No. of stations: 01 to 16 for VQC4000, 01 to 12 for VQC5000 (the maximum number depending on the electrical entry)
SI units ordered separately. Please refer to pages 76 to 82.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port solenoid valve
Metal seal / Rubber seal
SQ1000/2000 Series

- Reduced power consumption
- Easy replaceable fittings
- Easy maintenance when adding / decreasing the number of valve stations - no need to rewire
- Fast response (new) type
- High-pressure type - 1 MPa
- 4 position dual 3 port valves available
- Metal and rubber seal types available.

Type of actuation	Part number solenoid valve	A,B port (Stock)	Type	Flow [l/min]	Operating pressure range [MPa]	Voltage	Circuit symbols
2 position single	**SQ1130N-51-☐-Q** ●	C3, C4, C6, M5	(Metal seal)	141	0.1 ~ 0.7	24 VDC	
	SQ1131N-51-☐-Q ●	C3, C4, C6, M5	(Rubber seal)	189	0.15 ~ 0.7		
	SQ2130N-51-☐-Q ●	C4, C6, C8	(Metal seal)	518	0.1 ~ 0.7		
	SQ2131N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	542	0.15 ~ 0.7		
2 position double	**SQ1230DN-51-☐-Q**	C3, C4, C6, M5	(Metal seal)	141	0.1 ~ 0.7	24 VDC	
	SQ1231DN-51-☐-Q ●	C3, C4, C6, M5	(Rubber seal)	189	0.1 ~ 0.7		
	SQ2230DN-51-☐-Q ●	C4, C6, C8	(Metal seal)	518	0.1 ~ 0.7		
	SQ2231DN-51-☐-Q ●	C4, C6, C8	(Rubber seal)	542	0.1 ~ 0.7		
3 position closed centre	**SQ1330N-51-☐-Q**	C3, C4, C6, M5	(Metal seal)	133	0.1 ~ 0.7	24 VDC	
	SQ1331N-51-☐-Q ●	C3, C4, C6, M5	(Rubber seal)	153	0.2 ~ 0.7		
	SQ2330N-51-☐-Q ●	C4, C6, C8	(Metal seal)	448	0.1 ~ 0.7		
	SQ2331N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	448	0.2 ~ 0.7		
3 position exhaust centre	**SQ1430N-51-☐-Q**	C3, C4, C6, M5	(Metal seal)	133	0.1 ~ 0.7	24 VDC	
	SQ1431N-51-☐-Q ●	C3, C4, C6, M5	(Rubber seal)	153	0.2 ~ 0.7		
	SQ2430N-51-☐-Q ●	C4, C6, C8	(Metal seal)	448	0.1 ~ 0.7		
	SQ2431N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	448	0.2 ~ 0.7		
3 position pressure centre	**SQ1530N-51-☐-Q**	C3, C4, C6, M5	(Metal seal)	142	0.1 ~ 0.7	24 VDC	
	SQ1531N-51-☐-Q	C3, C4, C6, M5	(Rubber seal)	190	0.2 ~ 0.7		
	SQ2530N-51-☐-Q	C4, C6, C8	(Metal seal)	542	0.1 ~ 0.7		
	SQ2531N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	589	0.2 ~ 0.7		
Dual 3 port valve NC / NC	**SQ1A31N-51-☐-Q** ●	C3, C4, C6, M5	(Rubber seal)	148	0.15 ~ 0.7	24 VDC	
	SQ2A31N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	353	0.15 ~ 0.7		
Dual 3 port valve NO / NO	**SQ1B31N-51-☐-Q** ●	C3, C4, C6, M5	(Rubber seal)	148	0.15 ~ 0.7	24 VDC	
	SQ2B31N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	353	0.15 ~ 0.7		
Dual 3 port valve NC+NO	**SQ1C31N-51-☐-Q** ●	C3, C4, C6, M5	(Rubber seal)	148	0.15 ~ 0.7	24 VDC	
	SQ2C31N-51-☐-Q ●	C4, C6, C8	(Rubber seal)	353	0.15 ~ 0.7		

☐ A,B port

Manifolds

SS5Q13-☐FD0-D-Q ●	Manifold for SQ1000 for ☐ stations, D-sub connector without cable, DIN rail mounting type
SS5Q23-☐FD0-D-Q ●	Manifold for SQ2000 for ☐ stations, D-sub connector without cable, DIN rail mounting type

☐ Nº of stations: 02 to 12 (double wiring).
Other kit types and serial transmission units on request.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

ISO standard solenoid valve, compliant with ISO 5599/1

VQ7-6/VQ7-8 Series

- Mounting to ISO 5599/1 sizes 1 and 2
- Electrical connection via DIN plug connector or cable with M12 plug connector
- Superior flow capacity
- Enclosure IP65
- Rubber and metal seals available
- Small, compact design, up to 13 % smaller.

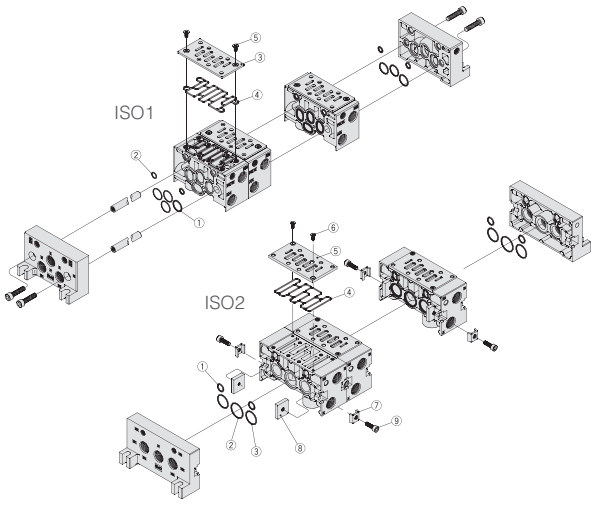
Type of actuation	Part number solenoid valve	Connector	Type	Flow [l/min]	Operating pressure range [MPa]	Voltage
2 position single	**VQ7-6-FG-S-3ZR□-Q** ●	–, O, SC	ISO1 rubber seal	1369	0.2 ~ 1.0	24 VDC
	VQ7-6-FG-S-3Z□-Q ●	–, O, SC	ISO1 metal seal	1181	0.15 ~ 1.0	
	VQ7-8-FG-S-3ZR□-Q	–, O, SC	ISO2 rubber seal	3244	0.2 ~ 1.0	
	VQ7-8-FG-S-3Z□-Q ●	–, O, SC	ISO2 metal seal	2941	0.15 ~ 1.0	
2 position double	**VQ7-6-FG-D-3ZR□-Q** ●	–, O, SC	ISO1 rubber seal	1369	0.15 ~ 1.0	24 VDC
	VQ7-6-FG-D-3Z□-Q ●	–, O, SC	ISO1 metal seal	1181	0.15 ~ 1.0	
	VQ7-8-FG-D-3ZR□-Q ●	–, O, SC	ISO2 rubber seal	3244	0.15 ~ 1.0	
	VQ7-8-FG-D-3Z□-Q ●	–, O, SC	ISO2 metal seal	2941	0.15 ~ 1.0	
3 position closed centre	**VQ7-6-FHG-D-3ZR□-Q** ●	–, O, SC	ISO1 rubber seal	1341	0.2 ~ 1.0	24 VDC
	VQ7-6-FHG-D-3Z□-Q ●	–, O, SC	ISO1 metal seal	1181	0.2 ~ 1.0	
	VQ7-8-FHG-D-3ZR□-Q	–, O, SC	ISO2 rubber seal	2745	0.2 ~ 1.0	
	VQ7-8-FHG-D-3Z□-Q ●	–, O, SC	ISO2 metal seal	2451	0.2 ~ 1.0	
3 position exhaust centre	**VQ7-6-FJG-D-3ZR□-Q**	–, O, SC	ISO1 rubber seal	1413	0.2 ~ 1.0	24 VDC
	VQ7-6-FJG-D-3Z□-Q ●	–, O, SC	ISO1 metal seal	1181	0.2 ~ 1.0	
	VQ7-8-FJG-D-3ZR□-Q	–, O, SC	ISO2 rubber seal	3244	0.2 ~ 1.0	
	VQ7-8-FJG-D-3Z□-Q ●	–, O, SC	ISO2 metal seal	2395	0.2 ~ 1.0	
3 position pressure centre	**VQ7-6-FIG-D-3ZR□-Q** ●	–, O, SC	ISO1 rubber seal	1326	0.2 ~ 1.0	24 VDC
	VQ7-6-FIG-D-3Z□-Q ●	–, O, SC	ISO1 metal seal	1168	0.2 ~ 1.0	
	VQ7-8-FIG-D-3ZR□-Q	–, O, SC	ISO2 rubber seal	3032	0.2 ~ 1.0	
	VQ7-8-FIG-D-3Z□-Q	–, O, SC	ISO2 metal seal	2712	0.2 ~ 1.0	
3 position exhaust centre with check valve	**VQ7-6-FPG-D-3ZR□-Q**	–, O, SC	ISO1 rubber seal	730	0.2 ~ 1.0	24 VDC
	VQ7-6-FPG-D-3Z□-Q ●	–, O, SC	ISO1 metal seal	704	0.2 ~ 1.0	
	VQ7-8-FPG-D-3ZR□-Q	–, O, SC	ISO2 rubber seal	1747	0.2 ~ 1.0	
	VQ7-8-FPG-D-3Z□-Q	–, O, SC	ISO2 metal seal	1677	0.2 ~ 1.0	

Other voltages, plug connectors and port sizes available on request
Nothing (-): DIN terminal block (with connector)
□ O: DIN terminal block (without connector)
SC: with cable and M12 plug connector

Modular manifold

Item			ISO1	ISO2
End plate assembly	U Side	G3/8	**EAXT502-LA-03** ●	—
		G1/2	—	**EAXT512-LA-04** ●
	D Side	G3/8	**EAXT502-RA-03** ●	—
		G1/2	—	**EAXT512-RA-04** ●
Manifold block assembly		G1/4	**EAXT502-1A-A02** ●	—
		G3/8	**EAXT502-1A-A03** ●	**EAXT512-1A-A03** ●
		G1/2	—	**EAXT512-1A-A04** ●
Tension bolt			**AXT502-34-□**	—

□ Nº of stations: 02 to 10



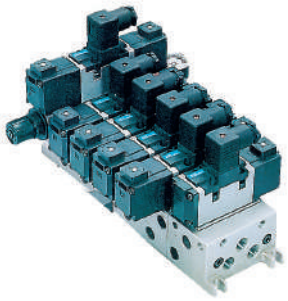
Accessories • Sub-plate

	ISO1	ISO2
G1/4	EVS7-1-A02F ●	—
G3/8	EVS7-1-A03F ●	EVS7-2-A03F ●
G1/2	—	EVS7-2-A04F ●
G3/4	—	EVS7-2-A06F ●

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

ISO standard solenoid valve, compliant with ISO 5599/1

EVS7-6/8 Series



- Mounting to ISO 5099/1, sizes 1 and 2
- DIN Connector
- Broad range of accessories: Speed controller, dual pressure system, etc.
- IP40 enclosure protection.

Type of actuation	Part number solenoid valve	Type	Flow [l/min]	Operating pressure range [MPa]	Voltage
2 position single	**EVS7-6-FG-S-3Z-Q**	Size 1, metal seal	1181	0.1 ~ 1.0	24 VDC
	EVS7-8-FG-S-3Z-Q	Size 2, metal seal	2941		
2 position double	**EVS7-6-FG-D-3Z-Q**	Size 1, metal seal	1181		
	EVS7-8-FG-D-3Z-Q	Size 2, metal seal	2941		
3 position closed centre	**EVS7-6-FHG-D-3Z-Q**	Size 1, metal seal	1181		
	EVS7-8-FHG-D-3Z-Q	Size 2, metal seal	2451		
3 position pilot check	**EVS7-6-FPG-D-3Z-Q**	Size 1, metal seal	704		
	EVS7-8-FPG-D-3Z-Q	Size 2, metal seal	1677		
3 position exhaust centre	**EVS7-6-FJG-D-3Z-Q**	Size 1, metal seal	1181		
	EVS7-8-FJG-D-3Z-Q	Size 2, metal seal	2395		
3 position pressure centre	**EVS7-6-FIG-D-3Z-Q**	Size 1, metal seal	1168		
	EVS7-8-FIG-D-3Z-Q	Size 2, metal seal	2712		

1) Other voltages upon request.
2) Valve is supplied with DIN connector.

Single sub-plates

Part number	Type
EVS7-1-A02F ●	Size 1, side-ported G1/4
EVS7-1-A03F ●	Size 1, side-ported G3/8
EVS7-2-A03F ●	Size 2, side-ported G3/8
EVS7-2-A04F ●	Size 2, side-ported G1/2
EVS7-2-A06F ●	Size 2, side-ported G3/4

1) Bottom-ported also available

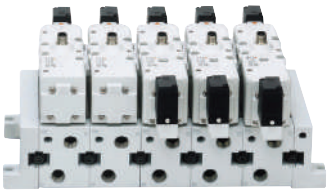
Manifold

Part number	Type
VV71□-03R-03DSB-Q	Manifold for □ stations; size 1; 2/4 ports: size 3/8 (right side); 1/3/5 ports: size 3/8 (down size), with silencer box
VV72□-04R-06DSB-Q	Manifold for □ stations; size 2; 2/4 ports: size 1/2 (right side); 1/3/5 ports: size 3/4 (down size), with silencer box

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

ISO standard solenoid valve, compliant with ISO 5599/1

EVS7-6/8/10 Series



- Mounting to ISO 5599/1, sizes 1.2 and 3
- M12 connector for easy wiring
- Compact body, lightweight
- Large flow capacity
- IP65 splash proof rating.

Type of actuation	Part number solenoid valve	Type	Flow [l/min]	Operating pressure range [MPa]	Voltage
2 position single	**EVS7-6-FG-S-3ZRM0-Q** ●	Size 1, rubber seal	1153	0.1 ~ 1.0	24 VDC
	EVS7-6-FG-S-3ZM0-Q ●	Size 1, metal seal	931		
	EVS7-8-FG-S-3ZRM0-Q ●	Size 2, rubber seal	2941		
	EVS7-8-FG-S-3ZM0-Q ●	Size 2, metal seal	2369		
	EVS7-10-FG-S-3ZRM0-Q	Size 3, rubber seal	3832		
	EVS7-10-FG-S-3ZM0-Q ●	Size 3, metal seal	2952		
2 position double	**EVS7-6-FG-D-3ZRM0-Q** ●	Size 1, rubber seal	1153	0.1 ~ 1.0	24 VDC
	EVS7-6-FG-D-3ZM0-Q ●	Size 1, metal seal	931		
	EVS7-8-FG-D-3ZRM0-Q ●	Size 2, rubber seal	2941		
	EVS7-8-FG-D-3ZM0-Q ●	Size 2, metal seal	2369		
	EVS7-10-FG-D-3ZRM0-Q	Size 3, rubber seal	3832		
	EVS7-10-FG-D-3ZM0-Q	Size 3, metal seal	2952		
3 position closed centre	**EVS7-6-FHG-D-3ZRM0-Q**	Size 1, rubber seal	1153	0.1 ~ 1.0	24 VDC
	EVS7-6-FHG-D-3ZM0-Q ●	Size 1, metal seal	931	0.1 ~ 1.0	
	EVS7-8-FHG-D-3ZRM0-Q ●	Size 2, rubber seal	2712	0.15 ~ 1.0	
	EVS7-8-FHG-D-3ZM0-Q ●	Size 2, metal seal	2511	0.1 ~ 1.0	
	EVS7-10-FHG-D-3ZRM0-Q	Size 3, rubber seal	3593	0.15 ~ 1.0	
	EVS7-10-FHG-D-3ZM0-Q	Size 3, metal seal	2952	0.1 ~ 1.0	
3 position exhaust centre	**EVS7-6-FJG-D-3ZRM0-Q** ●	Size 1, rubber seal	1125	0.1 ~ 1.0	24 VDC
	EVS7-6-FJG-D-3ZM0-Q	Size 1, metal seal	931	0.1 ~ 1.0	
	EVS7-8-FJG-D-3ZRM0-Q	Size 2, rubber seal	2729	0.15 ~ 1.0	
	EVS7-8-FJG-D-3ZM0-Q ●	Size 2, metal seal	2343	0.1 ~ 1.0	
	EVS7-10-FJG-D-3ZRM0-Q	Size 3, rubber seal	3832	0.15 ~ 1.0	
	EVS7-10-FJG-D-3ZM0-Q	Size 3, metal seal	2952	0.1 ~ 1.0	
3 position pressure centre	**EVS7-6-FIG-D-3ZRM0-Q**	Size 1, rubber seal	1305	0.1 ~ 1.0	24 VDC
	EVS7-6-FIG-D-3ZM0-Q	Size 1, metal seal	931	0.1 ~ 1.0	
	EVS7-8-FIG-D-3ZRM0-Q ●	Size 2, rubber seal	3244	0.15 ~ 1.0	
	EVS7-8-FIG-D-3ZM0-Q	Size 2, metal seal	2481	0.1 ~ 1.0	
	EVS7-10-FIG-D-3ZRM0-Q	Size 3, rubber seal	3593	0.15 ~ 1.0	
	EVS7-10-FIG-D-3ZM0-Q	Size 3, metal seal	2952	0.1 ~ 1.0	

1) Other voltages, upon request.

Single sub-bases

EVS7-1-A02F ●	Size 1, side-ported G1/4
EVS7-1-A03F ●	Size 1, side-ported G3/8
EVS7-2-A03F ●	Size 2, side-ported G3/8
EVS7-2-A04F ●	Size 2, side-ported G1/2
EVS7-2-A06F ●	Size 2, side-ported G3/4
EVS7-3-A06F ●	Size 3, side-ported G3/4
EVS7-3-A10F ●	Size 3, side-ported G1

1) Bottom ported also available

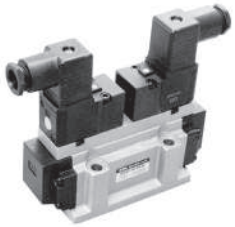
Accessories

VV71☐-03R-03DSB ●	Manifold for ☐ stations; size 1; 2/4 ports: size 3/8 (right side); 1/3/5 ports: size 3/8 (down size), with silencer box
VV72☐-04R-06DSB ●	Manifold for ☐ stations; size 2; 2/4 ports: size 1/2 (right side); 1/3/5 ports: size 3/4 (down size), with silencer box

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

ISO/CNOMO standard solenoid valve, compliant with ISO 5599/1

EVS7-6/8/10 Series



- Mounting to ISO 5599/1, sizes 1.2 and 3
- Solenoid interface conforms to CNOMO (CNOMO 06-05-10 interface for cable plug DIN 43650)
- Sub-plates ISO•VDMA
- IP65 splash proof rating
- Fast response, long life, with large flow capacity.

Type of actuation	Part number solenoid valve	Connector	Type	Flow [l/min]	Operating pressure range [MPa]	Voltage
2 position single	**EVS7-6-FG-S-3CV□-Q** ●	–, O	Size 1, metal seal	931	0.1 ~ 1.0	24 VDC
	EVS7-8-FG-S-3CV□-Q ●	–, O	Size 2, metal seal	2369		
	EVS7-10-FG-S-3CV□-Q ●	–, O	Size 3, metal seal	2952		
2 position double	**EVS7-6-FG-D-3CV□-Q** ●	–, O	Size 1, metal seal	931	0.1 ~ 1.0	24 VDC
	EVS7-8-FG-D-3CV□-Q ●	–, O	Size 2, metal seal	2369		
	EVS7-10-FG-D-3CV□-Q ●	–, O	Size 3, metal seal	2952		
3 position closed centre	**EVS7-6-FHG-D-3CV□-Q** ●	–, O	Size 1, metal seal	931	0.1 ~ 1.0	24 VDC
	EVS7-8-FHG-D-3CV□-Q ●	–, O	Size 2, metal seal	2511		
	EVS7-10-FHG-D-3CV□-Q ●	–, O	Size 3, metal seal	2952		
3 position exhaust centre	**EVS7-6-FJG-D-3CV□-Q** ●	–, O	Size 1, metal seal	931	0.1 ~ 1.0	24 VDC
	EVS7-8-FJG-D-3CV□-Q ●	–, O	Size 2, metal seal	2343		
	EVS7-10-FJG-D-3CV□-Q ●	–, O	Size 3, metal seal	2952		
3 position pressure centre	**EVS7-6-FIG-D-3CV□-Q** ●	–, O	Size 1, metal seal	931	0.1 ~ 1.0	24 VDC
	EVS7-8-FIG-D-3CV□-Q ●	–, O	Size 2, metal seal	2481		
	EVS7-10-FIG-D-3CV□-Q	–, O	Size 3, metal seal	2952		

1) Other voltages, upon request.
□ —: With connector
O: Without connector

ISO standard solenoid valve, compliant with ISO 15407-1 and VDMA 24563

EVS1-01/02 Series

- Mounting to ISO 15407-1, sizes 1 and 2
- With M8 / M12 connectors for easy wiring:
  Size 01: M12 (5 pin)
  Size 02: M8 (4 pin)
- IP65 splash proof rating
- Lightweight, with large flow capacity.

Type of actuation	Part number solenoid valve	Type	Flow [l/min] (PRA/B)	Operating pressure range [MPa]	Voltage
2 position single	**EVS1-01-FG-S-3ZRMO-Q** ●	Size 1, rubber seal	904	0.15 ~ 1.0	24 VDC
	EVS1-01-FG-S-3ZMO-Q	Size 1, metal seal	704	0.1 ~ 1.0	
	EVS1-02-FG-S-3ZRMO-Q ●	Size 2, rubber seal	527	0.15 ~ 1.0	
	EVS1-02-FG-S-3ZMO-Q	Size 2, metal seal	341	0.1 ~ 1.0	
2 position double	**EVS1-01-FG-D-3ZRMO-Q**	Size 1, rubber seal	904	0.1 ~ 1.0	24 VDC
	EVS1-01-FG-D-3ZMO-Q ●	Size 1, metal seal	704		
	EVS1-02-FG-D-3ZRMO-Q ●	Size 2, rubber seal	527		
	EVS1-02-FG-D-3ZMO-Q	Size 2, metal seal	741		
3 position closed centre	**EVS1-01-FHG-D-3ZRMO-Q** ●	Size 1, rubber seal	835	0.2 ~ 1.0	24 VDC
	EVS1-01-FHG-D-3ZMO-Q	Size 1, metal seal	704	0.15 ~ 1.0	
	EVS1-02-FHG-D-3ZRMO-Q	Size 2, rubber seal	527	0.2 ~ 1.0	
	EVS1-02-FHG-D-3ZMO-Q	Size 2, metal seal	341	0.15 ~ 1.0	
3 position exhaust centre	**EVS1-01-FJG-D-3ZRMO-Q** ●	Size 1, rubber seal	769	0.2 ~ 1.0	24 VDC
	EVS1-01-FJG-D-3ZMO-Q	Size 1, metal seal	613	0.15 ~ 1.0	
	EVS1-02-FJG-D-3ZRMO-Q ●	Size 2, rubber seal	469	0.2 ~ 1.0	
	EVS1-02-FJG-D-3ZMO-Q	Size 2, metal seal	295	0.15 ~ 1.0	
3 position pressure centre	**EVS1-01-FIG-D-3ZRMO-Q** ●	Size 1, rubber seal	1085	0.2 ~ 1.0	24 VDC
	EVS1-01-FIG-D-3ZMO-Q	Size 1, metal seal	727	0.15 ~ 1.0	
	EVS1-02-FIG-D-3ZRMO-Q	Size 2, rubber seal	527	0.2 ~ 1.0	
	EVS1-02-FIG-D-3ZMO-Q	Size 2, metal seal	363	0.15 ~ 1.0	

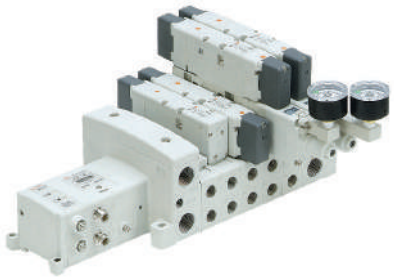
Other voltages, upon request.

Sub-plates

VS1-01-A01F ●	Size 1, side-ported G1/8
VS1-01-A02F ●	Size 1, side-ported G1/4
VS1-02-A01F	Size 2, side-ported G1/8

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

5 port ISO 15407-2 valve
Size 01, 02, plug-in type
VSR8-2/VSS8-2 Series
VSR8-4/VSS8-4 Series



- Conforming to ISO 15407-2
- 2 sizes:
  - 18 mm: VSR8-2 / VSS8-2
  - 26 mm: VSR8-4 / VSS8-4
- Compact and high flow
- IP65 enclosure
- Outstanding high-speed response and long service life
- Applicable to EX250, EX500, EX600 serial transmission.

Type of actuation	Part number solenoid valve	Type	Flow [l/min]	Operating pressure range [MPa]	Voltage
2 position single	**VSR8-2-FG-S-3VZ-Q**	Rubber seal	527	0.15 ~ 1.0	24 VDC
	VSS8-2-FG-S-3VZ-Q	Metal seal	341	0.1 ~ 1.0	
	VSR8-4-FG-S-3VZ-Q ●	Rubber seal	904	0.15 ~ 1.0	
	VSS8-4-FG-S-3VZ-Q	Metal seal	704	0.1 ~ 1.0	
2 position double	**VSR8-2-FG-D-3VZ-Q**	Rubber seal	527	0.1 ~ 1.0	24 VDC
	VSS8-2-FG-D-3VZ-Q	Metal seal	341		
	VSR8-4-FG-D-3VZ-Q	Rubber seal	904		
	VSS8-4-FG-D-3VZ-Q	Metal seal	704		
3 position closed centre	**VSR8-2-FHG-D-3VZ-Q**	Rubber seal	527	0.2 ~ 1.0	24 VDC
	VSS8-2-FHG-D-3VZ-Q	Metal seal	341	0.15 ~ 1.0	
	VSR8-4-FHG-D-3VZ-Q	Rubber seal	835	0.2 ~ 1.0	
	VSS8-4-FHG-D-3VZ-Q	Metal seal	704	0.15 ~ 1.0	
3 position exhaust centre	**VSR8-2-FJG-D-3VZ-Q**	Rubber seal	469	0.2 ~ 1.0	24 VDC
	VSS8-2-FJG-D-3VZ-Q	Metal seal	295	0.15 ~ 1.0	
	VSR8-4-FJG-D-3VZ-Q	Rubber seal	769	0.2 ~ 1.0	
	VSS8-4-FJG-D-3VZ-Q	Metal seal	613	0.15 ~ 1.0	
3 position pressure centre	**VSR8-2-FIG-D-3VZ-Q**	Rubber seal	527	0.2 ~ 1.0	24 VDC
	VSS8-2-FIG-D-3VZ-Q	Metal seal	363	0.15 ~ 1.0	
	VSR8-4-FIG-D-3VZ-Q	Rubber seal	1085	0.2 ~ 1.0	
	VSS8-4-FIG-D-3VZ-Q	Metal seal	727	0.15 ~ 1.0	

4-position dual 3-port valves and other voltages available upon request.

Manifold variations

Part number	Description
VV801■-01F-□-W1-Q	Without SI / input block, kit designation □, ■ stations
VV802■-02F-□-W1-Q	
VV802■03F-□-W1-Q	

Bottom ported port sizes available upon request.

□ Kit designation

Kit	Max. No. of stations / solenoids	Kit type, electrical entry and cable length
FD0	12 / 24	D-sub connector kit (25P) without cable
PD0	12 / 24	Flat ribbon cable kit (26P) without cable
SD60	12 / 24	Serial kit without SI unit (for EX600)
SD0	12 / 24	Serial kit without SI unit (for EX250)
SD0	8 / 16	Serial kit without SI unit (for EX500)

Other kit types available on request.
SI units ordered separately. Please refer to pages 76 to 82.

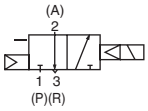
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

3 port solenoid valve

3 port solenoid valve, air pilot type

SYJ300 Series

- Micro design
- Plate valve style
- N.C. (N.O. upon request)
- Power consumption 0.4 W with LED
- Manual override non-locking style as standard
- Minimum service life of 30 million switching cycles.

Type of actuation	Part number solenoid valve	Voltage	Mounting	Operating pressure range [Mpa]	Flow [l/min]	Circuit symbol
3 port N.C.	**SYJ314M-5LOU-Q** ●	24 VDC	Base mounted (to manifold)	0.15 ~ 0.7	98	
	SYJ314M-5G-Q ●					

Body ported style and other voltages upon request

Manifolds

SS3YJ3-S42-02-M5F-Q ●	Manifold for 2 valves, M5 port
SS3YJ3-S42-03-M5F-Q ●	Manifold for 3 valves, M5 port
SS3YJ3-S42-04-M5F-Q ●	Manifold for 4 valves, M5 port
SS3YJ3-S42-05-M5F-Q ●	Manifold for 5 valves, M5 port
SS3YJ3-S42-06-M5F-Q ●	Manifold for 6 valves, M5 port
SS3YJ3-S42-08-M5F-Q ●	Manifold for 8 valves, M5 port
SS3YJ3-S42-10-M5F-Q ●	Manifold for 10 valves, M5 port

Accessories

SYJ300-9-1-Q ●	Sub-plate
SYJ300-10-7A-Q ●	Blanking plate

Accessories • Plug connection with cable

Cable	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without cover	**SY100-30-4A-6** ●	**SY100-30-4A-10** ●	**SY100-30-4A-20** ●	**SY100-30-4A-30** ●
With cover	**SY100-68-A-6** ●	**SY100-68-A-10** ●	**SY100-68-A-20** ●	**SY100-68-A-30** ●

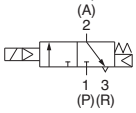
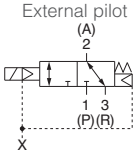
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

3 port solenoid valve

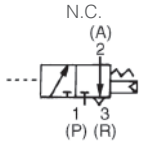
VP(A)300/500/700 Series

- 2 types:
  - Pilot poppet type: VP300/500/700
  - Air operated type: VPA300/500/700
- Reduced power consumption:
  - 0.55 w: With power saving circuit
  - 1.55 w: Standard
- Noise reduction.
- Longer life expectancy: 50 million cycles or more.
- Built-in strainer in the pilot valve: unexpected troubles due to foreign matter can be prevented.

Pilot poppet type

Part number	Type of actuation	Pilot type	Port	Operating pressure range	Flow [l/min]	Electrical entry	Voltage	Circuit symbol
VP342-4□1-02FA ●	N.C.	Internal	G1/4	-100 kPa ~ 0.7 MPa	1023	□: D = Din terminal, with connector Y = Din (EN175301-803) terminal, with connector YO = Din (EN175301-803) terminal, without connector DZ = Din terminal, with connector and light / surge voltage suppressor YZ = Din (EN175301-803) terminal, with connector and light / surge voltage suppressor	220 VAC	N.C. Internal pilot 
VP342R-4□1-02FA ●		External						
VP342-5□1-02FA ●		Internal					24 VDC	
VP342R-5□1-02FA ●		External						
VP542-4□1-03FA ●		Internal	G3/8		2132		220 VAC	
VP542R-4□1-03FA ●		External						
VP542-5□1-03FA ●		Internal					24 VDC	N.C. External pilot 
VP542R-5□1-03FA ●		External						
VP742-4□1-04FA ●		Internal	G1/2		3707		220 VAC	
VP742R-4□1-04FA		External						
VP742-5□1-04FA ●		Internal					24 VDC	
VP742R-5□1-04FA ●		External						

Air operated type

Part number	Type of actuation	Port	Flow [l/min]	Operating pressure range	Circuit symbol
VPA342-1-02FA ●	N.C.	G1/4	1023	0.2 ~ 1.0 MPa	N.C. 
VPA342V-1-02FA ●				-100 kPa ~ 0.2 MPa	
VPA542-1-03FA ●		G3/8	2132	0.2 ~ 1.0 MPa	
VPA542V-1-03FA ●				-100 kPa ~ 0.2 MPa	
VPA742-1-04FA ●		G1/2	3707	0.2 ~ 1.0 MPa	
VPA742V-1-04FA ●				-100 kPa ~ 0.2 MPa	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

3 port solenoid valve, safety standard ISO 13849-1

VP/VG Series

Single residual pressure release valve - 3 port solenoid valve

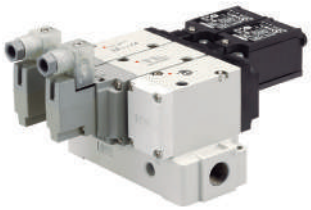
VP542-X536/VP742-X536 Series

- Safety Standards ISO 13849-1 for Category 2.
  This product is designed to be used as a component in a Category 2 safety system.
  The single unit alone cannot be considered as a Category 2 safety system.
- Valve position energised / de-energised can be detected.
  The detecting function of the main valve is available to detect error in the input signal and valve operation.

Part number	Pilot type	Port	Operating pressure range [MPa]	Average B10d	Electrical entry	Voltage
VP542-5DZ1-03F-M-X536 ●	Internal pilot	G3/8	0.25 to 0.7 Mpa	10,000,000 cycles	D = Din terminal, with connector Y = Din (EN175301-803) terminal, with connector	24 VDC
VP742-5DZ1-04F-M-X536 ●		G1/2				
VP542R-5YZ1-03F-M-X536 ●	External pilot	G3/8				
VP742R-5YZ1-04F-M-X536 ●		G1/2				

Dual residual pressure release valve - 3 port solenoid valve

VP544-X538/VP744-X538 Series



- Safety Standards ISO 13849-1 for Category 3 and 4
  This product is designed to be used as a component in a Category 3, 4 safety system.
  The single unit alone cannot be considered as a Category 3, 4 safety system
- Valve position energised / de-energised can be detected
- Redundancy
  Valve has 2 stations, so if one of them fails to operate, residual pressure is released by the remaining valve
- Modular connection to FRL unit.

Part number	Pilot type	Port	Operating pressure range [MPa]	Average B10d	Electrical entry	Voltage
VP544-5DZ1-03F-M-X538 ●	Internal pilot	G3/8	0.25 to 0.7 Mpa	10,000,000 cycles	D = Din terminal, with connector.	24 VDC
VP744-5DZ1-04F-M-X538 ●		G1/2				
VP544R-5DZ1-03F-M-X538 ●	External pilot	G3/8				
VP744R-5DZ1-04F-M-X538 ●		G1/2				

Dual residual pressure release valve - 3 port solenoid valve

VG342-X87 Series

- Safety Standard ISO 13849-1 for Category 3 and 4, compliant with performance level.This product is designed to be used as a component in a Category 3, 4 safety system.The single unit alone cannot be considered as a Category 3, 4 safety system.
- Valve position energised / de-energised can be detected.
- Redundancy
  Valve has 2 stations, so if one of them fails to operate, residual pressure is released by the remaining valve.
- Modular connection to FRL unit.

Part number	Pilot type	Port	Operating pressure range [MPa]	Average B10d	Electrical entry	Voltage
VG342R-5DZ-06F-X87 ●	External pilot	G3/4	0.25 to 0.7 Mpa	900,000 cycles	D = Din terminal, with connector.	24 VDC

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Dual residual pressure release valve with soft start-up function

VP-X555/X585 Series

- Safety Standards ISO 13849-1 for Category 3 and 4:
  - This product is designed to be used as a component in a Category 3, 4 safety system
  - The single unit alone cannot be considered as a Category 3, 4 safety system
- With soft start-up function
- Valve position energised / de-energised can be detected
- Redundancy:
  - Valve has 2 stations, so if one of them fails to operate, residual pressure is released by the remaining valve
- Modular connection to FRL unit.

Part number		Pilot type	Port	Electrical entry	Voltage
Maximum operating pressure: 0.7 MPa	Maximum operating pressure: 1.0 MPa				
VP544-5YZ1-03F-X555	**VP544-5YZ1-03F-X585**	Internal pilot	G3/8	Y=DIN terminal (EN 175301-803)	24 VDC
VP544R-5YZ1-03F-X555	**VP544R-5YZ1-03F-X585**	External pilot			
VP544-5YZ1-03F-M-X555 ●	**VP544-5YZ1-03F-M-X585**	Internal pilot			
VP544R-5YZ1-03F-M-X555	**VP544R-5YZ1-03F-M-X585**	External pilot			
VP744-5YZ1-04F-X555	**VP744-5YZ1-04F-X585**	Internal pilot	G1/2		
VP744R-5YZ1-04F-X555	**VP744R-5YZ1-04F-X585**	External pilot			
VP744-5YZ1-04F-M-X555 ●	**VP744-5YZ1-04F-M-X585**	Internal pilot			
VP744R-5YZ1-04F-M-X555 ●	**VP744R-5YZ1-04F-M-X585**	External pilot			

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

3 port solenoid valve unit, super compact manifold type

VV061 Series

- Compact direct operated 3 port solenoid valve. Unit manifold type.
- Compact and lightweight: 6 mm width, 4 g weight.
- Selectable options: power saving circuit, barb / one-touch fittings, connector cables, and bracket / panel mounting.

Part number	Port size	Operating pressure [MPa]	Voltage	Details
VV061□40-5NH	Barb fitting (applicable tubing Ø 4 / Ø 2.5)	0.0 to 0.7 MPa	24 VDC	Standard (with light / surge voltage suppressor) -COM
VV061□40-5NTH				With power-saving circuit -COM
VV061□40-5NL		0.0 to 0.3 MPa		Standard (with light / surge voltage suppressor) -COM
VV061□40-5NTL				With power-saving circuit -COM
VV061□C2-5NH	Ø 2 one-touch fitting	0.0 to 0.7 MPa		Standard (with light / surge voltage suppressor) -COM
VV061□C2-5NTH				With power-saving circuit -COM
VV061□C2-5NL		0.0 to 0.3 MPa		Standard (with light / surge voltage suppressor) -COM
VV061□C2-5NTL				With power-saving circuit -COM

□ Nº of stations 04: 4 stations, 08: 8 stations
∗ No cables nor brackets included

Accessories

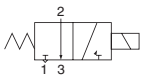
PV060-80-2A	Bracket for 4 stations manifold
PV060-80-1A	Bracket for 8 stations manifold
PV060-40-4A	Connector cable for 4 stations, 300 mm

PV060-40-4A-10	Connector cable for 4 stations, 1000 mm
PV060-40-3A	Connector cable for 8 stations, 300 mm
PV060-40-3A-10	Connector cable for 8 stations, 1000 mm

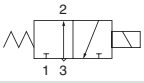
3 port solenoid valve, direct operated

V100 Series

- Power consumption 0.4 W. With power saving circuit 0.1 W.
- Coil temperature rise: only 1 °C (with power saving circuit).
- Indicator light / surge voltage suppressor integrated in the connector body.
- Valve width 10.5 mm.

Type of actuation	Part number	Voltage	Operating pressure range [MPa]	Electrical entry	Flow [l/min]	Circuit symbol
3 port N.C.	**V114-5LOU** ●	24 VDC	0 ~ 0.7	L Plug Connector	8.4	
	V114-5MOU ●			M Plug Connector		
	V114-5G ●			Grommet		

N.O. and other voltages upon request

Type of actuation	Part number	Voltage	Operating pressure range [MPa]	Electrical entry	Flow [l/min]	Circuit symbol
3 port N.O.	**V124-5LOU** ●	24 VDC	0 ~ 0.7	L Plug Connector	14.1	
	V124-5MOU ●			M Plug Connector		
	V124-5G ●			Grommet		

N.O. and other voltages upon request

Manifolds

VV100-S41-02-M5 ●	Manifold for 2 valves. M5 port
VV100-S41-03-M5 ●	Manifold for 3 valves. M5 port
VV100-S41-04-M5 ●	Manifold for 4 valves. M5 port
VV100-S41-05-M5 ●	Manifold for 5 valves. M5 port
VV100-S41-06-M5 ●	Manifold for 6 valves. M5 port
VV100-S41-08-M5 ●	Manifold for 8 valves. M5 port

VV100-S41-10-M5 ●	Manifold for 10 valves. M5 port
VV100-S41-12-M5 ●	Manifold for 12 valves. M5 port
VV100-S41-14-M5 ●	Manifold for 14 valves. M5 port
VV100-S41-16-M5 ●	Manifold for 16 valves. M5 port
VV100-S41-18-M5 ●	Manifold for 18 valves. M5 port
VV100-S41-20-M5 ●	Manifold for 20 valves. M5 port

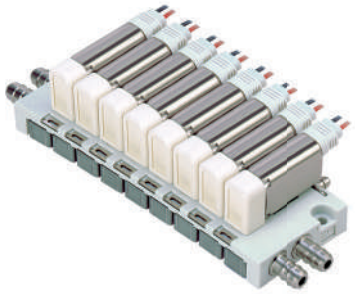
Accessories

V100-74-1 ●	Sub-plate with M5 thread
V100-77-1A ●	Blanking plate

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

3 port solenoid valve, super compact

S070 Series



- Compact direct operated 3 port solenoid valve
- Compact and lightweight: 7 mm width, 5 g weight
- Selectable single / manifold use:
  - Single unit
  - Base mounted manifold (bar / separable base)
  - Body ported manifold (stacking type).

Part number	☐ Power consumption, flow and operating pressure	Type	Port size	Electrical entry	Voltage
S070B-5☐G ●	B, D, F	Base mounted with screws	Without sub-plate	Grommet	24 VDC
S070B-5☐C ●	B, D, F			Plug lead with connector and lead wire	
S070A-5☐G	B, D, F	Base mounted with clips	—	Grommet	
S070A-5☐C ●	B, D, F			Plug lead with connector and lead wire	
S070C-5☐G-32 ●	B, D, F	Body ported	Barb fitting (Ø 3.18 / Ø 2)	Grommet	
S070C-5☐C-32 ●	B, D, F			Plug lead with connector and lead wire	
S070M-5☐G-32	B, D, F	Body ported stacking manifold	Barb fitting (Ø 3.18 / Ø 2)	Grommet	
S070M-5☐C-32	B, D, F			Plug lead with connector and lead wire	
S070M-5☐G-40 ●	B, D, F		Barb fitting (Ø 4 / Ø 2.5)	Grommet	
S070M-5☐C-40	B, D, F			Plug lead with connector and lead wire	

☐ Power consumption, flow specification and operating pressure:
B : 0.35 W, 7.6 l/min and 0.3 MPa
D : 0.5 W, 7.6 l/min and 0.5 MPa
F : 0.1 W (power saving circuit), 3.8 l/min and 0.3 MPa

Manifolds

Part number	☐ Stocked options	Description
SS073A01-☐C ●	02, 05, 07, 08, 12	Base mounted manifold, stacking type, barb fittings (Ø 3.18 / Ø 2)
SS073A02-☐C	—	Base mounted manifold, stacking type, barb fittings (Ø 4 / Ø 2.5)
SS073B01-☐C ●	02, 04, 05, 06, 12	Base mounted manifold, bar type, M5 female thread
SS073M01-☐C	—	Body ported manifold, stacking type, barb fittings (Ø 3.18 / Ø 2)
SS073M02-☐C	—	Body ported manifold, stacking type, barb fittings (Ø 4 / Ø 2.5)

☐ Nº of stations: 02 to 20

Accessories

S070-14A	Plug connector assembly (plug lead), 150 mm cable
S070-14A-3	Plug connector assembly (plug lead), 300 mm cable
S070-14A-10	Plug connector assembly (plug lead), 1000 mm cable
S070-S-M3	Sub-plate (base mounted), M3 port size
S070-S-M5	Sub-plate (base mounted), M5 port size

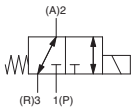
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

3 port solenoid valve, direct operated poppet type

VT•VO307/317 Series

- Direct operated poppet type, body ported type
- 1 valve - 6 functions, N.C., N.O., distribution valve, option valve
- 2 bore sizes G1/8, G1/4
- Optional model for vacuum
- Connector with enclosure IP65, also with indicator light and surge voltage suppressor.

Part number	Function	Voltage	Max. operating pressure [MPa]	Flow [l/min]	Port size	Circuit symbol
VT307-4DO1-01F-Q ●	3/2 N.O. N.C.	220 VAC	0.7	186	G1/8	
VT307-4DO1-02F-Q ●					G1/4	
VT307-5DO1-01F-Q ●		24 VDC			G1/8	
VT307-5DO1-02F-Q ●					G1/4	
VT317-4DO-02F-Q ●		220 VAC	0.9	595		
VT317-5DO-02F-Q ●		24 VDC				
VO307-4DO1-Q ●		220 VAC	0.7	85	Mounting on manifold base	
VO307-5DO1-Q ●		24 VDC				

Vacuum specification (-0.1 to 0.1 MPa) type also available, place a “V” after 307 or 317 if you want to order it.

Manifolds for VO307

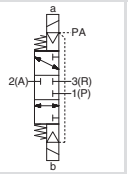
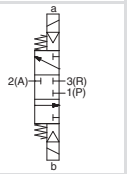
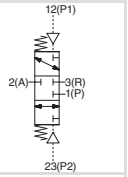
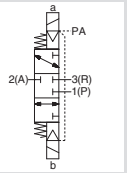
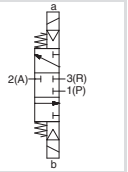
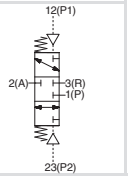
EVV307-01-022-01F-F ●	Manifold for 2 valves. G1/8 port
EVV307-01-032-01F-F ●	Manifold for 3 valves. G1/8 port
EVV307-01-042-01F-F ●	Manifold for 4 valves. G1/8 port
EVV307-01-062-01F-F ●	Manifold for 6 valves. G1/8 port
EVV307-01-082-01F-F ●	Manifold for 8 valves. G1/8 port
EVV307-01-102-01F-F ●	Manifold for 10 valves. G1/8 port

Accessories

DXT152-25-1A ●	Mounting bracket for VT307
DXT060-51-13A ●	Blanking plate for manifold

3 port 3 position valve
VEX3 Series

- Pilot solenoid or air operated options
- Body ported, base mounted or manifold options
- Intermediate stopping of cylinders up to Ø 125 is possible
- Acceleration or deceleration is also possible
- Maximum flow rate: 3113 l/min [ANR]
- Reduced power consumption: 1 W (1.1 W with indicator light)
- 4 Manual override options
  - Non-locking push type
  - Locking slotted type (for Grommet / Plug connector)
  - Push-turn locking slotted type (for DIN terminal)
  - Push-turn locking lever type (for DIN terminal)

Part number	Mounting type	Operation type	Port size	Operating pressure range [MPa]	Flow [l/min] 1) 1P→2A	Rated voltage	Electrical entry	Light / surge voltage suppressor	Manual override	Circuit symbol
VEX3121-01F5DZ1	Body ported	External pilot operated	G1/8	-101.2 kPa to 1.0	572	24 VDC	DIN terminal with connector	With light and surge voltage suppressor	Non-locking push type	
VEX3121-02F5DZ1			G1/4		919					
VEX3321-02F5DZ1			G1/4		1084					
VEX3321-03F5DZ1			G3/8		2198					
VEX3321-04F5DZ1			G1/2		2610					
VEX3122-01F5DZ1		Internal pilot operated	G1/8	0.2 to 0.7	572					
VEX3122-02F5DZ1			G1/4		919					
VEX3322-02F5DZ1			G1/4		1084					
VEX3322-03F5DZ1			G3/8		2198					
VEX3322-04F5DZ1			G1/2		2610					
VEX3120-01F1		Air operated	G1/8	-101.2 kPa to 1.0	572	—	—	—		
VEX3120-02F1			G1/4		919					
VEX3320-02F1			G1/4		1084					
VEX3320-03F1			G3/8		2198					
VEX3320-04F1			G1/2		2610					
VEX3221-01F5DZ1	Base mounted	External pilot operated	G1/8	-101.2 kPa to 1.0	861	24 VDC	DIN terminal with connector	With light and surge voltage suppressor		
VEX3221-02F5DZ1			G1/4		1029					
VEX3421-02F5DZ1			G1/4		2114					
VEX3421-03F5DZ1			G3/8		2977					
VEX3421-04F5DZ1			G1/2		3113					
VEX3222-01F5DZ1		Internal pilot operated	G1/8	0.2 to 0.7	861					
VEX3222-02F5DZ1			G1/4		1029					
VEX3422-02F5DZ1			G1/4		2114					
VEX3422-03F5DZ1			G3/8		2977					
VEX3422-04F5DZ1			G1/2		3113					
VEX3220-01F1		Air operated	G1/8	-101.2 kPa to 1.0	861	—	—	—		
VEX3220-02F1			G1/4		1029					
VEX3420-02F1			G1/4		2114					
VEX3420-03F1			G3/8		2977					
VEX3420-04F1			G1/2		3113					

1) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Accessories

Part number	Model	Description
VEX1-18-1A ●	VEX312	Bracket (With bolt and washer)
VEX1-18-2A	VEX312	Foot bracket (With bolt and washer)
VEX3-32-2A	VEX332	
AN120-M5 ●	VEX3	Pilot exhaust (PE) silencer 1)

1) Only with solenoid.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Serial transmission

Our highlighted product for you

Fieldbus system, integrated type (for output)
EX260 Series

- Centralised & compact fieldbus system
- Valve output system for driving 5 port solenoid valves
- IP67 enclosure protection
- SPEEDCON connectors compatible
- Wiring and piping possible from the same direction
- Daisy-chain communication
- Internal terminal resistor (only available for PROFIBUS-DP and CC-Link)
- Applicable valve series: SY, S0700, VQC, SV.

Part number	Protocol	Number of outputs	SI unit output polarity	Communication connector	Enclosure protection
EX260-SEN1 ●	EtherNet/IP™	32	Source / PNP	M12	IP67
EX260-SEN3 ●		16			
EX260-SPN1 ●	PROFINET	32			
EX260-SPN3 ●		16			
EX260-SEC1 ●	EtherCAT®	32			
EX260-SEC3 ●		16			
EX260-SDN1 ●	DeviceNet™	32			
EX260-SDN3 ●		16			
EX260-SPR1 ●	PROFIBUS DP	32			
EX260-SPR3 ●		16			
EX260-SPR5 ●		32		D-Sub	IP40
EX260-SPR7 ●		16			
EX260-SMJ1	CC-Link	32		M12	IP67
EX260-SMJ3		16			
EX260-SPL1	POWERLINK	32			
EX260-SPL3		16			
EX260-SL1-X210	IO-Link	32			

Accessories

Part number	Description	
EX500-AP010-S ●	Power supply cable (for SI unit) for EtherNet/IP™, PROFINET, EtherCAT®, PROFIBUS DP, DeviceNet™, Ethernet POWERLINK	Straight connector, 1 m
EX500-AP050-S ●		Straight connector, 5 m
EX500-AP010-A ●		Angled connector, 1 m
EX500-AP050-A ●		Angled connector, 5 m
EX9-AC030-1 ●	Power supply cable (for SI unit) for CC-Link	Straight connector, 3 m
EX9-AC050-1 ●		Straight connector, 5 m
PCA-1446566 ●	Communication cable (plug) for EtherNet/IP™, PROFINET, EtherCAT®, Ethernet POWERLINK	M12 SPEEDCON connector, 5 m
PCA-1567717 ●	Communication cable (plug) for CC-Link	
PCA-1557646 ●	Communication cable (plug) for DeviceNet™	
PCA-1557691 ●	Communication cable (plug) for PROFIBUS DP	
EX9-AC020EN-PSRJ ●	Communication cable with connector for EtherNet/IP™, PROFINET, EtherCAT®, Ethernet POWERLINK	M12 – RJ-45 connector, 2 m
EX9-AC050EN-PSRJ ●		M12 – RJ-45 connector, 3 m
EX9-AWTS ●	Seal cap (10 pcs.)	For M12 connector socket
EX9-OET1 ●	Output block, internal power supply method (for low-wattage load)	
EX9-OEP1 ●	Output block, integrated power supply method (for high-wattage load)	
EX9-PE1 ●	Power block	
EX9-EA03 ●	End plate	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Fieldbus system, integrated type (for input / output)

EX250 Series

- Centralised fieldbus system
- Valve output system for driving 5 port solenoid valves and I/O
- 32 inputs / 32 outputs module
- IP67 enclosure protection
- Output units available for external use (EX9)
- Applicable valve series: SY, S0700, VQC, SV.

SI units

Part number	Protocol	Number of inputs / outputs	SI unit output polarity	Communication connector	Enclosure protection
EX250-SCA1A ●	CANopen	32 / 32	PNP	M12 (5 pins)	IP67
EX250-SPR1 ●	PROFIBUS DP				
EX250-SDN1 ●	DeviceNet™				
EX250-SEN1 ●	EtherNet/IP™			M12 (4 pins)	
EX250-SAS3 ●	AS-Interface	8 / 8 (2 power supply systems)			
EX250-SAS5 ●		4 / 4 (2 power supply systems)			
EX250-SAS7 ●		8 / 8 (1 power supply system)			
EX250-SAS9 ●		4 / 4 (1 power supply system)			
EX250-SMJ2 ●	CC-Link	32 / 32	NPN		

Input / output blocks

Part number	Description		Number of inputs / outputs	Connector	Enclosure protection
EX250-IE1 ●	Input block		2 / -	M12 (5 pins)	IP67
EX250-IE2 ●			4 / -		
EX250-IE3 ●				M8 (3 pins)	
EX9-OET1 ●	Output block, PNP specification	For low-wattage load	- / 2	M12 (5 pins)	
EX9-OEP1 ●		For high-wattage load			

Accessories

Part number	Description		
EX9-PE1 ●	Power block		
EX250-EA1 ●	End plate	Input side	Direct mounting
EX9-EA03 ●		Output side	
PCA-1557688 ●	Communication cable for PROFIBUS DP		M12 SPEEDCON connector, socket, 5 m
PCA-1557691 ●			M12 SPEEDCON connector, plug, 5 m
PCA-1557633 ●	Communication cable for DeviceNet™		M12 SPEEDCON connector, socket, 5 m
PCA-1557646 ●			M12 SPEEDCON connector, plug, 5 m
EX9-AC020EN-PSRJ ●	Communication cable for EtherNet/IP™		M12 - RJ-45 connector, 2 m
EX9-AC050EN-PSRJ ●			M12 - RJ-45 connector, 5 m
PCA-1567720 ●	Communication cable for CC-Link		M12 SPEEDCON connector, socket, 5 m
PCA-1567717 ●			M12 SPEEDCON connector, plug, 5 m
EX500-AWES ●	Seal cap (10 units), male plug		For M8 connector
EX500-AWTS ●			For M12 connector
EX500-AWTP ●	Seal cap, female plug		For M12 connector

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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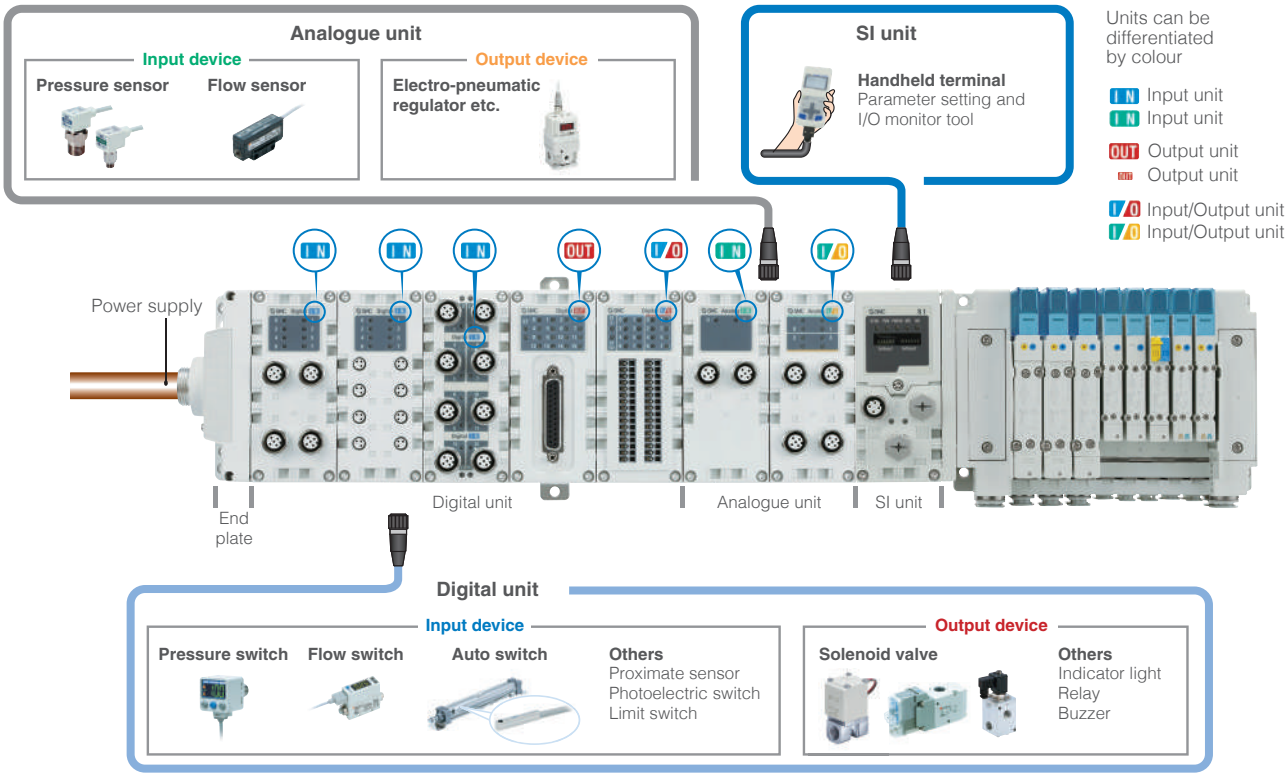
Our highlighted product for you

Fieldbus system, integrated type (for input / output)

EX600 Series

- Centralised & compact fieldbus system
- Valve output system for driving 5 port solenoid valves
- Up to 9 input / output units either digital or analogue, can be connnected in any order
- Up to IP67 enclosure protection
- Dual port SI unit for EtherNet/IP™ that allows for DLR topology
- QuickConnect™ function
- Web server function
- Self diagnosis function
- Handheld terminal
- Applicable valve series: SY, S0700, VQC, SV.



SI units

Part number	Type of unit / Description	No. of inputs / outputs	Polarity	Communication connector	Enclosure protection
EX600-SEN1 ●	SI unit, EtherNet/IP™ (1 port)	– / 32	PNP	M12 connector (5 pins)	IP67
EX600-SEN3 ●	SI unit, EtherNet/IP™ (2 ports)				
EX600-SPN1 ●	SI unit, PROFINET				
EX600-SEC1 ●	SI unit, EtherCAT®				
EX600-SDN1A ●	SI unit, DeviceNet™				
EX600-SPR1A ●	SI unit PROFIBUS DP				
EX600-SMJ1 ●	SI unit CC-Link				

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Input / Output units

Part number	Type of unit / Description	No. of inputs / outputs	Polarity	Communication connector	Enclosure protection
EX600-DXPB ●	Digital input unit	8 / –	PNP	M12 connector (5 pins)	IP67
EX600-DXPC ●				M8 connector (3 pins)	
EX600-DXPC1 ●					
EX600-DXPD ●		16 / –		M12 connector (5 pins)	
EX600-DXPE[1] ●				D-sub connector (25 pins)	IP40
EX600-DXPF[1] ●				Spring type terminal block (32 pins)	
EX600-DYPB ●	Digital output unit	– / 8		M12 connector (5 pins)	IP67
EX600-DYPE[1] ●		– / 16		D-sub connector (25 pins)	IP40
EX600-DYPF[1] ●				Spring type terminal block (32 pins)	
EX600-DMPE[1] ●	Digital input / output unit	8 / 8		D-sub connector (25 pins)	
EX600-DMPF[1] ●				Spring type terminal block (32 pins)	
EX600-AXA ●	Analogue input unit	2 / – channels	—	M12 connector (5 pins)	IP67
EX600-AYA[1] ●	Analogue output unit	– / 2 channels			
EX600-AMB[1] ●	Analogue input / output unit	2 / 2 channels			

1) This element cannot communicate with the handheld terminal.

End plates

Part number	Mounting position	Type	Power supply connector	Enclosure protection
EX600-ED2 ●	D side	IN	M12 connector (5 pins) B-coded	IP67
EX600-ED3 ●			7/8 inch (5 pins)	
EX600-ED4		IN / OUT	Power in: M12 (4 pins) A-coded [1] Power out: M12 (5 pins) A-coded [1]	
EX600-ED5				

1) The pin layout for EX600-ED4 and EX600-ED5 pin connector is different.

Accessories

Part number	Description	
EX600-HT1A ●	Handheld terminal, no cable	
EX600-ZMA2 ●	End plate bracket	General use, except for SY Series
EX600-ZMA3		Specialised for SY Series
EX600-ZMV1 ●	Valve plate	General use, except for SY Series
EX600-ZMV2 ●		Specialised for SY Series
EX600-ZMB1 ●	Reinforcing brace	For direct mounting
EX600-ZMB2 ●		For DIN rail mounting
EX500-AWES ●	Seal cap	For M8 connector
EX500-AWTS ●		For M12 connector
EX600-AC010-1 ●	Handheld terminal cable	1 m long
EX600-AC030-1 ●		3 m long
PCA-1564927 ●	Power cable with M12 connector	Straight connector, 2 m
PCA-1564930 ●		Straight connector, 6 m
PCA-1564943 ●		Angled connector, 2 m
PCA-1564969 ●		Angled connector, 6 m
PCA-1558810 ●	Power cable with 7/8 inch connector	Straight connector, 2 m
PCA-1558823 ●		Straight connector, 6 m
PCA-1558836 ●		Angled connector, 2 m
PCA-1558849 ●		Angled connector, 6 m
PCA-1446566 ●	Communication cable for SI unit compatible with EtherNet/IP™, PROFINET, EtherCAT®	M12 SPEEDCON connector, 5 m
EX9-AC020EN-PSRJ ●		M12 – RJ-45 connector, 2 m
EX9-AC050EN-PSRJ ●		M12 – RJ-45 connector, 5 m
PCA-1557688 ●	Communication cable for SI unit compatible with PROFIBUS DP	M12 SPEEDCON connector, socket, 5 m
PCA-1557691 ●		M12 SPEEDCON connector, plug, 5 m
PCA-1557633 ●	Communication cable for SI unit compatible with DeviceNet™	M12 SPEEDCON connector, socket, 5 m
PCA-1557646 ●		M12 SPEEDCON connector, plug, 5 m
PCA-1567720 ●	Communication cable for SI unit compatible with CC-Link	M12 SPEEDCON connector, socket, 5 m
PCA-1567717 ●		M12 SPEEDCON connector, plug, 5 m

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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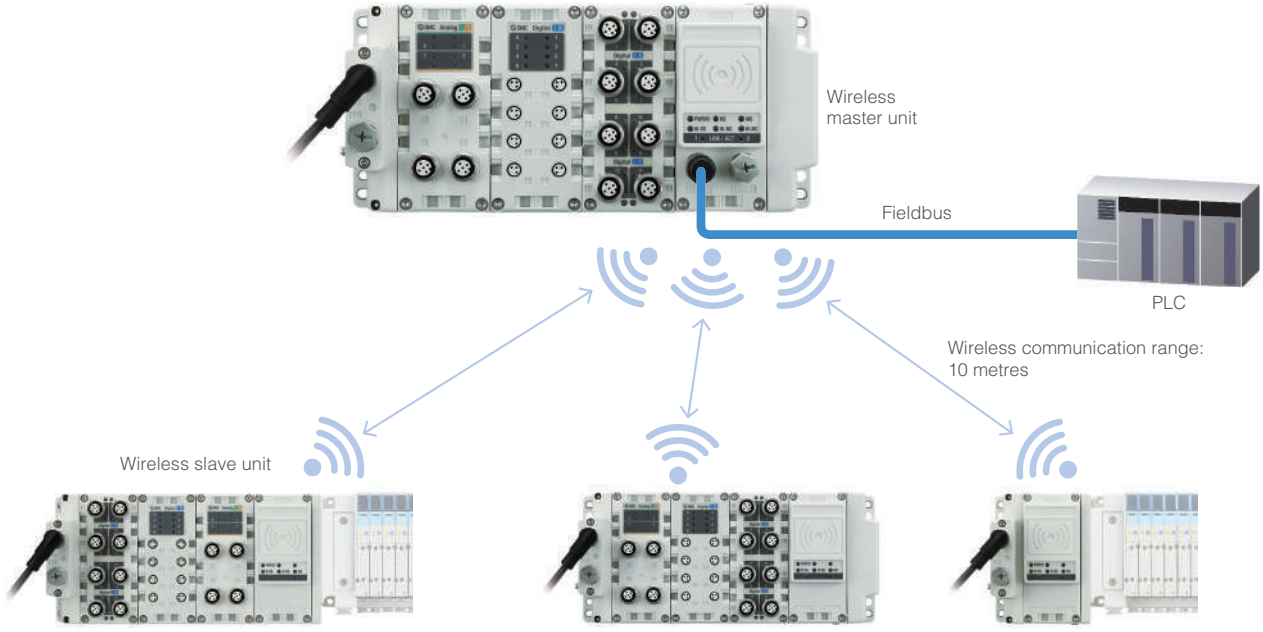
Our highlighted product for you

Fieldbus wireless system

EX600-W Series

- Decentralised & compact fieldbus system with two SI units:
  Wireless master unit - one unit to control the entire wireless network:
  - Maximum 1280 inputs / 1280 outputs
  - Up to 127 slaves for EtherNet/IP™ (31 for PROFINET) can be connected to one master

  Wireless slave unit
- Point-to-multipoint communication - only one IP address for managing the complete wireless system
- Noise resistant - suitable for welding environments
- Management of analogue, digital and pneumatic product
- Interchangeability maintained with EX600 series
- Same general features as EX600 series
- Applicable valve series: SY, SV, S0700, VQC.



SI units

Part number	Description	Protocol	Type	Enclosure
EX600-WEN1	Wireless master unit	EtherNet/IP™	PNP	IP67
EX600-WPN1		PROFINET		
EX600-WSV1	Wireless slave unit	—		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Input / Output units

Part number	Description	No. inputs / outputs	Connector	Enclosure
EX600-DXPB ●	Digital input unit, PNP	8 / –	M12 connector (5 pins), 4 pcs.	IP67
EX600-DXPC ●			M8 connector (3 pins), 8 pcs.	
EX600-DXPC1 ●			M8 connector (3 pins)	
EX600-DXPD ●		16 / –	M12 connector (5 pins), 8 pcs.	
EX600-DXPE ●			D-sub connector (25 pins)	IP40
EX600-DXPF ●			Spring type terminal block (32 pins)	
EX600-DYPB ●	Digital output unit, PNP	– / 8	M12 connector (5 pins), 4 pcs.	IP67
EX600-DYPE ●		– / 16	D-sub connector (25 pins)	IP40
EX600-DYPF ●			Spring type terminal block (32 pins)	
EX600-DMPE ●	Digital input / output unit, PNP	8 / 8	D-sub connector (25 pins)	
EX600-DMPF ●			Spring type terminal block (32 pins)	
EX600-AXA ●	Analogue input unit	2 / –	M12 connector (5 pins), 2 pcs.	IP67
EX600-AYA ●	Analogue output unit	– / 2	M12 connector (5 pins), 2 pcs.	
EX600-AMB ●	Analogue input / output unit	2 / 2	M12 connector (5 pins), 4 pcs.	

End plates

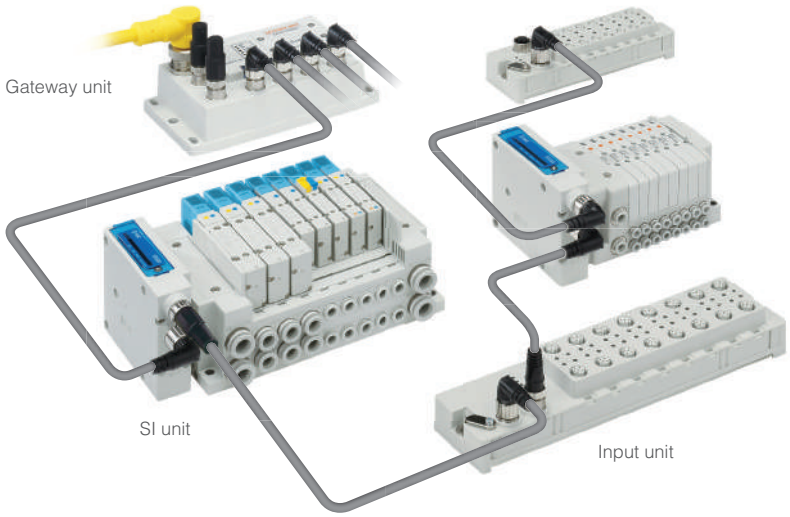
Part number	Mounting position	Type	Power supply connector	Enclosure
EX600-ED2 ●	D side	IN	M12 (5 pins) B-coded	IP67
EX600-ED3 ●			7/8 inch (5 pins)	
EX600-ED4		IN / OUT	Power in: M12 (4 pins) A-coded [1)] Power out: M12 (5 pins) A-coded [1)]	
EX600-ED5				
EX600-EU1	U side	—	—	

1) The pin layout for EX600-ED4 and EX600-ED5 pin connector is different.

Fieldbus system, gateway type

EX500 Series

- Decentralised fieldbus system
- Valve output system for driving 5 port solenoid valves
- Up to 128 digital inputs / output, up to 16 valve manifolds and input unit connections
- Output units available for external use (EX9)
- IP65 / IP67 enclosure protection
- Web server function
- Fixed I/O mapping
- Management of different power supplies
- Applicable valve series: SY, S0700, VQC, SV.



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128 points gateway decentralised system

Part number	Type of unit / Description	No. of inputs / outputs	Polarity	Communication connector	Enclosure protection
EX500-GEN2 ●	Gateway unit, EtherNet/IP™	128 / 128	—	M12 connector (5 pins)	IP65
EX500-GPN2 ●	Gateway unit, PROFINET				
EX500-S103 ●	SI unit	– / 32 [1)]	PNP	M12 connector (8 pins)	IP67
EX500-DXPA ●	Input unit	16 / –		M8 connector (3 pins)	
EX500-DXPB ●				M12 connector (5 pins)	

1) Number of outputs can be 16 or 32, switched by a built-in setting switch.

64 points gateway decentralised system

Part number	Type of unit / Description	No. of inputs / outputs	Polarity	Communication connector	Enclosure protection
EX500-GDN1 ●	Gateway unit, DeviceNet™	64 / 64	–	M12 connector (5 pins)	IP65
EX500-GPR1A ●	Gateway unit, PROFIBUS DP				
EX500-S001 ●	SI unit for SV valve series	– / 16	NPN	M12 connector (8 pins)	IP67
EX500-Q101 ●	SI unit for SY/S0700/VQC valve series		PNP		
EX500-IB1 ●	Input unit	16 / –	–		IP65
EX500-IE1 ●	Input block, 2 inputs	2 / –	PNP	M8 connector (3 pins)	
EX500-IE3 ●				M12 connector (4 pins)	
EX500-IE5 ●	Input block, 8 inputs	8 / –		M8 connector (3 pins)	
EX500-IE6 ●			NPN		

Accessories

Part number	Description	
EX9-OET1 ●	Output block, for low-wattage load, PNP specification	
EX9-PE1 ●	Power block	
EX9-EA03 ●	End plate	
EX500-AC010-SSPS ●	Branch cable	Straight connectors, 1 m
EX500-AC050-SSPS ●		Straight connectors, 5 m
EX500-AC010-SAPA ●		Angled connectors, 1 m
EX500-AC050-SAPA ●		Angled connectors, 5 m
PCA-1415999	Power supply cable for EtherNet/IP™	Straight connector, 2 m
PCA-1415996		Straight connector, 6 m
PCA-1416000		Angled connector, 2 m
PCA-1415997		Angled connector, 6 m
PCA-1558810 ●	Power supply cable for PROFINET	Straight connector, 2 m
PCA-1558823 ●		Straight connector, 6 m
PCA-1558836 ●		Angled connector, 2 m
PCA-1558849 ●		Angled connector, 6 m
EX500-AP010-S ●	Power cable with connector, for SI unit (64 points)	Straight connector, 1 m
EX500-AP050-S ●		Straight connector, 5 m
EX500-AP010-A ●		Angled connector, 1 m
EX500-AP050-A ●		Angled connector, 5 m
PCA-1446566 ●	Communication cable for EtherNet/IP™, PROFINET	M12 SPEEDCON connector, 5 m
EX9-AC020EN-PSRJ ●		M12 – RJ-45 connector, 2 m
EX9-AC050EN-PSRJ ●		M12 – RJ-45 connector, 5 m
EX500-AC010-DN ●	Communication cable for DeviceNet™	M12 connector, 1 m
EX500-AC050-DN ●		M12 connector, 5 m
PCA-1557633 ●		M12 SPEEDCON connector, socket, 5 m
PCA-1557688 ●	Communication cable for PROFIBUS DP	M12 SPEEDCON connector, socket, 5m
PCA-1557691 ●		M12 SPEEDCON connector, plug, 5 m
PCA-1557743 ●	Connector for output block wiring	Cable O.D.: 3.5 to 6.0 mm
PCA-1557756 ●		Cable O.D.: 4.0 to 8.0 mm
EX500-AWES ●	Seal caps (10 units), male plug	For M8 connector
EX500-AWTS ●		For M12 connector
EX500-AWTP ●	Seal cap, female plug	For M12 connector

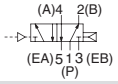
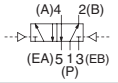
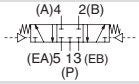
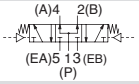
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Air operated valves

Pneumatically operated 5 port valve
SYA3000/5000/7000 Series

- 3 sizes, SYA7000 standard
- Choose base or body ported models
- Long service life
- Can be used with SY solenoid valves on manifold
- 5 port function on request.

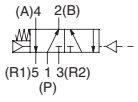
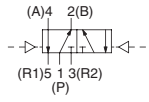
Size SYA7000 - Standard

Part number	Circuit symbol	Type of actuation	Port size A and B	Operating pressure range [MPa]	Flow [l/min]
SYA7120-02F ●		Single	G1/4	0.15 ~ 0.7	999
SYA7120-C8			Ø 8		852
SYA7120-C10			Ø 10		942
SYA7220-02F ●		Double	G1/4	0.1 ~ 0.7	999
SYA7220-C8 ●			Ø 8		852
SYA7220-C10 ●			Ø 10		942
SYA7320-02F ●		5 port closed centre	G1/4	0.2 ~ 0.7	742
SYA7420-02F ●		5 port exhaust centre			893
SYA7520-02F ●		5 port pressure centre			1048

Manifolds available on request.

Pneumatically operated 5 port valve
SYJA5000/7000 Series

- 2 standard sizes
- Compact design
- Lightweight
- Base and body ported valves available.

Part number	Circuit symbol	Type of actuation	Port size	Operating pressure range [MPa]	Flow [l/min]
SYJA5120-M5 ●		Single	M5	0.15 ~ 0.7	129
SYJA7120-01F ●			G1/8		626
SYJA5220-M5 ●		Double	M5	0.1 ~ 0.7	129
SYJA7220-01F ●			G1/8		626

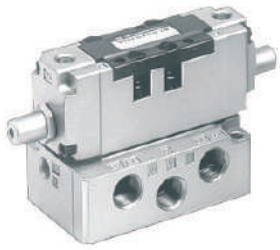
SYJA3000 on request, M5 and M3 ported.
Manifolds available on request

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Pneumatically operated 5 port valve

EVSA7-6 (ISO1) Series
EVSA7-8 (ISO2) Series

- ISO-standardised
- Types: sub-plate or manifold
- Compatible with solenoid valves of series EVS7
- Superior flow capacity
- Valves made with lapped metal seal for harsh operation conditions
- Long service life.



EVSA7-6 ISO1 Series

Part number	Circuit symbol	Type of actuation		Flow [l/min]	Operating pressure range [MPa]
EVSA7-6-FG-S-2 ●		Number of ports: 5	Single	1181	0 ~ 1.0
EVSA7-6-FG-D-2 ●			Double		
EVSA7-6-FHG-D-2 ●			Closed centre		
EVSA7-6-FPG-D-2			Pilot check	704	
EVSA7-6-FJG-D-2 ●			Exhaust centre	1181	
EVSA7-6-FIG-D-2			Pressurised centre	1168	

EVSA7-8 ISO2 Series

Part number	Circuit symbol	Type of actuation		Flow [l/min]	Operating pressure range [MPa]
EVSA7-8-FG-S-2 ●		Number of ports: 5	Single	2941	0 ~ 1.0
EVSA7-8-FG-D-2 ●			Double		
EVSA7-8-FHG-D-2 ●			Closed centre	2451	
EVSA7-8-FPG-D-2			Pilot check	1677	
EVSA7-8-FJG-D-2 ●			Exhaust centre	2395	
EVSA7-8-FIG-D-2			Pressurised centre	2712	

Modular manifold

Item			ISO1	ISO2
End plate assembly	Left end plate	G3/8	**EAXT502-LA-03** ●	—
		G1/2	—	**EAXT512-LA-04** ●
	Right end plate	G3/8	**EAXT502-RA-03** ●	—
		G1/2	—	**EAXT512-RA-04** ●
Manifold block assembly		G1/4	**EAXT502-1A-A02** ●	—
		G3/8	**EAXT502-1A-A03** ●	**EAXT512-1A-A03** ●
		G1/2	—	**EAXT512-1A-A04** ●

Accessories • Sub-plate

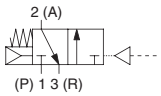
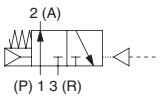
	ISO1	ISO2
G1/4	**EVS7-1-A02F** ●	—
G3/8	**EVS7-1-A03F** ●	**EVS7-2-A03F** ●
G1/2	—	**EVS7-2-A04F** ●
G3/4	—	**EVS7-2-A06F** ●

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Pneumatically operated 3 port valve

SYJA500/700 Series

- 2 standard sizes
- Base and body ported valves available
- Compact design.

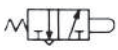
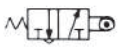
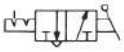
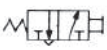
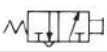
Part number	Circuit symbol	Switching function	Port size	Operating pressure range [MPa]	Flow [l/min]
SYJA512-M5 ●		N.C.	M5	0.15 ~ 0.7	150
SYJA712-01F ●			G1/8		779
SYJA522-M5 ●		N.O.	M5		186
SYJA722-01F ●			G1/8		724

SYJA300 on request, M5 and M3 ported.
Manifolds available on request

Mechanical and hand valves

Micro mechanically operated 3 port valve

VM1000 Series

Part number	Circuit symbol	Actuation	Flow [l/min]	Operating pressure range [MPa]
VM1000-4N-00 ●		Basic valve	47	0 ~ 0.8
VM1000-4N-01 ●		Roller lever		
VM1000-4N-02 ●		One way roller lever		
VM1000-4N-08 ●		Toggle lever		
VM1000-4N-32R ●		Red push button		
VM1000-4N-32B ●		Black push button		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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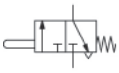
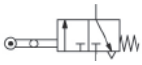
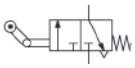
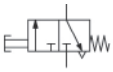
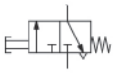
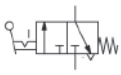
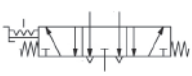
Mechanically operated 3 port valve

VM100 Series

- Threaded port G1/8
- Limit switch and manual switch type mounted with a basic valve using a modular stacking system
- Exchangeable actuations available
- Available also as 2 port valve
- Robust poppet valve design.

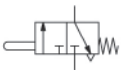
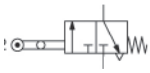
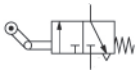
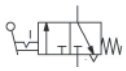
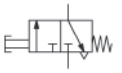
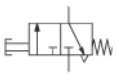
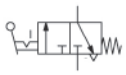
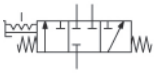
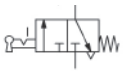
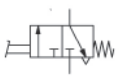
Part number	Circuit symbol	Actuation		Part number actuation	Flow [l/min]	Operating pressure range [MPa]
VM130-F01-00A ●		Basic valve				
VM131-F01-01SA ●		Roller lever		—		
VM131-F01-02SA ●		One way roller lever				
VM130-F01-08A ●		Toggle lever		VM-08B		
VM130-F01-30BA ●		Black / Red / Green (mushroom) push button		VM-30AB		
VM130-F01-30RA ●				VM-30AR	143	-0,1 ~ 1
VM130-F01-30GA ●				VM-30AG		
VM130-F01-33A ●		Push button (flush)		VM-33A		
VM130-F01-34BA ●		Black twist selector 2 position		VM-34AB		
VM130-F01-36A ●		Key selector		VM-36A		
VM151-F01-35BA ●		Black twist selector 3 position		—		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mechanically operated 3 port valve

VM200 Series

- Threaded port G1/4
- Limit switch, manual switch and foot pedal type mounted with a basic valve using a modular stacking system
- Minimal force to operate
- Exchangeable actuations
- Available also as 2 port solenoid valve
- Robust poppet valve design.

Part number	Circuit symbol	Actuation		Part number actuation	Flow [l/min]	Operating pressure range [MPa]
VM230-F02-00A ●		Basic valve		—	1007	0 ~ 1
VM230-F02-01SA ●		Roller lever		VM-01AS		
VM230-F02-02SA ●		One way roller lever		VM-02AS		
VM230-F02-08A ●		Toggle lever		VM-08A		
VM230-F02-30BA ●		Black (mushroom) push button		VM-30AB		
VM230-F02-30RA ●		Red (mushroom) push button		VM-30AR		
VM230-F02-30GA ●		Green (mushroom) push button		VM-30AG		
VM230-F02-33A ●		Push button (flush)		VM-33A		
VM230-F02-34BA ●		Black twist selector 2 position		VM-34AB		
VM230-F02-35BA ●		Black twist selector 3 position		—		
VM230-F02-36A ●		Key selector		VM-36A		
VM230-F02-40A ●		Foot pedal 2 position		—		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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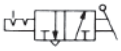
Mechanically operated 3 port valve

EVM400 Series

- 3 port switching valve, port size G1/8
- Robust poppet valve design
- Limit switch and manual switch mounted with a basic valve using a modular stacking system
- Superior flow capacity for a low height
- N.C. and N.O. version available.

Part number	Circuit symbol	Actuation	Flow [l/min]	Operating pressure range [MPa]
EVM430-F01-00 ●		Basic valve	335	0 ~ 1.0
EVM430-F01-00 ● **+VM-01AS** ●		Roller lever		
EVM430-F01-00 ● **+VM-02AS** ●		One way roller lever		
EVM430-F01-00 ● **+VM-08A** ●		Toggle lever		
EVM430-F01-00 ● **+VM-30AB** ●		Black (mushroom) push button		
EVM430-F01-00 ● **+VM-30AR** ●		Red (mushroom) push button		
EVM430-F01-00 ● **+VM-33A** ●		Push button (flash)		
EVM430-F01-00 ● **+VM-34AB** ●		Black twist selector		
EVM430-F01-00 ● **+VM-36A** ●		Twist selector with key		

Mechanically operated 3 port valve

EVM800 Series

- Port thread G1/8
- Either N.O. or N.C. models
- Robust, compact design
- Adjustable operating lever.

Part number	Circuit symbol	Actuation	Flow [l/min]	Operating pressure range [MPa]
EVM830-F01-00		Basic valve	335	0 ~ 1.0
EVM830-F01-01 ●		Roller lever		
EVM830-F01-13 ●		Adjustable roller lever		
EVM830-F01-14 ●		Adjustable rod lever		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mechanically / Manually operated 5 port valve

EVZM500 Series

- 5 port switching valve, port size G1/8, valve seal design with pneumatic pilot
- Limit switch and manual switch types mounted with a basic valve via stacking system
- Superior flow capacity at a compact size
- Valve width 18 mm.

Part number	Circuit symbol	Actuation	Flow [l/min]	Operating pressure range [MPa]
EVZM550-F01-00 ●		Basic valve	626	0.15 ~ 0.7
EVZM550-F01-00 ● **+VM-01CS** ●		Roller lever		
EVZM550-F01-00 ● **+VM-02CS** ●		One way roller lever		
EVZM550-F01-00 ● **+VM-08C** ●		Toggle lever		
EVZM550-F01-00 ● **+VM-30CB** ●		Black (mushroom) push button		
EVZM550-F01-00 ● **+VM-30CR** ●		Red (mushroom) push button		
EVZM550-F01-00 ● **+VM-33C** ●		Push button (flash)		
EVZM550-F01-00 ● **+VM-34CB** ●		Twist selector black		
EVZM550-F01-00 ● **+VM-36C** ●		Twist selector with Key		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Mechanically operated 5 port valve

EVFM300 Series

- 5 port switching valve, port size G1/4, valve seal design with pneumatic pilot
- Pneumatic pilot means minimal force required to operate
- Superior flow capacity for a compact size
- Valve width 26.4 mm.

Part number	Circuit symbol	Actuation	Flow [l/min]	Operating pressure range [MPa]
EVFM350-F02-00 ●		Basic valve	1058	0.15 ~ 1
EVFM350-F02-01S ●		Roller lever		
EVFM350-F02-02S ●		One way roller lever		
EVFM350-F02-08 ●		Toggle lever		
EVFM350-F02-30B ●		Black (mushroom) push button		
EVFM350-F02-30R ●		Red (mushroom) push button		
EVFM350-F02-33 ●		Push button (flash)		
EVFM350-F02-34B ●		Twist selector black		
EVFM350-F02-36		Twist selector with Key		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Two hand control valve
VR51 Series

- Equipment having a safety circuit: two handed operation
- An output is available through synchronised, two-handed operation
- Certified to type IIIA of EN574
- Interchangeable with XT92-67☐

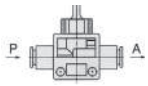
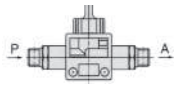
Part number	Connection piping size		Operating pressure range [MPa]
VR51-C06 ●	Metric size	Flame resistant one-touch fitting Ø 6	0.25 ~ 1
VR51-C07	Inch size	Flame resistant one-touch fitting Ø 1/4	

Accessories	Part number
Silencer	**AN101-01** ●

Option	Part number
Bracket	**VR51B** ●

3 port manually operated valve, finger valve
VHK Series

- Switch valve, compact design with 2 or 3 port function
- Sizes from Ø 4 ~ 12 mm with superior flow capacity
- Being made of lightweight plastic, and having integral hose connections, it can be mounted directly in the piping (push in)
- Body with mounting holes.

Part number	Circuit symbol	Operating pressure range [MPa]	Port size		Mounting bracket
VHK3-04F-04F ●	Two position	1	 Push-in port size	Ø 4	VHK-B1A
VHK3-06F-06F ●				Ø 6	
VHK3-08F-08F ●				Ø 8	
VHK3-10F-10F ●				Ø 10	VHK-B2A
VHK3-12F-12F ●				Ø 12	
VHK3-M5-M5 ●			 Thread port size	M5 x 0,8	VHK-B1A
VHK3-01S-01S ●				Rc1/8	
VHK3-02S-02S ●				Rc1/4	
VHK3-03S-03S ●				Rc3/8	VHK-B2A
VHK3-04S-04S ●				Rc1/2	

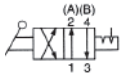
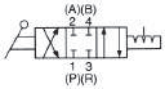
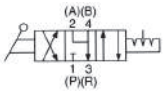
2 port function on request
Other thread and push-in combinations on request

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Manually operated 4 port valve, hand valve

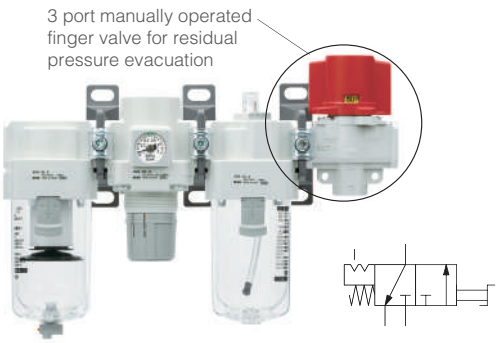
VH Series

- Robust, 4 port manual lever valve, reliable round seal design
- Variety of port sizes
- Body for panel assembly or direct mounting
- Stepless and crack adjustment of the flow from zero to the maximum via the lever's rotation angle
- Pressure or exhaust centre for both cylinders
- The cylinder may be positioned at the valve's centre.

Part number	Circuit symbol	Type of actuation	Operating pressure range [MPa]	Port size G	Flow [l/min]
VH212-F02 ●		2 position	1	1/4	592
VH312-F03 ●				3/8	1578
VH412-F04 ●				1/2	4315
VH412-F06 ●				3/4	4537
VH210-F02 ●		2 position closed centre	1	1/4	592
VH310-F03 ●				3/8	1578
VH410-F04 ●				1/2	4315
VH410-F06				3/4	4537
VH600-F06			0.7	3/4	14499
VH600-F10 ●				1	15189
VH211-F02 ●		3 position exhaust centre	1	1/4	592
VH311-F03 ●				3/8	1578
VH411-F04 ●				1/2	4315
VH411-F06				3/4	4537

Pressure relief 3 port valve

VHS Series



- To be used as stacking manifold or as single device
- Used to bleed the entire compressed air circuit
- Can be upgraded with a silencer.

Part number	Port size IN, OUT	Port size exhaust	Effective flow [Cv] IN → OUT (OUT → EXH)	Adequate for modular F.R.L.
VHS20-F01☐ ●	G1/8	G1/8	0.65 (0.69)	20
VHS20-F02☐ ●	G1/4	G1/8	0.88 (0.84)	20
VHS30-F03☐ ●	G3/8	G1/4	2.3 (1.9)	30
VHS40-F04☐ ●	G1/2	G3/8	3.8 (3.6)	40
VHS40-F06☐ ●	G3/4	G1/2	5.0 (4.8)	40-F06
VHS50-F06☐ ●	G3/4	G1/2	6.4 (5.9)	50 • 60
VHS50-F10☐ ●	G1	G1/2	8.6 (6.4)	50 • 60

☐: Add suffix A at the end of part number for handle material flame resistant PB7.
Add suffix B at the end of part number for handle material aluminium.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Logic valves

Shuttle valve, metal type
VR1210/1220 Series

- For pneumatic controls
- Two input signals, one output signal
- Port sizes 1/8 and 1/4.

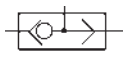
Metal type with female thread

Part number	Port size	Flow [l/min]	Circuit symbol
VR1210-F01 ●	G1/8	311	
VR1220-F02 ●	G1/4	695	

Shuttle valve plastic with one-touch fittings
VR1210F/1220F Series

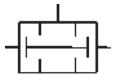
- For pneumatic controls
- Two input signals, one output signal
- Port sizes 1/8 and 1/4.

Plastic with one touch fittings

Part number	Tube size [mm]	Flow [l/min]	Circuit symbol
VR1210F-23 ●	3.2	123	
VR1210F-04 ●	4,0	173	
VR1220F-06 ●	6,0	345	
VR1220F-08 ●	8,0	518	

AND logic valve
VR1211F Series

- For pneumatic controls
- Simple, push-in mounting
- Rotates through 360°.

Part number	Tube size [mm]	Flow [l/min]	Circuit symbol
VR1211F-23	3.2	74	
VR1211F-04 ●	4,0	99	
VR1211F-06 ●	6,0	123	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Multi regulator valves

Power valve

VEX1/VEX3 Series

VEX1

VEX3

- Extensive size variations, port sizes 1/8 to 2”
- VEX1: 3 port large capacity poppet exhausting regulator equipped with a relief port the same size as the connection port
  Large capacity exhaust regulator
- VEX3: 3 port, 3 position valve. 3 position valve suitable for intermediate and emergency stop of large size cylinder.

VEX1, regulator valve

Part number	Operation	Port			Max. operating pressure [MPa]	Set pressure range [MPa]	Maximum flow [l/min]
		P	A	R			
VEX1100-02F ●	Air operated	G1/4			1	0.05 to 0.9	2500
VEX1300-02F ●		G1/4					5000
VEX1300-04F ●		G1/2					5000
VEX1500-04F ●		G1/2					10000
VEX1500-06F ●		G3/4					10000
VEX1700-10F ●		G1		G1 1/4			20000
VEX1700-12F ●		G1 1/4					20000
VEX1900-20F ●		G2					40000

VEX3, 3 position valve

Part number	Operation	Port			Set pressure range [MPa]	Flow [l/min]
		P	A	R		
VEX3120-02F	Air operated	G1/4			Low vacuum to 1.0	1374
VEX3320-02F		G1/4				1963
VEX3320-04F ●		G1/2				3827
VEX3500-04F		G1/2				7066
VEX3500-06F		G3/4				8735
VEX3700-10F		G1		G1 1/4		16685
VEX3700-12F		G1 1/4				17667
VEX3900-20F		G2				36315

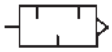
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Silencers and exhaust cleaners

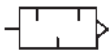
Silencer compact resin type
AN Series

- Compact and lightweight
- Noise reduction: 30 dB(A)
- Connection method:
  - M thread, R thread type
  - One-touch fitting connection type.

Male thread

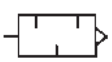
Part number	Circuit symbol	Connection	Effective area [mm² (Cv)]	Noise reduction [dB(A)]	Weight [g]
AN05-M5 ●		M5 x 0.8	5 (0.3)	30	0.5
AN10-01 ●		R1/8	10 (0.6)		1
AN15-02 ●		R1/4	15 (0.9)		2.5
AN20-02 ●			35 (2.0)		4
AN30-03 ●		R3/8	60 (3.5)		5.5
AN40-04 ●		R1/2	90 (5.3)		8.5

One-touch fitting

AN10-C06 ●		Ø 6	7 (0.4)	30	1
AN15-C08 ●		Ø 8	20 (1.2)		1.4
AN20-C10 ●		Ø 10	30 (1.8)		3.5
AN30-C12 ●		Ø 12	41 (2.4)		5

Silencer BC sintered body type
AN Series

- For threads M3 • M5 • Rc1/8
- Made from sintered bronze.

Part number	Circuit symbol	Thread connection	Effective area [mm² (Cv)]	Noise reduction [dB(A)]	Weight [g]
AN120-M3 ●		M3	1 (0.06)	13	1
AN120-M5 ●		M5	5 (0.29)	18	3.4
AN101-01 ●		Rc1/8	20 (1.2)	16	8.3
AN110-01 ●		Rc1/8	35 (2.0)	21	17

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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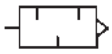
Silencer metal body type

AN□00 Series

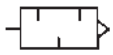
- For threads 3/4 ~ 2
- Noise reduction up to -30 dB(A).

Part number	Circuit symbol	Thread connection	Effective area [mm² (Cv)]	Noise reduction [dB(A)]	Weight [g]
AN500-06 ●		R3/4	160 (9.4)	30	165
AN600-10 ●		R1	270 (15.9)		220
AN700-12 ●		R1 1/4	440 (25.9)		435
AN800-14 ●		R1 1/2	590 (34.7)		510
AN900-20 ●		R2	960 (56.5)		740

Silencer 40 dB (A): High noise reduction type

ANA1 Series

- For thread or one-touch fitting
- Noise reduction 40 dB(A).

Part number	Circuit symbol	Thread connection	Effective area [mm² (Cv)]	Noise reduction [dB(A)]	Weight [g]
ANA1-01 ●		R1/8	10 (0.6)	40	4
ANA1-02 ●		R1/4	15 (0.9)		14
ANA1-03 ●		R3/8	35 (2.0)		22
ANA1-04 ●		R1/2	60 (3.5)		36
ANA1-06 ●		R3/4	90 (5.3)		110
ANA1-10 ●		R1	160 (9.4)		180
ANA1-C08 ●		Ø 8 mm	11 (0.6)		5
ANA1-C10 ●		Ø 10 mm	15 (0.9)		13
ANA1-C12 ●		Ø 12 mm	33 (1.9)		19

Series ANB1 with larger area and noise level reduction by 38 db (A) on request.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Silencer; High pressure operation: Up to 5 MPa

VCHN3/4 Series

- Suitable for air and inert gas
- Standard integrated relief valve
- Materials: Die-casted Aluminium / Stainless steel / Resin / Steel Plate
- VCHNF: With freeze reduction option.

Part number	Max.Operating pressure [MPa]	Connection	Effective area [mm²]	Noise reduction [dB(A)]	Weight [g]
VCHN3-06 ●	5.0 (Solenoid valve inlet pressure)	R3/4	200	35 [1]	590
VCHN3-10 ●		R1	280		605
VCHN4-10		R1	280		665
VCHN4-12 ●		R1 1/4	370		765
VCHN4-14 ●		R1 1/2	370		790
VCHNF3-06		R3/4	160		710
VCHNF3-10		R1	180		725
VCHNF4-10		R1	180		810
VCHNF4-12 ●		R1 1/4	320		910
VCHNF4-14 ●		R1 1/2	320		935

1) At supply pressure of 4.0 MPa, back pressure of 2.0 MPa.

Exhaust cleaner

AMC Series

- Connection threads R3/8 ~ 2
- Combination of filter and silencer
- Noise reduction 35 dB(A)
- Filter separation rate up to 99.9 %
- Model with female thread available on request.

Part number	Circuit symbol	Thread connection	Max. flow [l/min]	Noise reduction [dB(A)]	Separation rate
AMC310-03 ●		R3/8	300	35	99.9 % R.D.
AMC510-06 ●		R3/4	1.000		
AMC610-10 ●		R1	3.000		
AMC810-14 ●		R1 1/2	6.000		
AMC910-20 ●		R2	10.000		

Mounting bracket

310 Series	510 Series	610 Series
BE30 ●	**BE50** ●	**BE60** ●

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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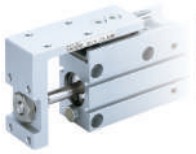
Actuators

Standard air cylinders
Page 122

Compact cylinders
Page 140



Combination cylinders
Page 156

Specialty cylinders
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Cylinders with lock
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Rotary actuators
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Air grippers
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Shock absorbers & floating joints
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Auto switch guide
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Others

Basic characteristics.....Page 226
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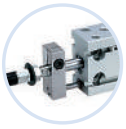
Standard air cylinders

	Bore size [mm]																			Maximum stroke [mm] [1]	Page
	2.5	4	6	8	10	12	15	16	20	25	32	40	50	63	80	100	125	160	200	250	
Air cylinder CJ1 Series	●	●																			20	**122**
Pin cylinder CJP Series		●	●		●		●														15	**122**
Pin cylinder CJP2 Series		●	●		●			●													40	**123**
Air cylinder CJ2 Series			●		●			●													200	**124**
ISO/CETOP/DIN standard [ISO 6432] **Round crimped body cylinder** C85 Series				●	●	●		●	●	●											300	**126**
Air cylinder CM2 Series									●	●	●	●									2000	**128**
Air cylinder, short type CM3 Series									●	●	●	●									300	**130**
Air cylinder C76 Series											●	●									1000	**131**
Air cylinder CG1 Series									●	●	●	●	●	●	●	●					1500	**132**
Air cylinder, short type CG3 Series									●	●	●	●	●	●	●	●					300	**134**
ISO standard [ISO 15552] **Profile tube cylinder** CP96 Series											●	●	●	●	●	●	●				2000	**136**
ISO standard [ISO 15552] **Round tube cylinder** C96 Series											●	●	●	●	●	●	●				2000	**138**
ISO standard [ISO 6431] **Round tube – Large bore cylinder** C95 Series																		●	●	●	2400	**139**

1) The maximum stroke changes depending on the bore size.

Combination cylinders

	Bore size [mm]																	Maximum stroke [mm] 1)	Page
	4	6	8	10	12	16	20	25	32	40	50	63	80	100	125	160	200		
Mini free mount cylinder CUJ Series	●	●	●	●	●	●	●											20	**140**
Free mount cylinder CU/CUK Series		●		●		●	●	●	●									100	**141**
 **Free mount cylinder for vacuum** ZCUK Series				●		●	●	●	●									50	**141**
Compact cylinder, compact type CQS Series					●	●	●	●										300	**142**
Compact cylinder CQ2 Series					●	●	●	●	●	●	●	●	●	●	●	●	●	300	**143**
Compact cylinder JCQ Series					●	●	●	●	●	●	●	●	●	●				50	**147**
ISO Standard [ISO 21287] compact cylinder C55 Series							●	●	●	●	●	●	●	●				150	**148**
Compact cylinder, with air cushion RQ Series							●	●	●	●	●	●	●	●				100	**150**
Compact cylinder, guide rod type CQM Series					●	●	●	●	●	●	●	●	●	●				100	**151**
Compact cylinder, plate type CQU Series							●	●	●	●								300	**152**
Plate cylinder with elliptical piston design MU Series								●	●	●	●	●						300	**153**
Compact cylinder with solenoid valve CVQ Series									●	●	●	●						100	**154**
Compact cylinder, with solenoid valve / Guide rod type CVQM Series									●	●	●	●						100	**155**

1) The maximum stroke changes depending on the bore size.

Compact cylinders

Slide tables

		Bore size [mm]							Maximum stroke [mm][1)]	Page
		6	8	10	12	16	20	25		
	Compact cylinder with linear guide MXZ Series				●	●	●	●	50	**156**
	Compact slide table MXH Series	●		●		●	●		60	**156**
	Slide table with precision guide MXS Series	●	●		●	●	●	●	150	**157**
	Air slide table MXQ Series	●	●		●	●	●	●	150	**158**
	Slide table reversible type MXQR Series	●	●		●	●	●	●	150	**160**
	Low profile slide table MXF Series		●		●	●	●		100	**161**
	Slide table with precision guide MXW Series		●		●	●	●	●	300	**162**
	Precision slide table with linear guide MXP Series	●	●	●	●	●			30	**163**
	Slide table, long stroke type MXY Series	●	●		●				400	**163**

1) The maximum stroke changes depending on the bore size.

Combination cylinders

Mechanically jointed rodless cylinders

Mechanically jointed, rodless cylinder, basic type

MY1B Series

Mechanically jointed, rodless cylinder, linear guide type

MY1H Series

Mechanically jointed, rodless cylinder, slide bearing guide type

MY1M Series

Mechanically jointed, rodless cylinder, with protective covering

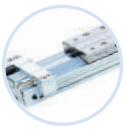
MY1□W Series

Mechanically jointed, rodless cylinder

MY1C Series

Mechanically jointed, rodless cylinder, low profile design

MY2C/H/HT Series



Mechanically jointed, rodless cylinder, short type

MY3A/B/M Series

Bore size [mm]										Maximum stroke [mm] 1)	Page
10	16	20	25	32	40	50	63	80	100		
●	●	●	●	●	●	●	●	●	●	5000	**164**
●	●	●	●	●	●					1500	**165**
	●	●	●	●	●	●	●			5000	**166**
	●	●	●	●	●	●	●			3000	**167**
	●	●	●	●	●	●	●			3000	**168**
	●		●		●					5000	**169**
	●	●	●	●	●	●	●			3000	**170**

1) The maximum stroke changes depending on the bore size.

Magnetically coupled rodless cylinders

Rodless cylinder, basic and direct mount types

CY3B/CY3R Series

Magnetic rodless cylinder, slider type (Slide bearing)

CY1S Series

Magnetic rodless cylinder, linear guide type

CY1H/CY1HT Series

Magnetic rodless cylinder, low profile guide type

CY1F Series

Rodless cylinder for clean rooms and vacuum chambers

CYP/CYV Series

Bore size [mm]									Maximum stroke [mm] 1)	Page
6	10	15	20	25	32	40	50	63		
●	●	●	●	●	●	●	●	●	5000	**172**
●	●	●	●	●	●	●			1500	**172**
	●	●	●	●	●				1500	**173**
	●	●		●					1200	**173**
		●			●				700	**174**

1) The maximum stroke changes depending on the bore size.

Combinations cylinders

Guide cylinders

Miniature guide rod cylinder
MGJ Series

Compact guide cylinder, basic type
MGP Series

Compact guide cylinder
JMGP Series

Compact guide cylinder, wide type
MGPW Series

Guide cylinder
MGG Series

Guide table
MGF Series

Bore size [mm]														Maximum stroke [mm][1]	Page
6	8	10	12	15	16	20	25	32	40	50	63	80	100		
●		●												20	**174**
			●		●	●	●	●	●	●	●	●	●	400	**175**
			●		●	●	●	●	●	●	●	●	●	200	**177**
						●	●	●	●	●	●			200	**178**
						●	●	●	●	●	●	●	●	1300	**179**
									●		●		●	100	**179**

1) The maximum stroke changes depending on the bore size.

Precision cylinders

Precision cylinder
MTS Series

Bore size [mm]														Maximum stroke [mm][1]	Page
6	8	10	12	15	16	20	25	32	40	50	63	80	100		
	●		●		●	●	●	●	●					200	**180**

1) The maximum stroke changes depending on the bore size.

Dual rod cylinders

Dual-rod cylinder: Compact type
CXSJ Series

Dual-rod cylinder
CXS Series

Bore size [mm]														Maximum stroke [mm][1]	Page
6	8	10	12	15	16	20	25	32	40	50	63	80	100		
●		●		●		●	●	●						200	**180**
●		●		●		●	●	●						200	**181**

1) The maximum stroke changes depending on the bore size.

Specialty cylinders

Double power cylinder
MGZ/MGZR Series p. 182

3 position cylinder
RZQ Series p. 183

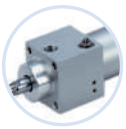
Sine rodless cylinder
REA Series p. 184

Sine rodless high speed cylinder
REB Series p. 185

Low speed cylinder
C□X Series p. 186

Smooth cylinder
C□Y Series p. 188

Compact metal-seal low friction cylinder
MQQ/MQM Series p. 190



High power cylinder
RHC Series p. 191

Hydraulic cylinder
CH Series p. 191

Rotary clamp cylinder
MK/MK2T Series p. 192

Clamp cylinder
CK1 Series p. 193

Stopper cylinder
RSQ Series p. 194

Heavy duty, stopper cylinder
RSH/RS2H Series p. 195

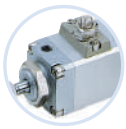
Escapement
MIW/MIS Series p. 196

Stainless steel cylinder
CJ5/CG5 Series p. 197

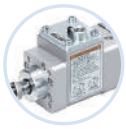
Centring unit
MACM Series p. 197

Cylinders with lock

Cylinder with end lock
p. 198



Cylinder with lock
p. 199



Cylinder with lock
MWB Series p. 200

Rotary actuators

Rotary table, vane type
MSUB Series p. 201

Mini rotary actuator
CRJ Series p. 201

Rotary actuator, vane type
CRB1/CRB2 Series p. 202

Rotary actuator, free mount, vane type
CRBU2 Series p. 204

Rotary actuator rack and pinion type
CRA1 Series p. 206

Compact rotary actuator
CRQ2 Series p. 207

Rotary table, rack and pinion type
MSQ Series p. 208

3-Position rotary table
MSZ Series p. 210

Rotary actuator
MRQ Series p. 210

Rotary gripper
MRHQ Series p. 211

Air grippers

Parallel style air grippers

Parallel air gripper
MHZA2/MHZ2 Series p. 211

Air gripper wide type
MHZL2 Series p. 212

Parallel air gripper with dust cover
MHZAJ2/MHZJ2 Series p. 213

Low profile air gripper
MHF2 Series p. 213

Wide type parallel style air gripper
MHL2 Series p. 214

Rotary actuated air gripper, 2 fingers
MHR2 Series p. 214

Rotary actuated air gripper, 3 fingers
MHR3 Series p. 215

Wedge cam operation slide guide air gripper
MHK2/MHKL2 Series p. 215

2, 3, 4 finger air gripper
MHS2/3/4 Series p. 216

3 finger parallel air gripper with long opening / closing stroke
MHSL3 Series p. 217

3 finger parallel air gripper with dust cover
MHSJ3 Series p. 217

3 finger parallel air gripper through hole type
MHSH3 Series p. 218

Angular style air grippers

2 finger angular air gripper
MHC2/MHCA2/MHCM2 Series p. 218

Toggle air gripper
MHT2 Series p. 219

180° angular air gripper, cam type
MHY2 Series p. 219

180° angular air gripper, rack and pinion type
MHW2 Series p. 220

Rotary grippers

Rotary gripper
MRHQ Series p. 220

Magnetic grippers

Magnetic gripper
MHM-X6400 Series p. 221

Shock absorbers & floating joints

Shock absorber, soft type
RJ Series p. 222

Shock absorber, basic type
RB/RBC Series p. 223

Shock absorber, short type
RBQ/RBQC Series p. 223

Floating joint, standard type
JA Series p. 224

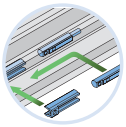
Floating joint, lightweight type
JC Series p. 224

Floating joint
JT Series p. 225

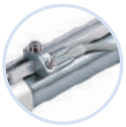
Auto switch guide

Auto switch guide
p. 244

Direct mounting style
Round groove
p. 246



Direct mounting style
Rectangular groove
p. 247



Rail mounting style
p. 248

Tie-rod mounting style
p. 250

Band mounting style
p. 251

Auto switch specifications
p. 253

D-M9N(V) / D-M9P(V) / D-M9B(V)
p. 254

D-M9NW(V) / D-M9PW(V) / D-M9BW(V)
p. 255

D-M9NA(V) / D-M9PA(V) / D-M9BA(V)
p. 256

D-M9N-746 / D-M9P-746 / D-M9B-746
p. 257

D-M9K
p. 258

D-M9□J
p. 260

D-M9□PC with pre-wired connector
p. 261

D-M9PSAPC-595
p. 262

Other available auto switches
p. 263

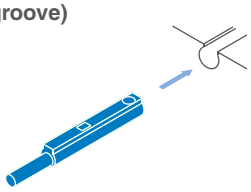
D-A93
p. 264

D-A93V
p. 264

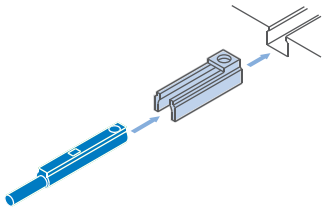
D-P3DWA
p. 265

D-P3DWASC / D-P3DWASE
p. 266

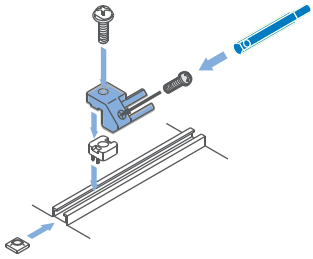
Direct (round groove)



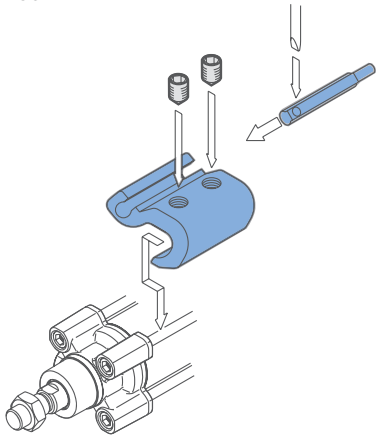
Direct (rectangular groove)



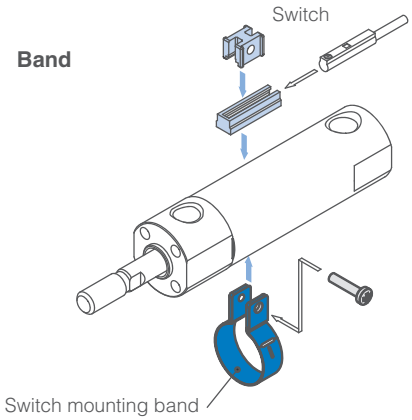
Rail



Tie rod



Band



Our highlighted product for you

ISO Standard [ISO 15552]
Profile tube cylinder
CP96 Series

For more details
go to page 136

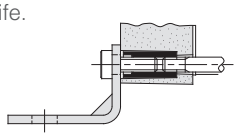
End of stroke air cushion provides smooth operation
Piston rod lurching has been eliminated at the end of the stroke positions by means of a floating seal mechanism.

The ISO cylinder that adapts to you

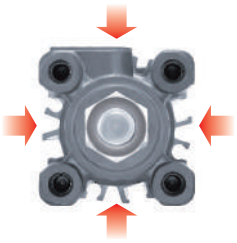
The easy adjustment of the cushion valve allows optimum control of air cushion
Since the adjustment of the cushion valve is performed with a hexagon wrench key, even fine control can be easily accomplished. Furthermore, the cushion valve has been recessed so that it does not protrude from the cover.

Minimum piston rod deflection enhances the accuracy levels of your machine
Deflection of the piston rod has been reduced by increasing the precision of the bushing and piston rod, and reducing the tolerances.

Improved mounting accuracy ensures a secure position of the cylinder during machine operation
High accuracy covers and tie rod nuts simplify the mounting process and also extend cylinder life.



Maximum flexibility for auto-switch mounting
CNOMO and circular grooves are set on all four sides. Auto-switches can slide in the round grooves with no need for accessories.

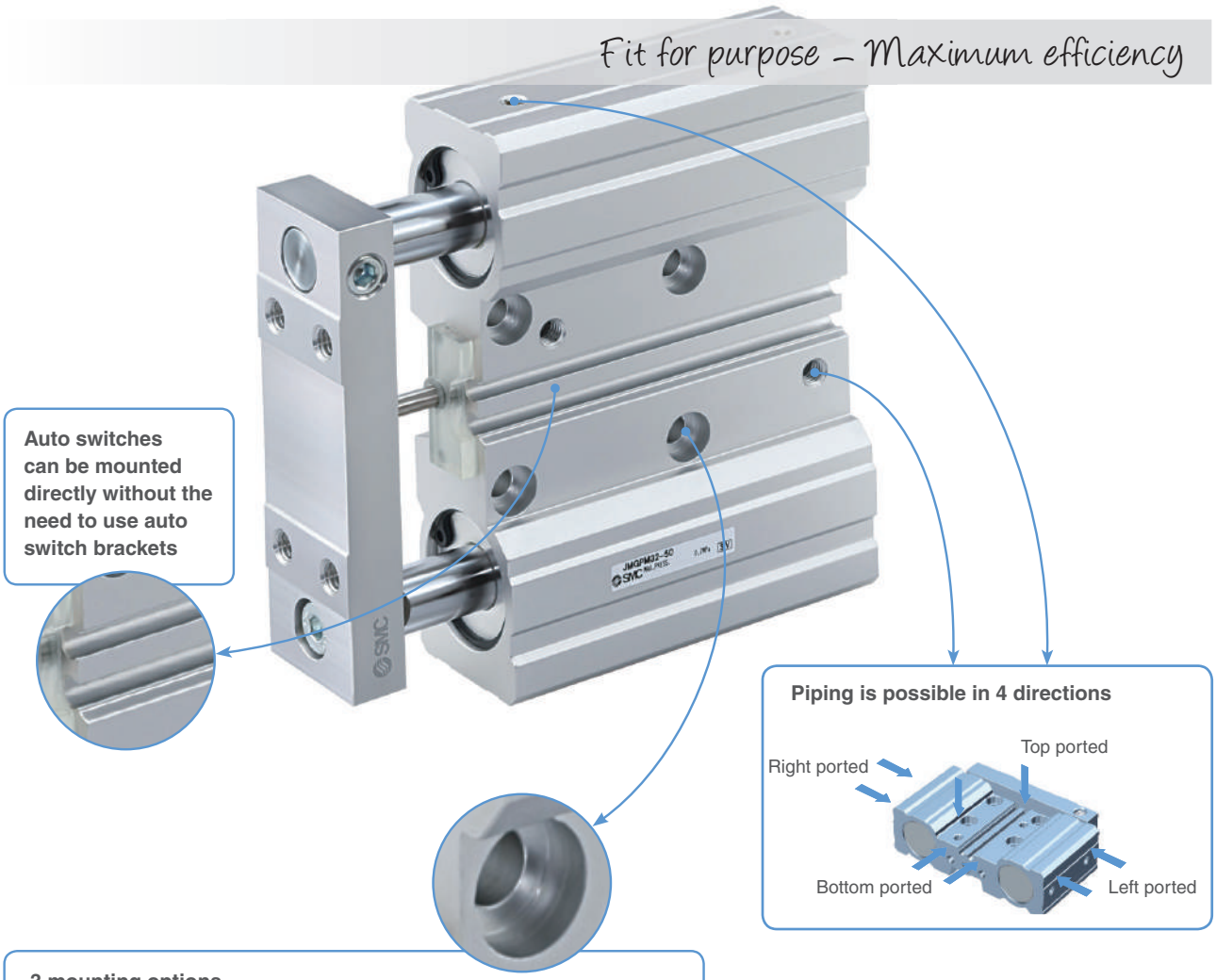


Compact guide cylinder
JMGP Series

For more details
go to page 177

Compact and lightweight

Fit for purpose – Maximum efficiency



Our highlighted product for you

Compact cylinder
JCQ Series

For more details
go to page 147

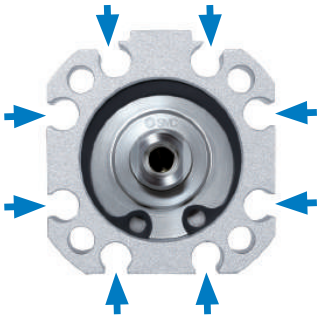
▶ Compact and lightweight

Auto switches can be mounted directly without the need to use auto switch brackets

Fit for purpose – Maximum efficiency

Auto switches do not protrude beyond the body of the cylinder

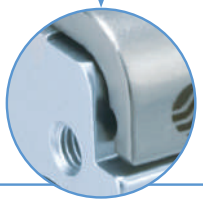
Auto switches can be mounted on 4 surfaces



Air slide table
MXQ Series

For more details
go to page 158

Packed with features, simply the best



Reduced in height and weight with thinner table
– Thin table made of the special stainless steel
– Durable material with the same strength as the existing model.

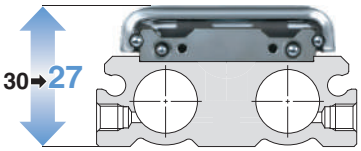
Reduced in height 10 % reduction
27 mm [1] (Conventional model: 30 mm)
(MXQ12A vs. conventional MXQ12)

Product weight 22 % reduction
298 g [1] (Conventional model: 380 g)
(MXQ12A-30ZN vs. conventional MXQ12-30)

Allowable kinetic energy 64 % improvement
0.09 J (Conventional model: 0.055 J)

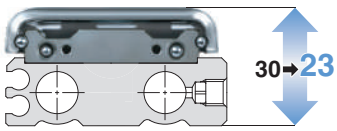
1) Comparison between the double ported type and existing MXQ12-30 (without adjuster).

Double ported type MXQ□A
Increase flexibility of wiring and piping with piping ports and auto switch mounting grooves on both sides.



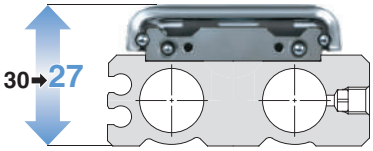
For MXQ12A

Low thrust with high rigidity type MXQ□B
Combination with a cylinder of one bore size smaller increases rigidity according to thrust. Possible to reduce in height.



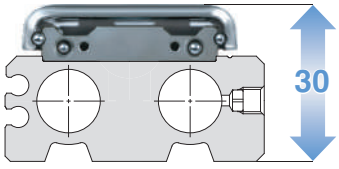
For MXQ8B

Single side ported type MXQ□C
Better visibility for auto switches. Indicator LED can be checked from one side when used with short stroke.



For MXQ12C

Height interchangeable type MXQ□
Height interchangeable as the existing MXQ series.



For MXQ12

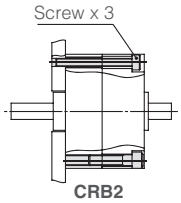
Our highlighted product for you

Rotary actuator
CRB2 Series

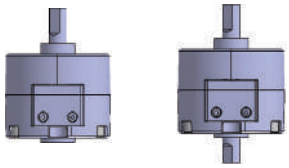
For more details
go to page 202

Many combinations available!

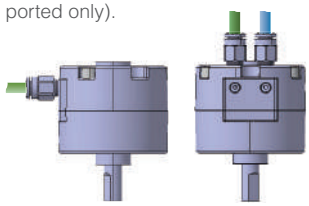
Direct mounting
The rotary actuator body can be mounted directly.
Not possible for size 10 to 40 with unit(s).



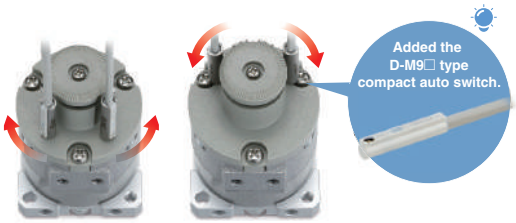
Two shaft options available
Single shaft Double shaft



Connecting port location: Side ported or axial ported
The port location can be selected according to the application
(Size 10 to 40 with unit(s) are side ported only).



The mounting position of the auto switch can be set freely
The switch can be fixed in the desired position in the circumferential direction.



With auto switch unit

With angle adjuster unit

With auto switch unit + With angle adjuster unit

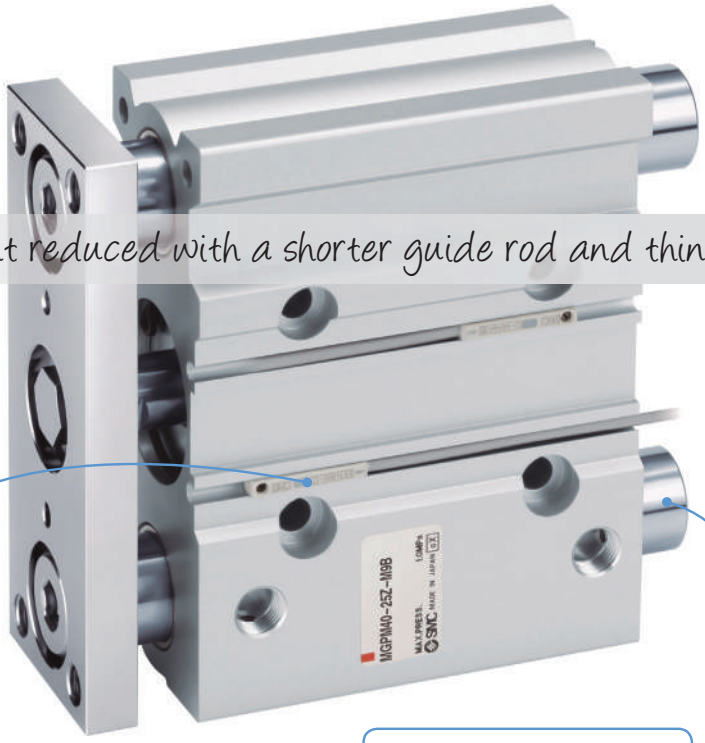
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Compact guide cylinder, basic type

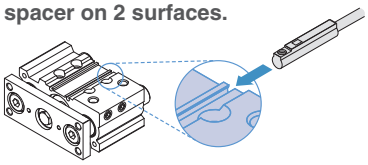
MGP Series

For more details go to page 175

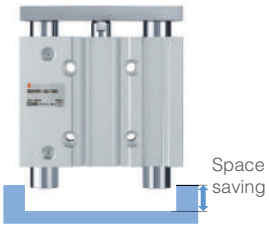
Weight reduced with a shorter guide rod and thinner plate



Round type auto switches can be mounted directly without spacer on 2 surfaces.

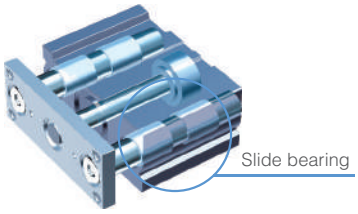


Guide rod shortened
Space required between the bottom of the cylinder body and your equipment is reduced.

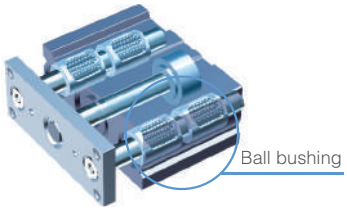


▸ 3 types of bearing can be selected.

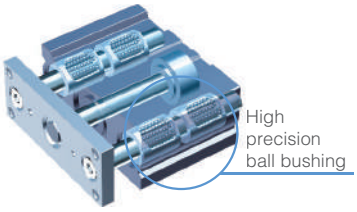
– SLIDE BEARING MGPM Series
Suitable for lateral load applications such as a stopper where shock is applied.



– BALL BUSHING MGPL Series
Smooth operation suitable for pusher and lifter.



– HIGH PRECISION BALL BUSHING MGPA Series. Suitable for minimising plate displacement.



Our highlighted product for you

Magnetic gripper
MHM-X6400 Series

For more details
go to page 221

Performs optimally, where others don't

Auto switches can be mounted on 4 surfaces

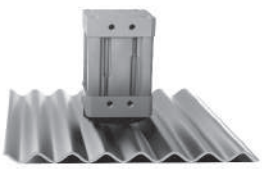
Mountable on 3 surfaces

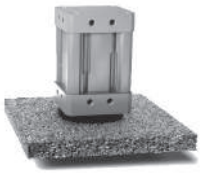
Holding force can be adjusted with a bumper with 3 types of thicknesses

– 6 mm
– 7 mm
– 8 mm

- **Holding force up to 120 N**
- **Holds workpieces even when air is shut off**
- **Residual holding force 0.3 N or less**

- **MHM performs optimally in applications where vacuum pads or grippers are not performing efficiently, e.g. due to porous or uneven surfaces.**





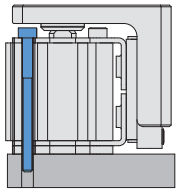
Compact cylinder with linear guide

MXZ Series

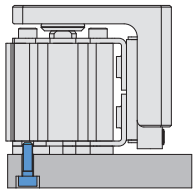
For more details go to page 156

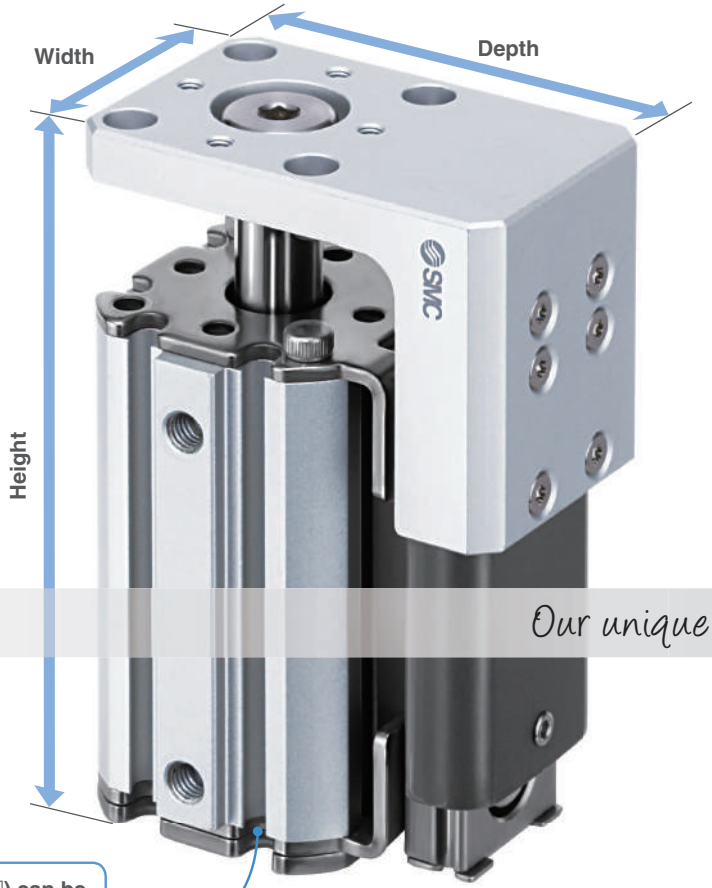
Two mounting styles are possible through the head cover

Through-hole mounting



Tap mounting





Our unique combination

Compact auto switches (D-M9□) can be directly mounted on 3 surfaces without accessories

Port location is selectable when ordering the product

▸ A linear guide is integrated into the cylinder

The linear guide provides accuracy and ensures linearity when transferring workpieces. It is able to withstand lateral loads.

▸ MXZ uses the body of our JCQ, the compact version of a compact cylinder

Ø	Width [mm]	Height [1] [mm]	Depth [mm]
12	23	44	37.4
16	26	45	40.9
20	30	49.5	49.4
25	33.5	54	57.4

1) When stroke is 10 mm.

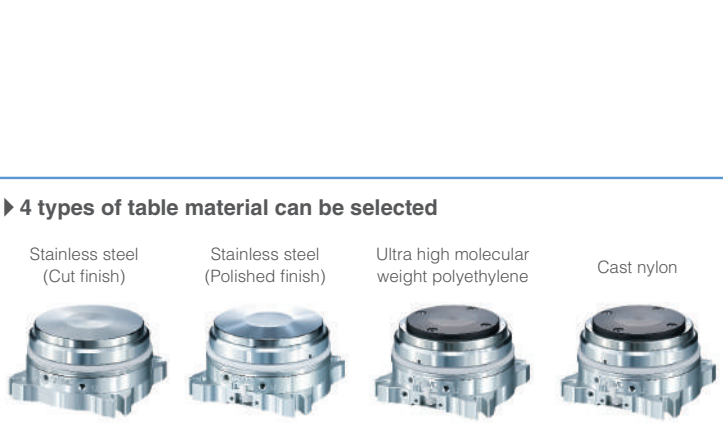
Our highlighted product for you

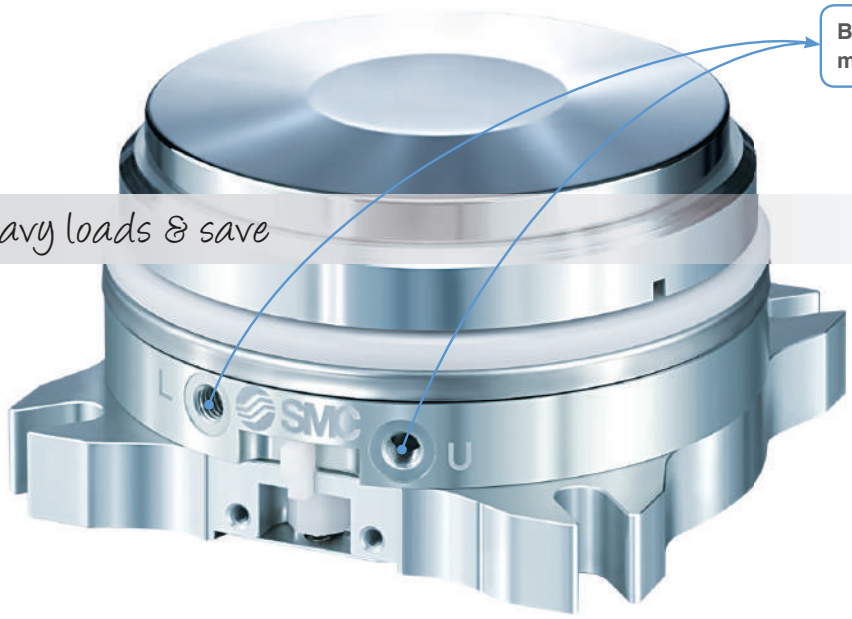
Centring unit
MACM Series

For more details
go to page 197

4 types of table material can be selected

Stainless steel (Cut finish)	Stainless steel (Polished finish)	Ultra high molecular weight polyethylene	Cast nylon

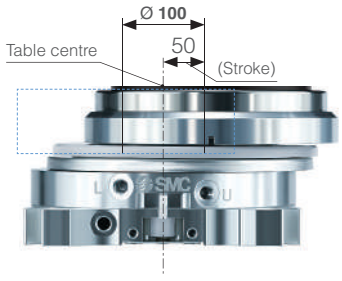




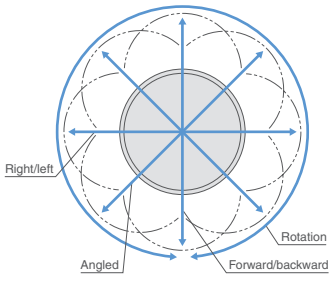
Convey heavy loads & save

- **Heavy workpieces can be aligned and positioned with small cylinders**
- **Max. allowable load weight up to 1000 kg**
- **External photo sensor can be mounted**

Table centre movable range up to Ø 100 mm



Workpieces can be moved in any direction and even rotated 360°
Centring accuracy ±1 mm or less.

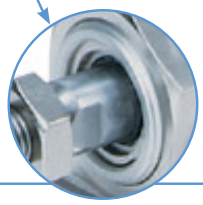


For more product options and details please refer to the specific catalogues in our website: www.smc.eu

ISO/CETOP/DIN Standard [ISO 6432]
Round crimped body cylinder
C85 Series

For more details
go to page 126

A clean profile for dusty environments



Unique rod packing design that **PREVENTS THE ENTRY OF DUST** and its effectiveness of the seal is such that it is suitable for use in dusty environments, regardless of whether the environments are at high or low temperatures, or if you need to move slowly or work in explosive atmospheres.

FLEXIBILITY for auto-switch mounting

Band

Rail

Cushion

– Rubber cushion as standard.
– Adjustable air cushion from bore 10 mm.

WIDE RANGE of mounting accessories as:

Single knuckle joint

Double knuckle joint

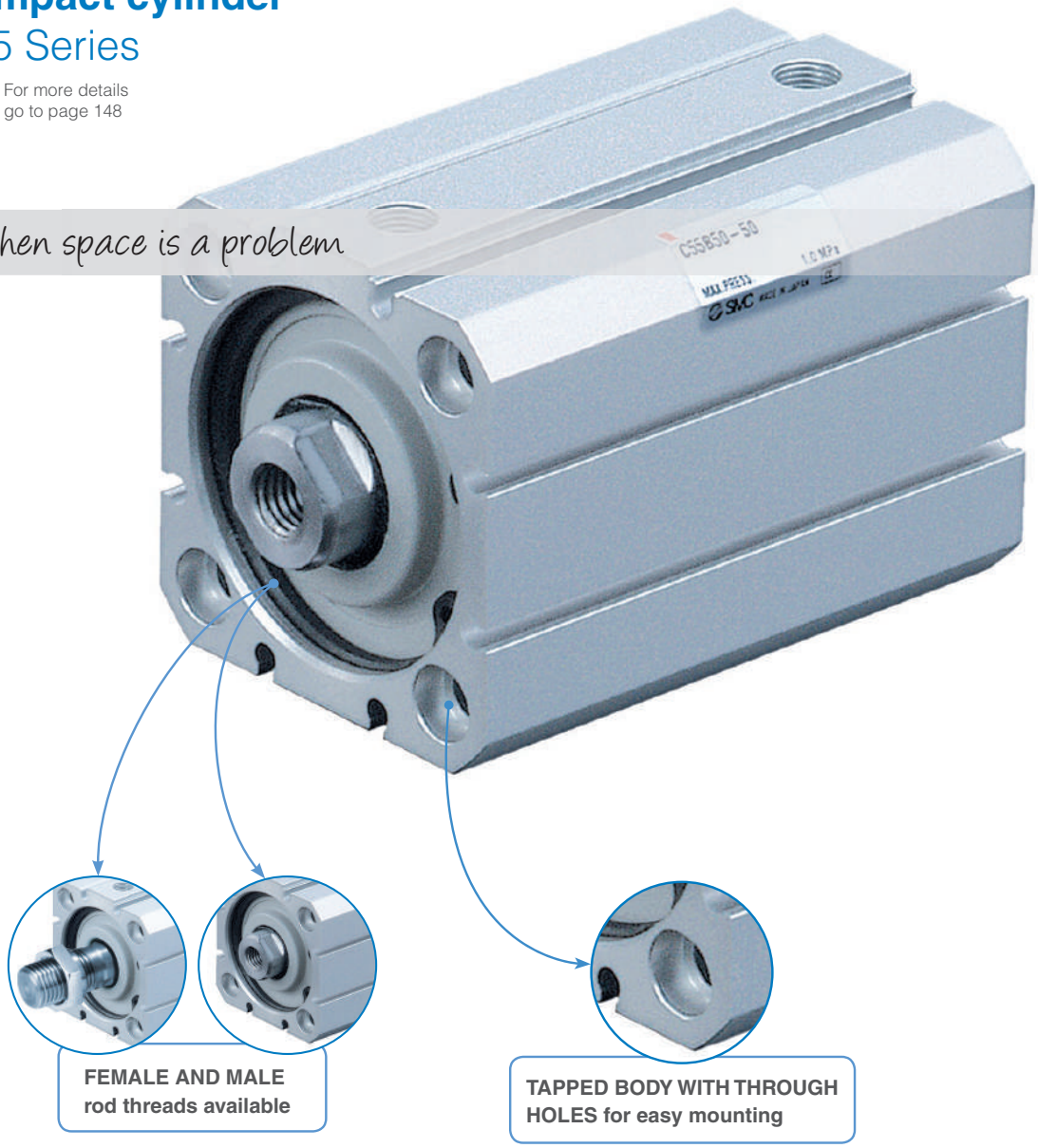
Floating joint

Our highlighted product for you

ISO Standard [ISO 21287]
Compact cylinder
C55 Series

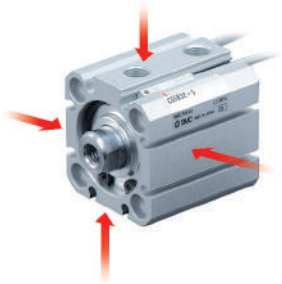
For more details
go to page 148

When space is a problem



It is possible to mount small auto switches on 4 SURFACES

Auto switches can be mounted on any of the 4 surfaces, depending on the installation conditions. Improved flexibility of system design.



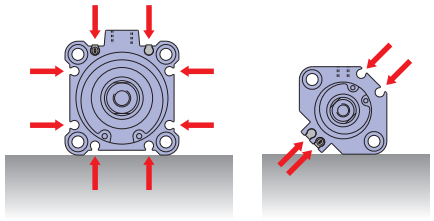
Operating piston speed UP TO 500 mm/s

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Compact cylinder
CQ2 Series

For more details
go to page 143

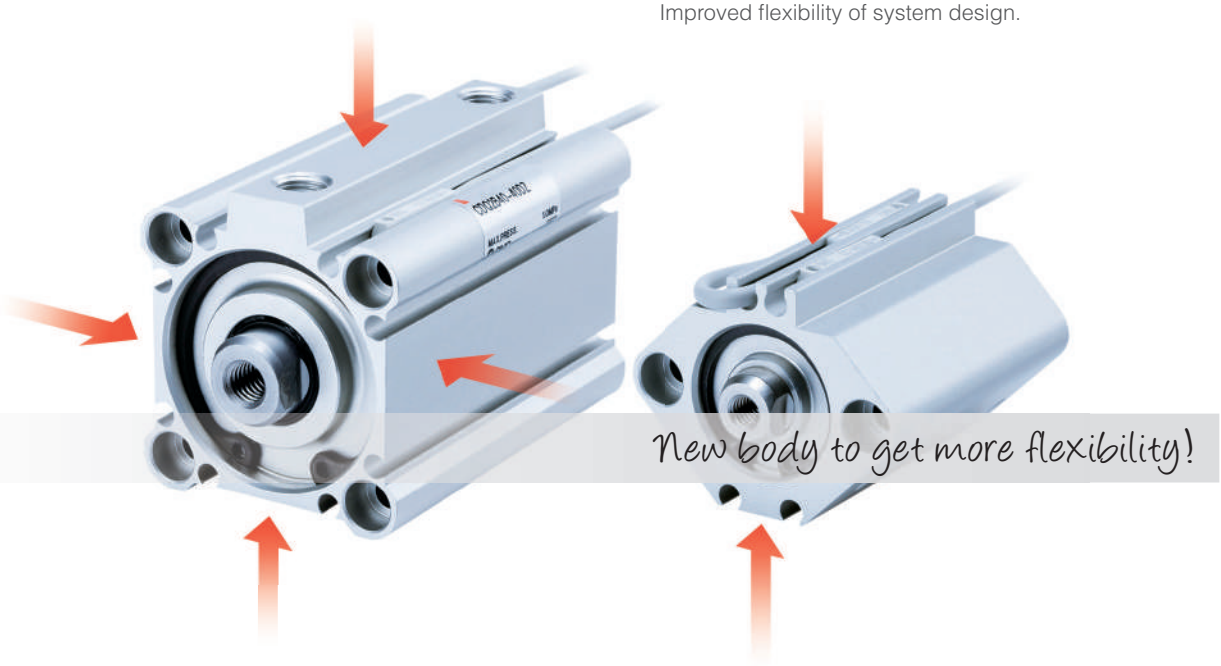
Auto switch MOUNTING RAIL REMOVED
A round slot for mounting small auto switches is provided on 4 SURFACES



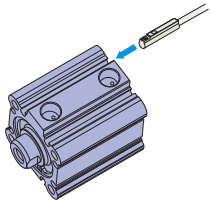
NO PROTRUSION of auto switch
- Prevention of damage to auto switch.
- Sleeves cannot get caught in the auto switch and its mounting rail

Improved ease of work and safety
- Reduction in labour for design
  There is no need to check for interference with a machine, because the outer dimensions of the cylinder do not change when the auto switch is mounted.

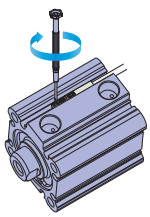
Can mount small auto switches on 4 SURFACES
Auto switches can be mounted on any of the 4 surfaces, depending on the installation conditions. (Ø 12 to Ø 25: 2 surfaces)
Improved flexibility of system design.



Reduction in labour for WORK
– Reduction in number of components
– No loss of components.

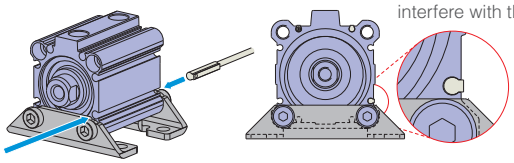


Insert the auto switch.

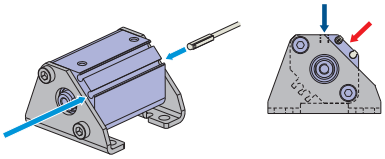


Fix the auto switch.

Reduction in labour for DESIGN
– The auto switch can de replaced with the foot brackets mounted.



The bracket does not interfere with the slot



Port side and auto switch side are near each other for easy handling

Standard air cylinders

Air cylinder
CJ1 Series

- Compact design
- Easy mounting
- For sensitive force applications.

Part number	Bore size [mm]	Stroke length [mm]	Theoretical output [N] 1)	Spring force [N]	Tube connection size [mm]
CJ1B2-5SU4 ●	2.5	5	1.81	0.64	2,5 x 4 mm
CJ1B2-10SU4 ●		10			
CJ1B4-5SU4 ●	4	5	4.52	1.47	
CJ1B4-10SU4 ●		10			
CJ1B4-15SU4 ●		15			
CJ1B4-20SU4 ●		20			

1) at 0.6 MPa

Pin cylinder
CJP Series

- Compact round design, thread continuous over the whole body
- Panel or plug mounting possible.

Part number	Bore size [mm]	Stroke length [mm]	Theoretical output [N] 1)	Spring force [N]	Tube connection nipple [mm]
CJPB4-5 ●	4	5	6.00	1.00	M3
CJPB4-10 ●		10			
CJPB4-15 ●		15			
CJPB6-5H6 ●	6	5	15.9	1.42	Outside 6 mm
CJPB6-10H6 ●		10			
CJPB6-15H6 ●		15			
CJPB10-5H6 ●	10	5	49.0	2.45	
CJPB10-10H6 ●		10			
CJPB10-15H6 ●		15			
CJPB15-5H6 ●	15	5	113	4.41	
CJPB15-10H6 ●		10			
CJPB15-15H6 ●		15			

1) at 0.7 MPa.
Plug-mounting on request.

Accessories

Bore size [mm]	Ø 4	Ø 6	Ø 10	Ø 15
Mounting nut	SNPS-004	SNPS-006	SNPS-010	SNPS-015
Rod end nut	NTJ-004	NTP-006	NTP-010	NTP-015

Hose nipple dedicated for panel mount type (with fixed orifice)

Applicable tubing	Part number
For Ø 4 / Ø 2.5 tubing	CJ-5H-4
For Ø 4 / Ø 6 tubing	CJ-5H-6

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Pin cylinder

CJP2 Series

- Double acting, single rod
- Small and light
  - – Full length shortened by 6 to 9.5 mm compared with Series CJP
  - – Weight reduced by 55 to 65 % compared with Series CJP.
- Auto switch can be integrated into body.

Double-acting, rubber cushion, built-in magnet

Part number	Bore size [mm]	Stroke length [mm]	Thread connection	Possible auto switches
CDJP2B4-□D ●	4	5, 10, 15	M3	Reed: D-A93L 3 wire solid state: NPN: D-M9NL / PNP: D-M9PL 2 wire solid state: D-M9BL
CDJP2B6-□D ●	6	5, 10, 15, 20, 25	M3	
CDJP2B10-□D ●	10	5, 10, 15, 20, 25, 30, 35, 40	M3	
CDJP2B16-□D ●	16		M5	

□ Stroke length

Accessories

Bore size [mm]	Ø 6	Ø 10	Ø 16
Flange	CP-F006A	CP-F010A	CP-F016A
Foot	CP-L006A	CP-L010A	CP-L016A
Trunnion (with pin)	CP-T006A	CP-T010A	CP-T016A
Single knuckle joint	I-P006A	I-P010A	I-P016A
Double knuckle joint	Y-P006A	Y-P010A	Y-P016A

Air cylinder
CJ2 Series

- Fine adjustment of the auto switch position
- Transparent auto switch bracket
- Many head covers and mounting brackets available as standard
- Wear ring mounted to the piston.

Single acting
CJ2-Z Series

Non-rotating rod
CJ2K-Z Series

Built-in speed controller
CJ2Z-Z Series

Direct mount
CJ2R-Z Series

With end lock
CBJ2 Series

Smooth cylinder
CJ2Y-Z Series

Low speed
CJ2X-Z Series

Double acting - Rubber cushion

Part number	Bore size [mm]	Standard strokes [mm]	Rod end thread	Port size	Operating pressure [MPa]
C□J2B06-■Z	6	15, 30, 45, 60	M3 x 0.5	M5 x 0.8	0.12 ~ 0.7
C□J2B10-■Z ●	10	15, 30, 45, 60, 75, 100, 125, 150	M4 x 0.7		0.06 ~ 0.7
C□J2B16-■Z ●	16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200	M5 x 0.8		

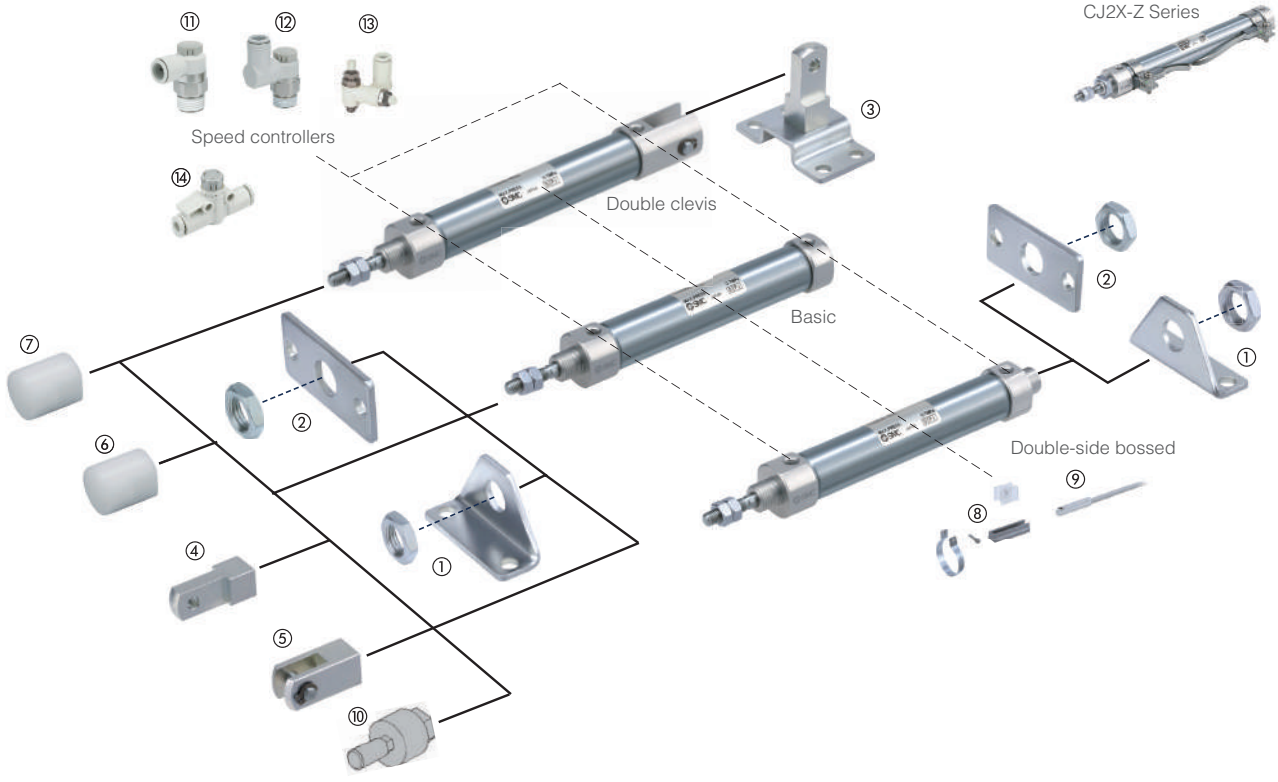
■: Insert required stroke
□: Insert "D" if magnetic version is required. When inserting D add a "-A" for rail mounting or "-B" for band mounting.
W: Double rod also available, place a "W" after C□M2 if you want to order it.

Double acting - Air cushion

Part number	Bore size [mm]	Standard strokes [mm]	Rod end thread	Port size	Operating pressure [MPa]
C□J2B10-■AZ	10	15, 30, 45, 60, 75, 100, 125, 150	M4 x 0.7	M5 x 0.8	0.1 ~ 0.7
C□J2B16-■AZ	16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200	M5 x 0.8		

■: Insert required stroke
□: Insert "D" if magnetic version is required. When inserting D add a "-A" for rail mounting or "-B" for band mounting.
W: Double rod also available, place a "W" after C□M2 if you want to order it.

CJ2 - Accessories / Related products



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mounting brackets									
Bore size [mm]	①	②	③	④	⑤	⑥	⑦	⑧	⑩
	Foot	Flange	T-bracket [1]	Single knuckle joint	Double knuckle joint [2]	Rod end cap (Flat type)	Rod end cap (Round type)	Auto switch mounting brackets	Floating joint for male thread
6	CJ-L006C	CJ-F006C	—	—	—	CJ-CF006	CJ-CR006	BJ6-006	JA06-3-050
10	CJ-L010C	CJ-F010C	CJ-T010C	I-J010C	Y-J010C	CJ-CF010	CJ-CR010	BJ6-010	JA10-4-070
16	CJ-L016C	CJ-F016C	CJ-T016C	I-J016C	Y-J016C	CJ-CF016	CJ-CR016	BJ6-016	JA15-5-080

1) T-bracket is used with double clevis (D). Double clevis is only available for Ø 10 and Ø 16.
2) A knuckle pin and retaining rings are included.

⑨		
Solid state auto switch - Diagnostic indication (2-colour display)		
Part number	Wiring	Cable
D-M9NWL	3-wire (NPN)	3 m
D-M9PWL	3-wire (PNP)	
D-M9BWL	2-wire	

Port size	Bore size [mm]	Ø tube	⑪	⑫	⑬	⑭
			Speed controller elbow type	Speed controller universal type	Dual speed controller	Speed controller in-line type
M5 x 0.8	06 10 16	3.2	AS1201F-M5-23A	AS1301F-M5-23A	—	AS1002F-23A
		4	AS1201F-M5-04A	AS1301F-M5-04A	ASD230F-M5-04	AS1002F-04A
		6	AS1201F-M5-06A	AS1301F-M5-06A	ASD230F-M5-06	AS1002F-06A

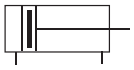
Reed auto switch		
Part number	Wiring	Cable
D-A96L	3-wire (NPN equivalent)	3 m
D-A93L	2-wire	

Our highlighted product for you

ISO/CETOP/DIN Standard [ISO 6432]
Round crimped body cylinder
C85 Series

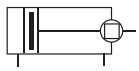
- Single or double acting
- Cylinders with adjustable cushion from Ø 10 mm
- Cylinder body made from corrosion resistant materials
- Two options for autoswitch mounting possible using band or rail
- Special seals fitted as standard for oil-free operation and band low friction type.

Standard cylinder, double-acting, built-in magnet, rubber bumper

Cylinder Ø [mm]	Standard strokes [mm]	Max. stroke [mm]	Part number with Auto switch mounting style Band mounting	Circuit symbol
8	10, 25, 40, 50, 80, 100	200	**CD85N8-□-B** ●	
10		400	**CD85N10-□-B** ●	
12	10, 25, 40, 50, 80, 100, 125, 160, 200		**CD85N12-□-B** ●	
16			**CD85N16-□-B** ●	
20	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000	**CD85N20-□-B** ●	
25			**CD85N25-□-B** ●	

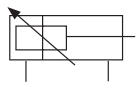
□: Stroke length

Non-rotating, double-acting, built-in magnet

Cylinder Ø [mm]	Standard strokes [mm]	Max. stroke [mm]	Part number with Auto switch mounting style Band mounting	Circuit symbol
8	10, 25, 40, 50, 80, 100	100	**CD85KN8-□-B**	
10			**CD85KN10-□-B**	
12	10, 25, 40, 50, 80, 100, 125, 160, 200	200	**CD85KN12-□-B**	
16			**CD85KN16-□-B**	
20	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000	**CD85KN20-□-B**	
25			**CD85KN25-□-B**	

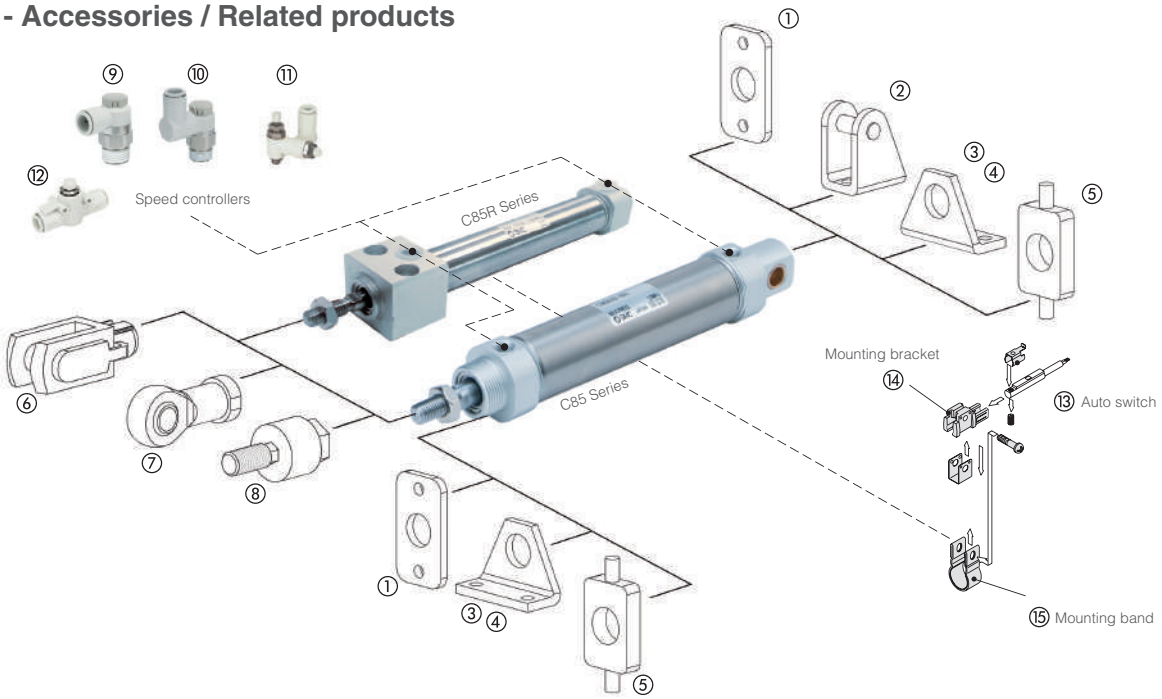
□: Stroke length
Ø 8, 10 and 16 on request

Standard cylinder, double-acting, built-in magnet, air cushion

Cylinder Ø [mm]	Standard strokes [mm]	Max. stroke [mm]	Part number with Auto switch mounting style Band mounting	Circuit symbol
10	10, 25, 40, 50, 80, 100	400	**CD85N10-□C-B** ●	
12	10, 25, 40, 50, 80, 100, 125, 160, 200		**CD85N12-□C-B** ●	
16			**CD85N16-□C-B** ●	
20	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000	**CD85N20-□C-B** ●	
25			**CD85N25-□C-B** ●	

A wide variety of different designs is available, such as double piston rods, alternative cylinder head cover designs, without magnet, single-acting, etc.

C85 - Accessories / Related products



Bore size [mm]	① Front / Rear flange	② Clevis	③ Foot [1] (1pc)	④ Foot (2 pcs)	⑤ Front / rear trunnion	⑥ Rod clevis (ISO8140) (Supplied with bolt and safety device)	⑦ Piston rod ball joint (ISO8139)	⑧ Floating joint
8	C85F10	C85C10	C85L10A	C85L10B	C85T10	GKM4-8	KJ4D	JA10-4-070
10								
12	C85F16	C85C16	C85L16A	C85L16B	C85T16	GKM6-12	KJ6D	JA15-6-100
16								
20	C85F25	C85C25	C85LA25	C85L25B	C85T25	GKM8-16	KJ8D	JA20-8-125
25						GKM10-20	KJ10D	JA30-10-125

1) 2 pcs with mounting nut 1 pc.

Bore size [mm]	⑫ Speed controller in-line type	
	Ø tube	Part number
8 10 12 16	3.2	AS1002F-23
	4	AS1002F-04
	6	AS1002F-06
20	3.2	AS1002F-23
	4	AS2002F-04
	6	AS2052F-06
	8	AS2052F-08
25	4	AS2002F-04
	6	AS2052F-06
	8	AS2052F-08

Bore size [mm]	Ø tube	⑨ Speed controller elbow type	⑩ Speed controller universal type	⑪ Dual speed controller
		Part number	Part number	Part number
8 10 12 16	3.2	AS1201F-M5-23A	AS1301F-M5-23A	—
	4	AS1201F-M5-04A	AS1301F-M5-04A	ASD230F-M5-04
	6	AS1201F-M5-06A	AS1301F-M5-06A	ASD230F-M5-06
20 25	3.2	AS2201F-01-23SA	AS2301F-01-23SA	—
	4	AS2201F-01-04SA	AS2301F-01-04SA	—
	6	AS2201F-01-06SA	AS2301F-01-06SA	ASD330F-01-06S
	8	AS2201F-01-08SA	AS2301F-01-08SA	ASD330F-01-08S
	10	AS2201F-01-10SA	—	—

⑬ Auto Switch		
Solid state type - 2 colour indication		
Part number	Wiring	Cable
D-M9BWL	2-wire	3 m
D-M9PWL	3-wire PNP	3 m
D-M9PWSAPC	M8-3pin PNP	0.5 m

Reed type		
Part number	Wiring	Cable
D-A93L	2-wire	3 m
D-A93SAPC	M8-3pin	0.5 m

⑭ Auto switch mounting bracket	⑮ Auto switch mounting band
BJ3-1	BJ2-008
	BJ2-010
	BJ2-012
	BJ2-016
	BM2-020
	BM2-025

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air cylinder
CM2 Series

- Fine adjustment of the auto switch position
- Transparent auto switch bracket
- Male and female rod end available as standard
- Many mounting brackets available.

Double acting - Rubber cushion

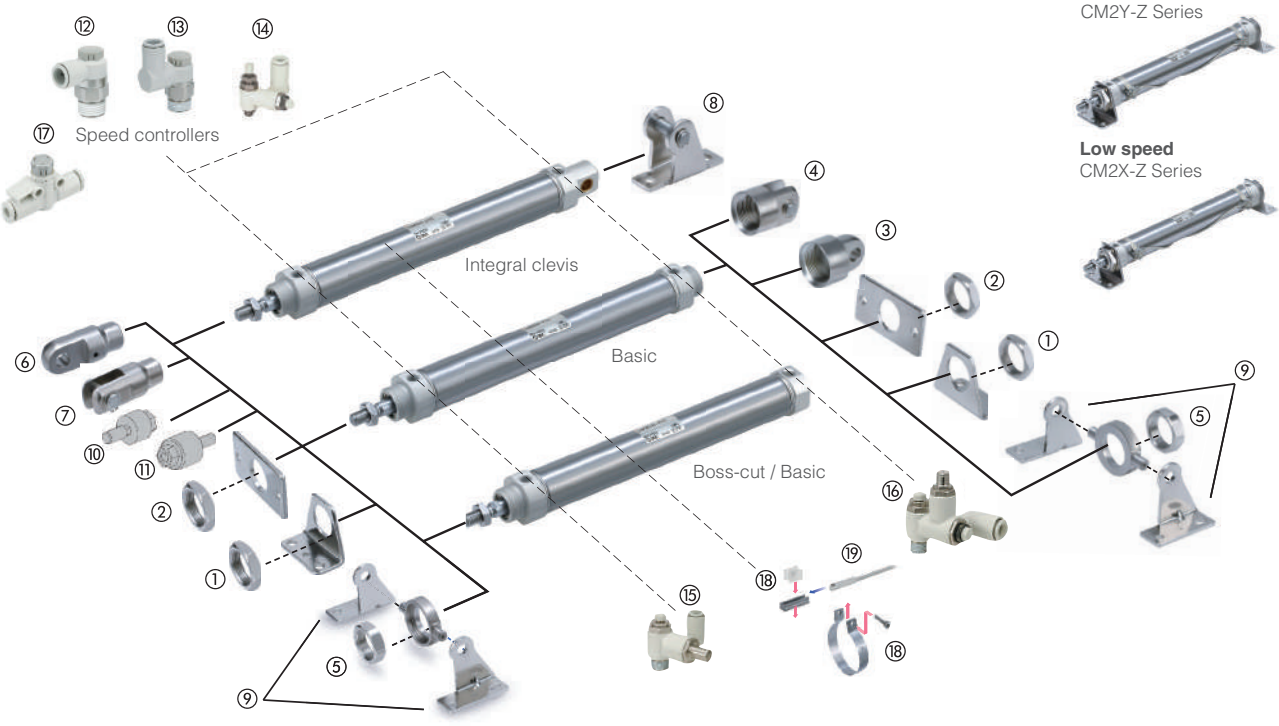
Part number	Bore size [mm]	Standard strokes [mm]	Male rod end thread	Port size	Operating pressure [MPa]
C□M2B20-■Z	20	25, 50, 75, 100, 125, 150, 200, 250, 300	M8 x 1.25	Rc1/8	0.05 ~ 1.0
C□M2B25-■Z	25		M10 x 1.25		
C□M2B32-■Z	32				
C□M2B40-■Z	40		M14 x 1.5	Rc1/4	

Double acting - Air cushion

Part number	Bore size [mm]	Standard strokes [mm]	Male rod end thread	Port size	Operating pressure [MPa]
C□M2B20-■AZ	20	25, 50, 75, 100, 125, 150, 200, 250, 300	M8 x 1.25	Rc1/8	0.05 ~ 1.0
C□M2B25-■AZ	25		M10 x 1.25		
C□M2B32-■AZ	32				
C□M2B40-■AZ	40		M14 x 1.5	Rc1/4	

■: Insert required stroke
□: Insert "D" if magnetic version is required
F: Female thread also available, place a "F" after the stroke if you want to order it
W: Double rod also available, place a "W" after C□M2 if you want to order it.

CM2 - Accessories / Related products



Single acting
CM2-Z Series

Non-rotating rod
CM2K-Z Series

Direct mount
CM2R-Z Series

Centralised piping
CM2□P Series

With end lock
CBM2 Series

Water resistant
CM2□$^{R}_{V}$ Series

Smooth cylinder
CM2Y-Z Series

Low speed
CM2X-Z Series

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mounting bracket											
Bore size [mm]	① Foot (2 feet, 1 mounting nut) [1]	② Flange (1 flange)	③ Single clevis (1 single clevis, 3 liners) [2]	④ Double clevis (with pin) 1 double clevis, 3 liners, 1 clevis pin, 2 retaining rings [2][3]	⑤ Trunnion (with nut) 1 trunnion, 1 trunnion nut	⑥ Single knuckle joint (1 single knuckle joint) (For male thread)	⑦ Double knuckle joint (1 double knuckle joint, 1 clevis pin, 2 retaining rings) (For male thread)	⑧ Clevis pivot bracket for integral clevis (1 clevis pivot bracket, 1 clevis pin, 2 retaining rings)	⑨ Pivot bracket for trunnion (2 pivot brackets 1 of each type)	⑩ Floating joint for male thread	⑪ Floating joint for female thread
20	CM-L020B	CM-F020B	CM-C020B	CM-D020B	CM-T020B	I-020B	Y-020B	CM-E020B	CM-B020	JA20-8-125	JB16-4-070
25	CM-L032B	CM-F032B	CM-C032B	CM-D032B	CM-T032B	I-032B	Y-032B	CM-E020B	CM-B032	JA30-10-125	JB20-5-080
32	CM-L032B	CM-F032B	CM-C032B	CM-D032B	CM-T032B	I-032B	Y-032B	CM-E032B	CM-B032	JA30-10-125	JB25-6-100
40	CM-L040B	CM-F040B	CM-C040B	CM-D040B	CM-T040B	I-040B	Y-040B	CM-E032B	CM-B040	JA40-14-150	JB40-8-125

1) Order 2 foots per cylinder
2) 3 liners are included with a clevis bracket for adjusting the mounting angle
3) A clevis pin and retaining rings (split pins for Ø 40) are included.

Port size	Bore size [mm]	Ø tube	⑫ Speed controller elbow type	⑬ Speed controller universal type	⑭ Dual speed controller	⑮ Air saving valve Pressure valve	⑯ Air saving valve Flow valve	⑰ Speed controller in-line type
1/8	20, 25, 32	3.2	AS2201F-01-23SA	AS2301F-01-23SA	—	—	—	—
		4	AS2201F-01-04SA	AS2301F-01-04SA	—	—	—	AS2002F-04A
		6	AS2201F-01-06SA	AS2301F-01-06SA	ASD330F-01-06S	—	—	AS2002F-06A
		8	AS2201F-01-08SA	AS2301F-01-08SA	ASD330F-01-08S	—	—	—
		10	AS2201F-01-10SA	—	—	—	—	—
1/4	40	3.2	AS2201F-02-23SA	—	—	—	—	—
		4	AS2201F-02-04SA	AS2301F-02-04SA	—	—	—	—
		6	AS2201F-02-06SA	AS2301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	AS2052F-06A
		8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	AS2052F-08A
		10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—

Bore size [mm]	⑱ Auto switch mounting bracket
20	BM5-020
25	BM5-025
32	BM5-032
40	BM5-040

⑲ Solid state auto switch - Diagnostic indication (2-colour display)		
Part number	Wiring	Cable
D-M9NWL	3 wire (NPN)	3 m
D-M9PWL	3 wire (PNP)	
D-M9BWL	2 wire	

Reed auto switch		
Part number	Wiring	Cable
D-A96L	3-wire (NPN equivalent)	3 m
D-A93L	2 wire	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air cylinder, short type

CM3 Series

- Compact with a new construction
- Minimised with shorter total length
- Space saving; contributes to down sizing of equipment.

Standard: Double acting, single rod

Part number	Bore size [mm]	Standard strokes [mm]	Rod end thread	Port size	Operating pressure [MPa]
C□M3B20-■	20	25, 50, 75, 100, 125, 150, 200, 250, 300	M8 x 1.25	M5	0.05 ~ 0.7
C□M3B25-■	25		M10 x 1.25	M5	
C□M3B32-■	32		M10 x 1.25	Rc1/8	
C□M3B40-■	40		M14 x 1.5	Rc1/8	

■: Insert required stroke
□: Insert "D" if magnetic version is required

Mounting brackets

Diameter	Ø 20	Ø 25, 32	Ø 40
Foot	CM-L020B	CM-L032B	CM-L040B
Flange	CM-F020B	CM-F032B	CM-F040B
Single clevis	CM-C020B	CM-C032B	CM-C040B
Double clevis	CM-D020B	CM-D032B	CM-D040B
Trunion	CM3-T020B	CM3-T032B	CM3-T040B

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour PNP	D-M9PWL
3 wire solid state / 2 colour NPN	D-M9NWL

Air cylinder
C76 Series

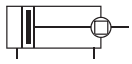
- Single or double acting
- Cushion with rubber bumper or adjustable air cushion
- Connection between piston and piston rod by crimp connection designed for increased dynamic loadings
- Cylinder body made from corrosion resistant material
- Auto switch mounting in two options by band or rail.

Standard cylinder, double-acting built-in magnet, rubber bumper

Bore size [mm]	Standard strokes [mm]	Part number with Auto switch mounting style Band mounting	Circuit symbol
32	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 (max. 1000)	**CD76E32-□-B**	
40		**CD76E40-□-B**	

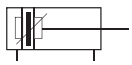
□: Stroke length

Double-acting, non-rotating, built-in magnet

Bore size [mm]	Standard strokes [mm]	Part number with Auto switch mounting style Band mounting	Circuit symbol
32	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 (max. 1000)	**CD76KE32-□-B**	
40		**CD76KE40-□-B**	

□: Stroke length

Double-acting, adjustable cushion, built-in magnet

Bore size [mm]	Standard strokes [mm]	Part number with Auto switch mounting style Band mounting	Circuit symbol
32	40, 50, 80, 100, 125, 160, 200, 250, 300 (max. 1000)	**CD76E32-□C-B**	
40		**CD76E40-□C-B**	

□: Stroke length

A wide variety of different designs is available, such as double piston rods, alternative cylinder head cover designs, without magnet, single-acting, etc.

Possible auto-switches

Reed	D-A93L
3 wire solid state / 2 colour PNP	D-M9PWL
3 wire solid state / 2 colour NPN	D-M9NWL

Accessories

Bore size [mm]	Foot or Flange	Foot or flanges + 1 nut	Trunnion	Clevis	Single knuckle joint	Double knuckle joint	Floating joint
32	C76F32A	C76F32B	C76T32	C76C32	KJ10DA	GKM10-20	JA25-10-150
40	C76F40A	C76F40B	C76T40	C76C40	KJ12DA	GKM12-24A	JA40-12-175

Air cylinder
CG1 Series

- Clean line
- A substantial reduction in overall length compared to tie rod designed cylinders
- Male and female rod end available as standard.

Single acting
CG1 Series

Non-rotating rod
CG1K Series

Direct mount
CG1R Series

With end lock
CBG1 Series

Water resistant
CG1□ R V Series

Double acting - Rubber cushion

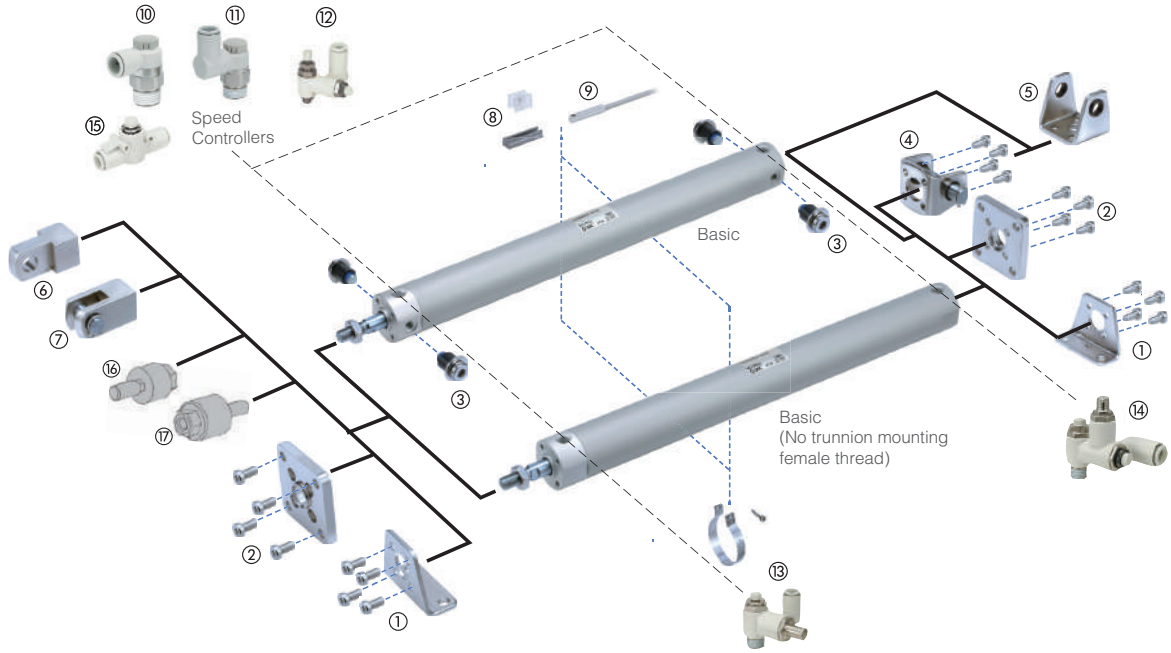
Part number	Bore size [mm]	Standard strokes [mm]	Male rod end thread	Port size	Operating pressure [MPa]
C□G1BN20-■Z ●	20	25, 50, 75, 100, 125, 150, 200	M8 x 1.25	Rc1/8	0.05 ~ 1.0
C□G1BN25-■Z ●	25	25, 50, 75, 100, 125, 150, 200, 250, 300	M10 x 1.25		
C□G1BN32-■Z ●	32				
C□G1BN40-■Z ●	40		M14 x 1.5		
C□G1BN50-■Z ●	50		M18 x 1.5	Rc1/4	
C□G1BN63-■Z ●	63				
C□G1BN80-■Z	80		M22 x 1.5	Rc3/8	
C□G1BN100-■Z	100		M26 x 1.5	Rc1/2	

Double acting - Air cushion

Part number	Bore size [mm]	Standard strokes [mm]	Male rod end thread	Port size	Operating pressure [MPa]
C□G1BA20-■Z	20	25, 50, 75, 100, 125, 150, 200	M8 x 1.25	M5 x 0.8	0.05 ~ 1.0
C□G1BA25-■ Z	25	25, 50, 75, 100, 125, 150, 200, 250, 300	M10 x 1.25		
C□G1BA32-■Z	32			Rc1/8	
C□G1BA40-■Z	40		M14 x 1.5		
C□G1BA50-■Z	50		M18 x 1.5	Rc1/4	
C□G1BA63-■Z	63				
C□G1BA80-■Z	80		M22 x 1.5	Rc3/8	
C□G1BA100-■Z	100		M26 x 1.5	Rc1/2	

■: Insert required stroke
□: Insert "D" if magnetic version is required
W: Double rod also available, place a "W" after C□G1 if you want to order it
F: Female thread also available, place a "F" before the "Z" if you want to order it.

CG1 - Accessories / Related products



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mounting brackets [1]										
Bore size [mm]	① Axial foot (foot 4 mounting bolts) [6]	② Flange (1 flange, 4 mounting bolts)	③ Trunnion pin (2 trunnion pins, 2 trunnion bolts, 2 flat washers)	④ Clevis (1 clevis, 4 mounting bolts, 1 clevis pin, 2 retaining rings) [2]	⑤ Pivot bracket (1 pivot bracket) [3]	⑥ Single Knuckle joint (For male thread) [4]	⑦ Double Knuckle joint (A knuckle pin and retaining rings are included) (For male thread) [4]	⑧ Auto switch mounting brackets	⑯ Floating joint for male thread [4]	⑰ Floating joint for female thread [5]
20	CG-L020	CG-F020	CG-T020	CG-D020	CG-020-24A	I-G02	Y-G02	BMA3-020	JA20-8-125	JB16-4-070
25	CG-L025	CG-F025	CG-T025	CG-D025	CG-025-24A	I-G03	Y-G03	BMA3-025	JA30-10-125	JB20-5-080
32	CG-L032	CG-F032	CG-T032	CG-D032	CG-032-24A	I-G03	Y-G03	BMA3-032	JA30-10-125	JB25-6-100
40	CG-L040	CG-F040	CG-T040	CG-D040	CG-040-24A	I-G04	Y-G04	BMA3-040	JA40-14-150	JB40-8-125
50	CG-L050	CG-F050	CG-T050	CG-D050	CG-050-24A	I-G05	Y-G05	BMA3-050	JA63-18-150	JB63-10-150
63	CG-L063	CG-F063	CG-T063	CG-D063	CG-063-24A	I-G05	Y-G05	BMA3-063	JA63-18-150	JB63-10-150
80	CG-L080	CG-F080	—	CG-D080	CG-080-24A [2]	I-G08	Y-G08	BA-08	JA80-22-150	—
100	CG-L100	CG-F100	—	CG-D100	CG-100-24A [2]	I-G10	Y-G10	BA-10	JA100-26-150	—

1) Mounting brackets are not available in Direct Mount type
2) Not available in Double Rod types
3) Can be combined with the trunnion pin and the clevis
4) No bracket is provided for the female rod end
5) No bracket is provided for the male rod end
6) Order 2 foots per cylinder.

⑨			
Solid state auto switch - Diagnostic indication (2-colour display)			
Ø 20 to Ø 63	Ø 80, Ø 100	Wiring	Cable
D-M9NWL	D-G59WL	3-wire (NPN)	3 m
D-M9PWL	D-G5PWL	3-wire (PNP)	
D-M9BWL	D-K59WL	2-wire	

Reed auto switch			
Ø 20 to Ø 63	Ø 80, Ø 100	Wiring	Cable
D-A96L	–	3-wire (NPN) equivalent	3 m
D-A93L	D-B54L	2-wire	

CG1-Z Speed controllers

Port size	Bore size [mm]	Ø tube	⑩ Speed controller elbow type	⑪ Speed controller universal type	⑫ Dual speed controller	⑬ Air saving valve Pressure valve	⑭ Air saving valve Flow valve	⑮ Speed controller in-line type
M5 x 0.8 (only in air cushion)	20, 25	3,2	AS1201F-M5-23A	AS1301F-M5-23A	—	—	—	AS1002F-23
		4	AS1201F-M5-04A	AS1301F-M5-04A	ASD230F-M5-04	—	—	AS1002F-04
		6	AS1201F-M5-06A	AS1301F-M5-06A	ASD230F-M5-06	—	—	AS1002F-06
1/8	20, 25, 32, 40	3,2	AS2201F-01-23SA	AS2301F-01-23SA	—	—	—	—
		4	AS2201F-01-04SA	AS2301F-01-04SA	—	—	—	AS2002F-04
		6	AS2201F-01-06SA	AS2301F-01-06SA	ASD330F-01-06S	—	—	AS2002F-06
		8	AS2201F-01-08SA	AS2301F-01-08SA	ASD330F-01-08S	—	—	—
		10	AS2201F-01-10SA	—	—	—	—	—
1/4	50	3,2	AS2201F-02-23SA	—	—	—	—	—
		4	AS2201F-02-04SA	AS2301F-02-04SA	—	—	—	—
		6	AS2201F-02-06SA	AS2301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	AS2052F-06
		8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	AS2052F-08
		10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
1/4	63	3,2	AS2201F-02-23SA	—	—	—	—	—
		4	AS2201F-02-04SA	AS2301F-02-04SA	—	—	—	—
		6	AS2201F-02-06SA	AS2301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	—
		8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	—
		10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
3/8	80	6	AS3201F-03-06SA	AS3301F-03-06SA	ASD530F-03-06S	ASR530F-03-06S	ASQ530F-03-06S	AS3002F-06
		8	AS3201F-03-08SA	AS3301F-03-08SA	ASD530F-03-08S	ASR530F-03-08S	ASQ530F-03-08S	AS3002F-08
		10	AS3201F-03-10SA	AS3301F-03-10SA	ASD530F-03-10S	ASR630F-03-10S	ASQ630F-03-10S	AS3002F-10
		12	AS3201F-03-12SA	AS3301F-03-12SA	ASD530F-03-12S	ASR630F-03-12S	ASQ630F-03-12S	AS3002F-12
1/2	100	10	AS4201F-04-10SA	AS4301F-04-10SA	ASD630F-04-10S	ASR630F-04-10S	ASQ630F-04-10S	AS4002F-10
		12	AS4201F-04-12SA	AS4301F-04-12SA	ASD630F-04-12S	ASR630F-04-12S	ASQ630F-04-12S	AS4002F-12

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air cylinder, short type

CG3 Series

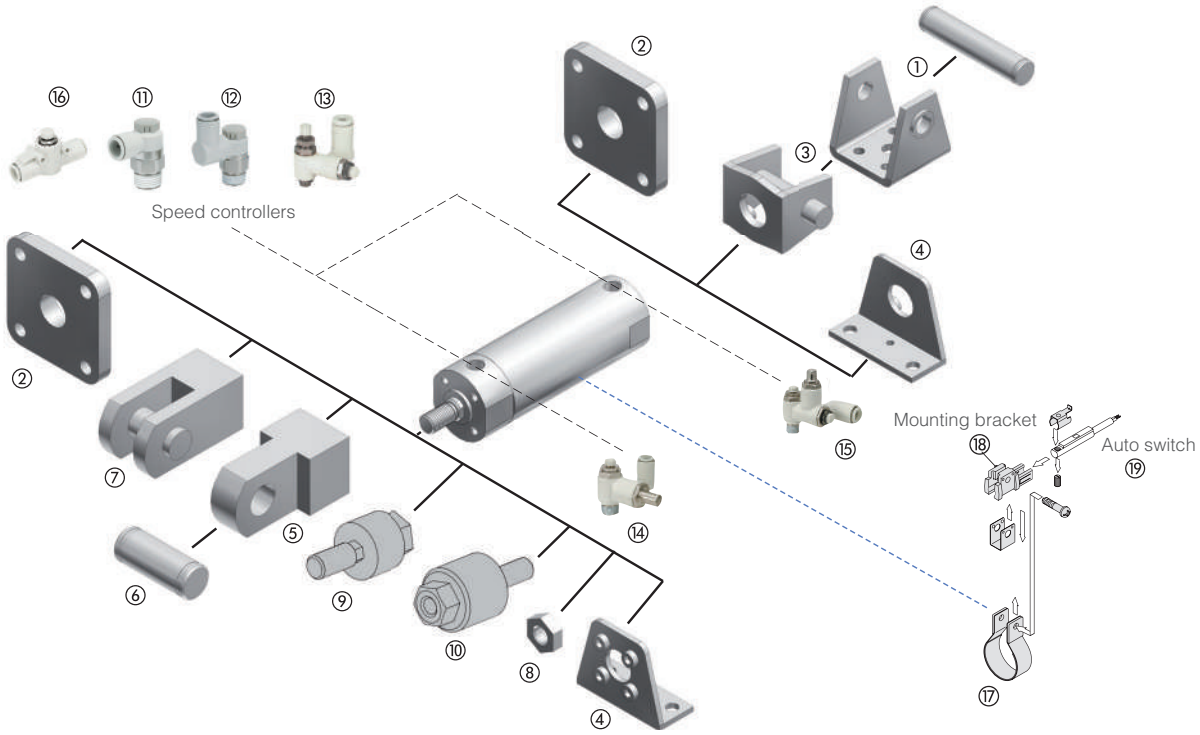
- Space saving
- Light weight, similar operating performance than the CG1
- Female rod end available as standard.

Double acting - Single rod

Part number	Bore size [mm]	Standard strokes [mm]	Male rod end thread	Port size	Operating pressure [MPa]
C□G3BN20-■ ●	20	25, 50, 75, 100, 125, 150, 200	M8 x 1.25	M5 x 0.8	0.05 ~ 0.7
C□G3BN25-■ ●	25	25, 50, 75, 100, 125, 150, 200, 250, 300	M10 x 1.25		
C□G3BN32-■ ●	32			Rc1/8	
C□G3BN40-■ ●	40		M14 x 1.5		
C□G3BN50-■ ●	50		M18 x 1.5	Rc1/4	
C□G3BN63-■	63				
C□G3BN80-■	80		M22 x 1.5		
C□G3BN100-■	100		M26 x 1.5	Rc3/8	

■: Insert required stroke
□: Insert "D" if magnetic version is required
F: Female thread also available, place a "F" after the stroke if you want to order it.

CG3 - Accessories / Related products



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mounting brackets										
Bore size [mm]	① Pivoting bracket (1 pivot bracket)	② Flange (1 flange,4 mounting bolts)	③ Clevis (1 Clevis, 4 mounting bolts, 1 clevis pin, 2 retaining rings)	④ Foot (foot, 4 mounting bolts) [1]	⑤ Single Knuckle joint (For male thread)	⑥ Knuckle Pin (Retaining rings are included)	⑦ Double knuckle joint (A knuckle pin and retaining rings are included) (For male thread)	⑧ Rod end nut (For male thread) (For male thread)	⑨ Floating joint for male thread	⑩ Floating joint for female thread
20	CG-020-24A	CG3-F020	CG-D020	CG-L020	I-G02	IY-G02	Y-G02	NT-02G3	JA20-8-125	JB16-4-070
25	CG-025-24A	CG3-F025	CG-D025	CG-L025	I-G03	IY-G03	Y-G03	NT-03G3	JA30-10-125	JB20-5-080
32	CG-032-24A	CG-F032	CG-D032	CG-L032	I-G03	IY-G03	Y-G03	NT-03G3	JA30-10-125	JB25-6-100
40	CG-040-24A	CG3-F040	CG3-D040	CG3-L040	I-G04	IY-G04	Y-G04	NT-04G3	JA40-14-150	JB40-8-125
50	CG-050-24A	CG-F050	CG-D050	CG-L050	I-G05	IY-G05	Y-G05	NT-05G3	JA63-18-150	JB63-10-150
63	CG-063-24A	CG-F063	CG-D063	CG-L063	I-G05	IY-G05	Y-G05	NT-05G3	JA63-18-150	JB63-10-150
80	CG-080-24A	CG-F080	CG-D080	CG-L080	I-G08	IY-G08	Y-G08	NT-08G3	JA80-22-150	—
100	CG-100-24A	CG-F100	CG-D0100	CG-L100	I-G10	IY-G10	Y-G10	NT-10G3	JA100-26-150	—

1) Order 2 foots per cylinder

Port size	Bore size [mm]	Ø tube	⑪ Speed controller elbow type	⑫ Speed controller universal type	⑬ Dual speed controller	⑭ Air saving valve Pressure valve	⑮ Air saving valve Flow valve	⑯ Speed controller in-line type
M5 x 0.8	20, 25	3,2	AS1201F-M5-23A	AS1301F-M5-23A	—	—	—	AS1002F-23
		4	AS1201F-M5-04A	AS1301F-M5-04A	ASD230F-M5-04	—	—	AS1002F-04
		6	AS1201F-M5-06A	AS1301F-M5-06A	ASD230F-M5-06	—	—	AS1002F-06
1/8	32, 40	3,2	AS2201F-01-23SA	AS2301F-01-23SA	—	—	—	—
		4	AS2201F-01-04SA	AS2301F-01-04SA	—	—	—	AS2002F-04
		6	AS2201F-01-06SA	AS2301F-01-06SA	ASD330F-01-06S	—	—	AS2002F-06
		8	AS2201F-01-08SA	AS2301F-01-08SA	ASD330F-01-08S	—	—	—
		10	AS2201F-01-10SA	—	—	—	—	—
1/4	50	3,2	AS2201F-02-23SA	—	—	—	—	—
		4	AS2201F-02-04SA	AS2301F-02-04SA	—	—	—	—
		6	AS2201F-02-06SA	AS2301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	AS2052F-06
		8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	AS2052F-08
		10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
1/4	63	3,2	AS2201F-02-23SA	—	—	—	—	—
		4	AS2201F-02-04SA	AS2301F-02-04SA	—	—	—	—
		6	AS2201F-02-06SA	AS2301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	—
		8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	—
		10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
1/4	80	6	AS3201F-02-06SA	AS3301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	—
		8	AS3201F-02-08SA	AS3301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	—
		10	AS3201F-02-10SA	AS3301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
3/8	100	6	—	—	ASD530F-03-06S	ASR530F-03-06S	ASQ530F-03-06S	—
		8	—	—	ASD530F-03-08S	ASR530F-03-08S	ASQ530F-03-08S	—
		10	—	—	ASD530F-03-10S	ASR630F-03-10S	ASQ630F-03-10S	—
		12	—	—	ASD530F-03-12S	ASR630F-03-12S	ASQ630F-03-12S	—

Bore size [mm]	⑰ Auto switch mounting band	⑱ Auto switch mounting bracket
20	BMA2-020	BJ3-1
25	BMA2-025	
32	BMA2-032	
40	BMA2-040	
50	BMA2-050	
63	BMA2-063	
80	BA-08	
100	BA-10	

⑲ Solid state auto switch - Diagnostic indication (2 colour display)			
Ø 20 to Ø 63	Ø 80, Ø 100	Wiring	Cable
D-M9NWL	D-G59WL	3 wire (NPN)	3 m
D-M9PWL	D-G5PWL	3 wire (PNP)	
D-M9BWL	D-K59WL	2-wire	

Reed auto switch			
Ø 20 to Ø 63	Ø 80, Ø 100	Wiring	Cable
D-A96L	–	3 wire (NPN) equivalent	3 m
D-A93L	D-B54L	2 wire	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

ISO Standard [ISO 15552]
Profile tube cylinder
CP96 Series

- Bumper cushion + Air cushion on both ends (only for Ø 32 to Ø 100)
- Cycle time shortened
- Integrated tie-rods
- Bore sizes Ø 32 ~125 mm
- Easy adjustment of the cushion valve
- End of stroke air cushion provides smooth operation
- Minimum piston rod deflection
- Improved mounting accuracy
- Maximum flexibility for auto-switch mounting.

Customer benefits
- High flexibility as many versions and options were added to the standard type
- Wide range of mounting accessories – It is possible to mount the cylinders practically everywhere
- Reduction in installation labour thanks to easy adjustment of the cushion valve and the flexibility for auto switch mounting.

Other types available
- Double rod: CP96W
- Non rotating: CP96K
- ATEX compliant: 55-CP96

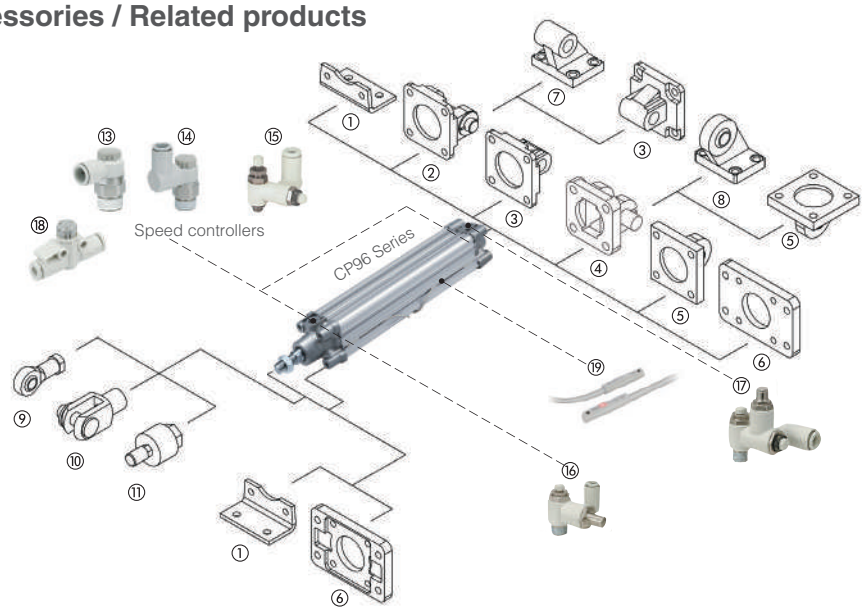
Other design variations, such as, for example dual stroke cylinders, heat resistant cylinders, etc. are available.

Part number	Bore size [mm]	☐ Standard strokes [mm]
CP96SDB32-☐C ●	32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
CP96SDB40-☐C ●	40	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
CP96SDB50-☐C ●	50	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
CP96SDB63-☐C ●	63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
CP96SDB80-☐C ●	80	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800
CP96SDB100-☐C ●	100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800
CP96SDB125-☐ ●	125	Made to order

☐: Stroke length
W: Double rod available, place “W” after the stroke if you want to order it
K: Non rotating available, place “K” after CP96 if you want to order it.

Bore size [mm]	Piston rod Ø [mm]	Rod end thread	Port size	Operating pressure range	Cylinder speed
32	12	M10 x .25	G1/8	0.05 ~ 1 MPa	50 ~ 1.000 mm/s
40	16	M12 x 1.25	G1/4		
50	20	M16 x 1.5	G1/4		
63	20	M16 x 1.5	G3/8		
80	25	M20 x 1.5	G3/8		
100	25	M20 x 1.5	G1/2		
125	32	M27 x 2	G1/2		50 ~ 700 mm/s

CP96 - Accessories / Related products



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Bore size [mm]	① Axial Foot (Supplied with two pieces and 4 screws)	② Double clevis (Corresponds to E accessory) (Supplied with bolt, safety device and 4 screws)	③ Single clevis (Supplied with 4 screws)	④ Double clevis pivot bracket (for ES accessory) (Supplied with bolt, safety device and 4 screws)	⑤ Single clevis with ball joint (Supplied with 4 screws)	⑥ Rod flange (Supplied with 4 screws)	⑦ Pivot bracket	⑧ Clevis pivot bracket with ball joint	⑨ Rod end (ISO 8139)	⑩ Rod clevis (ISO 8140) (Supplied with bolt and safety device)	⑪ Floating joint	⑫ Auto switch mounting bracket (C96 only)
32	L5032	D5032	C5032	DS5032	CS5032	F5032	E5032	ES5032	KJ10D	GKM10-20	JA30-10-125	BMB5-032
40	L5040	D5040	C5040	DS5040	CS5040	F5040	E5040	ES5040	KJ12D	GKM12-24	JA40-12-125	
50	L5050	D5050	C5050	DS5050	CS5050	F5050	E5050	ES5050	KJ16D	GKM16-32	JA50-16-150	BA7-040
63	L5063	D5063	C5063	DS5063	CS5063	F5063	E5063	ES5063	KJ16D	GKM16-32	JA50-16-150	
80	L5080	D5080	C5080	DS5080	CS5080	F5080	E5080	ES5080	KJ20D	GKM20-40	JAH50-20-150	BA7-063
100	L5100	D5100	C5100	DS5100	CS5100	F5100	E5100	ES5100	KJ20D	GKM20-40	JAH50-20-150	
125	L5125	D5125	C5125	DS5125	CS5125	F5125	E5125	ES5125	KJ27D	GKM30-54	JA125-27-200	BA7-080

Bore size [mm]	Ø tube	⑬ Speed controller elbow type	⑭ Speed controller universal type	⑮ Dual speed controller	⑯ Air saving valve pressure type	⑰ Air saving valve flow type
		Part number	Part number	Part number	Part number	Part number
32	3.2	AS2201F-01-23SA	AS2301F-01-23SA	—	—	—
	4	AS2201F-01-04SA	AS2301F-01-04SA			
	6	AS2201F-01-06SA	AS2301F-01-06SA	ASD330F-01-06S		
	8	AS2201F-01-08SA	AS2301F-01-08SA	ASD330F-01-08S		
40, 50	4	AS2201F-02-04SA	AS2301F-02-04SA	—		
	6	AS2201F-02-06SA	AS2301F-02-06SA	ASD430F-02-06S	ASR430F-02-06S	ASQ430F-02-06S
	8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S
	10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S
	12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S
63, 80	6	AS3201F-03-06SA	AS3301F-03-06SA	ASD530F-03-06S	ASR530F-03-06S	ASQ530F-03-06S
	8	AS3201F-03-08SA	AS3301F-03-08SA	ASD530F-03-08S	ASR530F-03-08S	ASQ530F-03-08S
	10	AS3201F-03-10SA	AS3301F-03-10SA	ASD530F-03-10S	ASR530F-03-10S	ASQ530F-03-10S
	12	AS3201F-03-12SA	AS3301F-03-12SA	ASD530F-03-12S	ASR530F-03-12S	ASQ530F-03-12S
100, 125	10	AS4201F-04-10SA	AS4301F-04-10SA	ASD630F-04-10S	ASR630F-04-10S	ASQ630F-04-10S
	12	AS4201F-04-12SA	AS4301F-04-12SA	ASD630F-04-12S	ASR630F-04-12S	ASQ630F-04-12S

Bore size [mm]	⑱ Speed controller in-line type	
	Ø tube	Part number [1]
32	4	AS2002F-04A
	6	AS2052F-06A
	8	AS2052F-08A
40, 50	6	AS3002F-06A
	8	AS3002F-08A
	10	AS3002F-10A
	12	AS3002F-12A
63	6	AS3002F-06A
	8	AS3002F-08A
	10	AS4002F-10A
	12	AS4002F-12A
80, 100, 125	10	AS4002F-10A
	12	AS4002F-12A

1) Ø 125: Can also use a large flow in-line type speed controller: AS420-04

⑲ Auto switch		
Solid state type - 2 colour indication		
Part number	Wiring	Cable
D-M9BWL	2 wire	3 m
D-M9PWL	3 wire PNP	3 m
D-M9PWSAPC	M8-3pin PNP	0.5 m

Reed type		
Part number	Wiring	Cable
D-A93L	2 wire	3 m
D-A93SAPC	M8-3pin	0.5 m

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

ISO Standard [ISO 15552]
Round tube cylinder
CP96 Series

- Bumper cushion + Air cushion on both ends (only for Ø 32 to Ø 100)
- Cycle time shortened
- Tie rod design
- Bore sizes Ø 32 ~125 mm
- Easy adjustment of the cushion valve
- End of stroke air cushion provides smooth operation
- Minimum piston rod deflection
- Improved mounting accuracy
- Maximum flexibility for auto-switch mounting.

Other types available
- Double rod: C96W
- Non-rotating: C96K
- Smooth cylinder: C96Y
- ATEX compliant: 55-C96

Other design variations, such as, for example dual stroke cylinders, heat and cold resistant cylinders, centre trunnion, etc. are available.

Customer benefits

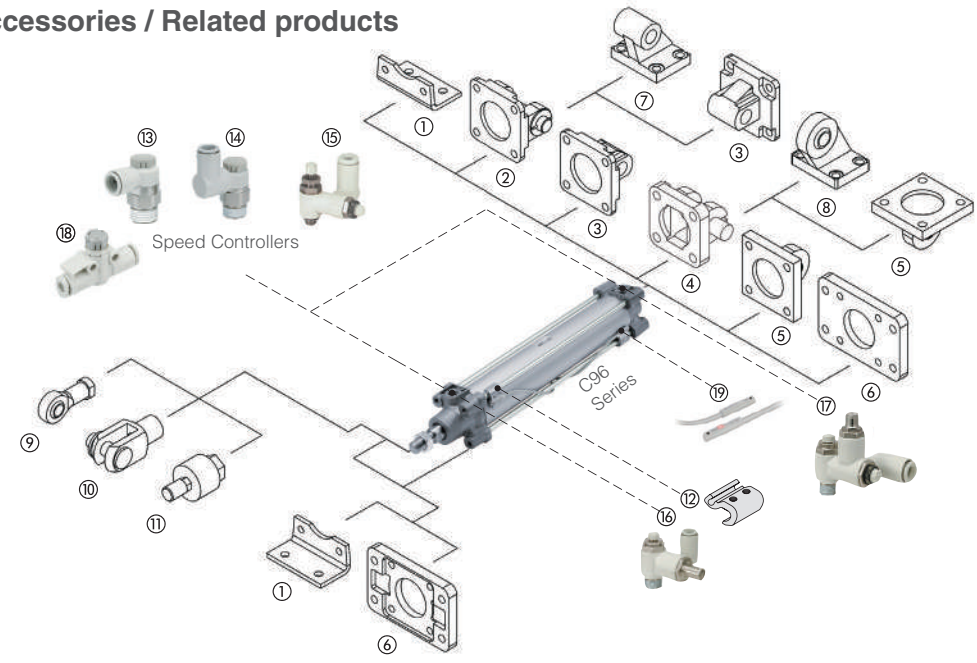
- High flexibility as many versions and options were added to the standard type
- Wide range of mounting accessories – It is possible to mount the cylinders practically everywhere
- Reduction in installation labour thanks to easy adjustment of the cushion valve and the flexibility for auto switch mounting.

Part number	Bore size [mm]	Standard strokes [mm]
C96SDB32-□C ●	32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
C96SDB40-□C ●	40	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
C96SDB50-□C ●	50	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
C96SDB63-□C ●	63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
C96SDB80-□C ●	80	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800
C96SDB100-□C ●	100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800
C96SDB125-□	125	Made to order

□: Stroke length
W: Double rod available, place “W” after the stroke if you want to order it
K: Non rotating available, place “K” after C96 if you want to order it
Y: Smooth cylinder available, place “Y” after C96 if you want to order it.

Bore size [mm]	Piston rod Ø [mm]	Rod end thread	Port size	Operating pressure range	Cylinder speed
32	12	M10 x 1.25	G1/8	0.05 ~ 1 MPa	50 ~ 1.000 mm/s
40	16	M12 x 1.25	G1/4		
50	20	M16 x 1.5	G1/4		
63	20	M16 x 1.5	G3/8		
80	25	M20 x 1.5	G3/8		
100	25	M20 x 1.5	G1/2		
125	32	M27 x 2	G1/2		50 ~ 700 mm/s

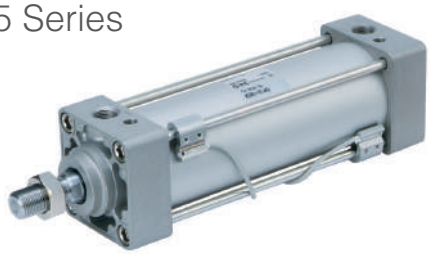
C96 - Accessories / Related products



Note) For part numbers, go to previous page.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

ISO Standard [ISO6431]
Round tube - Large bore cylinder
C95 Series



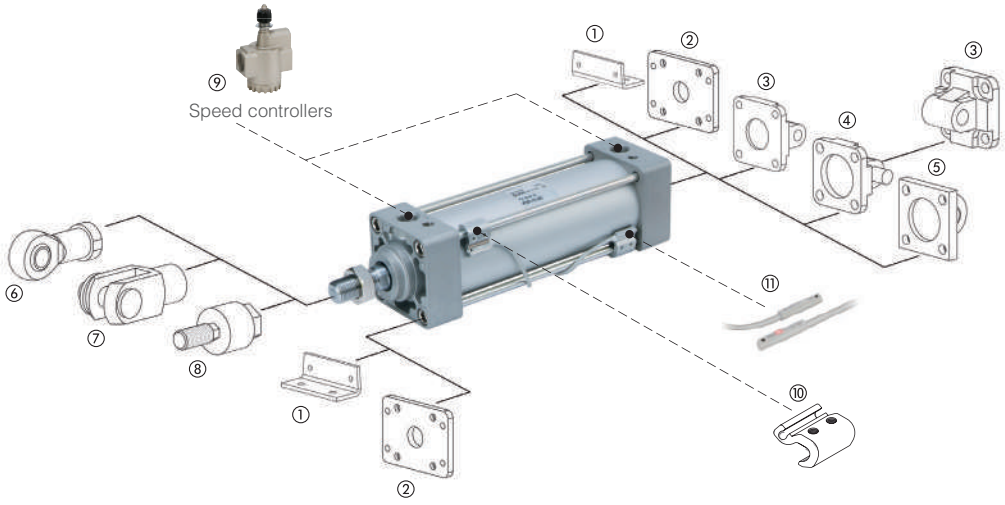
- Standard VDMA cylinders in tie-rod design with standard outside dimensions according to VDMA 24562
- Standard fixings
- Bore sizes Ø 160 ~ 250 mm
- Standard mounting brackets for all mounting options
- Centre trunnion version available
- Non-lube operation
- SMC piston gasket achieves considerably reduced friction, which increases the efficiency and extends the service life
- Auto switch mounting by tie-rod or band mounting
- Autoswitches can be supplied as reed switches or solid state switches
- ATEX Compliant version available.

Part number	Bore size [mm]	Maximum strokes [mm]
C95SDB160-□ ●	160	1600
C95SDB200-□ ●	200	2000
C95SDB250-□	250	2400

□: Stroke length

Bore size [mm]	Piston rod Ø [mm]	Rod end thread	Port size	Operating pressure range	Cylinder speed
160	40	M36 x 2	G3/4	0.05 ~ 1 MPa	50 ~ 500 mm/s
200	40	M36 x 2	G3/4		
250	50	M42 x 2	G1		

C95 - Accessories / Related products



Bore size [mm]	① Foot (Supplied with two pieces and 4 screws)	② Flange (Supplied with 4 screws)	③ Single rear clevis (Supplied with 4 screws)	④ Double rear clevis clevis (Supplied with bolt, safety device and 4 screws)	⑤ Male head end clevis with ball joint (Supplied with 4 screws)	⑥ Piston rod ball joint (ISO 8139)	⑦ Rod clevis (ISO 8140) (Supplied with bolt and safety device)	⑧ Floating joint	⑨ Speed controller Large flow in-line type	⑩ Auto switch mounting bracket
160	L5160	F5160	C5160	D5160	CS160	KJ36D	GKM35-54	JA160-36-200	AS500-06	BS5-160
200	L5200	F5200	C5200	D5200	CS200	KJ36D	GKM35-54	JA160-36-200	AS500-06	BS5-160
250	L5250	F5250	C5250	D5250	CS250	KJ42D	GKM40-84	–	AS600-10	BT-20

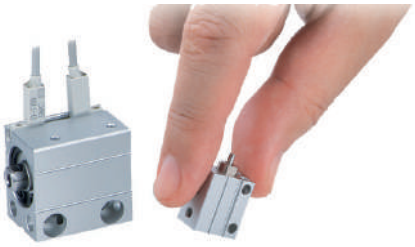
Bore size [mm]	⑪				
	Solid state 2-colour indication auto-switch			Reed auto-switch	
	2 wire	3 wire PNP	M8 - 3 pin PNP	2 wire	M8 - 3 pin
	3 m cable	3 m cable	0.5 m cable	3 m cable	0.5 m cable
160, 200	D-M9BWL	D-M9PWL	D-M9PWSAPC	D-A93L	D-A93SAPC
250	D-J59WL	D-F5PWL	D-F5PWSAPC	D-A54L	–

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Compact cylinders

Mini-free mount cylinder

CUJ Series



- Significantly reduced dimensions compared to Series CU
- ~ 64 % reduced overall length
- ~ 70 % reduced volume
- Simple maintenance, since piston rod cover is removable.

Standard cylinder, double-acting, without auto switch

Part number	Bore size [mm]	Stroke length [mm]	Port thread	Auto switch
CUJB4-☐D ●	4	4, 6, 8,10, 15, 20	M3	—
CUJB6-☐D ●	6	4, 6, 8,10, 15, 20, 25, 30		
CUJB8-☐D ●	8	4, 6, 8,10, 15, 20, 25, 30		
CUJB10-☐D ●	10	4, 6, 8, 10, 15, 20, 25, 30		
CUJB12-☐D ●	12	5, 10, 15, 20, 25, 30		
CUJB16-☐D ●	16			
CUJB20-☐D ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	

Standard cylinder, double-acting, with auto switch

Part number	Bore size [mm]	Stroke length [mm]	Port thread	Auto switch
CDUJB4-☐D	4	4, 6, 8,10, 15, 20	M3	3-wire solid state NPN: D-F8NL PNP: D-F8PL 2 wire solid state D-F8BL
CDUJB6-☐D ●	6	4, 6, 8,10, 15, 20, 25, 30		
CDUJB8-☐D ●	8	4, 6, 8,10, 15, 20, 25, 30		
CDUJB10-☐D ●	10	4, 6, 8,10, 15, 20, 25, 30		
CDUJB12-☐D ●	12	5, 10, 15, 20, 25, 30		
CDUJB16-☐D ●	16			
CDUJB20-☐D ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	

☐: Stroke length
Single acting: please use “S” instead of “D”, e.g. CDUJB10-10S
Not all strokes can be provided
With rod end thread: Use ”M” e.g.: CDUJB10-10DM.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Free mount cylinder
CU/CUK Series

- Auto switch can be integrated in the body.

Standard

Part number	Bore size [mm]	Stroke length [mm]	Rod end thread	Port size	Possible auto switches
CDU6-□D ●	6	5, 10, 15, 20, 25, 30, 40, 50, 60	M3	M5	Reed D-A93L 3 wire solid state: NPN: D-M9NL PNP: D-M9PL 2 wire solid state: D-M9BL
CDU10-□D ●	10		M4		
CDU16-□D ●	16		M5		
CDU20-□D ●	20	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	M6		
CDU25-□D ●	25		M8		
CDU32TF-□D ●	32		M10	G1/8	

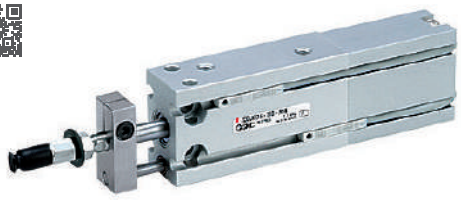
□: Stroke length

Non-rotation rod

Part number	Bore size [mm]	Stroke length [mm]	Rod end thread	Port size	Possible auto switches
CDUK6-□D ●	6	5, 10, 15, 20, 25, 30, 40, 50, 60	M3	M5	Reed D-A93L 3 wire solid state: NPN: D-M9NL PNP: D-M9PL 2 wire solid state: D-M9BL
CDUK10-□D ●	10		M4		
CDUK16-□D ●	16		M5		
CDUK20-□D ●	20	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	M6		
CDUK25-□D ●	25		M8		
CDUK32-□D ●	32		M10	G1/8	

□: Stroke length

Free mount cylinder for vacuum
ZCUK Series



- Direct mounting of the suction pads on the hollow, double piston rod
- Fixed vacuum port at the rear end of the cylinder
- No interfering tubes around the work piece
- No moving hoses
- Non-rotating piston rod
- Miniature auto switches in standard design
- Compact design, smooth outside surface means simple installation.

Part number	Bore size [mm]	Stroke [mm]	Rod end thread	Port size	Possible suction pads
ZCDUKC10-□D ●	10	5, 10, 15, 20, 25, 30	M4	M5	See section vacuum
ZCDUKC16-□D ●	16		M5		
ZCDUKC20-□D ●	20	5, 10, 15, 20, 25, 30, 40, 50	M6		
ZCDUKC25-□D ●	25		M8		
ZCDUKC32TF-□D ●	32		M10	G1/8	

□: Stroke length

Possible auto switches

Reed	D-A93L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Compact cylinder, compact type

CQS Series

- Ø 12, Ø 16, Ø 20, Ø 25 mm
- Flexible auto switch mounting on 3 or 4 sides
- Auto switch fully integrated in the body
- Square-section body style ensures full flexibility in design projects
- Through-hole / Both ends tapped common (Standard)
- A wide variety of mounting options is available.

Standard cylinder, double-acting, without auto switch

Part number	Bore size [mm]	Stroke length [mm]	Long stroke [mm]	Port sizes	Circuit symbol
CQSB12-□D ●	12	5, 10, 15, 20, 25, 30	35, 40, 45, 50, 75, 100, 125, 150, 175, 200	M5	
CQSB16-□D ●	16				
CQSB20-□D ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	75, 100, 125, 150, 175, 200	M5	
CQSB25-□D ●	25		75, 100, 125, 150, 175, 200, 250, 300		

□: Stroke length

Standard cylinder, double-acting, with auto switch

Part number	Bore size [mm]	Stroke length [mm]	Long stroke [mm]	Port sizes	Circuit symbol
CDQSB12-□D ●	12	5, 10, 15, 20, 25, 30	35, 40, 45, 50, 75, 100, 125, 150, 175, 200	M5	
CDQSB16-□D ●	16				
CDQSB20-□D ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	75, 100, 125, 150, 175, 200	M5	
CDQSB25-□D ●	25		75, 100, 125, 150, 175, 200, 250, 300		

□: Stroke length

Mounting bracket part number

Bore size [mm]	Foot [1]	Compact foot [1]	Flange	Double clevis [2]	Double clevis pivot bracket
12	CQS-L012	CQS-LC012	CQS-F012	CQS-D012	CQ-C012
16	CQS-L016	CQS-LC016	CQS-F016	CQS-D016	CQ-C016
20	CQS-L020	CQS-LC020	CQS-F020	CQS-D020	CQ-C020
25	CQS-L025	CQS-LC025	CQS-F025	CQS-D025	CQ-C025

1) 2 pcs. per cylinder should be ordered when foot and compact foot brackets are required
2) Package for double clevis contains clevis pin and snap ring
Note: Each package contains the following parts:
Foot, Flange: Body mounting bolt
Double clevis: Clevis pin, C shape snap ring for axis, body mounting bolt.

Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Anti-lateral load type

CQS□S Series

- The permissible load at the piston rod end, in this version, is twice that of the simple CQS series. The wear ring and bumper are standard on this type.

Example:
Compact cylinder Ø 12, Stroke 20 mm, built-in magnet, double-acting, elastic rubber bumper
CDQSBS12-20DC

Our highlighted product for you

Compact cylinder
CQ2 Series

- Compact length cylinder
- Bore sizes Ø 12 ~ 200 mm
- Stroke range 5 ~ 300 m
- Can mount small auto switches on 4 surfaces without the need to use auto switch brackets.

Standard cylinder, double-acting single rod, without auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CQ2B12-□D ●	12	5, 10, 15, 20, 25, 30	M5	
CQ2B16-□D ●	16			
CQ2B20-□D ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	
CQ2B25-□D ●	25			
CQ2B32TF-□DZ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	M5 [1] / G1/8	
CQ2B40TF-□DZ ●	40		G1/8	
CQ2B50TF-□DZ ●	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/4	
CQ2B63TF-□DZ ●	63			
CQ2B80TF-□DZ ●	80		G3/8	
CQ2B100TF-□DZ ●	100			
CQ2B125TF-□DCZ ●	125	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300	G3/8	
CQ2B140TF-□DCZ	140			
CQ2B160TF- □DCZ	160			
CQ2B180TF-□DCZ	180		G1/2	
CQ2B200TF-□DCZ	200			

□: Stroke length
1) With 5 mm stroke
M: Male rod option, add at the end of the reference, e.g.: CQ2B12-5DM
CQ2B32TF-5DMZ

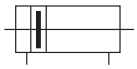
Standard cylinder, double-acting single rod, with auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CDQ2B12-□DZ ●	12	5, 10, 15, 20, 25, 30	M5	
CDQ2B16-□DZ ●	16			
CDQ2B20-□DZ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	
CDQ2B25-□DZ ●	25			
CDQ2B32TF-□DZ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/8	
CDQ2B40TF-□DZ ●	40		G1/8	
CDQ2B50TF-□DZ ●	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/4	
CDQ2B63TF-□DZ ●	63			
CDQ2B80TF-□DZ ●	80		G3/8	
CDQ2B100TF-□DZ ●	100			
CDQ2B125TF-□DCZ	125	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300	G3/8	
CDQ2B140TF-□DCZ	140			
CDQ2B160TF-□DCZ ●	160			
CDQ2B180TF-□DCZ	180		G1/2	
CDQ2B200TF-□DCZ ●	200			

□: Stroke length
M: Male rod option, add at the end of the reference, e.g.: CDQ2B12-5DMZ

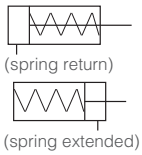
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Standard cylinder, double-acting double rod, with auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CDQ2WB12-□DZ	12	5, 10, 15, 20, 25, 30	M5	
CDQ2WB16-□DZ ●	16			
CDQ2WB20-□DZ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	
CDQ2WB25-□DZ ●	25			
CDQ2WB32TF-□DZ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/8	
CDQ2WB40TF-□DZ ●	40		G1/8	
CDQ2WB50TF-□DZ ●	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/4	
CDQ2WB63TF-□DZ ●	63			
CDQ2WB80TF-□DZ ●	80		G3/8	
CDQ2WB100TF-□DZ	100			
CDQ2WB125TF-□DCZ	125	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300	G3/8	
CDQ2WB140TF-□DCZ	140			
CDQ2WB160TF-□DCZ	160			
CDQ2WB180TF-□DCZ	180		G1/2	
CDQ2WB200TF-□DCZ	200			

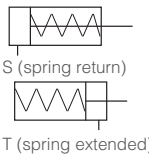
□: Stroke length
Longer strokes on request
Type without magnet: without D, e.g.: CQ2WB12-5DZ
M: Male rod option, add at the end of the reference, e.g.: CDQ2WB12-5DMZ

Standard cylinder, single acting, spring return / spring-extend, without auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CQ2B12-□■	12	5, 10	M5	 S (spring return) T (spring extended)
CQ2B16-□■	16			
CQ2B20-□■	20	5, 10	M5	
CQ2B25-□■	25			
CQ2B32TF-□■Z ●	32	5, 10	M5 [1] / G1/8	
CQ2B40TF-□■ Z ●	40		G1/8	
CQ2B50TF-□■Z ●	50	10, 20	G1/4	

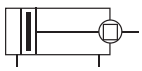
□: Stroke length
■: Action: S (spring return) or T (spring extended)
1) with 5 mm stroke
M: Male rod option, add at the end of the reference, e.g.: CQ2B12-5SM
CQ2B32TF-5TMZ

Standard cylinder, single acting, spring return / spring-extend, with auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CDQ2B12-□■ ●	12	5, 10	M5	 S (spring return) T (spring extended)
CDQ2B16-□■	16			
CDQ2B20-□■ ●	20	5, 10	M5	
CDQ2B25-□■ ●	25			
CDQ2B32TF-□■Z ●	32	5, 10	M5 [1] / G1/8	
CDQ2B40TF-□■Z	40		G1/8	
CDQ2B50TF-□■Z	50	10, 20	G1/4	

□: Stroke length
■: Action: S (spring return) or T (spring extended)
1) with 5 mm stroke
M: Male rod option, add at the end of the reference, e.g.: CDQ2B12-5SM
CDQ2B32TF-5TMZ

Non-rotating cylinder, double-acting single rod, with auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CDQ2KB12-□DCZ ●	12	5, 10, 15, 20, 25, 30	M5	
CDQ2KB16-□DZ ●	16			
CDQ2KB20-□DZ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	
CDQ2KB25-□DZ	25			
CDQ2KB32-□DZ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/8	
CDQ2KB40-□DZ ●	40			
CDQ2KB50-□DZ ●	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/4	
CDQ2KB63-□DZ ●	63			

□: Stroke length
Type without magnet: without D, e.g.: CQ2KB12-5DCZ
M: Male rod option, add at the end of the reference, e.g.: CDQ2KB16-5DMZ

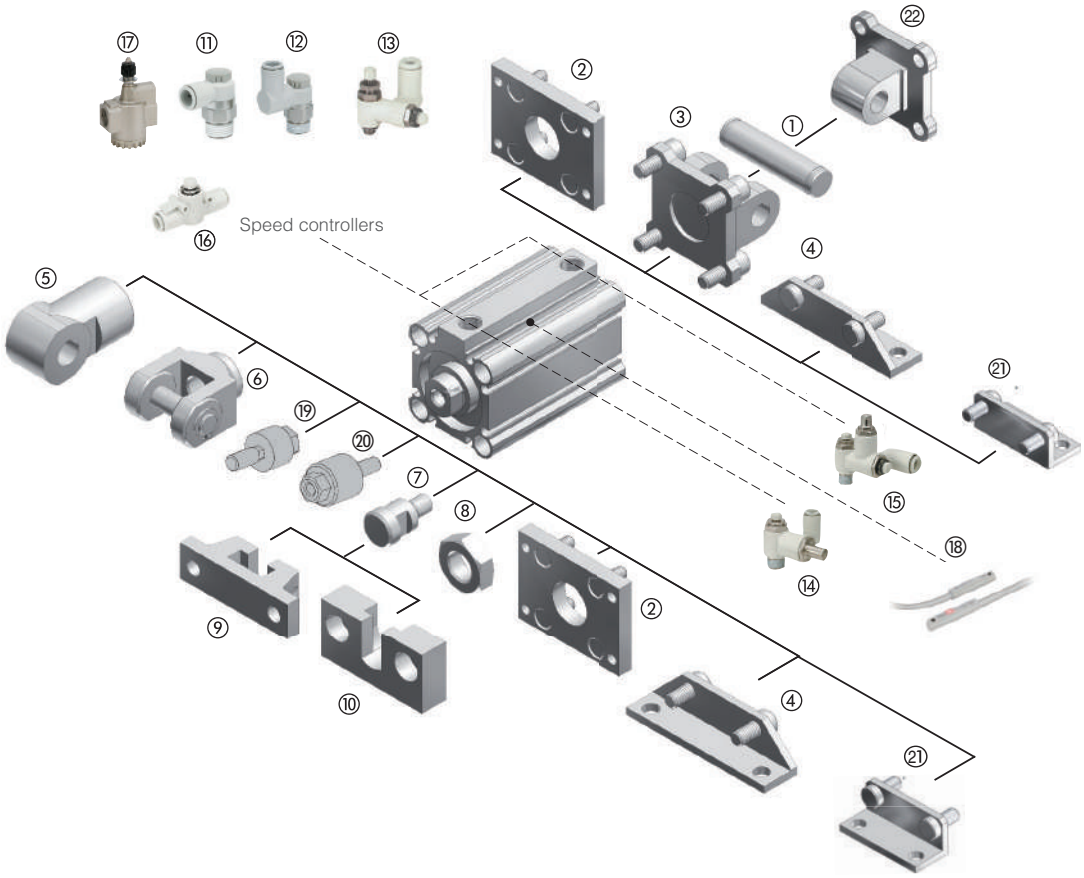
Axial piping (Centralised piping type)
CQP2 Series

Anti-lateral load
CQ2□□S Series

With end lock
CBQ2 Series

Water resistant
CQ2□R/CQ2□V Series

CQ2 - Accessories / Related products



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Bore size [mm]		① Knuckle pin (Retaining rings for axis are included)	② Flange (Supplied with body mounting bolts)	③ Double clevis [3] (Supplied with clevis pin, retaining rings for axis and body mounting bolts)	④ Foot [1] (Supplied with body mounting bolts)	㉑ Compact foot [1] (Supplied with body mounting bolts)	⑤ Single knuckle joint (for male thread)	⑥ Double Knuckle joint (for male thread) (Knuckle pin and retaining rings are included)	⑦ Joint (for female thread)	⑧ Rod end nut (for male thread)
12	Without switch	IY-G012	CQ-F012	CQ-D012	CQ-L012	CQ-LC012	I-G012	Y-G012	—	NTJ-015A
	With switch				CQ-LZ12	CQ-LCZ12				
16	Without switch	IY-J015	CQ-F016	CQ-D016	CQ-L016	CQ-LC016	I-Z015A	Y-Z015A	—	NT-015A
	With switch				CQ-LZ16	CQ-LCZ16				
20	Without switch	IY-G02	CQ-F020	CQ-D020	CQ-L020	CQ-LC020	I-G02	Y-G02	—	NT-02
	With switch				CQ-LZ20	CQ-LCZ20				
25	Without switch	IY-G03	CQ-F025	CQ-D025	CQ-L025	CQ-LC025	I-G03	Y-G03	—	NT-03
	With switch				CQ-LZ25	CQ-LCZ25				
32 [4]		IY-G04	CQ-F032	CQ-D032	CQ-L032	CQ-LC032	I-G04	Y-G04	YU-03	NT-04
40			CQ-F040	CQ-D040	CQ-L040	CQ-LC040				
50		IY-G05	CQ-F050	CQ-D050	CQ-L050	CQ-LC050	I-G05	Y-G05	YU-05	NT-05
63 [2]			CQ-F063	CQ-D063	CQ-L063	CQ-LC063				
80 [2]		IY-G08	CQ-F080	CQ-D080	CQ-L080	CQ-LC080	I-G08	Y-G08	YU-08	NT-08
100 [2]		IY-G10	CQ-F100	CQ-D100	CQ-L100	CQ-LC100	I-G10	Y-G10	YU-10	NT-10

Bore size [mm]	⑨ Type A mounting bracket for joint	⑩ Type B mounting bracket for joint	⑲ Floating joint for male thread	⑳ Floating joint for female thread	㉒ Double clevis pivot bracket
12	—	—	JA15-5-080	JB12-3-050	CQ-C012
16	—	—	JA15-6-100	JB16-4-070	CQ-C016
20	—	—	JA20-8-125	JB20-5-080	CQ-C020
25	—	—	JA30-10-125	JB25-6-100	CQ-C025
32 [4]	YA-03	YB-03	JA40-14-150	JB40-8-125	CQ-C032
40					CQ-C040
50	YA-05	YB-05	JA63-18-150	JB63-10-150	CQ-C050
63 [2]					CQ-C063
80 [2]	YA-08	YB-08	JA80-22-150	JB80-16-200	CQ-C080
100 [2]	YA-10	YB-10	JA100-26-150	JB100-20-250	CQ-C100

1) Order two pieces per cylinder except in Ø 12 to Ø 25 of the standard type with switch, that you should order only 1 piece per cylinder because in this case a part number is a set of two foot brackets
2) Not applicable to single acting types
3) Not applicable to double acting, double rod types
4) Not applicable to non-rotating single rod type.

Port size	Bore size [mm]	Ø tube	⑭ Air saving valve pressure valve	⑮ Air saving valve flow valve
			Part number	Part number
3/8	100, 125, 140, 160	6	ASR530F-03-06S	ASQ530F-03-06S
		8	ASR530F-03-08S	ASQ530F-03-08S
		10	ASR630F-03-10S	ASQ630F-03-10S
		12	ASR630F-03-12S	ASQ630F-03-12S
1/2	180, 200	10	ASR630F-04-10S	ASQ630F-04-10S
		12	ASR630F-04-12S	ASQ630F-04-12S

Port size	Bore size [mm]	⑰ Speed controller large flow in-line type
3/8	100, 125, 140	AS420-03
3/8	160	—
1/2	180, 200	—

Reed type		
Part number	Wiring	Cable
D-A93L	2 wire	3 m
D-A93SAPC	M8-3Pin	0.5 m

⑱ Auto Switch, Solid state 2 colour indication		
Part number	Wiring	Cable
D-M9BWL	2 wire	3 m
D-M9PWL	3 wire PNP	3 m
D-M9PWSAPC	M8-3 Pin PNP	0.5 m

Port size	Bore size [mm]	Ø tube	⑪ Speed controller elbow type	⑫ Speed controller universal type	⑬ Dual speed controller	⑭ Air saving valve pressure valve	⑮ Air saving valve flow valve	⑯ Speed controller in-line type
			Part number	Part number	Part number	Part number	Part number	Part number
M5 x 0.8	12, 16, 20, 25	3.2	AS1201F-M5-23A	AS1301F-M5-23A		—	—	AS1002F-23
		4	AS1201F-M5-04A	AS1301F-M5-04A	ASD230F-M5-04	—	—	AS1002F-04
		6	AS1201F-M5-06A	AS1301F-M5-06A	ASD230F-M5-06	—	—	AS1002F-06
1/8	32*, 40	3.2	AS2201F-01-23SA	AS2301F-01-23SA	—	—	—	—
		4	AS2201F-01-04SA	AS2301F-01-04SA	—	—	—	AS2002F-04
		6	AS2201F-01-06SA	AS2301F-01-06SA	ASD330F-01-06S	—	—	AS2002F-06
		8	AS2201F-01-08SA	AS2301F-01-08SA	ASD330F-01-08S	—	—	—
		10	AS2201F-01-10SA	—	—	—	—	—
1/4	50	3.2	AS2201F-02-23SA	—	—	—	—	—
		4	AS2201F-02-04SA	AS2301F-02-04SA	—	—	—	—
		6	AS2201F-02-06SA	AS2301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	AS2052F-06
		8	AS2201F-02-08SA	AS2301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	AS2052F-08
		10	AS2201F-02-10SA	AS2301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
1/4	63	6	AS3201F-02-06SA	AS3301F-02-06SA	ASD530F-02-06S	ASR530F-02-06S	ASQ530F-02-06S	—
		8	AS3201F-02-08SA	AS3301F-02-08SA	ASD530F-02-08S	ASR530F-02-08S	ASQ530F-02-08S	—
		10	AS3201F-02-10SA	AS3301F-02-10SA	ASD530F-02-10S	ASR530F-02-10S	ASQ530F-02-10S	—
		12	AS3201F-02-12SA	AS3301F-02-12SA	ASD530F-02-12S	ASR530F-02-12S	ASQ530F-02-12S	—
3/8	80	6	AS3201F-03-06SA	AS3301F-03-06SA	ASD530F-03-06S	ASR530F-03-06S	ASQ530F-03-06S	AS3002F-06
		8	AS3201F-03-08SA	AS3301F-03-08SA	ASD530F-03-08S	ASR530F-03-08S	ASQ530F-03-08S	AS3002F-08
		10	AS3201F-03-10SA	AS3301F-03-10SA	ASD530F-03-10S	ASR630F-03-10S	ASQ630F-03-10S	AS3002F-10
		12	AS3201F-03-12SA	AS3301F-03-12SA	ASD530F-03-12S	ASR630F-03-12S	ASQ630F-03-12S	AS3002F-12

Cylinders with 32 mm bore and 5 mm stroke, without auto switch in standard and non-rotating types have a port size of M5.
Contact SMC for appropriated speed controllers.

Our highlighted product for you

Compact cylinder
JCQ Series

- Compact and lightweight
- Strokes up to 50 mm
- Bore sizes Ø: 12 ~ 100 mm
- Round type auto switches can be mounted directly
- Auto switches can be mounted on 4 surfaces
- Auto switches do not protrude beyond the body of the cylinder.

Part number	Bore size [mm]	Stroke [mm]	Port size
JC□Q12-■ ●	Ø 12	5, 10, 15, 20, 25, 30	M3
JC□Q16-■ ●	Ø 16	5, 10, 15, 20, 25, 30	
JC□Q20-■ ●	Ø 20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5
JC□Q25-■ ●	Ø 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	
JC□Q32-■ ●	Ø 32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	
JC□Q40-■ ●	Ø 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	
JC□Q50TF-■ ●	Ø 50	10, 15, 20, 25, 30, 35, 40, 45, 50	G1/8
JC□Q63TF-■ ●	Ø 63	10, 15, 20, 25, 30, 35, 40, 45, 50	
JC□Q80TF-■ ●	Ø 80	10, 15, 20, 25, 30, 35, 40, 45, 50	G1/4
JC□Q100TF-■ ●	Ø 100	10, 15, 20, 25, 30, 35, 40, 45, 50	

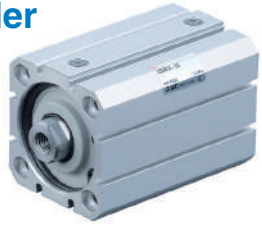
■: Insert required stroke.
□: Insert "D" if magnetic version is required.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

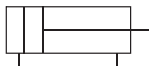
ISO Standard [ISO 21287], compact cylinder

C55 Series



- Bore sizes: Ø 20 to Ø 100 mm
- It is possible to mount small auto switches on 4 surfaces.

Standard cylinder, double-acting, without auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
C55B20-☐	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150	M5	
C55B25-☐	25		M5	
C55B32-☐	32		G1/8	
C55B40-☐	40		G1/8	
C55B50-☐	50		G1/8	
C55B63-☐	63		G1/8	
C55B80-☐	80	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125	G1/8	
C55B100-☐	100		G1/8	

M: Male rod option, add at the end of the reference, e.g.: CD55B20-50M

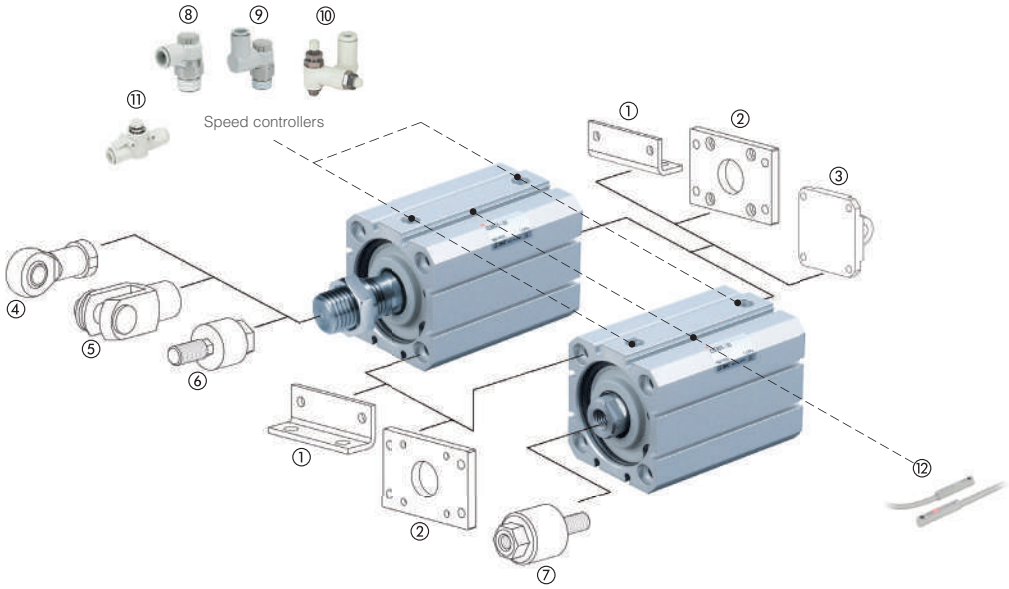
Standard cylinder, double-acting, with auto switch

Part number	Bore size [mm]	Stroke [mm]	Port size	Symbol
CD55B20-☐	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150	M5	
CD55B25-☐	25		M5	
CD55B32-☐	32		G1/8	
CD55B40-☐	40		G1/8	
CD55B50-☐	50		G1/8	
CD55B63-☐	63		G1/8	
CD55B80-☐	80	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125	G1/8	
CD55B100-☐	100		G1/8	

☐: Stroke length

1) Other strokes, please consult SMC.

C55 - Accessories / Related products



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Bore size [mm]	① Foot (Supplied with 2 pieces and 4 screws)	② Flange (Supplied with 4 screws)	③ Single clevis (Supplied with 4 screws)	④ Piston rod ball joint (ISO 8139)	⑤ Rod clevis (ISO 8140) (Supplied with bolt and safety device)	⑥ Floating joint for male thread	⑦ Floating joint for female thread
20	C55-L020	C55-F020	C55-C020	KJ8D	GKM8-16	JA20-8-125	JB25-6-100
25	C55-L025	C55-F025	C55-C025	KJ8D	GKM8-16	JA20-8-125	JB25-6-100
32	C55-L032	C55-F032	C55-C032	KJ10D	GKM10-20	JA30-10-125	JB40-8-125
40	C55-L040	C55-F040	C55-C040	KJ10D	GKM10-20	JA30-10-125	JB40-8-125
50	C55-L050	C55-F050	C55-C050	KJ12D	GKM12-24	JA40-12-125	JB63-10-150
63	C55-L063	C55-F063	C55-C063	KJ12D	GKM12-24	JA40-12-125	JB63-10-150
80	C55-L080	C55-F080	C55-C080	KJ16D	GKM16-32	JA50-16-150	—
100	C55-L100	C55-F100	C55-C100	KJ16D	GKM16-32	JA50-16-150	—

Bore size [mm]	⑧ Speed controller elbow type		⑨ Speed controller universal type		⑩ Dual speed controller	
	Ø tube	Part number	Ø tube	Part number	Ø tube	Part number
20, 25	3.2	AS1201F-M5-23A	3.2	AS1301F-M5-23A	3.2	—
	4	AS1201F-M5-04A	4	AS1301F-M5-04A	4	ASD230F-M5-04
	6	AS1201F-M5-06A	6	AS1301F-M5-06A	6	ASD230F-M5-06
32, 40	3.2	AS2201F-01-23SA	3.2	AS2301F-01-23SA	3.2	—
	4	AS2201F-01-04SA	4	AS2301F-01-04SA	4	—
	6	AS2201F-01-06SA	6	AS2301F-01-06SA	6	ASD330F-01-06S
	8	AS2201F-01-08SA	8	AS2301F-01-08SA	8	ASD330F-01-08S
	10	AS2201F-01-10SA	10	—	10	—
50, 63, 80, 100	—	—		—		—

Bore size [mm]	⑪ Speed controller in-line type	
	Ø tube	Part number
20	3.2	AS1002F-23
	4	AS2002F-04
	6	AS2052F-06
	8	AS2052F-08
25, 32	4	AS2002F-04
	6	AS2052F-06
	8	AS2052F-08
40, 50	6	AS3002F-06
	8	AS3002F-08
	10	AS3002F-10
	12	AS3002F-12
63	6	AS3002F-06
	8	AS3002F-08
	10	AS4002F-10
	12	AS4002F-12
80, 100	10	AS4002F-10
	12	AS4002F-12

⑫ Auto switch		
Solid state type - 2 colour indication		
Part number	Wiring	Cable
D-M9BWL	2 wire	3 m
D-M9PWL	3 wire PNP	3 m
D-M9PWSAPC	M8-3 pin PNP	0.5 m

Reed type		
Part number	Wiring	Cable
D-A93L	2 wire	3 m
D-A93SAPC	M8-3 pin	0.5 m

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Compact cylinder with air cushion

RQ Series

- Uses a unique air cushion mechanism with no cushion ring
- Noise reduction and improvement in repeatability
- Wide size variations from Ø 20 to Ø 100
- Minimal extended dimensions from +2.5 mm to 13 mm
- Nearly three times the allowable kinetic energy
- Interchangeable mounting for CQ2 and CQS.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Foot [1]	Flange	Double clevis	Compact foot [1]
RDQB20-□ ●	20	15, 20, 25, 30, 40, 50	M5	CQS-L020	CQS-F020	CQS-D020	CQS-LC020
RDQB25-□ ●	25			CQS-L025	CQS-F025	CQS-D025	CQS-LC025
RDQB32TF-□ ●	32	20, 25, 30, 40, 50, 75, 100	G1/8	CQ-L032	CQ-F032	CQ-D032	CQS-LC032
RDQB40TF-□ ●	40			CQ-L040	CQ-F040	CQ-D040	CQS-LC040
RDQB50TF-□ ●	50	30, 40, 50, 75, 100	G1/4	CQ-L050	CQ-F050	CQ-D050	CQS-LC050
RDQB63TF-□ ●	63			CQ-L063	CQ-F063	CQ-D063	CQS-LC063
RDQB80TF-□ ●	80	40, 50, 75, 100	G3/8	CQ-L080	CQ-F080	CQ-D080	CQS-LC080
RDQB100TF-□	100			CQ-L0100	CQ-F0100	CQ-D100	CQS-LC100

□: Stroke length

1) 2 pcs per cylinder should be ordered when foot and compact foot brackets are required.

Possible auto switches

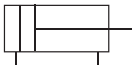
Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Compact cylinder, guide rod type
CQM Series

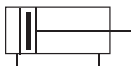
- Ø 12, Ø 16, Ø 20, Ø 25, Ø 32, Ø 40, Ø 50, Ø 63, Ø 80, Ø 100 mm
- Lateral Load Resisting 2 ~ 4 times (Compared to compact cylinder series CQ)
- Non-rotating accuracy ±0.2° or less
- Load can be directly mounted
- Compatible mounting dimensions with the series CQS, CQ2.

Standard cylinder, double-acting, without auto switch

Part number	Bore size [mm]	Stroke length [mm]	Port size	Symbol
CQMB12-□ ●	12	5, 10, 15, 20, 25, 30	M5	
CQMB16-□ ●	16		M5	
CQMB20-□ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	
CQMB25-□ ●	25		M5	
CQMB32-□ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	M5[1)]; G1/8	
CQMB40TF-□	40		G1/8	
CQMB50TF-□	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/4	
CQMB63TF-□	63		G1/4	
CQMB80TF-□	80		G3/8	
CQMB100TF-□	100		G3/8	

1) With 5 mm stroke.

Standard cylinder, double-acting, with auto switch

Part number	Bore size [mm]	Stroke length [mm]	Port size	Symbol
CDQMB12-□ ●	12	5, 10, 15, 20, 25, 30	M5	
CDQMB16-□ ●	16		M5	
CDQMB20-□ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5	
CDQMB25-□ ●	25		M5	
CDQMB32TF-□ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/8	
CDQMB40TF-□ ●	40		G1/8	
CDQMB50TF-□ ●	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/4	
CDQMB63TF-□ ●	63		G1/4	
CDQMB80TF-□ ●	80		G3/8	
CDQMB100TF-□	100		G3/8	

□: Stroke length
1) Others strokes, please consult SMC.

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

Compact cylinder, plate type

CQU Series

- Double acting, single rod
- Width: Reduced by up to 40 % (compared with SMC CQ2 Series)
- Total length: Reduced by up to 15 % (compared with SMC MU Series with 30 stroke)
- Auto switch can be mounted from 4 directions.

Standard cylinder, double-acting, without auto switch

Part number	Bore size [mm]	Stroke length [mm]
CQUB20-☐ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
CQUB25-☐ ●	25	
CQUB32-☐ ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CQUB40-☐ ●	40	

☐: Stroke length

Mounting brackets

Mounting brackets		Ø 20	Ø 25	Ø 32	Ø 40
Vertical foot	Rod end	CQU-LR20 CQU-LH20	CQU-L25	CQU-L32	CQU-L40
	Head end				
Lateral foot	Rod end	CQU-MR20 CQU-MH20	CQU-M25	CQU-M32	CQU-M40
	Head end				
Double clevis		CQU-D20	CQU-D25	CQU-D32	CQU-D40

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

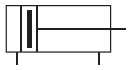
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Plate cylinder with elliptical piston design

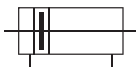
MU Series

- Cylinder with elliptical piston means piston rod cannot rotate and the thickness is reduced
- It is possible to mount small auto switches in 4 directions. No stick-out. Easy mounting
- Piston rod end with either male or female thread.

Standard

Part number	Bore size [mm]	Stroke length [mm]	Port size	Symbol
MDUB25-☐DZ ●	25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75 100, 125, 150, 175, 200, 250, 300	M5	
MDUB32-☐DZ ●	32		R1/8	
MDUB40-☐DZ ●	40		R1/8	
MDUB50-☐DZ ●	50		R1/4	
MDUB63-☐DZ	63		R1/4	

Double rod style

Part number	Bore size [mm]	Stroke length [mm]	Port size	Symbol
MDUWB25-☐DZ	25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75 100, 125, 150, 175, 200, 250, 300	M5	
MDUWB32-☐DZ	32		R1/8	
MDUWB40-☐DZ	40		R1/8	
MDUWB50-☐DZ	50		R1/4	
MDUWB63-☐DZ	63		R1/4	

☐: Stroke length
With piston rod end male thread: Use "M" e.g..: MDUB25-50DMZ.

Mounting brackets

Diameter	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
Foot	MU-L02	MU-L03	MU-L04	MU-L05	MU-L06
Flange	MU-F02	MU-F03	MU-F04	MU-F05	MU-F06
Single clevis	MU-C02	MU-C03	MU-C04	MU-C05	MU-C06
Double clevis	MU-D02	MU-D03	MU-D04	MU-D05	MU-D06

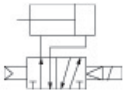
Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

Compact cylinder with solenoid valve

CVQ Series

- Ø 32, Ø 40, Ø 50, Ø 63 mm
- Labour saving
- Energy saving, low air consumption
- Space saving
- Selectable piping direction.

Part number	Bore size [mm]	Strokes [mm]	Port size	Voltage	Circuit symbol
CVQB32-□-5MO ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	M5 x 0.8	24 VDC	
CVQB40-□-5MO ●	40		M5 x 0.8		
CVQB50-□-5MOF	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/8		
CVQB63-□-5MOF	63		G1/8		

□: Stroke length
1) Others strokes, please consult SMC

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

Accessories

Bore size [mm]	Foot [1)]	Flange	Double clevis
32	CVQ-L032	CVQ-F032	CVQ-D032
40	CVQ-L040	CVQ-F040	CVQ-D040
50	CQ-L050	CQ-F050	CVQ-D050
63	CVQ-L063	CVQ-F063	CVQ-D063

1) Order two foot brackets per cylinder.
Parts belonging to each bracket are as follows.
Foot, flange: Body mounting screws.
Double clevis: Clevis pin, C-type retaining ring for shaft, body mounting screws.

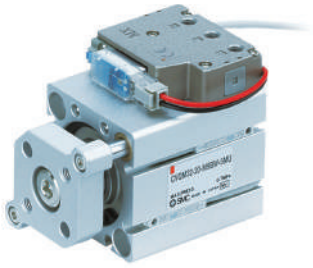
Accessories

Description	Part number	Applicable bore size [mm]
Single knuckle joint	I-G04	32, 40
	I-G05	50, 63
Double knuckle joint [1)]	Y-G04	32, 40
	Y-G05	50, 63
Knuckle pin	IY-G04	32, 40
	IY-G05	50, 63
Rod end nut	NT-04	32, 40
	NT-05	50, 63
Joint	YU-03	32, 40
	YU-05	50, 60
A Type mounting bracket	YA-03	32, 40
	YA-05	50, 63
B Type mounting bracket	YB-03	32, 40
	YB-05	50, 63

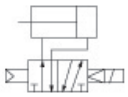
1) Knuckle pin and retaining ring are included

Compact cylinder with solenoid valve / Guide rod type

CVQM Series



- Ø 32, Ø 40, Ø 50, Ø 63 mm
- Labour saving
- Energy saving, low air consumption
- Space saving
- Guide rod configuration with improved lateral load resistance and non-rotating accuracy.

Part number	Bore size [mm]	Strokes [mm]	Port size	Voltage	Circuit symbol
CVQM32-□-5MO ●	32	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	M5 x 0.8	24 VDC	
CVQM40-□-5MO ●	40		M5 x 0.8		
CVQM50-□-5MOF ●	50	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	G1/8		
CVQM63-□-5MOF ●	63		G1/8		

□: Stroke length
1) Others strokes, please consult SMC

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

Combination cylinders

Our highlighted product for you

Compact cylinder with linear guide

MXZ Series

- Height: 49.5 mm, width: 30 mm (Ø 20, stroke 10 mm)
- Design and assembly time is reduced due to integration of a linear guide to the cylinder
- Rubber bumper
- Port location selectable
- Direct mounting of auto switches on 3 surfaces (for Ø 20, Ø 25).

Part number	Bore size [mm]	Stroke [mm]	Port size
MXZ12-☐	12	5, 10, 15, 20, 25, 30	M3
MXZ16-☐	16		
MXZ20-☐ ●	20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	M5
MXZ25-☐ ●	25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	

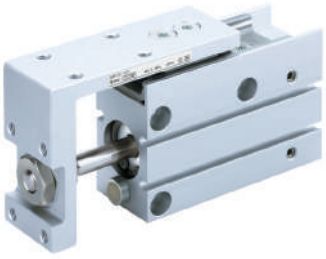
☐: Insert required stroke

Possible auto switches

3 wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2 wire solid state / 2 colour	D-M9BWL

Compact slide table

MXH Series



- Sizes Ø 6 ~ 20 mm, strokes up to 60 mm
- Combination of guide unit and actuator
- Improved moment absorption, excellent guide accuracy
- Compact body design
- Universal mounting option as a result of tapped and through holes on the slide and the body
- Auto switch for stroke end detection with LED can be integrated in the body
- Compared to MXU series, allowable moment is approximately 6 times improved.

Part number	Bore size [mm]	Strokes [mm]	Port size	Cylinder speed
MXH6-☐Z ●	6	5, 10, 15, 20, 25, 30, 40, 50, 60	M5 x 0.8	50 ~ 500 mm/sec
MXH10-☐Z ●	10			
MXH16-☐Z ●	16			
MXH20-☐Z ●	20			

☐: Stroke

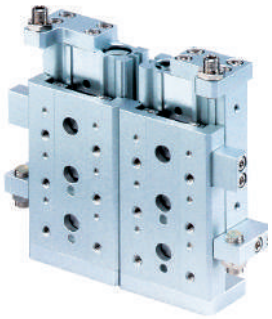
Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Slide table with precision guide

MXS Series



- Sizes Ø 6 ~ 25 mm, strokes max. 150 mm
- Combination of guide unit and dual-rod actuator
- Heavy-duty cam follower guide without backlash
- Stroke adjustment possible at both end positions, each 0 ~ 5 mm (0 ~ 15, 0 ~ 25 mm)
- Cushion by rubber bumpers or shock- absorber
- Universal mounting option (tapped and through holes) on the slide and in the body
- Stoppers can be fitted on the right or left side of the body (symmetric type)
- Auto switch for stroke end detection with LED can be integrated in the body.

Standard version is without stroke setting units

Part number	Bore size [mm]	Standard strokes [mm]	Port size	Stroke adjustment range optional
MXS6-☐ ●	6	10, 20, 30, 40, 50	M3	0 ~ 5 mm 0 ~ 15 mm 0 ~ 25 mm
MXS8-☐ ●	8	10, 20, 30, 40, 50, 75	M5	
MXS12-☐ ●	12	10, 20, 30, 40, 50, 75, 100		
MXS16-☐ ●	16	10, 20, 30, 40, 50, 75, 100, 125		
MXS20-☐ ●	20	10, 20, 30, 40, 50, 75, 100, 125, 150	G1/8	
MXS25-☐ ●	25			

☐: Stroke

Stroke adjustment units

MXS- ☐☐☐-☐☐
① ② ③ ④ ⑤

①

A	With rubber stopper
B	With shock-absorbers (except Ø 6 mm)

②

S	Extension stroke adjustment
T	Retraction stroke adjustment

③ **Bore size**

6	6 mm
8	8 mm
12	12 mm
16	16 mm
20	20 mm
25	25 mm

A wide variety of options and designs is available.

④

—	Standard MXS
L	Mirror-image MXS

⑤ **Setting Range per side for version A**

—	0 ~ 5 mm
X11	0 ~ 15 mm
X12 [1]	0 ~ 25 mm

1) Not available for Ø 6 mm X11 and X12 are not available for shock absorber type.

Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

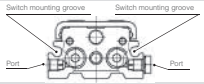
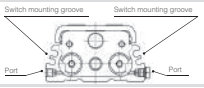
Our highlighted product for you

Air slide table

MXQ Series

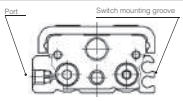
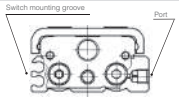
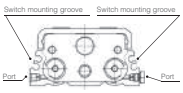
- 1 Guide - 4 bodies
- Combined guide unit and double piston actuator
- Innovative table construction allows compact size with high rigidity
- Various stroke adjusters available: metal stopper with bumper, shock absorber, metal stopper and rubber stopper
- Slide made from hardened stainless steel
- Centre positioning of stroke adjuster
- Integrated linear guide for high load capacity and guide accuracy.

Double ported type

Part number	Bore size [mm]	Double ported type: A	Standard strokes [mm]	Port size
MXQ6A-□Z ●	6		10, 20, 30, 40, 50	M5
MXQ8A-□Z ●	8		10, 20, 30, 40, 50, 75	
MXQ12A-□Z ●	12		10, 20, 30, 40, 50, 75, 100	
MXQ16A-□Z ●	16		10, 20, 30, 40, 50, 75, 100, 125	
MXQ20A-□Z ●	20		10, 20, 30, 40, 50, 75, 100, 125, 150	
MXQ25A-□Z ●	25			

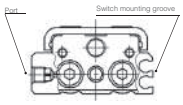
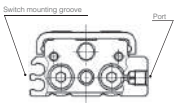
□: Insert required stroke.

Low thrust with high rigidity type

Part number	Bore size [mm]	Standard type: B	Symetric type: BL	Standard strokes [mm]	Port size
MXQ6B-□Z ●	6			10, 20, 30, 40, 50, 75	M5
MXQ8B-□Z ●	8			10, 20, 30, 40, 50, 75, 100	
MXQ12B-□Z ●	12			10, 20, 30, 40, 50, 75, 100, 125	
MXQ16B-□Z ●	16		Note) No setting, as the standard model has the piping ports and auto switch mounting grooves on both sides.	10, 20, 30, 40, 50, 75, 100, 125, 150	
MXQ20B-□Z ●	20				

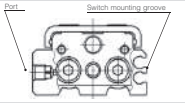
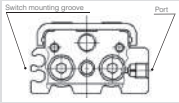
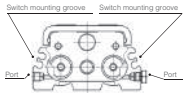
□: Insert required stroke.
L: Symetric type available, place "L" after "B" in sizes 6 to 12 if you want to order it.

Single side ported type

Part number	Bore size [mm]	Standard type: C	Symmetric type: CL	Standard strokes [mm]	Port size
MXQ8C-□Z ●	8			10, 20, 30, 40, 50, 75	M5
MXQ12C-□Z ●	12			10, 20, 30, 40, 50, 75, 100	

□: Insert required stroke
L: Symetric type available, place "L" after "C" if you want to order it.

Height interchangeable type

Part number	Bore size [mm]	Standard type: —	Symetric type: L	Standard strokes [mm]	Port size
MXQ6-□Z ●	6			10, 20, 30, 40, 50	M5
MXQ8-□Z ●	8			10, 20, 30, 40, 50, 75	
MXQ12-□Z ●	12			10, 20, 30, 40, 50, 75, 100	
MXQ16-□Z ●	16		Note) No setting, as the standard model has the piping ports and auto switch mounting grooves on both sides.	10, 20, 30, 40, 50, 75, 100, 125	
MXQ20-□Z ●	20			10, 20, 30, 40, 50, 75, 100, 125, 150	
MXQ25-□Z ●	25				

□: Insert required stroke
L: Symetric type available, place "L" after the bore size in sizes 6 to 12 if you want to order it.

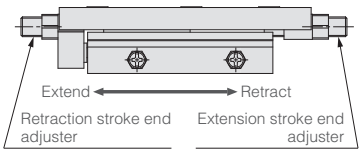
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

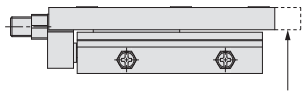
Possible auto switches

3-wire solid state auto switch / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state auto switch / 2 colour	D-M9BWL
3-wire reed auto switch	D-A96
2-wire reed auto switch	D-A93, D-A90

Adjuster mounting position

Shorter total length type





Extension stroke end adjuster mounting holes have been removed to reduce the total length of the table.

Common adjuster options

Applicable model		Metal stopper with bumper		
		Extension stroke end	Retraction stroke end	Metal stopper with bumper only [1]
MXQ8(A,C)	—	MXQA-CS8	MXQA-CT8	MXQA-A887
MXQ12(A,C)	—	MXQA-CS12	MXQA-CT12	MXQA-A1287
MXQ16(A)	—	MXQA-CS16	MXQA-CT16	MXQA-A1687
MXQ20(A)	—	MXQA-CS20	MXQA-CT20	MXQA-A2087
MXQ25(A)	—	MXQA-CS25	MXQA-CT25	MXQA-A2587
—	**MXQ8B**	MXQB-CS8	MXQB-CT8	MXQB-A887
—	**MXQ12B**	MXQB-CS12	MXQB-CT12	MXQB-A1287
—	**MXQ16B**	MXQB-CS16	MXQB-CT16	MXQB-A1687
—	**MXQ20B**	MXQB-CS20	MXQB-CT20	MXQB-A2087

1) Metal stopper with bumper only: a single unit stopper without stopper block, adjustment nut and hexagon socket head cap screw.

Applicable model	Rubber Stopper			Shock Absorber (RJ)		
	Extension stroke end	Retraction stroke end	Rubber stopper only	Extension stroke end	Retraction stroke end	Shock absorber only
MXQ6 (A)	MXQA-AS8	MXQA-AT8	MXQA-A827	MXQA-JS8	MXQA-JT8	RJ0603N
MXQ6B						
MXQ8 (A,C)						
MXQ12 (A,C)	MXQA-AS12	MXQA-AT12	MXQA-A1227	MXQA-JS12	MXQA-JT12	RJ0805N
MXQ8B						
MXQ16 (A)	MXQA-AS16	MXQA-AT16	MXQA-A1627	MXQA-JS16	MXQA-JT16	RJ1006N
MXQ12B						
MXQ20 (A)	MXQA-AS20	MXQA-AT20	MXQA-A2027	MXQA-JS20	MXQA-JT20P [1]	RJ1007HN
MXQ16B						
MXQ25 (A)	MXQA-AS25	MXQA-AT25	MXQA-A2527	MXQA-JS25	MXQA-JT25	RJ1410N
MXQ20B						

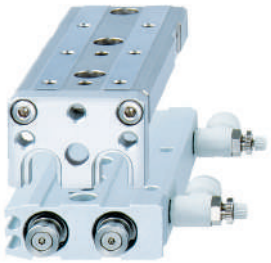
1) Since the retraction stroke end shock absorber of the MXQ20(A) and MXQ16B has a different thread size from the thread of the product, use the mounting plate to mount the shock absorber. This makes the part number to be different from other sizes. (The part number has a suffix “P”).

Applicable model	Metal stopper		
	Extension stroke end	Retraction stroke end	Metal stopper only [1]
MXQ6 (A)	MXQA-DS8	MXQA-DT8	MXQA-A838
MXQ6B			
MXQ8 (A,C)			
MXQ12 (A,C)	MXQA-DS12	MXQA-DT12	MXQA-A1238
MXQ8B			
MXQ16 (A)	MXQA-DS16	MXQA-DT16	MXQA-A1638
MXQ12B			
MXQ20 (A)	MXQA-DS20	MXQA-DT20	MXQA-A2038
MXQ16B			
MXQ25 (A)	MXQA-DS25	MXQA-DT25	MXQA-A2538
MXQ20B			

1) Metal stopper only: a single unit of the stopper without stopper block, adjustment nut, or hexagon socket flat countersunk head cap screw.

Slide table reversible type

MXQR Series



- Sizes 6 ~ 25 mm
- Strokes up to 150 mm
- A wide variety of designs are available as options
- Piping and adjuster positions can be changed on site to suit the installation conditions
- Integration of the guide rail and the table.

Part number	Bore size [mm]	Standard strokes [mm]	Port size	Stroke adjustment range
MXQR6-☐	6	10, 20, 30, 40, 50	M5 x 0.8	0 ~ 5 mm 0 ~ 15 mm 0 ~ 25 mm
MXQR8-☐	8	10, 20, 30, 40, 50, 75		
MXQR12-☐	12	10, 20, 30, 40, 50, 75, 100		
MXQR16-☐	16	10, 20, 30, 40, 50, 75, 100, 125		
MXQR20TF-☐	20	10, 20, 30, 40, 50, 75, 100, 125, 150	G1/8	
MXQR25TF-☐	25			

☐: Stroke

Stroke adjustment units

MXQR- ☐ ☐ ☐ - ☐☐

① ② ③ ④

①

A	With rubber stopper
B	With shock-absorbers (except Ø 6 mm)
C	With metal stopper
J [1]	With shock absorber RJ short stroke type

1) Not available for Ø 6 mm

②

S	Extension stroke adjustment
T	Retraction stroke adjustment

③ **Bore size**

6	6 mm
8	8 mm
12	12 mm
16	16 mm
20	20 mm
25	25 mm

④ **Setting range**

—	0 ~ 5 mm
X11 [2]	0 ~ 15 mm
X12 [2] [3]	0 ~ 25 mm

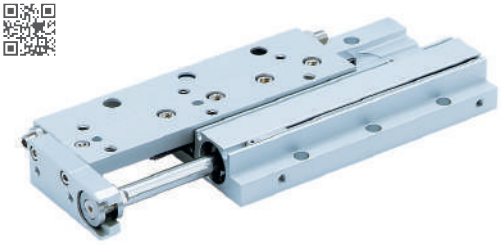
2) Not available for Ø 6 mm
3) X11 and X12 are not available for shock absorber type.

Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP: D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Low profile slide table

MXF Series



- Sizes Ø 8 ~ 20 mm, Strokes up to 100 mm
- Combination of guide unit and actuator (small profile design)
- Cam follower guide without backlash
- Universal mounting option (tapped and through holes) on the slide and in the body
- Stroke adjustment on both sides
- Auto switch with LED and 2-wire design can be integrated in the body.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Stroke adjustment range
MXF8-☐ ●	8	10, 20, 30	M3	0 ~ 5 mm both sides
MXF12-☐ ●	12	20, 30, 50	M5	
MXF16-☐ ●	16	30, 50, 75		
MXF20-☐ ●	20	30, 50, 75, 100		

☐: Stroke length

Stroke adjusting units

MXF-A 8 27- X11
① ②

① Applicable cylinder bore size

8	8 mm
12	12 mm
16	16 mm
20	20 mm

② Adjustable range

—	5 mm	Standard
X11 [1)]	15 mm	Option
X12 [1)2)]	25 mm	Option

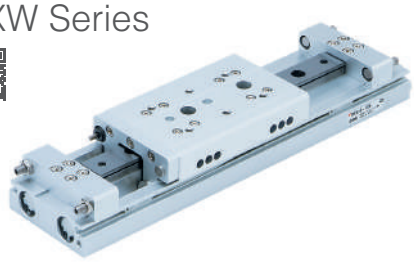
1) -X11 and -X12 are not available as built-in product.
2) -X12 (Adjustable range 25 mm) is not available for series MXF8 / MXF12.

Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Slide table with precision guide

MXW Series



- Sizes Ø 8 ~ 25 mm, Strokes up to 300 mm
- Combination of guide unit and dual-rod actuator
- Recirculating ball bearing guide without backlash
- Stroke adjustment at both end positions each 0 ~ 5 mm
- Universal mounting option (tapped and through holes) on the slide and body
- Auto switch with LED and 2 – wire design can be integrated in the body.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Stroke adjustment range
MXW8- □■ ●	8	25, 50, 75, 100, 125, 150	M5	5 mm both sides
MXW12-□■ ●	12	50, 75, 100, 125, 150		
MXW16-□■ ●	16	75, 100, 125, 150, 175, 200		
MXW20-□■ ●	20	100, 125, 150, 175, 200, 225, 250	G1/8	
MXW25-□■ ●	25	100, 125, 150, 175, 200, 225, 250, 275, 300		

□: Stroke length
■: Stopper: - : Rubber stopper
B : Shock-absorber

Stroke adjusting units

MXW-A 8 12- X11
① ②

① Applicable cylinder bore size

8	8 mm
12	12 mm
16	16 mm
20	20 mm
25	25 mm

② Adjustable range

—	5 mm	Standard
X11 [2]	15 mm	Option

1) The above model number is one adjuster bolt assembly only.
2) The air slide table already assembled with -X11 adjuster bolt assembly is not available.

Accessories (Shock absorbers)

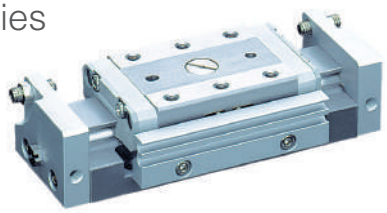
Shock absorber model	RB0805-X552	RB0806-X552	RB1007-X552	RB1412-X552	RB2015-X552
Suitable slide table	MXW8	MXW12	MXW16	MXW20	MXW25

Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Precision slide table with linear guide

MXP Series



- Sizes Ø 6 ~ 16 mm, strokes 5 ~ 30 mm
- Mini compact slide unit with precise ball bearing linear guides
- Cylinder function double-acting
- Stroke adjustment in both end MXP positions (as standard)
- Auto switch for stroke end detection with LED can be integrated into the body (except MXPJ6)
- Shock absorber on both sides available (except MXP6, MXP8).

Miniature slide

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Stroke setting range	Stoppers
MXPJ6-□ ●	6	5, 10	M3	—	—

□: Stroke length

Standard design

Part number	Bore size [mm]	Standard Stroke [mm]	Port size	Stroke setting range	Stoppers
MXP6-□■ ●	6	5, 10	M3	One side only	Rubber stopper, shock-absorber (except Ø 6, Ø 8) metal stoppers
MXP8-□■ ●	8	10, 20	M5	Both sides	
MXP10-□■ ●	10	10, 20			
MXP12-□■ ●	12	15, 25			
MXP16-□■ ●	16	20, 30			

□: Stroke length
■: Stoppers: –: Elastic
B: Shock-absorber
C: Metal stoppers

Possible auto switches

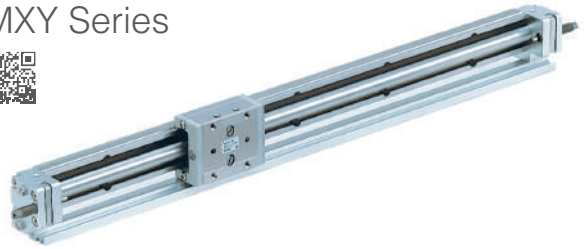
Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Accessories / Shock absorber

Shock absorber model	RB0805	RB0806
Applicable slide table	MXP10/12	MXP16

Slide table, long, stroke type

MXY Series



- Magnetically coupled rodless cylinder with high-precision recirculating ball bearing
- Extremely compact dimensions
- Long stroke up to 400 mm, at Ø 12 mm possible
- Stroke adjustment and auto switch rail as standard.

Standard design

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Stroke adjustment range
MXY6-□■ ●	6	50, 100, 150, 200	Centralised on one side M5	Rubber and metal: 0 ~ 5 mm Shock-absorber at Ø 12: 0 ~ 15 mm
MXY8- □■ ●	8	50, 100, 150, 200, 250, 300		
MXY12-□■ ●	12	50, 100, 150, 200, 250, 300, 350, 400		

□: Stroke length
■: Stoppers: –: rubber stopper
C: metal stopper
B: Shock-absorber only available for Ø 12 mm

Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Accessories / Shock absorber

Applicable size	Shock absorber model
MXY12	RB0806

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Mechanically jointed, rodless cylinder, basic type

MY1B Series

- Sizes Ø 10 ~ 100 mm, Strokes up to 5000 mm
- Guide slide for vertical loading and longitudinal moments
- Reduced length as compared to piston rod cylinders with the same stroke
- Force-efficient power transmission between piston and slide
- Resin seal belt reduces leakage
- Steel dust seal band with resin cover provides optimum protection of the sealing track
- Stroke adjusting unit combined with shock-absorbers and / or adjusters
- Piping ports either on one side or both sides.

Part number	Bore size [mm]	Standard stroke [1] [mm]	Port size	Cushion
MY1B10G-☐ ●	10	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	M5	Rubber bumper
MY1B16G-☐ ●	16			Adjustable air cushion
MY1B20G-☐ ●	20			
MY1B25TFG-☐Z ●	25	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	Front / Slide / Back port: G1/8, Bottom port: Ø 5	
MY1B32TFG-☐Z ●	32		Front / Slide / Back port: G1/8, Bottom port: Ø 6	
MY1B40TFG-☐Z ●	40		Front / Slide / Back port: G1/4, Bottom port: Ø 8	
MY1B50G-☐ ●	50	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	G3/8	
MY1B63G-☐ ●	63			
MY1B80G-☐	80		G1/2	
MY1B100G-☐	100			

☐: Stroke length

1) Suffix -XB11 in part number for strokes > 2000 mm. Maximum stroke is 5000 mm, except in Ø 10 and Ø 16, which is 3000 mm.

Stroke adjustment units

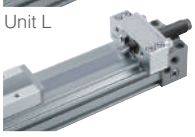
Type \ Bore size [mm]		Ø 10	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40
A unit (With adjusting bolt)	Left	MY-A10A1	MY-A16A1	MY-A20A1	MY-A25A1	MY-A32A1	MY-A40A1
	Right	MY-A10A2	MY-A16A2	MY-A20A2	MY-A25A2	MY-A32A2	MY-A40A2
L unit (Low load shock absorber + adjusting bolt)	Left	—	—	MY-A20L1	MY-A25L1	MY-A32L1	MY-A40L1
	Right	—	—	MY-A20L2	MY-A25L2	MY-A32L2	MY-A40L2
H unit (High load shock absorber + adjusting bolt)	Left	MY-A10H1	—	MY-A20H1	MY-A25H1	MY-A32H1	MY-A40H1
	Right	MY-A10H2	—	MY-A20H2	MY-A25H2	MY-A32H2	MY-A40H2

Shock-absorbers for L and H units

Ø [mm]	10	20	25	32	40
Type L	—	RB0806	RB1007	RB1412	RB1412
Type H	RB0805	RB1007	RB1412	RB2015	RB2015

Unit A

Unit L



Unit H

Side support mounting

Floating bracket mounting

Accessories

Size [mm]	Side supports type A (Through hole)	Type (Tapped hole)	Mounting with floating bracket
10	MY-S10A	MY-S10B	MY-J10
16	MY-S16A	MY-S16B	MY-J16
20	MY-S20A	MY-S20B	MY-J20
25	MY-S25A	MY-S25B	MY-J25
32	MY-S25A	MY-S25B	MY-J32
40	MY-S32A	MY-S32B	MY-J40
50	MY-S32A	MY-S32B	MY-J50
63	MY-S50A	MY-S50B	MY-J63
80	MY-S63A	MY-S63B	MY-J80
100	MY-S63A	MY-S63B	MY-J100

Possible auto switches

Ø 10 • 16 • 20 • 25 • 32 • 40 • 63 • 80 • 100 mm

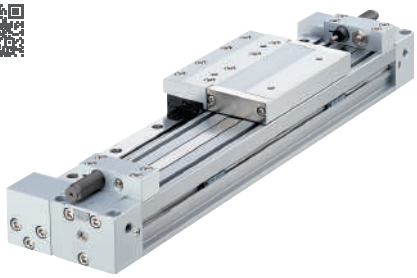
Reed	D-A93L
3-wire, solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Ø 50 mm

Reed	D-Z73L, D-Z80L
3-wire, solid state	NPN: D-Y59AL, PNP:D-Y7PL
2-wire solid state	D-Y59BL

Mechanically jointed, rodless cylinder, linear guide type

MY1H Series



- Sizes: 10 ~ 40 mm
- Strokes up to 1500 mm
- Slide table design: Recirculating linear guides
- For all loading directions, and for the accommodation of longitudinal and lateral moments
- Reduced length as compared to piston rod cylinders with the same stroke
- Force-efficient power transmission between piston and slide
- Resin seal belt reduces leakage
- Steel dust seal band with resin cover provides optimum protection of the sealing track
- Stroke adjusting unit combined with shock absorbers and adjusting bolts
- Piping port either on one side or both sides
- Auto switch for stroke end detection and intermediate stroke detection can be integrated in the body.

Part number	Bore size [mm]	Standard stroke [1] [mm]	Port size	Cushion
MY1H10G-□ ●	10	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600 (max.1000 for Ø 16 and Ø 20)	M5	Rubber bumper
MY1H16G-□ ●	16			Adjustable air cushion
MY1H20G-□ ●	20			
MY1H25TFG-□Z ●	25	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600 (max.1500)	Front / Side / Back port: G1/8 Bottom port: G1/16	
MY1H32TFG-□Z ●	32			
MY1H40TFG-□Z ●	40		Front / Side / Back port: G1/4 Bottom port: G1/8	

□: Stroke length
1) Add "-XB10" to the end of the part number for non-standard strokes from 51 to 599. Also when exceeding 600 mm stroke,specify "-XB11" at the end of the part number (except Ø 10).

Stroke adjustment units

Type	Bore size [mm]	Ø 10	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40
Unit A (With adjusting bolt)	Left	MYH-A10A1	MYH-A16A1	MYH-A20A1	MYH-A25A1	MYH-A32A1	MYH-A40A1
	Right	MYH-A10A2	MYH-A16A2	MYH-A20A2	MYH-A25A2	MYH-A32A2	MYH-A40A2
Unit L (Low load shock absorber + adjusting bolt)	Left	—	—	MY-HA20L1	MYH-A25L1	MYH-A32L1	MYH-A40L1
	Right	—	—	MYH-A20L2	MYH-A25L2	MYH-A32L2	MYH-A40L2
Unit H (High load shock absorber + adjusting bolt)	Left	MYH-A10H1	—	MYH-A20H1	MYH-A25H1	MYH-A32H1	MYH-A40H1
	Right	MYH-A10H2	—	MYH-A20H2	MYH-A25H2	MYH-A32H2	MYH-A40H2

Shock-absorbers for L and H units

Bore size [mm]	Ø 10	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40
L Unit	—	RB0806		RB1007	RB1412	
H Unit	RB0805	—	RB1007	RB1412	RB2015	

1) MY1H16 is not available with H unit.
MY1H10 is not available with A and L units.

Side supports

Bore size [mm]	Ø 10	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40
Type A (Through hole)	MY-S10A	MY-S16A	MY-S20A	MY-S25A	MY-S32A	MY-S40A
Type B (Tapped hole)	MY-S10B	MY-S16B	MY-S20B	MY-S25B	MY-S32B	MY-S40B

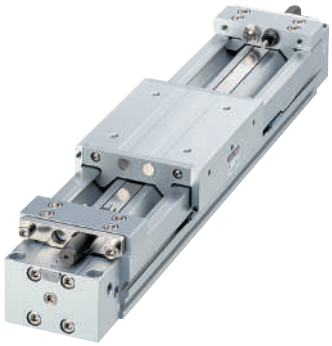
Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	PNP: D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Mechanically jointed, rodless cylinder, slide bearing guide type

MY1M Series



- Sizes Ø 16 ~ 63 mm, strokes up to 5000 mm
- Slide with four slide bearing rails for all loading directions, in addition to accommodation of longitudinal and lateral moments
- Reduced length as compared to piston rod cylinders with the same stroke
- Force-efficient power transmission between piston and slide
- Resin seal belt reduces leakage
- Steel dust seal band with resin cover provides optimum protection of the sealing track
- Stroke adjustment unit combined with shock-absorbers and / or adjusting bolts
- Piping port either on one side or both sides
- Auto switch for stroke end detection and intermediate stroke detection can be integrated in the body.

Part number	Bore size [mm]	Standard stroke [1] [mm]	Port size	Cushion
MY1M16G-☐ ●	16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	M5	Adjustable air cushion
MY1M20G-☐ ●	20			
EMY1M25G-☐ ●	25		G1/8	
EMY1M32G-☐ ●	32	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000		
EMY1M40G-☐ ●	40		G1/4	
EMY1M50G-☐	50	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	G3/8	
EMY1M63G-☐	63			

☐: Stroke length

1) Suffix -XB11 in part number for strokes >2000 mm. Maximum stroke is 5000 mm, except in Ø 16, which is 3000 mm

Stroke adjustment units

Bore size [mm]	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
Unit A (With adjusting bolt)	MYM-A16A	MYM-A20A	MYM-A25A	MYM-A32A	MYM-A40A	MYM-A50A	MYM-A63A
Unit L (Low load shock absorber + adjusting bolt)	MYM-A16L	MYM-A20L	MYM-A25L	MYM-A32L	MYM-A40L	MYM-A50L	MYM-A63L
Unit H (High load shock absorber + adjusting bolt)	—	MYM-A20H	MYM-A25H	MYM-A32H	MYM-A40H	MYM-A50H	MYM-A63H

Side supports

Size [mm]	Type A (Through hole)	Type B (Tapped hole)
16	MY-S16A	MY-S16B
20	MY-S20A	MY-S20B
25	MY-S25A	MY-S25B
32	MY-S32A	MY-S32B
40, 50	MY-S40A	MY-S40B
63	MY-S63A	MY-S63B

Possible auto switches

Ø 10 • 16 • 20 • 50 • 63 mm

Reed	D-A93L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

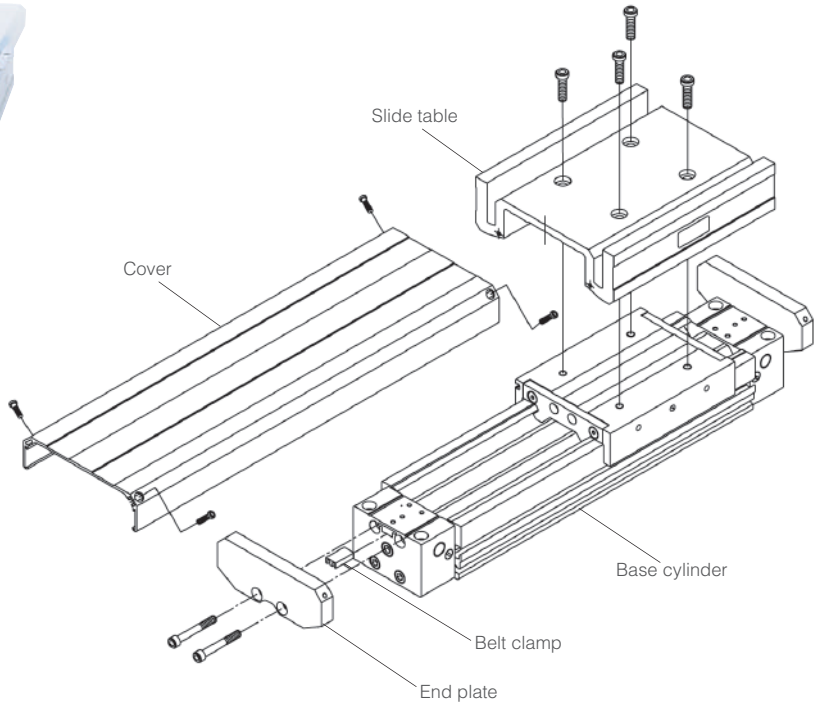
Ø 25 • 32 • 40 mm

Reed	D-Z73L, D-Z80L
3-wire, solid state	NPN: D-Y59AL, PNP:D-Y7PL
2-wire solid state	D-Y59BL

Mechanically jointed, rodless cylinder with protective covering

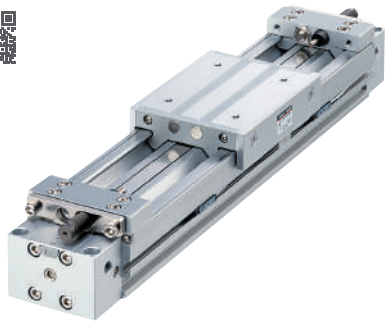
MY1□W Series

- Can be supplied for cylinder series MY1M and MY1C
- Provides optimum protection against coarse contaminants
- Protective cover can be retro-fitted to standard cylinders
- Can be supplied for Ø 16, 20, 25, 32, 40, 50 and 63 mm.



Mechanically jointed, rodless cylinder

MY1C Series



- Sizes: 16 ~ 63 mm
- Strokes up to 5000 mm
- Slide table design: With cam follower guides
- For all loading directions, and for the accommodation of longitudinal and lateral moments
- Reduced length as compared to piston rod cylinders with the same stroke
- Force-efficient power transmission between piston and slide
- Resin seal belt reduces leakage
- Steel dust seal band with resin cover provides optimum protection of the sealing track
- Stroke adjusting unit combined with shock absorbers and adjusting bolts
- Piping port either on one side or both sides
- Auto switch for stroke end detection and intermediate stroke detection can be integrated in the body.

Part number	Bore size [mm]	Standard stroke [1] [mm]	Port size	Cushion
MY1C16G-☐ ●	16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	M5	Adjustable air cushion
MY1C20G-☐ ●	20			
MY1C25G-☐ ●	25	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	G1/8	
MY1C32G-☐ ●	32			
MY1C40G-☐ ●	40	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	G1/4	
MY1C50G-☐ ●	50		G3/8	
MY1C63G-☐	63			

☐: Stroke length

1) Suffix -XB11 in part number for strokes >2000 mm. Maximum stroke is 5000 mm, except in Ø 16, which is 3000 mm

Stroke adjustment units

Bore size [mm]	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
Unit A (With adjusting bolt)	MYM-A16A	MYM-A20A	MYM-A25A	MYM-A32A	MYM-A40A	MYM-A50A	MYM-A63A
Unit L (Low load shock absorber + adjusting bolt)	MYM-A16L	MYM-A20L	MYM-A25L	MYM-A32L	MYM-A40L	MYM-A50L	MYM-A63L
Unit H (High load shock absorber + adjusting bolt)	—	MYM-A20H	MYM-A25H	MYM-A32H	MYM-A40H	MYM-A50H	MYM-A63H

Shock-absorbers for L and H units

Bore size [mm]	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
L Unit	RB0806		RB1007	RB1412		RB2015	
H Unit	—	RB1007	RB1412	RB2015		RB2725	

1) MY1C16 is not available with H unit.

Side supports

Bore size [mm]	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40, Ø 50	Ø 63
Type A (Through hole)	MY-S16A	MY-S20A	MY-S25A	MY-S32A	MY-S40A	MY-S63A
Type B (Tapped hole)	MY-S16B	MY-S20B	MY-S25B	MY-S32B	MY-S40B	MY-S63B

Possible auto switches

Reed	Ø 16 to Ø 32, Ø 50, Ø 63 mm: D-A93L, D-A90L, Ø 40 mm: D-Z73L, D-Z80L
3-wire, solid state	Ø 16 to Ø 32, Ø 50, Ø 63 mm: D-M9PWL, Ø 40 mm: D-Y7PL
2-wire solid state	Ø 16 to Ø 32, Ø 50, Ø 63 mm: D-M9BWL, Ø 40 mm: D-Y59BL

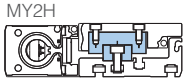
Mechanically jointed, rodless cylinder, low profile design

MY2C/H/HT Series

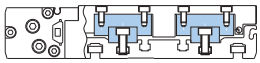
- Compact, extremely flat design
- Height reduction by 30 % compared to MY1
- Bore sizes 16, 25 and 40 mm
- Increased load and moment capacity are possible
- Available either with one (MY2H) or two (MY2HT) linear guides
- Cylinder can be replaced without removing the work piece
- MY2C: Cam follower guides
- MY2H/HT: Linear guides.

MY2C

MY2H



MY2HT



Part number	Bore size [mm]	Standard stroke [1] [mm]	Number of guides	Moments M1 / M2 / M3 [N•m]	Port size	Cushion
MY2C16G-☐	16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 max. Ø 16: 3000, max. Ø 25 / 40: 5000	—	5 / 4 / 3,5	M5	Adjustable Cushion
MY2C25TFG-☐	25			13 / 14 / 10	G1/8	
MY2C40TFG-☐	40			45 / 33 / 28	G1/4	
MY2H16G-☐ ●	16	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600 max. Ø 16: 1000, Ø 25 / 40: 1500 [2]	1	7 / 6 / 7 28 / 26 / 26 60 / 50 / 60	M5 G1/8 G1/4	
MY2H25TFG-☐ ●	25					
MY2H40TFG-☐	40					
MY2HT16G-☐ ●	16		2	46 / 55 / 46 100 / 120 / 100 200 / 220 / 200	M5 G1/8 G1/4	
MY2HT25TFG-☐ ●	25					
MY2HT40TFG-☐	40					

☐: Stroke length
1) Suffix "-XB11" in part number for strokes > 2000 mm in MY2C and > 600 mm in MY2H and MY2HT.
2) Add "-XB10" to the end of the part number for non-standard strokes from 51 to 599.

Stroke adjusting unit

Bore size [mm]		Ø 16	Ø 25	Ø 40
MY2C	L	MY2H-A16L	MY2H-A25L	MY2C-A40L
	H	—	MY2H-A25H	MY2C-A40H
MY2H	L	MY2H-A16L	MY2H-A25L	MY2H-A40L
	H	MY2H-A16H	MY2H-A25H	MY2H-A40H
MY2HT	L	MY2HT-A16L	MY2HT-A25L	MY2HT-A40L
	H	MY2HT-A16H	MY2HT-A25H	MY2HT-A40H

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
2 wire solid state / 2 colour - NPN	D-M9NWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Mechanically jointed, rodless cylinder, short type

MY3A/3B/3M Series

- Sizes Ø 16, 20, 25, 32, 40, 50, 63 mm, strokes up to 3000 mm
- High functionality with reduced height and length:
  - Height reduced by 36 % at the maximum
  - Overall length reduced by 140 mm at the maximum
  - Weight reduced by 53 % at the maximum
    (Comparison with Series MY1B)
- Stroke adjusting unit combined with shock absorbers and adjusting
- Piping ports either on one side or both sides.

Short style cylinder (rubber bumper)

Part number	Bore size [mm]	Standard stroke [mm] [1]	Port size	Cushion
MY3A16-☐ ●	16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 (max. 3.000)	M5	Rubber bumper
MY3A20TF-☐	20		M5	
MY3A25TF-☐ ●	25	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 (max. 3.000)	G1/8	
MY3A32TF-☐	32		G1/8	
MY3A40TF-☐ ●	40		G1/4	
MY3A50TF-☐	50		G3/8	
MY3A63TF-☐	63		G3/8	

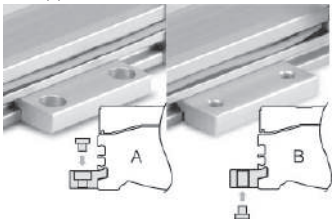
Part number	Bore size [mm]	Standard stroke [mm] [1]	Port size	Cushion
MY3B16-☐ ●	16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 (max. 3.000)	M5	Adjustable air cushion
MY3B20TF-☐	20		M5	
MY3B25TF-☐ ●	25		G1/8	
MY3B32TF-☐	32	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 (max. 3.000)	G1/8	
MY3B40TF-☐ ●	40		G1/4	
MY3B50TF-☐	50		G3/8	
MY3B63TF-☐	63		G3/8	

Part number	Bore size [mm]	Standard stroke [mm] [1]	Port size	Cushion
MY3M16-☐ ●	16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 (max. 3.000)	M5	Adjustable air cushion
MY3M25TF-☐ ●	25		G1/8	
MY3M40TF-☐ ●	40		G1/4	
MY3M63TF-☐	63		G3/8	

☐: Stroke length
1) Suffix -XB11" in part number for strokes > 2000 mm

Stroke adjustment unit

Side supports
The cylinder tube can be fixed from the upper or lower side.



Floating bracket
Easy connection with external guide.
Vertical and lateral mounting is possible.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Stroke adjustment unit for MY3B and MY3M models

Type	Bore size [mm]	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
L Unit	Left	MY3☐-A16L1	MY3B-A20L1	MY3☐-A25L1	MY3B-A32L1	MY3☐-A40L1	MY3B-A50L1	MY3☐-A63L1
	Right	MY3☐-A16L2	MY3B-A20L2	MY3☐-A25L2	MY3B-A32L2	MY3☐-A40L2	MY3B-A50L2	MY3☐-A63L2
H Unit	Left	MY3☐-A16H1	MY3B-A20H1	MY3☐-A25H1	MY3B-A32H1	MY3☐-A40H1	MY3B-A50H1	MY3☐-A63H1
	Right	MY3☐-A16H2	MY3B-A20H2	MY3☐-A25H2	MY3B-A32H2	MY3☐-A40H2	MY3B-A50H2	MY3☐-A63H2

☐ B = MY3B, M = MY3M

Side supports

Ø [mm]	Type A	Type B
16	MY-S16A	MY-S16B
20	MY-S20A	MY-S20B
25	MY-S25A	MY-S25B
32, 40	MY-S32A	MY-S32B
50, 63	MY-S40A	MY-S40B

Mounting with floating bracket (MY3A and MY3B)

Ø [mm]	Part No.
16	MYAJ16
20	MYAJ20
25	MYAJ25
32	MYAJ32
40	MYAJ40
50	MYAJ50
63	MYAJ63

Shock-absorbers for L and H units

Bore size [mm]	16, 20	25, 32	40, 50	63
Type L	RB0806	RB1007	RB1412	RB2015
Type H	RB1007	RB1412	RB2015	RB2725

Unit L: Low load shock-absorber and adjusting bolt
Unit H: High load shock-absorber and adjusting bolt

Possible auto switches, Ø 10 • 16 • 20 mm

Reed	D-A93L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Rodless cylinder, basic and direct mount types

CY3B/CY3R Series

- Sizes Ø 6 ~ 63 mm, strokes up to 5000 mm
- Magnetically coupled rodless cylinder field
- Reduced length as compared to piston rod cylinders with the same stroke length
- Reduced radial dimensions
- Tube with square slide.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Cushion
CY3■6-□ ●	6	50, 100, 150, 200	M3	Rubber bumper
CY3■10-□ ●	10	50, 100, 150, 200, 250, 300	M5	
CY3■15-□ ●	15	50,100,150, 200, 250, 300, 350, 400, 450, 500, 600		
CY3■20TF-□ ●	20	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	G1/8	
CY3■25TF-□ ●	25			
CY3■32TF-□	32			
CY3■40TF-□ ●	40	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	G1/4	
CY3■50TF-□	50			
CY3■63TF-□	63			

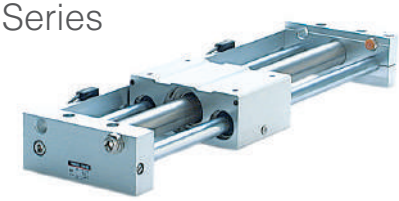
□: Stroke length
■ B: Standard, R: Additional slide guide

Possible auto switches (for CY3R)

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

Magnetic rodless cylinder, slider type (Slide bearing)

CY1S Series



- Lube retainers are installed on the internal and external surface of the cylinder tube to improve retention of lubrication
- Double-side piping and centralised piping types are available
- 3 adjuster types: bumper bolt, shock absorber and metal adjustment bolt are available
- Auto switch mounting rail fitted as standard.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Cushion
CY1S6-□Z	6	50, 100, 150, 200	M5	Standard rubber optional: shock absorber
CY1S10-□ Z	10	50, 100, 150, 200, 250, 300		
CY1S15-□ Z ●	15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500		
CY1S20TF-□Z	20	100,150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	G1/8	
CY1S25TF-□Z	25	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800		
CY1S32TF-□Z	32	100,150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800		
CY1S40TF-□Z	40	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	G1/4	

□: Insert required stroke.
Centralised piping type also available, place a “G” after CY1S if you want to order it.

Possible auto switches

Reed	D-A93L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Accessories (Shock absorbers)

Bore size [mm]	Part number
6	RJ0604
10	RJ0806H
15	RJ0806L
20	RJ1007L
25	RJ1412L
32	RJ2015H
40	RJ2015L

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Magnetic rodless cylinder, linear guide type

CY1H/CY1HT Series

- Sizes Ø 10 ~ 25 mm, 32 mm with CY1HT, strokes up to 1500 mm
- Enclosed design with one (CY1H) or two (CY1HT) high precision guide
- For increased load absorption at extremely high precision
- Auto switch can be integrated in the body
- Pre-machined mounting holes in the slide.

Part number	Bore size [mm]	Nº of guides	Standard stroke [mm]	Port size	Cushion
CY1H10-□ ●	10	1	100, 200, 300	M5	Standard: elastic Optional: shock absorber
CY1H15-□ ●	15	1	100, 200, 300, 400, 500		
CY1H20-□ ●	20	1	100, 200, 300, 400, 500, 600	Rc1/8	
CY1H25-□ ●	25	1	100, 200, 300, 400, 500, 600, 800		
CY1HT25-□ ●	25	2	100, 200, 300, 400, 500, 600, 800, 1000		
CY1HT32-□ ●	32	2			

□: Stroke length

Accessories / Shock absorber

Cylinder size	Part number
10	RB0805
15	RB0806
20	RB1006
25	RB1411
32	RB2015

Possible auto switch

Reed	D-Z73L, D-Z80L
3-wire, solid state	PNP:D-Y7PL
2-wire solid state	D-Y59BL

Magnetic rodless cylinder, low profile guide type

CY1F Series

- Sizes Ø 10, 15 and 25 mm
- Magnetically coupled rodless cylinder with lateral guide, resulting in extremely low profile
- Drive cylinder can be removed from the slide without the use of tools
- Adjustable stroke ends
- Slide with integrated shock-absorber.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Cushion
CY1F10R-□■ ●	10	50, 100, 150, 200, 250, 300	Centralized on one side M5	Shock absorber on both sides in the slide
CY1F15R-□■ ●	15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500		
CY1F25TFR-□■	25	100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600	G1/8	

□: Insert required stroke.
■: Stopper: –: Standard 2 mm adjustable
A: Extended 25 mm adjustable

Stroke adjustment bolts

Bore size	Standard	extended 25 mm
10, 15	CYF-S10	CYF-L10
25	CYF-S25	CYF-L25

Possible auto switches

Reed	D-A90L, D-A93L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Rodless cylinder for clean rooms and vacuum chambers

CYP/CYV Series

- Internally-controlled start-up and deceleration behaviour produces a sinusoidal motion, ensuring jolt-free operation
- No particle generation, since slide runs without contact with the cylinder tubing
- CYP: - For Clean Room
  - No suction vacuum necessary
  - 1 / 20 of the particle generation compared to 12-CY3B-Series
  - Fitted and double-packaged under clean room conditions.
- CYV: - For use in vacuum chambers
  - Particle generation (on average, 0,1 Particles / Cycle)
  - Leakage 1.3 x 10^{-7} Pa · m^3/s
  - Seals separate vacuum and atmosphere
  - Operation conditions: Atmospheres up to 1.3 x 10^{-4} Pa (ABS).

Part number	Bore size [mm]	Standard stroke [mm]	Stroke adjustment	Operating pressure [MPa]
CYP□-■	15, 32	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700	On both sides: ± 1 mm	0.05 ~ 0,3
CYV□-■	15, 32		On both sides: -2 ~ 0 mm	

□: Diameter
■: Stroke length

Possible auto switches (for CYP)

Reed	D-Z93L
3 wire solid state / 2 colour - PNP	D-Y7PWL
3 wire solid state / 2 colour - NPN	D-Y7NWL

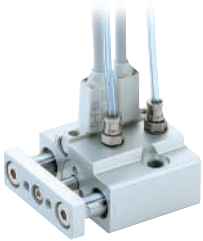
Miniature guide rod cylinder

MGJ Series

- Sizes Ø 6, 10 mm, strokes up to 20 mm
- Non-rotating accuracy: ±0.1°
- Two auto switches can be mounted even for 5 mm strokes
- Integral wiring / piping to one direction

Part number	Bore size [mm]	Standard stroke [mm] [1)]	Port size	Cushion
MGJ6-□ ●	6	5, 10, 15	M3	Rubber bumper (at both ends)
MGJ10-□ ●	10	5, 10, 15, 20		

□: Stroke length
1) Intermediate stroke (by the 1 mm stroke) available, consult SMC.
Minimum stroke for auto switch mounting is 4 mm.



Possible auto switch

3-wire solid state	NPN: D-F8NL, PNP:D-F8PL
2-wire solid state	D-F8BL

Our highlighted product for you

Compact guide cylinder, basic type

MGP Series

- 3 types of bearing
- 4 mounting possibilities
- Piping connection possible from 2 sides
- Rubber cushion
- Auto switches can be mounted directly on 2 surfaces
- Weight reduced.

Possible auto switches

Reed	D-A93L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

Standard cylinder with slide bearing

Part number	Bore size [mm]	Standard stroke [mm]	Port size
MGPM12-□Z ●	12	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	M5
MGPM16-□Z ●	16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	
MGPM20TF-□Z ●	20	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G1/8
MGPM25TF-□Z ●	25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPM32TF-□Z ●	32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPM40TF-□Z ●	40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPM50TF-□Z ●	50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G1/4
MGPM63TF-□Z ●	63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPM80TF-□Z ●	80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G3/8
MGPM100TF-□Z	100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	

□: Insert required stroke

Standard cylinder with ball bushing

Part number	Bore size [mm]	Standard stroke [mm]	Port size
MGPL12-□Z ●	12	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	M5
MGPL16-□Z ●	16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	
MGPL20TF-□Z ●	20	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G1/8
MGPL25TF-□Z ●	25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPL32TF-□Z ●	32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPL40TF-□Z ●	40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPL50TF-□Z ●	50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G1/4
MGPL63TF-□Z ●	63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPL80TF-□Z	80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G3/8
MGPL100TF-□Z	100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	

□: Insert required stroke

Standard cylinder with high precision ball bushing

Part number	Bore size [mm]	Standard stroke [mm]	Port size
MGPA12-□Z	12	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	M5
MGPA16-□Z	16		
MGPA20TF-□Z	20	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	G1/8
MGPA25TF-□Z	25		
MGPA32TF-□	32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
MGPA40TF-□Z	40		
MGPA50TF-□Z	50		G1/4
MGPA63TF-□Z	63		
MGPA80TF-□Z	80		G3/8
MGPA100TF-□Z	100		

□: Insert required stroke

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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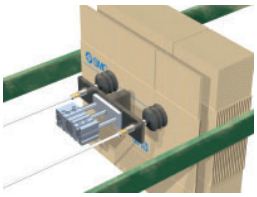
Compact guide cylinder with air cushion
MGP□-□A Series



- The air cushion is standardised
- This compact guide cylinder has an adjustable cushion to reduce noise generation and vibration This allows more than three times as much kinetic energy to be absorbed as compared with rubber bumper cushion.

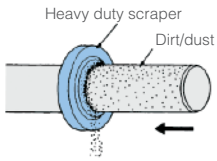
Water resistant cylinders
MGPM□R/V Series

- Ideal for use in a machine tool environment exposed to coolants. Applicable for use in an environment with water splashing such as food processing and car wash equipment, etc.

Heavy duty guide rod cylinder with improved load resistance
MGPS Series

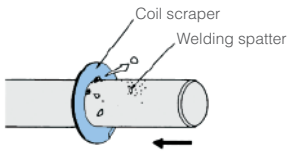
- Lateral load resistance: 10 % increase
- Eccentric load resistance: 25 % increase
- Impact load resistance: 140 % increase.

Compact guide cylinder with heavy duty scraper
MGP-XC4 Series



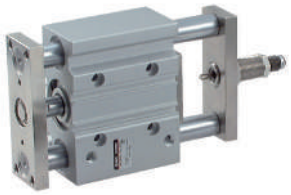
- The stiff lip scrapes off dust and dirt which stick to the rod.

Compact guide cylinder with coil scraper
MGP-XC35 Series



- The thin ring shaped phosphor bronze plate scrapes off welding spatter, etc. which sticks to the rod.

Compact guide cylinder with shock absorber
MGP-XC69 Series



- Extended stroke can be adjusted by adjustment screw.
- Extended stroke adjustment:
  Ø 12 to Ø 25: 15 mm
  Ø 32 to Ø 63: 25 mm
  Ø 80, Ø 100: 30 mm

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Compact guide cylinder

JMGP Series

- Compact and lightweight
- Piping is possible in 4 directions
- 3 mounting options
- Strokes up to 200 mm
- Bore sizes Ø: 12 ~ 100 mm
- Bumper cushion.

Part number	Bore size [mm]	Stroke [mm]	Port size
JMGPM12-□ ●	Ø 12 (Ø 10 x 2)	10, 20, 30, 50, 100	M3
JMGPM16-□ ●	Ø 16 (Ø 12 x 2)		
JMGPM20-□ ●	Ø 20 (Ø 16 x 2)	20, 30, 50, 100, 150	M5
JMGPM25-□ ●	Ø 25 (Ø 20 x 2)	20, 30, 50, 100, 150	
JMGPM32-□ ●	Ø 32 (Ø 25 x 2)	25, 50, 100, 150, 200	
JMGPM40TF-□ ●	Ø 40 (Ø 32 x 2)		G1/8
JMGPM50TF-□ ●	Ø 50 (Ø 40 x 2)		
JMGPM63TF-□ ●	Ø 63 (Ø 45 x 2)		
JMGPM80TF-□ ●	Ø 80 (Ø 56 x 2)	25, 50, 100, 150, 200	G1/4
JMGPM100TF-□	Ø 100 (Ø 71 x 2)	25, 50, 100, 150, 200	

□: Stroke, length

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Compact guide cylinder, wide type

MGPW Series

- Tripled moment absorption by doubling the guide pitch
- 3 types of bearing
- 3 mounting possibilities
- Option: side ported piping connector
- Rubber cushion
- Auto switches can be mounted directly on 2 surfaces
- Equivalent weight to the basic type.

Slide bearing

Part number	Bore size [mm]	Standard stroke [mm]	Port size
MGPWM20TF-☐	20	25, 50, 75, 100, 125, 150, 175, 200	G1/8
MGPWM25TF-☐ ●	25		
MGPWM32TF-☐ ●	32		
MGPWM40TF-☐ ●	40		
MGPWM50TF-☐	50		G1/4
MGPWM63TF-☐	63		

☐: Stroke length

Ball bushing

Part number	Bore size [mm]	Standard stroke [mm]	Port size
MGPWL20TF-☐	20	25, 50, 75, 100, 125, 150, 175, 200	G1/8
MGPWL25TF-☐	25		
MGPWL32TF-☐	32		
MGPWL40TF-☐	40		
MGPWL50TF-☐	50		G1/4
MGPWL63TF-☐	63		

☐: Stroke length

High precision ball bushing

Part number	Bore size [mm]	Standard stroke [mm]	Port size
MGPWA20TF-☐	20	25, 50, 75, 100, 125, 150, 175, 200	G1/8
MGPWA25TF-☐	25		
MGPWA32TF-☐	32		
MGPWA40TF-☐	40		
MGPWA50TF-☐	50		G1/4
MGPWA63TF-☐	63		

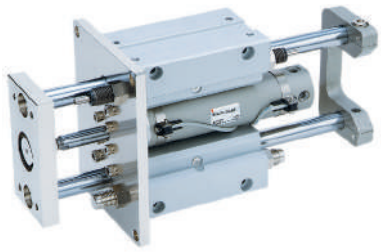
☐: Stroke length

Possible auto switches

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Guide cylinder
MGG Series



- Bore sizes Ø 20 ~ 100 mm, strokes up to max. 1300 mm
- High quality guide unit with standard round cylinder
- Guide rod bearing with either slide or ball bushing bearing
- Large diameter guide rods with long support bearing for high lateral load resistance and non-rotating precision
- Integrated shock-absorber and adjustment bolts to allow effective cushion of large mass forces
- Body mounting possible on all sides
- Simple stroke adjustment by moving the rear plate
- Integrated grease port as standard.

Part number	Bore size [mm]	Standard stroke [mm] 1)	Port size	Cushion	
				Cylinder	Guide
MGG■B20-□ ●	20	75, 100, 125, 150, 200	Rc1/8	Rubber bumper	Shock absorber (2 pcs.)
MGG■B25-□ ●	25	75, 100, 125, 150, 200, 250, 300			
MGG■B32-□ ●	32				
MGG■B40-□ ●	40				
MGG■B50-□ ●	50		Rc1/4		
MGG■B63-□	63				
MGG■B80-□	80		Rc3/8		
MGG■B100-□	100		Rc1/2		

□: Insert required stroke
■: M: Slide bush guide bearing
L: Ball bush guide bearing
1) Longer strokes available on request

Accessories / Shock absorber

Shock absorber model	Applicable guide cylinder
RB1007	MGG□□20
RB1412	MGG□□25,32
RB2015	MGG□□40, 50,63
RB2725	MGG□□80,100

Possible auto switches

Bore sizes	Ø 20 ~ Ø 63	Ø 80 ~ Ø 100
Reed	D-A93L	D-B54L
3 wire solid state / 2 colour - PNP	D-M9PWL	D-G5PWL
3 wire solid state / 2 colour - NPN	D-M9NWL	D-G59WL

Guide table
MGF Series

- Bore sizes Ø 40, 63 and 100 mm, strokes from 30 ~ 100 mm
- Compact stroke table to accommodate eccentric loads; with built-in non-rotating mechanism
- Cylinder function double-acting
- Low height with respect to stroke
- Rubber bumper cushion
- Autoswitch for stroke end detection can be integrated into body contour.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Cushion
MGF40TF-□ ●	40	30, 50, 75, 100	G1/8	Rubber bumper
MGF63TF-□ ●	63		G1/4	
MGF100TF-□ ●	100		G1/4	

□: Stroke length

Possible auto switches

Reed	D-Z73L, D-Z80L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Precision cylinder

MTS Series

- Sizes Ø 8 ~ 40 mm, Standard strokes up to 200 mm
- Cylinders with high quality recirculating ball bearing on the piston rod for improved repeatability and non-rotating accuracy
- Double-acting cylinder function, with air cushion at both ends
- Mounting possibilities on all four body sides and the front with reduced deflection
- Auto switch for stroke end detection can be integrated in the body profile
- End lock, stroke adjustment units are available as options.

Part number	Bore size [mm]	Standard stroke [mm]	Port size	Cushion
MTS8-☐	8	5, 10, 15, 20, 25, 30	M3	Rubber bumper
MTS12-☐ (M) ●	12	25, 50, 75, 100	M5	Air Cushion
MTS16-☐ (M) ●	16			
MTS20-☐ (M) ●	20	25, 50, 75, 100, 125, 150, 175, 200		
MTS25-☐ (M) ●	25			
MTS32TF-☐ (M)	32	25, 50, 75, 100, 125, 150, 175, 200	G1/8	
MTS40TF-☐ (M) ●	40			

☐: Stroke length

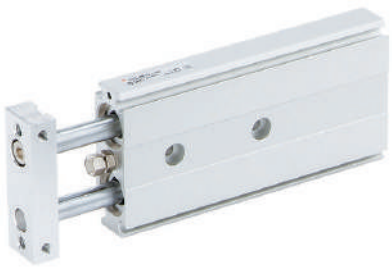
Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

∗ MTS with end lock and stroke adjustment mechanism on request.

Dual-rod cylinder: Compact type

CXSJ Series



- Improved auto switch mounting possible from 4 sides
- Profiles reduced by approx. 30 % and weight reduced by approx. 40 % in comparison with conventional cylinders
- With either slide bearings or ball bushing bearings.

Part number	Bore size [mm]	Standard strokes [mm] adjustable 5 mm	Port size	Guide	Auto switch
CXSJM6-☐ ●	6	10, 20, 30, 40, 50	M3	Slide bearing	Reed: D-A93L, D-A90L 2-wire solid state D-M9BL 3 wire PNP solid state D-M9PL
CXSJM10-☐ ●	10	10, 20, 30, 40, 50, 75	M5		
CXSJM15-☐ ●	15	10, 20, 30,, 40, 50, 75, 100	M5		
CXSJM20-☐ ●	20	10, 20, 30, 40, 50, 75, 100	M5		
CXSJM25-☐	25	10, 20, 30, 40, 50, 75, 100	M5		
CXSJM32-☐	32		G1/8		
CXSJL6-☐	6	10, 20, 30, 40, 50	M3	Ball bushing bearing	
CXSJL10-☐	10	10, 20, 30, 40, 50, 75	M5		
CXSJL15-☐	15	10, 20, 30, 40, 50, 75, 100	M5		
CXSJL20-☐	20		M5		
CXSJL25-☐	25		M5		
CXSJL32-☐	32		G1/8		

☐: Stroke length

Dual-rod cylinder

CXS Series

- Sizes Ø 6 ~ 32 mm
- Guide cylinder with small body profile
- Guide piston rod with slide or ball bushing bearings
- Air connections can be located in two alternative positions
- Auto switch can be integrated into body
- Cushion bolts fitted as standard
- Stroke adjustment in the range of 5 mm with cylinder retracted.

Slide bush guides

Part number	Bore size [mm]	Standard strokes [mm]	Port size	Stroke adjustment range
CXSM6-☐ ●	6	10, 20, 30, 40, 50	M5	0 ~ -5 mm
CXSM10-☐ ●	10	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75	M5	
CXSM15-☐ ●	15	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100		
CXSM20-☐ ●	20			
CXSM25TF-☐ ●	25		G1/8	
CXSM32TF-☐ ●	32			

☐: Stroke length

Ball bush guides

Part number	Bore size [mm]	Standard strokes [mm]	Port size	Stroke adjustment range
CXSL6-☐ ●	6	10, 20, 30, 40, 50	M5	0 ~ -5 mm
CXSL10-☐ ●	10	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75	M5	
CXSL15-☐ ●	15	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100		
CXSL20-☐ ●	20			
CXSL25-☐ ●	25		R1/8	
CXSL32-☐ ●	32			

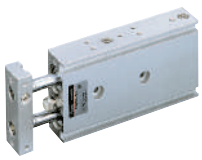
☐: Stroke length

Possible auto switch

Reed	D-Z73L, D-Z80L
3-wire, solid state	NPN: D-Y59AL, PNP:D-Y7PL
2-wire solid state	D-Y59BL

Dual-rod cylinder with air cushion

CXS☐☐A Series



- Piston-Ø 20, 25, and 32 mm can be supplied with adjustable endpoint damping.

Dual-rod cylinder with end lock

CXS☐☐R Series

- Piston-Ø 6, 10, 15, 20, 25, and 32 mm can be supplied with end lock.

Dual-rod cylinder with double rod

CXSW Series

- Piston-Ø 6, 10, 15, 20, 25, and 32 mm can be supplied with double rod.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Specialty cylinders

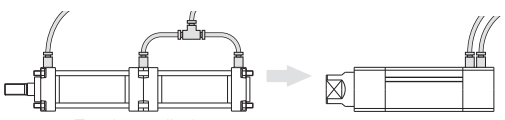
Double power cylinder

MGZ/MGZR Series

- Double-acting double power cylinder
- Highly loadable as a result of integrated slide bearing
- Non-rotating rod (MGZ) - by slide bearing with built-in non-rotating mechanism
- Double extension output power by “piston in piston construction”
- Approx. 30 % reduced overall length compared with standard cylinders in tandem arrangement
- Moment absorption is the same as guide cylinders (e.g. MGP), but with a 40 % reduced overall width
- Improved non-rotating accuracy: ±0,3°
- Optimum design by the use of profile tube, auto switch can be integrated in grooves
- Simple piping connection via 2 ports, resulting from internal air channels
- Pre-cut mounting threads in cylinder covers and piston rod
- Series MGZ with end lock available.

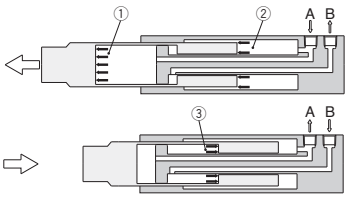
Part number	Bore size [mm]	Standard stroke [mm]	Theoretical output, extension stroke [N] at 0,6 MPa	Cushion	Type	Port size
MGZ20-☐ ●	20	75, 100, 125, 150, 175, 200, 250, 300 Long stroke version up to 1000 mm available (800 mm for Ø 20, Ø 25)	436	Rubber bumper	With non-rotating mechanism	M5
MGZ25TF-☐	25		651			G1/8
MGZ32TF-☐ ●	32		973			G1/8
MGZ40TF-☐ ●	40		1520			G1/4
MGZ50TF-☐ ●	50		2309			
MGZ63TF-☐ ●	63		3567			
MGZ80TF-☐	80		5829			G3/8
MGZR20-☐	20		436		Without non-rotating mechanism	M5
MGZR25TF-☐	25		651			G1/8
MGZR32TF-☐	32		973			G1/8
MGZR40TF-☐	40		1520			G1/4
MGZR50TF-☐	50		2309			
MGZR63TF-☐	63		3567			
MGZR80TF-☐	80		5829			G3/8

☐: Stroke length
Mounting elements such as foot brackets, flanges on request



Possible auto switches

Reed	D-A93L, D-A90L
3-wire solid state / 2 colour - PNP	D-M9PWL
2-wire solid state / 2 colour	D-M9BWL



Accessories

Bore size [mm]	20	25	32	40	50	63	80
Foot	MGZ-L02	MGZ-L25	MGZ-L03	MGZ-L04	MGZ-L05	MGZ-L06	MGZ-L08
Flange	MGZ-F02	MGZ-F25	MGZ-F03	MGZ-F04	MGZ-F05	MGZ-F06	MGZ-F08
Double clevis [1) 2)]	MGZ-D02	MGZ-D25	MGZ-D03	MGZ-D04	MGZ-D05	MGZ-D06	MGZ-D08
Double clevis bracket	MB-B03	MB-B03	MB-B05	MB-B05	MB-B08	MB-B08	MB-B12
Floating joint	JB40-8-125		JB63-10-150	JB80-16-200	JB100-20-250		JB140-22-250

1) Only for MGZR
2) Double clevis bracket is provided with clevis pins and cotter pins.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

3 position cylinder
RZQ Series

- First-stage stroke can be specified without changing the overall length
- ±0.02 or less repeatability in intermediate stop positioning
- First-stage stroke can be freely specified
- Wide variations in mounting.

Part number	Bore size [mm]	Standard stroke [mm]	Port size
RZQA32TF-□-■	32	Full stroke: 25, 50, 75, 100, 125, 150, 175, 200, 250, 300 First-stage stroke: 5 mm to "full stroke" -1 mm	G1/8
RZQA40TF-□-■	40		
RZQA50TF-□-■	50		G1/4
RZQA63TF-□-■	63		

□: Full stroke
■: First-stage stroke

Accessories

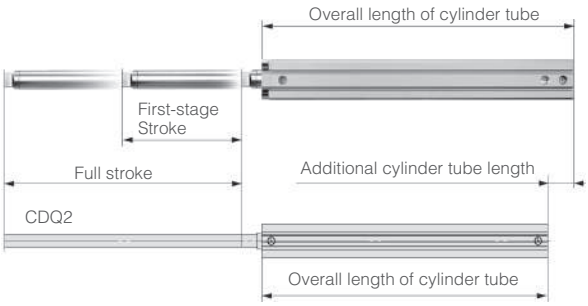
Bore size [mm]	32	40	50	63
Foot [1)]	RZQ-L032	RZQ-L040	RZQ-L050	RZQ-L063
Flange	RZQ-F032	RZQ-F040	RZQ-F050	RZQ-F063
Double clevis	RZQ-D032	RZQ-D040	RZQ-D050	RZQ-D063
Floating joint	JB40-8-125	JB63-10-150		JB80-16-200

1) When ordering foot brackets, order two pieces per cylinder.

Possible auto switch

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

- 2-stage stroke enabled with a small increase in length



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Sine rodless cylinder

REA Series

- 6 design variants:
  REA: Basic type
  REAR: Basic type with auto switch
  REAS/REAL: Slider type with 2 slide or ball bushing bearing rod guides
  REAH: With a high precision guide rail
  REAHT: With 2 high precision guide rails
- Internally-controlled start-up and deceleration behaviour to achieve a sinusoidal movement, there by ensuring jolt-free operation.

Part number	Bore size [mm]	Standard stroke [1] [mm]	Nº of guides
REA□-■	25 ,32	200, 250, 300, 350, 400, 450, 500, 600, 700, 800	—
	40, 50, 63	200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	—
REAR□-■R **EAS□-■** **REAL□-■**	10	150, 200, 250, 300	—
	15	150, 200, 250, 300, 350, 400, 450,500	2
	20, 25, 32	200, 250, 300, 350, 400, 450, 500, 600, 700,800	2
	40	200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	2
REAH□-■	10	150, 200, 300	1
	15	150, 200, 300, 400, 500	
	20	200, 300, 400, 500, 600	
	25	200, 300, 400, 500, 600, 800	
REAHT□-■	25, 32	200, 300, 400, 500, 600, 800, 1000	2

□: Diameter.
■: Stroke length
1) Diameter-specific stroke limitations possible

Possible auto switches (for REAR)

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

Possible auto switches (for REAL and REAS)

Reed	D-A73HL
3 wire solid state / 2 colour - PNP	D-F7PWL
3 wire solid state / 2 colour - NPN	D-F79WL

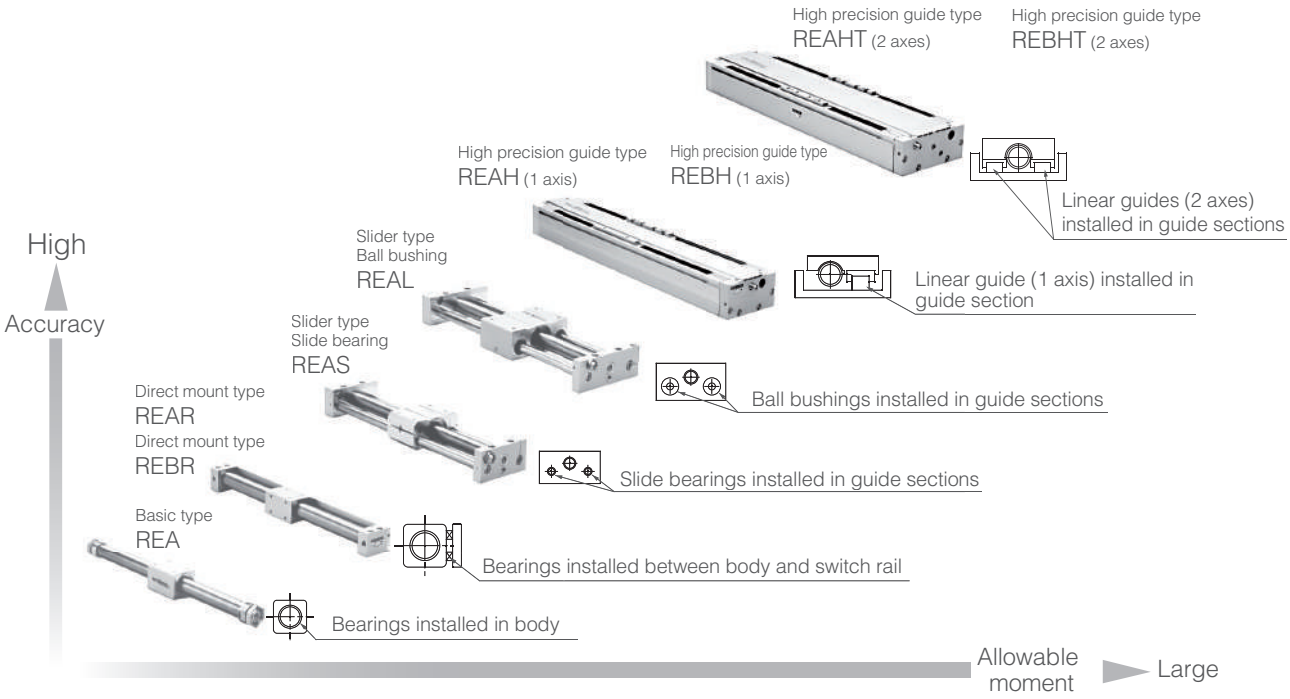
Possible auto switches (for REAH and REAHT)

Reed	D-Z73L
3 wire solid state / 2 colour - PNP	D-Y7PWL
3 wire solid state / 2 colour - NPN	D-Y7NWL

Sine rodless high speed cylinder

REB Series

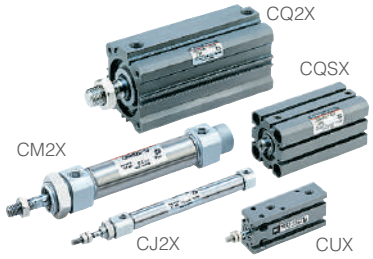
- Expansion of the sine-cylinder series
- Max. speed 600 mm/sec
- REBR: With Ø 15, 25, 32 mm
- REBH: With Ø 15, 25 mm
- REBHT: With Ø 25, 32 mm
- Max. strokes: Ø 15: 750 mm
  Ø 25, 32: 1500 mm



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Low speed cylinder
C□X Series

- Improved low friction characteristics
- Uniform piston operation from 0,5 mm/s, no stick and slip effect
- No lurching guaranteed, even after long standstill times.



Part number	Bore size [mm]	Standard strokes [mm]	Operating pressure [MPa]	Piston speed [mm/s]
CDJ2XB□-■Z	10	15, 30, 45, 60, 75, 100, 125, 150	0.06 ~ 0.7	1 ~ 300
	16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200		
CDUX□-■D	10,16	5, 10, 15, 20, 25, 30	0.06 ~ 0.7	1 ~ 300
	20, 25, 32	5, 10, 15, 20, 25, 30, 40, 50	0.05 ~ 0.7	0.5 ~ 300
CDQSXB□-■D	12, 16	5, 10, 15, 20, 25, 30	0.03 ~ 1.0	1 ~ 300
	20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	0.025 ~ 1.0	0.5 ~ 300
CDQ2XB□TF-■D	32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100		
	50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	0.01 ~ 1.0	
CDM2XB□TF-■Z	20, 25, 32, 40	25, 50, 75, 100, 125, 150, 200, 250, 300	0.025 ~ 1.0	0.5 ~ 300

□: Bore size
■: Stroke Length
Version without magnet, with rubber dumper, mounting brackets auto switch on request.

CM2X accessories

Bore size [mm]	20	25	32	40
Axial foot [1]	CM-L020B	CM-L032B		CM-L040B
Flange type	CM-F020B	CM-F032B		CM-F040B
Single clevis	CM-C020B	CM-C032B		CM-C040B
Double clevis with pins [2]	CM-D020B	CM-D032B		CM-D040B
Trunnion (with nuts)	CM-T020B	CM-T032B		CM-T040B
Single knuckle joint	I-020B	I-032B		I-040B
Double knuckle joint [2]	Y-020B	Y-032B		Y-040B
Clevis pivot bracket (For CM2XE) [2] [3]	CM-E020B		CM-E032B	

1) When ordering foot brackets, order two pieces per cylinder.
2) Clevis pin and retaining ring (cotter pin for Ø 40) are attached.
3) It cannot be used for single clevis style (CM2C) and double clevis style (CM2D).
4) Clevis bracket pins and retaining rings are included.

Possible auto switches
(for CJ2X, CUX, CQSX, CQ2X and CM2X)

Reed	D-A93L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

CQ2X accessories

Bore size [mm]	32	40	50	63	80	100
Foot type [1]	CQ-L032	CQ-L040	CQ-L050	CQ-L063	CQ-L080	CQ-L100
Flange type	CQ-F032	CQ-F040	CQ-F050	CQ-F063	CQ-F080	CQ-F100
Double clevis type [2]	CQ-D032	CQ-D040	CQ-D050	CQ-D063	CQ-D080	CQ-D100
Single knuckle joint	I-G04	I-G04	I-G05	I-G05	I-G08	I-G10
Double knuckle joint [3]	Y-G04	Y-G04	Y-G05	Y-G05	Y-G08	Y-G10
Knuckle pin [4]	IY-G04	IY-G04	IY-G05	IY-G05	IY-G08	IY-G10
Joint part number	YU-03	YU-03	YU-05	YU-05	YU-08	YU-10
Type A mounting bracket for joint	YA-03	YA-03	YA-05	YA-05	YA-08	YA-10
Type B mounting bracket for joint	YB-03	YB-03	YB-05	YB-05	YB-08	YB-10

1) When ordering foot brackets, order two pieces per cylinder.
2) For the double clevis type, clevis pins and snap ring are packaged together.
3) Knuckle pin and retaining ring are attached.
4) Type C retaining rings for axis are included.

CJ2X accessories

Bore size [mm]	10	16
Foot bracket	CJ-L010C	CJ-L016C
Flange bracket	CJ-F010C	CJ-F016C
T-bracket [1]	CJ-T010C	CJ-T016C
Single knuckle joint	I-J010C	I-J016C
Double knuckle joint [2]	Y-J010C	Y-J016C
Knuckle pin	CD-J010	IY-J015
Rod end cap flat type	CJ-CF010	CJ-CF016
Rod end cap round type	CJ-CR010	CJ-CR016

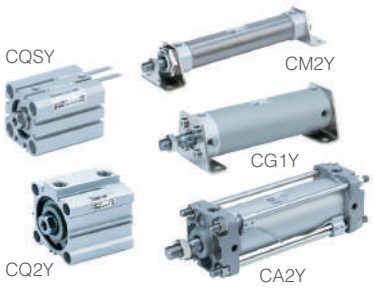
1) T-bracket is applicable to double clevis type (D).
2) Knuckle pin and retaining ring are shipped together.

CQSX accessories

Bore size [mm]	12	16	20	25
Foot type [1]	CQS-L012	CQS-L016	CQS-L020	CQS-L025
Flange type	CQS-F012	CQS-F016	CQS-F020	CQS-F025
Double clevis type	CQS-D012	CQS-D016	CQS-D020	CQS-D 025
Single knuckle joint	I-G012	I-Z015A	I-G02	I-G03
Double knuckle joint [2]	Y-G012	Y-Z015A	Y-G02	Y-G03

1) When ordering foot brackets, order two pieces per cylinder.
2) Knuckle joint and retaining ring are included

Smooth cylinder
C□Y Series



- 0.03 MPa minimum operating pressure 0.01 to 0.03 MPa precision regulator (e.g. Series IR).
- Smooth operation with less sticking and slipping. Stable operation possible even at a low speed of 5 mm/s (measurement based on JIS B8377)
- Sliding resistance: Bi-directional low friction operation possible. Pressing force can be controlled regardless of its direction.

Part number	Bore size [mm]	Standard strokes [mm]	Operating pressure [MPa]	Piston speed [mm/s]
CDQSYB-□-■DC	12, 16,	5, 10, 15, 20, 25, 30	0.03 ~ 0.7	5 ~ 500
	20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	0.02 ~0.7	
CDQ2YB-□TF-■DCZ	32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	0.02 ~ 0.7	
	50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	0.01 ~ 0.7	
CDA2YB-□TF-■Z	40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	0.02 ~ 0.7	
	50, 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600	0.01 ~ 0.7	
	80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700		
CDM2YB-□TF-■Z	20, 25, 32, 40	25, 50, 75, 100, 125, 150, 200, 250, 300	0.02 ~ 0.7	
CDG1YB-□TF-■Z	20	25, 50, 75, 100, 125, 150, 200	0.02 ~ 0.7	
	25, 32, 40	25, 50, 75, 100, 125 ,150, 200, 250, 300	0.01 ~0.7	
	50, 63, 80, 100			

□: Bore size
■: Stroke length
Version without magnet, with rubber dumper, mounting brackets autoswitch on request.

Possible auto switches
(For CQSY, CQ2Y, CA2Y, CM2Y and CG1Y Ø 20 to Ø 63)

Reed	D-A93L [1]
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

1) Not available in CA2Y Ø 50, use D-A54L instead.

Possible auto switches
(For CG1Y Ø 80 and Ø 100)

Reed	D-B54L
3 wire solid state / 2 colour - PNP	D-G5PWL
3 wire solid state / 2 colour - NPN	D-G59WL

CQSY accessories

Bore size [mm]	12	16	20	25
Foot type [1]	CQS-L012	CQS-L016	CQS-L020	CQS-L025
Flange type	CQS-F012	CQS-F016	CQS-F020	CQS-F025
Double clevis	CQS-D012	CQS-D016	CQS-D020	CQS-D025
Single knuckle joint	I-G012	I-Z015A	I-G02	I-G03
Double knuckle joint [2]	Y-G012	Y-Z015A	Y-G02	Y-G03

1) When ordering foot brackets, order two pieces per cylinder.
2) Knuckle pin and retaining ring are included.

CQZY accessories

Bore size [mm]	32	40	50	63	80	100
Foot type [1]	CQ-L032	CQ-L040	CQ-L050	CQ-L063	CQ-L080	CQ-L100
Flange type	CQ-F032	CQ-F040	CQ-F050	CQ-F063	CQ-F080	CQ-F100
Double clevis	CQ-D032	CQ-D040	CQ-D050	CQ-D063	CQ-D080	CQ-D100
Single knuckle joint	I-G04	I-G04	I-G05	I-G05	I-G08	I-G10
Double knuckle joint [2]	Y-G04	Y-G04	Y-G05	Y-G05	Y-G08	Y-G10
Joint part no.	YU-03	YU-03	YU-05	YU-05	YU-08	YU-10
Type A mounting bracket for joint	YA-03	YA-03	YA-05	YA-05	YA-08	YA-10
Type B mounting bracket for joint	YB-03	YB-03	YB-05	YB-05	YB-08	YB-10

1) When ordering foot brackets, order two pieces per cylinder.
2) Knuckle pin and retaining ring are included

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

CA2Y accessories

Bore size [mm]	40	50	63	80	100
Axial foot [1]	CA2-L04	CA2-L05	CA2-L06	CA2-L08	CA2-L10
Flange type	CA2-F04	CA2-F05	CA2-F06	CA2-F08	CA2-F10
Single clevis	CA2-C04	CA2-C05	CA2-C06	CA2-C08	CA2-C10
Double clevis [2]	CA2-D04	CA2-D05	CA2-D06	CA2-D08	CA2-D10
Trunnion mounting bracket [3]	CA2-S04	CA2-S04	CA2-S06	MB-S10	MB-S10
Double clevis bracket	CA2-B04	CA2-B05	CA2-B06	CA2-B08	CA2-B10
Knuckle pin [4]	CDP-3A	CDP-3A	CDP-3A	CDP-5A	CDP-6A
Y Type double knuckle joint [5]	Y-04D	Y-05D	Y-05D	Y-08D	Y-10D
Single knuckle joint	I-04A	I-05A	I-05A	I-08A	I-10A

1) When axial foot bracket are used, two pieces should be ordered for each cylinder.
2) Double clevis type is packed with clevis pin,flat washer and cotter pin.
3) When the trunnion brackets are specified, two pieces should be ordered for each cylinder.
4) Cotter pins and flat washerers are shipped with the product.
5) Knuckle pins, cotter pins and flat washerers are shipped with the product.

CM2Y accessories

Mounting bracket	Minimum order	Bore size [mm]			Description (when ordering a minimum number)
		20	25, 32	40	
Axial foot [1]	2	CM-L020B	CM-L032B	CM-L040B	Foot 2 pcs. Mounting nut 1 pc.
Flange type	1	CM-F020B	CM-F032B	CM-F040B	Flange 1 pc. Mounting nut 1 pc.
Single clevis [2]	1	CM-C020B	CM-C032B	CM-C040B	Single clevis 1pc. Liner 3 pcs.
Double clevis (with pin) [2] [3]	1	CM-D020B	CM-D032B	CM-D040B	Double clevis 1 pc. Liner 3 pcs. Clevis pin 1pc., Retaining ring 2 pcs.
Trunnion (with nut)	1	CM-T020B	CM-T032B	CM-T040B	Trunnion 1 pc., Trunnion nut 1 pc.
Single knuckle joint	1	I-020B	I-032B	I-032B	—
Double knuckle joint [3]	1	Y-020B	Y-032B	Y-040B	—

1) When ordering foot brackets, order two pieces per cylinder.
2) Three liners are included in the clevis bracket for adjusting an angle when mounting it.
3) Clevis pins and retaining rings (cotter pins for Ø 40) are included.

CG1Y accessories

Mounting bracket	Minimum order	Bore size [mm]								Description
		20	25	32	40	50	63	80	100	
Foot type	2 [1]	CG-L020	CG-L025	CG-L032	CG-L040	CG-L050	CG-L063	CG-L080	CG-L100	Foot 2 pcs., Bracket mounting bolt 8 pcs.
Flange type	1	CG-F020	CG-F025	CG-F032	CG-F040	CG-F050	CG-F063	CG-F080	CG-F100	Flange 1 pc. Bracket mounting bolt 4 pcs.
Trunnion pin	1	CG-T020	CG-T025	CG-T032	CG-T040	CG-T050	CG-T063	–	–	Trunnion pin 2 pcs, Trunnion pivot bracket 2 pcs, Flat washer 2 pcs
Clevis	1	CG-D020	CG-D025	CG-D032	CG-D040	CG-D050	CG-D063	CG-D080	CG-D100	Clevis 1 pc. Bracket mounting bolt 4 pcs. Clevis pin 1pc., Retaining ring 2 pcs.
Pivot bracket	1	CG-020-24A	CG-025-24A	CG-032-24A	CG-040-24A	CG-050-24A	CG-063-24A	CG-080-24A	CG-100-24A	Pivot bracket x1
Single knuckle joint	1	I-G02	I-G03	I-G03	I-G04	I-G05	I-G05	I-G08	I-G10	—
Double knuckle joint [2]	1	Y-G02	Y-G03	Y-G03	Y-G04	Y-G05	Y-G05	Y-G08	Y-G10	—
Knuckle pin [2]	1	IY-G02	IY-G03	IY-G03	IY-G04	IY-G05	IY-G05	IY-G08	IY-G10	—

1) Order two foot brackets per cylinder.
2) Knuckle pin and retaining ring are shipped together.

Compact metal-seal, low friction cylinder

MQQ/MQM Series

- Minimal friction as a result of metal seals and floating bearing of the mechanism
- Low breakaway pressure of 0.005 MPa
- Uniform, smooth operation, even at 0.3 mm/s
- Extended service life, 100 million cycles or 10.000 km
- High speed version up to 3 m/s
- Increased lateral load resistance as a result of integrated ball guides (in the version L).

Part number	Bore size [mm]	Standard strokes [mm]	Operating pressure [MPa]	Speed [mm/s]
MQQTB□-■D ●	10	10, 20, 30, 40	0.005 ~ 0.5	0.3 ~ 300
	16, 20	10, 20, 30, 40, 50, 60		
	25, 30, 40	10, 20, 30, 40, 50, 75,100		
MQQLB□-■D ●	10	10, 20, 30, 40	0.005 ~ 0.7	0.5 ~ 500
	16, 20	10, 20, 30, 40, 50, 60		
	25, 30, 40	10, 20, 30, 40, 50, 75, 100		
MQMLB□-■D ●	6	15, 30, 45, 60	0.02 ~ 0.7	0.5 ~ 1000
	10, 16, 20, 25	15, 30, 45, 60, 75, 100	0.005 ~ 0.7	
MQMLB□H-■D ●	10, 16, 20, 25	15, 30, 45, 60, 75, 100	0.01 ~ 0.7	5 ~ 3000

□: Bore size
■: Stroke length

MQQ accessories
Mounting brackets

Bore size [mm]	10	16	20	25	30	40
Foot [1]	CQS-L016	CQS-L020	CQS-L025	MQ-L032	MQ-L040	CQ-L050
Flange	CQS-F016	CQS-F020	CQS-F025	MQ-F032	MQ-F040	CQ-F050
Double clevis	CQS-D016	CQS-D020	CQS-D025	MQ-D032	MQ-D040	MQ-D050
Rod end thread adapter (with nut)	MQ10-M	MQ16-M	MQ20-M	MQ25-M	MQ28-M	MQ28-M

1) When ordering foot brackets, order two pieces per cylinder.

MQM accessories
Mounting brackets

Bore size [mm]	6	10	16	20	25
Foot [1]	CJK-L016B	MQM-L010	MQM-L016	CM-L020B	CM-L032B
Flange	CJK-F016B		CLJ-F016B	CM-F020B	CM-F032B
Single clevis	—	—	—	CM-C020B	CM-C032B
Double clevis (with pin) [2]	—	—	—	CM-D020B	CM-D032B
T-bracket [3]	CJ-T010B		CJ-T016B	—	—

1) Two foot brackets and one mounting nut are included.
2) Clevis pin and snap ring are included in package.
3) T-bracket is applicable to the double clevis type (D).

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

High-power cylinder
RHC Series

- High-speed special cylinder up to 3000 mm/s
- 8 Sizes, Ø 20 to Ø 100 mm
- Maximum stroke 1500 mm
- Integrated cushion adjustment and long cushion strokes ensure smooth operation and absorbing capacity a high kinetic energy.

Part number	Bore size [mm]	Standard strokes [mm]	Max. stroke [mm]	Max. energy absorption [J]	Effective cushion stroke [mm]
RHCB20-□ ●	20	250 ~ 700	1500	7	Both sides 80
RHCB25-□ ●	25			12	
RHCB32-□ ●	32	250 ~ 1000		21	
RHCB40-□ ●	40			33	
RHCB50-□ ●	50	250 ~ 1200		47	
RHCB63-□ ●	63			84	
RHCB80-□ ●	80	250 ~ 1400		127	
RHCB100-□	100	250 ~ 1500		196	

□: Stroke Length

Accessories
Mounting bracket

Bore size [mm]	20	25	32	40	50	63	80	100
Foot type	RHC-L020	RHC-L025	RHC-L032	RHC-L040	RHC-L050	RHC-L063	RHC-L080	RHC-L100
Flange	RHC-F020	RHC-F025	RHC-F032	RHC-F040	RHC-F050	RHC-F063	RHC-F080	RHC-F100

Possible auto switches

Bore sizes	Ø 20 ~ Ø 63	Ø 80 ~ Ø 100
Reed	D-A93L	D-B54L
3 wire solid state / 2 colour - PNP	D-M9PWL	D-G5PWL
3 wire solid state / 2 colour - NPN	D-M9NWL	D-G59WL

Hydraulic cylinder
CH Series

CHQ

CHM

CHA

- Light and compact body.
- Auto switch can be mounted.
- A wide range of operating pressures, bore sizes, and standard strokes make wide selections possible.

Type	Series	Nominal pressure [MPa]	Bore size [mm]
Compact	CHQ	3.5	20, 32, 40, 50, 63, 80, 100
	CHK	10, 16	20, 25, 32, 40, 50, 63, 80, 100
Round	CHN	7	20, 25, 32, 40
	CHM	3.5	20, 25, 32, 40
Tie-rod	CHS	10, 16	32, 40, 50, 63, 80, 100
	CH2	3.5, 7, 14	32, 40, 50, 63, 80, 100
	CHA	3.5	40, 50, 63, 80, 100, 125, 160

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Rotary clamp cylinder
MK/MK2T Series

MK

MK2T

- Bore sizes 12 ~ 63 mm
- Strokes max. 50 mm
- Rotary movement either clockwise or counterclockwise.
- Clamping force up to max. theoretical value of 1400 N.

Combined linear and rotary movement

MK standard

Part number	Bore size [mm]	Clamp stroke [mm]	Port sizes	Cushion
MKB12-□■Z ●	12	10, 20, 30	M5	Rubber bumper
MKB16-□■Z ●	16			
MKB20-□■Z ●	20			
MKB25-□■Z ●	25			
MKB32TF-□■Z ●	32	10, 20, 30, 50	G1/8	
MKB40TF-□■Z ●	40			
MKB50TF-□■Z ●	50		G1/4	
MKB63TF-□■Z ●	63			

MK2T: Double guide type

Part number	Bore size [mm]	Clamp stroke [mm]	Port sizes	Cushion
MK2TB20-□■N ●	20	10, 20	M5	Rubber bumper
MK2TB25-□■N ●	25			
MK2TB32TF-□■N ●	32		G1/8	
MK2TB40TF-□■N ●	40			
MK2TB50TF-□■N ●	50	20, 50	G1/4	
MK2TB63TF-□■N ●	63			

□: Clamp stroke
■ L: Counter-clockwise rotation
R: Clockwise rotation

Possible auto switches

Reed	D-A90L, D-A93L
3-wire, solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL

MK accessories

Bore size [mm]	12	16	20	25	32	40	50	63	Accessories
Arm	MK-A012Z	MK-A016Z	MK-A020Z		MK-A032Z		MK-A050Z		Clamp bolt, hexagon socket head cap screw, hexagon nut, spring washer
Flange	CQS-F012	CQS-F016	MKZ- F020	MKZ- F025	MK2T-F032	MK2T-F040	MK2T-F050	MK2T-F063	Hexagon socket head cap screw

MK2T accessories

Bore size [mm]	20	25	32	40	50	63	Accessories
Arm	MK-A020		MK-A032		MK-A050	MK2T-A063	Clamp bolt, hexagon socket head cap screw, hexagon nut, spring washer
Flange	CQS-F020	CQS-F025	MK2T-F032	MK2T-F040	MK2T-F050	MK2T-F063	Hexagon socket head cap screw

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Clamp cylinder

CK1 Series

- Magnetic field resistant auto switches are mountable from 3 directions
- Built-in speed controller
- Flexible Air Cushion as it can be selected in one or both ends and adjusted as needed
- Clevis width: 16.5 mm and 19.5 mm
- Piping ports are located on 3 surfaces.

Built-in standard magnet type	Built-in strong magnet type	Without magnet	Bore size [mm]	Standard strokes [mm]	Clevis width [mm]	Port size	Operating pressure [MPa]	Piston speed [mm/s]
CKG1A40TF-□Z	**CKP1A40TF-□Z**	**CK1A40TF-□Z**	40	50,75,100,125,150	16.5	G1/4	0.05 to 1.0	50 to 500
CKG1A50TF-□Z	**CKP1A50TF-□Z**	**CK1A50TF-□Z**	50	50,75,100,125,150,200				
CKG1A63TF-□Z	**CKP1A63TF-□Z**	**CK1A63TF-□Z**	63	50,75,100,125,150,200				
CKG1B40TF-□Z	**CKP1B40TF-□Z**	**CK1B40TF-□Z**	40	50,75,100,125,150	19.5			
CKG1B50TF-□Z	**CKP1B50TF-□Z**	**CK1B50TF-□Z**	50	50,75,100,125,150,200				
CKG1B63TF-□Z	**CKP1B63TF-□Z**	**CK1B63TF-□Z**	63	50,75,100,125,150,200				

□: Insert required stroke
-X1515: With air cushion on both ends. Place "-X1515" at the end of the part number if you want to order it.

Accessories

Description		Part number	
		CK□1A	CK□1B
Single knuckle joint	M6 without tap	CKB-I04	
	M6 with tap	CKB-IA04	
Double knuckle joint (A knuckle pin, cotter pins, flat washers are equipped as a standard)	M6 without tap	CKA-Y04	CKB-Y04
	M6 with tap	CKA-YA04	CKB-YA04
Limit switch mounting base		CK-B04	
Dog fitting [1)]		CK-D04	
Foot		CK-L04	
Pedestal	Stroke 75	CKA-K075	—
	Stroke 100	CKA-K100	—
	Stroke 150	CKA-K150	—

1) When you attach a dog fitting, be sure to use a knuckle joint, M6 with tap

Possible magnetic field resistant auto switches

2 wire solid state auto switch	CKG1
2-colour indication - 0.3 m lead wire	D-P4DWSE
2-colour indication - 3 m lead wire	D-P4DWL

2 wire reed auto switch	CKP1
2-colour indication - 0.3 m lead wire	D-P79WSE
1-colour indication - 3 m lead wire	D-P74L

Stopper cylinder
RSQ Series

- Up to 90 kg of transferred object, with speed of up to 30 m/min
- Bore sizes Ø 12 ~ 50 mm, strokes max. 30 mm
- Compact auto switches can be mounted on 4 faces
- Various rod end configurations to be selected according to each application
- Double-acting , single acting.

Round bar version, double acting

Part number	Bore size [mm]	Standard strokes [mm]	Port sizes	Cushion
RSDQB12-10D■	12	10	M5 x 0.8	Rubber bumper
RSDQB16-□ D■Z	16	10, 15		
RSDQB20-□D■Z	20	10, 15, 20	R1/8	
RSDQB32-□D■Z	32	10, 15, 20		
RSDQB40-□D■Z	40	20, 25, 30		
RSDQB50-□D■Z	50	20, 25, 30		

□: Stroke Length
■: Version: –: Round bar type
R: Roller type

Lever version, double acting

Part number	Bore size [mm]	Standard strokes [mm]	Port size	Cushion
RSDQB32-□DLZ	32	10, 15, 20	R1/8	Rubber bumper
RSDQB40-□DLZ	40	20, 25, 30		
RSDQB50-□DLZ	50	20, 25, 30		

Possible auto switches

Reed	D-A93L, D-A90L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Heavy duty, stopper cylinder
RSH/RS2H Series

- Bore sizes: Ø 20 ~ 80 mm, strokes 15 ~ 40 mm
- Heavy duty stopper cylinder with integrated shock-absorber for gently stopping of the load via roller lever
- Compact size and stable mounting flange
- Double-acting, single-acting spring extended (safety function)
- Lock mechanism on the roller lever prevents the load from rebounding after braking
- Stroke end detection by auto switch
- Lever detection switch as an option.

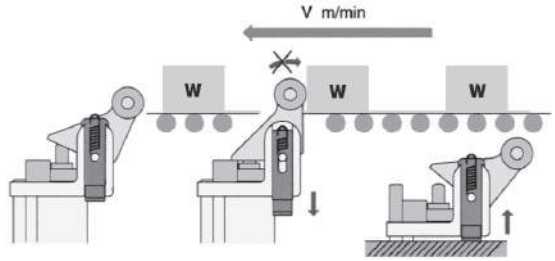
Double-acting with steel roller, lock mechanism

Part number	Bore size [mm]	Standard strokes [mm]	Port sizes	Cushion
RSH20-15DM-D ●	20	15	M5	Adjustable shock absorber
RSH32-20DM-D ●	32	20	G1/8	
RS2H50TF-30DM-D	50	30		
RS2H63TF-30DM-D	63	30	G1/4	
RS2H80TF-40DM-D	80	40		

Other roller materials and variations available on request.

Possible auto switches

Reed	D-A93L (not possible in Ø 20 and Ø 32)
3-wire, solid state / 2 colour	NPN: D-M9NWL, PNP:D-M9PWL
2-wire solid state / 2 colour	D-M9BWL



Lever basic position | Lever lock | Locked cancel

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Escapement

MIW/MIS Series

- Alternatively in single finger (MIS) or double finger (MIW) type
- Extended service life, since the piston and finger have a floating connection, avoiding moment loads on the seals, etc
- 3 different finger designs
- Sequential operation of both fingers with the MIW
- Optional stroke adjustment, scrapers possible.

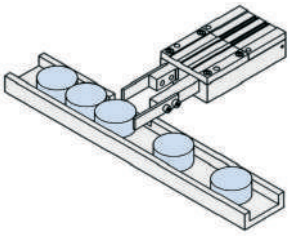
MIS - Single finger type

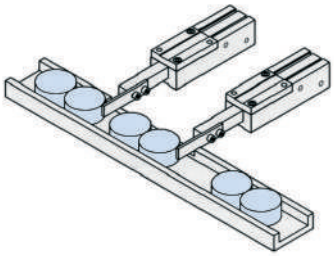
Part number	Bore size [mm]	Finger strokes [mm]	Operating pressure [MPa]	Nº of fingers	Auto switch
MIS8-□D ●	8	10, 20	0.2 ~ 0.7	1	3-wire solid state NPN: D-M9NL 3-wire solid state PNP: D-M9PL 2-wire solid state: D-M9BL
MIS12-□D ●	12	10, 20, 30			
MIS20-□D ●	20	10, 20, 30			
MIS25-□D ●	25	30, 50			
MIS32TF-□D ●	32	30, 50			

□: Stroke Length

MIW - Double finger type

Part number	Bore size [mm]	Finger stroke [mm]	Operating pressure [MPa]	Nº of fingers	Auto switch
MIW8-8D ●	8	8	0.2 ~ 0.7	2	3-wire solid state NPN: D-M9NL 3-wire solid state PNP: D-M9PL 2-wire solid state: D-M9BL
MIW12-12D ●	12	12			
MIW20-20D ●	20	20			
MIW25-25D ●	25	25			
MIW32TF-32D ●	32	32			





For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Stainless steel cylinder
CJ5/CG5 Series

- SUS304 - stainless steel
- Special scrapers provide optimum piston rod sealing
- Seals either NBR or FKM
- FDA approved grease suitable for food processing applications
- CG5 can be disassembled, therefore maintenance-friendly.

Built-in magnet, NBR seals

Part number	Bore size [mm]	Standard strokes [mm]	Operating pressure [MPa]	Water resistant auto switches - solid state - 2 colour
CDJ5B□ SR-■-B ●	10	15, 30, 45, 60, 75, 100, 125, 150	0.1 ~ 0.7	3-wire (PNP): D-M9 PAL 3-wire (NPN): D-M9 NAL 2-wire: D-M9 BAL
	16	15, 30, 45, 60, 75, 100, 125, 150, for Ø 16: 175, 200		
CDG5BN□SR-■ ●	20	25, 50, 75, 100, 125, 150, 200	0.05 ~ 1.0	D-G5BAL
	25, 32, 40, 50, 63, 80, 100	25, 50, 75, 100, 125, 150, 200, 250, 300		

□: Bore size
■: Stroke length

On request: without magnet, FKM seals, long stroke version

Cylinder mounting

Series	CDJ5		CDG5
Ø [mm]	10	16	20, 25, 32, 40, 50, 63, 80, 100
Foot type	CJ-L016SUS	CJK-L016SUS	CG-L0 □ SUS
Flange type	CJ-F016SUS	CJK-F016SUS	CG-F0 □ SUS

□: Enter the bore size

Our highlighted product for you

Centring unit
MACM Series

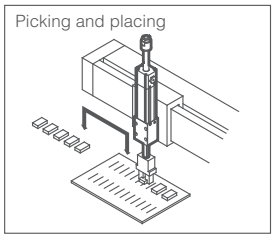
- Heavy workpieces can be aligned and positioned with small cylinders
- Max. allowable load weight up to 1000 kg
- Workpieces can be moved in any direction and even rotated 360°
- Built-in air locking mechanism
- External photo sensor can be mounted
- 4 types of table material can be selected
- Table centre movable range up to Ø 100 mm.

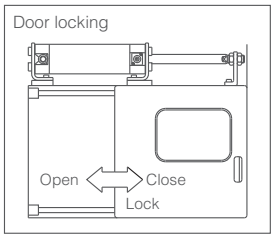
Part number	Max. allowable load weight [kN]	Stroke [mm]	Table centre movable range [mm]	Centring accuracy [mm]	Table material
MACM2-12SPV-X131	2	12	Ø 24	±1 or less	Stainless steel (cut finish)
MACM4-20SPV-X131	4	20	Ø 40		
MACM6-30SPV-X131	6	30	Ø 60		
MACM10-50SPV-X131	10	50	Ø 100		
MACM2-12GPV-X131	2	12	Ø 24		Stainless steel (Polished finish)
MACM4-20GPV-X131	4	20	Ø 40		
MACM6-30GPV-X131	6	30	Ø 60		
MACM10-50GPV-X131	10	50	Ø 100		
MACM2-12UPV-X131	2	12	Ø 24		Ultra high molecular weight polyethylene
MACM4-20UPV-X131	4	20	Ø 40		
MACM6-30UPV-X131	6	30	Ø 60		
MACM10-50UPV-X131	10	50	Ø 100		
MACM2-12NPV-X131	2	12	Ø 24		Cast nylon
MACM4-20NPV-X131	4	20	Ø 40		
MACM6-30NPV-X131	6	30	Ø 60		
MACM10-50NPV-X131	10	50	Ø 100		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Cylinders with end lock

- Mechanical locking of the piston rod at the stroke ends
- Separate compressed air supply not required
- Manually releasable
- For either retraction or extension direction (both directions on request).





CBJ2 Series

Bore size	Locking position
Ø 16	Both ends

CBM2 Series

Bore size	Locking position
Ø 20 to Ø 40	Both ends

CBG1 Series

Bore size	Locking position
Ø 20 to Ø 100	Both ends

CBA2 Series

Bore size	Locking position
Ø 40 to Ø 100	Both ends

MBB Series

Bore size	Locking position
Ø 32 to Ø 100	Both ends

CBQ2 Series

Bore size	Locking position
Ø 20 to Ø 100	Both ends

MGG Series

Bore size	Locking position
Ø 20 to Ø 100	Both ends

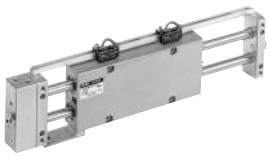
MGP Series

Bore size	Locking position
Ø 20 to Ø 100	Both ends

CXS Series

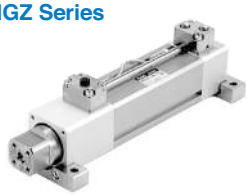
Bore size	Locking position
Ø 6, Ø 10, Ø 15, Ø 20 to Ø 32	Retraction end

CXW Series



Bore size	Locking position
Ø 10, Ø 16 to Ø 32	Retraction end

MGZ Series



Bore size	Locking position
Ø 40, 50, 63	Extension end

MTS Series

Bore size	Locking position
Ø 12, Ø 16 to Ø 40	Retraction end

MXQ Series

Bore size	Locking position
Ø 6, Ø 8, Ø 12, Ø 16 to Ø 25	Retraction end

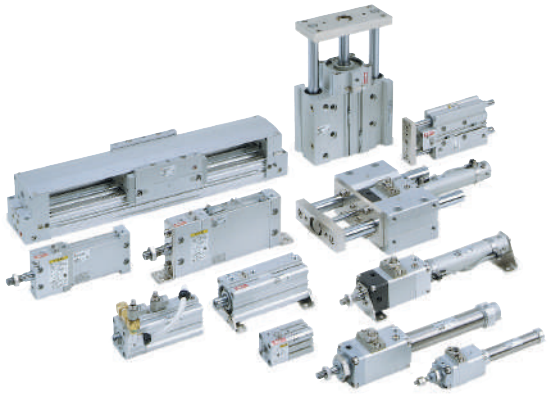
CS1 Series

Made to Order
(-X1347)

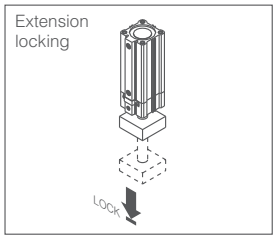
Bore size	Locking position
Ø 125, Ø 140, Ø 160	Both ends

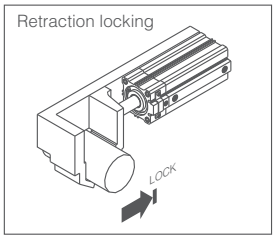
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Cylinders with lock



- Mechanical lock mechanism
- Can be locked at any position within the entire stroke
- Locking is possible at any desired position
- Able to easily accommodate changes in work piece thickness
- It is the best for the emergency stop and the fall prevention, etc
- The stop at the middle position is possible
  (CLQ Series / MLGP Series is excluded)
- Series from Ø 16 to Ø 250 mm available.





CLJ2 Series

Bore size	Locking direction
Ø 16	Both directions

CLM2 Series

Bore size	Locking direction
Ø 20 to Ø 40	Both directions

CNG Series

Bore size	Locking direction
Ø 20 to Ø 40	Both directions

CNA2 Series

Bore size	Locking direction
Ø 40 to Ø 100	Both directions

MNB Series

Bore size	Locking direction
Ø 32 to Ø 100	Both directions

CNS Series

Bore size	Locking direction
Ø 125 to Ø 160	Both directions

CLS Series

Bore size	Locking direction
Ø 125 to Ø 250	Both directions

CL1 Series

Bore size	Locking direction
Ø 40 to Ø 160	One direction

CLQ Series

Bore size	Locking direction
Ø 20 to Ø 100	One direction

RLQ Series

Bore size	Locking direction
Ø 32 to Ø 63	One direction

MLU Series

Bore size	Locking direction
Ø 25 to Ø 50	One direction

MLGP Series

Bore size	Locking direction
Ø 20 to Ø 63	One direction

MLGC Series

Bore size	Locking direction
Ø 20 to Ø 40	Both directions

CLK2 Series

Bore size	Locking direction
Ø 32 to Ø 63	One direction

ML1C Series

Bore size	Locking direction
Ø 25 to Ø 40	Both directions

MWB Series

Bore size	Locking direction
Ø 32 to Ø 100	Both directions

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Cylinder with lock

MWB Series

- Lock can be manually operated
- Separate construction of lock unit and cylinder
- Bore sizes [mm]: 32, 40, 50, 63, 80, 100
- Strokes up to 2500 mm
- Air cushion / rubber bumper selectable
- Locking unit can be ordered separately.

Single rod. Air cushion. Built-in magnet

Part Number	Bore size [mm]	Stroke [mm]	Port size
MDWBB32TF-☐	32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	G1/8
MDWBB40TF-☐	40		G1/4
MDWBB50TF-☐	50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600	G1/4
MDWBB63TF-☐	63		G3/8
MDWBB80TF-☐	80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	G3/8
MDWBB100TF-☐	100		G1/2

☐: Insert required stroke.

Double rod. Air cushion. Built-in magnet

Part Number	Bore size [mm]	Stroke [mm]	Port size
MDWBWB32TF-☐	32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	G1/8
MDWBWB40TF-☐	40		G1/4
MDWBWB50TF-☐	50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600	G1/4
MDWBWB63TF-☐	63		G3/8
MDWBWB80TF-☐	80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	G3/8
MDWBWB100TF-☐	100		G1/2

☐: Insert required stroke.

Lock unit. Without rod

Part Number	Bore size [mm]	Port size	Part Number	Bore size [mm]	Port size
MDWBB32TF-UT	32	G1/4	**MDWBB63TF-UT**	63	G1/8
MDWBB40TF-UT	40		**MDWBB80TF-UT**	80	
MDWBB50TF-UT	50		**MDWBB100TF-UT**	100	

Possible auto switches

Reed	D-A93L, D-A90L
3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Rotary actuators

Rotary table, vane type
MSUB Series

- Sizes 1, 3, 7, 20, rotary angle 90° or 180°
- Compact rotary table, vane with ball bearing rotary plate
- Both end positions adjustable by ±5°
- Double vane type with rotary angle 90° for higher torque
- Rotary plate bearing allows high axial and lateral loads, and supports moments
- Rotary plate with groove for centre pin for the stable mounting of attachments
- Auto switch for detection of the end position mounted on a compact body.

Part number	Size	Rotation angle	Allowable torque [N•m]	Allowable kinetic energy [J]	Thread connection
MSUB1-90S ●	1	90°	0.11	0.005	M3
MSUB1-180S ●		180°			
MSUB3-90S ●	3	90°	0.31	0.013	M5
MSUB3-180S ●		180°			
MSUB7-90S ●	7	90°	0.69	0.032	
MSUB7-180S ●		180°			
MSUB20-90S ●	20	90°	1.78	0.056	
MSUB20-180S ●		180°			

∗ At 0.5 MPa

Possible auto switches

Size	1, 3	7, 20
Reed	D-93AL	D-R731L + D-R732L
3 wire solid state PNP	D-S9P1L + D-S9P2L	D-S7P1L + D-S7P2L
3 wire solid state NPN	D-S991L + D-S992L	D-S791L + D-S792L

Accessories

Item	Auto switch unit
MSUB1-...	P211070-1
MSUB3-...	P211090-1
MSUB7-...	P211060-1
MSUB20-...	P211080-1

Mini rotary actuator
CRJ Series

- Compact design, narrow body
- Patented design, no backlash
- Large diameter output shaft and large roller bearing for high rigidity
- Option with external stoppers, adjustable ±5°, can also be retro-fitted.

Round bar version

Part number	Size	Rotation angle	Allowable torque [N•m]	Allowable kinetic energy [mJ]	Angle adjustment	Auto switch
CRJB□-■ ●	05, 1	90°,100°,180°,190°	05: 0,042 1: 0,095	05: 0.25; 1: 0.40	–	2-wire solid state D-M9BL
CRJU□-■ ●	05, 1	90°,180°		05: 1.0; 1: 2.0	Both-ended ±5°	

□: Size
■: Rotation angle

External stoppers

For type	CRJU05-90	CRJU05-180	CRJU1-90	CRJU1-180
Part number	P531010-1	P531010-2	P531020-1	P531020-2

Please note: If you fit CRJB actuators with external stoppers, you must use the 100° version to achieve a CRJU with 90°, or the 190° version for the CRJU with 180°.

Possible auto switches

3 wire solid state PNP - axial cable	D-M9PL
3 wire solid state NPN - axial cable	D-M9NL
2 wire solid state - axial cable	D-M9BL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Rotary actuator, vane type

CRB1/CRB2 Series

CRB2 (Ø 10 • 15 • 20 • 30 • 40)

CRB1 (Ø 50 • 63 • 80 • 100)

- D-M9 type compact auto switch can be selected
- Possible to add angle adjusted unit (sizes 10 to 40)
- Sizes 10, 15, 20, 30 and 40 with fixed rotary angles 90°, 180°, 270° or rotary angle stepless adjustable up to 240°
- Simple design means long service life
- No back lash in the end position
- Double vane type with rotary angle 90° and 100° for higher torque (optional)
- Easy readjust of: auto switch bearing body and adjustable rotary stops
- Free mount rotary actuator available (sizes 10 to 40).

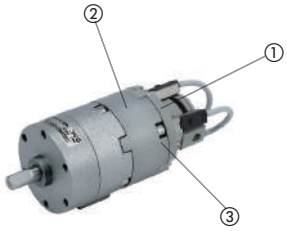
Double shaft with single vane

Part number	Size	Rotation angle	Effective rotational torque [N•m] [1]	Allowable kinetic energy [J]	Thread connection
CRB2BW10-90SZ ●	10	90°	0.18	0.00015	M3
CRB2BW10-180SZ ●		180°			
CRB2BW10-270SZ ●		270°			
CRB2BW15-90SZ ●	15	90°	0.46	0.001	
CRB2BW15-180SZ ●		180°			
CRB2BW15-270SZ ●		270°			
CRB2BW20-90SZ ●	20	90°	0.99	0.003	M5
CRB2BW20-180SZ ●		180°			
CRB2BW20-270SZ ●		270°			
CRB2BW30-90SZ ●	30	90°	2.58	0.02	
CRB2BW30-180SZ ●		180°			
CRB2BW30-270SZ ●		270°			
CRB2BW40-90SZ ●	40	90°	5.38	0.04	
CRB2BW40-180SZ ●		180°			
CRB2BW40-270SZ ●		270°			
CRB1BW50-90S-XF ●	50	90°	8.14	0.082	G1/8
CRB1BW50-180S-XF ●		180°			
CRB1BW50-270S-XF ●		270°			
CRB1BW63-90S-XF ●	63	90°	15.5	0.12	
CRB1BW63-180S-XF ●		180°			
CRB1BW63-270S-XF ●		270°			
CRB1BW80-90S-XF ●	80	90°	25.7	0.398	G1/4
CRB1BW80-180S-XF ●		180°			
CRB1BW80-270S-XF ●		270°			
CRB1BW100-90S-XF ●	100	90°	51.2	0.6	
CRB1BW100-180S-XF ●		180°			
CRB1BW100-270S-XF ●		270°			

1) Eff. rotational torque at 0.7 MPa
D: Built-in magnet available, place “D” after “C” in sizes 50 to 100 if you want to order it.

Auto switch, angle adjuster and joint unit part number

Size	① Auto switch unit part no. [1, 2]	② Angle adjuster unit part no. [1]	③ Joint unit part no. [3]
10	P611070-1	P811010-3	P211070-10
15	P611090-1	P811020-3	P211090-10
20	P611060-1	P811030-3	P211060-10
30	P611080-1	P811040-3	P211080-10
40	P611010-1	P811050-3 [4]	P211010-10



1) Each unit can be retrofitted to the rotary actuator
2) Auto switch unit can be ordered separately if the rotary actuator with auto switch is required after the product being delivered. Since the auto switch will not be included, please order separately
3) Joint unit is required to retrofit the angle adjuster unit to a rotary actuator with auto switch or to retrofit the auto switch unit to a rotary actuator with angle adjuster
4) P811050-5 in case of unit part number for D-M9□.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Flange

Part number	Size
P211070-2	10
P211090-2	15
P211060-2	20
P211080-2	30

Foot bracket

Part number	Size
P411020-5	50
P411030-5	63
P411040-5	80
P411050-5	100

Auto switches

Part number	Size	Type	Wiring	Cable	Voltage
D-M9P1L+D-M9P2L [1]	10, 15	Solid state	3-wire (PNP)	3 m	24 VDC
D-M9N1L+D-M9N2L [1]			3-wire (NPN)		
D-93AL [1]		Reed	2-wire		
D-M9P1L+D-M9P2L [1]	20, 30, 40, 50, 63, 80, 100	Solid state	3-wire (PNP)		
D-M9N1L+D-M9N2L [1]			3-wire (NPN)		
D-R731L+D-R732L [1]		Reed	2-wire		

1) Left handed and right handed switches are needed so order one of each part number.

Rotary actuator, free mount, vane type

CRBU2 Series

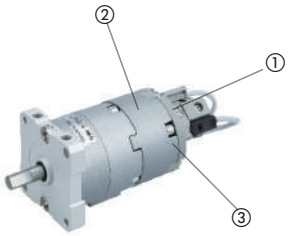
- D-M9 type compact auto switch can be selected
- Rotating angle: 90°,180°, 270°
- Reduced weight
- Many variations of shaft-end shape (6 types)
- Port location can be selected: Side or axial ported
- Auto switch can be fixed at any position in the circumferential direction
- Many mounting variations.

Double shaft with single vane

Part number	Size	Rotation angle	Effective rotational torque [Nm] (at 0.5 MPa)	Allowable kinetic energy [J]	Thread connection
CDRBU2W10-90SZ	10	90°	0.18	0.00015	M3
CDRBU2W10-180SZ		180°			
CDRBU2W10-270SZ		270°			
CDRBU2W15-90SZ	15	90°	0.46	0.001	
CDRBU2W15-180SZ		180°			
CDRBU2W15-270SZ		270°			
CDRBU2W20-90SZ ●	20	90°	0.99	0.003	M5
CDRBU2W20-180SZ		180°			
CDRBU2W20-270SZ		270°			
CDRBU2W30-90SZ	30	90°	2.58	0.02	
CDRBU2W30-180SZ ●		180°			
CDRBU2W30-270SZ		270°			
CDRBU2W40-90SZ	40	90°	5.38	0.04	
CDRBU2W40-180SZ		180°			
CDRBU2W40-270SZ		270°			

Auto switch, angle adjuster and joint unit part number

Size	①	②	③
	Auto Switch Unit part no. [1, 2]	Angle Adjuster Unit part no. [1]	Joint Unit part no. [3]
10	P611070-1	P811010-3	P211070-10
15	P611090-1	P811020-3	P211090-10
20	P611060-1	P811030-3	P211060-10
30	P611080-1	P811040-3	P211080-10
40	P611010-1	P811050-3 [4]	P211010-10



1) Each unit can be retrofitted to the rotary actuator
2) Auto switch unit can be ordered separately if the rotary actuator with auto switch is required after the product being delivered. Since the auto switch will not be included, please order separately
3) Joint unit is required to retrofit the angle adjuster unit to a rotary actuator with auto switch or to retrofit the auto switch unit to a rotary actuator with angle adjuster
4) P811050-5 in case of unit part number for D-M9□.

Flange

Part number	Size
P211070-2	10
P211090-2	15
P211060-2	20
P211080-2	30

Foot bracket

Part number	Size
P411020-5	50
P411030-5	63
P411040-5	80
P411050-5	100

Auto switches

Part number	Size	Type	Wiring	Cable	Voltage
D-M9P1L+D-M9P2L [1]	10, 15	Solid state	3-wire (PNP)	3 m	24 VDC
D-M9N1L+D-M9N2L [1]			3-wire (NPN)		
D-93AL [1]		Reed	2-wire		
D-M9P1L+D-M9P2L [1]	20, 30, 40, 50, 63, 80, 100	Solid state	3-wire (PNP)		
D-M9N1L+D-M9N2L [1]			3-wire (NPN)		
D-R731L+D-R732L [1]		Reed	2-wire		

1) Left handed and right handed switches are needed so order one of each part number.

Rotary actuator, rack and pinion type

CRA1 Series

- Sizes Ø 30 ~ 100 mm, rotation angle 90° or 180°
- Single and double shaft types available
- Standard model has auto switch for end position detection
- Angle adjusted type available, (Ø 50 to Ø 100)
- Air-hydro type available, (Ø 50 to Ø 100)

Double shaft with built in magnet

Part number	Bore size [mm]	Rotation angle	Effective rotational torque [N•m] 1)	Allowable kinetic energy [J]	Port size	Cushion
CDRA1BW30-90Z ●	30	90°	3.82	0.01	M5	None
CDRA1BW30-180Z ●		180°				
CDRA1BW50TF-90CZ ●	50	90°	18.5	0.98	G1/8	Air Cushion
CDRA1BW50TF-180CZ ●		180°				
CDRA1BW63TF-90CZ ●	63	90°	34.4	1.50		
CDRA1BW63TF-180CZ ●		180°				
CDRA1BW80TF-90CZ ●	80	90°	63.4	2.00	G1/4	
CDRA1BW80TF-180CZ ●		180°				
CDRA1BW100TF-90CZ	100	90°	149	2.90	G3/8	
CDRA1BW100TF-180CZ ●		180°				

1) At 1.0 MPa
U: Angle adjusted type available in sizes 50 to 100, place “U” after W if you want to order it.

Possible auto switches

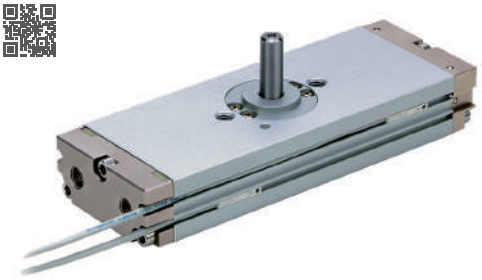
Reed	D-A93L
3 wire solid state / 2 colour	NPN: D-M9NWL, PNP: D-M9PWL
2 wire solid state / 2 colour	D-M9BWL

Foot bracket part number

Foot Bracket	Size
CRA1L30-Y-1Z	30
CRA1L50-Y-1Z	50
CRA1L63-Y-1Z	63
CRA1L80-Y-1Z	80
CRA1L100-Y-1Z	100

Compact rotary actuator

CRQ2 Series



- Sizes 10, 15, 20, 30 and 40
- Compact rotary actuator, rack and pinion type with double piston drive
- Rotational angle adjustable ±5°
- Stoppers fitted with dampers
- Double piston drive allows end position free from backlash
- Auto switch for querying end position detection can be integrated into body profile.

Part number	Size	Rotation angle	Effective torque [N•m]	Allowable kinetic energy [mJ]	Cushion	Thread connection
CDRQ2BW10-90 ●	10	90°	0.3	0.25	Rubber bumper	M5
CDRQ2BW10-180 ●		180°	0.3	0.25		
CDRQ2BW-10-360		360°	0.3	0.25		
CDRQ2BW15-90 ●	15	90°	0.75	0.39		
CDRQ2BW15-180 ●		180°	0.75	0.39		
CDRQ2BW15-360		360°	0.75	0.39		
CDRQ2BW20TF-90C ●	20	90°	1.8	120	Air cushion	G1/8
CDRQ2BW20TF-180C ●		180°	1.8	120		
CDRQ2BW20TF-360C		360°	1.8	120		
CDRQ2BW30TF-90C ●	30	90°	3.1	250		
CDRQ2BW30TF-180C ●		180°	3.1	250		
CDRQ2BW30TF-360C		360°	3.1	250		
CDRQ2BW40TF-90C ●	40	90°	5.3	400		
CDRQ2BW40TF-180C ●		180°	5.3	400		
CDRQ2BW40TF-360C		360°	5.3	400		

∗ At 0.5 MPa

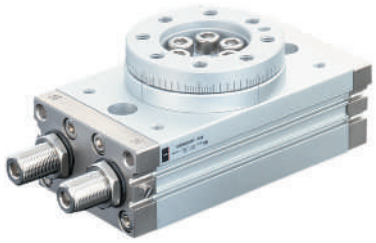
Possible auto switches

Reed	D-A93L, D-A90L
3 wire solid state / 2 colour	NPN: D-M9NWL, PNP: D-M9PWL
2 wire solid state / 2 colour	D-M9BWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Rotary table, rack and pinion type

MSQ Series



- These rotary actuators are a complete combination of double piston drive plus rotary plate, with all the benefits that can be included in such a compact unit
- Prefabricated fixing and adjustment pin holes for simply and quickly mounting the actuator, and adding components to the rotary plate
- The through holes in the plate permit e.g. pneumatic tubes or electric cables to be passed through, so that no messy external wiring is needed
- The rotary plate with ball-bearings provides accuracy and enables greater loads to be supported
- Arranged centrally on one side is the air supply and the angle adjustment for the end positions, steplessly adjustable from 0 to 190 degrees using adjustment screws or shock absorbers. Grooved markings and the scaled rotary plate allow a rapid adjustment of the actuator
- The auto switches can be fully integrated into the body.

Part number	Size	Rotation angle	Effective torque [1] [N•m]	Allowable kinetic energy [J]	Cushion	Thread connection
MSQB1A ●	1	0~190°	0.10	0.001	None	M3
MSQB2A ●	2		0.21	0.0015		
MSQB3A ●	3		0.35	0.002	Rubber bumper	
MSQB7A ●	7		0.67	0.006		M5
MSQB10A	10		1.07	0.007		
MSQB20A ●	20		2.20	0.025		
MSQB30A ●	30		3.19	0.048		Rc1/8
MSQB50A ●	50		5.57	0.081		
MSQB70A ●	70		8.15	0.24		
MSQB100A	100		12.2	0.32		
MSQB200A ●	200		23.8	0.56		
MSQB10R ●	10		1.07	0.039	Internal shock absorber	M5
MSQB20R ●	20		2.20	0.116		
MSQB30R ●	30		3.19	0.116		Rc1/8
MSQB50R ●	50		5.57	0.294		
MSQB70R ●	70		8.15	1.1		
MSQB100R	100		12.2	1.6		
MSQB200R ●	200		23.8	2.9		

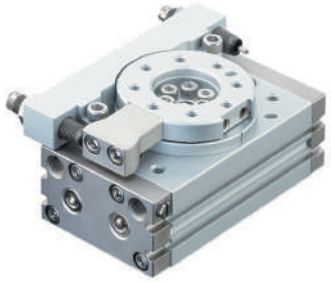
1) At 0.6 MPa.

Possible auto switches

Reed [1]	D-A90L, D-A93L
3 wire solid state / 2 colour	NPN: D-M9NWL, PNP: D-M9PWL
2 wire solid state / 2 colour	D-M9BWL

1) Not for MSQB1A to MSQB7A

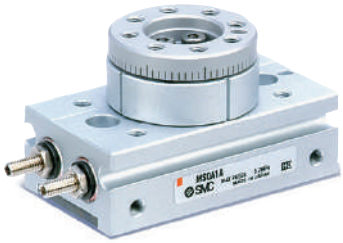
Double piston drive with rotary plate and external shock absorbers
MSQ□L, MSQ□H Series



- Sizes: 10, 20, 30 and 50
- 4 ~ 10 times more admissible kinetic energy compared to internal shock absorber type
- Reduced length
- Symmetrical types available.

Part number	Size	Rotation angle	Allowable kinetic energy [J]	Cushion	Thread connection
MSQB10L2 ●	10	180°	0.161	External shock absorber	M5
MSQB10L3 ●		90°			
MSQB20L2 ●	20	180°	0.574		
MSQB20L3 ●		90°			
MSQB30L2 ●	30	180°	0.805		Rc1/8
MSQB30L3 ●		90°			
MSQB50L2 ●	50	180°	1.310		
MSQB50L3 ●		90°			
MSQB10H2 ●	10	180°	0.231		M5
MSQB10H3 ●		90°			
MSQB20H2 ●	20	180°	1.06		
MSQB20H3 ●		90°			
MSQB30H2 ●	30	180°	1.21		Rc1/8
MSQB30H3 ●		90°			
MSQB50H2 ●	50	180°	1.82		
MSQB50H3 ●		90°			

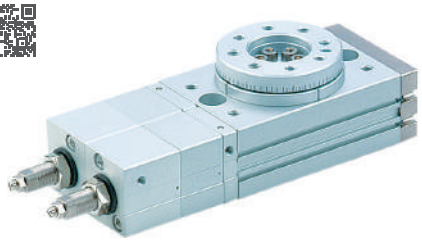
High precision rotary table
MSQA Series



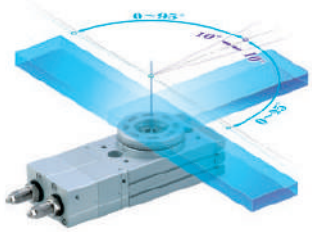
- Sizes: 1, 2, 3, 7, 10, 20, 30 and 50
- Double row precision ball bearing and dimensional tolerances made in H8 / h8
- Movement in direction of tables radial thrust: 0.01 mm or less.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

3-position rotary table
MSZ Series



- Stop position adjustment range
  - From centre: ±10°
  - Rotation range: 0 to 95°
- Can be operated by a single valve
- High precision type available.



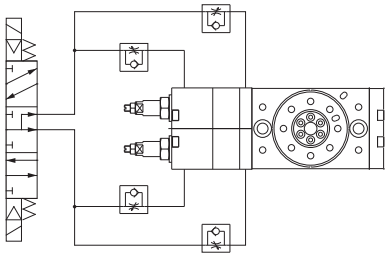
Part number	Size	Rotation angle	Effective torque [N•m] 1)	Allowable kinetic energy [mJ]	Cushion	Thread connection
MSZB10A ●	10	0 ~ 190°	1	7	None	M5
MSZB20A ●	20		2	25		
MSZB30A ●	30		3	48		
MSZB50A ●	50		5	81		

1) At 0.6 MPa

Possible auto switches

Reed	D-A90L, D-A93L
3 wire solid state / 2 colour	NPN: D-M9NWL, PNP: D-M9PWL
2 wire solid state / 2 colour	D-M9BWL

Controllable with one 3-position solenoid valve



Rotary actuator
MRQ Series

- Size Ø 32, 40 mm, linear stroke to 100 mm, rotary angle 90° or 180°
- Unit has combination of stroke and rotary movement
- Stroke and rotary movement can be controlled separately
- Pneumatic cushioning for linear movement
- Rotary movement adjustable in both end positions (±5°)
- Linear and rotary movement with end position detection using standard auto switch.

Round bar version

Part number	Bore size [mm]	Rotation angle	Effective torque 1) [N•m]	Allowable kinetic energy [J]	Stroke length [mm]	Thread connection
MRQBS32-□CA ●	32	90°	1.1	0.023	10, 20, 25, 30, 40, 50, 75, 100	G1/8
MRQBS32-□CB ●		180°				
MRQBS40-□CA ●	40	90°	2.1	0.028		
MRQBS40-□CB ●		180°				

□: Stroke length
1) At 0.5 MPa

Possible auto switches

Reed	D-A73HL
3 wire solid state / 2 colour - PNP	D-F7PWL
3 wire solid state / 2 colour - NPN	D-F79WL

Accessories / Flange

Part No.	Size
P317010-7	32
P317020-7	40

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Rotary gripper
MRHQ Series

- Ø 10, 16, 20, 25
- Compact combination of gripping and rotating function
- Simple piping / wiring from one side
- Length approx. 20 % shorter compared to previous product-combination with adapter plate
- Rotation angles of 90° and 180° are available
- The standard model with magnets allows the retrofitting of auto switches
- Both and positions adjustable by ±5°.

Part number	Rotary actuator			Gripper		Thread connection
	Rotation angle	Angle adjustment	Allowable kinetic energy [J]	Cylinder bore [mm]	Opening / Closing stroke [mm]	
MRHQ10D-90S-N ●	90°	±10°	0.0046	10	4	M5
MRHQ10D-180S-N ●	180°					
MRHQ16D-90S-N ●	90°	±10°	0.014	16	6	
MRHQ16D-180S-N ●	180°					
MRHQ20D-90S-N ●	90°	±10°	0.034	20	10	
MRHQ20D-180S-N ●	180°					
MRHQ25D-90S-N ●	90°	±10°	0.074	25	14	
MRHQ25D-180S-N ●	180°					

Single acting gripper optional

Possible auto switches (for rotary actuators)

3 wire solid state	NPN: D-M9NL-746, PNP: D-M9PL-746
2 wire solid state	D-M9BL-746

Possible auto switches (for gripper)

3 wire solid state	NPN: D-M9NVL, PNP: D-M9PVL
2 wire solid state	D-M9BVL

Air grippers

Parallel air gripper
MHZA2/MHZ2 Series

- Ø 6, 10, 16, 20, 25, 32, 40
- New mini gripper size Ø 6
- High repeatability ±0,01 mm.

See next page for characteristics table.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Action		Part number	Bore size [mm]	Gripping force [N] [1]	Opening / Closing stroke [mm]	Possible auto switches
Double acting		**MHZA2-6D** ●	6	3.3 (6.1) [2]	4	Without auto switch
Single acting (N.O.)		**MHZA2-6S** ●	6	1.9	4	
Single acting (N.C.)		**MHZA2-6C**	6	3.7	4	
Double acting		**MHZ2-6D** ●	6	3.3 (6.1) [2]	4	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
		MHZ2-10D ●	10	11 (17) [2]	4	
		MHZ2-16D ●	16	34 (45) [2]	6	
		MHZ2-20D ●	20	42 (66) [2]	10	
		MHZ2-25D ●	25	65 (104) [2]	14	
		MHZ2-32D ●	32	158 (193) [2]	22	
		MHZ2-40D ●	40	254 (318) [2]	30	
Single acting	Normally open	**MHZ2-6S** ●	6	1.9	4	
		MHZ2-10S ●	10	7.1	4	
		MHZ2-16S ●	16	27	6	
		MHZ2-20S ●	20	33	10	
		MHZ2-25S ●	25	45	14	
		MHZ2-32S	32	131	22	
		MHZ2-40S ●	40	217	30	
	Normally closed	**MHZ2-6C** ●	6	(3.7) [2]	4	
		MHZ2-10C ●	10	(13) [2]	4	
		MHZ2-16C ●	16	(38) [2]	6	
		MHZ2-20C ●	20	(57) [2]	10	
		MHZ2-25C ●	25	(83) [2]	14	
		MHZ2-32C ●	32	(161) [2]	22	
		MHZ2-40C	40	(267) [2]	30	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.
2) Value in ( ) for internal gripping.

Air gripper, wide type

MHZL2 Series

- Ø 10, 16, 20, 25.
- Nearly double the standard stroke.

Action		Part number	Bore size [mm]	Gripping force [N] [1]	Opening / Closing stroke [mm]	Possible auto switches
Double acting long stroke		**MHZL2-10D** ●	10	11 (17) [2]	8	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
		MHZL2-16D ●	16	34 (45) [2]	12	
		MHZL2-20D ●	20	42 (66) [2]	18	
		MHZL2-25D ●	25	65 (104) [2]	22	
Single acting	Normally open	**MHZL2-10S** ●	10	7,1	8	
		MHZL2-16S ●	16	27	12	
		MHZL2-20S ●	20	33	18	
		MHZL2-25S	25	45	22	
	Normally closed	**MHZL2-10C** ●	10	(13) [2]	8	
		MHZL2-16C ●	16	(38) [2]	12	
		MHZL2-20C ●	20	(57) [2]	18	
		MHZL2-25C ●	25	(85) [2]	22	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.
2) Value in ( ) for internal gripping.

Parallel air gripper with dust cover

MHZAJ2/MHZJ2 Series

- Ø 6, 10, 16, 20, 25
- Applicable in assembly lines, machine tool, etc
- Dust tight, drip proof construction
- Dust cover material selectable.

Action		Part number	Bore size [mm]	Gripping force [N] [1]	Opening / Closing stroke [mm]	Possible auto switches	Dust cover material
Double acting		**MHZAJ2-6D**	6	3.3 (6.1) [2]	4	Without auto switch	Chloroprene rubber (CR)
Single acting (N.O.)		**MHZAJ2-6S**	6	1.9	4		
Single acting (N.C.)		**MHZAJ2-6C**	6	3.7	4		
Double acting		**MHZJ2-6D** ●	6	3.3 (6.1) [2]	4	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL	
		MHZJ2-10D ●	10	9.8 (17) [2]	4		
		MHZJ2-16D ●	16	30 (40) [2]	6		
		MHZJ2-20D ●	20	42 (66) [2]	10		
		MHZJ2-25D ●	25	65 (104) [2]	14		
Single acting	Normally open	**MHZJ2-6S**	6	1.9	4		
		MHZJ2-10S ●	10	6.3	4		
		MHZJ2-16S	16	24	6		
		MHZJ2-20S ●	20	28	10		
		MHZJ2-25S ●	25	45	14		
	Normally closed	**MHZJ2-6C** ●	6	(3.7) [2]	4		
		MHZJ2-10C ●	10	(12) [2]	4		
		MHZJ2-16C ●	16	(31) [2]	6		
		MHZJ2-20C ●	20	(56) [2]	10		
		MHZJ2-25C ●	25	(83) [2]	14		

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.
2) Value in ( ) for internal gripping.

Low profile air gripper

MHF2 Series

- Sizes: Ø 8, 12, 16, 20 mm
- Repeatability up to: ± 0.05 mm
- Low profile means minimal mounting space needed
- Choose from 3 different finger strokes
- High precision linear guide
- Double acting.

Action	Part number	Bore size [mm]	Gripping force [N] [1]	Opening / Closing stroke [mm]	Possible auto switches
Short stroke	**MHF2-8D** ●	8	19	8	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHF2-12D ●	12	48	12	
	MHF2-16D ●	16	90	16	
	MHF2-20D ●	20	141	20	
Medium stroke	**MHF2-8D1** ●	8	19	16	
	MHF2-12D1 ●	12	48	24	
	MHF2-16D1 ●	16	90	32	
	MHF2-20D1 ●	20	141	40	
Long stroke	**MHF2-8D2** ●	8	19	32	
	MHF2-12D2 ●	12	48	48	
	MHF2-16D2 ●	16	90	64	
	MHF2-20D2 ●	20	141	80	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Wide type parallel style air gripper

MHL2 Series

- Sizes Ø 10, 16, 20, 25, 32, 40 mm
- 3 gripper strokes are possible for each size
- Synchronised gripper movement via rack pinion
- Repeatability ±0.1 mm
- Compact auto switches can be directly mounted without accessories
- A scraper with a dust lip is adopted for all rod rotating parts.

Stroke	Part number	Bore size [mm]	Gripping force [N] 1)	Effective opening / Closing stroke [mm]			Possible auto switch
				L2-L1	L1	L2	
Short stroke	**MHL2-10DZ** ●	10	14	20	56	76	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHL2-16DZ ●	16	45	30	68	98	
	MHL2-20DZ ●	20	74	40	82	122	
	MHL2-25DZ ●	25	131	50	100	150	
	MHL2-32D ●	32	228	70	150	220	
	MHL2-40D ●	40	396	100	188	288	
Medium stroke	**MHL2-10D1Z** ●	10	14	40	78	118	
	MHL2-16D1Z ●	16	45	60	110	170	
	MHL2-20D1Z ●	20	74	80	142	222	
	MHL2-25D1Z ●	25	131	100	182	282	
	MHL2-32D1 ●	32	228	120	198	318	
	MHL2-40D1 ●	40	396	160	246	406	
Long stroke	**MHL2-10D2Z** ●	10	14	60	96	156	
	MHL2-16D2Z ●	16	45	80	130	210	
	MHL2-20D2Z ●	20	74	100	162	262	
	MHL2-25D2Z ●	25	131	120	200	320	
	MHL2-32D2 ●	32	228	160	242	402	
	MHL2-40D2 ●	40	396	200	286	486	

1) Values based on pressure of 0.5 MPa, gripping point L=40 mm, at centre of stroke.

Rotary actuated air gripper, 2 fingers

MHR2/MDHR2 Series

- Ø 10, 15, 20, 30.
- Model has parallel gripper movement for external and internal gripping
- Gripper finger movement guided with precision by cross roller bearing
- Driven by vane type rotary actuator
- 4 sizes for handling smaller components
- Double acting
- Repeatability of ±0.01 mm
- Auto switch for end position detection can be integrated into the body (Ø 15 to Ø 30).

Action	Part number	Bore size [mm]	Gripping force [N] 1)	Opening / Closing stroke [mm]	Possible auto switches
Double acting without magnet	**MHR2-10R** ●	10	12 (12)	6	Without auto switch
	MHR2-15R ●	15	24 (25)	8	
	MHR2-20R ●	20	33 (34)	12	
	MHR2-30R ●	30	58 (59)	18	
Double acting with magnet	**MDHR2-10R** ●	10	12 (12)	6	3 wire solid state NPN: D-M9NL PNP: D-M9PL 2 wire solid state D-M9BL
	MDHR2-15R ●	15	24 (25)	8	
	MDHR2-20R ●	20	33 (34)	12	
	MDHR2-30R ●	30	58 (59)	18	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.
Value in ( ) for internal gripping.

Rotary actuated air gripper, 3 fingers

MHR3/MDHR3 Series

- Ø 10, 15
- Driven by vane type rotary actuator
- 2 sizes for handling small components
- Gripper movement guided with precision by cross roller bearing
- Repeatability of ±0.01 mm
- Low profile, all types of mounting options
- Auto switch for end position detection can be integrated into the body.

Action	Part number	Bore size [mm]	Gripping force [N] 1)	Opening / Closing stroke [mm]	Possible auto switches
Double acting without magnet	**MHR3-10R** ●	10	7 (6.5)	6	Without auto switch
	MHR3-15R ●	15	13 (12)	8	
Double acting with magnet	**MDHR3-10R** ●	10	7 (6.5)	6	3 wire solid state NPN: D-M9NL PNP: D-M9PL 2 wire solid state D-M9BL
	MDHR3-15R ●	15	13 (12)	8	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.
Value in ( ) for internal gripping.

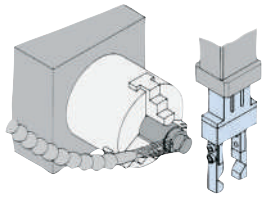
Wedge cam operation slide guide air gripper

MHK2/MHKL2 Series

- Ø 12, 16, 20, 25
- Gripper fingers have robust slide bearing
- Elastic guide cover in 3 different materials as protection against soiling by dust, chips, liquids, etc
- 2 series: MHK2 standard, MHKL2 larger finger opening stroke.

Standard

Action		Part number	Bore size [mm]	Gripping force [N] external (internal) 1)	Opening / Closing stroke [mm]	Possible auto switches
Double acting		**MHK2-12D** ●	12	15 (16)	4	3 wire solid state NPN: D-M9NL PNP: D-M9PL 2 wire solid state D-M9BL
		MHK2-16D ●	16	31 (36)	6	
		MHK2-20D ●	20	46 (56)	10	
		MHK2-25D ●	25	80 (86)	14	
Single acting	Normally open	**MHK2-12S** ●	12	9	4	
		MHK2-16S ●	16	23	6	
		MHK2-20S ●	20	34	10	
		MHK2-25S ●	25	58	14	
	Normally closed	**MHK2-12C** ●	12	(12)	4	
		MHK2-16C ●	16	(25)	6	
		MHK2-20C ●	20	(44)	10	
		MHK2-25C ●	25	(73)	14	



Long opening stroke

Action		Part number				
Double acting		**MHKL2-12D** ●	12	14 (16)	11	3 wire solid state NPN: D-M9NL PNP: D-M9PL 2 wire solid state D-M9BL
		MHKL2-16D ●	16	27 (30)	14	
		MHKL2-20D ●	20	45 (53)	18	
		MHKL2-25D ●	25	79 (90)	22	
Single acting	Normally open	**MHKL2-12S**	12	9	11	
		MHKL2-16S	16	17	14	
		MHKL2-20S	20	32	18	
		MHKL2-25S ●	25	53	22	
	Normally closed	**MHKL2-12C**	12	(11)	11	
		MHKL2-16C	16	(22)	14	
		MHKL2-20C ●	20	(40)	18	
		MHKL2-25C	25	(63)	22	

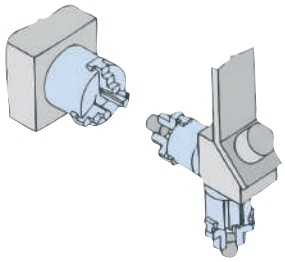
1) Values based on pressure of 0.5 MPa, gripping point L=20 mm, at centre of stroke.
Value in ( ) for internal gripping.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

2, 3, 4 finger air gripper

MHS2/MHS3/MHS4 Series

- Ø 16, 20, 25, 32, 40, 50, 63 (2 and 4 finger)
- Ø 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 (3 finger)
- For internal and external gripping
- Repeatability ± 0.01 mm
- Auto switch can be integrated into body.

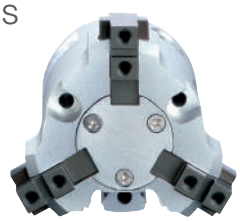


Action	Part number	Bore size [mm]	Gripping force [N] 1) external (internal)	Opening / Closing stroke (dia.) [mm]	Possible auto switches
Double acting 2 finger	**MHS2-16D** ●	16	21 (23)	4	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHS2-20D ●	20	37 (42)	4	
	MHS2-25D ●	25	63 (71)	6	
	MHS2-32D ●	32	111 (123)	8	
	MHS2-40D ●	40	177 (195)	8	
	MHS2-50D ●	50	280 (306)	12	
	MHS2-63D ●	63	502 (537)	16	
Double acting 3 finger	**MHS3-16D** ●	16	14 (16)	4	
	MHS3-20D ●	20	25 (28)	4	
	MHS3-25D ●	25	42 (47)	6	
	MHS3-32D ●	32	74 (82)	8	
	MHS3-40D ●	40	118 (130)	8	
	MHS3-50D ●	50	187 (204)	12	
	MHS3-63D ●	63	335 (359)	16	
	MHS3-80D ●	80	500 (525)	20	
	MHS3-100D ●	100	750 (780)	24	
	MHS3-125D ●	125	1270 (1320)	32	
Double acting 4 finger	**MHS4-16D** ●	16	10 (12)	4	
	MHS4-20D ●	20	19 (21)	4	
	MHS4-25D ●	25	31 (35)	6	
	MHS4-32D ●	32	55 (61)	8	
	MHS4-40D ●	40	88 (97)	8	
	MHS4-50D ●	50	140 (153)	12	
	MHS4-63D ●	63	251 (268)	16	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm (Ø 16 to Ø 25), L= 30 mm (Ø 32 to Ø 63), L= 50 mm (Ø 80 to Ø 125), value in ( ) for internal gripping.

3 finger parallel air gripper with long opening / Closing stroke

MHSL3 Series



- Ø 16, 20, 25, 32, 40, 50, 63, 80, 100, 125
- Opening / closing stroke over double the standard - MHS3 series
- Same mounting holes as MHS3, so interchangeable (lengths and Ø differ)
- Repeatability ±0.01 mm.

Action	Part number	Bore size [mm]	Gripping force [N] 1)		Opening / Closing stroke (dia.) [mm]	Possible auto switches
			External	Internal		
Double acting 3 finger	**MHSL3-16D** ●	16	14	16	10	3 wire solid state NPN: D-M9NL PNP: D-M9PL 2 wire solid state D-M9BL
	MHSL3-20D ●	20	25	28	10	
	MHSL3-25D ●	25	42	47	12	
	MHSL3-32D ●	32	74	82	16	
	MHSL3-40D ●	40	118	130	20	
	MHSL3-50D ●	50	187	204	28	
	MHSL3-63D ●	63	335	359	32	
	MHSL3-80D ●	80	500	525	40	
	MHSL3-100D ●	100	750	780	48	
	MHSL3-125D	125	1270	1320	64	

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm (Ø 16 to Ø 25), L= 30 mm (Ø 32 to Ø 63), L= 50 mm (Ø 80 to Ø 125)

3 finger parallel air gripper with dust cover

MHSJ3 Series

Action	Part number	Bore size [mm]	Gripping force [N] 1) External gripping	Gripping force [N] 1) Internal gripping	Opening / Closing stroke (dia.) [mm]
3 finger parallel gripper	**MHSJ3-16D** ●	16	9	16	4
	MHSJ3-20D ●	20	21	28	4
	MHSJ3-25D ●	25	36	47	6
	MHSJ3-32D ●	32	62	82	8
	MHSJ3-40D	40	97	130	8
	MHSJ3-50D ●	50	155	204	12
	MHSJ3-63D ●	63	280	359	16
	MHSJ3-80D ●	80	400	525	20

1) Values based on pressure of 0.5 MPa, gripping point L=20 mm (Ø 16 to Ø 25), L= 30 mm (Ø 32 to Ø 63), L= 50 mm (Ø 80).

Possible auto switches

3 wire solid state / 2 colour PNP	D-M9PWL
3 wire solid state / 2 colour NPN	D-M9NWL

Dust cover

—	Chloroprene rubber (CR) standard
F	Fluoro rubber (FKM)
S	Silicone rubber (SI)

Depending on the cover's material, the order code is after the model number.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

3 finger parallel air gripper through hole type

MHSH3 Series

- Through holes are standard, cover cap and centre pusher can be attached individually
- Centre pusher can be operated pneumatically or using spring force
- Dust cover cap same as MHSJ3.

Possible auto switches

3 wire solid state / 2 colour PNP	D-M9PWL
3 wire solid state / 2 colour NPN	D-M9NWL

Action	Part number	Bore size [mm]	Gripping force [N] 1) External gripping	Gripping force [N] 1) Internal gripping	Opening / Closing stroke (dia.) [mm]
3 finger parallel gripper	**MHSH3-16D** ●	16	9	15	4
	MHSH3-20D ●	20	21	26	4
	MHSH3-25D ●	25	36	45	6
	MHSH□3-32D	32	62	77	8
	MHSH□3-40D	40	97	118	8
	MHSH□3-50D	50	155	187	12
	MHSH□3-63D	63	280	329	16
	MHSH□3-80D	80	400	490	20

□ J…for version with dust cover.
1) Values based on pressure of 0.5 MPa, gripping point L=20 mm (Ø 16 to Ø 25), L= 30 mm (Ø 32 to Ø 63), L= 50 mm (Ø 80).

2 finger angular air gripper

MHC2 Series

- Ø 10, 16, 20, 25
- Repeatability ± 0.01 mm
- Compact body design
- Auto switch can be integrated into body.

Action	Part number	Bore size [mm]	Gripping moment per finger [Nm] 1)	Opening / Closing angle	Possible auto switches
Double acting	**MHC2-10D** ●	10	0.1	+30° ~ -10°	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHC2-16D ●	16	0.39		
	MHC2-20D ●	20	0.70		
	MHC2-25D ●	25	1.36		
Single acting (normally open)	**MHC2-10S** ●	10	0.07		
	MHC2-16S ●	16	0.31		
	MHC2-20S ●	20	0.54		
	MHC2-25S ●	25	1.08		

1) Per finger at 0.5 MPa

2 finger angular air gripper

MHC2/MHCA2/MHCM2 Series

MHC2

MHCA2

MHCM2

- Angular style air gripper Series MHC now also available in Ø 6 size
- Series MHCM2 now available for further miniaturization.

Action	Part number	Bore size [mm]	Gripping moment per finger [Nm] 1)	Opening / Closing angle	Possible auto switches
Double acting	**MHC2-6D** ●	6	0.038	+30° ~ -10°	(Perp., In-line) 3 wire solid state NPN: M9NV, M9N PNP: M9PV, M9P 2 wire solid state M9BV, M9B
Single acting (normally open)	**MHC2-6S**	6	0.024		
Double acting	**MHCA2-6D** ●	6	0.038	+30° ~ -10°	Without auto switch
Single acting (normally open)	**MHCA2-6S**	6	0.024		
	MHCM2-7S ●	7	0.017	+20° ~ -7°	

1) Per finger at 0.5 MPa

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Toggle air gripper
MHT2 Series

- The toggle mechanism holds workpiece even when pressure drops.

Action	Part number	Bore size [mm]	Gripping moment per finger [Nm] 1)	Opening / Closing angle	Possible auto switches
Double acting	**MHT2-32TFDZ** ●	32	12.4	+28° ~ -3°	Reed: D-A93L 3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHT2-40TFDZ ●	40	36	+27° ~ -3°	
	MHT2-50TFDZ ●	50	63	+23° ~ -2°	
	MHT2-63TFDZ ●	63	106	+23° ~ -2°	

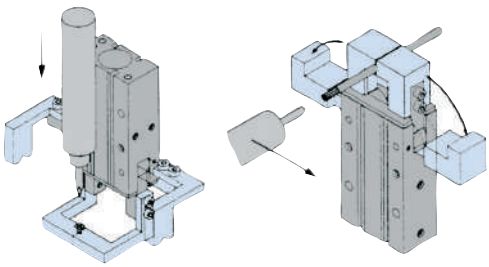
1) Per finger at 0.5 MPa

180° angular air gripper, cam type
MHY2 Series

- Synchronous rotary movement via crank drive with large holding moment
- Auto switch can be integrated into body.

Action	Part number	Bore size [mm]	Gripping moment per finger [Nm] 1)	Opening / Closing angle	Possible auto switches
Double acting 180° opening angle	**MHY2-10D** ●	10	0.16	+180° ~ -3°	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHY2-16D ●	16	0.54	+180° ~ -3°	
	MHY2-20D ●	20	1.10	+180° ~ -3°	
	MHY2-25D ●	25	2.28	+180° ~ -3°	

1) Per finger at 0.5 MPa



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

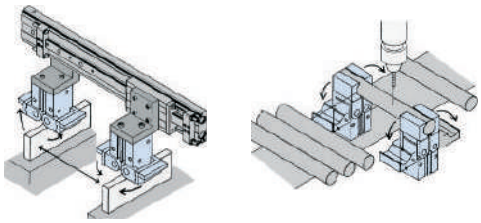
180° angular air gripper, rack and pinion type

MHW2 Series

- Robust, rack and pinion actuator for synchronous rotary movements of the gripper fingers
- Auto switch can be integrated into body
- Insensitive to dirt as body is almost completely enclosed.

Action	Part number	Bore size [mm]	Gripping moment per finger [Nm] 1)	Opening / Closing angle	Possible auto switches
Double acting 180° opening angle	**MHW2-20D** ●	20	0.30	+180° ~ -5°	3 wire solid state / 2 colour NPN: D-M9NWL PNP: D-M9PWL 2 wire solid state / 2 colour D-M9BWL
	MHW2-25D ●	25	0.73	+180° ~ -6°	
	MHW2-32D ●	32	1.61	+180° ~ -5°	
	MHW2-40D ●	40	3.70	+180° ~ -5°	
	MHW2-50D ●	50	8.27	+180° ~ -4°	

1) Per finger at 0.5 MPa



Rotary gripper

MRHQ Series

- Ø 10,16, 20, 25
- Compact combination of gripping and rotating function
- Simple piping / wiring from one side
- Length approx. 20 % shorter compared to previous product-combination with adapter plate
- Rotation angles of 90° and 180° are available
- The standard model with magnets allows the retrofitting of auto switches
- Both and positions adjustable by ±5°.

Part number	Rotary actuator			Gripper		Thread connection
	Rotation angle	Angle adjustment	Allowable kinetic energy [J]	Cylinder bore [mm]	Opening / Closing stroke [mm]	
MRHQ10D-90S-N ●	90°	±10°	0.0046	10	4	M5
MRHQ10D-180S-N ●	180°					
MRHQ16D-90S-N ●	90°	±10°	0.014	16	6	
MRHQ16D-180S-N ●	180°					
MRHQ20D-90S-N ●	90°	±10°	0.034	20	10	
MRHQ20D-180S-N ●	180°					
MRHQ25D-90S-N ●	90°	±10°	0.074	25	14	
MRHQ25D-180S-N ●	180°					

Single acting gripper optional

Possible auto switches (for rotary actuators)

3 wire solid state	NPN: D-M9NL-746, PNP: D-M9PL-746
2 wire solid state	D-M9BL-746

Possible auto switches (for gripper)

3 wire solid state	NPN: D-M9NVL, PNP: D-M9PVL
2 wire solid state	D-M9BVL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Magnetic gripper
MHM-X6400 Series

- Holding force up to 120 N
- Holds workpieces even when air is shut off
- Residual holding force 0.3 N or less
- Holding force can be adjusted changing the bumper
- Bumper is made of fluororubber
- Mountable on 3 surfaces
- Auto switches can be mounted.

Part number	Thread port	Holding force [1]
MHM-32D1-X6400 ●	R1/8	80 N
MHM-32D2-X6400		50 N
MHM-32D3-X6400		30 N

1) Workpiece thickness: 6 mm

Possible auto switches

Solid state switch	D-M9BV
	D-M9NV
	D-M9PV
Solid state switch (2-colour indication)	D-M9BWV
	D-M9NWV
	D-M9PWV
Solid state switch Water resistant (2-colour indication)	D-M9BAV
	D-M9NAV
	D-M9PAV
Magnetic field resistant 2-colour indication type Solid state auto switch	D-P3DWA
	D-P3DWASC
	D-P3DWASE

Bumper order number

Model	Holding force
MHM-A3201-1-X6400	80 N
MHM-A3201-2-X6400	50 N
MHM-A3201-3-X6400	30 N

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Shock absorbers & floating joints

Shock absorber, soft type

RJ Series

M8•M10•M14•M20•M27

- Stops transported objects softly
- Suitable for softy stopping light objects or objects transferred at low speeds
- 30 % reduced absorption time (compared with SMC RB series)
- Mounting interchangeable with the RB series
- Maximum operating cycles 10 million cycles.

Standard

Part number	Thread on the body	Strokes [mm]	Max. energy absorption [J]	Max. operation [cycles/min]	Collision speed [m/s]
RJ0604 ●	M6 x 0.75	4	0.5	80	0.05 to 1
RJ0806H ●	M8 x 1.0	6	1	80	0.05 to 2
RJ0806L ●	M8 x 1.0	6	1	80	0.05 to 1
RJ1007H ●	M10 x 1.0	7	3	70	0.05 to 2
RJ1007L ●	M10 x 1.0	7	3	70	0.05 to 1
RJ1412H ●	M14 x 1.5	12	10	45	0.05 to 2
RJ1412L ●	M14 x 1.5	12	10	45	0.05 to 1
RJ2015H	M20 x 1.5	15	30	25	0.05 to 2
RJ2015L	M20 x 1.5	15	30	25	0.05 to 1
RJ2725H	M27 x 1.5	25	70	10	0.05 to 1.5
RJ2725L	M27 x 1.5	25	70	10	0.05 to 1
RJ0805 ●	M8 x 1.0	5	0.5	80	0.05 to 1
RJ1006 ●	M10 x 1.0	6	1.5	70	0.05 to 1
RJ1410 ●	M14 x 1.5	10	3.7	45	0.05 to 1

With cap

Part number	Thread on the body	Strokes [mm]	Max. energy absorption [J]	Max. operation [cycles/min]	Collision speed [m/s]
RJ0806HU ●	M8 x 1.0	6	1	80	0.05 to 2
RJ0806LU ●	M8 x 1.0	6	1	80	0.05 to 1
RJ1007HU ●	M10 x 1.0	7	3	70	0.05 to 2
RJ1007LU ●	M10 x 1.0	7	3	70	0.05 to 1
RJ1412HU ●	M14 x 1.5	12	10	45	0.05 to 2
RJ1412LU ●	M14 x 1.5	12	10	45	0.05 to 1
RJ2015HU ●	M20 x 1.5	15	30	25	0.05 to 2
RJ2015LU ●	M20 x 1.5	15	30	25	0.05 to 1
RJ2725HU ●	M27 x 1.5	25	70	10	0.05 to 1.5
RJ2725LU ●	M27 x 1.5	25	70	10	0.05 to 1
RJ0805U ●	M8 x 1.0	5	0.5	80	0.05 to 1
RJ1006U ●	M10 x 1.0	6	1.5	70	0.05 to 1
RJ1410U ●	M14 x 1.5	10	3.7	45	0.05 to 1

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Shock absorber, basic type

RB/RBC Series

M6•M8•M10•M14•M20•M27

- Component for stroke end damping with optimum effect
- Increased efficiency by use of hydraulic principle resulting in minimum dimensions
- Automatic adjustment system for each size allows a wide range of applications
- Impact speed up to max. 5 m/s
- The ring area on the front can also be used as a mechanical stop to a certain extent.

Standard

Part number	Thread on the body	Strokes [mm]	Max. energy absorption [J]	Max. operation [cycles/min]	Max. impact speed [m/s]
RB0604 ●	M6 x 0.75	4	0.5	80	1
RB0806 ●	M8 x 1	6	2.94	80	5
RB1007 ●	M10 x 1	7	5.88	70	
RB1412 ●	M14 x 1.5	12	19.6	45	
RB2015 ●	M20 x 1.5	15	58.8	25	
RB2725 ●	M27 x 1.5	25	147	10	

With cap

Part number	Thread on the body	Strokes [mm]	Max. energy absorption [J]	Max. operation [cycles/min]	Max. impact speed [m/s]
RBC0806 ●	M8 x 1	6	2.94	80	5
RBC1007 ●	M10 x 1	7	5.88	70	
RBC1412 ●	M14 x 1.5	12	19.6	45	
RBC2015 ●	M20 x 1.5	15	58.8	25	
RBC2725 ●	M27 x 1.5	25	147	10	

Shock absorber, short type

RBQ/RBQC Series

M16•M20•M25•M30•M32

- New design principle (external plunger) enables a high space efficiency with minimum dimensions
- Automatic adjustment
- Ideal mounting options and adjustment with continuous male thread on the body
- Impact speed max. 3 m/s
- Stopper with either metallic or with rubber cap with the same mounting dimensions
- Enclosed system produces increased operational security and is maintenance free.

Metal stopper

Part number	Thread on the body	Strokes [mm]	Max. energy absorption [J]	Max. operation [cycles/min]	Max. impact speed [m/s]
RBQ1604 ●	M16 x 1.5	4	1.96	60	3
RBQ2007 ●	M20 x 1.5	7	11.8	60	
RBQ2508 ●	M25 x 1.5	8	19.6	45	
RBQ3009 ●	M30 x 1.5	8,5	33.3	45	
RBQ3213 ●	M32 x 1.5	13	49	30	

Rubber stopper

Part number	Thread on the body	Strokes [mm]	Max. energy absorption [J]	Max. operation [cycles/min]	Max. impact speed [m/s]
RBQC1604 ●	M16 x 1.5	4	1.96	60	3
RBQC2007 ●	M20 x 1.5	7	11.8	60	
RBQC2508 ●	M25 x 1.5	8	19.6	45	
RBQC3009 ●	M30 x 1.5	8,5	33.3	45	
RBQC3213 ●	M32 x 1.5	13	49	30	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Floating joint, standard type

JA Series

- Compact and light weight
- Compensates for both angular and eccentric misalignment
- Reduces mounting time of actuator
- Long life - dust tight cover
- Do not use for rotation because of non-rotating shaft coupling.

Standard

Part number	Applicable cylinder bore size [mm]	Applicable cylinder nominal thread size	Maximum operating tensile and compressive force [N]	Allowable eccentricity [Umm]	Rotating angle	Operating pressure
JA6-3-050 ●	6	M3	19	0.5	±5°	1 MPa or less (Air cylinder) 3.5 MPa or less (Hydraulic cylinder)
JA10-4-070 ●	10	M4	54	0.5		
JA15-5-080 ●	10 / 15	M5	123	0.5		
JA15-6-100 ●	15	M6	123	0.5		
JA20-8-125 ●	20	M8	1100	0.5		
JA30-10-125 ●	25 / 30	M10 x 1.25	2500	0.5		
JA40-14-150 ●	40	M14 x 1.5	6000	0.75		
JA63-18-150 ●	50 / 63	M18 x 1.5	11000	1		
JA80-22-150 ●	80	M22 x 1.5	18000	1.25		
JA100-26-150 ●	100	M26 x 1.5	28000	2		
JA140-30-150 ●	125 / 140	M30 x 1.5	54000	2.5		
JA160-36-150 ●	160	M36 x 1.5	71000	3		

Floating joint, lightweight type

JC Series

- Compact and lightweight
- Compensates for both angular and eccentric misalignment
- Long life - dust tight cover.

Standard / Thread nominal size

Part number	Applicable cylinder bore size [mm]	Applicable cylinder nominal thread size	Max. operating tensile and compressive force [N]	Allowable eccentricity [Umm]	Rotating angle	Operating pressure
			Basic style			
JC20-8-125 ●	20	M8 x 1.25	300	0.5	±5º	1 MPa or less
JC30-10-125 ●	25 / 32	M10 x 1.25	800	0.5		
JC40-14-150 ●	40	M14 x 1.5	1250	0.75		
JC63-18-150 ●	50 / 63	M18 x 1.5	3100	1		

Semi-standard / Thread nominal size

Part number	Applicable cylinder bore size [mm]	Applicable cylinder nominal thread size	Max. operating tensile and compressive force [N]	Allowable eccentricity [Umm]	Rotating angle	Operating pressure
			Basic style			
JC20-8-100	20	M8 x 1	300	0.5	±5º	1 MPa or less
JC25-10-150	25	M10 x 1.5	800	0.5		
JC32-10-100	32	M10 x 1	800	0.5		
JC40-12-125	32 / 40	M12 x 1.25	1250	0.75		
JC40-12-150	40	M12 x 1.5	1250	0.75		
JC40-12-175	32 / 40	M12 x 1.75	1250	0.75		
JC50-16-150	50	M16 x 1.5	3100	1		
JC63-16-200	50 / 63	M16 x 2	3100	1		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Floating joint
JT Series

- Compact and lightweight
- Applicable cylinder bore sizes (mm) Ø 20 ~ Ø 40
- Rotating angle ±2°
- Allowable eccentricity up to 0.75 mm
- Allowable axial force up to 880 N.

Part number	Applicable cylinder bore size [mm]	Nominal thread size
JT20	20	M8
JT32	25	M10
	32	M10
JT40	40	M14

Basic characteristics of air cylinders

The basic characteristics of air cylinders are as shown below.
Use the figures in the table below as a guide for model selection since they may be different depending on a model or bore size. For details, refer to the individual actuator's catalogue.

1 Bore size selection

Use the table below as a guide for selecting a bore size.

Bore size [mm]	Maximum stroke [mm]	Transfer load [kg] • Below figures were obtained with an operating pressure of 0.7 MPa and a load ratio of η = 0.7. • The cylinder's speed will be determined based on an operating pressure and a load ratio, mounting orientation. 0.1 1 10 100 1000 (kg)	Allowable rod end lateral load [N] With rod retracted	With max. rod extended
2.5	Up to 10	0.2	—	—
4	Up to 20	0.6	—	—
6	Up to 60	1.4	0.2	0.05
8	Up to 400	2.5	0.4	0.05
10		3.8	0.7	0.08
12		5.5	1.2	0.15
16		9.8	2.0	0.2
20	Up to 1500	15	5.0	1.0
25		24	7.0	1.5
32		39	10	2
40		62	18	3
50		96	30	4
63		153	45	5
80		246	70	8
100		385	100	10
125	Up to 1600	601	250	25
160		985	400	40
180	Up to 2000	1246	500	45
200		1539	600	55
250	Up to 2400	2404	1000	100
300		3462	1200	150

2 Minimum operating pressure

[MPa]

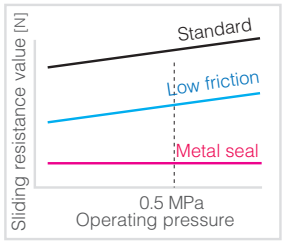
Bore size [mm]	6	10	16	20	25	32	40	50	63	80	100	125	160	180	200
Standard cylinder	0.12	0.06		0.05											
Low friction cylinder		0.03		0.025				0.01				0.005			
Metal seal cylinder (High speed, low friction)	0.02	0.005													

∗ Consult with SMC for figures other than those shown in this table.

Sliding resistance of a cylinder varies depending on the operating pressure.
Sliding resistance values at 0.5 MPa are shown in the table below.
(Guide value)

Standard cylinder	19 to 102 N (Ø 40 to Ø 100)
Low friction cylinder	8 to 40 N (Ø 40 to Ø 100)
Metal seal cylinder	0.05 to 0.2 N (Ø 6 to Ø 40)

∗ Contact SMC regarding the bore sizes which do not have a resistance value shown.



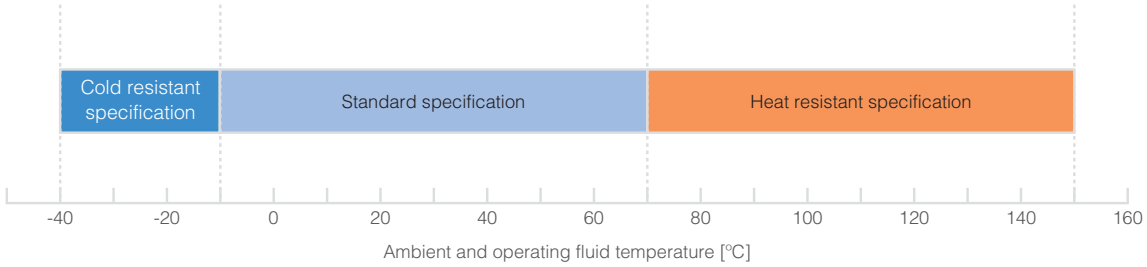
3 Cylinder speed

[mm/s]

Bore size [mm]	6	10	16	20	25	32	40	50	63	80	100	125	160	180	200
Standard cylinder	50 to 750			50 to 1000								50 to 500			
Low speed cylinder	—	1 to 300		0.5 to 300								—			
High power cylinder (High speed)	—			50 to 3000								—			
Metal seal cylinder	0.5 to 3000 (Ø 6: Up to 1000)			—											

∗ Consult with SMC for figures other than those shown in this table.

4 Ambient and operating fluid temperature



∗ For the selection of a piston speed and an operating pressure with cold or heat resistant specification and an auto switch, refer to the following pages.

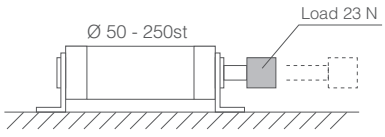
5 Service life

This cylinder service life data is based on the service life test conducted under the test conditions shown below.
This does not guarantee the service life under the customers' operating conditions.

Traveling distance	8000 km running (16 million reciprocating cycles)
Condition of cylinder	Operation condition: Good
	External air leakage: 5 cm³/min. ANR or less
	Seals: No problem in operation although there is slight friction.
	Piston rod: No abnormal change

Test Condition

Cylinder tested	Air cylinder/CA2 Series
Bore size	50 mm
Stroke	250 mm
Operating direction	Horizontal
Operating pressure	0.7 MPa
Cylinder speed	650 mm/s
Operating frequency	65 complete cycles/min
Ambient temperature	Room temperature
Rod end load	23 N
Operating air supply	Using Air filter/AF and Mist Separator/AM
Lubrication	Non-lube (Initial lubrication by grease)
Air cushion	Adequately used



Others
Regarding the service life for other models, clean series, water resistant cylinder and oil-free (using white vaseline), consult with SMC.

Basic characteristics of rodless cylinders

A performance comparison between a magnet and mechanically joint type rodless cylinder is shown below.

Use the figures in the table below as a guide for model selection since they may be different depending on a model or bore size. For details, refer to the individual actuator's catalogue.

1 Bore size and stroke

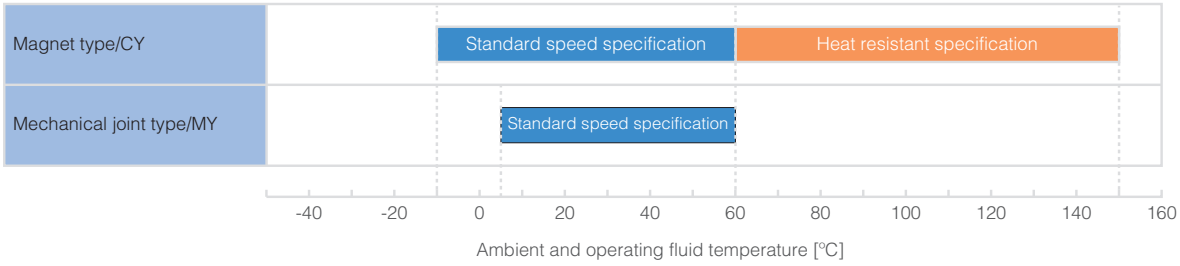
Manufacturable maximum stroke is shown below. [mm]

	Bore size [mm]										
	6	10	15(16)	20	25	32	40	50	63	80	100
Magnet type/CY*	300	500	1000	1500	3000			5000		—	
Mechanical joint type/MY	—	3000		5000							

* The maximum stroke for cylinders with a magnet is compatible with CY3B.
Mechanical joint type rodless cylinders: Those shown in the table exclude the linear guide type.

2 Operating piston speed

3 Ambient and operating fluid temperature



4 Operating pressure

The minimum operating pressure is shown below. [MPa]

	Bore size [mm]										
	6	10	15(16)	20	25	32	40	50	63	80	100
Magnet type/CY	0.16	0.16	0.16		0.15	0.14	0.12			—	
Mechanical joint type/MY	—	0.2	0.1(0.15)								

The maximum operating pressure is shown below.
Magnet type rodless cylinder: 0.7 MPa
Mechanical joint type rodless cylinder: 0.8 MPa

5 Function comparison

Comparison by function is shown below.

	Magnet type rodless cylinder/CY	Mechanical joint type rodless cylinder/MY
With guide variation	• Basic • Slide bearing • Ball bushing bearing • Linear guide	• Basic • Slide bearing (made of resin) • Cam follower guide • Linear guide
Clean Series	12-Series Clean rodless cylinder/CYP (Special grease)	—
Improved water resistance	—	With protective cover/MY1CW, MY1MW
Intermediate stop	Using 3 position solenoid valve (all ports blocked)	With lock/ML1C
Cushion	Rubber bumper Shock absorber Sign rodless cylinder/REA, REB	Rubber bumper Air cushion Shock absorber
Air-hydro specification	○	—

6 Service life

This cylinder service life data is based on the service life test conducted under the test conditions shown below.
This does not guarantee the service life under the customers' operating conditions.

	Magnet type rodless cylinder/CY	Mechanical joint type rodless cylinder/MY
Traveling distance	3500 km	3000 km
Condition of cylinder	• Operation condition: Good • External air leakage: 1 cc/min or less • Interior air leakage: 1 cc/min or less • External appearance: Lubricated condition is good and there are no flaws on it. • Minimum operating pressure: Equivalent to the initial value	• Operation condition: Good • Dust seal band: No peeling off, bulging or cracks • Air leakage: Equivalent to the initial value • Minimum operating pressure: Equivalent to the initial value • Air cushion: Good

Test Condition

	Magnet type rodless cylinder	Mechanical joint type rodless cylinder
Cylinder tested	CY3B Series	MY1B Series
Bore size	50 mm	
Stroke	500 mm	
Operating direction	Horizontal	Horizontal wall mounting
Operating pressure	0.5 MPa	
Average piston speed	500 mm/s	
Operating frequency	20 c.p.m	
Ambient temperature	Room temperature	
Load mass	1.2 kg	9 kg
Lubrication	Non-lube (Initial lubrication by grease)	

Basic characteristics of cylinders with guide

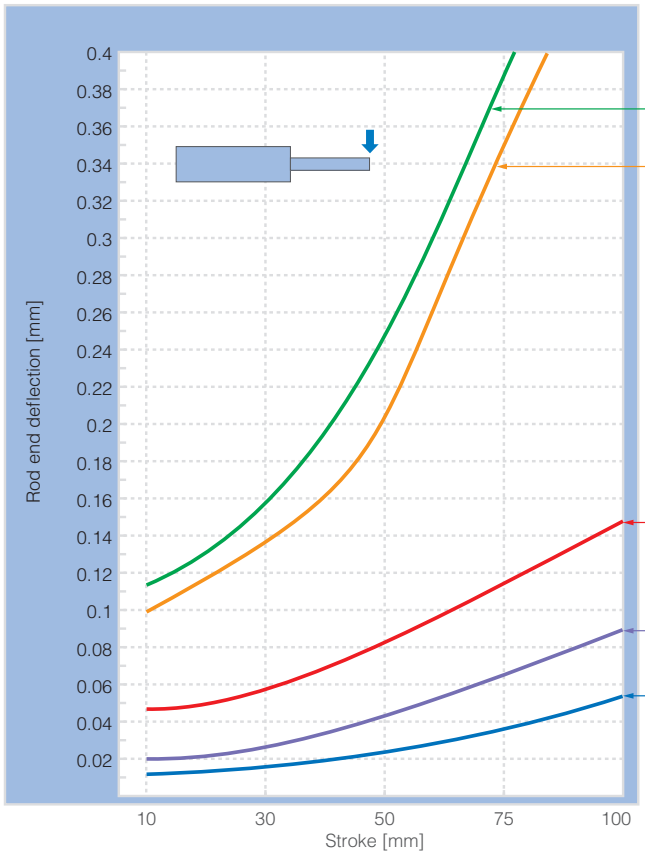
A performance comparison of cylinders with different types of mounting guides is shown below.

Use the figures in the table below as a guide for model selection since they may be different depending on a model or bore size. For details, refer to the individual actuator's catalogue.

1 Accuracy

1) Deflection amount at the table or rod end (When the maximum load is applied to the stroke extension end.)

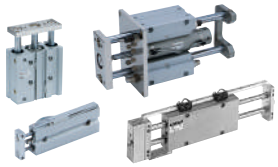
Below graph shows only the tendency since it may be different depending on a model or bore size.



Guide type

Ball bushing bearing

Slide bearing made of metal



Ball spline guide

Linear guide

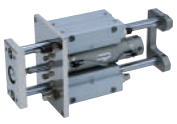
Cross roller guide

2) Non-rotating accuracy at the table or rod end

Below graph shows only the tendency since it may be different depending on a model or bore size.

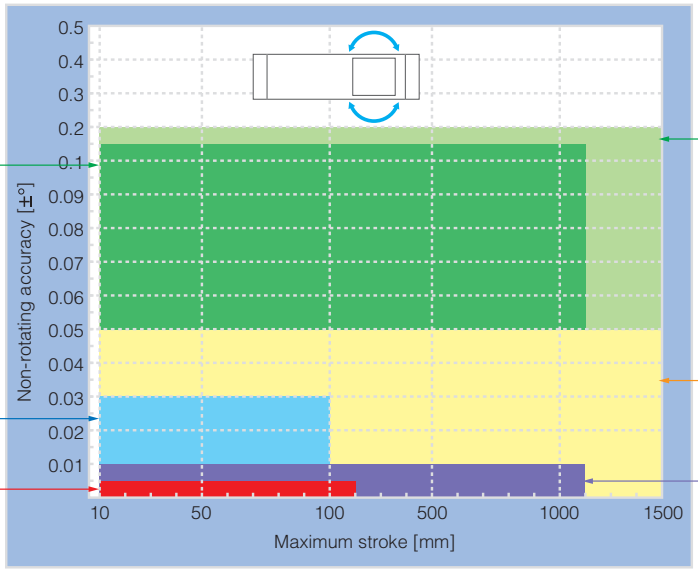
Guide type

Ball bushing bearing



Ball spline guide

Cross roller guide



Guide type

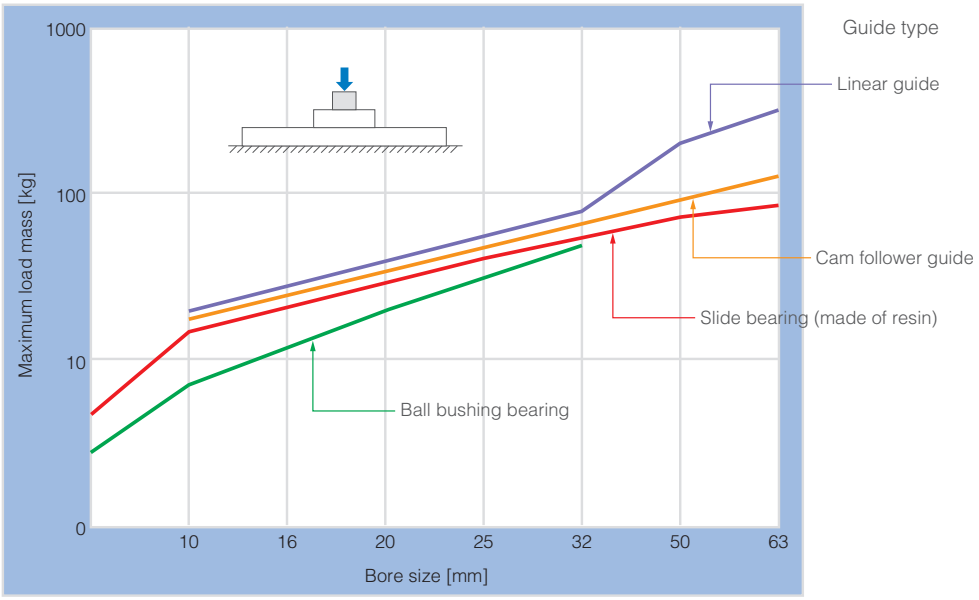
Slide bearing made of resin

Cam follower guide

Linear guide

2 Load mass

Below graph shows only the tendency since it may be different depending on a model or bore size.



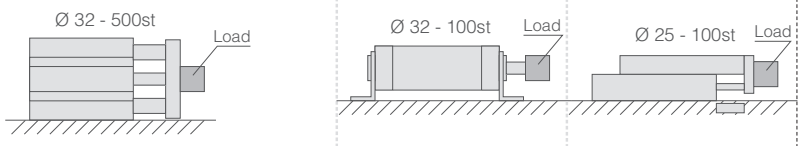
∗ The figures will change depending on the operating speed and the amount of overhang.
For details, refer to pages described to each product model selection.

3 Service life

This cylinder service life data is based on the service life test conducted under the test conditions shown below.
This does not guarantee the service life under the customers' operating conditions.

Guide type	Slide bearing (Copper alloy)	Ball bushing bearing	Ball spline guide	Linear guide
Cylinder for test	MGGM	MGGL	MTS	MXQ
Traveling distance (number of complete cycles)	3000 km (3 million cycles)		2000 km (10 million cycles)	2000 km (10 million cycles)
Non-rotating accuracy	0.03 mm or less	0.04	0.05	0.005 mm or less

∗ The figures of non-rotating accuracy is measured when 50 % of the allowable torque is applied.
∗ It is the same as the lubrication.



Test condition

Guide type	Slide bearing (Copper alloy)	Ball bushing bearing	Ball spline guide	Linear guide
Cylinder for test	MGGM	MGGL	MTS	MXQ
Bore size	Ø 32		Ø 32	Ø 25
Stroke	500 mm		100 mm	100 mm
Operating direction	Horizontal		Horizontal	Vertical, downward
Average piston speed	800 mm/s		800 mm/s	350 mm/s
Operating frequency	18 complete cycles/min		29 complete cycles/min	60 compiete cycles/min
Load mass	2.8 kg		4.3 kg	3.8 kg
Lubrication	Non-lube (Initial lubrication by grease)			

Others
Regarding the other models, consult with SMC.

Theoretical force tables

Note: The theoretical force of a cylinder = pressure x effective area. Please allow suitable load factors when selecting cylinders for applications. Information given here is only applicable to double acting cylinders. All figures quoted in these tables are in Newtons and are rounded to the nearest integer.

Theoretical force table 1

Applicable series:

C76, C85, C95, C96, CG1, CG3, CJ2, CM2, CM3, CP96, MGG, MXH (0.7 MPa max pressure), MXF (0.7 MPa max pressure).

Note, where more than one rod size is given, please check dimension page to confirm applicable rod diameter. [N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
6	3	OUT	28	6	8	11	14	17	20	–	–	–
		IN	21	4	6	8	11	13	15	–	–	–
8	4	OUT	50	10	15	20	25	30	35	40	45	50
		IN	38	8	11	15	19	23	26	30	34	38
10	4	OUT	79	16	24	31	39	47	55	63	71	79
		IN	66	13	20	26	33	40	46	53	59	66
12	6	OUT	113	23	34	45	57	68	79	90	102	113
		IN	85	17	25	34	42	51	59	68	76	85
16	5	OUT	201	40	60	80	101	121	141	161	181	201
		IN	181	36	54	73	91	109	127	145	163	181
	6	OUT	201	40	60	80	101	121	141	161	181	201
		IN	173	35	52	69	86	104	121	138	156	173
	8	OUT	201	40	60	80	101	121	141	–	–	–
		IN	151	30	45	60	75	90	106	–	–	–
20	8	OUT	314	63	94	126	157	188	220	251	283	314
		IN	264	53	79	106	132	158	185	211	238	264
	10	OUT	314	63	94	126	157	188	220	251	283	314
		IN	236	47	71	94	118	141	165	188	212	236
25	10	OUT	491	98	147	196	246	295	344	393	442	491
		IN	412	82	124	165	206	247	288	330	371	412
32	12	OUT	804	161	241	322	402	482	563	643	724	804
		IN	691	138	207	276	346	415	484	553	622	691
40	14	OUT	1260	252	378	504	630	756	882	1010	1130	1260
		IN	1100	220	330	440	550	660	770	880	990	1100
	16	OUT	1260	252	378	504	630	756	882	1010	1130	1260
		IN	1060	212	318	424	530	636	742	848	954	1060
50	20	OUT	1960	392	588	784	980	1180	1370	1570	1760	1960
		IN	1650	330	495	660	825	990	1160	1320	1490	1650
63	20	OUT	3120	624	936	1250	1560	1870	2180	2500	2810	3120
		IN	2800	560	840	1120	1400	1680	1960	2240	2520	2800
80	25	OUT	5030	1010	1510	2010	2520	3020	3520	4020	4530	5030
		IN	4540	908	1360	1820	2270	2720	3180	3630	4090	4540
100	25	OUT	7850	1570	2360	3140	3930	4710	5500	6280	7070	7850
		IN	7360	1480	2210	2950	3680	4420	5160	5890	6630	7360
125	32	OUT	12300	2460	3690	4920	6150	7380	8610	9840	11100	12300
		IN	11470	2300	3450	4590	5740	6890	8030	9180	10330	11470
140	36	OUT	15400	3080	4620	6160	7700	9240	10800	12300	13900	15400
		IN	14400	2880	4320	5760	7200	8640	10100	11500	13000	14400
160	40	OUT	20100	4020	6030	8040	10100	12100	14100	16100	18100	20100
		IN	18800	3760	5640	7520	9400	11300	13200	15000	16900	18800
180	45	OUT	25400	5080	7620	10200	12700	15200	17800	20300	22900	25400
		IN	23900	4780	7170	9560	12000	14300	16700	19100	21500	23900
200	50	OUT	31400	6280	9420	12600	15700	18800	22000	25100	28300	31400
		IN	30150	6030	9050	12060	15080	18090	21110	24120	27140	30150
250	60	OUT	49100	9820	14700	19600	24600	29500	34400	39300	44200	49100
		IN	46300	9260	13900	18500	23200	27800	32400	37000	41700	46300

Theoretical force table 2

Applicable series: C55, CQ2, CQM, CQS, MGP
(Outstroke force only)

[N]

Bore size [mm]	Operating direction	Operating pressure [MPa]		
		0.3	0.5	0.7
12	IN	25	42	59
	OUT	34	57	79
16	IN	45	75	106
	OUT	60	101	141
20	IN	71	118	165
	OUT	94	157	220
25	IN	113	189	264
	OUT	147	245	344
32	IN	181	302	422
	OUT	241	402	563
40	IN	317	528	739
	OUT	377	628	880
50	IN	495	825	1150
	OUT	589	982	1370
63	IN	841	1400	1960
	OUT	935	1560	2180
80	IN	1360	2270	3170
	OUT	1510	2510	3520
100	IN	2140	3570	5000
	OUT	2360	3930	5500
125	IN	3376	5627	7878
	OUT	3682	6136	8590
140	IN	4313	7188	10063
	OUT	4618	7697	10776
160	IN	5655	9425	13195
	OUT	6032	10053	14074
180	IN	7257	12095	16933
	OUT	7634	12724	17813
200	IN	9048	15080	21112
	OUT	9425	15708	21991

Theoretical force table 3

Applicable series:
MY1B, MY1C, MY1H, MY1M, MY2, MY3

[N]

Bore size [mm]	Piston area [mm²]	Operating pressure [MPa]						
		0.2	0.3	0.4	0.5	0.6	0.7	0.8
10	78	15	23	31	39	46	54	62
16	200	40	60	80	100	120	140	160
20	314	62	94	125	157	188	219	251
25	490	98	147	196	245	294	343	392
32	804	161	241	322	402	483	563	643
40	1256	251	377	502	628	754	879	1005
50	1962	392	588	784	981	1177	1373	1569
63	3115	623	934	1246	1557	1869	2180	2492
80	5024	1004	1507	2009	2512	3014	3516	4019
100	7850	1570	2355	3140	3925	4710	5495	6280

Theoretical force table 4

Applicable series: MXQ, MXS, MXW

[N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]					
				0.2	0.3	0.4	0.5	0.6	0.7
6	3	OUT	57	11	17	23	29	34	40
		IN	42	8	13	17	21	25	29
8	4	OUT	101	20	30	40	51	61	71
		IN	75	15	23	30	38	45	53
12	6	OUT	226	45	68	90	113	136	158
		IN	170	34	51	68	85	102	119
16	8	OUT	402	80	121	161	201	241	281
		IN (MXS, MXW)	302	60	91	121	151	181	211
	6	IN (MXQ)	346	69	104	138	173	207	242
20	10	OUT	628	126	188	251	314	377	440
		IN (MXS, MXW)	471	94	141	188	236	283	330
	8	IN (MXQ)	528	106	158	211	264	317	369
25	12	OUT	982	196	295	393	491	589	687
		IN (MXS, MXW)	756	151	227	302	378	454	529
	10	IN (MXQ)	825	165	247	330	412	495	577

Theoretical force table 5

Applicable series: CUJ

[N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]		
				0.3	0.5	0.7
4	2	OUT	13	4	6	9
		IN	9	3	5	7
6	4	OUT	28	8	14	20
		IN	16	5	8	11
8	5	OUT	50	15	25	35
		IN	31	9	15	21
10	6	OUT	79	24	39	55
		IN	50	15	25	35
12	6	OUT	113	34	57	79
		IN	85	25	42	59
16	8	OUT	201	60	101	141
		IN	151	45	75	106
20	10	OUT	314	94	157	220
		IN	236	71	118	165

Theoretical force table 6

Applicable series: MXP

[N]

Bore size [mm]	Piston area [mm²]	Operating pressure [MPa]					
		0.2	0.3	0.4	0.5	0.6	0.7
6	28	6	8	11	14	17	20
8	50	10	15	20	25	30	35
10	79	16	24	32	40	47	55
12	113	23	34	45	57	68	79
16	201	40	60	80	101	121	141

Theoretical force table 7

Applicable series: MXY

[N]

Bore size [mm]	Piston area [mm²]	Operating pressure [MPa]				
		0.2	0.3	0.4	0.5	0.55
6	28	6	8	11	14	15
8	50	10	15	20	25	28
12	113	23	34	45	57	62

Theoretical force table 8

Applicable series: MU

[N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]					
				0.2	0.3	0.4	0.5	0.6	0.7
25	12	OUT	491	98	147	196	246	295	344
		IN	378	76	113	151	189	227	265
32	14	OUT	804	161	241	322	402	482	563
		IN	650	130	195	260	325	390	455
40	16	OUT	1257	251	377	503	629	754	880
		IN	1056	211	317	422	528	634	739
50	20	OUT	1963	393	589	785	982	1178	1374
		IN	1649	330	495	660	824	989	1154
63	20	OUT	3117	623	935	1247	1559	1870	2182
		IN	2803	561	841	1121	1402	1682	1962

Theoretical force table 9

Applicable series: MGF, MGZ, MGZR, MTS

Note, please take care to select correct table for each product.

MGF

[N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
40	25	OUT	1256	251	376	502	628	753	879	1004	1130	1256
		IN	765	153	229	306	382	459	535	612	688	765
63	36	OUT	3117	623	935	1246	1558	1870	2182	2493	2805	3117
		IN	2099	419	629	839	1049	1259	1469	1679	1889	2099
100	36	OUT	7853	1570	2356	3141	3926	4711	5497	6282	7067	7853
		IN	6835	1367	2050	2734	3417	4101	4784	5468	6151	6835

MGZ, MGZR

[N]

Model	Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]								
					0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
MGZ/R20	20 x 25	10	OUT	726	145	218	290	363	436	508	581	653	726
	20		IN	236	47	71	94	118	141	165	189	212	236
MGZ/R25	25 x 30	12	OUT	1085	217	326	434	543	651	760	868	977	1085
	25		IN	378	76	113	151	189	227	265	302	340	378
MGZ/R32	36 x 32	16	OUT	1621	324	486	648	811	973	1135	1297	1459	1621
	32		IN	603	121	181	241	302	362	422	482	543	603
MGZ/R40	45 x 40	20	OUT	2533	507	760	1013	1267	1520	1773	2026	2280	2533
	40		IN	942	188	283	377	471	565	659	754	848	942
MGZ/R50	55 x 50	25	OUT	3848	770	1154	1539	1924	2309	2694	3078	3463	3848
	50		IN	1473	295	442	589	737	884	1031	1178	1326	1473
MGZ/R63	68 x 63	32	OUT	5945	1189	1784	2378	2973	3567	4162	4756	5351	5945
	63		IN	2313	463	694	925	1157	1388	1619	1850	2082	2313
MGZ/R80	87 x 80	40	OUT	9715	1943	2915	3886	4858	5829	6801	7772	8744	9715
	80		IN	3770	754	1131	1508	1885	2262	2639	3016	3393	3770

MTS

[N]

Bore size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]					
			0.2	0.3	0.4	0.5	0.6	0.7
8	OUT	50	10	15	20	25	30	35
	IN	37	8	11	15	19	22	26
12	OUT	113	23	34	45	57	68	79
	IN	84	17	25	34	42	50	59
16	OUT	201	40	60	80	101	121	141
	IN	150	30	45	60	75	90	105
20	OUT	314	63	94	126	157	188	220
	IN	235	47	71	94	118	141	165
25	OUT	490	98	147	196	245	294	343
	IN	358	72	107	143	179	215	251
32	OUT	804	161	241	322	402	482	563
	IN	603	121	181	241	302	362	422
40	OUT	1,256	251	377	502	628	754	879
	IN	942	188	283	377	471	565	659

⚠ Caution Do not apply a load that is 50 % or more of the theoretical output.

Simple specials

-XA0 to XA38: Change of rod and shape.
-XC14: Change of trunnion bracket mounting position.
-XC79: Tapped hole, drilled hole, pinned hole machined additionally.

Applicable series

Series	XA	XC14	XC79
C76	XA0 to XA30		
C85	XA0 to XA30		
C96	XA0 to XA30	●	
CG1	XA0 to XA30		
CG1Y	XA0 to XA30		
CG5-S	XA0 to XA30		
CJ2	XA0/XA1/XA10/XA11		
CJP2	XA0/XA1/XA10/XA11		
CM2	XA0 to XA30		
CM2Y	XA0 to XA30		
CP96	XA0 to XA30		
CQ2	XA1 to XA23, XA26 to XA30		
CQS	XA1/XA2/XA6/XA7/XA11/XA17/XA18		
CUJ	XA0/XA1/XA2/XA6/XA7/XA10/XA11/XA17/XA18		
MGF			●
MGG			●
MGP	XA1/XA6/XA17/XA21		●
MXH			●
RQ	XA1 to XA23, XA26 to XA30		
RSQ	XA1/XA3/XA6/XA7/XA8/XA10/XA11/XA13/XA17/XA18/XA19/XA32/XA33/XA34/XA35/XA36/XA37/XA38		

Change of rod end shape (-XA0 to -XA38)

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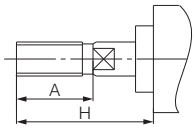

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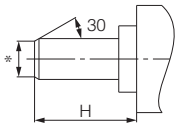

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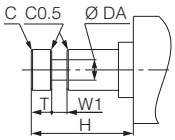

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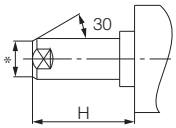

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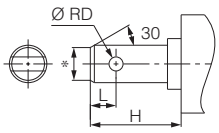

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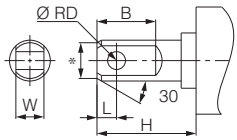

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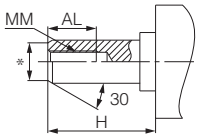

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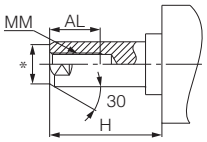

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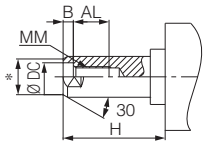

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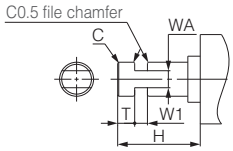

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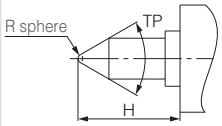

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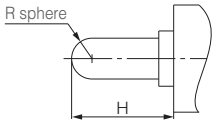

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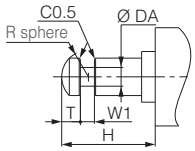

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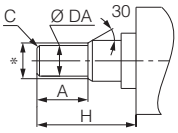

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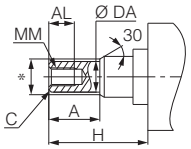

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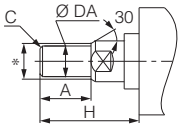

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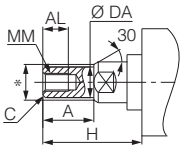

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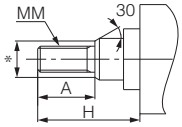

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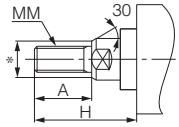

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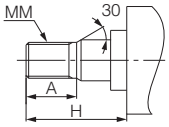

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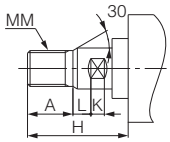
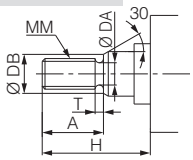


Symbol : A21



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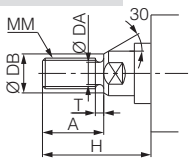

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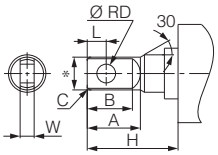
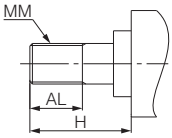


Symbol : A24



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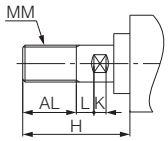

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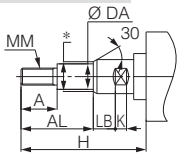
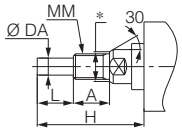
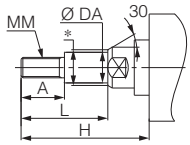


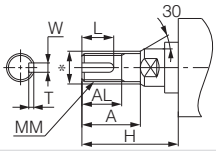
Symbol : A27



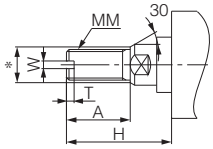
Symbol : A28



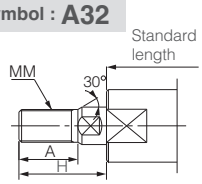
Symbol : A29



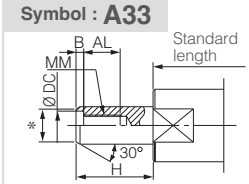
Symbol : A30



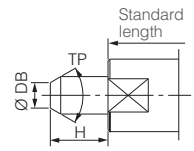
Symbol : A32



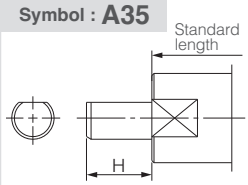
Symbol : A33



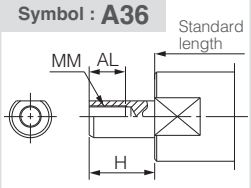
Symbol : A34



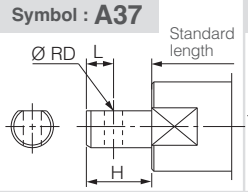
Symbol : A35



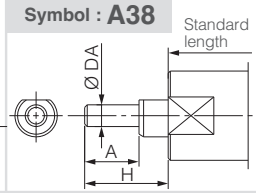
Symbol : A36



Symbol : A37



Symbol : A38



Note) These images are attached as reference and could be slightly different in some actuators.

Made to order, common specifications

-X1439	Auto switch T-Slot mounting
-XB6	Heat resistant cylinder (-10 to 150 °C)
-XB7	Cold resistant cylinder (-40 to 70 °C)
-XB9	Low speed cylinder (10 to 50 mm/s)
-XB10	Intermediate stroke (Using exclusive body)
-XB10A	Intermediate stroke (Spacer-installed type)
-XB11	Long stroke type
-XB12	External stainless steel cylinder
-XB13	Low speed cylinder (5 to 50 mm/s)
-XB14	Cylinder with heat resistant auto switch
-XB19	High speed type
-XB20	Stroke adjustment unit with adjustment bolt
-XB22	Shock absorber soft type series RJ type
XC2(A)	Rod End Length Extended 10 mm
-XC3	Special port location
-XC4	With heavy duty scraper
-XC5	Heat resistant cylinder (-10 to 110 °C)
-XC6	Made of stainless steel
-XC7	Tie-rod, cushion valve, tie-rod nut, etc. made of stainless steel
-XC8	Adjustable stroke cylinder / Adjustable extension type
-XC9	Adjustable stroke cylinder / Adjustable retraction type
-XC10	Dual stroke cylinder / Double rod type
-XC11	Dual stroke cylinder / Single rod type
-XC12	Tandem cylinder
-XC13	Auto switch rail mounting style
-XC17	Pin cylinder with rod quenched
-XC19	Intermediate stroke (Spacer type)
-XC20	Head cover axial port
-XC22	Fluororubber seals
-XC24	With magnet shielding plate
-XC25	No fixed throttle of connection port
-XC26	With split pins for double clevis pin / double knuckle joint pin and flat washers
-XC27	Double clevis and double knuckle joint pins made of stainless steel
-XC29	Double knuckle joint with spring pin
-XC34	Non-rotating plate with workpiece mounting screw (No extended part on the rod end)
-XC35	With coil scraper
-XC36	With boss in rod side
-XC37	Larger throttle diameter of connection port
-XC38	Vacuum (Rod through-hole)
-XC42	Built-in shock absorber in head cover side
-XC51	With hose nipple
-XC52	Mounting nut with set screw
-XC56	With knock pin holes
-XC57	Rodless cylinder with floating joint
-XC65	Made of stainless steel (Combination of -XC7 and -XC68)
-XC67	Dust seal band NBR lining specifications
-XC68	Made of stainless steel (with hard chrome plated piston rod)
-XC69	Series MGP with shock absorber
-XC71	Helical insert thread specifications
-XC72	Without built-in auto switch magnet
-XC73	Built-in cylinder with lock (CDNG)
-XC74	With front plate for MGG cylinder
-XC82	Bottom mounting style
-XC83	Built-in cylinder with lock (MDNB)
-XC85	Grease for food processing equipment
-XC88	Spatter resistant coil scraper, Lube-retainer, grease for welding (Piston rod: Stainless steel 304)
-XC89	Spatter resistant coil scraper, Lube-retainer, grease for welding (Piston rod: S45C)
-XC91	Spatter resistant coil scraper, Grease for welding (Rod parts: S45C)
-XC92	Dust resistant actuator
-XC93	With greater water resistance + stable lubrication function
-X144	Symmetrical port position
-X446	PTFE grease
-X773	Short pitch mounting
-X867	Side porting type (Plug location changed)

Applicable series for made to orders from X144 to XC91

Series	X144	X446	X773	X867	X1439	XB6	XB7	XB9	XB10	XB10A	XB11	XB12	XB13	XB14	XB19	XB20	XB22	XC65	XC88	XC89	XC91
C55	●				●																
C76						●	●	●													
C85						●	●	●													
C96						●	●											●	●	●	
CG1		●				●	●	●					●								
CG5-S						●															
CJ2		●	●			●	●	●					●								
CJP2						●	●														
CM2		●				●	●	●				●									
CM2Y																					
CP96						●												●	●	●	
CQ2						●	●	●	●	●			●	●							
CQS						●	●	●	●				●								
CU						●	●	●					●								
CUJ						●															
CUK						●	●	●					●								
CXS						●					●		●		●						
CXSJ						●							●								
CY1F									●		●										
CY1H/HT																	●				
CY1S								●					●				●				
CY3B						●		●			●		●								
MGG						●							●				●				
MGP	●			●		●			●				●				●		●	●	●
MK						●															
MXH													●								
MY1B											●						●				
MY1M											●						●				
MY1C											●						●				
MY1H									●		●						●				
MY2C											●						●				
MY2H/HT									●		●					●	●				
MY3A											●										
MY3B											●						●				
MY3M											●						●				
REA											●										
REAH/HT									●												

Applicable series for made to orders from X144 to XC91

Series	X144	X446	X773	X867	XC2(A)	XC3	XC4	XC5	XC6	XC7	XC8	XC9	XC10	XC11	XC12	XC13	XC17	XC19	XC65	XC88	XC89	XC91
C76							●		●										●	●	●	
C85							●		●													
C96							●			●			●	●								
CG1		●					●		●		●	●	●	●	●	●						
CG1Y									●													
CJ2		●	●			●					●	●	●	●								
CJP																	●					
CJP2																		●				
CM2		●				●	●	●	●		●	●	●	●	●	●						
CM2Y						●			●							●						
CP96							●			●			●	●					●	●	●	
CQ2					●		●		●		●	●	●	●								
CQS									●		●	●	●	●								
CU																		●				
CUK																		●				
CXS									●									●				
CXSJ									●									●				
MGG							●		●		●	●		●		●						
MGP	●			●			●		●		●	●						●		●	●	●
MTS											●											
MXH						●												●				
RHC						●			●													
RQ							●															
RSQ						●																

Applicable series for made to orders from X144 to XC91

Series	X144	X446	X773	X867	XC20	XC22	XC24	XC25	XC26	XC27	XC29	XC34	XC35	XC36	XC37	XC38	XC42	XC51	XC52	XC65	XC88	XC89	XC91
C96						●							●							●	●	●	
CG1		●			●	●				●	●		●		●		●						
CG1Y					●																		
CJ2		●	●			●												●					
CJP						●																	
CJP2						●																	
CM2		●			●	●		●		●	●		●			●			●				
CM2Y					●																		
CP96						●							●							●	●	●	
CQ2									●	●			●	●									
CQS									●	●				●									
CU						●																	
CUK						●						●											
CXS						●																	
CXSJ						●																	
CY3B							●																
MGG						●							●		●								
MGP	●			●		●							●								●	●	●
MTS																●							
MXH						●																	
REA							●																
RQ													●										

Applicable series for made to orders from X144 to XC93

Series	X144	X446	X773	X867	XC56	XC57	XC65	XC67	XC68	XC69	XC71	XC72	XC73	XC74	XC82	XC83	XC85	XC88	XC89	XC91	XC92	XC93
C96							●		●									●	●			
CG1		●															●					
CM2		●															●				●	
CP96							●		●									●	●			
CQ2		●	●														●				●	
CQS																	●				●	
CY3B						●																
CY3R						●																
MGG					●						●	●	●	●		●						
MGP	●			●						●					●		●	●	●	●	●	
MGPW					●																	
MY1B								●														
MY1M								●														
MY1C					●			●														
MY1H					●			●														
REA						●																
REAR						●																
RHC																						●

Made to order, common specifications, air grippers

-X4	Heat resistance (-10 to 100 °C)
-X5	Fluororubber seal
-X7	Closing direction spring assist
-X12	Opening direction spring assist
-X28	With an adjuster for closing stroke adjustment
-X32	Grease change for rotary actuated part
-X39	With grease nipple
-X41	Grooves for auto switch on both sides
-X46	With flow control
-X50	Without magnet
-X51	MHQ2/MHQG2 Compatible flat finger type
-X53	Ethylene propylene rubber seal (EPDM)
-X56	Axial ported
-X63	Fluorine grease
-X64	Finger: Side tapped
-X65	Finger: Through-holes in opening / Closing directions
-X77	Dust cover adhesion -X77A (Dust cover adhesion) -X77B (Dust cover adhesion / Finger part only)
-X78	Dust cover caulking -X78A (Dust cover caulking) -X78B (Dust cover caulking / Finger part only)
-X79 (A)	Grease for food processing machines
-X81	Anti-corrosive treatment of finger -X81A (Special black chromium treatment is made on only the finger.) -X81B (Special black chromium treatment is made on the finger and guide.)
-X83	With an adjustable opening / Closing finger positioning

Applicable series

Series	X4	X5	X7	X12	X28	X32	X39	X41	X46	X50	X51	X53	X56	X63	X64	X65	X77	X78	X79(A)	X81	X83
MHC2	●	●								●		●	●[1)]	●	●	●			●	●	
MHCA2	●	●										●	●	●	●	●			●	●	
MHCM2	●	●											●	●					●	●	
MHF2	●	●								●		●		●					●	●	●
MHK2	●	●	●	●			●	●		●		●		●	●	●	●	●	●		
MHKL2	●	●	●	●			●	●		●		●		●	●	●	●	●	●		
MHL2	●	●			●					●		●		●					●		
MHR2						●								●							
MHR3						●								●							
MHS	●	●								●		●	●[2)]	●					●		
MHSH	●	●								●		●	●	●					●		
MHSJ	●	●								●		●	●	●			●	●	●		
MHSL	●	●								●		●	●[2)]	●					●		
MHT2	●	●								●				●							
MHW2	●	●								●		●		●					●		
MHY2	●	●								●		●		●					●	●	
MHZ2	●	●	●	●					●	●	●	●	●[1)]	●					●	●	
MHZA2	●	●		●								●	●	●					●	●	
MHZAJ2	●	●		●								●	●	●	●	●			●	●	
MHZJ2	●	●	●	●						●		●	●[1)]	●	●	●	●	●	●	●	
MHZL2	●	●	●	●						●		●	●	●					●	●	

1) Ø 10, 16, 20, 25 only
2) Ø 16, 20, 25, 32, 40, 50, 63 only.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Auto switches

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Direct mounting style, round groove
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Direct mounting style, rectangular groove
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Rail mounting style
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Tie-rod mounting style
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Band mounting style
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Auto switch specifications
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D-M9N(V)/M9P(V)/M9B(V)
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D-M9NW(V)/M9PW(V)/ M9BW(V)
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D-M9NA(V) / D-M9PA(V) / D-M9BA(V)
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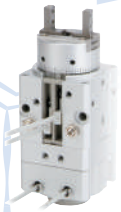

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D-M9K
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D-M9□J
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D-M9□PC with pre-wired connector
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D-M9PSAPC-595
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Other available auto switches
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D-P3DWA
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D-P3DWASC / D-P3
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Auto switch guide

Select an auto switch model according with the series and mounting style.

Series *	Size	Direct (Round groove)	Direct (Rectangular groove)	Direct (for rotary actuators)	Rail	Tie rod	Band	Auto switch mounting style	Page No.
C55	20 to 100	■						Direct (Round groove)	245
C76	32, 40						■	Band	250
C85	8 to 25						■	Band	250
C95	160 to 250					■		Tie rod	247
C96	32 to 125					■		Tie rod	247
CG1	20 to 100						■	Band	250
CG1Y	20 to 100						■	Band	250
CG3	20 to 100						■	Band	250
CG5-S	20 to 100						■	Band	250
CJ2	10, 16				■		■	Rail and band	247, 250
CJ2X	10, 16						■	Band	250
CJP2	4, 6, 10, 16	■						Direct (Round groove)	245
CJ5-S	10, 16						■	Band	250
CKG1	40 to 63				■		■	Rail and band	247, 250
CM2	20 to 40						■	Band	250
CM2X	20 to 40						■	Band	250
CM2Y	20 to 40						■	Band	250
CM3	20 to 40						■	Band	250
CP96	32 to 125	■						Direct (Round groove)	245
CQ2	12 to 200	■						Direct (Round groove)	245
CQ2X	32 to 100	■						Direct (Round groove)	245
CQ2Y	32 to 100	■						Direct (Round groove)	245
CQM	12 to 100	■						Direct (Round groove)	245
CQS	12 to 25	■						Direct (Round groove)	245
CQSX	12 to 25	■						Direct (Round groove)	245
CQSY	12 to 25	■						Direct (Round groove)	245
CQU	20 to 40	■						Direct (Round groove)	245
CRA1	30 to 100	■						Direct (Round groove)	246
CRB1	50 to 100	■						Direct (Round groove)	246
CRB2	10 to 40	■						Direct (Round groove)	246
CRBU2	10 to 40	■						Direct (Round groove)	245
CRJ	0.5, 1	■						Direct (Round groove)	245
CRQ2	10 to 40	■						Direct (Round groove)	245
CU	6 to 32	■						Direct (Round groove)	245
CUX	10 to 32	■						Direct (Round groove)	245
CVQ	32 to 63	■						Direct (Round groove)	245
CVQM	32 to 63	■						Direct (Round groove)	245
CXS	6 to 32		■					Direct (Rectangular groove)	246
CXSJ	6 to 32	■						Direct (Round groove)	245
CY1F	10, 15, 25	■						Direct (Round groove)	245
CY1H/HT	10 to 32		■					Direct (Rectangular groove)	246
CY1S	6 to 40				■			Rail	247
CY3R	6 to 20	■						Direct (Round groove)	245
	25 to 63		■					Direct (Rectangular groove)	246
CYP	15, 32		■					Direct (Rectangular groove)	246
JCQ	12 to 100	■						Direct (Round groove)	245
JMGP	12 to 100	■						Direct (Round groove)	245
LEJ	40, 63	■						Direct (Round groove)	245
LEL	25				■			Rail	247
LEM	25, 32	■						Direct (Round groove)	245
LEY	16 to 32	■						Direct (Round groove)	245
LEYG	25, 32	■						Direct (Round groove)	245
LZB	3, 5 (≈ Ø 16, Ø 25)						■	Band	250
LZC	3, 5 (≈ Ø 16, Ø 25)	■						Direct (Round groove)	245
MHR2	10 to 30	■						Direct (Round groove)	245
MHR3	10, 15	■						Direct (Round groove)	245
MGF	40, 63, 100		■					Direct (Rectangular groove)	246
MGG	20 to 100						■	Band	250
MGP	12 to 100	■						Direct (Round groove)	245
MGPW	20 to 63	■						Direct (Round groove)	245
MGZ(R)	20, 25, 32	■						Direct (Round groove)	245
	40 to 80		■					Direct (Rectangular groove)	246

* The basic cylinder series is shown here. To use auto switches the magnetic version must be specified, unless a magnet for auto switches is standard. Eg. for CQ2 cylinders CDQ2 must be specified. See individual catalogue sections for details.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

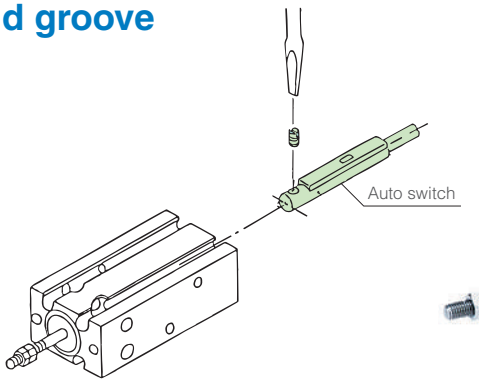
Series *	Size	Direct (Round groove)	Direct (Rectangular groove)	Direct (for rotary actuators)	Rail	Tie rod	Band	Auto switch mounting style	Page No.
MHC2	10 to 25		■					Direct (Rectangular groove)	246
	6	■						Direct (Round groove)	245
MHF2	8 to 20	■						Direct (Round groove)	245
MHK2	12 to 25	■						Direct (Round groove)	245
MHL2	10 to 40	■						Direct (Round groove)	246
MHS	16 to 25	■						Direct (Round groove)	245
	32 to 125		■					Direct (Rectangular groove)	246
MHSH	16 to 80	■						Direct (Round groove)	245
MHSJ	16 to 80	■						Direct (Round groove)	245
MHSL	16 to 25	■						Direct (Round groove)	245
	32 to 125		■					Direct (Rectangular groove)	246
MHT2	32 to 63	■						Direct (Round groove)	245
MHW2	20 to 50		■					Direct (Rectangular groove)	246
MHY2	10 to 25	■						Direct (Round groove)	245
MHZ2	6,16 to 40	■						Direct (Round groove)	245
	10		■					Direct (Rectangular groove)	246
MHZJ2	6 to 25	■						Direct (Round groove)	245
MHZL2	16 to 25	■						Direct (Round groove)	245
	10		■					Direct (Rectangular groove)	246
MIW/MIS	8 to 32	■						Direct (Round groove)	245
MK	12 to 63	■						Direct (Round groove)	245
MK2T	12 to 63	■						Direct (Round groove)	245
MRHQ	10 to 25	■						Rotation unit: Direct (Round groove)	245
	10 to 25		■					Gripper unit: Direct (Rectangular groove)	246
MSQ	1 to 7	■						Direct (Round groove)	245
	10 to 200	■						Direct (Round groove)	245
MSZ	10 to 50	■						Direct (Round groove)	245
MTS	8 to 40	■						Direct (Round groove)	245
MU	25 to 63		■					Direct (Rectangular groove)	246
MXF	8 to 20	■						Direct (Round groove)	245
MXH	6 to 20	■						Direct (Round groove)	245
MXP	6 to 16	■						Direct (Round groove)	245
MXQ	6 to 25	■						Direct (Round groove)	245
MXQR	6 to 25	■						Direct (Round groove)	245
MXS	6 to 25	■						Direct (Round groove)	245
MXW	8 to 25	■						Direct (Round groove)	245
MXY	6 to 12	■						Direct (Round groove)	245
MXZ	12 to 25	■						Direct (Round groove)	245
MY1□□	10, 16, 20	■						Direct (Round groove)	245
	25 to 100		■					Direct (Rectangular groove)	246
MY2	16, 25, 40	■						Direct (Round groove)	245
MY3A/3B/3M	16 to 63	■						Direct (Round groove)	245
REAH/HT	10 to 32		■					Direct (Rectangular groove)	246
REAR	10, 15, 20	■						Direct (Round groove)	245
	25, 32, 40		■					Direct (Rectangular groove)	246
RHC	20 to 100						■	Band	250
RQ	20 to 100	■						Direct (Round groove)	245
RS2H	50 to 80	■						Direct (Round groove)	245
RSH	20 to 32		■					Direct (Rectangular groove)	246
RSQ	12, 16, 20, 32 to 50	■						Direct (Round groove)	245
RZQ	32 to 63	■						Direct (Round groove)	245
ZCUK	10 to 32	■						Direct (Round groove)	245

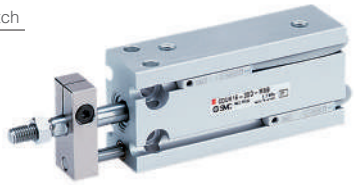
* The basic cylinder series is shown here. To use auto switches the magnetic version must be specified, unless a magnet for auto switches is standard. Eg. for CQ2 cylinders CDQ2 must be specified. See individual catalogue sections for details.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Direct mounting style round groove

D-M9□





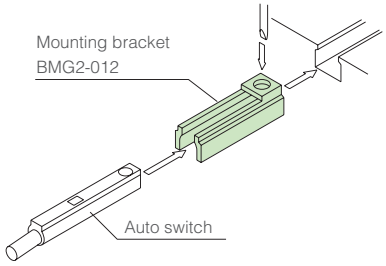
Applicable auto switch / Direct mounting

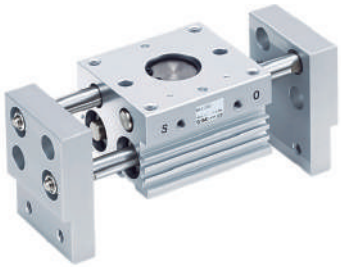
Applicable series		Reed switch type	Solid state switch type				Description
		24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
C55 CJP2 CP96 CQ2 CQ2X CQ2Y [4] CQM CQS CQSX CQSY CQU CRA1 CRB1 CRB2 CRBU2 CRJ [1] CRQ2 CU CUX CVQ CVQM CXSJ CY1F CY3R (Ø 6~20) JCQ JMGP LEJ [1] LEMB [1] [2] LEMC/H/HT [1] LEY 1) LEYG [1] LZC [1] MHL2 MGP MGPW MGZ/R (Ø 20 ~ 32) [2] MHC2 (Ø 6) [1] MHF2 [1]	MHK2 [1] MHL2 MHR2 [1] MHR3 [1] MHS (Ø 16 ~ 25) [1] MHSH [1] MHSJ [1] MHSL (Ø 16 ~ 25) [1] MHT2 MHY2 [1] MHZ2 [1] (Ø 6, Ø 16 ~ 40) MHZJ2 [1] MHZL2 (Ø 16 ~ 25) MIW/MIS [1] MK MK2T MRHQ (rotation unit) [3] MSQ (1 ~ 7) [1] MSQ (10 ~ 200) MSZ MTS MXF MXH MXP MXQ MXQR MXS MXW MXY MXZ MY1□ (Ø 10 ~ 20) MY2 MY3 [2] REAR (Ø 10 ~ 20) RQ RSQ RSQ (Ø 12, Ø 32 ~ 50) RZQ RS2H ZCUK	**D-A93L** ●	**D-M9PL** ●	**D-M9NL** ●	**D-M9PWL** ●	**D-M9NWL** ●	• Lead wire length = 3 m, consult SMC for other length.
		—	**D-M9PSAPC** ●	**D-M9NSAPC** ●	**D-M9PWSAPC** ●	**D-M9NWSAPC** ●	Auto switch with pre-wired connector (M8-3pin). • Lead wire length = 0.5 m, consult SMC for other length.

Since there are other applicable auto switches than those listed, refer to each series catalogue for details.
1) Only solid state switches can be used. In MHC2-6, 2-colour indication auto switches can not be used.
2) Bracket BMY3-016 is also required.
3) In MRHQ, 2 types of auto-switches are used, one to verify rotation and other to verify opening / closing of the gripper.
In both types a switch mounting unit is required.
• Ø 10: P407090-1
• Ø 16 to Ø 25: P407060-1
The auto-switch model to verify rotation is D-M9*L-746.
4) In Ø 32 to 50, brackets BQ-2 and BQ2-012 ● are also required.

Direct mounting style rectangular groove

D-M9□

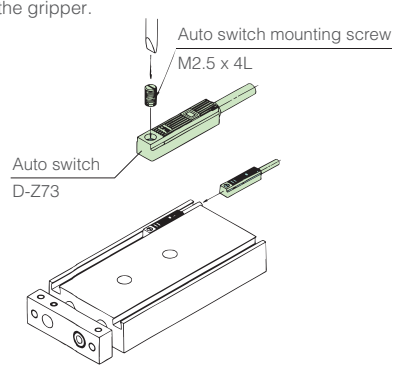




Applicable auto switch / Direct mounting + mounting bracket (BMG2-012)

Applicable series	Reed switch type	Solid state switch type				Description
	24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
CY3R (Ø 25 ~ 63) MGF [1] MGZ/R (Ø 40 ~ 80) 2) MHC2 (Ø 10 ~ 25) [1] MHS (Ø 32 ~ 125) [1] MHSL (Ø 32 ~ 125) [1] MHW2 [1] MHZ2 (Ø 10) [1] MHZL2 (Ø 10) [1] MRHQ (Gripper unit) [4] MU [5] MY1□ (Ø 25 ~ 100) [3] REAR (Ø 25 ~ 40) RSH	**D-A93L** ● + **BMG2-012** ●	**D-M9PL** ● + **BMG2-012** ●	**D-M9NL** ● + **BMG2-012** ●	**D-M9PWL** ● + **BMG2-012** ●	**D-M9NWL** ● + **BMG2-012** ●	• Lead wire length = 3 m, consult SMC for other length.
	—	**D-M9PSAPC** ● + **BMG2-012** ●	**D-M9NSAPC** ● + **BMG2-012** ●	**D-M9PWSAPC** ● + **BMG2-012** ●	**D-M9NWSAPC** ● + **BMG2-012** ●	Auto switch with pre-wired connector (M8-3pin). • Lead wire length = 0.5 m, consult SMC for other length.

Since there are other applicable auto switches than those listed, refer to each series catalogue for details.
1) Only solid state switches can be used.
2) Bracket BMP1-032 is also required.
3) Solid state switches must be used for all MY1 types and bore sizes. MY1B (Ø 50), MY1M (Ø 25 to Ø 40), MY1C (Ø 40), MY1CW (Ø 40) and MY1MW (Ø 25, Ø 40) use different switches, see separate table below. The mounting bracket required for MY1H (Ø 25, Ø 40) is BMY3-016.
4) In MRHQ, 2-types of auto-switches are used, one to verify rotation and other to verify opening / closing of the gripper.
In both types a switch mounting unit is required.
• Ø 10: P407090-1
• Ø 16 to Ø 25: P407060-1
The auto switch for gripper opening and closing is D-M9□VL.
5) The mounting bracket required for MU is MUZ-025.



Applicable auto switch / Direct mounting

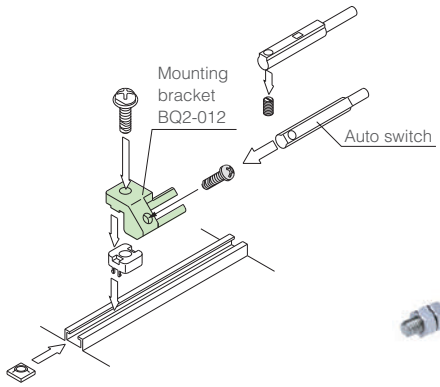
Applicable series		Reed switch type	Description
		24 VDC, 2-wire	
CXS (Ø 6 to Ø 32) CY1H CY1HT CYP MY1B (Ø 50) MY1C (Ø 40)	MY1CW (Ø 40) MY1HT (Ø 50, Ø 63) MY1M (Ø 25 to Ø 40) MY1MW (Ø 25, Ø 40) [1] REAH REAHT	**D-Z73L** ●	• Lead wire length = 3 m, consult SMC for other length.

Since there are other applicable auto switches than those listed, refer to each series catalogue for details.
1) Separate switch spacers (BMP1-032) are required for retrofitting of auto-switches.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Rail mounting style

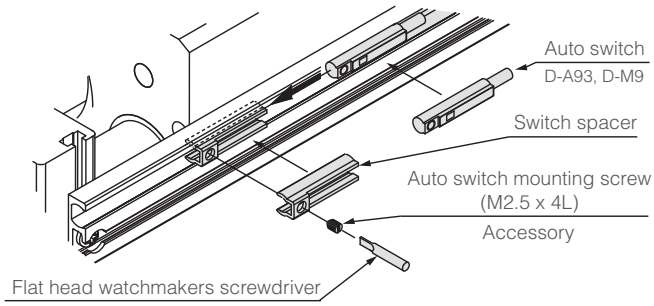
D-M9□



Applicable auto switch / Rail mounting + mounting bracket (BQ2-012)

Applicable series	Reed switch type	Solid state switch type				Description
	24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
CJ2 (Ø 10, 16)	**D-A93L** ● + **BQ2-012** ●	**D-M9PL** ● + **BQ2-012** ●	**D-M9NL** ● + **BQ2-012** ●	**D-M9PWL** ● + **BQ2-012** ●	**D-M9NWL** ● + **BQ2-012** ●	• Lead wire length = 3 m, consult SMC for other length.
	—	**D-M9PSAPC** ● + **BQ2-012** ●	**D-M9NSAPC** ● + **BQ2-012** ●	**D-M9PWSAPC** ● + **BQ2-012** ●	**D-M9NWSAPC** ● + **BQ2-012** ●	Auto switch with pre-wired connector (M8-3pin). • Lead wire length = 0.5 m, consult SMC for other length.

Since there are other applicable auto switches than those listed, refer to each series catalogue for details.



Applicable auto switch / Rail mounting

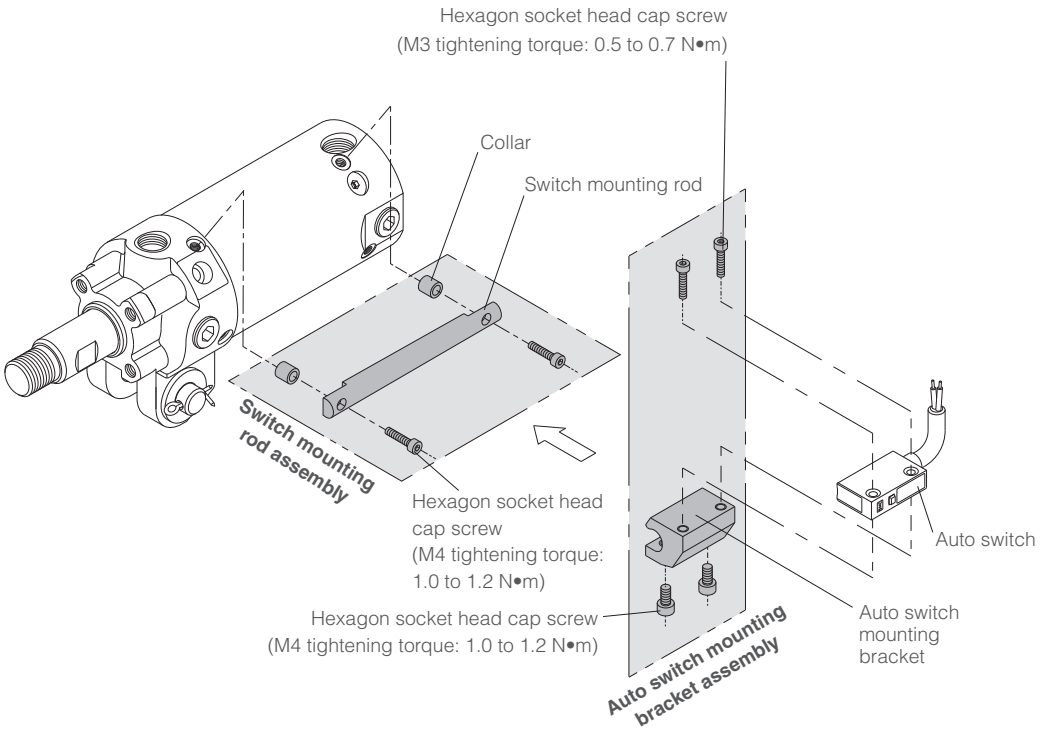
Applicable series	Reed switch type	Solid state switch type				Description
	24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
CY1S	**D-A93L** ● + **BMY3-016** ●	**D-M9PL** ● + **BMY3-016** ●	**D-M9NL** ● + **BMY3-016** ●	**D-M9PWL** ● + **BMY3-016** ●	**D-M9NWL** ● + **BMY3-016** ●	Lead wire length = 3 m, consult SMC for other length.
	—	**D-M9PSAPC** ● + **BMY3-016** ●	**D-M9NSAPC** ● + **BMY3-016** ●	**D-M9PWSAPC** ● + **BMY3-016** ●	**D-M9NWSAPC** ● + **BMY3-016** ●	With pre-wired connector (M8-3pin) Lead wire length = 0.5 m Consult SMC for other length.
LEL	—	**D-M9PL** ●	**D-M9NL** ●	**D-M9PWL** ●	**D-M9NWL** ●	With lead wire length = 3 m Consult SMC for other length.
	—	**D-M9PSAPC** ●	**D-M9NSAPC** ●	**D-M9PWSAPC** ●	**D-M9NWSAPC** ●	With pre-wired connector (M8-3pin). Lead wire length = 0.5 m Consult SMC for other length.

Since there are other applicable auto switches than those listed, refer to each series catalogue for details.

Applicable auto switch / Rail mounting + mounting bracket

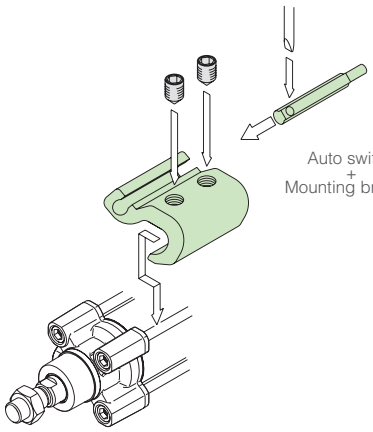
Applicable series	Stroke [mm]	Solid state switch type	
		24 VDC (2-colour indication) 2-wire, 0.3 m lead wire	24 VDC (2-colour indication) 2-wire, 3 m lead wire
CKG1	50	**D-P3DWASE + CKG40-RZ050+BK7-040S**	**D-P3DWAL + CKG40-RZ050+BK7-040S**
	75	**D-P3DWASE + CKG40-RZ075+BK7-040S**	**D-P3DWAL + CKG40-RZ075+BK7-040S**
	100	**D-P3DWASE + CKG40-RZ100+BK7-040S**	**D-P3DWAL + CKG40-RZ100+BK7-040S**
	125	**D-P3DWASE + CKG40-RZ125+BK1T-040**	**D-P3DWAL + CKG40-RZ125+BK7-040S**
	150	**D-P3DWASE + CKG40-RZ150+BK7-040S**	**D-P3DWAL + CKG40-RZ150+BK7-040S**
	200	**D-P3DWASE + CKG40-RZ200+BK7-040S**	**D-P3DWAL + CKG40-RZ200+BK7-040S**

Since there are other applicable auto switches than those listed, refer to each series catalogue for details.



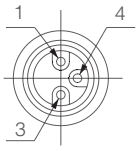
Tie-rod mounting style

D-M9□



Auto switch
+
Mounting bracket

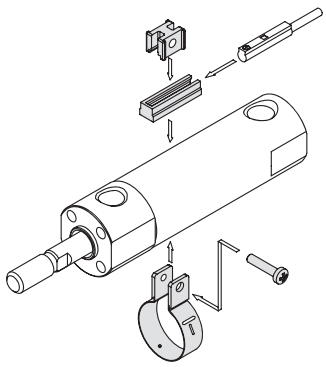
Applicable auto switch / Tie-rod mounting + mounting bracket

Applicable series	Bore size [mm]	Reed switch type	Solid state switch type				Auto switch with pre-wired connector
		24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
C95 (Ø 160 to 200) [1)] C96 (Ø 32 to 125)	32, 40	**D-A93L** ● + **BMB5-032** ●	**D-M9PL** ● + **BMB5-032** ●	**D-M9NL** ● + **BMB5-032** ●	**D-M9PWL** ● + **BMB5-032** ●	**DD-M9NWL** ● + **BMB5-032** ●	 24 VDC 3-wire (PNP): D-M9PSAPC 24 VDC 3-wire (NPN): D-M9NSAPC 24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP): D-M9PWSAPC  M8–3 pin • Lead wire length = 0.5 m, consult SMC for other length.
	50, 63	**D-A93L** ● + **BA7-040** ●	**D-M9PL** ● + **BA7-040** ●	**D-M9NL** ● + **BA7-040** ●	**D-M9PWL** ● + **BA7-040** ●	**D-M9NWL** ● + **BA7-040** ●	
	80, 100	**D-A93L** ● + **BA7-063** ●	**D-M9PL** ● + **BA7-063** ●	**D-M9NL** ● + **BA7-063** ●	**D-M9PWL** ● + **BA7-063** ●	**D-M9NWL** ● + **BA7-063** ●	
	125	**D-A93L** ● + **BA7-080** ●	**D-M9PL** ● + **BA7-080** ●	**D-M9NL** ● + **BA7-080** ●	**D-M9PWL** ● + **BA7-080** ●	**D-M9NWL** ● + **BA7-080** ●	
	160, 200	**D-A93L** ● + **BS5-160** ●	**D-M9PL** ● + **BS5-160** ●	**D-M9NL** ● + **BS5-160** ●	**D-M9PWL** ● + **BS5-160** ●	**D-M9NWL** ● + **BS5-160** ●	

Lead wire length = 3 m, consult SMC for other length.
Since there are other applicable auto switches than those listed, refer to each series catalogue for details.
1) See separate table for C95 with 250 mm bore size.

Band mounting style

D-M9□



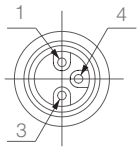
Applicable auto switch / Band mounting + mounting bracket

Applicable series	Bore size [mm]	Reed switch type	Solid state switch type				Auto switch with pre-wired connector
		24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
C85 (Ø 8 to 16) [1] CJ2 (Ø 10, Ø 16) CJ2X (Ø 10, Ø 16)	6	**D-A93L ● + BJ6-006**	**D-M9PL ● + BJ6-0066**	**D-M9NL ● + BJ6-006**	**D-M9PWL ● + BJ6-006**	**D-M9NWL ● + BJ6-006**	
	8	—	**D-M9PL ● + BJ6-008**	**D-M9NL ● + BJ6-008**	**D-M9PWL ● + BJ6-008**	**D-M9NWL ● + BJ6-008**	
	10	**D-A93L ● + BJ6-010**	**D-M9PL ● + BJ6-010**	**D-M9NL ● + BJ6-010**	**D-M9PWL ● + BJ6-010**	**D-M9NWL ● + BJ6-010**	
	12	—	**D-M9PL ● + BJ6-012**	**D-M9NL ● + BJ6-012**	**D-M9PWL ● + BJ6-012**	**D-M9NWL ● + BJ6-012**	
	16	**D-A93L ● + BJ6-016**	**D-M9PL ● + BJ6-016**	**D-M9NL ● + BJ6-016**	**D-M9PWL ● + BJ6-016**	**D-M9NWL ● + BJ6-016**	
C76 (Ø 32, 40) C85 (Ø 20, 25) CM2 (Ø 20 to 40) CM2X (Ø 20 to Ø 40) CM2Y (Ø 20 to Ø 40) CM3 (Ø 20 to 40)	20	**D-A93L ● + BM5-020**	**D-M9PL ● + BM5-020**	**D-M9NL ● + BM5-020**	**D-M9PWL ● + BM5-020**	**D-M9NWL ● + BM5-020**	
	25	**D-A93L ● + BM5-025**	**D-M9PL ● + BM5-025**	**D-M9NL ● + BM5-025**	**D-M9PWL ● + BM5-025**	**D-M9NWL ● + BM5-025**	
	32	**D-A93L ● + BM5-032**	**D-M9PL ● + BM5-032**	**D-M9NL ● + BM5-032**	**D-M9PWL ● + BM5-032**	**D-M9NWL ● + BM5-032**	
	40	**D-A93L ● + BM5-040**	**D-M9PL ● + BM5-040**	**D-M9NL ● + BM5-040**	**D-M9PWL ● + BM5-040**	**D-M9NWL ● + BM5-040**	
CG1 (Ø 20 to 63) [2] CG1Y (Ø 20 to 63) CG3 (Ø 20 to 63) [2] MGG (Ø 20 to 63) [2] RHC (Ø 20 to 63) [2]	20	**D-A93L ● + BMA3-020**	**D-M9PL ● + BMA3-020**	**D-M9NL ● + BMA3-020**	**D-M9PWL ● + BMA3-020**	**D-M9NWL ● + BMA3-020**	
	25	**D-A93L ● + BMA3-025**	**D-M9PL ● + BMA3-025**	**D-M9NL ● + BMA3-025**	**D-M9PWL ● + BMA3-025**	**D-M9NWL ● + BMA3-025**	
	32	**D-A93L ● + BMA3-032**	**D-M9PL ● + BMA3-032**	**D-M9NL ● + BMA3-032**	**D-M9PWL ● + BMA3-032**	**D-M9NWL ● + BMA3-032**	
	40	**D-A93L ● + BMA3-040**	**D-M9PL ● + BMA3-040**	**D-M9NL ● + BMA3-040**	**D-M9PWL ● + BMA3-040**	**D-M9NWL ● + BMA3-040**	
	50	**D-A93L ● + BMA3-050**	**D-M9PL ● + BMA3-050**	**D-M9NL ● + BMA3-050**	**D-M9PWL ● + BMA3-050**	**D-M9NWL ● + BMA3-050**	
	63	**D-A93L ● + BMA3-063**	**D-M9PL ● + BMA3-063**	**D-M9NL ● + BMA3-063**	**D-M9PWL ● + BMA3-063**	**D-M9NWL ● + BMA3-063**	

24 VDC
3-wire (PNP):
D-M9PSAPC

24 VDC
3-wire (NPN):
D-M9NSAPC

24 VDC
Diagnostic indication
(2-color indication)
3-wire (PNP):
D-M9PWSAPC



M8–3 pin

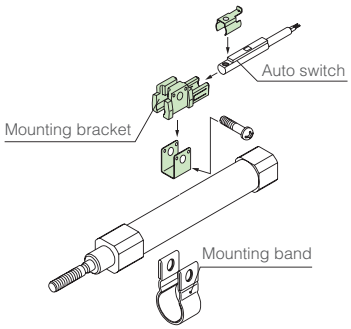
• Lead wire length = 0.5 m, consult SMC for other length.

Lead wire length = 3 m, consult SMC for other length.
Since there are other applicable auto switches than those listed, refer to each series catalogue for details.
1) Ø 8 to Ø 12, solid state switches only can be used.
2) See separate table for CG1, CG3, MGG and RHC with 80 and 100 mm bore size.

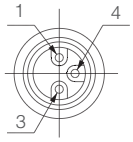
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Band mounting style

D-M9□



Applicable auto switch / Band mounting + mounting bracket

Applicable Series	Bore size [mm]	Reed switch type	Solid state switch type				Auto switch with pre-wired connector
		24 VDC 2-wire	24 VDC 3-wire (PNP)	24 VDC 3-wire (NPN)	24 VDC Diagnostic indication (2-colour indication) 3-wire (PNP)	24 VDC Diagnostic indication (2-colour indication) 3-wire (NPN)	
C85 (Ø 8 to 16) [1] CJ2 (Ø 10, Ø 16) CJ2X (Ø 10, Ø 16)	6	**D-A93L ●** + **BJ3-1 ● + BJ2-006 ●**	**D-M9PL ●** + **BJ3-1 ● + BJ2-006 ●**	**D-M9NL ●** + **BJ3-1 ● + BJ2-006 ●**	**D-M9PWL ●** + **BJ3-1 P ● BJ2-006 ●**	**D-M9NWL ●** + **BJ3-1 ● + BJ2-006 ●**	 24 VDC 3-wire (PNP): D-M9PSAPC 24 VDC 3-wire (NPN): D-M9NSAPC 24 VDC Diagnostic indication (2-color indication) 3-wire (PNP): D-M9PWSAPC  M8–3 pin • Lead wire length = 0.5 m, consult SMC for other length.
	8	—	**D-M9PL ●** + **BJ3-1 ● + BJ2-008 ●**	**D-M9NL ●** + **BJ3-1 ● + BJ2-008 ●**	**D-M9PWL ●** + **BJ3-1 ● + BJ2-008 ●**	**D-M9NWL ●** + **BJ3-1 ● + BJ2-008 ●**	
	10	**D-A93L ●** + **BJ3-1 ● + BJ2-010 ●**	**D-M9PL ●** + **BJ3-1 ● + BJ2-010 ●**	**D-M9NL ●** + **BJ3-1 ● + BJ2-010 ●**	**D-M9PWL ●** + **BJ3-1 ● + BJ2-010 ●**	**D-M9NWL ●** + **BJ3-1 ● + BJ2-010 ●**	
	12	—	**D-M9PL ●** + **BJ3-1 ● + BJ2-012 ●**	**D-M9NL ●** + **BJ3-1 ● + BJ2-012 ●**	**D-M9PWL ●** + **BJ3-1 ● + BJ2-012 ●**	**D-M9NWL ●** + **BJ3-1 ● + BJ2-012 ●**	
	16	**D-A93L ●** + **BJ3-1 ● + BJ2-016 ●**	**D-M9PL ●** + **BJ3-1 ● + BJ2-016 ●**	**D-M9NL ●** + **BJ3-1 ● + BJ2-016 ●**	**D-M9PWL ●** + **BJ3-1 ● + BJ2-016 ●**	**D-M9NWL ●** + **BJ3-1 ● + BJ2-016 ●**	
C76 (Ø 32, 40) C85 (Ø 20, 25) CM2 (Ø 20 to 40) CM2X (Ø 20 to Ø 40) CM2Y (Ø 20 to Ø 40) CM3 (Ø 20 to 40)	20	**D-A93L ●** + **BJ3-1 ● + BM2-020 ●**	**D-M9PL ●** + **BJ3-1 ● + BM2-020 ●**	**D-M9NL ●** + **BJ3-1 ● + BM2-020 ●**	**D-M9PWL ●** + **BJ3-1 ● + BM2-020 ●**	**D-M9NWL ●** + **BJ3-1 ● + BM2-020 ●**	
	25	**D-A93L ●** + **BJ3-1 ● + BM2-025 ●**	**D-M9PL ●** + **BJ3-1 ● + BM2-025 ●**	**D-M9NL ●** + **BJ3-1 ● + BM2-025 ●**	**D-M9PWL ●** + **BJ3-1 ● + BM2-025 ●**	**D-M9NWL ●** + **BJ3-1 ● + BM2-025 ●**	
	32	**D-A93L ●** + **BJ3-1 ● + BM2-032 ●**	**D-M9PL ●** + **BJ3-1 ● + BM2-032 ●**	**D-M9NL ●** + **BJ3-1 ● + BM2-032 ●**	**D-M9PWL ●** + **BJ3-1 ● + BM2-032 ●**	**D-M9NWL ●** + **BJ3-1 ● + BM2-032 ●**	
	40	**D-A93L ●** + **BJ3-1 ● + BM2-040 ●**	**D-M9PL ●** + **BJ3-1 ● + BM2-040 ●**	**D-M9NL ●** + **BJ3-1 ● + BM2-040 ●**	**D-M9PWL ●** + **BJ3-1 ● + BM2-040 ●**	**D-M9NWL ●** + **BJ3-1 ● + BM2-040 ●**	
CG1 (Ø 20 to 63) [2] CG1Y (Ø 20 to 63) CG3 (Ø 20 to 63) [2] MGG (Ø 20 to 63) [2] RHC (Ø 20 to 63) [2]	20	**D-A93L ●** + **BJ3-1 + BMA2-020 ●**	**D-M9PL ●** + **BJ3-1 ● + BMA2-020 ●**	**D-M9NL ●** + **BJ3-1 ● + BMA2-020 ●**	**D-M9PWL ●** + **BJ3-1 ● + BMA2-020 ●**	**D-M9NWL ●** + **BJ3-1 ● + BMA2-020 ●**	
	25	**D-A93L ●** + **BJ3-1 ● + BMA2-025 ●**	**D-M9PL ●** + **BJ3-1 ● + BMA2-025 ●**	**D-M9NL ●** + **BJ3-1 ● + BMA2-025 ●**	**D-M9PWL ●** + **BJ3-1 ● + BMA2-025 ●**	**D-M9NWL ●** + **BJ3-1 ● + BMA2-025 ●**	
	32	**D-A93L ●** + **BJ3-1 ● + BMA2-032 ●**	**D-M9PL ●** + **BJ3-1 ● + BMA2-032 ●**	**D-M9NL ●** + **BJ3-1 ● + BMA2-032 ●**	**D-M9PWL ●** + **BJ3-1 ● + BMA2-032 ●**	**D-M9NWL ●** + **BJ3-1 ● + BMA2-032 ●**	
	40	**D-A93L ●** + **BJ3-1 ● + BMA2-040 ●**	**D-M9PL ●** + **BJ3-1 ● + BMA2-040 ●**	**D-M9NL ●** + **BJ3-1 ● + BMA2-040 ●**	**D-M9PWL ●** + **BJ3-1 ● + BMA2-040 ●**	**D-M9NWL ●** + **BJ3-1 ● + BMA2-040 ●**	
	50	**D-A93L ●** + **BJ3-1 ● + BMA2-050 ●**	**D-M9PL ●** + **BJ3-1 ● + BMA2-050 ●**	**D-M9NL ●** + **BJ3-1 ● + BMA2-050 ●**	**D-M9PWL ●** + **BJ3-1 ● + BMA2-050 ●**	**D-M9NWL ●** + **BJ3-1 ● + BMA2-050 ●**	
	63	**D-A93L ●** + **BJ3-1 ● + BMA2-063 ●**	**D-M9PL ●** + **BJ3-1 ● + BMA2-063 ●**	**D-M9NL ●** + **BJ3-1 ● + BMA2-063 ●**	**D-M9PWL ●** + **BJ3-1 ● + BMA2-063 ●**	**D-M9NWL ●** + **BJ3-1 ● + BMA2-063 ●**	
LZB	3 (≈ Ø 16)	—	**D-M9PL ●** + **BJ3-1 ● + BM2-025**	**D-M9NL ●** + **BJ3-1 ● + BM2-025**	**D-M9PWL ●** + **BJ3-1 ● + BM2-025**	**D-M9NWL ●** + **BJ3-1 P+ BM2-025**	
	5 (≈ Ø 25)	—	**D-M9PL ●** + **BJ3-1 ● + L1ZB45-0318**	**D-M9NL ●** + **BJ3-1 ● + L1ZB45-0318**	**D-M9PWL ●** + **BJ3-1 ● + L1ZB45-0318**	**D-M9NWL ●** + **BJ3-1 ● + L1ZB45-0318**	

Lead wire length = 3 m, consult SMC for other length.
Since there are other applicable auto switches than those listed, refer to each series catalogue for details.
1) Ø 8 to Ø 12, solid state switches only can be used.
2) See separate table for CG1, CG3, MGG and RHC with 80 and 100 mm bore size.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Water resistant 2-colour indication type. Solid state switch for stainless steel cylinders CJ5-S Series

Auto switch model	Mounting bracket no.	
	Ø 10	Ø 16
3 wire (PNP): D-M9PAL ● 3 wire (NPN): D-M9NAL 2 wire: D-M9BAL ●	**BJ2-010S ● + BJ4-1**	**BJ2-016S + BJ4-1**

Auto switch common specifications

Specifications

Type	Reed switch	Solid state switch
Leakage current	None	3-wire: 100 µA or less 2-wire: 0.8 mA or less
Operating time	1.2 ms	1 ms or less [1]
Impact resistance	300 m/s²	1000 m/s² [2]
Insulation resistance	50 MΩ or more at 500 VDC measured via megohmmeter (between lead wire and case)	
Withstand voltage	1500 VAC for 1 minute (between lead wire and case)	1000 VAC for 1 minute (between lead wire and case)
Ambient temperature	-10 to 60 °C	
Enclosure	IEC60529 standard IP67	

1) Excluding the magnetic field resistant 2-color indication solid state auto switch (D-P3DWA)
2) The operating time for (D-P3DWA) is 40 ms or less, 980 m/s² for the trimmer type sensor section, 98 m/s² for the amplifier section.

How to order (for D-M9□)

D-M9 P W V L
① ② ③ ④

① Wiring and output

N	3 wire, NPN
P	3 wire, PNP
B	2 wire

③ Wiring entry

—	In-line
V	Perpendicular

② Colour indication

—	Standard (1 colore)
W	Bicolore
A	Bicolore, resistente all´acqua

④ Lead wire length

—	0.5 m
M [1]	1 m
L	3 m
Z	5 m

1) For 1 m (M), available with D-M9□W(V) only.

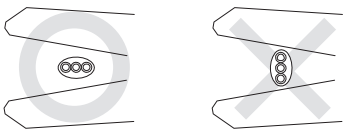
How to order (Except D-M9□)

D-A93 L
①

① Lead wire length

—	0.5 m
L	3 m
Z	5 m

Applicable wire stripper
When the cable sheath is stripped, confirm the stripping direction. The insulator may be split or damaged depending on the direction. (D-M9□(V) only)



Recommended tool

Model name	Model no.
Wire stripper	D-M9N-SWY

∗ Stripper for a round cable (Ø 2.0) can be used for a 2-wire type cable.

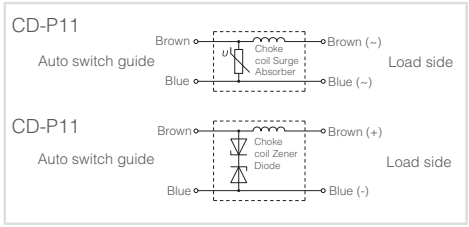
Contact protection boxes: CD-P11, CD-P12
<Applicable switch model>
D-Z73, D-93A, D-A93(V)
The auto switches above do not have a built-in contact protection circuit. Therefore, please use a contact protection box with the switch for any of the following cases:
① Where the operation load is an inductive load.
② Where the wiring length to load is greater than 5 m.
③ Where the load voltage is 100 VAC or 200 VAC.

Specifications

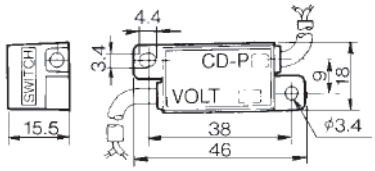
Part no.	CD-P11 ●		CD-P12 ●
Load voltage	100 VAC	200 VAC	24 VDC
Maximum load current	25 mA	12.5 mA	50 mA

∗ Lead wire length Switch connection side 0.5 m
Load connection side 0.5 m

Internal circuit



Dimensions



Connection
To connect a switch unit to a contact protection box, connect the lead wire from the side of the contact protection box marked SWITCH to the lead wire coming out of the switch unit. Keep the switch as close as possible to the contact protection box, with a lead wire length of no more than 1 metre.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Solid state switch: Direct mounting

D-M9N(V)/D-M9P(V)/D-M9B(V) Series

Grommet

- 2-wire load current is reduced (2.5 to 40 mA)
- Lead free
- UL certified lead cable is used
- Flexibility is 1.5 times greater than the conventional model (SMC comparison)
- Using flexible cable as standard spec.

Auto switch specifications

PLC: Programmable logic controller

D-M9□/D-M9□V (With indicator light)						
Auto switch part no.	**D-M9N** ●	**D-M9NV** ●	**D-M9P** ●	**D-M9PV** ●	**D-M9B** ●	**D-M9BV** ●
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)				—	
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less				4 V or less	
Leakage current	100 μA or less at 24 VDC				0.8 mA or less	
Indicator light	Red LED illuminates when ON.					

Lead wires
Oil proof heavy-duty vinyl cable: Ø 2.7 x 3.2 ellipse
D-M9B(V) 0.15 mm2 x 2 cores
D-M9N(V), D-M9P(V) 0.15 mm2 x 3 cores
1) Refer to catalogue for details of solid state switch with pre-wired connector.
2) Refer to catalogue for solid state switch common specifications and for lead wire lengths.

Operating precautions

Fix the switch with the existing screw installed on the switch body. The switch may be damaged if a screw other than the one supplied, is used.

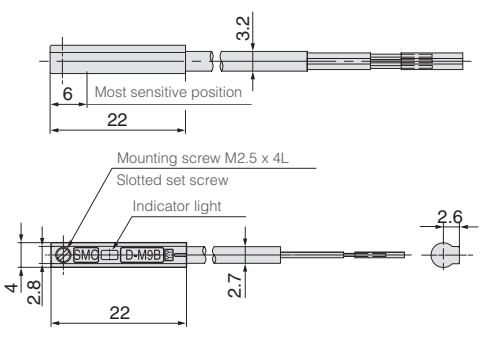
Weight

Unit:g

Auto switch part number		**D-M9N(V)** ●	**D-M9P(V)** ●	**D-M9B(V)** ●
Lead wire length [m]	0.5	8	8	7
	3	41	41	38
	5	68	68	63

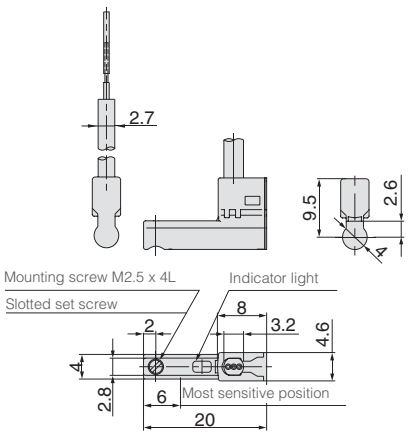
Dimensions

D-M9□



D-M9□V

Unit: mm



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2-Colour indication solid state auto switch: Direct mounting

D-M9NW(V)/D-M9PW(V)/D-M9BW(V) Series

Grommet
- 2-wire load current is reduced (2.5 to 40 mA).
- RoHS compliant
- UL certified lead cable is used.
- Flexibility is 1.5 times greater than the conventional model (SMC comparison).
- Using flexible cable as standard spec.
- The optimum operating position can be determined by the colour of the light. (Red → Green → Red)

Auto switch specifications

PLC: Programmable logic controller

D-M9□W/D-M9□WV (With indicator light)						
Auto switch part no.	**D-M9NW** ●	**D-M9NWV** ●	**D-M9PW** ●	**D-M9PWV** ●	**D-M9BW** ●	**D-M9BWV** ●
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)				—	
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 μA or less at 24 VDC				0.8 mA or less	
Indicator light	Operating range ..... Red LED illuminates. Proper operating range ..... Green LED illuminates.					

Lead wires
Oil proof heavy-duty vinyl cable: Ø 2.7 x 3.2 ellipse
D-M9BW(V) 0.15 mm² x 2 cores
D-M9NW(V), D-M9PW(V) 0.15 mm² x 3 cores
1) Refer to catalogue for details of solid state switch with pre-wired connector.
2) Refer to catalogue for solid state switch common specifications and for lead wire lengths.

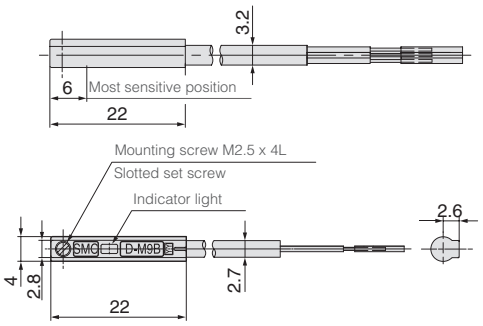
Weight

Unit:g

Auto switch part number		**D-M9NW(V)** ●	**D-M9PW(V)** ●	**D-M9BW(V)** ●
Lead wire length [m]	0.5	8	8	7
	1	14	14	13
	3	41	41	38
	5	68	68	63

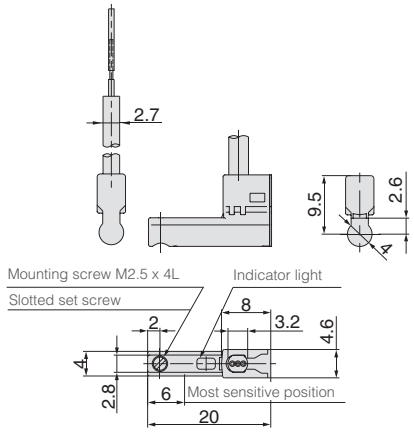
Dimensions

D-M9□



D-M9□V

Unit: mm



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Water resistant 2-colour indication solid state auto switch: Direct mounting

D-M9NA(V)/D-M9PA(V)/D-M9BA(V) Series

Grommet
- Water (coolant) resistant type
- 2-wire load current is reduced (2.5 to 40 mA)
- The optimum operating position can be determined by the colour of the light. (Red → Green → Red)
- Using flexible cable as standard specification.

Auto switch specifications

PLC: Programmable logic controller

D-M9☐A(V) (With indicator light)						
Auto switch part no.	**D-M9NA** ●	**D-M9NAV** ●	**D-M9PA** ●	**D-M9PAV** ●	**D-M9BA** ●	**D-M9BAV** ●
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)				—	
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 µA or less at 24 VDC				0.8 mA or less	
Indicator light	Operating range ..... Red LED illuminates. Proper operating range ..... Green LED illuminates.					

Most sensitive position 63.22.842.6222.7746 Indicator light mounting screw M2.5 x 4L
Slotted set screw
Oil proof heavy-duty vinyl cable: Ø 2.7 x 3.2 ellipse
D-M9BA(V) 0.15 mm² x 2 cores
D-M9NA(V), D-M9PA(V) 0.15 mm² x 3 cores
1) Refer to catalogue for solid state switch common specifications.
2) Refer to catalogue for lead wire lengths.

Precautions

Fix the auto switch with the set screw attached to the auto switch body. The auto switch may be damaged if an unspecified screw is used.

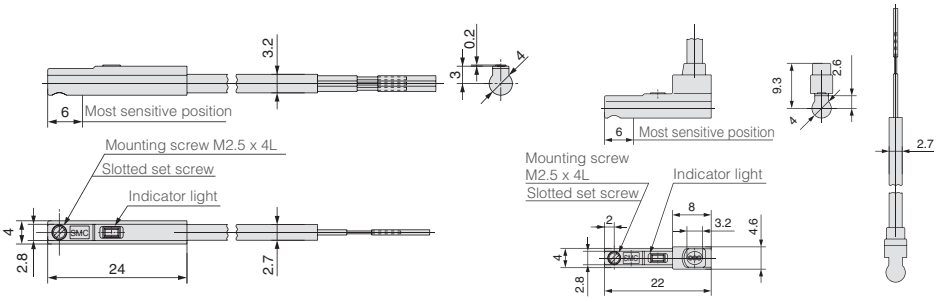
Weight

Unit:g

Auto switch part number		D-M9NA(V)	D-M9PA(V)	D-M9BA(V)
Lead wire length [m]	0.5	8	8	7
	1	14	14	13
	3	41	41	38
	5	68	68	63

Dimensions

D-M9☐A D-M9☐AV Unit: mm

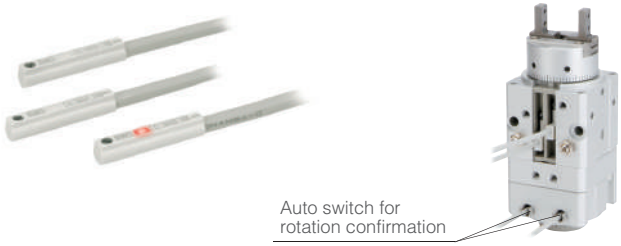


For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Solid state auto switch for rotation verification

D-M9N-746/D-M9P-746/D-M9B-746 Series

Grommet
- Reduce the 2-wire load current (2.5 to 40 mA)
- Use a flexible cord as a standard.



Auto switch specifications

PLC: Programmable logic controller

D-M9□□-746 (With indicator light)			
Auto switch part no.	**D-M9N-746**	**D-M9P-746**	**D-M9B-746**
Electrical entry direction	Lateral		
Wiring type	3-wire		2-wire
Output type	NPN Type	PNP Type	—
Applicable load	IC circuit, Relay, for PLC		24 VDC relay, for PLC
Power supply voltage	5, 12, 24 VDC (4.5 to 28V)		—
Current consumption	10 mA or less		—
Load voltage	28 VDC or less	—	24 VDC (10 to 28 VDC)
Load current	40 mA or less		2.5 to 40 mA
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)		4 V or less
Leakage current	100 µA or less at 24 VDC		0.8 mA or less
Indicator light	Red LED illuminates when turned ON.		

Lead wire: Oil proof heavy-duty vinyl cord
2.7 x 3.2 ellipse, 0.15 mm^2, 2 cores (D-M9B), 3 cores (D-M9N, D-M9P)
Lead length symbols: 0.5 m (Example) D-M9N-746
3 m (Example) D-M9NL-746
5 m (Example) D-M9NZ-746

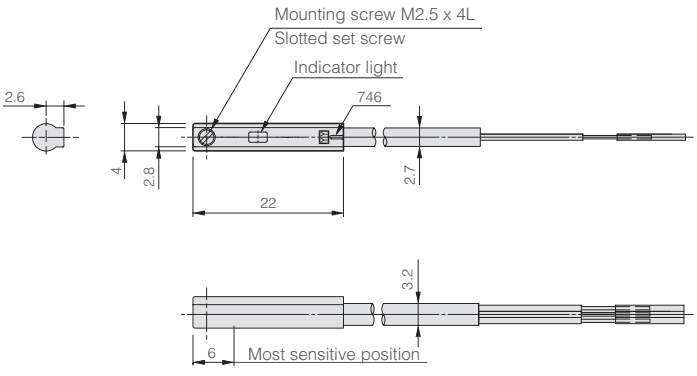
Weight

Unit:g

Auto switch part number		**D-M9N-746**	**D-M9P-746**	**D-M9B-746**
Lead wire length [m]	0.5	8	8	7
	3	41	41	38
	5	68	68	63

Dimensions

D-M9N-746/D-M9P-746/D-M9B-746



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Trimmer auto switch: Direct mounting

D-M9K Series

Sensor unit specifications

Auto switch model	D-M9K ●
Mounting	Direct mounting (Round groove)
Applicable amplifier unit	D-RNK, D-RPK
Indicator lamp	Red lights ON at sensitive position. Green lights ON at optimum detecting position.
Electrical entry	Grommet
Impact resistance	980 m/s²
Insulation resistance	50 MΩ or more (500 VDC measured via megohmmeter) between lead wire and case
Withstand voltage	1000 VAC for 1 minute (between lead wire and case)
Ambient temperature	-10 to 60 °C
Enclosure	IP67
Weight (with connector)	55 g

Oilproof heavy-duty cable specifications

Auto switch model		D-M9K ●	D-Y7K ●	D-F7K ●
Sheath	Outside diameter [mm]	Ø 3.5		
Insulator	Number of cores	4 cores (Brown / Blue / Black / White)		
	Outside diameter [mm]	Ø 1.0		
Conductor	Effective area [mm²]	0.15 (AWG26)		
	Strand diameter [mm]	Ø 0.08		
Minimum bending radius [mm] (Reference value)		21		

Amplifier unit specifications (with sensor unit)

PLC: Programmable logic controller

Model		D-RNK ●	D-RPK ●
Applicable sensor unit		D-M9K	
Application		For relay and PLC	
Power supply voltage		12 to 24 VDC	
Current consumption		40 mA or less	
Output specification		NPN open collector 2 outputs	PNP open collector 2 outputs
Load voltage		28 VDC or less	—
Load current		80 mA or less / 1 output	
Internal voltage drop		1.5 V or less	
Leakage current		100 µA or less / 1 output	
Response time		1 ms or less	
Indicator lamp		READY: Red lights ON when the piston position detected (with sensor unit). OUT1: Green lights ON when turned ON. OUT2: Orange lights ON when turned ON.	
Electrical entry	Connection to sensor	e-con connector	
	Power supply / output cable	Grommet	
Impact resistance		98 m/s²	
Insulation resistance		50 MΩ or more (500 VDC measured via megohmmeter) between lead wire and case	
Withstand voltage		1000 VAC for 1 minute (between lead wire and case)	
Ambient temperature		-10 to 60 °C	
Enclosure		IP40	
Weight		70 g	

Oilproof heavy-duty cable specifications

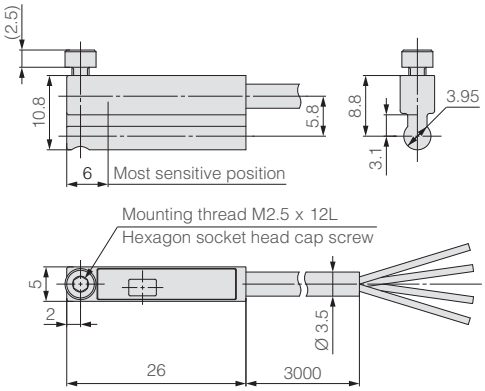
Model		D-RNK ●	D-RPK ●
Sheath	Outside diameter [mm]	Ø 3.5	
Insulator	Number of cores	4 cores (Brown / Blue / Black / White)	
	Outside diameter [mm]	Ø 1.0	
Conductor	Effective area [mm²]	0.15 (AWG26)	
	Strand diameter [mm]	Ø 0.08	
Minimum bending radius [mm] (Reference value)		21	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Dimensions [mm]

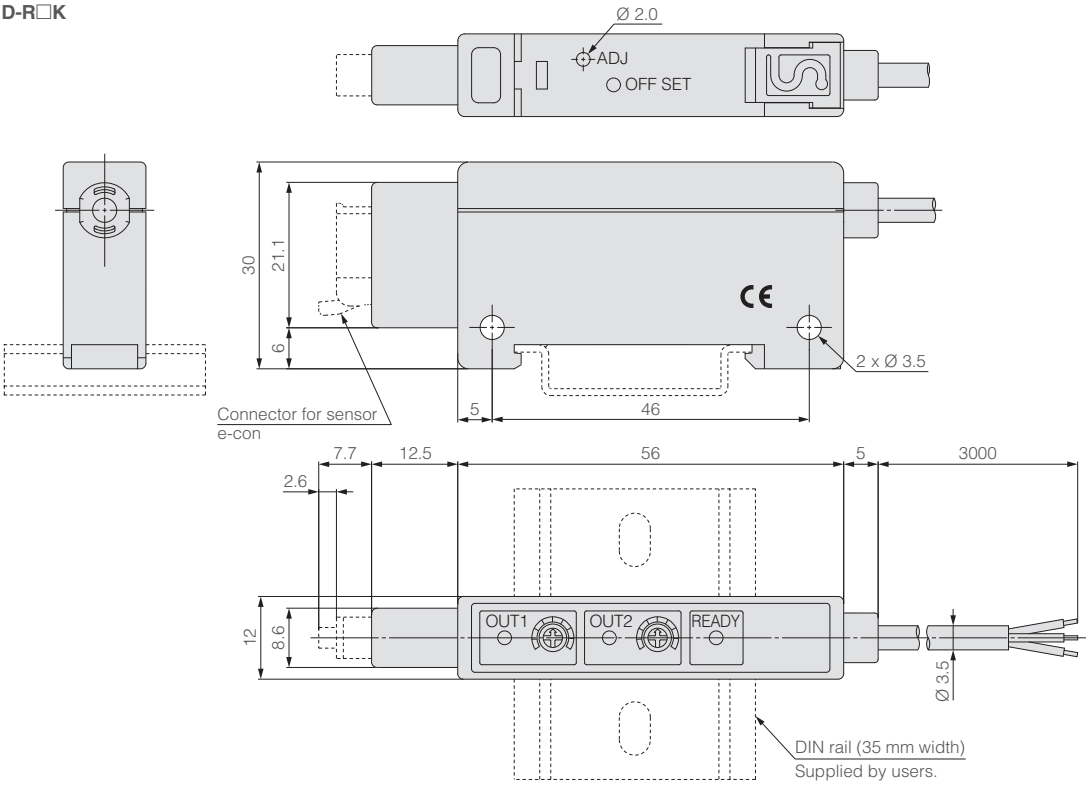
Sensor unit

D-M9K



Amplifier unit

D-R□K



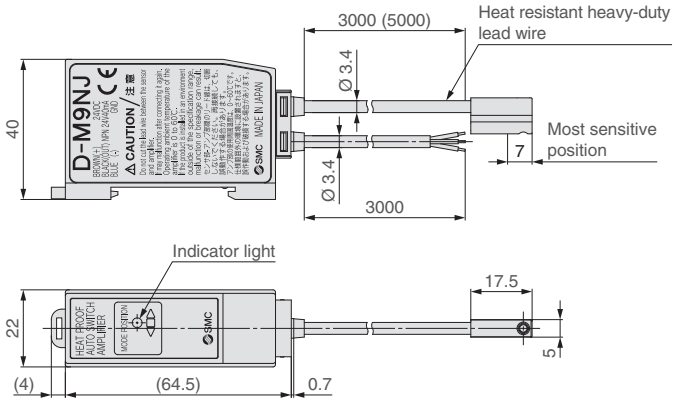
Heat resistant 2-colour indicator solid state auto switch

D-M9□J Series

Specifications

D-M9NJ, D-M9PJ (With indicator light)		
Auto switch model	**D-M9NJ**	**D-M9PJ**
Output type	NPN	PNP
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)	
Current consumption	25 mA or less	
Load voltage	28 VDC or less	—
Load current	40 mA or less	
Internal voltage drop	0.8 V or less	
Leakage current	100 µA or less at 24 VDC	
Indicator light	Operating range ····· Red LED lights up. Optimum operating range ····· Green LED lights up.	
Ambient temperature	Sensor section: 0 to 150 °C Amplifier section: 0 to 60 °C	
Impact resistance	Sensor section: 1000 m/s² Amplifier section: 300 m/s²	

Dimensions



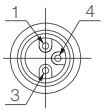
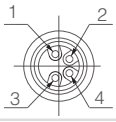
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Solid state auto switch with pre-wired connector

D-M9□PC Series

With pre-wired connector
- Eliminates the harnessing work by cable with connector specifications
- Adopts global standardized connector (IEC947-5-2)
- IP67 construction.

Connector specifications

Connector model	M8–3 pin	M8–4 pin	M12–4 pin
Pin arrangement			
Conformed standard	JIS C 4524, JIS C 4525, IEC 947-5-2, NECA 0402		
Impact resistance	300 m/s²		
Enclosure	IP67 (IEC60529 standard)		
Insulation resistance	100 MΩ or more at 500 VDC		
Withstand voltage	1500 VAC 1 minute (between contacts), Leak current 1 mA or less		

How to order

D-M9 [P] [W] [V] [S] [A] PC
① ② ③ ④ ⑤

① Wiring and output

N	3 wire, NPN
P	3 wire, PNP
B	2 wire

② Colour indication

—	Standard (1-colour)
W [1]	2-colour

1) Not available with 3 m cable length.

③ Wiring entry

—	In-line
V [1]	Perpendicular

1) Not available with 3 m cable length.

④ Cable length

S	0.5 m
M	1 m
L	3 m

⑤ Connector model

A	M8 ~ 3 pin
B [1]	M8 ~ 4 pin
D [1]	M12 ~ 4 pin

1) Not available with 3 m cable length.

Connector pin arrangement

Sensor type	Colour distinction of lead wire				Meaning of contact number			
	1 pin	2 pin	3 pin	4 pin	1 pin	2 pin	3 pin	4 pin
DC 2-wire type	Brown	—	—	Blue	OUT (+)	—	—	OUT (-)
DC 3-wire type	Brown	—	Blue	Black	DC (+)	—	DC (-)	OUT

Weight

M8 connector type: Unit: g

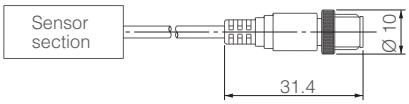
Auto switch part number		D-M9N□APC / D-M9P□APC	D-M9B□APC	D-M9N□BPC / D-M9P□BPC	D-M9B□BPC
Lead wire length [m]	0.5	11	11	11	11
	1	18	18	18	18
	3	46	46	—	—

M12 connector type Unit: g

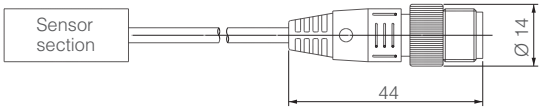
Auto switch part number		D-M9N□DPC / D-M9P□DPC	D-M9B□DPC
Lead wire length [m]	0.5	19	18
	1	26	25

Dimensions

M8 - 3 pin
4 pin



M12 -4 pin



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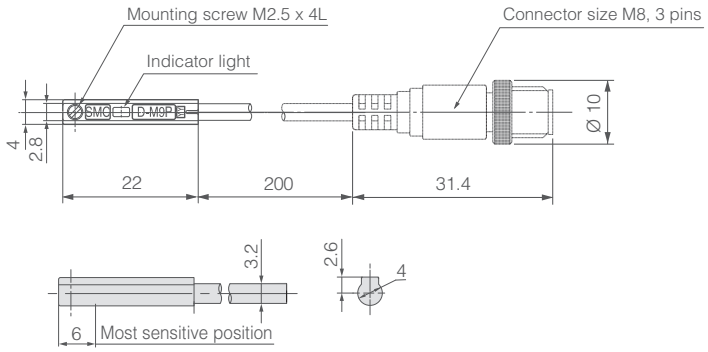
Solid state auto switch with pre-wired connector

D-M9PSAPC-595 Series

Specifications

Auto switch model	**D-M9PSAPC-595**
Output type	PNP
Power supply voltage	4.5 to 28 VDC
Current consumption	10 mA or less
Load voltage	—
Load current	40 mA or less
Internal voltage drop	0.8 V or less
Leakage current	100 µA or less
Indicator light	Red LED illuminates when ON
Ambient temperature	-10 to 60 °C
Impact resistance	Switch: 1000 m/s^2 Connector: 300 m/s^2

Dimensions



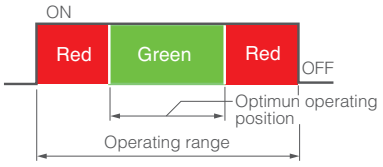
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Available auto switches

Since there are other applicable auto switches than listed, refer to Best Pneumatics catalogue for details.

2 colour indication

Optimum operating position seen at a glance.



Without indicator

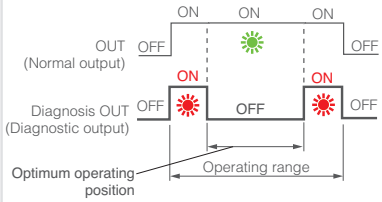
For light free enviroments.

Operating range: wide-area detection type

Operating range:
35 to 50 mm

With diagnostic output

Displacement of the detecting position is detected at the PLC side.



With timer (with OFF delay timer)

Can detect an intermediate position of a high-speed cylinder.

Resistant to strong magnetic fields

For use in enviroments where AC current is 16,000A or more.

Water, oil resistant

For water, coolant splash enviroments.

Heat resistant

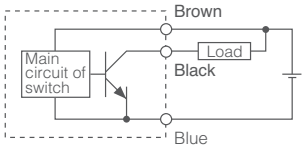
For use in enviroments of 150 °C, 130 °C, 120 °C.

Before operation

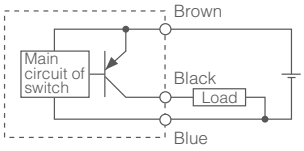
Auto switches connection and example

Basic wiring

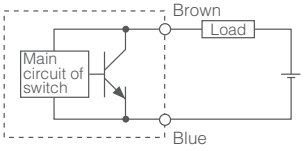
Solid state 3-wire, NPN



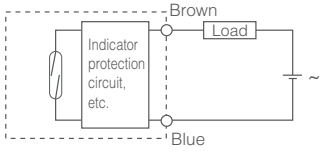
Solid state 3-wire, PNP



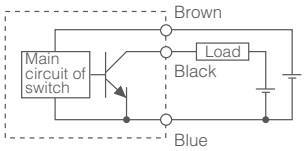
Solid state 2-wire

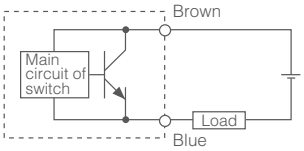


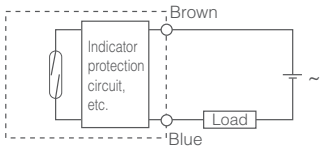
Reed switch 2-wire



(Power supply for switch and load are separate)

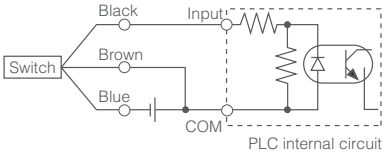




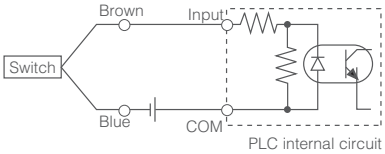


Example of connection with PLC (Programmable logic controller)

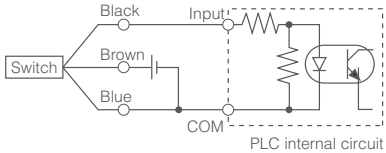
Sink input specifications 3-wire, NPN



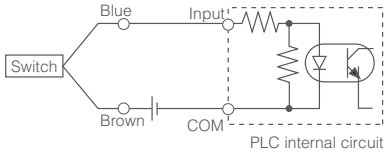
2-wire



Source input specifications 3-wire, PNP



2-wire



Connect according to the applicable PLC input specifications, as the connection method will vary depending on the PLC input specifications.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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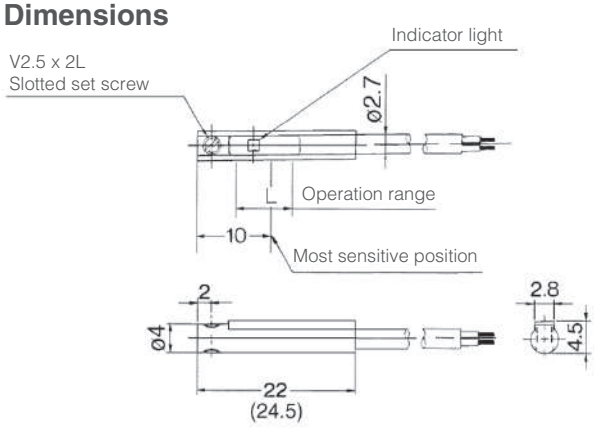
Reed auto switch / Direct mounting

D-A93 Series

Grommet

Dimensions



Specifications

D-A93 / D-A96 (With indicator light)		
Auto switch model	**D-A93** ●	
Electrical entry	In-line	
Application	Relay / PLC	
Load voltage	24 VDC	100 VAC
Max. load current and range	5 to 40 mA	5 to 20 mA
Contact protection circuit	None	
Internal voltage drop	≤ 2.4 V (up to 20 mA) / ≤ 3V (up to 40 mA)	
Indicator light	ON: When red light emitting diode	

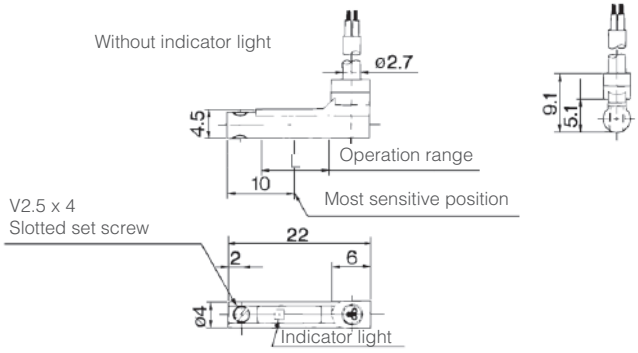
Lead wire — Oilproof vinyl heavy insulation cable, Ø 2.7, 0.18 mm² X 2 cores (Brown, Blue), 0.5 m

Reed auto switch / Direct mounting

D-A93V Series

Grommet
Electrical entry: Perpendicular

Dimensions



Specifications

D-A93V (With indicator light)		
Auto switch model	**D-A93V** ●	
Electrical entry	Perpendicular	
Application	Relay / PLC	
Load voltage	24 VDC	100 VAC
Max. load current and range	5 to 40 mA	5 to 20 mA
Contact protection circuit	None	
Internal voltage drop	2.7 V or less	
Indicator light	ON: When red light emitting diode	

Lead wire — Oil proof vinyl heavy insulation cable, Ø 2.7, 0.18 mm² X 2 cores (Brown, Blue), 0.5 m

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Magnetic field resistant 2-colour indicator solid state auto switch

D-P3DWA Series

Specifications

PLC: Programmable logic controller

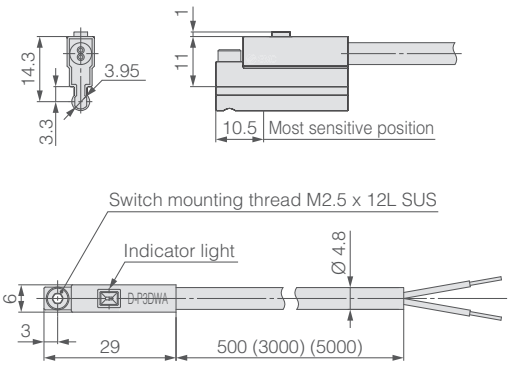
D-P3DWA (With indicator light)	
Auto switch model	**D-P3DWA / D-P3DWAL / D-P3DWAZ** ●
Applicable load	24 VDC relay, PLC
Load voltage	24 VDC
Load current	6 to 40 mA
Internal voltage drop	5 V or less
Leakage current	1 mA or less at 24 VDC
Operating time	40 ms or less
Indicator light	Operating range ····· Red LED illuminates Proper operating range ····· Green LED illuminates

Oilproof heavy-duty lead wire specifications

Auto switch model		**D-P3DWA** ●
Sheath	Outside diameter [mm]	Ø 4.8
Insulator	Number of cores	2 cores (Brown / Blue)
	Outside diameter [mm]	Ø 1.52
Conductor	Effective area [mm²]	0.5
	Strand diameter [mm]	Ø 0.08
Minimum bending radius [mm] (Reference values)		29

Impact resistance – Switch: 1000 m/s²
Insulation resistance – 50 MΩ or more at 500 VDC Mega (between lead wire and case)
Withstand voltage – 1000 VAC for 1 minute (between lead wire and case)
Ambient temperature – -10 to 60 °C
Enclosure – IEC60529 standard IP67
Polarity: Non-polar

Dimensions



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Magnetic field resistant 2-colour indicator solid state auto switch

D-P3DWASC/D-P3DWASE Series

(Electrical entry: Pre-wired connector)

Specifications

PLC: Programmable Logic Controller

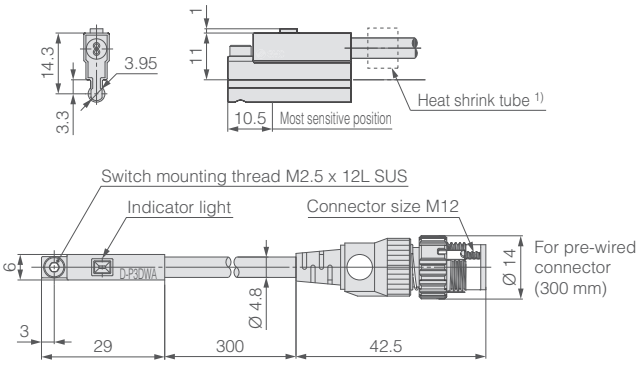
D-P3DWASC/E (With indicator light)		
Auto switch model	**D-P3DWASC**	**D-P3DWASE** ●
Applicable load	24 VDC relay, PLC	
Load voltage	24 VDC	
Load current	6 to 40 mA	
Internal voltage drop	5 V or less	
Leakage current	1 mA or less at 24 VDC	
Operating time	40 ms or less	
Indicator light	Operating range ····· Red LED illuninates Proper operating range ····· Green LED illuninates	

Oilproof heavy-duty lead wire specifications

Auto switch model		**D-P3DWASC**	**D-P3DWASE** ●
Sheath	Outside diameter [mm]	Ø 4.8	
Insulator	Number of cores	2 cores	
	Outside diameter [mm]	Ø 1.52	
Conductor	Effective area [mm²]	0.5	
	Strand diameter [mm]	Ø 0.08	
Minimum bending radius [mm] (Reference values)		29	

Impact resistance – Switch: 1000 m/s², Connector: 300 m/s²
Insulation resistance – 50 MΩ or more at 500 VDC Mega (between lead wire and case)
Withstand voltage –1000 VAC for 1 minute (between lead wire and case)
Ambient temperature – -10 to 60 °C
Enclosure – IEC60529 standard IP67
Polarity: Non-polar

Dimensions



1) A white colour heat shrink tube is attached to the D-P3DWASE type only.

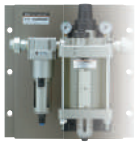
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Air preparation

Air line
Page 276

Pressure control equipment
Page 290

Pressure gauges
Page 300



Lubrication equipment
Page 301

Air dryers
Page 304

Compressed air preparation filters
Page 306

Water separators
Page 310

Odour removal filter
Page 311

Related products
Page 311

Air line

Air filter + Regulator + Lubricator
AC Series p. 276

Filter-regulator + Lubricator
AC□A Series p. 277

Air filter
AF Series p. 278

Micro filter
AFM-A Series p. 279

Sub micro filter
AFD-A Series p. 279

Air regulator
AR Series p. 280

Regulator with backflow function
AR□K Series p. 280

Direct operated precision regulator
ARP Series p. 281

Lubricator
AL Series p. 281

Filter regulator
AW Series p. 282

Filter regulator with backflow function
AW□K Series p. 283

Regulator / Filter regulator
ARG/AWG Series p. 284

Digital pressure switch
ISE35 Series p. 285

Modular adapter
E210/310/410 Series p. 285

Attachments
Y□, E□, AKM Series p. 286

Pressure switch / Reed switch type
IS10M/E Series p. 287

Pressure relief 3 port valve
VHS Series p. 287

Residual pressure relief 3 port solenoid valve
VP517 Series p. 288

Soft start-up valve
AV-A Series p. 289

Large flow air filter
AF800/900 Series p. 290

Pressure control equipment

Miniature regulator
ARJ Series p. 290

Miniature regulator
ARJ310 Series p. 291

Pilot operated pressure regulator
EAR Series p. 291

Regulator for 2.0 MPa
ARX20 Series p. 292

Compact manifold regulator
ARM5 Series p. 292

Modular regulator
ARM10/11 Series p. 293

Precision regulator
IR1000/2000/3000-A Series p. 293

Regulator
IR1200/2200/3200-A Series p. 294

Direct operated regulator (Relieving type)
VCHR30/40 Series p. 294

Compact electro-pneumatic regulator
ITV0000 Series p. 295

Electro-pneumatic regulator
ITV1000/2000/3000 Series p. 296

Electro-pneumatic regulator Fieldbus compatibility
ITV1000/2000/3000 Series p. 297

High pressure electro-pneumatic regulator
ITVX Series p. 297

High pressure electro-pneumatic regulator, 3.0 MPa
ITVH Series p. 298

Booster regulator
VBA Series p. 299

Pressure gauges

Pressure gauge
G☐ Series p. 300

Pressure gauge with limit indicator
G36-L/G46-L Series p. 300

Lubrication equipment

Large flow lubricator
AL800/900 Series p. 301

Mist spray unit
LMU Series p. 301

D.P. lube unit
ALDU600/900 Series p. 302

Mixing valve
LMV Series p. 303

Impulse lubricator
ALI Series p. 303

Air dryers

Refrigeration air dryer
IDFA Series p. 304

Membrane air dryer
IDG Series p. 305

Thermo-dryer
IDH Series p. 306

Compressed air preparation filters

Main line filter
AFF Series p. 306

Main line filter
AFF□D Series p. 307

Mist separator
AM Series p. 307

Mist separator
AM□D Series p. 307

Micro-mist separator
AMD Series p. 308

Micro-mist separator
AMD□D Series p. 308

Micro-mist separator with prefilter
AMH Series p. 309

Super mist separator
AME Series p. 309

Water separator

Water separator
AMG Series p. 310

Odour removal filter

Odour removal
AMF Series p. 311

Related products

Heavy duty auto drain
ADH4000 Series p. 311

Clean exhaust filter
SFE Series p. 312

Auto drain valve
AD402-A Series p. 312

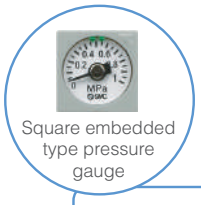
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

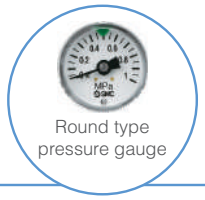
Our highlighted product for you

Modular F.R.L. units
AC Series

For more details
go to page 276

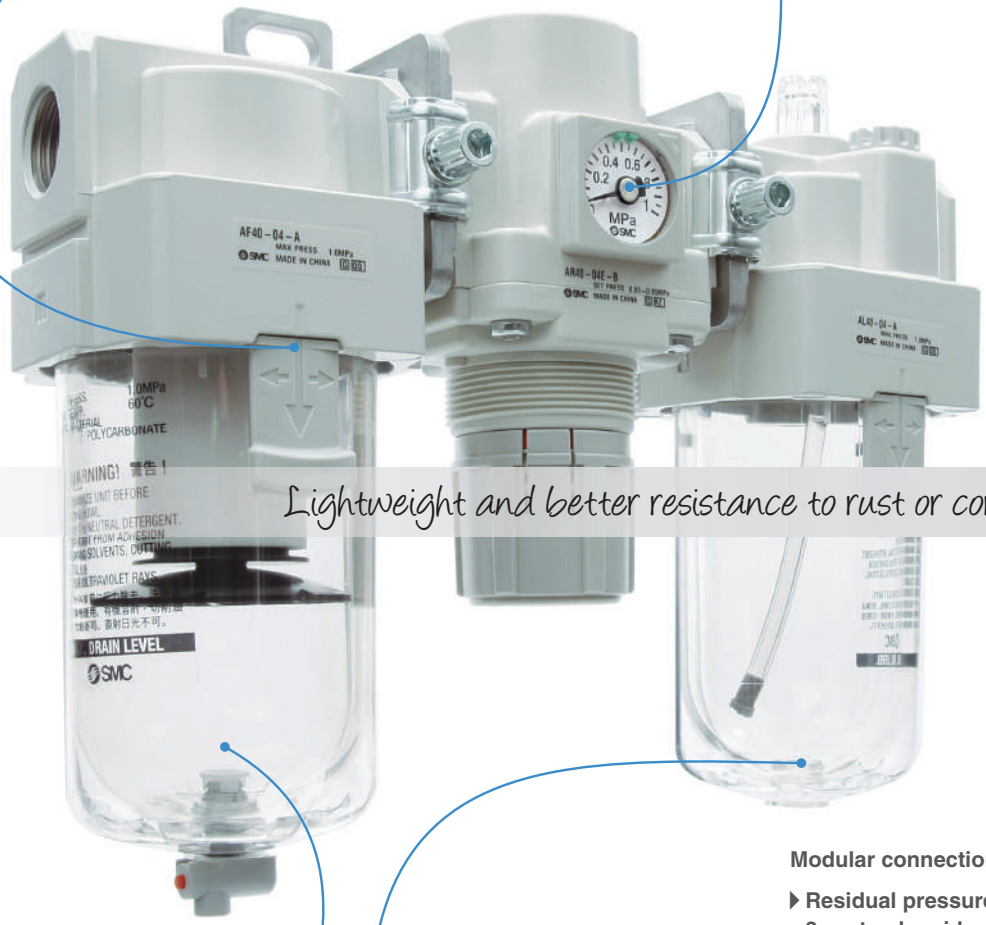
Easy replacement of the element
The element and the bowl are in one place
Replacement can be done in hand.


Square embedded type pressure gauge


Round type pressure gauge

Digital pressure switch

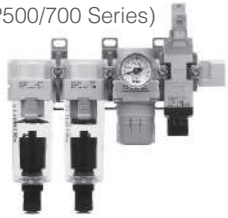
Selection of pressure gauges



Lightweight and better resistance to rust or corrosion

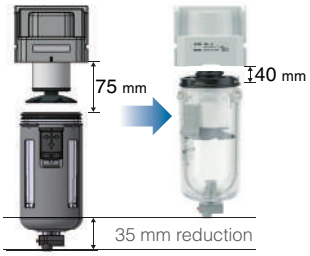
Modular connection type

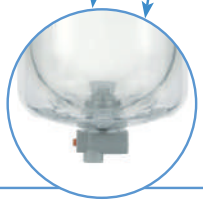
▸ **Residual pressure relief 3 port solenoid valve**
(VP500/700 Series)



▸ **Pressure relief 3 port valve**
(VHS Series)

▸ **Reduced required maintenance space**
∗ For AF40
Max. 46 % reduction





Better visibility & safer
The bowl is covered with a transparent bowl guard!
- The inside is visible from 360°
- The bowl is completely protected from the environment. Safety improved

∗ Body size: 30 or more.

Our highlighted product for you

Residual pressure relief 3 port solenoid valve

VP517/717 Series

For more details go to page 288

Low power consumption of DC type: 0.35 W
Usable under continuous energisation.

IP65 enclosure
- Dust-tight
- Water-jet proof.

The modular way to set air free

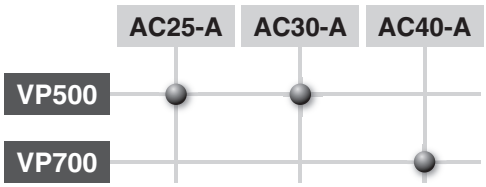
Selectable flow direction
"Left to right" or " Right to left".

Allows for space saving and reduced piping labour

Modular connection type for connecting to F.R.L. units.

Internal pilot. Operating pressure range:
- Standard: 0.2 to 0.7 MPa
- High-pressure type: 0.2 to 1 MPa.

Applicable air combination



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Soft start-up valve
AV-A Series

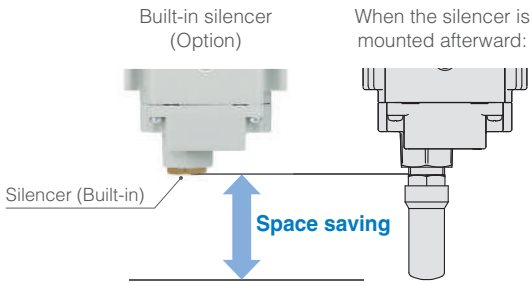
For more details
go to page 289

- **Power consumption reduced by up to 80 %** (0.35 W with DC type)
- **Prevents air leakage** when the main valve is switched (The main valve stays closed except during rapid supply conditions)
- **Rapid supply time reduced** by up to 50 %
- **Larger flow rate capacity** by up to 2.2 times
- **Exhaust time reduced** by up to 55 %.

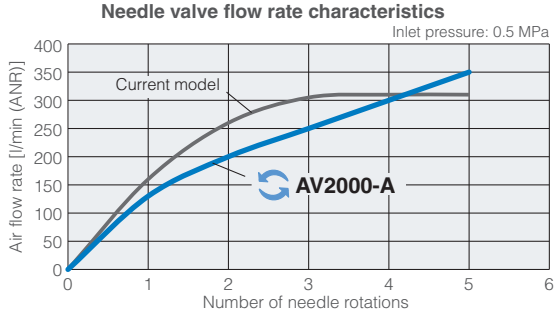
Modular connection
for connecting to F.R.L. units.

Smooth in your consumption

Built-in silencer



Better relationship between the needle rotations and the air flow.



Our highlighted product for you

Electro-pneumatic regulator

ITV Series

For more details
go to page 296

Stepless control of air pressure proportional to an electrical signal

ITV2000 Series
Maximum flow rate 1500 l/min (ANR)
Set pressure: 0.6 MPa
Supply pressure: 1.0 MPa

ITV3000 Series
Maximum flow rate 4000 l/min (ANR)
- Set pressure: 0.6 MPa
- Supply pressure: 1.0 MPa

ITV1000 Series
Maximum flow rate 200 l/min (ANR)
Set pressure: 0.6 MPa
Supply pressure: 1.0 MPa
Grease-free specification (wetted parts)

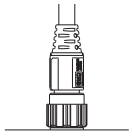
- **Added fieldbus compliant specifications**
  Reduced wiring. Applicable Fieldbus protocols

CC-Link DeviceNet PROFIBUS

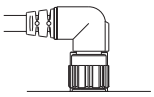
- Added **RS-232C** specification to serial communications!

- **Sensitivity: Within 0.2 % (F.S.)**
- **Linearity: Within ±1 % (F.S.)**
- **Hysteresis: Within 0.5 % (F.S.)**
- **IP65**
- **Cable connections in 2 directions**

Straight type



Right angle type



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Refrigerated air dryer
IDFA Series

For more details
go to page 304

High performance, reliable and trouble free compressed air treatment

Standard IDFA□E Series
- Air flow capacity Increased by 40 % at max. (SMC comparison)
- Power consumption Reduced by 40 % at max. (SMC comparison).

Large size IDFA□F Series
Tolerant of high temperature environment!
Can be used with ambient temperature 45 °C at max. and inlet air temperature 60 °C at max., making it top of its class in the industry for the large air-cooled type.

- **Employs a heat exchanger made of high corrosion-resistant stainless steel**
- **Stable outlet dew point with a minimum pressure drop across the dryer**
- **Power supply voltage: Simple-phase 230 VAC**
  ∗ IDFA□E only.
- **Reduction of exhaust heat achieves down sizing and energy saving operation of the air conditioner!**
  ∗ IDFA□F only.
- **Power supply voltage: Three-phase 400 VAC**
  ∗ IDFA□F only.
- **Energy saving design: Reduces exhaust heat from dryer by 25 % at max.**
  Suppresses ambient temperature increase
  Secondary heater reduces the load to the condenser, and reduces exhaust heat from dryer by 25 % at max. (comparison with other SMC products)
  ∗ IDFA□F only.

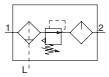
Air line

Our highlighted product for you

Air filter + Regulator + Lubricator
AC Series

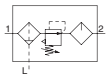
- New and existing modular types can be connected
- Reduced time for mounting
- Interchangeable with the previous model
- Transparent bowl protection for a better visibility and security
- Bowl variations: polycarbonate, nylon, metal and metal with level gauge
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C
- High and low temperature, high pressure and other options available.

Manual drain

Part number	☐ Gauge	Flow [Nl/min]	Port size	Set pressure [MPa]	Filtration degree [µm]	Symbol
AC10-M5☐-A	–, G	75	M5	0.05 ~ 0.7	5	
AC20-F01☐-B ●	–, G, E	300	G1/8	0.05 ~ 0.85		
AC20-F02☐-B ●	–, G, E		G1/4			
AC30-F03☐-B ●	–, G, E	1400	G3/8			
AC40-F04☐-B ●	–, G, E	2000	G1/2			
AC40-F06☐-B	–, G, E	1800	G3/4			
AC50-F06☐-B ●	–, G, E	2800	G3/4			
AC60-F10☐-B ●	–, G, E	4000	G1			

Flow information at 0.6 MPa and 0.1 MPa pressure drop
☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Automatic drain

Part number	☐ Gauge	Flow [Nl/min]	Port size	Set pressure [MPa]	Filtration degree [µm]	Drain type	Symbol
AC10-M5C☐-A	–, G	75	M5	0.05 ~ 0.7	5	Normally closed	
AC20-F01C☐-B	–, G, E	300	G1/8	0.05 ~ 0.85			
AC20-F02C☐-B ●	–, G, E		G1/4				
AC30-F03D☐-B ●	–, G, E	1400	G3/8			Normally open	
AC40-F04D☐-B ●	–, G, E	2000	G1/2				
AC40-F06D☐-B	–, G, E	1800	G3/4				
AC50-F06D☐-B ●	–, G, E	2800	G3/4				
AC60-F10D☐-B ●	–, G, E	4000	G1				

Flow information at 0.6 MPa and 0.1 MPa pressure drop
☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

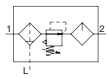
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Filter-regulator + Lubricator

AC□□A Series

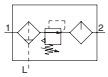
- New and existing modular types can be connected
- Reduced time for mounting
- Interchangeable with the previous model
- Transparent bowl protection for a better visibility and security
- Bowl variations: Polycarbonate, Nylon, Metal and Metal with level gauge
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Manual drain

Part number	□ Gauge	Flow [Nl/min]	Port size	Set pressure [MPa]	Filtration degree [µm]	Symbol
AC10A-M5□-A	–, G	75	M5	0.05 ~ 0.7	5	
AC20A-F01□-B ●	–, G, E	300	G1/8	0.05 ~ 0.85		
AC20A-F02□-B ●	–, G, E		G1/4			
AC30A-F03□-B ●	–, G, E	1400	G3/8			
AC40A-F04□-B ●	–, G, E	2000	G1/2			
AC40A-F06□-B ●	–, G, E	1800	G3/4			
AC50A-F06□-B	–, G, E	2800	G3/4			
AC60A-F10□-B ●	–, G, E	4000	G1			

Flow information at 0.6 MPa and 0.1 MPa pressure drop
□: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Automatic drain

Part number	□ Gauge	Flow [Nl/min]	Port size	Set pressure [MPa]	Filtration degree [µm]	Drain type	Symbol
AC10A-M5C□-A	–, G	75	M5	0.05 ~ 0.7	5	Normally closed	
AC20A-F01C□-B	–, G, E	300	G1/8	0.05 ~ 0.85			
AC20A-F02C□-B ●	–, G, E		G1/4				
AC30A-F03D□-B ●	–, G, E	1400	G3/8			Normally open	
AC40A-F04D□-B ●	–, G, E	2000	G1/2				
AC40A-F06D□-B ●	–, G, E	1800	G3/4				
AC50A-F06D□-B	–, G, E	2800	G3/4				
AC60A-F10D□-B ●	–, G, E	4000	G1				

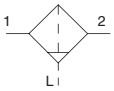
Flow information at 0.6 MPa and 0.1 MPa pressure drop
□: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air filter
AF Series

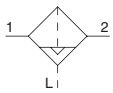
- To be used as stacking manifold or as single device
- Convenient maintenance of the filter element
- Interchangeable with the previous model
- Transparent bowl protection for a better visibility and security
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Manual drain

Part number	Flow [Nl/min]	Port size	Bowl capacity [cm³]	Filtration degree [µm]	Symbol
AF10-M5-A ●	200	M5	2.5	5	
AF20-F01-A ●	1500	G1/8	8		
AF20-F02-A ●		G1/4			
AF30-F03-A ●	3150	G3/8	25		
AF40-F04-A ●	5200	G1/2	45		
AF40-F06-A ●	6000	G3/4			
AF50-F06-A ●	11000	G3/4			
AF60-F10-A ●	13000	G1			

Flow information at 0.6 MPa and 0.1 MPa pressure drop.

Automatic drain

Part number	Flow [Nl/min]	Port size	Bowl capacity [cm³]	Drain type	Filtration degree [µm]	Symbol
AF10-M5C-A ●	200	M5	2.5	Normally closed	5	
AF20-F01C-A ●	1500	G1/8	8			
AF20-F02C-A ●		G1/4				
AF30-F03D-A ●	3150	G3/8	25	Normally open		
AF40-F04D-A ●	5200	G1/2	45			
AF40-F06D-A ●	6000	G3/4				
AF50-F06D-A ●	11000	G3/4	45			
AF60-F10D-A ●	13000	G1	45			

Flow information at 0.6 MPa and 0.1 MPa pressure drop.

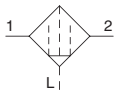
Accessories

Series	10 Series	20 Series	30 Series	40-F04 Series	40-F06 Series	50 Series	60 Series
Filter element	AF10P-060S	AF20P-060S	AF30P-060S	AF40P-060S	AF40P-060S	AF50P-060S	AF60P-060S
Bracket assembly	—	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS	AF52P-050AS	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Micro filter
AFM-A Series

- Filtration degree 0.3 µm
- To be used as stacking manifold or as single device
- Oil mist removal rate of 99,9 %
- Filter element can be changed easily and quickly
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Part number	Flow [Nl/min]	Port size	Drain type	Filtration degree [µm]	Oil mist removal rate [%]	Symbol
AFM20-F01C-A ●	200	G1/8	Automatic N.C.	0.3	99.9	
AFM20-F02C-A ●		G1/4				
AFM30-F03D-A ●	450	G3/8	Automatic N.O.			
AFM40-F04D-A ●	1100	G1/2				
AFM40-F06D-A ●		G3/4				
AFM20-F01-A ●	200	G1/8	Manual			
AFM20-F02-A ●		G1/4				
AFM30-F03-A	450	G3/8				
AFM40-F04-A ●	1100	G1/2				
AFM40-F06-A ●		G3/4				

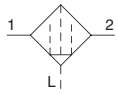
Flow information at 0.7 MPa and 0.01 MPa pressure drop.

Accessories

Series	20 Series	30 Series	40-F04 Series	40-F06 Series
Filter element	AFM20P-060AS	AFM30P-060AS	AFM40P-060AS	AFM40P-060AS
Bracket assembly	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS

Sub micro filter
AFD-A Series

- Filtration degree 0.01 µm
- To be used as stacking manifold or as single device
- Oil mist removal rate of 99,9 %
- Filter element can be changed easily and quickly
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Part number	Flow [Nl/min]	Port size	Drain type	Filtration degree [µm]	Oil mist removal rate [%]	Symbol
AFD20-F01C-A ●	120	G1/8	Automatic N.C.	0.01	99.99	
AFD20-F02C-A ●		G1/4				
AFD30-F03D-A ●	240	G3/8	Automatic N.O.			
AFD40-F04D-A ●	600	G1/2				
AFD40-F06D-A ●		G3/4				
AFD20-F01-A ●	120	G1/8	Manual			
AFD20-F02-A ●	240	G1/4				
AFD30-F03-A ●	600	G3/8				
AFD40-F04-A ●		G1/2				
AFD40-F06-A	120	G3/4				

Flow information at 0.7 MPa and 0.01 MPa pressure drop.

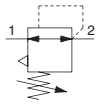
Accessories

Series	20 Series	30 Series	40-F04 Series	40-F06 Series
Filter element	AFD20P-060AS	AFD30P-060AS	AFD40P-060AS	AFD40P-060AS
Bracket assembly	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air regulator
AR Series

- In stacking manifold or as single device
- Panel mounting possible
- Option: pressure regulation range 0,02 ~ 0,2 MPa
- Membrane-type regulator with secondary ventilation
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Part number	☐ Gauge	Port size	Port size pressure gauge	Set pressure [MPa]	Symbol
AR10-M5☐-A ●	–, G	M5	G1/16	0.05 ~ 0.7	
AR20-F01☐-B ●	–, G, E	G1/8	G1/8	0.05 ~ 0.85	
AR20-F02☐-B ●	–, G, E	G1/4			
AR30-F03☐-B ●	–, G, E	G3/8			
AR40-F04☐-B ●	–, G, E	G1/2			
AR40-F06☐-B ●	–, G, E	G3/4			
AR50-F06☐-B ●	–, G, E	G3/4			
AR60-F10☐-B ●	–, G, E	G1			
AR10-M5☐-1-A ●	–, G	M5	G1/16	0.02 ~ 0.2	
AR20-F01☐-1-B ●	–, G, E	G1/8	G1/8		
AR20-F02☐-1-B ●	–, G, E	G1/4			
AR30-F03☐-1-B ●	–, G, E	G3/8			
AR40-F04☐-1-B ●	–, G, E	G1/2			
AR40-F06☐-1-B	–, G, E	G3/4			

☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Bracket assembly

10 Series	20 Series	30 Series	40 Series	50 Series	60 Series
AR12P-270AS	AR23P-270AS	AR33P-270AS	AR43P-270AS	AR52P-270AS	

Regulator with backflow function
AR☐K Series

- In stacking manifold or as single device
- Dual pressure control for cylinder easily achieved
- Panel mounting possible
- Membrane-type regulator with secondary ventilation
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Part number	☐ Gauge	Port size	Port size pressure gauge	Set pressure [MPa]	Symbol
AR20K-F01☐-B ●	–, G, E	G1/8	G1/8	0.05 ~ 0.85	
AR20K-F02☐-B ●	–, G, E	G1/4			
AR30K-F02☐-B ●	–, G, E	G1/4			
AR30K-F03☐-B ●	–, G, E	G3/8			
AR40K-F03☐-B ●	–, G, E	G3/8			
AR40K-F04☐-B ●	–, G, E	G1/2			
AR40K-F06☐-B ●	–, G, E	G3/4			
AR50K-F06☐-B ●	–, G, E	G3/4			
AR60K-F10☐-B ●	–, G, E	G1			

☐: Add suffix G for round gauge added or suffix E for square gauge added
Nothing (–), no gauge.

Bracket Assembly

20 Series	30 Series	40 Series	50 Series	60 Series
AR23P-270AS	AR33P-270AS	AR43P-270AS	AR52P-270AS	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Direct operated precision regulator

ARP Series

- In stacking manifold or as single device
- Panel mounting possible
- Sensitivity max. 0.2 % F.S.
- Air consumption 0.8 l/min at 0.3 MPa
- Max. operating pressure 0.7 MPa
- Temperature range -5 to 60 °C (50 °C with digital pressure switch).

Part number	☐ Gauge	Port size	Port size pressure gauge	Set pressure [MPa]	Sensitivity
ARP20-F01☐ ●	–, G, E	G1/8	G1/8	0.005 ~ 0.4	Within 0.2 % F.S.
ARP20-F02☐ ●	–, G, E	G1/4			
ARP30-F03☐ ●	–, G, E	G3/8			
ARP40-F04☐ ●	–, G, E	G1/2	G1/4		

☐: Add suffix G at the end of reference for round gauge added or suffix E for square gauge added
Nothing (–), no gauge.

Bracket assembly

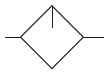
20 Series	30 Series	40 Series
AR20P-270AS	AR30P-270AS	AR40P-270AS

Lubricator

AL Series

- Lubricator to enrich the pressure air with lubricant
- Precise oil quantity adjustment with scale
- Transparent bowl protection for a better visibility and security
- Interchangeable with the previous model
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Manual drain

Part number	Port size	Bowl capacity [cm³]	Recommended lubricant	Symbol
AL10-M5-A ●	M5	7	Class 1 Turbine oil ISO VG32	
AL20-F01-A ●	G1/8	25		
AL20-F02-A ●	G1/4			
AL30-F02-A ●	G1/4	55		
AL30-F03-A ●	G3/8			
AL40-F03-A ●	G3/8	135		
AL40-F04-A ●	G1/2			
AL40-F06-A ●	G3/4			
AL50-F06-A ●	G3/4			
AL50-F10-A ●	G1			
AL60-F10-A ●	G1			

Accessories

Series	10 Series	20 Series	30 Series	40 Series	40-F06 Series	50 Series	60 Series
Bracket assembly	—	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS	AF52P-050AS	

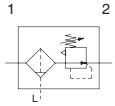
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Filter regulator

AW Series

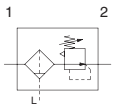
- Transparent bowl protection for a better visibility and security
- Convenient maintenance of the filter element
- Filter-regulator units are space-saving and require less piping installation labour
- Selection of pressure gauges available: Square embedded type, round type and digital pressure switch
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Manual drain

Part number	☐ Gauge	Flow [Nl/min]	Port size	Port-size pressure gauge	Set pressure [MPa]	Filtration degree [µm]	Symbol
AW10-M5☐-A ●	–, G	110	M5	G1/16	0.05 to 0.7	5	
AW20-F01☐-B ●	–, G, E	500	G1/8	G1/8	0.05 ~ 0.85		
AW20-F02☐-B ●	–, G, E		G1/4				
AW30-F02☐-B ●	–, G, E	1300	G1/4				
AW30-F03☐-B ●	–, G, E		G3/8				
AW40-F04☐-B ●	–, G, E	1800	G1/2				
AW40-F06☐-B ●	–, G, E	2400	G3/4				
AW60-F06☐-B ●	–, G, E	7600	G3/4				
AW60-F10☐-B ●	–, G, E		G1				

Flow information at 0.6 MPa and 0.1MPa pressure drop
☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Automatic drain

Part number	☐ Gauge	Flow [Nl/min]	Port size	Port-size pressure gauge	Set pressure [MPa]	Filtration degree [µm]	Drain type	Symbol
AW10-M5C☐-A ●	–, G	110	M5	G1/16	0.05 to 0.7	5	Normally closed	
AW20-F01C☐-B ●	–, G, E	500	G1/8	G1/8	0.05 ~ 0.85			
AW20-F02C☐-B ●	–, G, E		G1/4					
AW30-F02D☐-B ●	–, G, E	1300	G1/4				Normally open	
AW30-F03D☐-B ●	–, G, E		G3/8					
AW40-F04D☐-B ●	–, G, E	1800	G1/2					
AW40-F06D☐-B ●	–, G, E	2400	G3/4					
AW60-F06D☐-B ●	–, G, E	7600	G3/4					
AW60-F10D☐-B ●	–, G, E		G1					

Flow information at 0.6 MPa and 0.1MPa pressure drop
☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Accessories

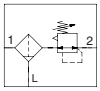
Series	10 Series	20 Series	30 Series	40 Series	60 Series
Filter element	AF10P-060S	AF20P-060S	AF30P-060S	AF40P-060S	AW60P-060S
Bracket assembly	AR12P-270AS	AR23P-270AS	AR33P-270AS	AR43P-270AS	AW62P-270AS

Filter regulator with backflow function

AW☐K Series

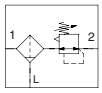
- With a mechanism to exhaust the air pressure in the outlet side reliably and quickly
- Transparent bowl protection for a better visibility and security
- Convenient maintenance of the filter element
- Filter-regulator units are space-saving and require less piping installation labour
- Selection of pressure gauges available: Square embedded type, round type and digital pressure switch
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Manual drain

Part number	☐ Gauge	Flow [Nl/min]	Port size	Port-size pressure gauge	Set pressure [MPa]	Filtration degree [µm]	Symbol
AW20K-F01☐-B	–, G, E	500	G1/8	G1/8	0.05 ~ 0.85	5	
AW20K-F02☐-B ●	–, G, E		G1/4				
AW30K-F02☐-B	–, G, E	1300	G1/4				
AW30K-F03☐-B ●	–, G, E		G3/8				
AW40K-F04☐-B ●	–, G, E	1800	G1/2				
AW40K-F06☐-B	–, G, E	2400	G3/4				
AW60K-F06☐-B	–, G, E	7600	G3/4				
AW60K-F10☐-B	–, G, E		G1				

Flow information at 0.6 MPa and 0.1MPa pressure drop
☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Automatic drain

Part number	☐ Gauge	Flow [Nl/min]	Port size	Port-size pressure gauge	Set pressure [MPa]	Filtration degree [µm]	Drain type	Symbol
AW20K-F01C☐-B	–, G, E	500	G1/8	G1/8	0.05 ~ 0.85	5	Normally closed	
AW20K-F02C☐-B ●	–, G, E		G1/4					
AW30K-F02D☐-B	–, G, E	1300	G1/4				Normally open	
AW30K-F03D☐-B ●	–, G, E		G3/8					
AW40K-F04D☐-B ●	–, G, E	1800	G1/2					
AW40K-F06D☐-B	–, G, E	2400	G3/4					
AW60K-F06D☐-B	–, G, E	7600	G3/4					
AW60K-F10D☐-B ●	–, G, E		G1					

Flow information at 0.6 MPa and 0.1MPa pressure drop
☐: Add suffix G for round gauge added or suffix E for square gauge added (square gauge not available for size 10)
Nothing (–), no gauge.

Accessories

Series	20 Series	30 Series	40 Series	60 Series
Filter element	AF20P-060S	AF30P-060S	AF40P-060S	AW60P-060S
Bracket assembly	AR23P-270AS	AR33P-270AS	AR43P-270AS	AW62P-270AS

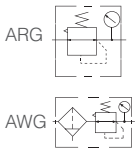
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Regulator / Filter regulator

Regulator with Built-in Pressure Gauge (ARG)
Filter Regulator with Built-in Pressure Gauge (AWG)
ARG/AWG Series

- Visibility of pressure gauge is improved in various installation places
- Space saving, Labour saving: Panel-cut for pressure gauge is not necessary
- Installation and removal of pressure gauge cover is possible with one-touch
- Pressure gauge anti-revolving mechanism
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Manual drain

Part number	Port size	Set pressure range [MPa]	Symbol
ARG20-F01G1H ●	G1/8	0.05 to 0.85	
ARG20-F02G1H ●	G1/4		
ARG30-F02G1H ●	G1/4		
ARG30-F03G1H ●	G3/8		
ARG40-F04G1H ●	G1/2		
AWG20-F01G1H	G1/8		
AWG20-F02G1H	G1/4		
AWG30-F02G1H ●	G1/4		
AWG30-F03G1H	G3/8		
AWG40-F04G1H	G1/2		

Accessories

Series	20 Series	30 Series	40 Series
Bracket assembly	ARG20P-270AS	ARG30P-270AS	ARG40P-270AS

Digital pressure switch

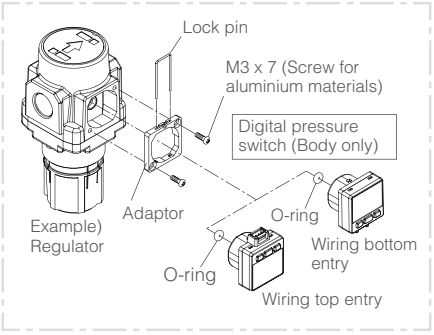
ISE35 Series

- Built-in pressure switch for AR / AW / ARM and AC series
- Switch replaceable
- 2 Colour display
- Enclosure: IP40.

Part number	□: Wiring entry ■: Accessories	Pressure range [MPa]	Switch output	Power supply voltage
ISE35-□-65-L■ ●	N-A, N-B, R-A, R-B	0 to 1	PNP open collector 1 output	12 to 24 VDC

□: N = Wiring bottom entry
R = Wiring top entry
■: A = With accessories (AR/AW Series)
B = With accessories (ARM10/11 Series)

Digital pressure switch details

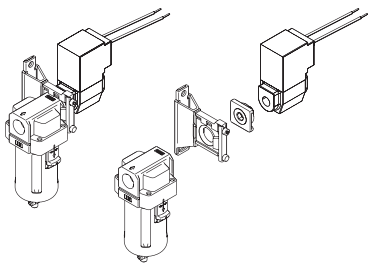


Modular adapter

E210/310/410 Series

- Can be connected to existing products such as 2 port valves as well as F.R.L. Unit
- Can be freely rotated, thus allowing a wide selection of mounting directions
- Can be connected to existing products of different size
- Can be connected / disconnected without rotation
- Fittings, tube, etc. are not required for connection.

Part number	Port size	Piping I.D.	Fluid	Max. operating pressure
E210-U01	1/8	Ø 6	Air	1.0 MPa
E210-U02	1/4	Ø 8		
E310-U02	1/4	Ø 8		
E310-U03	3/8	Ø 10		
E410-U02	1/4	Ø 8		
E410-U03	3/8	Ø 10		
E410-U04	1/2	Ø 12		



Ex.: Filter + 2 port valve

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Attachments

Spacer

Type
Y☐00-A

Model type Y☐00T	Applicable model
Y100-A ●	10
Y200-A ●	20
Y300-A ●	30
Y400-A ●	40
Y500-A ●	40-F06
Y600-A ●	50 • 60

Spacer with bracket

Type
Y☐00T-A

Model type Y☐00T	Applicable model
Y100T-A ●	10
Y200T-A ●	20
Y300T-A ●	30
Y400T-A ●	40
Y500T-A ●	40-F06
Y600T-A ●	50 • 60

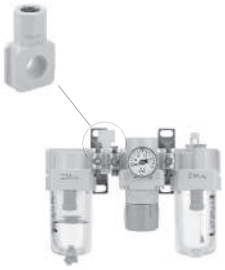
Cross Interface

• Pipings are possible in all 4 directions.

Model	Port size	Applicable model
Y14-M5-A ●	M5	10
Y24-F01-A ●	G1/8	20
Y24-F02-A ●	G1/4	20
Y34-F01-A ●	G1/8	30
Y34-F02-A ●	G1/4	30
Y44-F02-A ●	G1/4	40
Y44-F03-A ●	G3/8	40
Y54-F03-A ●	G3/8	40-F06
Y54-F04-A ●	G1/2	40-F06

T-interface

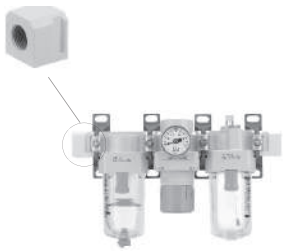
• Using a T-interface facilitates the redirection of air flow.



Model	Port size	Applicable model
Y110-M5-A ●	M5	10
Y210-F01-A ●	G1/8	20
Y210-F02-A ●	G1/4	20
Y310-F02-A ●	G1/4	30
Y410-F03-A ●	G3/8	40
Y510-F03-A ●	G3/8	40-F06
Y610-F04-A ●	G1/2	50 • 60

Piping adapter

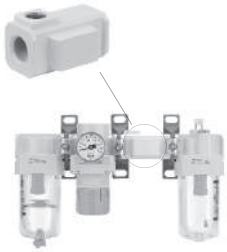
• A piping adapter allows installation / removal of the component without removing the piping and thus makes maintenance easier.



Model	Port size	Applicable model
E100-M5-A ●	M5	10
E200-F01-A ●	G1/8	20
E200-F02-A ●	G1/4	20
E300-F02-A ●	G1/4	30
E300-F03-A ●	G3/8	30
E400-F04-A ●	G1/2	40
E400-F06-A ●	G3/4	40
E500-F06-A ●	G3/4	40-F06
E600-F06-A ●	G3/4	50 • 60
E600-F10-A ●	G1	50 • 60

Check valve

• A check valve with intermediate air release port can be easily installed to prevent a back flow of lubricant when redirecting the air flow and releasing the air on the outlet side of the regulator.



Model	Port size	Applicable model
AKM2000-F01-A ●	G1/8	20
AKM2000-F02-A ●	G1/4	20
AKM3000-F02-A ●	G1/4	30
AKM4000-F03-A ●	G3/8	40

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Pressure switch / Reed switch type

IS10M/E Series

M:
- For assembly between two devices (not possible directly behind AV and AW)

E:
- For assembly at the end of a maintenance unit
- Lighter and smaller
- Function: N.O.
- Power consumption 2W/A
- Temperature range -5 to 60 °C.

Part number	Port size	Applicable model
IS10E-20F01-6L-A ●	G1/8	AC20☐ AR20☐, AW20☐ AWM20, AWD20
IS10E-20F02-6L-A ●	G1/4	
IS10E-20F03-6L-A	G3/8	
IS10E-30F02-6L-A ●	G1/4	AC25☐, AC30☐ AR25☐, AR30☐, AW30☐ AWM30, AWD30
IS10E-30F03-6L-A ●	G3/8	
IS10E-30F04-6L-A	G1/2	
IS10E-40F02-6L-A	G1/4	AC40☐ AR40☐, AW40☐ AWM40, AWD40
IS10E-40F03-6L-A	G3/8	
IS10E-40F04-6L-A ●	G1/2	
IS10E-40F06-6L-A	G3/4	

Set pressure range: 0.1 ~ 0.6 MPa. Lead wire length 3 m
Max. operating pressure 0.7 MPa.

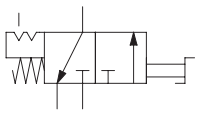
Part number	Applicable model
IS10M-20-6L-A ●	AC20☐
IS10M-30-6L-A ●	AC25☐, AC30☐
IS10M-40-6L-A ●	AC40☐
IS10M-50-6L-A	AC40☐-06
IS10M-60-6L-A	AC50☐, AC55☐, AC60☐

Set pressure range: 0.1 ~ 0.6 MPa. Lead wire length 3 m
Max. operating pressure 0.7 MPa.

Pressure relief 3 port valve

VHS Series

- To be used as stacking manifold or as single device
- Used to bleed the entire compressed air circuit
- Can be upgraded with a silencer
- Operating pressure range 0.1 to 1.0 MPa
- Temperature range -5 to 60 °C.



Part number	Port size IN, OUT	Port size exhaust	Effective flow [Cv] IN→OUT (OUT→EXH)	Adequate for series
VHS20-F01☐ ●	G1/8	G1/8	0.65 (0.69)	20
VHS20-F02☐ ●	G1/4	G1/8	0.88 (0.84)	20
VHS30-F03☐ ●	G3/8	G1/4	2.3 (1.9)	30
VHS40-F04☐ ●	G1/2	G3/8	3.8 (3.6)	40
VHS40-F06☐ ●	G3/4	G1/2	5.0 (4.8)	40-F06
VHS50-F06☐ ●	G3/4	G1/2	6.4 (5.9)	50 • 60
VHS50-F10☐ ●	G1	G1/2	8.6 (6.4)	50 • 60

☐ :Add suffix A at the end of part number for handle material flame resistant PB7
Add suffix B at the end of part number for handle material aluminium.

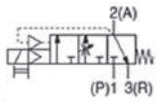
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Residual pressure relief 3 port solenoid valve

VP517/717 Series

- Modular connection type for connecting to F.R.L. units
- Power consumption: 0.35 W (DC type)
- Maximum flow rate: 3149 l/min [ANR]
- Internal pilot operating pressure range: 0.2 to 1 MPa
- Selectable flow direction: “Left to right” or “Right to left”
- IP65 enclosure.

Part number	Flow [l/min] 1) 1P→2A (2A→3R)	Operating pressure range [MPa]	Voltage	Electrical entry	Light / surge voltage suppressor	Manual override	Applicable air combination	Circuit symbol
VP517Y-5YO1 ●	2040 (1911)	0.2 to 0.7	24 VDC	Type Y (DIN (EN175301-803(C)) terminal without connector)	—	Non-locking push type	AC25, AC30	
VP517KY-5YO1 ●		0.2 to 1						
VP717Y-5YO1 ●	3149 (3056)	0.2 to 0.7					AC40	
VP717KY-5YO1 ●		0.2 to 1						
VP517Y-5YZ1	2040 (1911)	0.2 to 0.7		Type Y (DIN (EN175301-803(C)) terminal with connector)	With light / surge voltage suppressor		AC25, AC30	
VP517KY-5YZ1		0.2 to 1						
VP717Y-5YZ1	3149 (3056)	0.2 to 0.7					AC40	
VP717KY-5YZ1		0.2 to 1						
VP517Y-5DZ1	2040 (1911)	0.2 to 0.7		Type D (DIN terminal with connector)			AC25, AC30	
VP517KY-5DZ1		0.2 to 1						
VP717Y-5DZ1	3149 (3056)	0.2 to 0.7					AC40	
VP717KY-5DZ1		0.2 to 1						

1) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Accessories

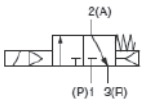
Part number	Model	Description
Y300-A ●	VP517	Spacer
Y400-A ●	VP717	
Y300T-A ●	VP517	Spacer with bracket
Y400T-A ●	VP717	
E300-□03-A ●	VP517	Piping Adapter (Port size 3/8)
E400-□04-A ●	VP717	Piping Adapter (Port size 1/2)
AN30-03 ●	VP517	Compact resin type silencer (Port size 3/8)
AN40-04 ●	VP717	Compact resin type silencer (Port size 1/2)
AN302-03 ●	VP517	High noise reduction type silencer (Port size 3/8)
AN402-04 ●	VP717	High noise reduction type silencer (Port size 1/2)

□: in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

Our highlighted product for you

Soft start-up valve
AV-A Series

- Maximum flow rate: 11908 l/min [ANR]
- Power consumption: 0.35 W (12 / 24 VDC)
- Rapid supply time reduced by up to 50 %
- Exhaust time reduced by up to 55 %
- Modular connection type for connecting to F.R.L. units
- Selectable flow direction: “Left to right” or “Right to left”
- IP65 enclosure (DIN terminal).

Part number	Port size 1(P), 2(A)	Flow [l/min] 1) 1P→2A (2A→3R)	Operating pressure range [MPa]	Voltage	Electrical entry	Light / surge voltage suppressor	Manual override	Applicable air combination	Circuit symbol
AV2000-F02-5YOB-A ●	G1/4	2433 (2504)	0.2 to 1.0	24 VDC	Type Y (DIN terminal without connector)	—	Push-turn locking slotted type	AC20	
AV3000-F03-5YOB-A ●	G3/8	3269 (2660)						AC25, AC30	
AV4000-F04-5YOB-A ●	G1/2	4945 (3100)						AC40	
AV5000-F06-5YOB-A ●	G3/4	11908 (8199)						AC50, AC55	
AV5000-F10-5YOB-A ●	G1	10778 (8199)						AC60	
AV2000-F02-5YZB-A ●	G1/4	2433 (2504)			Type Y (DIN terminal with connector)	With light / surge voltage suppressor		AC20	
AV3000-F03-5YZB-A ●	G3/8	3269 (2660)						AC25, AC30	
AV4000-F04-5YZB-A ●	G1/2	4945 (3100)						AC40	
AV5000-F06-5YZB-A ●	G3/4	11908 (8199)						AC50, AC55	
AV5000-F10-5YZB-A ●	G1	10778 (8199)						AC60	
AV2000-F02-5DZB-A ●	G1/4	2433 (2504)			Type D (DIN terminal with connector)			AC20	
AV3000-F03-5DZB-A ●	G3/8	3269 (2660)						AC25, AC30	
AV4000-F04-5DZB-A ●	G1/2	4945 (3100)						AC40	
AV5000-F06-5DZB-A ●	G3/4	11908 (8199)						AC50, AC55	
AV5000-F10-5DZB-A ●	G1	10778 (8199)						AC60	

1) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Accessories

Part number	Model	Description
Y200-A ●	AV2000-A	Spacer
Y300-A ●	AV3000-A	
Y400-A ●	AV4000-A	
Y600-A ●	AV5000-A	
Y200T-A ●	AV2000-A	Spacer with bracket
Y300T-A ●	AV3000-A	
Y400T-A ●	AV4000-A	
Y600T-A ●	AV5000-A	
AV22P-210AS	AV2000-A	Bracket assembly
AV32P-210AS	AV3000-A	
AV42P-210AS	AV4000-A	
AV52P-210AS	AV5000-A	
VHS30PW-190AS ●	AV2000-A	Silencer assembly
VHS40PW-190AS ●	AV3000-A	
VHS40PW-190-06AS	AV4000-A	
AV52P-250AS	AV5000-A	
G36-10-□01 ●	AV2000-A	Pressure gauge
	AV3000-A	
	AV4000-A	
	AV5000-A	

□: of the pressure gauge part number will indicate the connecting screw type. No indication is necessary for R; however, indicate N for NPT.
Please contact SMC regarding the pressure gauge supply for psi unit specifications.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Large flow air filter

AF800/900 Series

- Superior flow capacity
- Filtration degree 5 µm (2, 10, 20, 40, 70, 100 µm on request)
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C
- Automatic drain.

Part number	Port size	Flow [l/min]	Bowl capacity
AF811-F14 ●	G1 1/2	8000	180 cm^3
AF911-F20 ●	G2	15000	

∗ at 0.7 MPa set pressure

Pressure control equipment

Miniature regulator

ARJ Series

- Piston-type regulator, relieving type
- Panel mounted
- Type ARJ1020F, can be fitted to manifold (max. 10 pieces)
- Max. operating pressure 0.8 MPa
- Temperature range -5 to 60 °C.

Part number	Port size		Set pressure range [MPa]	Circuit symbol
	IN	OUT		
ARJ1020F-M5-04 ●	M5	Ø 4 mm tube	0.1 to 0.7	
ARJ1020F-M5-06 ●	M5	Ø 6 mm tube	0.1 to 0.7	
ARJ210-M5 ●	R1/8, M5	M5	0.2 to 0.7	

Valve manifold for ARJ1020F

4 stations	6 stations	10 stations
ARJM10-4	ARJM10-6	ARJM10-10

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Miniature regulator
ARJ310 Series

- With either threaded or one touch fitting at the outlet
- Over double the flow capacity compared with ARJ210
- Max. operating pressure 0.8 MPa
- Temperature range -5 to 60 °C
- ARJ310-01: 500 l/min
- ARJ310F-01-04: 190 l/min
- ARJ310F-01-06: 415 l/min.

Part number	Port size		Set pressure range [MPa]	Circuit symbol
	IN	OUT		
ARJ310-01 ●	R1/8, M5	Rc1/8	0.2 to 0.7	
ARJ310F-01-04 ●	R1/8, M5	Ø 4 mm tube	0.2 to 0.7	
ARJ310F-01-06 ●	R1/8, M5	Ø 6 mm tube	0.2 to 0.7	

Pilot operated pressure regulator
EAR Series

- Pilot operated pressure regulator
- Superior flow capacity and control precision
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C
- Port size up to 2".

Part number 0.05 ~ 0.85 MPa	Port size	Port size pressure gauge	Circuit symbol
EAR425-F04 ●	G1/2	G1/4	
EAR625-F06 ●	G3/4		
EAR625-F10 ●	G1		
EAR825-F14 ●	G1 1/2		
EAR925-F20 ●	G2		

∗ at 0.7 MPa

Part number 0.02 ~ 0.2 MPa	Port size	Port size pressure gauge	Circuit symbol
EAR435-F04 ●	G1/2	G1/4	
EAR635-F06 ●	G3/4		
EAR635-F10 ●	G1		
EAR835-F14 ●	G1 1/2		
EAR935-F20 ●	G2		

∗ at 0.2 MPa

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Regulator for 2.0 MPa

ARX20 Series

- Compact design. 35 x 35 x 80 mm
- Practical, 3 outlets available
- Simple operation, ergonomic design
- Ideal for regulating: e.g. discharge pressure for small compressors or the pressure in air blowing applications
- Max. operating pressure 2.0 MPa
- Temperature range -5 to 60 °C.

Part number	Set pressure range [MPa]	Max. operating pressure [MPa]	Port size
ARX20-F01 ●	0.05 to 0.85	2.0	G1/8
ARX21-F01 ●	0.05 to 0.30		
ARX20-F02 ●	0.05 to 0.85		G1/4
ARX21-F02 ●	0.05 to 0.30		

Assembly materials

Mounting bracket	Panel mounting nut
1348112	1348110A

Compact manifold regulator

ARM5 Series

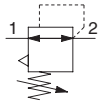
- 2 mounting types are available:
  - Direct mount
  - DIN rail mount
- Backflow function is equipped as standard
- Individual or centralised supply type
- Integrated pressure gauge available
- Width 14 mm
- Max. operating pressure 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Type	Port size		Set pressure range [MPa]
		IN [mm]	OUT [mm]	
ARM5SA-06-A ●	Single device with pressure gauge	4	4	0.05 ~ 0.7
ARM5SA-08-A ●		6	6	
ARM5SA-06 ●	Single device without pressure gauge	4	4	
ARM5SA-08 ●		6	6	

Modular regulator

ARM10/11 Series

- Available as single device or stacked on DIN rails is (common or individual supply)
- 3 different control positions possible
- Integrated, replaceable one-touch fittings
- Broad range of accessories available (e.g.: 3 port shut-off valve, pressure switch,...)
- Flow from 150 to 300 l/min
- Max. operating pressure 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size		Set pressure range [MPa]	Accessories	Circuit symbol
	IN	OUT			
ARM10-06G ●	Ø 4 mm straight	Ø 4 mm straight	0.05 to 0.07	G: with pressure gauge BG: with bracket, pressure gauge and panel nut GP: with pressure gauge and panel nut	
ARM10-06BG ●					
ARM10-06GP ●					
ARM10-18G	Ø 4 mm elbow	Ø 4 mm elbow			
ARM10-18BG					
ARM10-18G●					
ARM10-08G ●	Ø 6 mm straight	Ø 6 mm straight			
ARM10-08BG ●					
ARM10-08GP ●					
ARM10-20G ●	Ø 6 mm elbow	Ø 6 mm elbow			
ARM10-20BG ●					
ARM10-20GP					

Low pressure type (0.05 to 0.35 MPa) available on request
Manifold variations available on request.

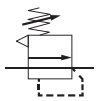
Accessories

Part number	Description
GC3-4A-X2101 ●	Pressure gauge, 0.0 to 0.4 MPa indication range

Precision regulator

IR1000/2000/3000-A Series

- Setting sensitivity within 0.2 % of full span; repeatability within ±0.5 % of full span
- Air consumption: 1 l/min (ANR) or less
- Maximum flow range: 5000 l/min (ANR)
- Port sizes: from 1/8 to 1/2
- Standard options: bracket; pressure gauge, hexagon panel nut, digital pressure switch.

Part number	Set pressure range	Port size	Setting sensitivity	Repeatability	Circuit symbol
IR1000-F01-A ●	0.005 ~ 0.2 MPa	G1/8	Within 0.2 % of full span	Within ±0.5 % of full span	
IR1010-F01-A ●	0.01 ~ 0.4 MPa				
IR1020-F01-A ●	0.01 ~ 0.8MPa				
IR2000-F02-A ●	0.005 ~ 0.2 MPa	G1/4			
IR2010-F02-A ●	0.01 ~ 0.4 MPa				
IR2020-F02-A ●	0.01 ~ 0.8 MPa				
IR3000-F03-A ●	0.01 ~ 0.2 MPa	G3/8			
IR3010-F03-A	0.01 ~ 0.4 MPa				
IR3020-F03-A	0.01 ~ 0.8 MPa				
IR3000-F04-A ●	0.01 ~ 0.2 MPa	G1/2			
IR3010-F04-A ●	0.01 ~ 0.4 MPa				
IR3020-F04-A	0.01 ~ 0.8 MPa				

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Regulator

IR1200/2200/3200-A Series

- Repeatability: within ±1 % of full span
- Air consumption: bleed air “0”
- Maximum flow range: 5000 l/min (ANR)
- Port sizes: from 1/8 to 1/2
- Standard options: bracket; pressure gauge, hexagon panel nut, digital pressure switch.

Part number	Set pressure range	Port size	Repeatability	Circuit symbol
IR1200-F01-A	0.02 ~ 0.2 MPa	G1/8	within ±1 % of full span	
IR1210-F01-A	0.02 ~ 0.4 MPa			
IR1220-F01-A	0.02 ~ 0.8 MPa			
IR2200-F02-A	0.02 ~ 0.2 MPa	G1/4		
IR2210-F02-A	0.02 ~ 0.4 MPa			
IR2220-F02-A	0.02 ~ 0.8 MPa			
IR3200-F03-A	0.02 ~ 0.2 MPa	G3/8		
IR3210-F03-A	0.02 ~ 0.4 MPa			
IR3220-F03-A	0.02 ~ 0.8 MPa			
IR3200-F04-A	0.02 ~ 0.2 MPa	G1/2		
IR3210-F04-A	0.02 ~ 0.4 MPa			
IR3220-F04-A	0.02 ~ 0.8 MPa			

Direct operated regulator (Relieving type)

High pressure operation: up to 6.0 MPa

VCHR30/40 Series

- Suitable for Air
- Body material: Aluminium
- Seal material: Polyurethane elastomer
- Temperature range -5 to 60 °C.

Part number	Regulating pressure range [MPa]	Max. operating pressure [MPa]	Port size
VCHR30-06G ●	0.5 to 5.0	6.0	G3/4
VCHR30-10G ●			G1
VCHR40-10G ●			G1
VCHR40-14G ●			G1 1/2

Compact electro-pneumatic regulator

ITV0000 Series

- Stepless control of air pressure proportional to an electrical signal
- Compact and lightweight
- Can be used alone or stacked with DIN rails
- Integrated one-touch fittings
- With error indicator LED
- High speed response: 0.1 s (without load)
- High stability
- Max. operating pressure 1.0 MPa (2.0 MPa for model with set pressure range 0.001 ~ 0.1 MPa)
- Enclosure IP65.

Type	Part number	Input signal	Output signal	Set pressure range	Port size	Flow [Nl/min]
As single device	**ITV0010-0N** ●	4 ~ 20 mA	Analogue 1 - 5 VDC	0.001 ~ 0.1 MPa	Push In for Ø 4 mm tube	3.5
	ITV0010-3N ●	0 ~ 10 VDC				
	ITV0030-0N ●	4 ~ 20 mA		0.001 ~ 0.5 MPa		6.0
	ITV0030-3N ●	0 ~ 10 VDC				
	ITV0050-0N ●	4 ~ 20 mA		0.001 ~ 0.9 MPa		6.0
	ITV0050-3N	0 ~ 10 VDC				
	ITV0090-0N	4 ~ 20 mA		-1.0 ~ 100 KPa		2.0
	ITV0090-3N ●	0 ~ 10 VDC				
For block mounting	**ITV0010-0MN** ●	4 ~ 20 mA		0.001 ~ 0.1 MPa		3.5
	ITV0010-3MN ●	0 ~ 10 VDC				
	ITV0030-0MN ●	4 ~ 20 mA		0.001 ~ 0.5 MPa		6.0
	ITV0030-3MN ●	0 ~ 10 VDC				
	ITV0050-0MN ●	4 ~ 20 mA		0.001 ~ 0.9 MPa		6.0
	ITV0050-3MN	0 ~ 10 VDC				
	ITV0090-0MN	4 ~ 20 mA		-1.0 ~ 100 KPa		2.0
	ITV0090-3MN	0 ~ 10 VDC				

Accessories

Lead wire straight 3 m	M8-4DSX3MG4
Lead wire elbow 2 m	P398000-501-2
Flat bracket	P39800022
L bracket	P39800023
Manifold for 2 ~ 10 stations	IITV00 -■ ■ Number of stations

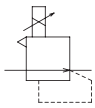
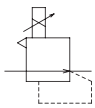
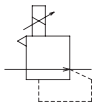
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Electro-pneumatic regulator

ITV1000/2000/3000 Series

- Stepless control of air pressure proportional to an electrical signal
- Compact and lightweight
- 2 monitor outputs:
  - Analogue 1 ~ 5 VDC / 4 ~ 20 mA
  - PNP / NPN switch output
- Cable connections in 2 directions
- Non-grease model: ITV1000
- Max. operating pressure 1.0 MPa
  (2.0 MPa for model with set pressure range 0.001 ~ 0.1 MPa)
- Enclosure IP65.

Part number ∗	Input signal / Output signal	Set pressure range [MPa]	Port size	Circuit symbol
ITV1010-01F2N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.1	G1/4	
ITV1010-03F2N ●	4 ~ 20 mA / PNP			
ITV1010-31F2N ●	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV1010-33F2N ●	0 ~ 10 VDC / PNP			
ITV1030-01F2N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.5		
ITV1030-03F2N ●	4 ~ 20 mA / PNP			
ITV1030-31F2N	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV1030-33F2N ●	0 ~ 10 VDC / PNP			
ITV1050-01F2N	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.9		
ITV1050-03F2N ●	4 ~ 20 mA / PNP			
ITV1050-31F2N	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV1050-33F2N ●	0 ~ 10 VDC / PNP			
ITV2010-01F3N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.1	G3/8	
ITV2010-03F3N	4 ~ 20 mA / PNP			
ITV2010-31F3N ●	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV2010-33F3N	0 ~ 10 VDC / PNP			
ITV2030-01F3N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.5		
ITV2030-03F3N ●	4 ~ 20 mA / PNP			
ITV2030-31F3N	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV2030-33F3N ●	0 ~ 10 VDC / PNP			
ITV2050-01F3N	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.9		
ITV2050-03F3N	4 ~ 20 mA / PNP			
ITV2050-31F3N	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV2050-33F3N ●	0 ~ 10 VDC / PNP			
ITV3010-01F4N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.1	G1/2	
ITV3010-03F4N ●	4 ~ 20 mA / PNP			
ITV3010-31F4N ●	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV3010-33F4N ●	0 ~ 10 VDC / PNP			
ITV3030-01F4N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.5		
ITV3030-03F4N ●	4 ~ 20 mA / PNP			
ITV3030-31F4N ●	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV3030-33F4N ●	0 ~ 10 VDC / PNP			
ITV3050-01F4N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.005 ~ 0.9		
ITV3050-03F4N	4 ~ 20 mA / PNP			
ITV3050-31F4N ●	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITV3050-33F4N ●	0 ~ 10 VDC / PNP			

∗ other styles available

Accessories

Part number	Description
P398020-500-3	Connection cable with plug, straight
P398020-501-3	Connection cable with plug, elbow

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electro-pneumatic regulator Fieldbus compatibility

ITV1000/2000/3000 Series

- Fieldbus compatibility added to series ITV1000/2000/3000 specifications
- Reduced wiring
- Now with RS-232C serial communications capability
- Max. operating pressure 1.0 MPa (2.0 MPa for model with set pressure range 0.001 ~ 0.1 MPa)
- Enclosure IP65.

Part number	Cable connector	
1 ITV20□0-DE■ 3	Power	P398020-500-3 (Straight)
		P398020-501-3 (Right angle)
	Communication	PCA-1557633 (Socket type)
		PCA-1557646 (Plug type)
1 ITV20□0-PR■ 3	Power	P398020-500-3 (Straight)
		P398020-501-3 (Right angle)
	Communication	PCA-1557688 (Socket type)
		PCA-1557691 (Plug type)
1 ITV20□0-RC■ 3	Power	P398020-500-3 (Straight)
		P398020-501-3 (Right angle)
	Communication	P398020-502-3 (Straight)
		P398020-503-3 (Right angle)
1 ITV20□0-CC■ 3	Power	P398020-500-3 (Straight)
		P398020-501-3 (Right angle)
	Communication	PCA-1567720 (Socket type)
		PCA-1567717 (Plug type)

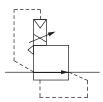
Part number	Description
ITV10□0-■□□	Control signal ■: CC: CC-Link DE: DeviceNet™ PR: PROFIBUS DP RC: RS-232C Communication
ITV20□0-■□□	
ITV30□0-■□□	

Communication cable (other then RS-232C) should be obtained separately. Consult SMC.

High pressure electro-pneumatic regulator

ITVX Series

- 5.0 MPa maximum supply pressure
- Maximum flow rate: 3000 l/min [ANR]
- Power consumption: 3W or less
- Fluid: Air, N_2, O_2, Ar
- Wetted parts: Fluorine grease

Part number	Input signal / Output signal	Set pressure range [MPa]	Port size	Circuit symbol
ITVX2030-01F3N ●	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.01 ~ 3.0	G3/8	
ITVX2030-03F3N ●	4 ~ 20 mA / PNP			
ITVX2030-04F3N ●	4 ~ 20 mA / 4 ~ 20 mA			
ITVX2030-31F3N ●	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITVX2030-33F3N ●	0 ~ 10 VDC / PNP			

Accessories

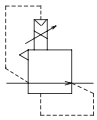
Part number	Description
P398020-600	Flat bracket assembly (including mounting screws)
P398020-601	L-bracket assembly (including mounting screws)
P398020-500-3	Power cable connector, straight type 3 m
P398020-501-3	Power cable connector, right angle type 3 m

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

High pressure electro-pneumatic regulator, 3.0 MPa

ITVH Series

- Maximum supply pressure: 3.0 MPa
- Set pressure range: 0.2 to 2.0 MPa
- Maximum flow rate: 3000 l/min [ANR]
- 2 monitor outputs:
  - Analogue 1 ~ 5 VDC / 4 ~ 20 mA
  - PNP / NPN switch output
- Power consumption: 3 W or less
- Linearity: ±1 % F.S. or less
- Hysteresis: 1 % F.S. or less
- Repeatability: ±1 % F.S. or less
- Parts in contact with fluid: Fluorine grease.

Part number	Input signal / Output signal	Set pressure range [MPa]	Port size	Circuit symbol
ITVH2020-01F3N	4 ~ 20 mA / analogue 1 ~ 5 VDC	0.2 to 2.0	G3/8	
ITVH2020-03F3N	4 ~ 20 mA / PNP			
ITVH2020-04F3N	4 ~ 20 mA / 4 ~ 20 mA			
ITVH2020-31F3N	0 ~ 10 VDC / analogue 1 ~ 5 VDC			
ITVH2020-33F3N	0 ~ 10 VDC / PNP			

Accessories

Part number	Description
P398020-600	Flat bracket assembly (including mounting screws)
P398020-601 ●	L-bracket assembly (including mounting screws)
P398020-500-3 ●	Power cable connector, straight type 3 m
P398020-501-3 ●	Power cable connector, right angle type 3 m

Booster regulator

VBA Series

- Increases the main circuit pressure by up 4 times
- No cooling required
- Easy installation (simple, insert the unit in the airline)
- No other energy source required (no power supply)
- Operating temperature: 2 ~ 50 °C
- Input pressure: 0.1 ~ 1 MPa
- Mounting position: horizontal.

Part number	Output range [MPa]	Flow [l/min]	Port size	Pressure ratio	Circuit symbol
VBA11A-F02 ●	0.2 to 2.0	70	G1/4	max. 4 : 1	
VBA10A-F02 ●		230		max. 2 : 1	
VBA20A-F03 ●	0.2 to 1.0	1000	G3/8		
VBA22A-F03					
VBA40A-F04 ●	0.2 to 1.0	1900	G1/2		
VBA42A-F04					
VBA43A-F04 ●	0.2 to 1.6	1600			

Accessories

Model	VBA10A-F02	VBA11A-F02	VBA20A-F03	VBA22A-F03	VBA40A-F04 VBA42A-F04	VBA43A-F04
Pressure gauge	G27-20-01		G36-10-01	KT-VBA22A-7	G36-10-01	G27-20-01
Silencer	AN20-02		AN30-03		AN40-04	
High noise reduction silencer	ANA1-02		ANA1-03		ANA1-04	
Air tank	VBAT05AF-SV-Q VBAT10AF-SV-Q		VBAT10AF-SV-Q VBAT20AF-RV-Q VBAT38AF-RV-Q		VBAT20AF-RV-Q VBAT38AF-RV-Q	—

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Pressure gauges

Pressure gauge

G☐ Series

• With limit indicator.

Part number	Pressure range [MPa]	Connection thread	Outside diameter [mm]
G15-10-01 ●	0 to 1.0	R1/8, M5 (Female thread)	Ø 15
G27-10-R1 ●	0 to 1.0	R1/16	Ø 26
G36-2-01 ●	0 to 0.2	R1/8	Ø 37.5
G36-4-01 ●	0 to 0.4		
G36-7-01 ●	0 to 0.7		
G36-10-01 ●	0 to 1.0		
G46-2-01 ●	0 to 0.2	R1/8	Ø 42.5
G46-10-01 ●	0 to 1.0		
G46-15-01 ●	0 to 1.5		
G46-2-02 ●	0 to 0.2	R1/4	
G46-10-02 ●	0 to 1.0		
G46-15-02 ●	0 to 1.5		
G46-2-01-C ●	0 to 0.2	R1/8	Ø 42.5 (For panel mount)
G46-10-01-C ●	0 to 1.0		
G46-2-02-C ●	0 to 0.2	R1/4	
G46-10-02-C ●	0 to 1.0		

Pressure gauge with limit indicator

Colour zone type

G36-L/G46-L☐ Series

• Red and green zones offer improved visibility of pressure control range
• The indicator adjusts to highlight preferred range.

Part number	☐ Clear cover material	Pressure range [MPa]	Connection thread	Outside diameter [mm]
G36-2-01-L☐ ●	–, N	0 to 0.2	R1/8	Ø 37.5
G36-4-01-L☐ ●	–, N	0 to 0.4		
G36-10-01-L☐ ●	–, N	0 to 1.0		
G46-2-01-L☐ ●	–, N	0 to 0.2	R1/8	Ø 42.5
G46-4-01-L☐ ●	–, N	0 to 0.4		
G46-10-01-L☐ ●	–, N	0 to 1.0		
G46-2-02-L☐ ●	–, N	0 to 0.2	R1/4	
G46-4-02-L☐ ●	–, N	0 to 0.4		
G46-10-02-L☐ ●	–, N	0 to 1.0		

☐: Nothing
(–): Polycarbonate
N: Nylon

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Lubrication equipment

Large flow lubricator
AL800/900 Series

- Individual lubrication
- Large flow type
- Max. operating pressure 1.0 MPa
- Temperature range -5 to 60 °C.

Part number	Port size	Min. operating flow [Nl/min]	Bowl capacity	Recommended lubricant
AL800-F14 ●	G1 1/2	650	380 cm³	ISO VG32
EAL900-F20 ●	G2	1800		

∗ Conditions: inlet pressure 7 bar.

Mist spray unit
LMU Series

- ON/OFF control unit with oil tank
- Manual or automatic operation
- Tank filling without disconnection
- Oil level sensor.

Part number	Air blow circuit	Rated voltage	Float switch	Inlet air pressure [MPa]	Oil tank set pressure range [MPa]
LMU100-53-Q	Available	24 VDC	Yes	0.1 to 1.0	0.05 to 0.2
LMU100-50-Q			No		
LMU200-53-Q ●	Not available		Yes		
LMU200-50-Q			No		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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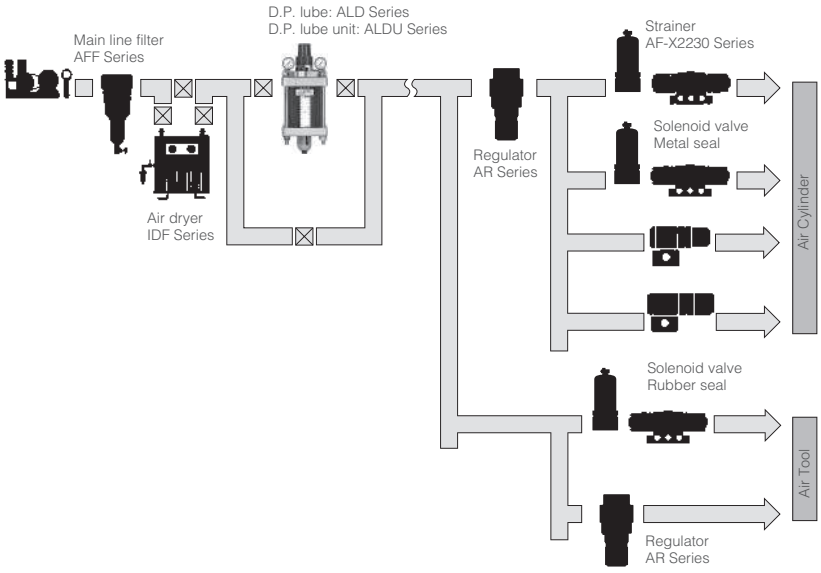
D.P. Lube unit

ALDU600/900 Series

- Creates a quality oil mist using adjustable differential pressure
- Oil consumption only approx. 10 % compared to ordinary lubes
- Minimal environmental damage
- Operating pressure range 0.15 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Lube flow [Nl/min]	Amount in bowl
EALDU600-10 ●	Rc1	90 to 6000	2 L
EALDU900-20 ●	Rc2	250 to 15000	5 L



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Mixing valve
LMV Series

- Mixing valve
- Ambient and fluid temperature: 5 to 60 °C
- Flexible or rigid nozzle
- Nozzle tubing length: 200, 250, 300, 350 mm.

Part number	Nozzle tubing length [mm]	Air blow circuit	Nozzle tubing construction	Inlet air pressure [MPa]	Ambient and fluid temperature [°C]
LMV110-20 ●	200	Available	Flexible tubing	0.3	5 to 60
LMV110-35	350				
LMV210-20 ●	200	Not available			
LMV210-35 ●	350				
LMV120-20	200	Available	Copper tubing		
LMV120-35	350				
LMV220-20 ●	200	Not available			
LMV220-35	350				

Impulse lubricator
ALI Series

- Directly supplies a constant amount of oil just before the lubrication point
- Ambient and fluid temperature: 5 to 60 °C
- Oil viscosity: 2 to 460 cst (40 °C)
- Max. Number of stations: 10.

Impulse lubricator

Part number	Port size	Operating pressure range [MPa]	Oil feeding volume [cm³]	Pressure range for oil [MPa]	Oil supply pressure
ALIP1000-01 ●	1/8	0.25 to 0.7	0 to 0.04	0 to 0.4	No pressurized / Pressurized
ALIP1100-01 ●				0.15 to 0.4	Pressurized

Impulse lubricator manifold

Part number	Port size	Operating pressure range [MPa]	Oil feeding volume [cm³]	Pressure range for oil [MPa]	Oil supply pressure	Number of stations
ALIM1000-□	1/8	0.25 to 0.7	0 to 0.04	0 to 0.4	No pressurized / Pressurized	2, 3, 4, 5, 6, 7, 8, 9, 10
ALIM1100-□				0.15 to 0.4	Pressurized	

□: Number of stations

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air dryers

Our highlighted product for you

Refrigeration air dryer

IDFA Series

- State of the art design ensures a constant 3 °C pressure dew point
- High efficiency heat exchanger
- Environmentally ozone friendly R134a and R407C refrigerant
- Conforms to stringent ISO 8573-1 standards (-, 4, -)
- Simple control system, incorporating an easy to read evaporator gauge
- Stainless steel heat exchanger providing long life and low pressure drops
- Compact design for ease of installation
- Ø 10 mm One-touch condensate drain port.

Part number	3 °C	7 °C	10 °C	3 °C	7 °C	10 °C
	l/min			m^3/h		
IDFA3E-23 ●	200	250	280	12	15	17
IDFA4E-23 ●	400	510	560	24	31	34
IDFA6E-23-K ●	600	765	840	36	46	50
IDFA8E-23-K ●	1080	1375	1515	65	83	91
IDFA11E-23-K ●	1330	1690	1865	80	101	112
IDFA15EI-23-K ●	2000	2540	2800	120	152	168
IDFA22E-23-K ●	3030	3850	4235	182	231	254
IDFA37E-23-K ●	4550	5780	6360	273	347	382
IDFA55E-23-L ●	6500	7200	8500	390	432	510
IDFA75E-23-L ●	11000	12000	13700	660	720	822
IDFA100F-40 ●	14335	17335	20500	860	1050	1230
IDFA125F-40 ●	18335	22000	25835	1100	1320	1550
IDFA150F-40 ●	22335	28165	32000	1340	1640	1920

1) The standard condition (ANR) is under the conditions of 20 °C at atmospheric pressure and relative humidity of 65 %.
2) The performance data for pressure dew point is in accordance with the following operating conditions from ISO 7183: Inlet air pressure: 7 bar; Inlet air temperature: 35 °C (saturated); Cooling air temperature: 25 °C.

Standard specifications		IDFA3E-23	IDFA4E-23	IDFA6E-23-K	IDFA8E-23-K	IDF11E-23-K	IDFA15EI-23-K	IDFA22E-23-K	IDFA37E-23-K	IDFA55E-23-L	IDFA75E-23-L	IDFA100F-40	IDFA125F-40	IDFA150F-40
Rated conditions	**Inlet air pressure [bar]**	7 bar												
	Inlet air temperature]	35 °C												
	Ambient temperature	25 °C												
Operating ranges	**Inlet air pressure [bar]**	1,5 ~ 10 bar												
	Inlet air temperature	5 ~ 50 °C										5 ~ 60 °C		
	Ambient temperature	2 ~ 40 °C (Relative Humidity of 85 % or less)										2 ~ 45 °C		
Air inlet / outlet port connection		Rc3/8	Rc1/2		Rc3/4		Rc1	R1	R11/2	R2		R2	R2 1/2	DIN flange 80
Drain connection [mm]		10										1/2		
Elec-trical Spec.	**Power source**	AC230 V (50 Hz)										Three-phase 400 VAC		
	Rated current [A]	1.2	1.2	1.2	1.4	2.7	3.0	4.3	4.3	5.4	7.9	4.5	5.3	5.9
Refrigerant		HFC134a						HFC407c						
Dimen-sions	**Height [mm]**	470	495	495	565	565	578	623	623	800	900	1276	1276	1332
	Width [mm]	266	270	270	270	270	300	290	290	470	470	670	700	950
	Depth [mm]	390	435	435	465	465	603	775	855	855	855	1120	1120	1290
Weight [kg]		18	22	23	27	28	46	54	62	100	116	245	270	350

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Membrane air dryer

IDG Series

- Ideal dryer with high functional reliability
- Application as single device or for integration in existing air preparation devices-combinations
- No external energy supply required
- Non-fluorocarbon
- The air is exchanged in the membrane and the air moisture is released via the purge air directly to the atmosphere
- Operating pressure range 0.3 to 0.85 (1.0 MPa in case of IDG30 ~ 100)
- Temperature range -5 to 55 °C (50 °C in case of IDG30 ~ 100).

Part number	Port size	Purge [l/min]	Outlet flow [l/min]	Applicable series	Atmospheric dew point [°C]
IDG1-F02 ●	G1/4	2.5	10	—	-20
IDG3-F01	G1/8	6	25	AC20	
IDG3H-F01	G1/8	3	25		-15
IDG5-F02 ●	G1/4	12	50		-20
IDG5H-F02 ●	G1/4	6	50		-15
IDG10-F02 ●	G1/4	25	100	AC30	-20
IDG10H-F02 ●	G1/4	11	100		-15
IDG20-F02 ●	G1/4	50	200		-20
IDG20H-F02	G1/4	22	200		-15
IDG30A-F03 ●	G3/8	60	300	AC40	-20
IDG30HA-F03	G3/8	29	300		-15
IDG30LA-F03 ●	G3/8	18	75		-40
IDG50A-F03 ●	G3/8	86	500		-20
IDG50HA-F03	G3/8	50	500		-15
IDG50LA-F03 ●	G3/8	25	110		-40
IDG60-F04 ●	G1/2	125	600	AMH350C	-20
IDG60H-F04	G1/2	65	600		-15
IDG60LA-F04	G1/2	54	170	AC40	-40
IDG60SA-F04	G1/2	25	50		-60
IDG75-F04	G1/2	150	750	AMH450C	-20
IDG75H-F04	G1/2	80	750		-15
IDG75LA-F04	G1/2	68	240	AC40	-40
IDG75SA-F04	G1/2	40	100		-60
IDG100-F04 ●	G1/2	190	1000	AMH450C	-20
IDG100H-F04	G1/2	110	1000		-15
IDG100LA-F04	G1/2	100	300	AC40	-40
IDG100SA-F04	G1/2	80	150		-60

1) Rated conditions are 0.7 MPa of inlet air pressure and 25 °C of inlet air temperature.

Bracket assembly

Sizes	3	5	10	20	30	50	60	75	100
Mounting	BM59	BM59	BM61	BM63	BM64	BM64	BM65	BM65	BM65

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Thermo-dryer

With air temperature adjustment function

IDH Series

- Supply compressed air with stable conditions of temperature, dew point, pressure and cleanliness
- All in one integrated unit:
  - Outlet air temperature adjustment range: 15 to 30 °C
  - Outlet air temperature stability: ±0.1 °C
  - Outlet air set pressure range: 0.15 to 0.85 MPa
  - Outlet air pressure dew point: 10 °C
  - Nominal filtration rating: 0.01 µm
- Remote operation, stop and error signal outputs
- Control temperature failure alarm
- Operating pressure range 0.3 to 1.0 MPa
- Ambient temperature range 15 to 35 °C.

Part number	Temperature control method	Air flow capacity [l/min (ANR)]	Port size	Outlet air temperature adjustment range [°C]	Outlet air temperature stability [°C]	Filter nominal filtration rating
IDHA4-23	Heater operation PID control	100 to 500	Rc3/8	15 to 30 [1)]	±0.1 [2)]	0.01 µm (99.9 % filtration efficiency)
IDHA6-23		200 to 800	Rc1/2			

1) Possible to extend depending on the conditions
2) Performance when the operation of each part is stable without fluctuations in operating conditions and power supply.

Compressed air preparation filters

Main line filter

AFF Series

- Series AFF is mounted to main piping to remove impurities like oil, water and particles in compressed air
- Fluid: compressed air
- Filtration rating: 3 µm (filtration efficiency: 99 %)
- Automatic drain standard (different versions possible)
- Modular connection
- Operating pressure range 0.1 to1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Rated flow [m^3/h]	Spare filter element
AFF2C-F02D	G1/4	300	18	AFF-EL2B
AFF4C-F03D ●	G3/8	750	45	AFF-EL4B
AFF8C-F04D ●	G1/2	1500	90	AFF-EL8B
AFF11C-F06D ●	G3/4	2200	132	AFF-E11B

Main line filter
AFF□D Series

- AFF series main line filter removes both water droplets and solid particles
- Fluid: compressed air
- Filtration rating: 1 µm (filtration efficiency: 99 %)
- Automatic drain standard
- Temperature range -5 to 60 °C (No freezing)
- Water droplet removal ratio: 99 %
- An element service indicator is fitted as standard.

Part number	Port size	Rated flow [m³/min]	Spare filter element	Max. operating pressure [MPa]
AFF70D-F10	G1	7	AFF-EL70D	1
AFF80D-F14	G1 1/2	11	AFF-EL80D	
AFF90D-F20	G2	14.5	AFF-EL90D	
AFF70D-F10-H	G1	7	AFF-EL70D	1,6
AFF80D-F14-H	G1 1/2	11	AFF-EL80D	
AFF90D-F20-H	G2	14.5	AFF-EL90D	

Mist separator
AM Series

- Fluid: compressed air
- Filtration rating: 0.3 µm (filtration efficiency: 99.9 %)
- Automatic drain standard (different versions possible)
- Modular connection
- Operating pressure range 0.1 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Rated flow [m³/h]	Spare filter element
AM150C-F02D ●	G1/4	300	18	AM-EL150
AM250C-F03D	G3/8	750	45	AM-EL250
AM350C-F04D ●	G1/2	1500	90	AM-EL350
AM450C-F06D ●	G3/4	2200	132	AM-EL450

Mist separator
AM□D Series

- Fluid: compressed air
- Filtration rating: 0.1 µm (filtration efficiency: 99 %)
- Automatic drain standard
- Temperature range -5 to 60 °C (No freezing)
- Oil mist density at outlet: 1 mg/m³ or less
- An element service indicator is fitted as standard.

Part number	Port size	Rated flow [m³/min]	Spare filter element	Max. operating pressure [MPa]
AM70D-F10	G1	7	AM-EL70D	1
AM80D-F14	G1 1/2	11	AM-EL80D	
AM90D-F20	G2	14.5	AM-EL90D	
AM70D-F10-H	G1	7	AM-EL70D	1,6
AM80D-F14-H	G1 1/2	11	AM-EL80D	
AM90D-F20-H	G2	14.5	AM-EL90D	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Micro-mist separator
AMD Series

- Fluid: compressed air
- Filtration rating: 0.01 µm (filtration efficiency: 99.9 %)
- Automatic drain standard (different versions possible)
- Modular connection
- Operating pressure range 0.1 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Rated flow [m³/h]	Spare filter element
AMD150C-F02D	G1/4	200	12	AMD-EL150
AMD250C-F03D ●	G3/8	500	30	AMD-EL250
AMD350C-F04D ●	G1/2	1000	60	AMD-EL350
AMD450C-F06D ●	G3/4	2000	120	AMD-EL450

Micro-mist separator
AMD□D Series

- Fluid: compressed air
- Filtration rating: 0.01 µm (filtration efficiency: 99.9 %)
- Automatic drain standard
- Temperature range -5 to 60 °C (No freezing)
- Oil mist density at outlet: 0.1 mg/m³ or less
- An element service indicator is fitted as standard.

Part number	Port size	Rated flow [m³/min]	Spare filter element	Max. operating pressure [MPa]
AMD70D-F10	G1	7	AMD-EL70D	1
AMD80D-F14	G1 1/2	11	AMD-EL80D	
AMD90D-F20	G2	14.5	AMD-EL90D	
AMD70D-F10-H	G1	7	AMD-EL70D	1,6
AMD80D-F14-H	G1 1/2	11	AMD-EL80D	
AMD90D-F20-H	G2	14.5	AMD-EL90D	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Micro-mist separator with prefilter
AMH Series

- The conventional pneumatic pressure line AM + AMD series have been integrated to achieve a reduction in installation space, savings in piping installation labour, and reduced costs
- Fluid: Compressed air
- Filtration rating: 0.01 µm (Filtration efficiency: 99.9 %)
- With element service indicator
- Automatic drain standard (different versions possible)
- Modular connection (AMH150C to 550C)
- Operating pressure range 0.1 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Rated flow [m³/h]	Spare filter element
AMH150C-F02D-T	G1/4	200	12	AMH-EL150
AMH250C-F03D-T ●	G3/8	500	30	AMH-EL250
AMH350C-F04D-T ●	G1/2	1000	60	AMH-EL350
AMH450C-F06D-T ●	G3/4	2000	120	AMH-EL450
AMH550C-F10D-T	G1	3700	222	AMH-EL550
AMH650-F14D-T	G1 1/2	6000	360	AMH-EL650
AMH850-F20D-T	G2	12000	720	AMH-EL850

Super mist separator
AME Series

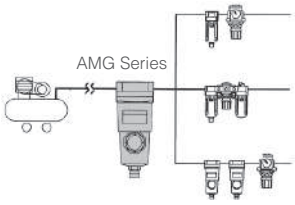
- Due to its special configuration, series AME indicates the life of the filter element by a colour change. Accordingly, the replacing time can be judged visually (a red colour indicates the replacing time)
- Filtration rating: 0.01 µm (Filtration efficiency: 99.9 %)
- Modular connection (AME150C to 550C)
- Operating pressure range 0.05 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Rated flow [m³/h]	Spare filter element
AME150C-F02 ●	G1/4	200	12	AME-EL150
AME250C-F03 ●	G3/8	500	30	AME-EL250
AME350C-F04 ●	G1/2	1000	60	AME-EL350
AME450C-F06 ●	G3/4	2000	120	AME-EL450
AME550C-F10 ●	G1	3700	222	AME-EL550
AME650-F14	G1 1/2	6000	360	AME-EL650
AME850-F20	G2	12000	720	AME-EL850

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Water separator

Water separator
AMG Series



- Fluid: Compressed air
- Water separation rate 99 %
- Standard automatic drain
- Lower pressure drop
- Modular connection (AMG150C to 550C)
- Operating pressure range 0.1 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Spare filter element
AMG150C-F01C ● *	G1/8	300	AMG-EL150
AMG250C-F02D ●	G1/4	750	AMG-EL250
AMG350C-F03D ●	G3/8	1500	AMG-EL350
AMG350C-F04D ●	G1/2	1500	AMG-EL350
AMG450C-F04D ●	G1/2	2200	AMG-EL450
AMG550C-F06D ●	G3/4	3500	AMG-EL550
AMG650-F10D ●	G1	6000	AMG-EL650
AMG650-F14D ●	G1 1/2	6000	AMG-EL650
AMG850-F20D ●	G2	12000	AMG-EL850

* Operating pressure range 0.15 to 1.0 MPa.

Odour removal filter

Odour removal
AMF Series

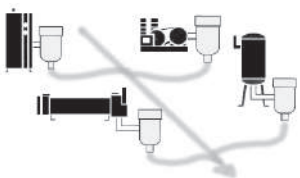
- Active carbon filter for filtering odours
- Fluid: Compressed air
- Filtration rating: 0.01 µm (Filtration efficiency: 99.9 %)
- Modular connection (AMF150C to 550C)
- Operating pressure range 0.05 to 1.0 MPa
- Temperature range 5 to 60 °C.

Part number	Port size	Rated flow [l/min]	Rated flow [m³/h]	Spare filter element
AMF150C-F02 ●	G1/4	200	12	AMF-EL150
AMF250C-F03 ●	G3/8	500	30	AMF-EL250
AMF350C-F04 ●	G1/2	1000	60	AMF-EL350
AMF450C-F06 ●	G3/4	2000	120	AMF-EL450
AMF550C-F10 ●	G1	3700	222	AMF-EL550
AMF650-F14	G1 1/2	6000	360	AMF-EL650
AMF850-F20	G2	12000	720	AMF-EL850

Related products

Heavy duty auto drain
ADH4000 Series

- Suitable for dirty water drain
- Easy maintenance
- No need for electric power and no waste of air.



Part number	Port size	Port size drain	Condensate quantity	Bracket set
ADH4000-F04 ●	G1/2	G1/2	400 cc/min	BM58

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Clean exhaust filter

SFE Series

- High precision filtration:
  - Cleanliness class: 4. ISO14644-1
  - Filtration rating: 0.01 µm
  - Filtration efficiency: 99.99 %
- Includes silencer function. Noise reduction: 30 dB or more
- 3 mounting variations:
  - Male thread type
  - Plug-in type
  - One-touch fitting type
- Bracket available
- Flow capacity: from 3 to 200 l/min.

Part number	Port type	Port size	Max. flow capacity [l/min (ANR)]	Filtration rating [1] [µm]	Noise reduction [dB] [1]	Differential pressure proof [2] (Maximum operating pressure) [MPa]
SFE11 ●	Male thread	M5 x 0.8	3	0.01 (Trapping efficiency 99.99 %)	30	0.1
SFE42 ●		R1/8	65			
SFE52 ●			130			
SFE53 ●		R1/4				
SFE73 ●			200			
SFE3A ●	Plug-in	Ø 4	30			
SFE4B ●		Ø 6	65			
SFE5C ●		Ø 8	130			
SFE7D ●		Ø 10	200			
SFE3F	One-touch fitting	Ø 4	30			
SFE4G		Ø 6	65			
SFE5H		Ø 8	130			
SFE7J		Ø 10	200			

1) Based on SMC's measuring conditions
2) Pressure applied to SFE, and not supply pressure to the equipment that SFE is mounted to (e.g. solenoid valve, cylinder).

Accessories

Part number	Model	Description
SFE-BR3	SFE3	Bracket
SFE-BR4	SFE4	Bracket
SFE-BR5	SFE5	Bracket
SFE-BR7	SFE7	Bracket

Auto drain valve

AD402-A Series

- Drain type: float type
- Fluid: compressed air
- Operating pressure: from 0.1 to 1.0 MPa
- Bowl material: polycarbonate, metal, nylon
- Drain discharge: max. 100 cm^3/cycle
- Maintenance: one-touch mounting, without using a tool.

Part number	Port size	Port size drain	Auto drain valve type
AD402-F02D-A	G1/4	G3/8	Normally open
AD402-F03D-A	G3/8		
AD402-F04D-A	G1/2		
AD402-F02C-A	G1/4		Normally closed
AD402-F03C-A	G3/8		
AD402-F04C-A	G1/2		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Piping equipment

Fitting

Page 324

Tubing

Page 374

Related products

Page 391

Flow control equipment

Page 393

Fitting

One-touch fittings
KQ2 Series p. 324

One-touch fittings oval type
KQ2 Series p. 341

Metal one-touch fittings
KQB2 Series p. 351

Rotary one-touch fittings
KS Series p. 355

Rotary one-touch fittings high speed
KX Series p. 355

One-touch fittings manifold
KM Series p. 356

Miniature fittings
M Series p. 357

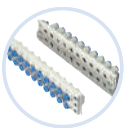
Insert fittings
H•DL•DT Series p. 358

Self-seal fittings
KC Series p. 359

S couplers
KK Series p. 360

S couplers
KK130 Series p. 361

Round multi-connector
DMK Series p. 362



Rectangular multi-connector
KDM Series p. 362

FR one-touch fittings equivalent to UL-94 standard V-0
KR Series p. 363

Antistatic one-touch fittings
KA Series p. 364

Stainless steel 316 one-touch fittings
KQG2 Series p. 366

Stainless fittings
KG Series p. 369

Stainless steel 316 insert fittings
KFG2 Series p. 370

Miniature fittings, stainless steel
MS Series p. 372

Rotary joint for compressed air
MQR Series p. 373

Tubing

Nylon tubing
T Series p. 374

Soft nylon tubing
TS Series p. 375

Polyurethane flat tubing
TU Series p. 376

Hard polyurethane tubing
TUH Series p. 379

Wear resistant tubing
TUZ Series p. 380

Tubing

Polyurethane coil tubing
1, 2 or 3 cores
TCU Series p. 381

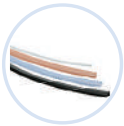
Polyurethane flat tubing
TFU Series p. 382

FR double layer tubing
equivalent to UL-94 standard V-0
TRBU Series p. 383

FR three-layer polyurethane tubing
TRTU Series p. 384

2-Layer soft fluoropolymer tubing
TQ Series p. 385

Antistatic polyurethane tubing
TAU Series p. 386



Fluoropolymer tubing (PFA)
metric size
TLM Series p. 387

Moisture control tube
IDK Series p. 389

FEP tubing (Fluoropolymer)
TH Series p. 390

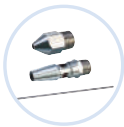
Related products

Multi tube holder
TM Series p. 391

Tube cutter
TK-1•2•3•6 Series p. 391

Tube releasing tool
TG Series p. 391

Blow gun
VMG Series p. 392



Air nozzles
KN Series p. 392

Flow control equipment

Speed controller, elbow and universal type
AS•1F•A Series p. 393

Speed controller with indicator
AS•FS Series p. 394

Speed controller with indicator, in line type
AS•2FS Series p. 395

Speed controller, in line type
AS•2F Series p. 396

Speed controller, in line type
AS•2F-A Series p. 397

Holder for speed controller
TMH Series p. 398

Flow control equipment

Dual type speed controller
ASD•F Series p. 398

Speed controller
EAS Series p. 398

Speed controller. Straight type
EAS Series p. 399

Speed controller. Stainless steel
AS•FG Series p. 399

Stainless steel controller (Elbow type)
ASG Series p. 400

Speed controller, flat head screwdriver adjusting
AS•F-D Series p. 400

Speed controller, flat head screwdriver adjusting, in line type
AS•F-D Series p. 401

Speed controller with pilot check valve
ASP•F Series p. 401

Air saving speed controller
AS-R/AS-Q Series p. 402

Air saving valve
ASR/ASQ Series p. 403

Metering valve with silencer
ASN2 Series p. 404

Speed controller, all metal exterior
AS-X737 Series p. 404

Speed exhaust controller
ASV Series p. 405

Quick exhaust valve
AQ Series p. 405

Quick exhaust valve, straight type
AQ240/340 Series p. 406

Shuttle valve. Metal type
VR1210/1220 Series p. 406

Shuttle valve
Plastic with one-touch fittings
VR1210F/1220F Series p. 406

AND Valve
VR1211F Series p. 407

Check valve with one-touch fitting / thread
AKH/AKB Series p. 407

Check valve
AK Series p. 408

Optical indicator pneumatic
VR3100/3110 Series p. 408

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

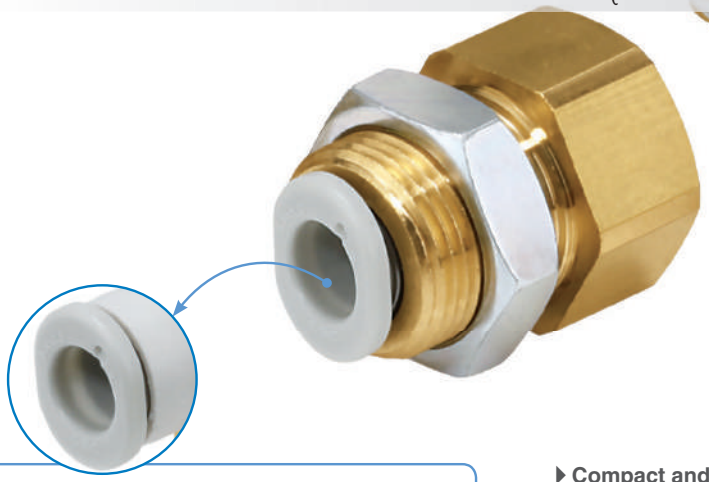
Our highlighted product for you

One-touch fittings
KQ2 Series

For more details
go to page 324

New!
Oval type release button added!

The perfect fit for your pneumatic connections



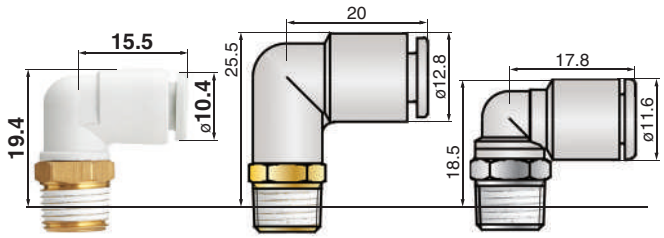
Easy and quick assembly Improve improved tube insertion / removal.

Insertion force: Max. 30 % reduction

Removal force:
Max. 20 % reduction*

* Tube pulling out strength is ensured to be equivalent to existing model.

Compact and lightweight
- Dimensions: height direction: 24 % shorter *
- Dimensions: horizontal direction: 23 % shorter *
- Weight: 57 % lighter*



New KQ2 | **Existing model KQ2** | **Existing model KJ**

* Existing model KQ2 series Male elbow / Applicable tubing O.D.: Ø 6 / Connection thread: R1/8

3 series in 1 – consolidation of KJ, KQ and KQ2

Extensive product range for maximum design flexibility
- 51 body type models
- 3 seal methods: sealant, gasket seal, face seal
- 3 surface treatments: brass (no plating), brass + electroless nickel plated, stainless steel 303

Gasket seal

Sealant

Face seal

Brass

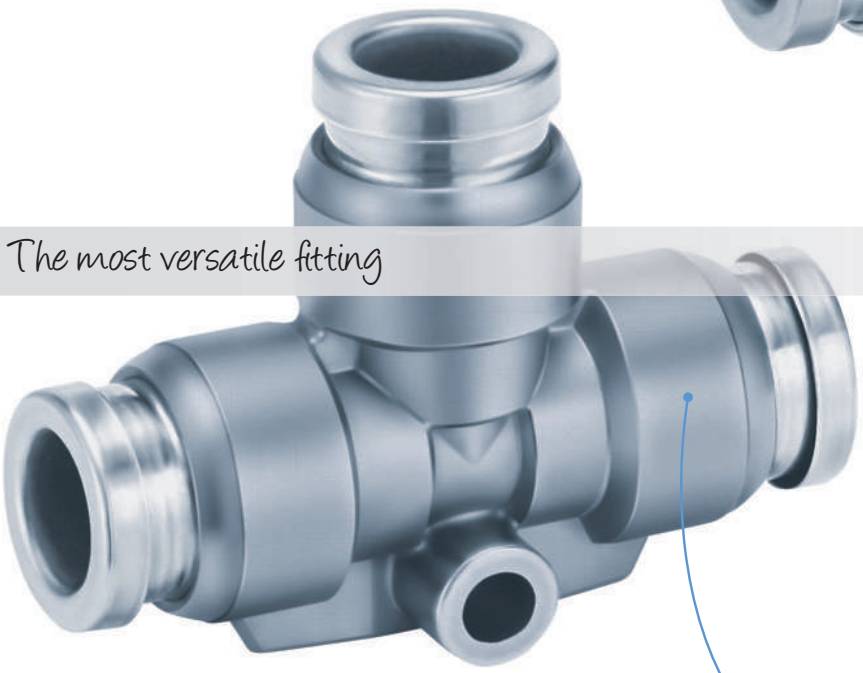
Nickel

Stainless steel

Our highlighted product for you

Metal one-touch fittings
KQB2/KQG2 Series

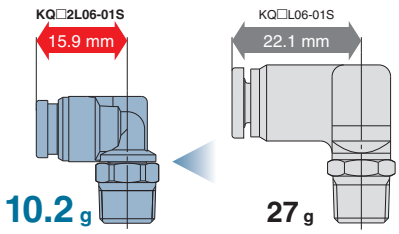
For more details
go to page 351



The most versatile fitting

Material
– Metal parts:
Series KQG2: **Stainless steel 316**
Series KQB2: **Stainless steel 304, 316;**
Electroless nickel plated (Brass parts)
– Seal parts: Special FKM

▸ **Compact and light**
– Dimensions: Approx. 30 % down
– Weight: Approx. 62 % down.
∗ Comparison with KQ□L06-01S.



▸ Wide configuration variation: **17 models**

▸ Applicable tube material: **FEP • PFA • Nylon • Soft nylon • Polyurethane • Polyolefin**

▸ **Fluid temperature: -5 to 150 °C**
KQG2 Series can be used with steam.

▸ **Grease free**

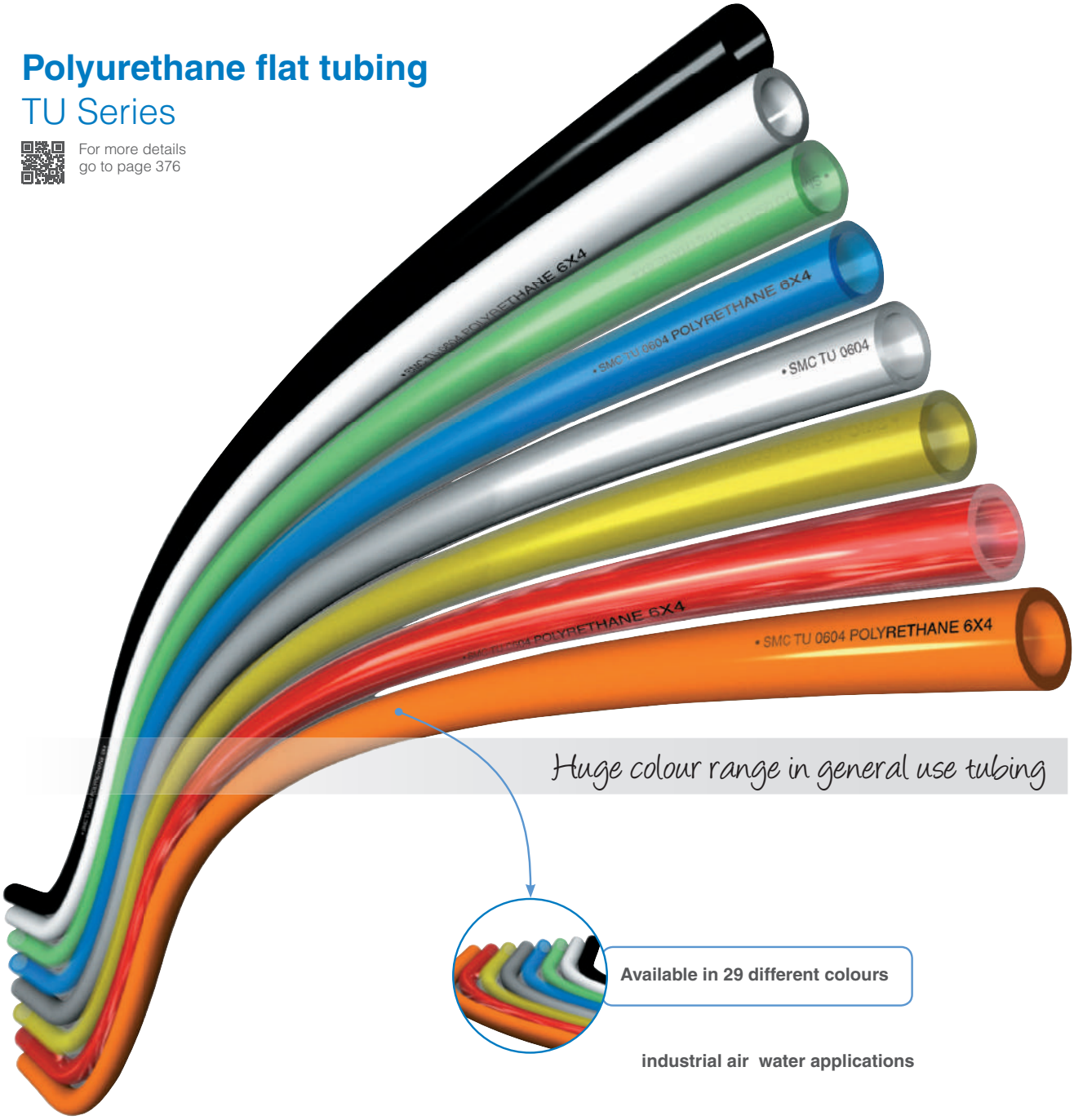
▸ **Extensive possible applications**
The body and sealing materials permit the use in a wide variety of applications.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Polyurethane flat tubing

TU Series

For more details
go to page 376

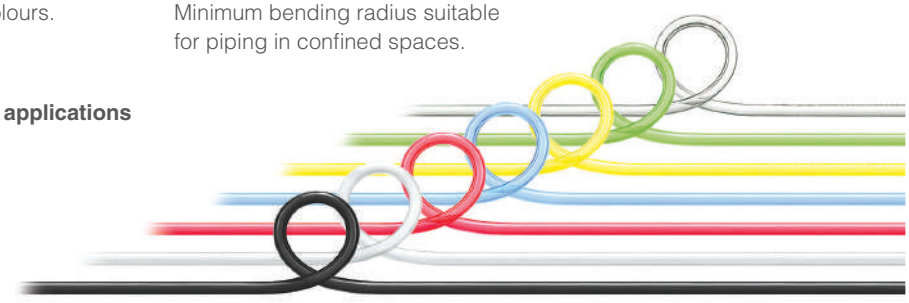


Huge colour range in general use tubing

Available in 29 different colours

industrial air water applications

- Tubing sizes **2 mm to 16 mm O.D.**
  20 and 100 m rolls available for all colours.
- For general **industrial air** and **water applications**
- Good flexibility
  Minimum bending radius suitable for piping in confined spaces.



Our highlighted product for you

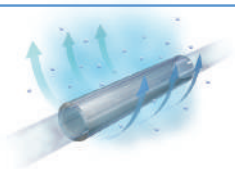
Technical tubing
TU Series

For more details
go to page 376

The best tubing for any application

IDK Series

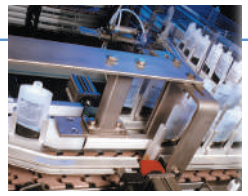
For more details
go to page 389



Condensation – our unique **IDK** tubing is the ideal solution for small size pneumatic equipment that is prone to corrosion or operational breakdown, as it diffuses water vapour from inside the piping thus avoiding water condensation and problems caused by the drop of the dew point.

TH Series

For more details
go to page 390



Chemicals and high temperatures – the **TH** can cope with the toughest environments and is ideal for the Food, Semiconductor, Life Science, Automotive and Machine Tool industries. Due to its high chemical and heat resistance, it is able to support severe conditions, besides; it can withstand higher operating pressure.

TAU Series

For more details
go to page 386

Static electricity – the **TAU** offers the perfect solution to avoid static charge and thanks to its flexibility, is perfect to use in difficult-to-reach places.

TUZ Series

For more details go
to page 380

Wear or sliding motion abrasion – our **TUZ** is the answer. Incredibly flexible and designed to fit into confined spaces, this tubing is extremely hard wearing.

TRTU Series

For more details
go to page 384

Spot or arc welding – also unique in the market, our **TRTU** can withstand even the harshest of sparks! It is a flame resistant three layer polyurethane tube with an aluminium middle layer that is designed to cope with the harsh realities of the arc welding process.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Speed controller, elbow and universal type

AS Series

For more details
go to page 393

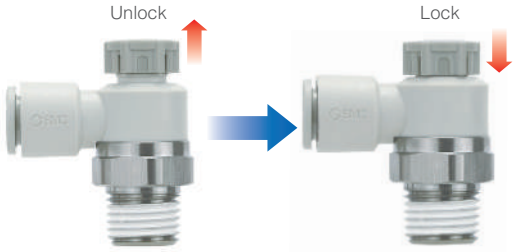
Improved tube insertion / removal
Reduced labour time, easy assembly and maintenance.

Insertion force: Max. 30 % (8 N) reduction

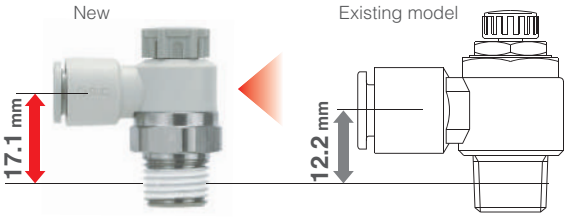
Removal force: Max. 20 % (5 N) reduction*

* Tube pulling out strength is ensured to be equivalent to existing model

Push-lock type
Easy to lock



▸ **More space** beneath the tube.
Easier installation / removal of the tube.



AS22□1F-02-□SA **AS22□1F-02-□**

▸ **High resistance** to corrosion
PBT thermoplastic and electroless nickel plated body.

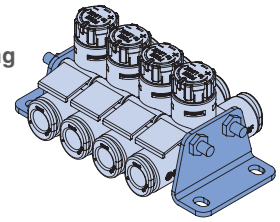
Our highlighted product for you

Push-lock type speed controller

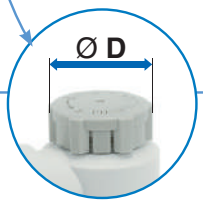
AS-A & AS-FS Series

For more details go to page 393, 394

In-line types allowing a manifold style interconnection

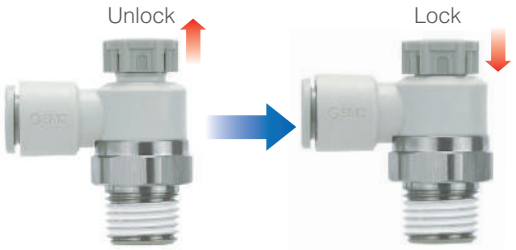


Control the speed of your cylinder. Easier. Faster



Push-lock type larger handle

Easy to lock



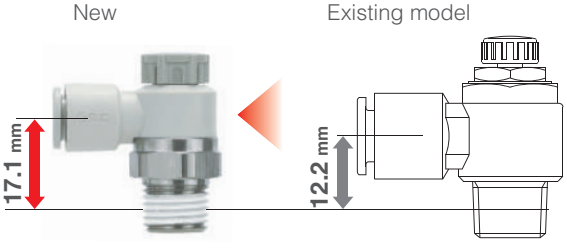
AS-FS Series
With indicator window

Numerical indication and control of the rotational number of the flow adjustment needle

With a wide viewing angle and four indication window directions selectable to improve performance.

▶ **More space beneath the tube.**

Easier installation / removal of the tube.



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

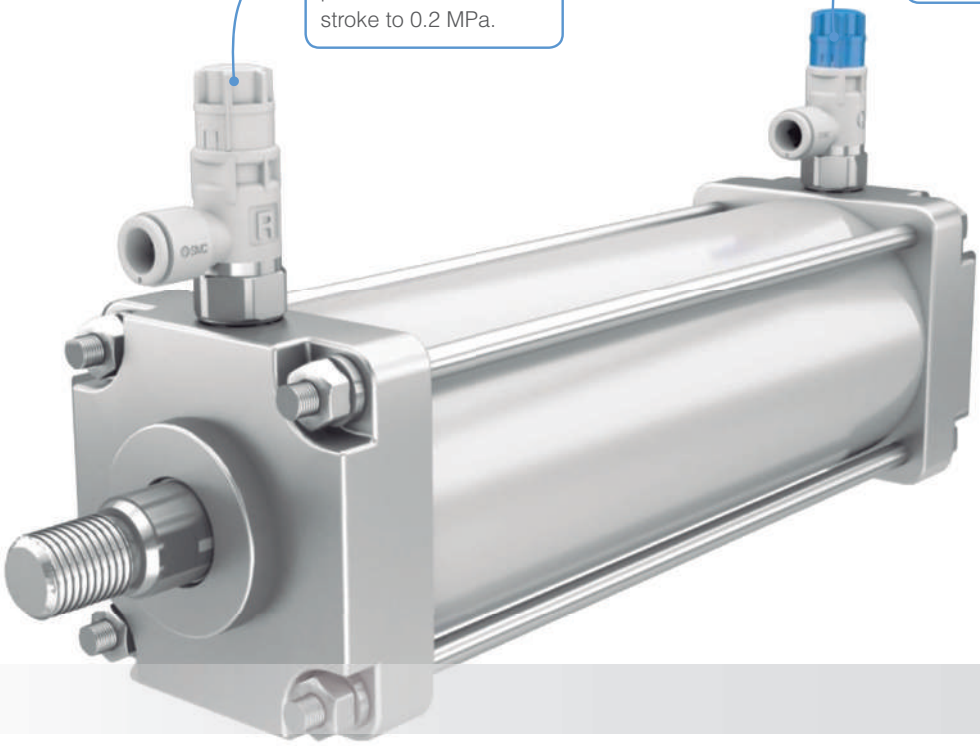
Air saving speed controller

AS-R & AS-Q Series

For more details
go to page 402

AS-R Series
A speed controller able to reduce the supply pressure at the return stroke to 0.2 MPa.

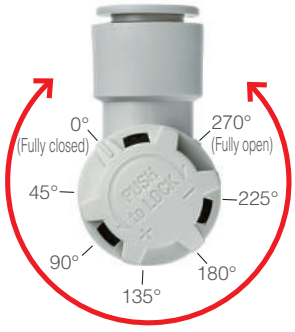
AS-Q Series
A speed controller with rapid supply and exhaust function to avoid delays in the response time.



Simply save

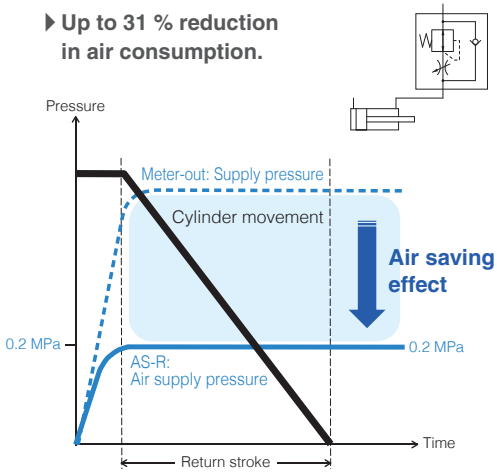
Simplified operation elements

The function of a regulator and speed controller are combined in a compact unit.



Only the cylinder speed is adjusted through a push-lock type handle, which is adjusted by one rotation (270°) with marks every 45° to ensure reproducibility of the set flow.

Up to 31 % reduction in air consumption.



Fitting

Our highlighted product for you

One-touch fittings
KQ2 Series

Tube O.D.: Ø 2 • 3.2 • 4 • 6 • 8 • 10 • 12 • 16 mm
Thread: M3 • M6 • M5 • R1/8 • 1/4 • 3/8 • 1/2

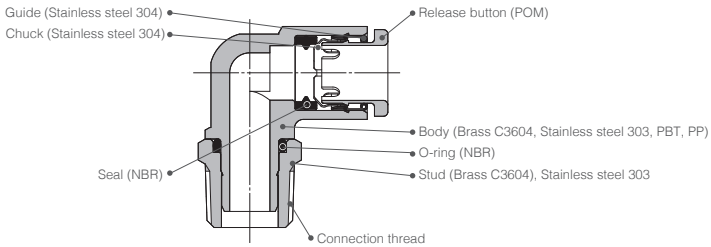
- Stainless steel option available
- Wide pressure range - Low vacuum to 10 Bar (1.0 MPa) pressure
- Wide range of tube systems (2 mm ~ 16 mm O.D. tube)
- Widest range of configuration available
- Improved tube insertion / removal
- Compact and lightweight
- Suitable for air and water.

Customer benefits

- Flexibility, useful in more applications!
- Easier assembly and lower labour costs
- Easier use in confined spaces
- Maximum design flexibility thanks to product variations and wide range of diameters.

Related products

TU Series - Polyurethane tubing - page 376
T Series - Nylon tubing - page 374
TH Series - Fluoropolymer (FEP) tubing - page 390
TLM Series - Fluoropolymer (PFA) tubing - page 387
TS Series - Soft nylon tubing - page 375



Male connector (Sealant) KQ2H	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2H23-01AS ●	**KQ2H23-01NS** ●	—	1/8	Ø 3.2
	KQ2H23-02AS ●	**KQ2H23-02NS**	—	1/4	
	KQ2H04-01AS ●	**KQ2H04-01NS** ●	**KQ2H04-01GS1** ∗	1/8	Ø 4
	KQ2H04-02AS ●	**KQ2H04-02NS** ●	**KQ2H04-02GS1** ∗	1/4	
	KQ2H06-01AS ●	**KQ2H06-01NS** ●	**KQ2H06-01GS1** ∗	1/8	Ø 6
	KQ2H06-02AS ●	**KQ2H06-02NS** ●	**KQ2H06-02GS1** ∗	1/4	
	KQ2H06-03AS ●	**KQ2H06-03NS** ●	**KQ2H06-03GS1** ∗	3/8	
	KQ2H08-01AS ●	**KQ2H08-01NS** ●	**KQ2H08-01GS**	1/8	Ø 8
	KQ2H08-02AS ●	**KQ2H08-02NS** ●	**KQ2H08-02GS**	1/4	
	KQ2H08-03AS ●	**KQ2H08-03NS** ●	**KQ2H08-03GS**	3/8	
	KQ2H10-01AS ●	**KQ2H10-01NS**	**KQ2H10-01GS**	1/8	Ø 10
	KQ2H10-02AS ●	**KQ2H10-02NS** ●	**KQ2H10-02GS**	1/4	
	KQ2H10-03AS ●	**KQ2H10-03NS** ●	**KQ2H10-03GS**	3/8	
	KQ2H10-04AS ●	**KQ2H10-04NS** ●	**KQ2H10-04GS**	1/2	
	KQ2H12-02AS ●	**KQ2H12-02NS** ●	**KQ2H12-02GS**	1/4	Ø 12
	KQ2H12-03AS ●	**KQ2H12-03NS** ●	**KQ2H12-03GS**	3/8	
	KQ2H12-04AS ●	**KQ2H12-04NS** ●	**KQ2H12-04GS**	1/2	
	KQ2H16-02AS	**KQ2H16-02NS**	—	1/4	Ø 16
	KQ2H16-03AS ●	**KQ2H16-03NS**	**KQ2H16-03GS**	3/8	
	KQ2H16-04AS ●	**KQ2H16-04NS** ●	**KQ2H16-04GS**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
∗ With oval release button

Male connector (Gasket seal) KQ2H	Part number type A, G	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2H02-M3G ●	—	—	M3 x 0.5	Ø 2
	KQ2H02-M5A	**KQ2H02-M5N** ●	—	M5 x 0.8	
	KQ2H23-M3G ●	—	—	M3 x 0.5	Ø 3.2
	KQ2H23-M5A ●	**KQ2H23-M5N** ●	—	M5 x 0.8	
	KQ2H04-M3G ●	—	—	M3 x 0.5	Ø 4
	KQ2H04-M5A ●	**KQ2H04-M5N** ●	**KQ2H04-M5G1** *	M5 x 0.8	
	KQ2H04-M6A ●	**KQ2H04-M6N**	—	M6 x 1.0	
	KQ2H06-M5A ●	**KQ2H06-M5N** ●	**KQ2H06-M5G1** *	M5 x 0.8	Ø 6
	KQ2H06-M6A ●	**KQ2H06-M6N**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With oval release button

Male elbow (Gasket seal) KQ2L	Part number type A, G	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2L02-M3G ●	—	—	M3 x 0.5	Ø 2
	KQ2L02-M5A	**KQ2L02-M5N** ●	—	M5 x 0.8	
	KQ2L23-M3G ●	—	—	M3 x 0.5	Ø 3.2
	KQ2L23-M5A ●	**KQ2L23-M5N** ●	—	M5 x 0.8	
	KQ2L04-M3G ●	—	—	M3 x 0.5	Ø 4
	KQ2L04-M5A ●	**KQ2L04-M5N** ●	**KQ2L04-M5G1** *	M5 x 0.8	
	KQ2L04-M6A ●	**KQ2L04-M6N**	—	M6 x 1.0	
	KQ2L06-M5A ●	**KQ2L06-M5N** ●	**KQ20L6-M5G1** *	M5 x 0.8	Ø 6
	KQ2L06-M6A ●	**KQ2L06-M6N** ●	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With oval release button

Male elbow (Sealant) KQ2L	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2L23-01AS ●	**KQ2L23-01NS** ●	—	1/8	Ø 3.2
	KQ2L23-02AS ●	**KQ2L23-02NS**	—	1/4	
	KQ2L04-01AS ●	**KQ2L04-01NS** ●	**KQ2L04-01GS1** *	1/8	Ø 4
	KQ2L04-02AS ●	**KQ2L04-02NS** ●	**KQ2L04-02GS1** *	1/4	
	KQ2L06-01AS ●	**KQ2L06-01NS** ●	**KQ2L06-01GS1** *	1/8	Ø 6
	KQ2L06-02AS ●	**KQ2L06-02NS** ●	**KQ2L06-02GS1** *	1/4	
	KQ2L06-03AS ●	**KQ2L06-03NS** ●	**KQ2L06-03GS1** *	3/8	
	KQ2L08-01AS ●	**KQ2L08-01NS** ●	**KQ2L08-01GS**	1/8	Ø 8
	KQ2L08-02AS ●	**KQ2L08-02NS** ●	**KQ2L08-02GS**	1/4	
	KQ2L08-03AS ●	**KQ2L08-03NS** ●	**KQ2L08-03GS**	3/8	
	KQ2L10-01AS ●	**KQ2L10-01NS** ●	**KQ2L10-01GS**	1/8	Ø 10
	KQ2L10-02AS ●	**KQ2L10-02NS** ●	**KQ2L10-02GS**	1/4	
	KQ2L10-03AS ●	**KQ2L10-03NS** ●	**KQ2L10-03GS**	3/8	
	KQ2L10-04AS ●	**KQ2L10-04NS** ●	**KQ2L10-04GS**	1/2	
	KQ2L12-02AS ●	**KQ2L12-02NS** ●	**KQ2L12-02GS**	1/4	Ø 12
	KQ2L12-03AS ●	**KQ2L12-03NS** ●	**KQ2L12-03GS**	3/8	
	KQ2L12-04AS ●	**KQ2L12-04NS** ●	**KQ2L12-04GS**	1/2	
	KQ2L16-02AS	**KQ2L16-02NS**	—	1/4	Ø 16
	KQ2L16-03AS ●	**KQ2L16-03NS** ●	**KQ2L16-03GS**	3/8	
	KQ2L16-04AS ●	**KQ2L16-04NS** ●	**KQ2L16-04GS**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With oval release button

45° male elbow (Gasket seal) KQ2K	Part number type A	Part number type N	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2K04-M5A ●	**KQ2K04-M5N**	M5 x 0.8	Ø 4
	KQ2K04-M6A	**KQ2K04-M6N**	M6 x 1.0	
	KQ2K06-M5A ●	**KQ2K06-M5N**	M5 x 0.8	Ø 6
	KQ2K06-M6A	**KQ2K06-M6N**	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

45° male elbow (Sealant) KQ2K	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2K04-01AS ●	**KQ2K04-01NS**	1/8	Ø 4
	KQ2K04-02AS ●	**KQ2K04-02NS**	1/4	
	KQ2K06-01AS ●	**KQ2K06-01NS** ●	1/8	Ø 6
	KQ2K06-02AS ●	**KQ2K06-02NS**	1/4	
	KQ2K06-03AS ●	**KQ2K06-03NS**	3/8	
	KQ2K08-01AS ●	**KQ2K08-01NS**	1/8	Ø 8
	KQ2K08-02AS ●	**KQ2K08-02NS**	1/4	
	KQ2K08-03AS ●	**KQ2K08-03NS**	3/8	
	KQ2K10-01AS ●	**KQ2K10-01NS**	1/8	Ø 10
	KQ2K10-02AS ●	**KQ2K10-02NS** ●	1/4	
	KQ2K10-03AS ●	**KQ2K10-03NS**	3/8	
	KQ2K10-04AS ●	**KQ2K10-04NS**	1/2	
	KQ2K12-02AS ●	**KQ2K12-02NS**	1/4	Ø 12
	KQ2K12-03AS ●	**KQ2K12-03NS**	3/8	
	KQ2K12-04AS ●	**KQ2K12-04NS**	1/2	
	KQ2K16-02AS	**KQ2K16-02NS**	1/4	Ø 16
	KQ2K16-03AS ●	**KQ2K16-03NS**	3/8	
	KQ2K16-04AS ●	**KQ2K16-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated

Extended male elbow (Gasket seal) KQ2W	Part number type A, G	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2W02-M3G ●	—	—	M3 x 0.5	Ø 2
	KQ2W02-M5A	**KQ2W02-M5N** ●	—	M5 x 0.8	
	KQ2W23-M3G	—	—	M3 x 0.5	Ø 3.2
	KQ2W23-M5A ●	**KQ2W23-M5N**	—	M5 x 0.8	
	KQ2W04-M3G ●	—	—	M3 x 0.5	Ø 4
	KQ2W04-M5A ●	**KQ2W04-M5N** ●	**KQ2W04-M5G1** *	M5 x 0.8	
	KQ2W06-M5A ●	**KQ2W06-M5N** ●	**KQ2W06-M5G1** *		Ø 6

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button

Extended male elbow (Sealant) KQ2W	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2W23-01AS	**KQ2W23-01NS**	—	1/8	Ø 3.2
	KQ2W23-02AS	**KQ2W23-02NS**	—	1/4	
	KQ2W04-01AS ●	**KQ2W04-01NS** ●	**KQ2W04-01GS1** *	1/8	Ø 4
	KQ2W04-02AS ●	**KQ2W04-02NS**	**KQ2W04-02GS1** *	1/4	
	KQ2W06-01AS ●	**KQ2W06-01NS** ●	**KQ2W06-01GS1** *	1/8	Ø 6
	KQ2W06-02AS ●	**KQ2W06-02NS**	**KQ2W06-02GS1** *	1/4	
	KQ2W06-03AS ●	**KQ2W06-03NS**	**KQ2W06-03GS1** *	3/8	
	KQ2W08-01AS ●	**KQ2W08-01NS**	**KQ2W08-01GS**	1/8	Ø 8
	KQ2W08-02AS ●	**KQ2W08-02NS**	**KQ2W08-02GS**	1/4	
	KQ2W08-03AS ●	**KQ2W08-03NS**	**KQ2W08-03GS**	3/8	
	KQ2W10-02AS ●	**KQ2W10-02NS**	**KQ2W10-02GS**	1/4	Ø 10
	KQ2W10-03AS ●	**KQ2W10-03NS**	**KQ2W10-03GS**	3/8	
	KQ2W10-04AS ●	**KQ2W10-04NS**	**KQ2W10-04GS**	1/2	
	KQ2W12-02AS ●	**KQ2W12-02NS**	**KQ2W12-02GS**	1/4	Ø 12
	KQ2W12-03AS ●	**KQ2W12-03NS**	**KQ2W12-03GS**	3/8	
	KQ2W12-04AS ●	**KQ2W12-04NS**	**KQ2W12-04GS**	1/2	
	KQ2W16-02AS	**KQ2W16-02NS**	—	1/4	Ø 16
	KQ2W16-03AS ●	**KQ2W16-03NS**	—	3/8	
	KQ2W16-04AS ●	**KQ2W16-04NS**	—	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Hexagon socket head male connector (Gasket seal) KQ2S	Part number type A, G	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2S02-M3G ●	—	—	M3 x 0.5	Ø 2
	KQ2S23-M3G ●	—	—		Ø 3.2
	KQ2S23-M5A	**KQ2S23-M5N** ●	—	M5 x 0.8	
	KQ2S04-M3G ●	—	—	M3 x 0.5	Ø 4
	KQ2S04-M5A ●	**KQ2S04-M5N** ●	**KQ2S04-M5G1** *	M5 x 0.8	
	KQ2S04-M6A ●	**KQ2S04-M6N**	—	M6 x 1.0	
	KQ2S06-M5A ●	**KQ2S06-M5N** ●	**KQ2S06-M5G1** *	M5 x 0.8	Ø 6
	KQ2S06-M6A ●	**KQ2S06-M6N**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button

Hexagon socket head male connector (Sealant) KQ2S	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2S04-01AS ●	**KQ2S04-01NS** ●	**KQ2S04-01GS1** *	1/8	Ø 4
	KQ2S06-01AS ●	**KQ2S06-01NS** ●	**KQ2S06-01GS1** *		Ø 6
	KQ2S06-02AS ●	**KQ2S06-02NS** ●	**KQ2S06-02GS1** *	1/4	
	KQ2S08-01AS ●	**KQ2S08-01NS** ●	**KQ2S08-01GS**	1/8	Ø 8
	KQ2S08-02AS ●	**KQ2S08-02NS** ●	**KQ2S08-02GS**	1/4	
	KQ2S08-03AS ●	**KQ2S08-03NS** ●	**KQ2S08-03GS**	3/8	
	KQ2S10-01AS ●	**KQ2S10-01NS**	**KQ2S10-01GS**	1/8	Ø 10
	KQ2S10-02AS ●	**KQ2S10-02NS**	**KQ2S10-02GS**	1/4	
	KQ2S10-03AS ●	**KQ2S10-03NS**	**KQ2S10-03GS**	3/8	
	KQ2S10-04AS ●	**KQ2S10-04NS**	**KQ2S10-04GS**	1/2	
	KQ2S12-02AS ●	**KQ2S12-02NS** ●	**KQ2S12-02GS**	1/4	Ø 12
	KQ2S12-03AS ●	**KQ2S12-03NS** ●	**KQ2S12-03GS**	3/8	
	KQ2S12-04AS ●	**KQ2S12-04NS**	**KQ2S12-04GS**	1/2	
	KQ2S16-02AS	**KQ2S16-02NS**	—	1/4	Ø 16
	KQ2S16-03AS ●	**KQ2S16-03NS**	—	3/8	
	KQ2S16-04AS ●	**KQ2S16-04NS** ●	—	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button

Universal male elbow (Gasket seal) KQ2V	Part number type A	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2V04-M5A ●	**KQ2V04-M5N** ●	**KQ2V04-M5G1** *	M5 x 0.8	Ø 4
	KQ2V06-M5A ●	**KQ2V06-M5N**	**KQ2V06-M5G1** *		Ø 6

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Universal male elbow (Sealant) KQ2V	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2V04-01AS ●	**KQ2V04-01NS** ●	**KQ2V04-01GS1** *	1/8	Ø 4
	KQ2V06-01AS ●	**KQ2V06-01NS** ●	**KQ2V06-01GS1** *		Ø 6
	KQ2V06-02AS ●	**KQ2V06-02NS**	**KQ2V06-02GS1** *	1/4	
	KQ2V08-01AS ●	**KQ2V08-01NS** ●	**KQ2V08-01GS**	1/8	Ø 8
	KQ2V08-02AS ●	**KQ2V08-02NS** ●	**KQ2V08-02GS**	1/4	
	KQ2V08-03AS ●	**KQ2V08-03NS**	**KQ2V08-03GS**	3/8	
	KQ2V10-02AS ●	**KQ2V10-02NS**	**KQ2V10-02GS**	1/4	Ø 10
	KQ2V10-03AS ●	**KQ2V10-03NS** ●	**KQ2V10-03GS**	3/8	
	KQ2V12-03AS ●	**KQ2V12-03NS**	**KQ2V12-03GS**		Ø 12
	KQ2V12-04AS ●	**KQ2V12-04NS**	**KQ2V12-04GS**	1/2	
	KQ2V16-03AS ●	**KQ2V16-03NS**	—	3/8	Ø 16
	KQ2V16-04AS ●	**KQ2V16-04NS**	—	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Hexagon socket head universal male elbow (Gasket seal) KQ2VS	Part number type A	Part number type N	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2VS04-M5A ●	**KQ2VS04-M5N**	M5 x 0.8	Ø 4
	KQ2VS06-M5A ●	**KQ2VS06-M5N**		Ø 6

A: Brass, N: Brass + Electroless nickel plated

Hexagon socket head universal male elbow (Sealant) KQ2VS	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2VS04-01AS ●	**KQ2VS04-01NS**	1/8	4
	KQ2VS06-01AS ●	**KQ2VS06-01NS**		Ø 6
	KQ2VS06-02AS ●	**KQ2VS06-02NS**	1/4	
	KQ2VS08-01AS ●	**KQ2VS08-01NS** ●	1/8	Ø 8
	KQ2VS08-02AS ●	**KQ2VS08-02NS**	1/4	
	KQ2VS08-03AS ●	**KQ2VS08-03NS**	3/8	
	KQ2VS10-02AS ●	**KQ2VS10-02NS** ●	1/4	Ø 10
	KQ2VS10-03AS ●	**KQ2VS10-03NS**	3/8	
	KQ2VS12-03AS ●	**KQ2VS12-03NS**		Ø 12
	KQ2VS12-04AS ●	**KQ2VS12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated

Male branch tee (Gasket seal) KQ2T	Part number type A, G	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2T02-M3G ●	—	—	M3 x 0.5	Ø 2
	KQ2T02-M5A	**KQ2T02-M5N** ●	—	M5 x 0.8	
	KQ2T23-M3G	—	—	M3 x 0.5	Ø 3.2
	KQ2T23-M5A ●	**KQ2T23-M5N** ●	—	M5 x 0.8	
	KQ2T04-M3G ●	—	—	M3 x 0.5	Ø 4
	KQ2T04-M5A ●	**KQ2T04-M5N** ●	**KQ2T04-M5G1** *	M5 x 0.8	
	KQ2T04-M6A	**KQ2T04-M6N**	—	M6 x 1.0	
	KQ2T06-M5A ●	**KQ2T06-M5N** ●	**KQ2T06-M5G1** *	M5 x 0.8	Ø 6
	KQ2T06-M6A	**KQ2T06-M6N**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Male branch tee (Sealant) KQ2T	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2T23-01AS	**KQ2T23-01NS**	—	1/8	Ø 3.2
	KQ2T23-02AS ●	**KQ2T23-02NS**	—	1/4	
	KQ2T04-01AS ●	**KQ2T04-01NS** ●	**KQ2T04-01GS1** *	1/8	Ø 4
	KQ2T04-02AS ●	**KQ2T04-02NS**	**KQ2T04-02GS1** *	1/4	
	KQ2T06-01AS ●	**KQ2T06-01NS** ●	**KQ2T06-01GS1** *	1/8	Ø 6
	KQ2T06-02AS ●	**KQ2T06-02NS** ●	**KQ2T06-02GS1** *	1/4	
	KQ2T06-03AS ●	**KQ2T06-03NS**	**KQ2T06-03GS1** *	3/8	
	KQ2T08-01AS ●	**KQ2T08-01NS** ●	**KQ2T08-01GS**	1/8	Ø 8
	KQ2T08-02AS ●	**KQ2T08-02NS** ●	**KQ2T08-02GS**	1/4	
	KQ2T08-03AS ●	**KQ2T08-03NS**	**KQ2T08-03GS**	3/8	
	KQ2T10-01AS ●	**KQ2T10-01NS**	**KQ2T10-01GS**	1/8	Ø 10
	KQ2T10-02AS ●	**KQ2T10-02NS**	**KQ2T10-02GS**	1/4	
	KQ2T10-03AS ●	**KQ2T10-03NS**	**KQ2T10-03GS**	3/8	
	KQ2T10-04AS ●	**KQ2T10-04NS**	**KQ2T10-04GS**	1/2	
	KQ2T12-02AS ●	**KQ2T12-02NS**	**KQ2T12-02GS**	1/4	Ø 12
	KQ2T12-03AS ●	**KQ2T12-03NS**	**KQ2T12-03GS**	3/8	
	KQ2T12-04AS ●	**KQ2T12-04NS**	**KQ2T12-04GS**	1/2	
	KQ2T16-02AS	**KQ2T16-02NS**	—	1/4	Ø 16
	KQ2T16-03AS ●	**KQ2T16-03NS**	**KQ2T16-03GS**	3/8	
	KQ2T16-04AS ●	**KQ2T16-04NS**	**KQ2T16-04GS**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Male run tee (Gasket seal) KQ2Y	Part number type A, G	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2Y02-M3G ●	—	—	M3 x 0.5	Ø 2
	KQ2Y02-M5A	**KQ2Y02-M5N**	—	M5 x 0.8	
	KQ2Y23-M3G ●	—	—	M3 x 0.5	Ø 3.2
	KQ2Y23-M5A ●	**KQ2Y23-M5N** ●	—	M5 x 0.8	
	KQ2Y04-M3G ●	—	—	M3 x 0.5	Ø 4
	KQ2Y04-M5A ●	**KQ2Y04-M5N** ●	**KQ2Y04-M5G1** *	M5 x 0.8	
	KQ2Y04-M6A	**KQ2Y04-M6N**	—	M6 x 1.0	
	KQ2Y06-M5A ●	**KQ2Y06-M5N** ●	**KQ2Y06-M5G1** *	M5 x 0.8	Ø 6
	KQ2Y06-M6A	**KQ2Y06-M6N**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Male run tee (Sealant) KQ2Y	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2Y23-01AS	**KQ2Y23-01NS** ●	—	1/8	Ø 3.2
	KQ2Y23-02AS	**KQ2Y23-02NS**	—	1/4	
	KQ2Y04-01AS ●	**KQ2Y04-01NS** ●	**KQ2Y04-01GS1** *	1/8	Ø 4
	KQ2Y04-02AS ●	**KQ2Y04-02NS**	**KQ2Y04-02GS1** *	1/4	
	KQ2Y06-01AS ●	**KQ2Y06-01NS** ●	**KQ2Y06-01GS1** *	1/8	Ø 6
	KQ2Y06-02AS ●	**KQ2Y06-02NS**	**KQ2Y06-02GS1** *	1/4	
	KQ2Y06-03AS ●	**KQ2Y06-03NS**	**KQ2Y06-03GS1** *	3/8	
	KQ2Y08-01AS ●	**KQ2Y08-01NS**	**KQ2Y08-01GS**	1/8	Ø 8
	KQ2Y08-02AS ●	**KQ2Y08-02NS**	**KQ2Y08-02GS**	1/4	
	KQ2Y08-03AS ●	**KQ2Y08-03NS**	**KQ2Y08-03GS**	3/8	
	KQ2Y10-01AS ●	**KQ2Y10-01NS**	**KQ2Y10-01GS**	1/8	Ø 10
	KQ2Y10-02AS ●	**KQ2Y10-02NS** ●	**KQ2Y10-02GS**	1/4	
	KQ2Y10-03AS ●	**KQ2Y10-03NS**	**KQ2Y10-03GS**	3/8	
	KQ2Y10-04AS ●	**KQ2Y10-04NS**	**KQ2Y10-04GS**	1/2	
	KQ2Y12-02AS ●	**KQ2Y12-02NS**	**KQ2Y12-02GS**	1/4	Ø 12
	KQ2Y12-03AS ●	**KQ2Y12-03NS**	**KQ2Y12-03GS**	3/8	
	KQ2Y12-04AS ●	**KQ2Y12-04NS**	**KQ2Y12-04GS**	1/2	
	KQ2Y16-02AS	**KQ2Y16-02NS**	—	1/4	Ø 16
	KQ2Y16-03AS ●	**KQ2Y16-03NS**	**KQ2Y16-03GS**	3/8	
	KQ2Y16-04AS ●	**KQ2Y16-04NS**	**KQ2T16-04GS**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Branch "Y" (Gasket seal) KQ2U	Part number type A	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2U23-M5A	**KQ2U23-M5N** ●	—	M5 x 0.8	Ø 3.2
	KQ2U04-M5A ●	**KQ2U04-M5N** ●	**KQ2U04-M5G**		Ø 4
	KQ2U04-M6A	**KQ2U04-M6N**	—	M6 x 1.0	
	KQ2U06-M5A ●	**KQ2U06-M5N** ●	**KQ2U06-M5G**	M5 x 0.8	Ø 6
	KQ2U06-M6A	**KQ2U06-M6N**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Branch "Y" (Sealant) KQ2U	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2U23-01AS	**KQ2U23-01NS** ●	—	1/8	Ø 3.2
	KQ2U23-02AS	**KQ2U23-02NS**	—	1/4	
	KQ2U04-01AS ●	**KQ2U04-01NS** ●	**KQ2U04-01GS**	1/8	Ø 4
	KQ2U04-02AS ●	**KQ2U04-02NS**	**KQ2U04-02GS**	1/4	
	KQ2U06-01AS ●	**KQ2U06-01NS** ●	**KQ2U06-01GS**	1/8	Ø 6
	KQ2U06-02AS ●	**KQ2U06-02NS**	**KQ2U06-02GS**	1/4	
	KQ2U06-03AS ●	**KQ2U06-03NS**	**KQ2U06-03GS**	3/8	
	KQ2U08-01AS ●	**KQ2U08-01NS**	**KQ2U08-01GS**	1/8	Ø 8
	KQ2U08-02AS ●	**KQ2U08-02NS**	**KQ2U08-02GS**	1/4	
	KQ2U08-03AS ●	**KQ2U08-03NS**	**KQ2U08-03GS**	3/8	
	KQ2U10-02AS ●	**KQ2U10-02NS**	**KQ2U10-02GS**	1/4	Ø 10
	KQ2U10-03AS ●	**KQ2U10-03NS**	**KQ2U10-03GS**	3/8	
	KQ2U10-04AS ●	**KQ2U10-04NS**	**KQ2U10-04GS**	1/2	
	KQ2U12-02AS ●	**KQ2U12-02NS**	**KQ2U12-02GS**	1/4	Ø 12
	KQ2U12-03AS ●	**KQ2U12-03NS**	**KQ2U12-03GS**	3/8	
	KQ2U12-04AS ●	**KQ2U12-04NS**	**KQ2U12-04GS**	1/2	
	KQ2U16-02AS	**KQ2U16-02NS**	—	1/4	Ø 16
	KQ2U16-03AS	**KQ2U16-03NS**	—	3/8	
	KQ2U16-04AS ●	**KQ2U16-04NS**	—	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Double universal male elbow (Sealant) KQ2VD	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2VD04-01AS ●	**KQ2VD04-01NS**	1/8	Ø 4
	KQ2VD04-02AS ●	**KQ2VD04-02NS**	1/4	
	KQ2VD04-03AS ●	**KQ2VD04-03NS**	3/8	
	KQ2VD06-01AS ●	**KQ2VD06-01NS** ●	1/8	Ø 6
	KQ2VD06-02AS ●	**KQ2VD06-02NS**	1/4	
	KQ2VD06-03AS ●	**KQ2VD06-03NS**	3/8	
	KQ2VD08-01AS ●	**KQ2VD08-01NS**	1/8	Ø 8
	KQ2VD08-02AS ●	**KQ2VD08-02NS**	1/4	
	KQ2VD08-03AS ●	**KQ2VD08-03NS**	3/8	
	KQ2VD08-04AS ●	**KQ2VD08-04NS**	1/2	
	KQ2VD10-02AS ●	**KQ2VD10-02NS**	1/4	Ø 10
	KQ2VD10-03AS ●	**KQ2VD10-03NS**	3/8	
	KQ2VD10-04AS ●	**KQ2VD10-04NS**	1/2	
	KQ2VD12-02AS ●	**KQ2VD12-02NS**	1/4	Ø 12
	KQ2VD12-03AS ●	**KQ2VD12-03NS**	3/8	
	KQ2VD12-04AS ●	**KQ2VD12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Triple universal male elbow (Sealant) KQ2VT	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2VT04-01AS ●	**KQ2VT04-01NS**	1/8	Ø 4
	KQ2VT04-02AS ●	**KQ2VT04-02NS**	1/4	
	KQ2VT04-03AS ●	**KQ2VT04-03NS**	3/8	
	KQ2VT06-01AS ●	**KQ2VT06-01NS**	1/8	Ø 6
	KQ2VT06-02AS ●	**KQ2VT06-02NS**	1/4	
	KQ2VT06-03AS ●	**KQ2VT06-03NS**	3/8	
	KQ2VT08-01AS ●	**KQ2VT08-01NS**	1/8	Ø 8
	KQ2VT08-02AS ●	**KQ2VT08-02NS**	1/4	
	KQ2VT08-03AS ●	**KQ2VT08-03NS**	3/8	
	KQ2VT08-04AS ●	**KQ2VT08-04NS**	1/2	
	KQ2VT10-02AS ●	**KQ2VT10-02NS**	1/4	Ø 10
	KQ2VT10-03AS ●	**KQ2VT10-03NS** ●	3/8	
	KQ2VT10-04AS ●	**KQ2VT10-04NS**	1/2	
	KQ2VT12-02AS ●	**KQ2VT12-02NS**	1/4	Ø 12
	KQ2VT12-03AS ●	**KQ2VT12-03NS**	3/8	
	KQ2VT12-04AS ●	**KQ2VT12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Branch universal male elbow (Gasket seal) KQ2Z	Part number type A	Part number type N	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2Z04-M5A ●	**KQ2Z04-M5N**	M5 x 0.8	Ø 4

A: Brass, N: Brass + Electroless nickel plated.

Branch universal male elbow (Sealant) KQ2Z	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2Z04-01AS ●	**KQ2Z04-01NS**	1/8	Ø 4
	KQ2Z06-01AS ●	**KQ2Z06-01NS**		Ø 6
	KQ2Z06-02AS ●	**KQ2Z06-02NS**	1/4	
	KQ2Z06-03AS ●	**KQ2Z06-03NS**	3/8	
	KQ2Z08-01AS ●	**KQ2Z08-01NS**	1/8	Ø 8
	KQ2Z08-02AS ●	**KQ2Z08-02NS**	1/4	
	KQ2Z08-03AS ●	**KQ2Z08-03NS**	3/8	
	KQ2Z10-02AS ●	**KQ2Z10-02NS**	1/4	Ø 10
	KQ2Z10-03AS ●	**KQ2Z10-03NS**	3/8	
	KQ2Z12-03AS ●	**KQ2Z12-03NS**		Ø 12
	KQ2Z12-04AS ●	**KQ2Z12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Double branch "Y" (Sealant) KQ2UD	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2UD04-01AS ●	**KQ2UD04-01NS**	**KQ2UD04-01GS**	1/8	Ø 4
	KQ2UD04-02AS ●	**KQ2UD04-02NS**	**KQ2UD04-02GS**	1/4	
	KQ2UD06-01AS ●	**KQ2UD06-01NS**	**KQ2UD06-01GS**	1/8	Ø 6
	KQ2UD06-02AS ●	**KQ2UD06-02NS**	**KQ2UD06-02GS**	1/4	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male branch elbow (Gasket seal) KQ2LU	Part number type A	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2LU04-M5A ●	**KQ2LU04-M5N** ●	**KQ2LU04-M5G**	M5 x 0.8	Ø 4
	KQ2LU04-M6A	**KQ2LU04-M6N**	—	M6 x 1.0	
	KQ2LU06-M5A ●	**KQ2LU06-M5N**	**KQ2LU06-M5G**	M5 x 0.8	Ø 6
	KQ2LU06-M6A	**KQ2LU06-M6N**	—	M6 x 0.8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Male branch elbow (Sealant) KQ2LU	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2LU04-01AS ●	**KQ2LU04-01NS**	**KQ2LU04-01GS**	1/8	Ø 4
	KQ2LU04-02AS	**KQ2LU04-02NS**	**KQ2LU04-02GS**	1/4	
	KQ2LU06-01AS ●	**KQ2LU06-01NS**	**KQ2LU06-01GS**	1/8	Ø 6
	KQ2LU06-02AS ●	**KQ2LU06-02NS**	**KQ2LU06-02GS**	1/4	
	KQ2LU06-03AS	**KQ2LU06-03NS**	**KQ2LU06-03GS**	3/8	
	KQ2LU08-01AS ●	**KQ2LU08-01NS**	**KQ2LU08-01GS**	1/8	Ø 8
	KQ2LU08-02AS ●	**KQ2LU08-02NS**	**KQ2LU08-02GS**	1/4	
	KQ2LU08-03AS ●	**KQ2LU08-03NS**	**KQ2LU08-03GS**	3/8	
	KQ2LU10-02AS ●	**KQ2LU10-02NS**	**KQ2LU10-02GS**	1/4	Ø 10
	KQ2LU10-03AS ●	**KQ2LU10-03NS**	**KQ2LU10-03GS**	3/8	
	KQ2LU10-04AS ●	**KQ2LU10-04NS**	**KQ2LU10-04GS**	1/2	
	KQ2LU12-02AS ●	**KQ2LU12-02NS**	**KQ2LU12-02GS**	1/4	Ø 12
	KQ2LU12-03AS ●	**KQ2LU12-03NS**	**KQ2LU12-03GS**	3/8	
	KQ2LU12-04AS ●	**KQ2LU12-04NS**	**KQ2LU12-04GS**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Double branch universal male elbow (Sealant) KQ2ZD	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2ZD04-01AS ●	**KQ2ZD04-01NS**	1/8	Ø 4
	KQ2ZD04-02AS ●	**KQ2ZD04-02NS**	1/4	
	KQ2ZD04-03AS ●	**KQ2ZD04-03NS**	3/8	
	KQ2ZD06-01AS ●	**KQ2ZD06-01NS**	1/8	Ø 6
	KQ2ZD06-02AS ●	**KQ2ZD06-02NS**	1/4	
	KQ2ZD06-03AS ●	**KQ2ZD06-03NS**	3/8	
	KQ2ZD08-01AS ●	**KQ2ZD08-01NS**	1/8	Ø 8
	KQ2ZD08-02AS ●	**KQ2ZD08-02NS**	1/4	
	KQ2ZD08-03AS ●	**KQ2ZD08-03NS**	3/8	
	KQ2ZD08-04AS ●	**KQ2ZD08-04NS**	1/2	
	KQ2ZD10-02AS ●	**KQ2ZD10-02NS**	1/4	Ø 10
	KQ2ZD10-03AS ●	**KQ2ZD10-03NS**	3/8	
	KQ2ZD10-04AS ●	**KQ2ZD10-04NS**	1/2	
	KQ2ZD12-02AS ●	**KQ2ZD12-02NS**	1/4	Ø 12
	KQ2ZD12-03AS ●	**KQ2ZD12-03NS**	3/8	
	KQ2ZD12-04AS ●	**KQ2ZD12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Triple branch universal male elbow (Sealant) KQ2ZT	Part number type A	Part number type N	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2ZT04-01AS ●	**KQ2ZT04-01NS**	1/8	Ø 4
	KQ2ZT04-02AS ●	**KQ2ZT04-02NS**	1/4	
	KQ2ZT04-03AS ●	**KQ2ZT04-03NS**	3/8	
	KQ2ZT06-01AS ●	**KQ2ZT06-01NS**	1/8	Ø 6
	KQ2ZT06-02AS ●	**KQ2ZT06-02NS**	1/4	
	KQ2ZT06-03AS ●	**KQ2ZT06-03NS**	3/8	
	KQ2ZT08-01AS	**KQ2ZT08-01NS**	1/8	Ø 8
	KQ2ZT08-02AS ●	**KQ2ZT08-02NS**	1/4	
	KQ2ZT08-03AS ●	**KQ2ZT08-03NS**	3/8	
	KQ2ZT08-04AS ●	**KQ2ZT08-04NS**	1/2	
	KQ2ZT10-02AS ●	**KQ2ZT10-02NS**	1/4	Ø 10
	KQ2ZT10-03AS ●	**KQ2ZT10-03NS**	3/8	
	KQ2ZT10-04AS ●	**KQ2ZT10-04NS**	1/2	
	KQ2ZT12-02AS ●	**KQ2ZT12-02NS**	1/4	Ø 12
	KQ2ZT12-03AS ●	**KQ2ZT12-03NS**	3/8	
	KQ2ZT12-04AS ●	**KQ2ZT12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Male delta union (Gasket seal) KQ2D	Part number type A	Part number type N	Part number type G	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2D04-M5A ●	**KQ2D04-M5N**	**KQ2D04-M5G1** *	M5 x 0.8	Ø 4
	KQ2D04-M6A	**KQ2D04-M6N**	—	M6 x 1.0	
	KQ2D06-M5A ●	**KQ2D06-M5N**	**KQ2D06-M5G1** *	M5 x 0.8	Ø 6
	KQ2D06-M6A	**KQ2D06-M6N**	—	M6 x 0.8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Male delta union (Sealant) KQ2D	Part number type A	Part number type N	Part number type G	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2D04-01AS ●	**KQ2D04-01NS**	**KQ2D04-01GS1** *	1/8	Ø 4
	KQ2D04-02AS	**KQ2D04-02NS**	**KQ2D04-02GS1** *	1/4	
	KQ2D06-01AS ●	**KQ2D06-01NS**	**KQ2D06-01GS1** *	1/8	Ø 6
	KQ2D06-02AS ●	**KQ2D06-02NS**	**KQ2D06-02GS1** *	1/4	
	KQ2D06-03AS	**KQ2D06-03NS**	**KQ2D06-03GS1** *	3/8	
	KQ2D08-01AS ●	**KQ2D08-01NS**	**KQ2D08-01GS**	1/8	Ø 8
	KQ2D08-02AS ●	**KQ2D08-02NS**	**KQ2D08-02GS**	1/4	
	KQ2D08-03AS ●	**KQ2D08-03NS**	**KQ2D08-03GS**	3/8	
	KQ2D10-02AS ●	**KQ2D10-02NS**	**KQ2D10-02GS**	1/4	Ø 10
	KQ2D10-03AS ●	**KQ2D10-03NS**	**KQ2D10-03GS**	3/8	
	KQ2D10-04AS ●	**KQ2D10-04NS**	**KQ2D10-04GS**	1/2	
	KQ2D12-02AS	**KQ2D12-02NS**	**KQ2D12-02GS**	1/4	Ø 12
	KQ2D12-03AS ●	**KQ2D12-03NS**	**KQ2D12-03GS**	3/8	
	KQ2D12-04AS ●	**KQ2D12-04NS**	**KQ2D12-04GS**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Straight union KQ2H	Part number	Applicable tubing O.D. [mm]
	KQ2H02-00A ●	Ø 2
	KQ2H23-00A ●	Ø 3.2
	KQ2H04-00A ●	Ø 4
	KQ2H06-00A ●	Ø 6
	KQ2H08-00A ●	Ø 8
	KQ2H10-00A ●	Ø 10
	KQ2H12-00A ●	Ø 12
	KQ2H16-00A ●	Ø 16

Bulkhead male elbow KQ2LE	Part number type A	Part number type N	Applicable tubing O.D. [mm]
	KQ2LE04-00A ●	**KQ2LE04-00N**	Ø 4
	KQ2LE06-00A ●	**KQ2LE06-00N** ●	Ø 6
	KQ2LE08-00A ●	**KQ2LE08-00N** ●	Ø 8
	KQ2LE10-00A ●	**KQ2LE10-00N**	Ø 10
	KQ2LE12-00A ●	**KQ2LE12-00N**	Ø 12

A: Brass, N: Brass + Electroless nickel plated.

Bulkhead union (Interchangeable with KQ) KQ2E	Part number type A	Part number type N	Part number type G	Applicable tubing O.D. [mm]
	KQ2E23-00A ●	**KQ2E23-00N**	—	Ø 3.2
	KQ2E04-00A ●	**KQ2E04-00N** ●	**KQ2E04-00G1** *	Ø 4
	KQ2E06-00A ●	**KQ2E06-00N** ●	**KQ2E06-00G1** *	Ø 6
	KQ2E08-00A ●	**KQ2E08-00N** ●	**KQ2E08-00G**	Ø 8
	KQ2E10-00A ●	**KQ2E10-00N** ●	**KQ2E10-00G**	Ø 10
	KQ2E12-00A ●	**KQ2E12-00N** ●	**KQ2E12-00G**	Ø 12
	KQ2E16-00A ●	**KQ2E16-00N**	**KQ2E16-00G**	Ø 16

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Bulkhead union (Interchangeable with KJ) KQ2E	Part number type A	Part number type N	Applicable tubing O.D. [mm]
	KQ2E02-00AJ	**KQ2E02-00NJ** ●	Ø 2
	KQ2E23-00AJ	**KQ2E23-00NJ** ●	Ø 3.2
	KQ2E04-00AJ ●	**KQ2E04-00NJ** ●	Ø 4
	KQ2E06-00AJ ●	**KQ2E06-00NJ** ●	Ø 6

A: Brass, N: Brass + Electroless nickel plated.

Union tee KQ2T	Part number	Applicable tubing O.D. [mm]
	KQ2T02-00A ●	Ø 2
	KQ2T23-00A ●	Ø 3.2
	KQ2T04-00A ●	Ø 4
	KQ2T06-00A ●	Ø 6
	KQ2T08-00A ●	Ø 8
	KQ2T10-00A ●	Ø 10
	KQ2T12-00A ●	Ø 12
	KQ2T16-00A ●	Ø 16

Union elbow KQ2L	Part number	Applicable tubing O.D. [mm]
	KQ2L23-00A ●	Ø 3.2
	KQ2L04-00A ●	Ø 4
	KQ2L06-00A ●	Ø 6
	KQ2L08-00A ●	Ø 8
	KQ2L10-00A ●	Ø 10
	KQ2L12-00A ●	Ø 12
	KQ2L16-00A ●	Ø 16

Union "Y" KQ2U	Part number	Applicable tubing O.D. [mm]
	KQ2U02-00A ●	Ø 2
	KQ2U23-00A ●	Ø 3.2
	KQ2U04-00A ●	Ø 4
	KQ2U06-00A ●	Ø 6
	KQ2U08-00A ●	Ø 8
	KQ2U10-00A ●	Ø 10
	KQ2U12-00A ●	Ø 12
	KQ2U16-00A ●	Ø 16

Different diameter straight, KQ2H	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D	**KQ2H02-23A** ●	Ø 2	Ø 3.2
	KQ2H02-04A ●		Ø 4
	KQ2H23-04A ●	Ø 3.2	
	KQ2H23-06A ●		Ø 6
	KQ2H04-06A ●	Ø 4	
	KQ2H06-08A ●	Ø 6	Ø 8
	KQ2H08-10A ●	Ø 8	Ø 10
	KQ2H10-12A ●	Ø 10	Ø 12
	KQ2H12-16A ●	Ø 12	Ø 16

Different diameter tee KQ2T	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø D Ø d Ø d	**KQ2T23-04A** ●	Ø 3.2	Ø 4
	KQ2T04-06A ●	Ø 4	Ø 6
	KQ2T06-08A ●	Ø 6	Ø 8
	KQ2T08-10A ●	Ø 8	Ø 10
	KQ2T10-12A ●	Ø 10	Ø 12
	KQ2T12-16A ●	Ø 12	Ø 16

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Branch union elbow KQ2LU	Part number	Applicable tubing O.D. [mm]
	KQ2LU04-00A ●	Ø 4
	KQ2LU06-00A ●	Ø 6
	KQ2LU08-00A ●	Ø 8
	KQ2LU10-00A ●	Ø 10
	KQ2LU12-00A ●	Ø 12

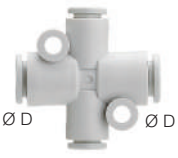
Delta union KQ2D	Part number	Applicable tubing O.D. [mm]
	KQ2D04-00A ●	Ø 4
	KQ2D06-00A ●	Ø 6
	KQ2D08-00A ●	Ø 8
	KQ2D10-00A ●	Ø 10
	KQ2D12-00A ●	Ø 12

Different diameter tee KQ2T	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D Ø D	**KQ2T06-04A** ●	Ø 4	Ø 6
	KQ2T08-06A ●	Ø 6	Ø 8
	KQ2T10-08A ●	Ø 8	Ø 10
	KQ2T12-10A ●	Ø 10	Ø 12

Different diameter union “Y” KQ2U	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø d Ø D	**KQ2U02-23A**	Ø 2	Ø 3.2
	KQ2U02-04A		Ø 4
	KQ2U23-04A ●	Ø 3.2	
	KQ2U04-06A ●	Ø 4	Ø 6
	KQ2U06-08A ●	Ø 6	Ø 8
	KQ2U08-10A ●	Ø 8	Ø 10
	KQ2U10-12A ●	Ø 10	Ø 12
	KQ2U12-16A ●	Ø 12	Ø 16

Cross KQ2TW	Part number	Applicable tubing O.D. [mm]
	KQ2TW04-00A ●	Ø 4
	KQ2TW06-00A ●	Ø 6
	KQ2TW08-00A ●	Ø 8
	KQ2TW10-00A ●	Ø 10
	KQ2TW12-00A ●	Ø 12

Different diameter double union “Y”, KQ2UD	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D	**KQ2UD04-06A** ●	Ø 4	Ø 6
	KQ2UD06-08A ●	Ø 6	Ø 8

Different diameter cross KQ2TX	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d  Ø D Ø D Ø d	**KQ2TX06-08A** ●	Ø 6	Ø 8
	KQ2TX08-10A	Ø 8	Ø 10
	KQ2TX10-12A ●	Ø 10	Ø 12

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Different diameter cross KQ2TY	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D Ø d Ø d	**KQ2TY06-08A** ●	Ø 6	Ø 8
	KQ2TY08-10A ●	Ø 8	Ø 10
	KQ2TY10-12A	Ø 10	Ø 12

Plug-in elbow KQ2L	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2L23-99A ●	Ø 3.2	Ø 3.2
	KQ2L04-99A ●	Ø 4	Ø 4
	KQ2L06-99A ●	Ø 6	Ø 6
	KQ2L08-99A ●	Ø 8	Ø 8
	KQ2L10-99A ●	Ø 10	Ø 10
	KQ2L12-99A ●	Ø 12	Ø 12
	KQ2L16-99A ●	Ø 16	Ø 16

Plug-in "Y" KQ2U	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2U23-99A ●	Ø 3.2	Ø 3.2
	KQ2U04-99A ●	Ø 4	Ø 4
	KQ2U06-99A ●	Ø 6	Ø 6
	KQ2U08-99A ●	Ø 8	Ø 8
	KQ2U10-99A ●	Ø 10	Ø 10
	KQ2U12-99A ●	Ø 12	Ø 12
	KQ2U16-99A ●	Ø 16	Ø 16

Extended plug-in elbow KQ2W	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2W23-99A	Ø 3.2	Ø 3.2
	KQ2W04-99A ●	Ø 4	Ø 4
	KQ2W06-99A ●	Ø 6	Ø 6
	KQ2W08-99A ●	Ø 8	Ø 8
	KQ2W10-99A ●	Ø 10	Ø 10
	KQ2W12-99A ●	Ø 12	Ø 12

Reducer elbow KQ2L	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2L23-04A ●	Ø 4	Ø 3.2
	KQ2L23-06A ●	Ø 6	
	KQ2L04-06A ●		Ø 4
	KQ2L04-08A ●	Ø 8	
	KQ2L06-08A ●		Ø 6
	KQ2L06-10A ●	Ø 10	
	KQ2L08-10A ●		Ø 8
	KQ2L08-12A ●	Ø 12	
	KQ2L10-12A ●		Ø 10
	KQ2L12-16A ●	Ø 16	Ø 12

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Plug-in reducer KQ2R	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2R02-04A ●	Ø 4	Ø 2
	KQ2R23-04A ●		Ø 3.2
	KQ2R23-06A ●	Ø 6	
	KQ2R04-06A ●		Ø 4
	KQ2R04-08A ●	Ø 8	
	KQ2R04-10A ●	Ø 10	
	KQ2R06-04A ●	Ø 4	Ø 6
	KQ2R06-08A ●	Ø 8	
	KQ2R06-10A ●	Ø 10	
	KQ2R06-12A ●	Ø 12	
	KQ2R08-10A ●	Ø 10	Ø 8
	KQ2R08-12A ●	Ø 12	
	KQ2R10-12A ●		Ø 10
	KQ2R10-16A ●	Ø 16	
	KQ2R12-16A ●		Ø 12

Different diameter plug-in "Y" KQ2X	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2X23-04A ●	Ø 4	Ø 3.2
	KQ2X04-06A ●	Ø 6	Ø 4
	KQ2X06-08A ●	Ø 8	Ø 6
	KQ2X08-10A ●	Ø 10	Ø 8
	KQ2X10-12A ●	Ø 12	Ø 10

Plug-in "Y" KQ2XD	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2XD04-06A ●	Ø 6	Ø 4
	KQ2XD06-08A ●	Ø 8	Ø 6

Female elbow KQ2LF	Type code A	Type code B	Connecting thread M / Rc	Applicable tubing O.D. [mm]
	KQ2LF04-M5A ●	**KQ2LF04-M5N**	M5 x 0.8	Ø 4
	KQ2LF04-M6A ●	**KQ2LF04-M6N**	M6 x 1.0	
	KQ2LF04-01A ●	**KQ2LF04-01N** ●	1/8	
	KQ2LF04-02A ●	**KQ2LF04-02N**	1/4	
	KQ2LF06-M5A ●	**KQ2LF06-M5N**	M5 x 0.8	Ø 6
	KQ2LF06-M6A ●	**KQ2LF06-M6N**	M6 x 1.0	
	KQ2LF06-01A ●	**KQ2LF06-01N**	1/8	
	KQ2LF06-02A ●	**KQ2LF06-02N** ●	1/4	
	KQ2LF06-03A ●	**KQ2LF06-03N**	3/8	
	KQ2LF08-01A ●	**KQ2LF08-01N**	1/8	Ø 8
	KQ2LF08-02A ●	**KQ2LF08-02N**	1/4	
	KQ2LF08-03A ●	**KQ2LF08-03N**	3/8	
	KQ2LF10-02A ●	**KQ2LF10-02N**	1/4	Ø 10
	KQ2LF10-03A ●	**KQ2LF10-03N**	3/8	
	KQ2LF10-04A ●	**KQ2LF10-04N**	1/2	
	KQ2LF12-02A ●	**KQ2LF12-02N**	1/4	Ø 12
	KQ2LF12-03A ●	**KQ2LF12-03N**	3/8	
	KQ2LF12-04A ●	**KQ2LF12-04N**	1/2	

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Female connector KQ2F	Part number type A	Part number type N	Part number type G	Connecting thread M / Rc	Applicable tubing O.D. [mm]
	KQ2F23-M3A	**KQ2F23-M3N**	—	M3 x 0.5	Ø 3.2
	KQ2F23-M5A	**KQ2F23-M5N** ●	—	M5 x 0.8	
	KQ2F04-M3A	**KQ2F04-M3N** ●	—	M3 x 0.5	Ø 4
	KQ2F04-M5A	**KQ2F04-M5N** ●	—	M5 x 0.8	
	KQ2F04-01A ●	**KQ2F04-01N**	**KQ2F04-01G1** *	1/8	
	KQ2F04-02A ●	**KQ2F04-02N**	**KQ2F04-02G1** *	1/4	
	KQ2F06-M5A ●	**KQ2F06-M5N** ●	—	M5 x 0.8	Ø 6
	KQ2F06-01A ●	**KQ2F06-01N** ●	**KQ2F06-01G1** *	1/8	
	KQ2F06-02A ●	**KQ2F06-02N**	**KQ2F06-02G1** *	1/4	
	KQ2F06-03A ●	**KQ2F06-03N**	**KQ2F06-03G1** *	3/8	
	KQ2F08-01A ●	**KQ2F08-01N**	**KQ2F08-01G**	1/8	Ø 8
	KQ2F08-02A ●	**KQ2F08-02N** ●	**KQ2F08-02G**	1/4	
	KQ2F08-03A ●	**KQ2F08-03N**	**KQ2F08-03G**	3/8	
	KQ2F10-02A ●	**KQ2F10-02N**	**KQ2F10-02G**	1/4	Ø 10
	KQ2F10-03A ●	**KQ2F10-03N**	**KQ2F10-03G**	3/8	
	KQ2F12-02A ●	**KQ2F12-02N**	**KQ2F12-02G**	1/4	Ø 12
	KQ2F12-03A ●	**KQ2F12-03N**	**KQ2F12-03G**	3/8	
	KQ2F12-04A ●	**KQ2F12-04N**	**KQ2F12-04G**	1/2	
	KQ2F16-03A ●	**KQ2F16-03N**	—	3/8	Ø 16
	KQ2F16-04A ●	**KQ2F16-04N**	—	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Bulkhead connector KQ2E	Part number type A	Part number type N	Part number type G	Connecting thread Rc	Applicable tubing O.D. [mm]
	KQ2E23-02A ●	**KQ2E23-02N**	—	1/4	Ø 3.2
	KQ2E04-01A ●	**KQ2E04-01N**	**KQ2E04-01G1** *	1/8	Ø 4
	KQ2E04-02A ●	**KQ2E04-02N**	**KQ2E04-02G1** *	1/4	
	KQ2E06-01A ●	**KQ2E06-01N** ●	**KQ2E06-01G1** *	1/8	Ø 6
	KQ2E06-02A ●	**KQ2E06-02N** ●	**KQ2E06-02G1** *	1/4	
	KQ2E06-03A ●	**KQ2E06-03N**	**KQ2E06-03G1** *	3/8	
	KQ2E08-01A ●	**KQ2E08-01N**	**KQ2E08-01G**	1/8	Ø 8
	KQ2E08-02A ●	**KQ2E08-02N**	**KQ2E08-02G**	1/4	
	KQ2E08-03A ●	**KQ2E08-03N**	**KQ2E08-03G**	3/8	
	KQ2E10-02A ●	**KQ2E10-02N**	**KQ2E10-02G**	1/4	Ø 10
	KQ2E10-03A ●	**KQ2E10-03N**	**KQ2E10-03G**	3/8	
	KQ2E12-03A ●	**KQ2E12-03N**	**KQ2E12-03G**		Ø 12
	KQ2E12-04A ●	**KQ2E12-04N**	**KQ2E12-04G**	1/2	
	KQ2E16-03A ●	**KQ2E16-03N**	**KQ2E16-03G**	3/8	Ø 16
	KQ2E16-04A ●	**KQ2E16-04N**	**KQ2E16-04G**	1/2	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303
* With Oval release button.

Universal female elbow (Gasket seal) KQ2VF	Part number type A	Part number type N	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2VF04-M5A ●	**KQ2VF04-M5N**	M5 x 0.8	Ø 4
	KQ2VF06-M5A ●	**KQ2VF06-M5N**	M5 x 0.8	Ø 6

A: Brass, N: Brass + Electroless nickel plated.

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Universal female elbow (Sealant) KQ2VF	Part number type A	Part number type N	Connecting thread R, Rc	Applicable tubing O.D. [mm]
	KQ2VF04-01AS ●	**KQ2VF04-01NS**	1/8	Ø 4
	KQ2VF06-01AS ●	**KQ2VF06-01NS**		Ø 6
	KQ2VF06-02AS ●	**KQ2VF06-02NS**	1/4	
	KQ2VF08-01AS ●	**KQ2VF08-01NS**	1/8	Ø 8
	KQ2VF08-02AS ●	**KQ2VF08-02NS** ●	1/4	
	KQ2VF08-03AS ●	**KQ2VF08-03NS**	3/8	
	KQ2VF10-02AS ●	**KQ2VF10-02NS**	1/4	Ø 10
	KQ2VF10-03AS ●	**KQ2VF10-03NS**	3/8	
	KQ2VF12-03AS ●	**KQ2VF12-03NS**		Ø 12
	KQ2VF12-04AS ●	**KQ2VF12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Branch universal female elbow (Gasket seal) KQ2ZF	Part number type A	Part number type N	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2ZF04-M5A ●	**KQ2ZF04-M5N**	M5 x 0.8	Ø 4

A: Brass, N: Brass + Electroless nickel plated.

Branch universal female elbow (Sealant) KQ2ZF	Part number type A	Part number type N	Connecting thread R, Rc	Applicable tubing O.D. [mm]
	KQ2ZF04-01AS ●	**KQ2ZF04-01NS**	1/8	Ø 4
	KQ2ZF06-01AS ●	**KQ2ZF06-01NS**		Ø 6
	KQ2ZF06-02AS ●	**KQ2ZF06-02NS**	1/4	
	KQ2ZF08-01AS ●	**KQ2ZF08-01NS**	1/8	Ø 8
	KQ2ZF08-02AS ●	**KQ2ZF08-02NS**	1/4	
	KQ2ZF10-02AS ●	**KQ2ZF10-02NS**		Ø 10
	KQ2ZF10-03AS ●	**KQ2ZF10-03NS**	3/8	
	KQ2ZF12-03AS	**KQ2ZF12-03NS**		Ø 12
	KQ2ZF12-04AS ●	**KQ2ZF12-04NS**	1/2	

A: Brass, N: Brass + Electroless nickel plated.

Plug KQ2P	Part number	Applicable tubing O.D. [mm]
	KJP-02	Ø 2
	KQ2P-23 ●	Ø 3.2
	KQ2P-04 ●	Ø 4
	KQ2P-06 ●	Ø 6
	KQ2P-08 ●	Ø 8
	KQ2P-10 ●	Ø 10
	KQ2P-12 ●	Ø 12
	KQ2P-16 ●	Ø 16

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Tube cap KQ2C	Part number	Applicable tubing O.D. [mm]
	KQ2C04-00A ●	Ø 4
	KQ2C06-00A ●	Ø 6
	KQ2C08-00A ●	Ø 8
	KQ2C10-00A ●	Ø 10
	KQ2C12-00A ●	Ø 12
	KQ2C16-00A ●	Ø 16

Nipple KQ2N	Part number	Applicable tubing O.D. [mm]
	KQ2N04-99 ●	Ø 4
	KQ2N06-99 ●	Ø 6
	KQ2N08-99 ●	Ø 8
	KQ2N10-99 ●	Ø 10
	KQ2N12-99 ●	Ø 12
	KQ2N16-99 ●	Ø 16

Reducer nipple KQ2N	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
	KQ2N04-06 ●	Ø 4	Ø 6
	KQ2N06-08 ●	Ø 6	Ø 8
	KQ2N08-10 ●	Ø 8	Ø 10
	KQ2N10-12 ●	Ø 10	Ø 12
	KQ2N12-16 ●	Ø 12	Ø 16

Adapter (Gasket seal) KQ2N	Part number	Part number	Connecting thread M	Applicable tubing O.D. [mm]
	KQ2N04-M5A ●	**KQ2N04-M5N**	M5 x 0.8	Ø 4
	KQ2N06-M5A ●	**KQ2N06-M5N**		Ø 6

A: Brass, N: Brass + Electroless nickel plated.

Adapter (Sealant) KQ2N	Part number	Part number	Connecting thread R	Applicable tubing O.D. [mm]
	KQ2N04-01AS ●	**KQ2N04-01NS**	1/8	Ø 4
	KQ2N06-01AS ●	**KQ2N06-01NS** ●		Ø 6
	KQ2N06-02AS ●	**KQ2N06-02NS** ●	1/4	
	KQ2N08-02AS ●	**KQ2N08-02NS**		Ø 8
	KQ2N08-03AS ●	**KQ2N08-03NS**	3/8	
	KQ2N10-03AS ●	**KQ2N10-03NS**		Ø 10

A: Brass, N: Brass + Electroless nickel plated.

One-touch fittings oval type
KQ2 Series

Tube O.D.: 3.2 • 4 • 6 mm
Thread: M3 • M5 •M6 • R1/8 • 1/4 • 3/8

New!
Oval type release button added!

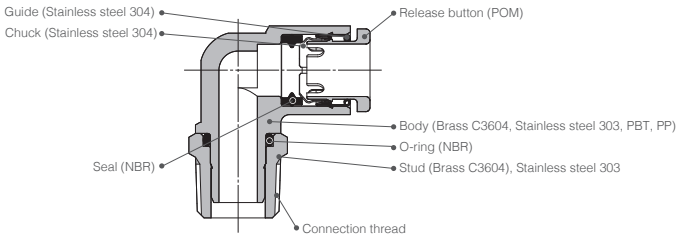
- Oval type release button added
- Wide pressure range - Low vacuum to 10 Bar (1.0 MPa) pressure
- Wide range of tube systems (2 mm ~ 16 mm O.D. tube)
- Improved tube insertion / removal.
- Compact and lightweight.
- Suitable for air and water.

Customer benefits

- Easy detachment
- Easier assembly and lower labour costs
- Easier use in confined spaces
- Maximum design flexibility thanks to product variations and wide range of diameters.

Related Products

TU Series - Polyurethane tubing - page 376
T Series - Nylon tubing - page 374
TH Series - Fluoropolymer (FEP) tubing - page 390
TLM Series - Fluoropolymer (PFA) tubing - page 387
TS Series - Soft nylon tubing - page 375



Male connector (Gasket seal) KQ2H	Part number type A, G	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2H23-M3G1	—	—	M3 x 0.5	Ø 3.2
	KQ2H23-M5A1	**KQ2H23-M5N1**	—	M5 x 0.8	
	KQ2H04-M3G1	—	—	M3 x 0.5	Ø 4
	KQ2H04-M5A1	**KQ2H04-M5N1**	**KQ2H04-M5G1**	M5 x 0.8	
	KQ2H04-M6A1	**KQ2H04-M6N1**	—	M6 x 1.0	
	KQ2H06-M5A1	**KQ2H06-M5N1**	**KQ2H06-M5G1**	M5 x 0.8	Ø 6
	KQ2H06-M6A1	**KQ2H06-M6N1**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male connector (Sealant) KQ2H	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2H23-01AS1	**KQ2H23-01NS1**	—	1/8	Ø 3.2
	KQ2H23-02AS1	**KQ2H23-02NS1**	—	1/4	
	KQ2H04-01AS1	**KQ2H04-01NS1**	**KQ2H04-01GS1**	1/8	Ø 4
	KQ2H04-02AS1	**KQ2H04-02NS1**	**KQ2H04-02GS1**	1/4	
	KQ2H06-01AS1	**KQ2H06-01NS1**	**KQ2H06-01GS1**	1/8	Ø 6
	KQ2H06-02AS1	**KQ2H06-02NS1**	**KQ2H06-02GS1**	1/4	
	KQ2H06-03AS1	**KQ2H06-03NS1**	**KQ2H06-03GS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male elbow (Gasket seal) KQ2L	Part number type A, G	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2L23-M3G1	—	—	M3 x 0.5	Ø 3.2
	KQ2L23-M5A1	**KQ2L23-M5N1**	—	M5 x 0.8	
	KQ2L04-M3G1	—	—	M3 x 0.5	Ø 4
	KQ2L04-M5A1	**KQ2L04-M5N1**	**KQ2L04-M5G1**	M5 x 0.8	
	KQ2L04-M6A1	**KQ2L04-M6N1**	—	M6 x 1.0	
	KQ2L06-M5A1	**KQ2L06-M5N1**	**KQ2L06-M5G1**	M5 x 0.8	Ø 6
	KQ2L06-M6A1	**KQ2L06-M6N1**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male elbow (Sealant) KQ2L	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2L23-01AS1	**KQ2L23-01NS1**	—	1/8	Ø 3.2
	KQ2L23-02AS1	**KQ2L23-02NS1**	—	1/4	
	KQ2L04-01AS1	**KQ2L04-01NS1**	**KQ2L04-01GS1**	1/8	Ø 4
	KQ2L04-02AS1	**KQ2L04-02NS1**	**KQ2L04-02GS1**	1/4	
	KQ2L06-01AS1	**KQ2L06-01NS1**	**KQ2L06-01GS1**	1/8	Ø 6
	KQ2L06-02AS1	**KQ2L06-02NS1**	**KQ2L06-02GS1**	1/4	
	KQ2L06-03AS1	**KQ2L06-03NS1**	**KQ2L06-03GS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

45° Male elbow (Gasket seal) KQ2K	Part number type A	Part number type N	Connection thread M	Applicable tubing O.D. [mm]
	KQ2K04-M5A1	**KQ2K04-M5N1**	M5 x 0.8	Ø 4
	KQ2K04-M6A1	**KQ2K04-M6N1**	M6 x 1.0	
	KQ2K06-M5A1	**KQ2K06-M5N1**	M5 x 0.8	Ø 6
	KQ2K06-M6A1	**KQ2K06-M6N1**	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated

Male elbow (Sealant) KQ2K	Part number type A	Part number type N	Connection thread R	Applicable tubing O.D. [mm]
	KQ2K04-01AS1	**KQ2K04-01NS1**	1/8	Ø 4
	KQ2K04-02AS1	**KQ2K04-02NS1**	1/4	
	KQ2K06-01AS1	**KQ2K06-01NS1**	1/8	Ø 6
	KQ2K06-02AS1	**KQ2K06-02NS1**	1/4	
	KQ2K06-03AS1	**KQ2K06-03NS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated

Extended male elbow (Gasket seal) KQ2W	Part number type A, G	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2W23-M3G1	—	—	M3 x 0.5	Ø 3.2
	KQ2W23-M5A1	**KQ2W23-M5N1**	**KQ2W23-M5G1**	M5 x 0.8	
	KQ2W04-M3G1	—	—	M3 x 0.5	Ø 4
	KQ2W04-M5A1	**KQ2W04-M5N1**	**KQ2W04-M5G1**	M5 x 0.8	
	KQ2W06-M5A1	**KQ2W06-M5N1**	**KQ2W06-M5G1**	M5 x 0.8	Ø 6

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Extended male elbow (Sealant) KQ2W	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2W23-01AS1	**KQ2W23-01NS1**	—	1/8	Ø 3.2
	KQ2W23-02AS1	**KQ2W23-02NS1**	—	1/4	
	KQ2W04-01AS1	**KQ2W04-01NS1**	**KQ2W04-01GS1**	1/8	Ø 4
	KQ2W04-02AS1	**KQ2W04-02NS1**	**KQ2W04-02GS1**	1/4	
	KQ2W06-01AS1	**KQ2W06-01NS1**	**KQ2W06-01GS1**	1/8	Ø 6
	KQ2W06-02AS1	**KQ2W06-02NS1**	**KQ2W06-02GS1**	1/4	
	KQ2W06-03AS1	**KQ2W06-03NS1**	**KQ2W06-03GS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Hexagon socket head male connector (Gasket seal) KQ2S	Part number type A, G	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2S23-M3G1	—	—	M3 x 0.5	Ø 3.2
	KQ2S23-M5A1	**KQ2S23-M5N1**	—	M5 x 0.8	
	KQ2S04-M3G1	—	—	M3 x 0.5	Ø 4
	KQ2S04-M5A1	**KQ2S04-M5N1**	**KQ2S04-M5G1**	M5 x 0.8	
	KQ2S04-M6A1	**KQ2S04-M6N1**	—	M6 x 1.0	
	KQ2S06-M5A1	**KQ2S06-M5N1**	**KQ2W06-02GS1**	M5 x 0.8	Ø 6
	KQ2S06-M6A1	**KQ2S06-M6N1**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Hexagon socket head male connector (Sealant) KQ2S	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2S04-01AS1	**KQ2S04-01NS1**	**KQ2S04-01GS1**	1/8	Ø 4
	KQ2S06-01AS1	**KQ2S06-01NS1**	**KQ2S06-01GS1**	1/8	Ø 6
	KQ2S06-02AS1	**KQ2S06-02NS1**	**KQ2S06-02GS1**	1/4	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Universal male elbow (Gasket seal) KQ2V	Part number type A	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2V04-M5A1	**KQ2V04-M5N1**	**KQ2V04-M5G1**	M5 x 0.8	Ø 4
	KQ2V06-M5A1	**KQ2V06-M5N1**	**KQ2V06-M5G1**	M5 x 0.8	Ø 6

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Universal male elbow (Sealant) KQ2V	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2V04-01AS1	**KQ2V04-01NS1**	**KQ2V04-01GS1**	1/8	Ø 4
	KQ2V06-01AS1	**KQ2V06-01NS1**	**KQ2V06-01GS1**	1/8	Ø 6
	KQ2V06-02AS1	**KQ2V06-02NS1**	**KQ2V06-02GS1**	1/4	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Hexagon socket head universal male elbow (Gasket seal) KQ2VS	Part number type A	Part number type N	Connection thread M	Applicable tubing O.D. [mm]
	KQ2VS04-M5A1	**KQ2VS04-M5N1**	M5 x 0.8	Ø 4
	KQ2VS06-M5A1	**KQ2VS06-M5N1**	M5 x 0.8	Ø 6

A: Brass, N: Brass + Electroless nickel plated

Hexagon socket head universal male elbow (Sealant) KQ2VS	Part number type A	Part number type N	Connection thread R	Applicable tubing O.D. [mm]
	KQ2VS04-01AS1	**KQ2VS04-01NS1**	1/8	Ø 4
	KQ2VS06-01AS1	**KQ2VS06-01NS1**	1/8	Ø 6
	KQ2VS06-02AS1	**KQ2VS06-02NS1**	1/4	

A: Brass, N: Brass + Electroless nickel plated

Male branch tee (Gasket seal) KQ2T	Part number type A, G	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2T23-M3G1	—	—	M3 x 0.5	Ø 3.2
	KQ2T23-M5A1	**KQ2T23-M5N1**	—	M5 x 0.8	
	KQ2T04-M3G1	—		M3 x 0.5	Ø 4
	KQ2T04-M5A1	**KQ2T04-M5N1**	**KQ2T04-M5G1**	M5 x 0.8	
	KQ2T04-M6A1	**KQ2T04-M6N1**	—	M6 x 1.0	
	KQ2T06-M5A1	**KQ2T06-M5N1**	**KQ2T06-M5G1**	M5 x 0.8	Ø 6
	KQ2T06-M6A1	**KQ2T06-M6N1**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male branch tee (Sealant) KQ2T	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2T23-01AS1	**KQ2T23-01NS1**	—	1/8	Ø 3.2
	KQ2T23-02AS1	**KQ2T23-02NS1**	—	1/4	
	KQ2T04-01AS1	**KQ2T04-01NS1**	**KQ2T04-01GS1**	1/8	Ø 4
	KQ2T04-02AS1	**KQ2T04-02NS1**	**KQ2T04-02GS1**	1/4	
	KQ2T06-01AS1	**KQ2T06-01NS1**	**KQ2T06-01GS1**	1/8	Ø 6
	KQ2T06-02AS1	**KQ2T06-02NS1**	**KQ2T06-02GS1**	1/4	
	KQ2T06-03AS1	**KQ2T06-03NS1**	**KQ2T06-03GS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male run tee (Gasket seal) KQ2Y	Part number type A, G	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2Y23-M3G1	—	—	M3 x 0.5	Ø 3.2
	KQ2Y23-M5A1	**KQ2Y23-M5N1**	—	M5 x 0.8	
	KQ2Y04-M3G1	—	—	M3 x 0.5	Ø 4
	KQ2Y04-M5A1	**KQ2Y04-M5N1**	**KQ2Y04-M5G1**	M5 x 0.8	
	KQ2Y04-M6A1	**KQ2Y04-M6N1**	—	M6 x 1.0	
	KQ2Y06-M5A1	**KQ2Y06-M5N1**	**KQ2Y06-M5G1**	M5 x 0.8	Ø 6
	KQ2Y06-M6A1	**KQ2Y06-M6N1**	—	M6 x 1.0	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male run tee (Sealant) KQ2Y	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2Y23-01AS1	**KQ2Y23-01NS1**	—	1/8	Ø 3.2
	KQ2Y23-02AS1	**KQ2Y23-02NS1**	—	1/4	
	KQ2Y04-01AS1	**KQ2Y04-01NS1**	**KQ2Y04-01GS1**	1/8	Ø 4
	KQ2Y04-02AS1	**KQ2Y04-02NS1**	**KQ2Y04-02GS1**	1/4	
	KQ2Y06-01AS1	**KQ2Y06-01NS1**	**KQ2Y06-01GS1**	1/8	Ø 6
	KQ2Y06-02AS1	**KQ2Y06-02NS1**	**KQ2Y06-02GS1**	1/4	
	KQ2Y06-03AS1	**KQ2Y06-03NS1**	**KQ2Y06-03GS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Double universal male elbow (Sealant) KQ2VD	Part number type A	Part number type N	Connection thread R	Applicable tubing O.D. [mm]
	KQ2VD04-01AS1	**KQ2VD04-01NS1**	1/8	Ø 4
	KQ2VD04-02AS1	**KQ2VD04-02NS1**	1/4	
	KQ2VD04-03AS1	**KQ2VD04-03NS1**	3/8	
	KQ2VD06-01AS1	**KQ2VD06-01NS1**	1/8	Ø 6
	KQ2VD06-02AS1	**KQ2VD06-02NS1**	1/4	
	KQ2VD06-03AS1	**KQ2VD06-03NS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated

Triple universal male elbow (Sealant) KQ2VT	Part number type A	Part number type N	Connection thread R	Applicable tubing O.D. [mm]
	KQ2VT04-01AS1	**KQ2VD04-01NS1**	1/8	Ø 4
	KQ2VT04-02AS1	**KQ2VD04-02NS1**	1/4	
	KQ2VT04-03AS1	**KQ2VD04-03NS1**	3/8	
	KQ2VT06-01AS1	**KQ2VD06-01NS1**	1/8	Ø 6
	KQ2VT06-02AS1	**KQ2VD06-02NS1**	1/4	
	KQ2VT06-03AS1	**KQ2VD06-03NS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated

Male delta union (Gasket seal) KQ2D	Part number type A	Part number type N	Part number type G	Connection thread M	Applicable tubing O.D. [mm]
	KQ2D04-M5A1	**KQ2D04-M5N1**	**KQ2D04-M5G1**	M5 x 0.8	Ø 4
	KQ2D04-M6A1	**KQ2D04-M6N1**	—	M6 x 1.0	
	KQ2D06-M5A1	**KQ2D06-M5N1**	**KQ2D06-M5G1**	M5 x 0.8	Ø 6
	KQ2D06-M6A1	**KQ2D06-M6N1**	—	M6 x 0.8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Male delta union (Sealant) KQ2D	Part number type A	Part number type N	Part number type G	Connection thread R	Applicable tubing O.D. [mm]
	KQ2D04-01AS1	**KQ2D04-01NS1**	**KQ2D04-01GS1**	1/8	Ø 4
	KQ2D04-02AS1	**KQ2D04-02NS1**	**KQ2D04-02GS1**	1/4	
	KQ2D06-01AS1	**KQ2D06-01NS1**	**KQ2D06-01GS1**	1/8	Ø 6
	KQ2D06-02AS1	**KQ2D06-02NS1**	**KQ2D06-02GS1**	1/4	
	KQ2D06-03AS1	**KQ2D06-03NS1**	**KQ2D06-03GS1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Bulkhead male elbow KQ2LE	Part number type A	Part number type N	Applicable tubing O.D. [mm]
	KQ2LE04-00A1	**KQ2LE04-00N1**	Ø 4
	KQ2LE06-00A1	**KQ2LE06-00N1**	Ø 6

A: Brass, N: Brass + Electroless nickel plated

Bulkhead union (Interchangeable with KQ) KQ2E	Part number type A	Part number type N	Part number type G	Applicable tubing O.D. [mm]
	KQ2E23-00A1	**KQ2E23-00N1**	—	Ø 3.2
	KQ2E04-00A1	**KQ2E04-00N1**	**KQ2E04-00G1**	Ø 4
	KQ2E06-00A1	**KQ2E06-00N1**	**KQ2E06-00G1**	Ø 6

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Straight union KQ2H	Part number	Applicable tubing O.D. [mm]
	KQ2H23-00A1	Ø 3.2
	KQ2H04-00A1	Ø 4
	KQ2H06-00A1	Ø 6

Union elbow KQ2L	Part number	Applicable tubing O.D. [mm]
	KQ2L23-00A1	Ø 3.2
	KQ2L04-00A1	Ø 4
	KQ2L06-00A1	Ø 6

Union tee KQ2T	Part number	Applicable tubing O.D. [mm]
	KQ2T23-00A1	Ø 3.2
	KQ2T04-00A1	Ø 4
	KQ2T06-00A1	Ø 6

Different diameter straight, KQ2H	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D	**KQ2H02-23A1**	Ø 2	Ø 3.2
	KQ2H02-04A1	Ø 2	Ø 4
	KQ2H23-04A1	Ø 3.2	Ø 4
	KQ2H23-06A1	Ø 3.2	Ø 6
	KQ2H04-06A1	Ø 4	Ø 6
	KQ2H06-08A1	Ø 6	Ø 8

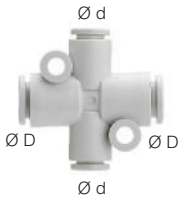
Different diameter tee KQ2T	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø D Ø d Ø d	**KQ2T23-04A1**	Ø 3.2	Ø 4
	KQ2T04-06A1	Ø 4	Ø 6
	KQ2T06-08A1	Ø 6	Ø 8

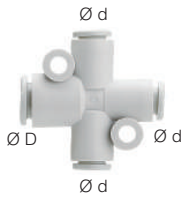
Different diameter tee KQ2T	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D Ø D	**KQ2T06-04A1**	Ø 4	Ø 6
	KQ2T08-06A1	Ø 6	Ø 8

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Delta union KQ2D	Part number	Applicable tubing O.D. [mm]
	KQ2D04-00A1	Ø 4
	KQ2D06-00A1	Ø 6

Cross KQ2TW	Part number	Applicable tubing O.D. [mm]
	KQ2TW04-00A1	Ø 4
	KQ2TW06-00A1	Ø 6

Different diameter cross KQ2TX	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
	**KQ2TX06-08A1**	Ø 6	Ø 8

Different diameter cross KQ2TY	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
	**KQ2TY06-08A1**	Ø 6	Ø 8

Plug-in elbow KQ2L	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2L23-99A1	Ø 3.2	Ø 3.2
	KQ2L04-99A1	Ø 4	Ø 4
	KQ2L06-99A1	Ø 6	Ø 6

Extended plug-in elbow KQ2W	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2W23-99A1	Ø 3.2	Ø 3.2
	KQ2W04-99A1	Ø 4	Ø 4
	KQ2W06-99A1	Ø 6	Ø 6

Reducer elbow KQ2L	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2L23-04A1	Ø 4	Ø 3.2
	KQ2L23-06A1	Ø 6	
	KQ2L04-06A1	Ø 6	Ø 4
	KQ2L04-08A1	Ø 8	
	KQ2L06-08A1	Ø 8	Ø 6
	KQ2L06-10A1	Ø 10	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Plug-in reducer KQ2R	Part number	Fitting size	Applicable tubing O.D. [mm]
	KQ2R23-04A1	Ø 4	Ø 3.2
	KQ2R23-06A1	Ø 6	
	KQ2R04-06A1	Ø 6	
	KQ2R04-08A1	Ø 8	Ø 4
	KQ2R04-10A1	Ø 10	
	KQ2R06-04A1	Ø 4	
	KQ2R06-08A1	Ø 8	Ø 6
	KQ2R06-10A1	Ø 10	
	KQ2R06-12A1	Ø 12	

Female elbow KQ2LF	Part number type A	Part number type N	Connection thread M, Rc	Applicable tubing O.D. [mm]
	KQ2LF04-M5A1	**KQ2LF04-M5N1**	M5 x 0.8	Ø 4
	KQ2LF04-M6A1	**KQ2LF04-M6N1**	M6 x 1.0	
	KQ2LF04-01A1	**KQ2LF04-01N1**	1/8	
	KQ2LF04-02A1	**KQ2LF04-02N1**	1/4	
	KQ2LF06-M5A1	**KQ2LF06-M5N1**	M5 x 0.8	Ø 6
	KQ2LF06-M6A1	**KQ2LF06-M6N1**	M6 x 1.0	
	KQ2LF06-01A1	**KQ2LF06-01N1**	1/8	
	KQ2LF06-02A1	**KQ2LF06-02N1**	1/4	
	KQ2LF06-03A1	**KQ2LF06-03N1**	3/8	

A: Brass, N: Brass + Electroless nickel plated

Female connector KQ2F	Part number type A	Part number type N	Part number type G	Connection thread M, Rc	Applicable tubing O.D. [mm]
	KQ2F23-M3A1	**KQ2F23-M3N1**	—	M3 x 0.5	Ø 3.2
	KQ2F23-M5A1	**KQ2F23-M5N1**	—	M5 x 0.8	
	KQ2F04-M3A1	**KQ2F04-M3N1**	—	M3 x 0.5	Ø 4
	KQ2F04-M5A1	**KQ2F04-M5N1**	—	M5 x 0.8	
	KQ2F04-01A1	**KQ2F04-01N1**	**KQ2F04-01G1**	1/8	
	KQ2F04-02A1	**KQ2F04-02N1**	**KQ2F04-02G1**	1/4	
	KQ2F06-M5A1	**KQ2F06-M5N1**	—	M5 x 0.8	Ø 6
	KQ2F06-01A1	**KQ2F06-01N1**	**KQ2F06-01G1**	1/8	
	KQ2F06-02A1	**KQ2F06-02N1**	**KQ2F06-02G1**	1/4	
	KQ2F06-03A1	**KQ2F06-03N1**	**KQ2F06-03G1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Bulkhead connector KQ2E	Part number type A	Part number type N	Part number type G	Connection thread Rc	Applicable tubing O.D. [mm]
	KQ2E23-02A1	**KQ2E23-02N1**	—	1/4	Ø 3.2
	KQ2E04-01A1	**KQ2E04-01N1**	**KQ2E04-01G1**	1/8	Ø 4
	KQ2E04-02A1	**KQ2E04-02N1**	**KQ2E04-02G1**	1/4	
	KQ2E06-01A1	**KQ2E06-01N1**	**KQ2E06-01G1**	1/8	Ø 6
	KQ2E06-02A1	**KQ2E06-02N1**	**KQ2E06-02G1**	1/4	
	KQ2E06-03A1	**KQ2E06-03N1**	**KQ2E06-03G1**	3/8	

A: Brass, N: Brass + Electroless nickel plated, G: Stainless steel 303

Universal female elbow (Gasket seal) KQ2VF	Part number type A	Part number type N	Connection thread M	Applicable tubing O.D. [mm]
	KQ2VF04-M5A1	**KQ2VF04-M5N1**	M5 x 0.8	Ø 4
	KQ2VF06-M5A1	**KQ2VF06-M5N1**	M5 x 0.8	Ø 6

A: Brass, N: Brass + Electroless nickel plated

Universal female elbow (Sealant) KQ2VF	Part number type A	Part number type N	Connection thread Rc, R	Applicable tubing O.D. [mm]
	KQ2VF04-01AS1	**KQ2VF04-01NS1**	1/8	Ø 4
	KQ2VF06-01AS1	**KQ2VF06-01NS1**	1/8	Ø 6
	KQ2VF06-02AS1	**KQ2VF06-02NS1**	1/4	Ø 6

A: Brass, N: Brass + Electroless nickel plated

Plug KQ2P	Part number	Applicable fitting size Ø d [mm]
	KJP-02	Ø 2
	KQ2P-23	Ø 3.2
	KQ2P-04	Ø 4
	KQ2P-06	Ø 6
	KQ2P-08	Ø 8
	KQ2P-10	Ø 10
	KQ2P-12	Ø 12
	KQ2P-16	Ø 16

Tube cap KQ2C	Part number	Applicable tubing O.D. [mm]
	KQ2C04-00A1	Ø 4
	KQ2C06-00A1	Ø 6

Nipple KQ2N	Part number	Applicable fitting size Ø D [mm]
	KQ2N04-99	Ø 4
	KQ2N06-99	Ø 6
	KQ2N08-99	Ø 8
	KQ2N10-99	Ø 10
	KQ2N12-99	Ø 12
	KQ2N16-99	Ø 16

Reducer nipple KQ2N	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
	KQ2N04-06	Ø 4	Ø 6
	KQ2N06-08	Ø 6	Ø 8
	KQ2N08-10	Ø 8	Ø 10
	KQ2N10-12	Ø 10	Ø 12
	KQ2N12-16	Ø 12	Ø 16

Adapter (Gasket seal) KQ2N	Part number type A	Part number type N	Connection thread M	Applicable tubing O.D. [mm]
	KQ2N04-M5A	**KQ2N04-M5N**	M5 x 0.8	Ø 4
	KQ2N06-M5A	**KQ2N06-M5N**		Ø 6

A: Brass, N: Brass + Electroless nickel plated

Adapter (Sealant) KQ2N	Part number type A	Part number type N	Connection thread R	Applicable tubing O.D. [mm]
	KQ2N04-01AS	**KQ2N04-01NS**	1/8	Ø 4
	KQ2N06-01AS	**KQ2N06-01NS**	1/8	Ø 6
	KQ2N06-02AS	**KQ2N06-02NS**	1/4	
	KQ2N08-02AS	**KQ2N08-02NS**	1/4	Ø 8
	KQ2N08-03AS	**KQ2N08-03NS**	3/8	
	KQ2N10-03AS	**KQ2N10-03NS**	3/8	Ø 10

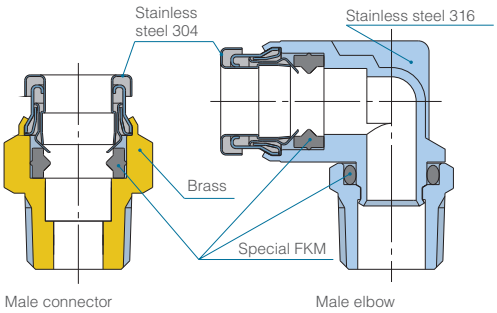
A: Brass, N: Brass + Electroless nickel plated

Our highlighted product for you

Metal one-touch fittings
KQB2 Series

Tube O.D.: Ø 3.2 • 4 • 6 • 8 • 10 • 12 •16 mm
Thread: M5 • R, G, 1/8 • 1/4 • 3/8 • 1/2

- Material:
  Metal parts: Stainless steel 304. 316. C3604. brass
  Seal parts: Special FKM
- Can be used with air, water
- Operating fluid temperature: -5 to 150 °C
- Grease-free
- Applicable tubing material: FEP, PFA, nylon, soft nylon, polyurethane, polyolefin.



Customer Benefits

- Good aging thanks to brass parts that are electroless nickel plated.
- Wide assortment of applications due to the fluid temperature range and the grease-free specification.
- Easy to use in confined spaces.

Related products

TU Series - Polyurethane tubing - page 376
T Series - Nylon tubing - page 374
TH Series - Fluoropolymer (FEP) tubing - page 390
TLM Series - Fluoropolymer (PFA) tubing - page 387

Male connector
KQB2H

Part number	R	Ø D
KQB2H23-M5 ●	M5*	3.2
KQB2H23-01S	R1/8	
KQB2H23-02S	R1/4	
KQB2H04-M5 ●	M5*	4
KQB2H04-01S ●	R1/8	
KQB2H04-02S ●	R1/4	
KQB2H06-M5 ●	M5*	6
KQB2H06-01S ●	R1/8	
KQB2H06-02S ●	R1/4	
KQB2H06-03S ●	R3/8	
KQB2H08-01S ●	R1/8	8
KQB2H08-02S ●	R1/4	
KQB2H08-03S ●	R3/8	
KQB2H10-01S ●	R1/8	10
KQB2H10-02S ●	R1/4	
KQB2H10-03S ●	R3/8	
KQB2H10-04S ●	R1/2	
KQB2H12-02S ●	R1/4	12
KQB2H12-03S ●	R3/8	
KQB2H12-04S ●	R1/2	
KQB2H16-03S	R3/8	16
KQB2H16-04S ●	R1/2	

* with gasket.

Male connector
KQB2H

Part number	G	Ø D
KQB2H04-G01 ●	G1/8	4
KQB2H04-G02 ●	G1/4	
KQB2H06-G01 ●	G1/8	6
KQB2H06-G02 ●	G1/4	
KQB2H06-G03 ●	G3/8	
KQB2H08-G01 ●	G1/8	8
KQB2H08-G02 ●	G1/4	
KQB2H08-G03 ●	G3/8	
KQB2H10-G01 ●	G1/8	10
KQB2H10-G02 ●	G1/4	
KQB2H10-G03 ●	G3/8	
KQB2H10-G04 ●	G1/2	
KQB2H12-G02 ●	G1/4	12
KQB2H12-G03 ●	G3/8	
KQB2H12-G04 ●	G1/2	
KQB2H16-G03 ●	G3/8	16
KQB2H16-G04 ●	G1/2	

Hexagon socket head male connector
KQB2S

Part number	R	Ø D
KQB2S23-M5 ●	M5*	3.2
KQB2S04-M5 ●		4
KQB2S04-01S	R1/8	
KQB2S06-M5 ●	M5*	6
KQB2S06-01S ●	R1/8	
KQB2S06-02S ●	R1/4	
KQB2S08-01S ●	R1/8	8
KQB2S08-02S ●	R1/4	
KQB2S08-03S ●	R3/8	
KQB2S10-01S ●	R1/8	10
KQB2S10-02S ●	R1/4	
KQB2S10-03S ●	R3/8	
KQB2S10-04S ●	R1/2	
KQB2S12-02S ●	R1/4	12
KQB2S12-03S ●	R3/8	
KQB2S12-04S ●	R1/2	
KQB2S16-03S ●	R3/8	16
KQB2S16-04S ●	R1/2	

* with gasket.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Hexagon socket head male connector
KQB2S

Part number	G	Ø D
KQB2S04-G01 ●	G1/8	4
KQB2S06-G01 ●		6
KQB2S06-G02 ●	G1/4	
KQB2S08-G01 ●	G1/8	8
KQB2S08-G02 ●	G1/4	
KQB2S08-G03 ●	G3/8	
KQB2S10-G01 ●	G1/8	10
KQB2S10-G02 ●	G1/4	
KQB2S10-G03 ●	G3/8	
KQB2S10-G04 ●	G1/2	
KQB2S12-G02 ●	G1/4	12
KQB2S12-G03 ●	G3/8	
KQB2S12-G04 ●	G1/2	
KQB2S16-G03 ●	G3/8	16
KQB2S16-G04 ●	G1/2	

Straight union
KQB2H

Part number	Ø D
KQB2H23-00 ●	3.2
KQB2H04-00 ●	4
KQB2H06-00 ●	6
KQB2H08-00 ●	8
KQB2H10-00 ●	10
KQB2H12-00 ●	12
KQB2H16-00 ●	16

Union elbow
KQB2L

Part number	Ø D
KQB2L23-00 ●	3.2
KQB2L04-00 ●	4
KQB2L06-00 ●	6
KQB2L08-00 ●	8
KQB2L10-00 ●	10
KQB2L12-00 ●	12
KQB2L16-00 ●	16

Different diameter straight
KQB2H

Part number	Ø d	Ø D
KQB2H23-04 ●	3.2	4
KQB2H04-06 ●	4	6
KQB2H06-08 ●	6	8
KQB2H08-10 ●	8	10
KQB2H10-12 ●	10	12
KQB2H12-16 ●	12	16

Bulkhead union
KQB2E

Part number	Ø D
KQB2E23-00 ●	3.2
KQB2E04-00 ●	4
KQB2E06-00 ●	6
KQB2E08-00 ●	8
KQB2E10-00 ●	10
KQB2E12-00 ●	12
KQB2E16-00 ●	16

Male elbow
KQB2L

Part number	R	Ø D
KQB2L23-M5 ●	M5*	3.2
KQB2L23-01S	R1/8	
KQB2L23-02S	R1/4	
KQB2L04-M5 ●	M5*	4
KQB2L04-01S ●	R1/8	
KQB2L04-02S ●	R1/4	
KQB2L06-M5 ●	M5*	6
KQB2L06-01S ●	R1/8	
KQB2L06-02S ●	R1/4	
KQB2L06-03S	R3/8	
KQB2L08-01S ●	R1/8	8
KQB2L08-02S ●	R1/4	
KQB2L08-03S ●	R3/8	
KQB2L10-01S ●	R1/8	10
KQB2L10-02S ●	R1/4	
KQB2L10-03S ●	R3/8	
KQB2L10-04S ●	R1/2	
KQB2L12-02S ●	R1/4	12
KQB2L12-03S ●	R3/8	
KQB2L12-04S ●	R1/2	
KQB2L16-03S	R3/8	16
KQB2L16-04S ●	R1/2	

∗ with gasket.

Male elbow
KQB2L

Part number	G	Ø D
KQB2L04-G01 ●	G1/8	4
KQB2L04-G02 ●	G1/4	
KQB2L06-G01 ●	G1/8	6
KQB2L06-G02 ●	G1/4	
KQB2L06-G03 ●	G3/8	
KQB2L08-G01 ●	G1/8	8
KQB2L08-G02 ●	G1/4	
KQB2L08-G03 ●	G3/8	
KQB2L10-G01 ●	G1/8	10
KQB2L10-G02 ●	G1/4	
KQB2L10-G03 ●	G3/8	
KQB2L10-G04 ●	G1/2	
KQB2L12-G02 ●	G1/4	12
KQB2L12-G03 ●	G3/8	
KQB2L12-G04 ●	G1/2	
KQB2L16-G03 ●	G3/8	16
KQB2L16-G04 ●	G1/2	

Male branch tee
KQB2T

Part number	R	Ø D
KQB2T23-M5 ●	M5*	3.2
KQB2T23-01S	R1/8	
KQB2T23-02S	R1/4	
KQB2T04-M5 ●	M5*	4
KQB2T04-01S	R1/8	
KQB2T04-02S	R1/4	
KQB2T06-M5 ●	M5*	6
KQB2T06-01S ●	R1/8	
KQB2T06-02S ●	R1/4	
KQB2T06-03S	R3/8	
KQB2T08-01S	R1/8	8
KQB2T08-02S ●	R1/4	
KQB2T08-03S	R3/8	
KQB2T10-01S	R1/8	10
KQB2T10-02S	R1/4	
KQB2T10-03S	R3/8	
KQB2T10-04S	R1/2	
KQB2T12-02S	R1/4	12
KQB2T12-03S	R3/8	
KQB2T12-04S	R1/2	
KQB2T16-03S	R3/8	16
KQB2T16-04S	R1/2	

∗ with gasket.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Male branch tee
KQB2T

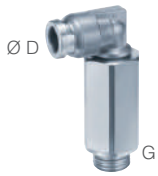
Part number	G	Ø D
KQB2T04-G01 ●	G1/8	4
KQB2T04-G02 ●	G1/4	
KQB2T06-G01 ●	G1/8	6
KQB2T06-G02 ●	G1/4	
KQB2T06-G03 ●	G3/8	
KQB2T08-G01 ●	G1/8	8
KQB2T08-G02 ●	G1/4	
KQB2T08-G03 ●	G3/8	
KQB2T10-G01 ●	G1/8	10
KQB2T10-G02 ●	G1/4	
KQB2T10-G03 ●	G3/8	
KQB2T10-G04 ●	G1/2	
KQB2T12-G02 ●	G1/4	12
KQB2T12-G03 ●	G3/8	
KQB2T12-G04 ●	G1/2	
KQB2T16-G03 ●	G3/8	16
KQB2T16-G04 ●	G1/2	

Extended male elbow
KQB2W

Part number	R	Ø D
KQB2W23-M5 ●	M5*	3.2
KQB2W23-01S	R1/8	
KQB2W23-02S	R1/4	
KQB2W04-M5 ●	M5*	4
KQB2W04-01S	R1/8	
KQB2W04-02S	R1/4	
KQB2W06-M5 ●	M5*	6
KQB2W06-01S ●	R1/8	
KQB2W06-02S ●	R1/4	
KQB2W06-03S	R3/8	
KQB2W08-01S	R1/8	8
KQB2W08-02S	R1/4	
KQB2W08-03S	R3/8	
KQB2W10-02S	R1/4	10
KQB2W10-03S	R3/8	
KQB2W10-04S	R1/2	
KQB2W12-02S	R1/4	12
KQB2W12-03S	R3/8	
KQB2W12-04S	R1/2	
KQB2W16-03S	R3/8	16
KQB2W16-04S	R1/2	

∗ with gasket.

Extended male elbow
KQB2W



Part number	G	Ø D
KQB2W04-G01 ●	G1/8	4
KQB2W04-G02 ●	G1/4	
KQB2W06-G01 ●	G1/8	6
KQB2W06-G02 ●	G1/4	
KQB2W06-G03 ●	G3/8	
KQB2W08-G01 ●	G1/8	8
KQB2W08-G02 ●	G1/4	
KQB2W08-G03 ●	G3/8	
KQB2W10-G02 ●	G1/4	10
KQB2W10-G03 ●	G3/8	
KQB2W10-G04 ●	G1/2	
KQB2W12-G02 ●	G1/4	12
KQB2W12-G03 ●	G3/8	
KQB2W12-G04 ●	G1/2	
KQB2W16-G03 ●	G3/8	16
KQB2W16-G04 ●	G1/2	

Bulkhead connector
KQB2E

Part number	Rc	Ø D
KQB2E23-02	Rc1/4	3.2
KQB2E04-01	Rc1/8	4
KQB2E04-02	Rc1/4	
KQB2E06-01	Rc1/8	6
KQB2E06-02	Rc1/4	
KQB2E06-03	Rc3/8	
KQB2E08-01	Rc1/8	8
KQB2E08-02	Rc1/4	
KQB2E08-03	Rc3/8	
KQB2E10-02	Rc1/4	10
KQB2E10-03	Rc3/8	
KQB2E12-03	Rc3/8	12
KQB2E12-04	Rc1/2	
KQB2E16-03	Rc3/8	16
KQB2E16-04	Rc1/2	

Bulkhead connector
KQB2E

Part number	G	Ø D
KQB2E04-G01 ●	G1/8	4
KQB2E04-G02 ●	G1/4	
KQB2E06-G01 ●	G1/8	6
KQB2E06-G02 ●	G1/4	
KQB2E06-G03 ●	G3/8	
KQB2E08-G01 ●	G1/8	8
KQB2E08-G02 ●	G1/4	
KQB2E08-G03 ●	G3/8	
KQB2E10-G02 ●	G1/4	10
KQB2E10-G03 ●	G3/8	
KQB2E12-G03 ●	G3/8	12
KQB2E12-G04 ●	G1/2	
KQB2E16-G03 ●	G3/8	16
KQB2E16-G04 ●	G1/2	

Female connector
KQB2F

Part number	Rc	Ø D
KQB2F23-01	Rc1/8	3.2
KQB2F04-01		4
KQB2F04-02	Rc1/4	
KQB2F06-01	Rc1/8	6
KQB2F06-02	Rc1/4	
KQB2F06-03	Rc3/8	
KQB2F08-01	Rc1/8	8
KQB2F08-02 ●	Rc1/4	
KQB2F08-03 ●	Rc3/8	
KQB2F10-02	Rc1/4	10
KQB2F10-03	Rc3/8	
KQB2F12-02	Rc1/4	12
KQB2F12-03	Rc3/8	
KQB2F12-04	Rc1/2	
KQB2F16-03	Rc3/8	16
KQB2F16-04	Rc1/2	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Female connector
KQB2F

Part number	G	Ø D
KQB2F04-G01 ●	G1/8	4
KQB2F04-G02 ●	G1/4	
KQB2F06-G01 ●	G1/8	6
KQB2F06-G02 ●	G1/4	
KQB2F06-G03 ●	G3/8	
KQB2F08-G01 ●	G1/8	8
KQB2F08-G02 ●	G1/4	
KQB2F08-G03 ●	G3/8	
KQB2F10-G02 ●	G1/4	10
KQB2F10-G03 ●	G3/8	
KQB2F12-G02 ●	G1/4	12
KQB2F12-G03 ●	G3/8	
KQB2F12-G04 ●	G1/2	
KQB2F16-G03 ●	G3/8	16
KQB2F16-G04 ●	G1/2	

Union tee
KQB2T

Part number	Ø D
KQB2T23-00 ●	3.2
KQB2T04-00 ●	4
KQB2T06-00 ●	6
KQB2T08-00 ●	8
KQB2T10-00 ●	10
KQB2T12-00 ●	12
KQB2T16-00 ●	16

Different diameter tee
KQB2T

Part number	Ø d	Ø D
KQB2T23-04 ●	3.2	4
KQB2T04-06 ●	4	6
KQB2T06-08 ●	6	8
KQB2T08-10 ●	8	10
KQB2T10-12 ●	10	12
KQB2T12-16 ●	12	16

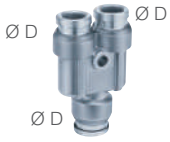
Plug-in reducer
KQB2R

Part number	Ø d	Ø D
KQB2R23-04	3.2	4
KQB2R04-06	4	6
KQB2R06-08	6	8
KQB2R08-10	8	10
KQB2R10-12	10	12
KQB2R12-16	12	16

Plug
KQB2P

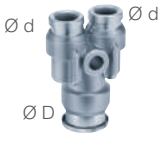
Part number	Ø D
KQB2P-23 ●	3.2
KQB2P-04 ●	4
KQB2P-06 ●	6
KQB2P-08 ●	8
KQB2P-10 ●	10
KQB2P-12 ●	12
KQB2P-16 ●	16

Union "Y"
KQB2U



Part number	Ø D
KQB2U23-00 ●	3.2
KQB2U04-00 ●	4
KQB2U06-00 ●	6
KQB2U08-00 ●	8
KQB2U10-00 ●	10
KQB2U12-00 ●	12
KQB2U16-00 ●	16

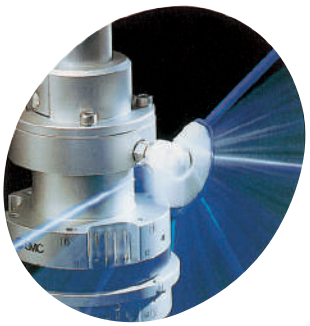
Different diameter union "Y"
KQB2U



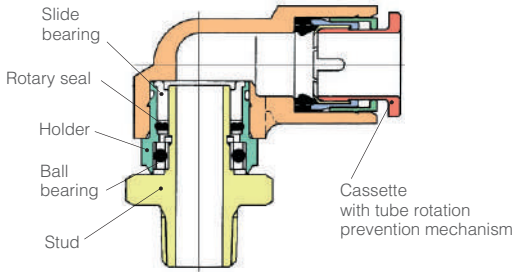
Part number	Ø d	Ø D
KQB2U23-04	3.2	4
KQB2U04-06	4	6
KQB2U06-08	6	8
KQB2U08-10	8	10
KQB2U10-12	10	12
KQB2U12-16	12	16

Rotary one-touch fittings
KS Series

Tube O.D.: Ø 4 • 6 • 8 • 10 • 12 mm
Thread: M5 • M6 • R1/8 • 1/4 • 3/8 • 1/2



- For vacuum and compressed air
- Operating pressure range -100 kPa to 1 MPa
- For speeds up to 500 r.p.m.



Male connector
KSH

Part number	R	Ø D
KSH04-M5 ●	M5*	4
KSH04-M6 ●	M6*	
KSH04-01S ●	R1/8	
KSH06-M5 ●	M5*	6
KSH06-M6 ●	M6*	
KSH06-01S ●	R1/8	
KSH06-02S ●	R1/4	
KSH08-01S ●	R1/8	8
KSH08-02S ●	R1/4	
KSH08-03S ●	R3/8	
KSH10-02S ●	R1/4	10
KSH10-03S ●	R3/8	
KSH10-04S ●	R1/2	
KSH12-03S ●	R3/8	12
KSH12-04S ●	R1/2	

∗ with gasket.

Male elbow
KSL

Part number	R	Ø D
KSL04-M5 ●	M5*	4
KSL04-M6 ●	M6*	
KSL04-01S ●	R1/8	
KSL06-M5 ●	M5*	6
KSL06-M6 ●	M6*	
KSL06-01S ●	R1/8	
KSL06-02S ●	R1/4	
KSL08-01S ●	R1/8	8
KSL08-02S ●	R1/4	
KSL08-03S ●	R3/8	
KSL10-02S ●	R1/4	10
KSL10-03S ●	R3/8	
KSL10-04S ●	R1/2	
KSL12-03S ●	R3/8	12
KSL12-04S ●	R1/2	

∗ with gasket.

Rotary one-touch fittings high speed
KX Series

- Same construction as KS, but speeds up to 1500 r.p.m
- Multiple bearings.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

One-touch fittings manifold

KM Series

One-touch fitting: Ø 4 • 6 • 8 mm

• Operating pressure range -100 kPa to 1 MPa.

One-touch fitting manifold, 10 ports
KM11•12

With threaded connection

Part number	R	Ø D
KM12-04-02-10 ●	Rc1/4	4
KM12-06-02-10 ●		6
KM12-08-03-10 ●	Rc3/8	8

With one-touch fitting

Part number	Ø D	Ø d
KM11-04-08-10 ●	8	4
KM11-06-10-10 ●	10	6
KM11-08-12-10 ●	12	8

One-touch fitting manifold, 6 ports
KM11•12

With threaded connection

Part number	R	Ø D
KM12-04-02-6 ●	Rc1/4	4
KM12-06-02-6 ●		6
KM12-08-03-6 ●	Rc3/8	8

With one-touch fitting

Part number	Ø D	Ø d
KM11-04-08-6 ●	8	4
KM11-06-10-6 ●	10	6
KM11-08-12-6 ●	12	8

One-touch connection manifold, 3 ports
KM13

With one-touch fitting

Part number	Ø D	Ø d
KM13-04-06-3 ●	6	4
KM13-04-08-3 ●	8	
KM13-06-08-3 ●		6
KM13-06-10-3 ●	10	
KM13-08-10-3 ●		8

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Miniature fittings

M Series

Thread: M3 • M5 • R1/8

• Max. operating pressure 1 MPa.

Barb fitting

Part number	R	Ø D
M-3AU-2 ●	M3*	2
M-5AU-2 ●	M5*	
M-3AU-4 ●	M3*	4
M-5AU-4 ●	M5*	
M-5AU-6 ●	M5*	6
M-01AU-4 ●	R1/8	4
M-01AU-6 ●		6

* with gasket.

Hose nipple

Part number	R	Ø D
M-5H-4 ●	M5*	4
M-5H-6 ●		6
M-01H-4 ●	R1/8	4
M-01H-6 ●		6

* with gasket.

Barb elbow

Part number	R	Ø D
M-3ALU-2 ●	M3*	2
M-5ALHU-2 ●	M5*	2
M-3ALU-4 ●	M3*	4
M-5ALU-4 ●	M5*	
M-5ALU-6 ●		6

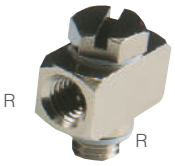
* with gasket.

Hose elbow

Part number	R	Ø D
M-5HL-4 ●	M5*	4
M-5HL-6 ●		6

* with gasket.

Universal elbow



Part number	R	R
M-3UL ●	M3*	M3
M-5UL ●	M5*	M5

* with gasket.

Universal tee

Part number	R	R
M-3UT ●	M3*	M3
M-5UT ●	M5*	M5

* with gasket.

Nipple

Part number	R	R
M-3N ●	M3*	M3*
M-5N ●	M5*	M5*

* with gasket.

Universal nipple

Part number	R	R
M-5UN ●	M5*	M5*

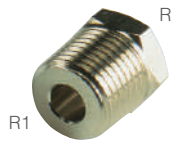
* with gasket.

Extension fitting

Part number	R	R
M-5J ●	M5*	M5

* with gasket.

Bushing



Part number	R	R1
M-5B ●	M5	R1/8

Bulkhead union

Part number	R	R1
M-5E ●	M5	M5
M-5ER ●		Rc1/8

Plug

Part number	R
M-3P ●	M3*
M-5P ●	M5*

* with gasket.

Manifold

Part number	Rc	R1
M-5M ●	Rc1/8	M5

Gasket

Part number	Ø D	Thickness
M-3G ●	5	0.4
M-5G1 ●	7	0.5
M-5GH ●		2

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Barb one-touch

Part number	Ø d	Ø D
M-32F-2	2	3.2
M-04F-2 ●		4

Plug-in reducer

Part number	Ø d	Ø D
M-32R-2	2	3.2
M-04R-2 ●		4

Insert fittings

H•DL•DT Series

Tube: O.D.: Ø 4 • 6 • 8 • 10 • 12 mm

Thread: R1/8 • 1/4 • 3/8 • 1/2

- Applicable for nylon, soft nylon and soft copper piping
- Max. operating pressure 1 MPa.

Ferrule
S

Part number	Ø
S-04	4
S-06	6
S-08	8
S-10	10
S-12	12

Union tee
DT

Part number	Ø D	Ø D
DT04-00 ●	4	4
DT06-00 ●	6	6
DT08-00 ●	8	8
DT10-00 ●	10	10
DT12-00 ●	12	12

Male elbow
DL

Part number	R	Ø D
DL04-01S ●	R1/8	4
DL04-02S	R1/4	
DL06-01S ●	R1/8	6
DL06-02S ●	R1/4	
DL06-03S ●	R3/8	
DL08-01S ●	R1/8	8
DL08-02S ●	R1/4	
DL08-03S ●	R3/8	
DL10-02S ●	R1/4	10
DL10-03S ●	R3/8	
DL10-04S	R1/2	
DL12-02S	R1/4	12
DL12-03S	R3/8	
DL12-04S	R1/2	

Male connector
H

Part number	R	Ø D
H04-01S ●	R1/8	4
H04-02S ●	R1/4	
H06-01S ●	R1/8	6
H06-02S ●	R1/4	
H06-03S ●	R3/8	
H08-01S ●	R1/8	8
H08-02S ●	R1/4	
H08-03S ●	R3/8	
H10-02S ●	R1/4	10
H10-03S ●	R3/8	
H10-04S ●	R1/2	
H12-02S ●	R1/4	12
H12-03S ●	R3/8	
H12-04S ●	R1/2	

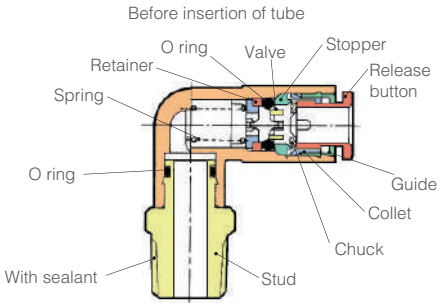
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

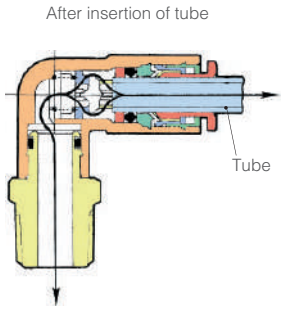
Self-seal fittings

KC Series

Tube: O.D.: Ø 4 • 6 • 8 • 10 • 12 mm
Thread: M5 • R1/8 • 1/4 • 3/8 • 1/2

- Prevents the release of air when the hose is disconnected
- Max. operating pressure 1 MPa.





Male connector KCH

Part number	R	Ø D
KCH04-M5 ●	M5 *	4
KCH04-01S ●	R1/8	
KCH06-M5 ●	M5*	6
KCH06-01S ●	R1/8	
KCH06-02S ●	R1/4	
KCH08-01S ●	R1/8	8
KCH08-02S ●	R1/4	
KCH08-03S ●	R3/8	
KCH10-02S ●	R1/4	10
KCH10-03S ●	R3/8	
KCH12-03S ●	R3/8	12
KCH12-04S ●	R1/2	

* with gasket.

Male elbow KCL

Part number	R	Ø D
KCL04-M5 ●	M5*	4
KCL04-01S ●	R1/8	
KCL06-M5 ●	M5*	6
KCL06-01S ●	R1/8	
KCL06-02S ●	R1/4	
KCL08-01S ●	R1/8	8
KCL08-02S ●	R1/4	
KCL08-03S ●	R3/8	
KCL10-02S ●	R1/4	10
KCL10-03S ●	R3/8	
KCL12-03S	R3/8	12
KCL12-04S ●	R1/2	

* with gasket.

Union tee KCT

Part number	Ø D	Ø D
KCT04-00 ●	4	4
KCT06-00 ●	6	6
KCT08-00 ●	8	8
KCT10-00 ●	10	10
KCT12-00 ●	12	12

Union "Y" KCU

Part number	Ø D	Ø D
KCU04-00 ●	4	4
KCU06-00 ●	6	6
KCU08-00 ●	8	8
KCU10-00	10	10
KCU12-00 ●	12	12

Check adaptor KCJ

Part number	Ø D	Ø D
KCJ04-99 ●	4	4
KCJ06-99 ●	6	6
KCJ08-99 ●	8	8
KCJ10-99 ●	10	10
KCJ12-99 ●	12	12

Bulkhead union KCE

Part number	Ø D	Ø D
KCE04-00 ●	4	4
KCE06-00 ●	6	6
KCE08-00 ●	8	8
KCE10-00 ●	10	10
KCE12-00 ●	12	12

Bulkhead female union KCE

Part number	Rc	Ø D
KCE04-02 ●	Rc1/4	4
KCE06-02 ●		6
KCE08-03 ●	Rc3/8	8
KCE10-03 ●		10
KCE12-03 ●		12

Straight union KCH

Part number	R	Ø D
KCH04-00 ●	4	4
KCH06-00 ●	6	6
KCH08-00 ●	8	8
KCH10-00 ●	10	10
KCH12-00 ●	12	12

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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S Couplers

KK Series

- Large effective sectional area
- Light weight
- One-touch fitting available as standard
- Lock ring: shock absorbent PBT
- Suitable for air and water
- Operating pressure range: KK3: -90 kPa to 1 MPa
  KK4 / 6: 0 to 1 MPa

Plug (P)

Male thread type	Part number	R	Size
	KK3P-01MS ●	R1/8	1/8
	KK3P-02MS ●	R1/4	
	KK3P-03MS	R3/8	
	KK4P-01MS ●	R1/8	1/4
	KK4P-02MS ●	R1/4	
	KK4P-03MS ●	R3/8	
	KK4P-04MS ●	R1/2	
	KK6P-03MS ●	R3/8	1/2
	KK6P-04MS ●	R1/2	
	KK6P-06MS ●	R3/4	

Female thread type	Part number	Rc	Size
	KK3P-01F ●	Rc1/8	1/8
	KK3P-02F ●	Rc1/4	
	KK3P-03F	Rc3/8	
	KK4P-02F ●	Rc1/4	1/4
	KK4P-03F ●	Rc3/8	
	KK6P-03F ●		1/2
	KK6P-04F ●	Rc1/2	

Straight type with one-touch fitting	Part number	Ø O.D.	Size
	KK3P-04H ●	4	1/8
	KK3P-06H ●	6	
	KK3P-08H ●	8	
	KK3P-10H ●	10	
	KK4P-06H ●	6	1/4
	KK4P-08H ●	8	
	KK4P-10H ●	10	
	KK4P-12H ●	12	
	KK6P-12H ●		1/2
	KK6P-16H ●	16	

Elbow type with one-touch fitting	Part number	Ø O.D.	Size
	KK3P-04L ●	4	1/8
	KK3P-06L ●	6	
	KK3P-08L ●	8	
	KK3P-10L ●	10	
	KK4P-06L ●	6	1/4
	KK4P-08L ●	8	
	KK4P-10L ●	10	
	KK4P-12L ●	12	
	KK6P-12L ●		1/2
	KK6P-16L ●	16	

Socket (S)

Male thread type	Part number	R	Size
	KK3S-01MS ●	R1/8	1/8
	KK3S-02MS ●	R1/4	
	KK3S-03MS	R3/8	
	KK4S-01MS ●	R1/8	1/4
	KK4S-02MS ●	R1/4	
	KK4S-03MS ●	R3/8	
	KK4S-04MS ●	R1/2	
	KK6S-03MS ●	R3/8	1/2
	KK6S-04MS ●	R1/2	
	KK6S-06MS ●	R3/4	

Female thread type	Part number	Rc	Size
	KK3S-01F ●	Rc1/8	1/8
	KK3S-02F ●	Rc1/4	
	KK3S-03F	Rc3/8	
	KK4S-02F ●	Rc1/4	1/4
	KK4S-03F ●	Rc3/8	
	KK6S-03F ●		1/2
	KK6S-04F ●	Rc1/2	

Straight type with one-touch fitting	Part number	Ø O.D.	Size
	KK3S-04H ●	4	1/8
	KK3S-06H ●	6	
	KK3S-08H ●	8	
	KK3S-10H ●	10	
	KK4S-06H ●	6	1/4
	KK4S-08H ●	8	
	KK4S-10H ●	10	
	KK4S-12H ●	12	
	KK6S-12H ●		1/2
	KK6S-16H ●	16	

Elbow type with one-touch fitting	Part number	Ø O.D.	Size
	KK3S-04L ●	4	1/8
	KK3S-06L ●	6	
	KK3S-08L ●	8	
	KK3S-10L ●	10	
	KK4S-06L ●	6	1/4
	KK4S-08L ●	8	
	KK4S-10L ●	10	
	KK4S-12L ●	12	
	KK6S-12L ●		1/2
	KK6S-16L ●	16	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

S Couplers

KK130 Series

- Energy saving and cost reduction by pressure loss reduction
- Compact and Lightweight
- High strength. Outer parts of steel
- Easy attachment and removal: Plug insertion force reduced
- One-touch fitting available as standard
- Sleeve lock mechanism available as semi-standard
- Suitable for air
- Operating pressure range 0 to 1.5 MPa
  (One-touch fitting type 0 to 1.0 MPa).

Plug (P)

Male thread type	Part number	R
	KK130P-01MS ●	R1/8
	KK130P-02MS ●	R1/4
	KK130P-03MS ●	R3/8
	KK130P-04MS ●	R1/2

Female thread type	Part number	Rc
	KK130P-01F ●	Rc1/8
	KK130P-02F ●	Rc1/4
	KK130P-03F ●	Rc3/8
	KK130P-04F ●	Rc1/2

Barb fitting type (for rubber hose)	Part number	Ø
	KK130P-07B	6 (1/4)
	KK130P-09B	8 (1/4)
	KK130P-11B	9 (3/8)
	KK130P-13B	12 (1/2)

Nut fitting type (for fiber reinforced urethane hose)	Part number	Applicable hose I.D. / O.D.
	KK130P-50N	5 / 8
	KK130P-60N	6 / 9
	KK130P-65N	6.5 / 10
	KK130P-80N	8 / 12
	KK130P-85N	8.5 / 12.5
	KK130P-110N	11 / 16

One-touch fitting type	Part number	Applicable tube O.D
	KK130P-06H ●	6
	KK130P-08H ●	8
	KK130P-10H ●	10
	KK130P-12H ●	12

Socket (S)

Male thread type	Part number	R
	KK130S-01MS ●	R1/8
	KK130S-02MS ●	R1/4
	KK130S-03MS ●	R3/8
	KK130S-04MS ●	R1/2

Female thread type	Part number	Rc
	KK130S-01F ●	Rc1/8
	KK130S-02F ●	Rc1/4
	KK130S-03F ●	Rc3/8
	KK130S-04F ●	Rc1/2

Barb fitting type (for rubber hose)	Part number	Ø
	KK130S-07B	6 (1/4)
	KK130S-09B	8 (1/4)
	KK130S-11B	9 (3/8)
	KK130S-13B	12 (1/2)

Nut fitting type (for fiber reinforced urethane hose)	Part number	Applicable hose I.D. / O.D.
	KK130S-50N	5 / 8
	KK130S-60N	6 / 9
	KK130S-65N	6.5 / 10
	KK130S-80N	8 / 12
	KK130S-85N	8.5 / 12.5
	KK130S-110N	11 / 16

One-touch fitting type	Part number	Applicable tube O.D
	KK130S-06H ●	6
	KK130S-08H ●	8
	KK130S-10H ●	10
	KK130S-12H ●	12

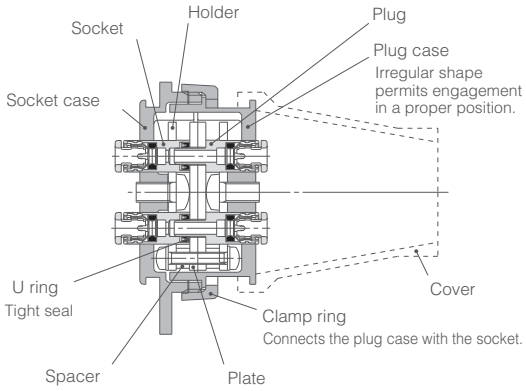
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Round multi-connector

DMK Series

One-touch fitting: Ø 3.2 • 4 mm

• Max. operating pressure 1 MPa.

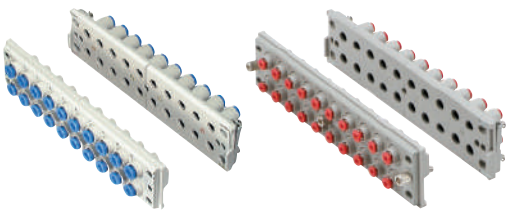


Part number			Number of connecting tubes	Cover part no. (Optional)
Multi-connector	Plug side only	Socket side only		
DMK6-23	**DMK6P-23** ●	**DMK6S-23**	6	**DMK-C-6** ●
DMK6-04 ●	**DMK6P-04** ●	**DMK6S-04** ●		
DMK12-23	**DMK12P-23**	**DMK12S-23**	12	**DMK-C-12** ●
DMK12-04 ●	**DMK12P-04** ●	**DMK12S-04** ●		

Rectangular multi-connector

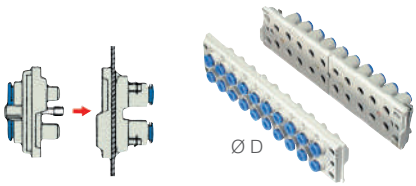
KDM Series

One-touch fitting: Ø 3.2 • 4 • 6 • 8 mm



• Operating pressure range -100 kPa to 1 MPa.

Rectangular multi-connector 10 or 20 ports
KDM



Part number	Ø D	Number of connecting tubes
KDM10-23 ●	3.2	10
KDM10-04 ●	4	
KDM10-06 ●	6	
KDM10-08 ●	8	
KDM20-23	3.2	20
KDM20-04 ●	4	
KDM20-06 ●	6	
KDM20-08 ●	8	

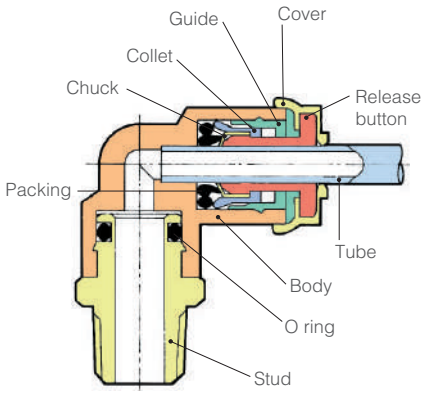
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

FR one-touch fittings equivalent to UL-94 standard V-0

KR Series

Tube: O.D.: Ø 6 • 8 • 10 • 12 mm
Thread: R1/8 • 1/4 • 3/8 • 1/2

- One-touch fittings with extreme flame-resistant properties, ideally suited for applications such as welding
- The covers are ordered separately
- Suitable for air and water
- Operating pressure range -100 kPa to 1 MPa.



Male connector
KRH

Part number	R	Ø D
KRH06-01S ●	1/8	6
KRH06-02S ●	1/4	
KRH06-03S ●	3/8	
KRH08-01S ●	1/8	8
KRH08-02S ●	1/4	
KRH08-03S ●	3/8	
KRH10-01S ●	1/8	10
KRH10-02S ●	1/4	
KRH10-03S ●	3/8	
KRH10-04S ●	1/2	
KRH12-02S ●	1/4	12
KRH12-03S ●	3/8	
KRH12-04S ●	1/2	

Supplied without covers.

Male elbow
KRL

Part number	R	Ø D
KRL06-01S ●	1/8	6
KRL06-02S ●	1/4	
KRL06-03S ●	3/8	
KRL08-01S ●	1/8	8
KRL08-02S ●	1/4	
KRL08-03S ●	3/8	
KRL10-01S ●	1/8	10
KRL10-02S ●	1/4	
KRL10-03S ●	3/8	
KRL10-04S ●	1/2	
KRL12-02S ●	1/4	12
KRL12-03S ●	3/8	
KRL12-04S ●	1/2	

Supplied without covers.

Union tee
KRT

Part number	Ø D	Ø D
KRT06-00 ●	6	6
KRT08-00 ●	8	8
KRT10-00 ●	10	10
KRT12-00 ●	12	12

Supplied without covers.

Cover	
Part number	Ø D
KR-06C ●	6
KR-08C ●	8
KR-10C ●	10
KR-12C ●	12

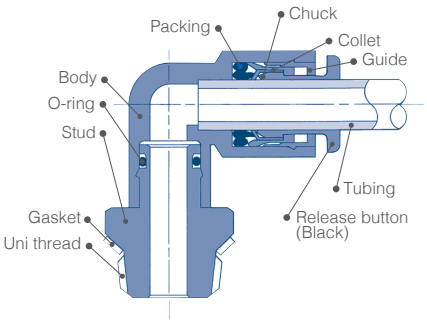
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Antistatic one-touch fittings

KA Series

Tube: O.D.: Ø 3.2 • 4 • 6 • 8 • 10 • 12 mm

Thread: M5 • M6 • Uni 1/8 • 1/4 • 3/8 • 1/2



- Flame resistant (Equivalent to UL-94 Standards V-0).
- Surface resistance 10^4 to 10^7 Ω
- Conductive resin is used for the body sealant of fittings.
- Compatible with vacuum pressure (-100 kPa).
- Can be used for copper-free applications.
- Applicable for Antistatic Soft Nylon, Antistatic Polyurethane.
- Operating pressure range -100 kPa to 1 MPa.

Male connector KAH	Part number	Connecting thread	Applicable tubing O.D. [mm]
M5. M6	**KAH23-M5** ●	M5 x 0.8	3.2
	KAH23-M6	M6 x 1	
	KAH23-U01	Uni 1/8	
	KAH04-M5 ●	M5 x 0.8	4
	KAH04-M6	M6 x 1	
	KAH04-U01 ●	Uni 1/8	
	KAH04-U02	Uni 1/4	
	KAH06-M5 ●	M5 x 0.8	6
	KAH06-M6	M6 x 1	
	KAH06-U01 ●	Uni 1/8	
	KAH06-U02 ●	Uni 1/4	
	KAH06-U03	Uni 3/8	
UNI thread	**KAH08-U01** ●	Uni 1/8	8
	KAH08-U02 ●	Uni 1/4	
	KAH08-U03	Uni 3/8	
	KAH10-U01	Uni 1/8	10
	KAH10-U02 ●	Uni 1/4	
	KAH10-U03	Uni 3/8	
	KAH10-U04	Uni 1/2	
	KAH12-U02 ●	Uni 1/4	12
	KAH12-U03 ●	Uni 3/8	
	KAH12-U04 ●	Uni 1/2	

Male Branch Tee KAT	Part number	Connecting thread	Applicable tubing O.D. [mm]
M5. M6	**KAT23-M5**	M5 x 0.8	3.2
	KAT23-M6	M6 x 1	
	KAT23-U01	Uni 1/8	
	KAT04-M5	M5 x 0.8	4
	KAT04-M6	M6 x 1	
	KAT04-U01	Uni 1/8	
	KAT04-U02	Uni 1/4	
	KAT06-M5	M5 x 0.8	6
	KAT06-M6	M6 x 1	
	KAT06-U01	Uni 1/8	
	KAT06-U02	Uni 1/4	
	KAT06-U03	Uni 3/8	
UNI thread	**KAT08-U01**	Uni 1/8	8
	KAT08-U02	Uni 1/4	
	KAT08-U03	Uni 3/8	
	KAT10-U01	Uni 1/8	10
	KAT10-U02	Uni 1/4	
	KAT10-U03	Uni 3/8	
	KAT10-U04	Uni 1/2	
	KAT12-U02	Uni 1/4	12
	KAT12-U03	Uni 3/8	
	KAT12-U04	Uni 1/2	

Straight union KAH	Part number	Applicable tubing O.D. [mm]
	KAH23-00	3.2
	KAH04-00 ●	4
	KAH06-00 ●	6
	KAH08-00 ●	8
	KAH10-00	10
	KAH12-00	12

Different diameter straight KAH	Part number	Applicable tubing O.D. [mm]	
		Ø d	Ø D
Ø d Ø D	**KAH23-04**	3.2	4
	KAH04-06 ●	4	6
	KAH06-08 ●	6	8
	KAH08-10	8	10
	KAH10-12	10	12

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Male elbow KAL	Part number	Connecting thread	Applicable tubing O.D. [mm]
M5. M6	**KAL23-M5** ●	M5 x 0.8	3.2
	KAL23-M6	M6 x 1	
	KAL23-U01	Uni 1/8	
	KAL04-M5 ●	M5 x 0.8	4
	KAL04-M6	M6 x 1	
	KAL04-U01 ●	Uni 1/8	
	KAL04-U02 ●	Uni 1/4	
	KAL06-M5 ●	M5 x 0.8	6
	KAL06-M6	M6 x 1	
	KAL06-U01 ●	Uni 1/8	
	KAL06-U02 ●	Uni 1/4	
	KAL06-U03	Uni 3/8	
UNI thread	**KAL08-U01** ●	Uni 1/8	8
	KAL08-U02 ●	Uni 1/4	
	KAL08-U03 ●	Uni 3/8	
	KAL10-U01	Uni 1/8	10
	KAL10-U02	Uni 1/4	
	KAL10-U03	Uni 3/8	
	KAL10-U04	Uni 1/2	
	KAL12-U02	Uni 1/4	12
	KAL12-U03	Uni 3/8	
	KAL12-U04	Uni 1/2	

Male run tee KAY	Part number	Connecting thread	Applicable tubing O.D. [mm]
M5. M6	**KAY23-M5**	M5 x 0.8	3.2
	KAY23-M6	M6 x 1	
	KAY23-U01	Uni 1/8	
	KAY04-M5	M5 x 0.8	4
	KAY04-M6	M6 x 1	
	KAY04-U01	Uni 1/8	
	KAY04-U02	Uni 1/4	
	KAY06-M5	M5 x 0.8	6
	KAY06-M6	M6 x 1	
	KAY06-U01	Uni 1/8	
	KAY06-U02	Uni 1/4	
	KAY06-U03	Uni 3/8	
UNI thread	**KAY08-U01**	Uni 1/8	8
	KAY08-U02	Uni 1/4	
	KAY08-U03	Uni 3/8	
	KAY10-U01	Uni 1/8	10
	KAY10-U02	Uni 1/4	
	KAY10-U03	Uni 3/8	
	KAY10-U04	Uni 1/2	
	KAY12-U02	Uni 1/4	12
	KAY12-U03	Uni 3/8	
	KAY12-U04	Uni 1/2	

Union "Y" KAU	Part number	Connecting thread	Applicable tubing O.D. [mm]
M5. M6	**KAU23-M5**	M5 x 0.8	3.2
	KAU23-M6	M6 x 1	
	KAU23-U01	Uni 1/8	
	KAU04-M5	M5 x 0.8	4
	KAU04-M6	M6 x 1	
	KAU04-U01	Uni 1/8	
	KAU04-U02	Uni 1/4	
	KAU06-M5	M5 x 0.8	6
	KAU06-M6	M6 x 1	
	KAU06-U01	Uni 1/8	
	KAU06-U02	Uni 1/4	
	KAU06-U03	Uni 3/8	
UNI thread	**KAU08-U01**	Uni 1/8	8
	KAU08-U02	Uni 1/4	
	KAU08-U03	Uni 3/8	
	KAU10-U01	Uni 1/8	10
	KAU10-U02	Uni 1/4	
	KAU10-U03	Uni 3/8	
	KAU10-U04	Uni 1/2	
	KAU12-U02	Uni 1/4	12
	KAU12-U03	Uni 3/8	
	KAU12-U04	Uni 1/2	

Branch tee KAT	Part number	Applicable tubing O.D. [mm]
	KAT23-00	3.2
	KAT04-00 ●	4
	KAT06-00 ●	6
	KAT08-00 ●	8
	KAT10-00	10
	KAT12-00	12

Union "Y" KAU	Part number	Applicable tubing O.D. [mm]
	KAU23-00	3.2
	KAU04-00 ●	4
	KAU06-00 ●	6
	KAU08-00	8
	KAU10-00	10
	KAU12-00	12

Union elbow KAL	Part number	Applicable tubing O.D. [mm]
	KAL23-00	3.2
	KAL04-00	4
	KAL06-00	6
	KAL08-00	8
	KAL10-00	10
	KAL12-00	12

Plug-in reducer KAR	Part number	Fitting size	Applicable tubing O.D. [mm]
	KAR23-04	4	3.2
	KAR04-06 ●	6	4
	KAR04-08	8	
	KAR04-10	10	
	KAR06-08	8	6
	KAR06-10	10	
	KAR06-12	12	
	KAR08-10	10	8
	KAR08-12	12	
	KAR10-12		10

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

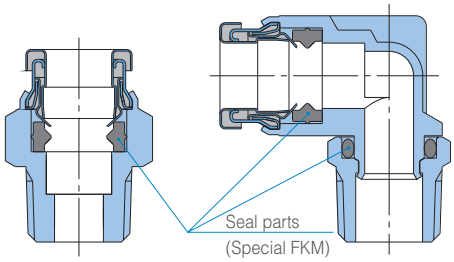
Stainless steel 316 one-touch fittings

KQG2 Series

Tube O.D.: Ø 3.2 • 4 • 6 • 8 • 10 • 12 •16 mm

Thread: M5 • R1/8 • 1/4 • 3/8 • 1/2

- Material:
  Metal parts: Stainless steel 316
  Seal parts: Special FKM
- Can be used with air, water and steam
- Operating fluid temperature: -5 to 150 °C
- Grease-free
- Applicable tubing material: FEP, PFA, nylon, soft nylon, polyurethane, polyolefin
- Operating pressure range -100 kPa to 1 MPa.



Male connector Male elbow

Customer benefits

- High corrosion resistance thanks to all the external parts are constructed from stainless steel 316.
- Wide assortment of applications due to the fluid temperature range and the grease-free specification.
- Easier use in confined spaces.

Related products

TU Series - Polyurethane tubing - page 376
T Series - Nylon tubing - page 374
TH Series - Fluoropolymer (FEP) tubing - page 390
TLM Series - Fluoropolymer (PFA) tubing - page 387

Male connector
KQG2H

Part number	R	Ø D
KQG2H23-M5 ●	M5*	3.2
KQG2H23-01S ●	R1/8	
KQG2H23-02S ●	R1/4	
KQG2H04-M5 ●	M5*	4
KQG2H04-01S ●	R1/8	
KQG2H04-02S ●	R1/4	
KQG2H06-M5 ●	M5*	6
KQG2H06-01S ●	R1/8	
KQG2H06-02S ●	R1/4	
KQG2H06-03S ●	R3/8	
KQG2H08-01S ●	R1/8	8
KQG2H08-02S ●	R1/4	
KQG2H08-03S ●	R3/8	
KQG2H10-01S ●	R1/8	10
KQG2H10-02S ●	R1/4	
KQG2H10-03S ●	R3/8	
KQG2H10-04S ●	R1/2	
KQG2H12-02S ●	R1/4	12
KQG2H12-03S ●	R3/8	
KQG2H12-04S ●	R1/2	
KQG2H16-03S ●	R3/8	16
KQG2H16-04S ●	R1/2	

∗ With gasket.

Hexagon socket head male connector
KQG2S

Part number	R	Ø D
KQG2S23-M5 ●	M5*	3.2
KQG2S04-M5 ●	M5*	4
KQG2S04-01S ●	R1/8	
KQG2S06-M5 ●	M5*	6
KQG2S06-01S ●	R1/8	
KQG2S06-02S ●	R1/4	
KQG2S08-01S ●	R1/8	8
KQG2S08-02S ●	R1/4	
KQG2S08-03S ●	R3/8	
KQG2S10-01S ●	R1/8	10
KQG2S10-02S ●	R1/4	
KQG2S10-03S ●	R3/8	
KQG2S10-04S ●	R1/2	
KQG2S12-02S ●	R1/4	12
KQG2S12-03S ●	R3/8	
KQG2S12-04S ●	R1/2	
KQG2S16-03S ●	R3/8	16
KQG2S16-04S ●	R1/2	

∗ With gasket.

Male elbow
KQG2L

Part number	R	Ø D
KQG2L23-M5 ●	M5*	3.2
KQG2L23-01S ●	R1/8	
KQG2L23-02S ●	R1/4	
KQG2L04-M5 ●	M5*	4
KQG2L04-01S ●	R1/8	
KQG2L04-02S ●	R1/4	
KQG2L06-M5 ●	M5*	6
KQG2L06-01S ●	R1/8	
KQG2L06-02S ●	R1/4	
KQG2L06-03S ●	R3/8	
KQG2L08-01S ●	R1/8	8
KQG2L08-02S ●	R1/4	
KQG2L08-03S ●	R3/8	
KQG2L10-01S ●	R1/8	10
KQG2L10-02S ●	R1/4	
KQG2L10-03S ●	R3/8	
KQG2L10-04S ●	R1/2	
KQG2L12-02S ●	R1/4	12
KQG2L12-03S ●	R3/8	
KQG2L12-04S ●	R1/2	
KQG2L16-03S ●	R3/8	16
KQG2L16-04S ●	R1/2	

∗ With gasket.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Male branch tee KQG2T

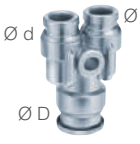
Part number	R	Ø D
KQG2T23-M5 ●	M5*	3.2
KQG2T23-01S ●	R1/8	
KQG2T23-02S ●	R1/4	
KQG2T04-M5 ●	M5*	4
KQG2T04-01S ●	R1/8	
KQG2T04-02S ●	R1/4	
KQG2T06-M5 ●	M5*	6
KQG2T06-01S ●	R1/8	
KQG2T06-02S ●	R1/4	
KQG2T06-03S ●	R3/8	
KQG2T08-01S ●	R1/8	8
KQG2T08-02S ●	R1/4	
KQG2T08-03S ●	R3/8	
KQG2T10-01S ●	R1/8	10
KQG2T10-02S ●	R1/4	
KQG2T10-03S ●	R3/8	
KQG2T10-04S ●	R1/2	
KQG2T12-02S ●	R1/4	12
KQG2T12-03S ●	R3/8	
KQG2T12-04S ●	R1/2	
KQG2T16-03S ●	R3/8	16
KQG2T16-04S ●	R1/2	

∗ With gasket.

Union tee KQG2T

Part number	Ø D
KQG2T23-00 ●	3.2
KQG2T04-00 ●	4
KQG2T06-00 ●	6
KQG2T08-00 ●	8
KQG2T10-00 ●	10
KQG2T12-00 ●	12
KQG2T16-00 ●	16

Different diameter union "Y" KQG2U



Part number	Ø d	Ø D
KQG2U23-04 ●	3.2	4
KQG2U04-06 ●	4	6
KQG2U06-08 ●	6	8
KQG2U08-10 ●	8	10
KQG2U10-12 ●	10	12
KQG2U12-16 ●	12	16

Straight union KQG2H

Part number	Ø D
KQG2H23-00 ●	3.2
KQG2H04-00 ●	4
KQG2H06-00 ●	6
KQG2H08-00 ●	8
KQG2H10-00 ●	10
KQG2H12-00 ●	12
KQG2H16-00 ●	16

Union elbow KQG2L

Part number	Ø D
KQG2L23-00 ●	3.2
KQG2L04-00 ●	4
KQG2L06-00 ●	6
KQG2L08-00 ●	8
KQG2L10-00 ●	10
KQG2L12-00 ●	12
KQG2L16-00 ●	16

Different diameter tee KQG2T

Part number	Ø d	Ø D
KQG2T23-04 ●	3.2	4
KQG2T04-06 ●	4	6
KQG2T06-08 ●	6	8
KQG2T08-10 ●	8	10
KQG2T10-12 ●	10	12
KQG2T12-16 ●	12	16

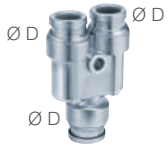
Different diameter straight KQG2H

Part number	Ø d	Ø D
KQG2H23-04 ●	3.2	4
KQG2H04-06 ●	4	6
KQG2H06-08 ●	6	8
KQG2H08-10 ●	8	10
KQG2H10-12 ●	10	12
KQG2H12-16 ●	12	16

Bulkhead union KQG2E

Part number	Ø D
KQG2E23-00 ●	3.2
KQG2E04-00 ●	4
KQG2E06-00 ●	6
KQG2E08-00 ●	8
KQG2E10-00 ●	10
KQG2E12-00 ●	12
KQG2E16-00 ●	16

Union "Y" KQG2U



Part number	Ø D
KQG2U23-00 ●	3.2
KQG2U04-00 ●	4
KQG2U06-00 ●	6
KQG2U08-00 ●	8
KQG2U10-00 ●	10
KQG2U12-00 ●	12
KQG2U16-00 P ●	16

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Extended male elbow
KQG2W

Part number	R	Ø D
KQG2W23-M5 ●	M5*	3.2
KQG2W23-01S ●	R1/8	
KQG2W23-02S ●	R1/4	
KQG2W04-M5 ●	M5*	4
KQG2W04-01S ●	R1/8	
KQG2W04-02S ●	R1/4	
KQG2W06-M5 ●	M5*	6
KQG2W06-01S ●	R1/8	
KQG2W06-02S ●	R1/4	
KQG2W06-03S ●	R3/8	
KQG2W08-01S ●	R1/8	8
KQG2W08-02S ●	R1/4	
KQG2W08-03S ●	R3/8	
KQG2W10-02S ●	R1/4	10
KQG2W10-03S ●	R3/8	
KQG2W10-04S ●	R1/2	
KQG2W12-02S ●	R1/4	12
KQG2W12-03S ●	R3/8	
KQG2W12-04S ●	R1/2	
KQG2W16-03S ●	R3/8	16
KQG2W16-04S ●	R1/2	

∗ With gasket.

Bulkhead connector
KQG2E

Part number	Rc	Ø D
KQG2E23-02	Rc1/4	3.2
KQG2E04-01	Rc1/8	4
KQG2E04-02	Rc1/4	
KQG2E06-01	Rc1/8	6
KQG2E06-02	Rc1/4	
KQG2E06-03	Rc3/8	
KQG2E08-01	Rc1/8	8
KQG2E08-02	Rc1/4	
KQG2E08-03	Rc3/8	
KQG2E10-02	Rc1/4	10
KQG2E10-03	Rc3/8	
KQG2E12-03	Rc3/8	12
KQG2E12-04	Rc1/2	
KQG2E16-03	Rc3/8	16
KQG2E16-04	Rc1/2	

Female connector
KQG2F

Part number	Rc	Ø D
KQG2F23-01	Rc1/8	3.2
KQG2F04-01		4
KQG2F04-02	Rc1/4	
KQG2F06-01 ●	Rc1/8	6
KQG2F06-02 ●	Rc1/4	
KQG2F06-03	Rc3/8	
KQG2F08-01 ●	Rc1/8	8
KQG2F08-02	Rc1/4	
KQG2F08-03	Rc3/8	
KQG2F10-02	Rc1/4	10
KQG2F10-03	Rc3/8	
KQG2F12-02	Rc1/4	12
KQG2F12-03	Rc3/8	
KQG2F12-04	Rc1/2	
KQG2F16-03	Rc3/8	16
KQG2F16-04	Rc1/2	

Plug-in reducer
KQG2R

Part number	Ø d	Ø D
KQG2R23-04 ●	3.2	4
KQG2R04-06 ●	4	6
KQG2R06-08 ●	6	8
KQG2R08-10 ●	8	10
KQG2R10-12 ●	10	12
KQG2R12-16 ●	12	16

Plug
KQG2P

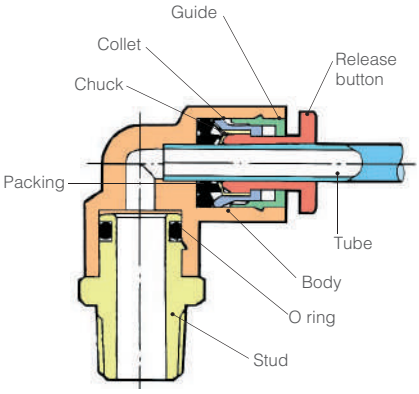
Part number	Ø D
KQG2P-23 ●	3.2
KQG2P-04 ●	4
KQG2P-06 ●	6
KQG2P-08 ●	8
KQG2P-10 ●	10
KQG2P-12 ●	12
KQG2P-16 ●	16

Stainless fittings

KG Series

Tube O.D.: Ø 4 • 6 • 8 • 10 • 12 • 16 mm
Thread: M5 • R1/8 • 1/4 • 3/8 • 1/2

- Corrosion resistant
- SUS303 stainless steel
- Ideally suited for the food industry, etc
- Suitable for air and water
- Operating pressure range: -100 kPa to 1 MPa.



Male connector
KGH

Part number	R	Ø D
KGH04-M5 ●	M5*	4
KGH04-01S ●	R1/8	
KGH04-02S ●	R1/4	
KGH06-M5 ●	M5*	6
KGH06-01S ●	R1/8	
KGH06-02S ●	R1/4	
KGH06-03S ●	R3/8	
KGH08-01S ●	R1/8	8
KGH08-02S ●	R1/4	
KGH08-03S ●	R3/8	
KGH10-01S ●	R1/8	10
KGH10-02S ●	R1/4	
KGH10-03S ●	R3/8	
KGH10-04S ●	R1/2	
KGH12-02S ●	R1/4	12
KGH12-03S ●	R3/8	
KGH12-04S ●	R1/2	
KGH16-03S ●	R3/8	16
KGH16-04S ●	R1/2	

∗ With gasket.

Hexagon socket head male connector
KGS

Part number	R	Ø D
KGS04-M5 ●	M5*	4
KGS04-01S ●	R1/8	
KGS06-M5 ●	M5*	6
KGS06-01S ●	R1/8	
KGS06-02S ●	R1/4	
KGS08-01S ●	R1/8	8
KGS08-02S ●	R1/4	
KGS08-03S ●	R3/8	
KGS10-01S ●	R1/8	10
KGS10-02S ●	R1/4	
KGS10-03S ●	R3/8	
KGS10-04S	R1/2	
KGS12-02S ●	R1/4	12
KGS12-03S ●	R3/8	
KGS12-04S ●	R1/2	

∗ With gasket.

Union tee
KGT

Part number	Ø D	Ø D
KGT04-00 ●	4	4
KGT06-00 ●	6	6
KGT08-00 ●	8	8
KGT10-00 ●	10	10
KGT12-00 ●	12	12
KGT16-00 ●	16	16

Male elbow
KGL

Part number	R	Ø D
KGL04-M5 ●	M5*	4
KGL04-01S ●	R1/8	
KGL04-02S ●	R1/4	
KGL06-M5 ●	M5*	6
KGL06-01S ●	R1/8	
KGL06-02S ●	R1/4	
KGL06-03S ●	R3/8	
KGL08-01S ●	R1/8	8
KGL08-02S ●	R1/4	
KGL08-03S ●	R3/8	
KGL10-01S ●	R1/8	10
KGL10-02S ●	R1/4	
KGL10-03S ●	R3/8	
KGL10-04S ●	R1/2	
KGL12-02S ●	R1/4	12
KGL12-03S ●	R3/8	
KGL12-04S ●	R1/2	
KGL16-03S ●	R3/8	16
KGL16-04S ●	R1/2	

∗ With gasket.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Stainless steel 316 insert fittings

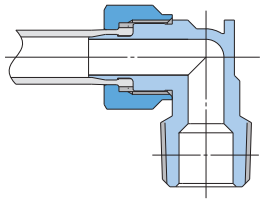
KFG2 Series

Tube O.D.: Ø 4 • 6 • 8 • 10 • 12 • 16 mm

Thread: R1/8 • 1/4 • 3/8 • 1/2

- Material: Stainless Steel 316
- Operating fluid temperature - 65 to 260 °C
- Can be used with steam
- Grease-free
- Applicable tubing material: FEP, PFA, modified PTFE nylon, soft nylon, polyolefin, polyurethane, soft polyurethane, hard polyurethane, soft polyolefin, antistatic soft nylon, antistatic polyurethane
- Swivel elbow rotary seel: Special FKM
- Operating pressure range -100 kPa to 1 MPa.

Sleeveless sealing structure makes replacement parts for maintenance unnecessary.



Male connector
KFG2H

Part number	R	Ø D	I.D.
KFG2H0425-01S ●	1/8	4	2.5
KFG2H0425-02S ●	1/4		
KFG2H0403-01S ●	1/8		3
KFG2H0403-02S	1/4		
KFG2H0604-01S ●	1/8	6	4
KFG2H0604-02S ●	1/4		
KFG2H0806-01S ●	1/8	8	6
KFG2H0806-02S ●	1/4		
KFG2H0806-03S ●	3/8		
KFG2H1075-02S ●	1/4	10	7.5
KFG2H1075-03S ●	3/8		
KFG2H1075-04S ●	1/2		
KFG2H1008-02S ●	1/4		8
KFG2H1008-03S ●	3/8		
KFG2H1008-04S ●	1/2		
KFG2H1209-02S ●	1/4	12	9
KFG2H1209-03S ●	3/8		
KFG2H1209-04S ●	1/2		
KFG2H1210-02S ●	1/4		10
KFG2H1210-03S ●	3/8		
KFG2H1210-04S ●	1/2		
KFG2H1613-03S ●	3/8	16	13
KFG2H1613-04S ●	1/2		

Male elbow
KFG2L

Part number	R	Ø D	I.D.
KFG2L0425-01S ●	1/8	4	2.5
KFG2L0425-02S ●	1/4		
KFG2L0403-01S ●	1/8		3
KFG2L0403-02S	1/4		
KFG2L0604-01S ●	1/8	6	4
KFG2L0604-02S ●	1/4		
KFG2L0806-01S ●	1/8	8	6
KFG2L0806-02S ●	1/4		
KFG2L0806-03S ●	3/8		
KFG2L1075-02S ●	1/4	10	7.5
KFG2L1075-03S ●	3/8		
KFG2L1075-04S ●	1/2		
KFG2L1008-02S ●	1/4		8
KFG2L1008-03S ●	3/8		
KFG2L1008-04S ●	1/2		
KFG2L1209-02S ●	1/4	12	9
KFG2L1209-03S ●	3/8		
KFG2L1209-04S ●	1/2		
KFG2L1210-02S ●	1/4		10
KFG2L1210-03S ●	3/8		
KFG2L1210-04S ●	1/2		
KFG2L1613-03S ●	3/8	16	13
KFG2L1613-04S ●	1/2		

Male branch tee
KFG2T

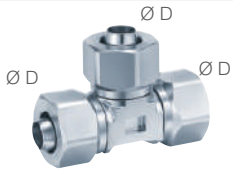
Part number	R	Ø D	I.D.
KFG2T0425-01S ●	1/8	4	2.5
KFG2T0425-02S ●	1/4		
KFG2T0403-01S ●	1/8		3
KFG2T0403-02S	1/4		
KFG2T0604-01S ●	1/8	6	4
KFG2T0604-02S ●	1/4		
KFG2T0806-01S ●	1/8	8	6
KFG2T0806-02S ●	1/4		
KFG2T0806-03S ●	3/8		
KFG2T1075-02S ●	1/4	10	7.5
KFG2T1075-03S ●	3/8		
KFG2T1075-04S ●	1/2		
KFG2T1008-02S ●	1/4		8
KFG2T1008-03S ●	3/8		
KFG2T1008-04S ●	1/2		
KFG2T1209-02S ●	1/4	12	9
KFG2T1209-03S ●	3/8		
KFG2T1209-04S ●	1/2		
KFG2T1210-02S ●	1/4		10
KFG2T1210-03S ●	3/8		
KFG2T1210-04S ●	1/2		
KFG2T1613-03S ●	3/8	16	13
KFG2T1613-04S ●	1/2		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Straight union
KFG2H

Part number	R Ø D	I.D.
KFG2H0425-00 ●	4	2.5
KFG2H0403-00 ●		3
KFG2H0604-00 ●	6	4
KFG2H0806-00 ●	8	6
KFG2H1075-00 ●	10	7.5
KFG2H1008-00 ●		8
KFG2H1209-00 ●	12	9
KFG2H1210-00 ●		10
KFG2H1613-00 ●	16	13

Union tee
KFG2T



Part number	Ø D	I.D.
KFG2T0425-00 ●	4	2.5
KFG2T0403-00 ●		3
KFG2T0604-00 ●	6	4
KFG2T0806-00 ●	8	6
KFG2T1075-00 ●	10	7.5
KFG2T1008-00 ●		8
KFG2T1209-00 ●	12	9
KFG2T1210-00 ●		10
KFG2T1613-00 ●	16	13

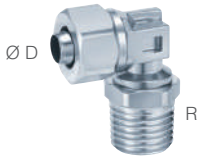
Bulkhead union
KFG2E

Part number	Ø D	I.D.
KFG2E0425-00 ●	4	2.5
KFG2E0403-00 ●		3
KFG2E0604-00 ●	6	4
KFG2E0806-00 ●	8	6
KFG2E1075-00 ●	10	7.5
KFG2E1008-00 ●		8
KFG2E1209-00 ●	12	9
KFG2E1210-00 ●		10
KFG2E1613-00 ●	16	13

Union elbow
KFG2L

Part number	Ø D	I.D.
KFG2L0425-00 ●	4	2.5
KFG2L0403-00 ●		3
KFG2L0604-00 ●	6	4
KFG2L0806-00 ●	8	6
KFG2L1075-00 ●	10	7.5
KFG2L1008-00 ●		8
KFG2L1209-00 ●	12	9
KFG2L1210-00 ●		10
KFG2L1613-00 ●	16	13

Swivel elbow
KFG2V



Part number	R	Ø D	I.D.
KFG2V0425-01S ●	1/8	4	2.5
KFG2V0425-02S ●	1/4		
KFG2V0403-01S ●	1/8		3
KFG2V0403-02S	1/4		
KFG2V0604-01S ●	1/8	6	4
KFG2V0604-02S ●	1/4		
KFG2V0806-01S ●	1/8	8	6
KFG2V0806-02S ●	1/4		
KFG2V0806-03S ●	3/8		
KFG2V1075-02S ●	1/4	10	7.5
KFG2V1075-03S ●	3/8		
KFG2V1075-04S ●	1/2		
KFG2V1008-02S ●	1/4		8
KFG2V1008-03S ●	3/8		
KFG2V1008-04S ●	1/2		
KFG2V1209-02S ●	1/4	12	9
KFG2V1209-03S ●	3/8		
KFG2V1209-04S ●	1/2		
KFG2V1210-02S ●	1/4		10
KFG2V1210-03S ●	3/8		
KFG2V1210-04S ●	1/2		
KFG2V1613-03S ●	3/8	16	13
KFG2V1613-04S ●	1/2		

Swivel elbow and with sealant types: -5 to 150 °C.

Female connector
KFG2F

Part number	R	Ø D	I.D.
KFG2F0425-02 ●	1/4	4	2.5
KFG2F0403-02 ●			3
KFG2F0604-02 ●		6	4
KFG2F0806-03 ●	3/8	8	6
KFG2F1075-03 ●		10	7.5
KFG2F1008-03 ●			8
KFG2F1209-03 ●		12	9
KFG2F1210-03 ●			10
KFG2F1613-04 ●	1/2	16	13

Union nut
KFG2N

Part number	Ø D
KFG2N-04 ●	4
KFG2N-06 ●	6
KFG2N-08 ●	8
KFG2N-10 ●	10
KFG2N-12 ●	12
KFG2N-16 ●	16

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Miniature fittings, stainless steel

MS Series

Connection thread M5

• Max. operating pressure 1.5 MPa (depending on used tubing material).

Barb fitting

Part number	R	Ø D	
		I.D.	O.D.
MS-5AU-3 ●	M5*	2.18	3.18
MS-5AU-4 ●		2.5	4
MS-5AU-6 ●		4	6

∗ With gasket.

Barb elbow

Part number	R	Ø D	
		I.D.	O.D.
MS-5ALHU-3 ●	M5*	2.18	3.18
MS-5ALHU-4 ●		2.5	4
MS-5ALHU-6 ●		4	6

∗ With gasket.

Hose nipple

Part number	R	Ø D	
		I.D.	O.D.
MS-5H-4 ●	M5*	2.5	4
MS-5H-6 ●		4	6

∗ With gasket.

Hose elbow

Part number	R	Ø D	
		I.D.	O.D.
MS-5HLH-4 ●	M5*	2.5	4
MS-5HLH-6 ●		4	6

∗ With gasket.

Universal elbow

Part number	R	R
MS-5UL ●	M5*	M5

∗ With gasket.

Universal tee

Part number	R	R	R
MS-5UT ●	M5*	M5	M5

∗ With gasket.

Bushing

Part number	R	R1
MS-5B ●	R1/8	M5

Extension fitting

Part number	R	R
MS-5J ●	M5*	M5

∗ With gasket.

Universal nipple

Part number	R	R
MS-5UN ●	M5*	M5*

∗ With gasket.

Plug

Part number	R
MS-5P ●	M5*

∗ With gasket.

Nipple

Part number	R	R
MS-5N ●	M5*	M5*

∗ With gasket.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Rotary joint for compressed air

MQR Series

- Metallic seals, up to 1 billion rotations
- 6 styles from 1 to 16 circuits
- Suitable up to max. 3000 r.p.m.
- Low torque
- High rigidity as a result of double shaft bearing, (MQR1 only one bearing).

Part number	Number of circuits	Operating pressure [MPa]	Max. speed [rev/min]	Torque [Nm]
MQR1-M5 ●	1	-100 kPa to 1,0 MPa	3000	0.003
MQR2-M5 ●	2		2000	0.03
MQR4-M5 ●	4		1500	0.05
MQR8-M5 ●	8		900	0.1
MQR12-M5 ●	12		600	0.2
MQR16-M5 ●	16		200	0.5

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Tubing

Nylon tubing

T Series

Ø : 3.2 • 4 • 6 • 8 • 10 • 12 • 16 mm.

How to order

T0425 B – 100

① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TIA01	3.2 x 2.2
T0425	4 x 2.5
T0604	6 x 4
T0806	8 x 6
T1075	10 x 7.5
T1209	12 x 9
T1613	16 x 13

1) TIA01, Ø 16 only available in black or white

② Colour indication

Symbol	Colour
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green

1) Other colours available on request

③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m – reel

1) TIA only 20 m, T1613□ - 100 is reel

Specification

Model	TIA01	T0425	T0403	T0604	T0645	T0806	T1075	T1209	T1613
O.D. [mm]	3.18	4	4	6	6	8	10	12	16
I.D. [mm]	2.18	2.5	3	4	4.5	6	7.5	9	13
Max. operating pressure [MPa] 20 °C or less	2.3	3.3	2.0	3.0	2.0	2.0	2.0	2.0	1.6
Min. bending radius [mm]	15	13	20	24	30	40	50	60	100
Fluid	Air / Water								
Operating temperature	-40 to +100 °C, Water: 0 to 70 °C (No freezing)								
Material	Nylon 12								
Applicable fittings	One-touch fittings, insert fittings, self-align fittings, miniature fittings								

Stocked items

T	Roll length [m]	Available colours
T0425	20, 100	B, BU, G, R, W, Y
T0604		
T0806		
T1075		
T1209		
T1613		B, W

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Soft nylon tubing

TS Series

Ø : 3.2 • 4 • 6 • 8 • 10 • 12 • 16 mm.

How to order

TS0425 B – 100
① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TISA01	3.2 x 2.2
TS0425	4 x 2.5
TS0604	6 x 4
TS0806	8 x 6
TS1075	10 x 7.5
TS1209	12 x 9
TS1612	16 x 13

1) TISA01, Ø 16 only available in black or white

② Colour indication

Symbol	Colour
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green

1) Other colours available on request

③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m - reel

1) TISA only 20 m, T1612☐ - 100 is reel

Specification

Model	TISA01	TS0425	TS0604	TS0806	TS1075	TS1209	TS1612
O.D. [mm]	3.18	4	6	8	10	12	16
I.D. [mm]	2.18	2.5	4	6	7.5	9	12
Max. operating pressure [MPa] 20 °C or less	1.3	2.0	1.7	1.3	1.3	1.3	1.3
Min. bending radius [mm]	18	15	23	45	55	65	90
Fluid	Air / Water						
Operating temperature	-40 to +100 °C, Water: 0 to +50 °C (No freezing)						
Material	Nylon 12						
Applicable fittings	One-touch fittings, insert fittings, self-align fittings, miniature fittings						

Stocked items

TS	Roll length [m]	Available colours
TS0425	20, 100	B, BU, G, R, W, Y
TS0604		
TS0806		
TS1075		
TS1209		
TS1613		B, W

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Polyurethane flat tubing

TU Series

Ø : 2 • 4 • 6 • 8 • 10 • 12 • 16 mm.

Customer benefits

- Maximum design and customize flexibility thanks to wide range of colours
- Easy use in narrow spaces due to the flexibility.

Related products

TM Series - Multi-tube holder - page 391
TK Series - Tube cutter - page 391
TG Series - Tube releasing tool - page 391

TU 0425 B – 100
① ② ③

① Tubing model

Symbol	O.D. x I.D.
TU0212	Ø 2 x Ø 1.2
TU0425	Ø 4 x Ø 2.5
TU0604	Ø 6 x Ø 4
TU0805	Ø 8 x Ø 5
TU1065	Ø 10 x Ø 6.5
TU1208	Ø 12 x Ø 8
TU1610	Ø 16 x Ø 10

1) Ø 2 only available in black, blue, white, red, yellow, green and clear. Ø 16 only available in black, blue, white and clear.

② Colour

Symbol	Colour	Symbol	Colour
B	Black	G4	Dark green
W	White	GR1	Grey
R	Red	GR2	Light grey
BU	Blue	P1	Neon pink
Y	Yellow	PU1	Solid purple
G	Green	PU2	Clear purple
C	Clear	R1	Solid red
YR	Orange	R2	Clear red
BU1	Solid blue	S1	Silver
BU2	Clear blue	Y1	Solid yellow
BU3	Medium blue	Y2	Clear yellow
BR1	Brown	Y3	Neon yellow
G1	Solid green	YR1	Clear orange
G2	Clear green	YR2	Neon orange
G3	Neon green		

③ Length per roll

Symbol	Length
20	20 m roll
100	100 m roll

1) TU1610☐ - 100 is reel

Specifications

Model	TU012	TU0425	TU0604	TU0805	TU1065	TU1208	TU1610
O.D. [mm]	2	4	6	8	10	12	16
I.D. [mm]	1.2	2.5	4	5	6.5	8	10
Max. operating pressure at 20 °C [MPa]	0.8						
Min. bending radius [mm]	4	10	15	20	27	35	45
Fluid	Air / Water						
Operating temperature	-20 to +60 °C (Water: 0 to 40 °C) (No freezing)						
Material	Polyurethane						
Applicable fittings	One-touch fittings, insert fittings, self-align fittings, miniature fittings						

Stocked items

TU	Roll length [m]	Available colours
TU0212	20	B, BU, C ,G, ,R, W, Y
TU0425	20, 100	B, BU, C ,G, ,R, S1, W, Y, YR
TU0604	20, 100	B, BU, BU1, BU3, C, G, R, S1, W, Y, YR
TU0805	20, 100	B, BU, BU1, BU3, C, G, GR1, R, S1, W, Y, YR
TU1065	20, 100	B, BU, BU1, BU3, C, G, R, S1, W, Y, YR
TU1208	20, 100	B, BU, C, G, R, S1, W, Y
TU1610	20	B, BU, C, W
	100	B, BU,

Our highlighted product for you

Polyurethane flat tubing

TU Series

Ø : 2 • 4 • 6 • 8 • 10 • 12 mm

- Multi-core, multi-colour specification
- Number of cores : 2, 3, 4, 5, 6
- 8 colour variations
- Compact piping possible.

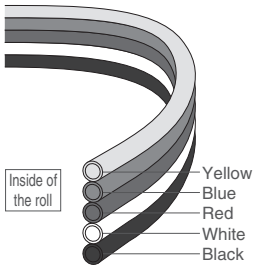
Roll

Tube length per roll: 1, 2, 3, 4, 5, 10, 20 m

TU 0425 – 12345 A – X172
① ② ③ ④

① Tubing model

Symbol	O.D. x I.D.
0604	Ø 6 x Ø 4
0805	Ø 8 x Ø 5
1065	Ø 10 x Ø 6.5
1208	Ø 12 x Ø 8



② Colour [1)]

Symbol	Colour	Symbol	Colour
1	Black	**5**	Yellow
2	White	**6**	Green
3	Red	**7**	Clear
4	Blue	**8**	Orange [2)]

1) Colours of the example (12345)
2) Except TU0212

③ Tube length per roll [m]

Symbol	Length	Symbol	Length
A	1	**E**	5
B	2	**F**	10
C	3	**G**	20
D	4		

④ Multi-core, multi-colour specification

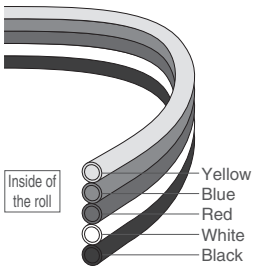
Symbol	Number of cores
X169	2 cores
X170	3 cores
X171	4 cores
X172	5 cores
X204	6 cores

Tube length per roll: 50 m

TU 0425 – 12345 H – X172
① ② ③ ④

① Tubing model

Symbol	O.D. x I.D.
0425	Ø 4 x Ø 2.5
0604	Ø 6 x Ø 4
0805	Ø 8 x Ø 5
1065	Ø 10 x Ø 6.5
1208	Ø 12 x Ø 8



② Colour [1)]

Symbol	Colour	Symbol	Colour
1	Black	**5**	Yellow
2	White	**6**	Green
3	Red	**7**	Clear
4	Blue	**8**	Orange

1) Colours of the example (12345)

③ Tube length per roll [m]

Symbol	Length
H	50

④ Multi-core, multi-colour specification

Symbol	Number of cores	Applicable tubing O.D.				
		Ø 4	Ø 6	Ø 8	Ø 10	Ø 12
X169	2 cores	●	●	●	●	●
X170	3 cores	●	●	●	●	
X171	4 cores	●	●	●		
X172	5 cores	●	●	●		
X204	6 cores	●	●			

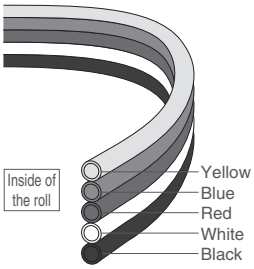
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Tube length per roll: 100 m

TU 0425 – 12345 J – X172
① ② ③ ④

① Tubing model

Symbol	O.D. x I.D.
0425	Ø 4 x Ø 2.5
0604	Ø 6 x Ø 4
0805	Ø 8 x Ø 5



② Colour [1)]

Symbol	Colour	Symbol	Colour
1	Black	**5**	Yellow
2	White	**6**	Green
3	Red	**7**	Clear
4	Blue	**8**	Orange

1) Colours of the example (12345)

③ Tube length per roll [m]

Symbol	Length
J	100

④ Multi-core, multi-colour specification

Symbol	Number of cores	Applicable tubing O.D.		
		Ø 4	Ø 6	Ø 8
X169	2 cores	●	●	●
X170	3 cores	●	●	
X171	4 cores	●	●	
X172	5 cores	●	●	
X204	6 cores	●		

Specifications

Model		TU0212	TU0425	TU0604	TU0805	TU1065	TU1208
Tubing O.D. [mm]		2	4	6	8	10	12
Tubing I.D. [mm]		1.2	2.5	4	5	6.5	8
Number of cores [1)]	**2 Cores**	X169					
	3 Cores	X170					
	4 Cores	X171					
	5 Cores	X172					
	6 Cores	X204					
Fluid		Air					
Max. operating pressure at 20 °C		0.8 Mpa					
Applicable fittings		One-touch fitting, insert fitting, miniature fitting					
Min. bending radius [mm]		4	10	15	20	27	35
Operating temperature -20 to +60 °C		-20 to +60 °C					
Material		Polyurethane					

1) Refer to “How to Order” for the combination of tubing size and the number of cores.

Hard polyurethane tubing

TUH Series

Ø : 4 • 6 • 8 • 10 • 12 mm

- High pressure type available (up to 1 MPa operating pressure)
- Maximum effective area increased nearly 44 % (higher flow rate)
- 4 colour variations (translucent, red, blue and black).

How to order

TUH0604 B – 20
① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TUH0428	4 x 2.8
TUH0644	6 x 4.4
TUH0858	8 x 5.8
TUH1073	10 x 7.3
TUH1288	12 x 8.8
TUH0425	4 x 2.5
TUH0604	6 x 4
TUH0805	8 x 5
TUH1065	10 x 6.5
TUH1208	12 x 8

② Colour indication

Symbol	Colour
B	Black
W	White
BU	Blue
N	Translucent

③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m - reel

Specification

Standard	Model	TUH0428	TUH0644	TUH0858	TUH1073	TUH1288
	O.D. Ø [mm]	4	6	8	10	12
	I.D. Ø [mm]	2.8	4.4	5.8	7.3	8.8
High pressure	Model	TUH0425	TUH0604	TUH0805	TUH1065	TUH1208
	O.D. Ø [mm]	4	6	8	10	12
	I.D. Ø [mm]	2.5	4	5	6.5	8
Fluid		Air [1]				
Max. operating pressure [MPa]	Standard type	0.8 MPa (at 20 °C)				
	High pressure type	1.0 MPa (at 20 °C)				
Min. bending radius [mm]	Standard type	10	18	24	30	36
	High pressure type	10	15	20	27	35
Operating temperature		-20 to 60 °C (No freezing)				
Material		Polyurethane				

1) Consult SMC regarding other fluids.
Water cannot be used because of occurrence of hydrolysis.

Stocked items

TUH	Roll length [m]	Available colours
TUH0428	20, 100	B, BU, N, W
TUH0644		
TUH0858		
TUH1073		
TUH1288		
TUH0425		
TUH0604		
TUH0805		
TUH1065		
TUH1208		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Wear resistant tubing

TUZ Series

Ø : 4 • 6 • 8 • 10 • 12 mm

- Abrasion: Aprox.1/3 (compared with SMC polyurethane tubing TU series)
- 6-colour variations.

Customer benefits

- Tubing longer life in dynamic tube installations as it is a wear resistant tubing
- Piping labour hours can be reduced due to its high flexibility to fit into narrow piping spaces.

Applicable fittings

KQ2 Series - One-touch fittings - page 324
KQG2 Series - SUS 316 one-touch fittings - page 366
KFG2 Series - SUS 316 Insert fittings - page 370
M Series - Miniature fittings - page 357
MS Series - SUS 316 miniature fittings - page 372

How to order

TUZ0425 BU – 20

① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TUZ0425	4 x 2.5
TUZ0604	6 x 4
TUZ0805	8 x 5
TUZ1065	10 x 6.5
TUZ1208	12 x 8

② Colour indication

Symbol	Colour
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green

③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m - reel

Specification

Model	TUZ0425	TUZ0604	TUZ0805	TUZ1065	TUZ1208
O.D. [mm]	4	6	8	10	12
I.D. [mm]	2.5	4	5	6,5	8
Min. bending radius [mm]	10	15	20	27	35
Operating pressure	0.8 MPa (at 20 °C) 0.4 MPa (at 60 °C)				
Temperature range	-20 to +60 °C				
Material	Special polyurethane				

Stocked items

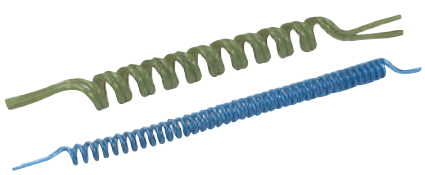
TUZ		Tubinng O.D. [mm]					
Colours (□)		Length	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12
B: Black W: White R: Red	BU: Blue Y: Yellow G: Green	20 m roll	TUZ0425□-20	TUZ0604□-20	TUZ0805□-20	TUZ1065□-20	TUZ1208□-20
		100 m roll	TUZ0425□-100	TUZ0604□-100	TUZ0805□-100	TUZ1065□-100	TUZ1208□-100

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Polyurethane coil tubing 1, 2 or 3 cores

TCU Series

Ø : 4 • 6 • 8 mm



- For flexible tubing
- Compact piping possible.

Specifications

Model	TCU 0425B-1	TCU 0425B-2	TCU 0425B-3	TCU 0604B-1	TCU 0604B-2	TCU 0604B-3	TCU 0805B-1
Number of cores	1 core	2 cores	3 cores	1 core	2 cores	3 cores	1 core
Tubing O.D. [mm]	4			6			8
Tubing I.D. [mm]	2.5			4			5
Fluid	Air						
Max. operating pressure (at 20 °C)	0.8 MPa						
Operating temperature	-20 to +60 °C						
Material	Polyurethane						
Colour	Black						
Applicable fittings	One-touch fittings, insert fittings, miniature fittings						

Stocked items

Part number	O.D. [mm]	I.D. [mm]	No. of cores
TCU0425B-1 ●	4	2.5	1
TCU0604B-1 ●	6	4	
TCU0805B-1 ●	8	5	
TCU0425B-2 ●	4	2.5	2
TCU0604B-2 ●	6	4	
TCU0425B-3 ●	4	2.5	3
TCU0604B-3 ●	6	4	

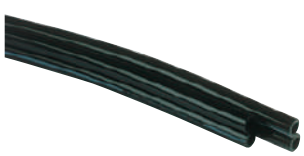
1) Other Ø on request.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Polyurethane flat tubing

TFU Series

Ø : 4 • 6 • 8 mm



- Compact piping possible
- With line markings for piping differentiation.

How to order

TFU0425 B – 2
① ②

① Colour

Symbol	Colour
B	Black

② N° of tubes

Symbol	Tubes
2	2 tubes
3	3 tubes

Specifications

Model	TFU 0425B-2	TFU 0425B-3	TFU 0604B-2	TFU 0604B-3	TFU 0805B-2	TFU 0805B-3
Number of cores	2 cores	3 cores	2 cores	3 cores	2 cores	3 cores
Tubing O.D. [mm]	4		6		8	
Tubing I.D. [mm]	2.5		4		5	
Fluid	Air					
Max. operating pressure (at 20 °C)	0.8 MPa					
Operating temperature	-20 to +60 °C (No freezing)					
Material	Polyurethane					
Colour	Black					
Min. bending radius [mm]	10		15		20	
Tube length per roll [m]	10					
Applicable fittings	One-touch fittings, insert fittings, miniature fittings					

Stocked items

Part number	O.D. [mm]	I.D. [mm]	No. of cores
TFU0425B-2 ●	4	2.5	2
TFU0604B-2 ●	6	4	
TFU0805B-2 ●	8	5	
TFU0425B-3 ●	4	2.5	3
TFU0604B-3 ●	6	4	
TFU0805B-3 ●	8	5	

1) 4-fold or more and other Ø on request.
2) Roll length 10 m

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

FR double layer tubing equivalent to UL-94 standard V-0

TRBU Series

Ø : 6 • 8 • 10 • 12 mm

- Double layer design
- Available in various colours.

How to order

TRBU0604 B – 100
① ② ③

① Tubing model

Model	Inner tubing O.D. x I.D. [mm]
TRBU0604	6 x 4
TRBU0805	8 x 5
TRBU1065	10 x 6.5
TRBU1208	12 x 8

② Colour indication

Symbol	Colour
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green

1) Inner tubing is always black.

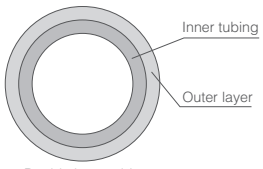
③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m - reel

Specifications

Fluid		Air / Water			
Max. operating pressure (at 20 °C)		0.8 MPa			
Min. bending radius [mm]		15	20	27	35
Ambient and fluid temperature		-20 to +60 °C, Water: 0 to 40 °C (No freezing)			
Material	**Inner tubing**	Polyurethane			
	Outer layer	Polyolefin (Equivalent to UL-94 standard V-0)			
Recommended fittings		FR One-touch fittings: KR-W2 Series			

1) The colour of all inner tubing is black.



Double layer tubing (section)

Stocked items

TRBU	Length [m]	Available colours
TRBU0604	20	B, BU, R, W, Y
	100	B, BU, G, R, W
TRBU0805	20	
	100	B, BU
TRBU1065	20, 100	B, BU, G, R, W, Y
TRBU1208	20	B, BU, G, R, Y
	100	B, BU

Related products:
Tube stripper
TKS Series

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

FR three-layer polyurethane tubing

TRTU Series

Ø : 6 • 8 • 10 • 12 mm

- Flame resistant (Equivalent to UL-94 Standard V-0)
- Spatter resistance is improved by installing an aluminium layer between the outer layer and the inner tube
- Special tool for stripping off the outer layer (part no.: YS-100).

Customer benefits

- Increases tubing life expectancy
- Less stops for maintenance as it is a flame resistant three-layer polyurethane tubing that has a superior weld spatter resistance
- Increases savings.

Applicable fittings

KR Series - Flame resistant fittings - page 363
KQB2 Series - Metal one-touch fittings - page 351

How to order

TRTU1065 ① BU ② – 20 ③

① Tubing model

Model	Inner tubing O.D. x I.D. [mm]
TRTU0604	6 x 4
TRTU0805	8 x 5
TRTU1065	10 x 6.5
TRTU1208	12 x 8

② Colour indication

Symbol	Colour
B	Black
W	White
R	Red
BU	Blue
Y	Yellow
G	Green

③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m - reel

Specifications

Model	TRTU0604	TRTU0805	TRTU1065	TRTU1208
Inner tubing O.D. [mm]	6	8	10	12
Inner tubing I.D. [mm]	4	5	6.5	8
Outer layer thickness [mm]	1	1	1	1
Min. bending radius [mm]	50	60	70	80
Operating pressure	0.8 MPa (at 20 °C) / 0.65 MPa (at 40 °C) / 0.5 MPa (at 60 °C)			
Temperature range	-20 °C to +60 °C / Water: 0 to 40 °C (No freezing)			
Material	Inner tubing: Polyurethane Middle layer: Aluminium laminated film Outer layer: Polyolefin (Equivalent to UL-94 standard V-0)			

Stocked items

TRTU	Tubing O.D. [mm]			
	Ø 6	Ø 8	Ø 10	Ø 12
Black - 20 m roll	**TRTU0604B-20** ●	**TRTU0805B-20** ●	**TRTU1065B-20** ●	**TRTU1208B-20** ●
Blue - 20 m roll	**TRTU0604BU-20** ●	**TRTU0805BU-20** ●	**TRTU1065BU-20** ●	**TRTU1208BU-20** ●
Black- 100 m reel	**TRTU0604B-100** ●	**TRTU0805B-100** ●	—	—

2-Layer soft fluoropolymer tubing

TQ Series

Ø : 4 • 6 • 8 • 10 • 12 mm

- 2-layer structure:
  - Outer layer: special nylon resin
  - Inner layer: special fluoropolymer
- Wearing of outer layer tube reduced to 1/30 (comparison with TL Series, fluoropolymer tubing)
- Internal smoothness equivalent to Ra 0.02 µm
- Flexible
- Light weight
- Max. operating pressure 1 MPa.

How to order

TQ0425 – 20
① ②

① Tubing model

Model	O.D. x I.D. [mm]
TQ0425	4 x 2.5
TQ0604	6 x 4
TQ0806	8 x 6
TQ1008	10 x 8
TQ1209	12 x 9

② Length per roll

Symbol	Length
20	20 m
100	100 m

Specification

Model	TQ0425	TQ0604	TQ0806	TQ1008	TQ1209
O.D. [mm]	4	6	8	10	12
I.D. [mm]	2.5	4	6	8	9
Max. operating pressure [MPa] (at 20 °C)	2.0	1.9	1.5	1.1	1.2
Min. bending radius (tube close bend radius) [mm]	5	9	26	42	37
Fluid temperature (fixed usage)	Air, inert gas: -20 to 100 °C, water, solvent: 0 to 70 °C (No freezing)				
Material	Inner layer: Special fluoropolymer, outer layer: Special nylon resin				
Applicable fittings	Insert fittings KF, KFG2, VCK Series Miniature fittings M, MS Series (Hose nipple type) Fluoropolymer fittings LQ1, LQ3 Series				

1) Minimum bending radius (tube close bend radius) is not guaranteed
Use the product with the bending radius that is larger than these valves.

Stocked items

TQ	Tubing O.D. [mm]				
	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12
Black - 20 m roll	**TQ0425-20** ●	**TQ0604-20** ●	**TQ0806-20** ●	**TQ1008-20** ●	**TQ1209-20** ●

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Antistatic polyurethane tubing

TAU Series

Ø : 3.2 • 4 • 6 • 8 • 10 • 12 mm

- For pneumatic piping system requiring antistatic measures
- Flexible.

Customer benefits

- Prevents static charge
- Thanks to its high flexibility it can be used in hard-to reach areas.

Applicable fittings

KA Series - Antistatic one-touch fittings - page 364

How to order

TAU1065 B – 20

① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TAU3220	3,2 x 2
TAU0425	4 x 2.5
TAU0604	6 x 4
TAU0805	8 x 5
TAU1065	10 x 6.5
TAU1208	12 x 8

② Colour indication

Symbol	Colour
B	Black

③ Length per roll

Symbol	Length
20	20 m – roll
100	100 m - reel

Specifications

Model	TAU3220	TAU0425	TAU0604	TAU0805	TAU1065	TAU1208
O.D. [mm]	3.2	4	6	8	10	12
I.D. [mm]	2	2.5	4	5	6.5	8
Max. operating pressure (at 20 °C) [1]	0.9 MPa					
Min. bending radius [mm] [2]	10	10	15	20	27	35
Operating temperature	0 to 40 °C					
Material	Conductive polyurethane					
Surface resistance	10^4 to 10^7 Ω					

1) Refer to the burst pressure characteristics and operating pressure curve for other temperatures
Avoid abnormal temperature rises due to adiabatic compression
2) The value at a temperature of 20 °C.

Stocked items

TAU	Tubing O.D. [mm]					
	Ø 3.2	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12
Black - 20 m roll	**TAU3220B-20** ●	**TAU0425B-20** ●	**TAU0604B-20** ●	**TAU0805B-20** ●	**TAU1065B-20** ●	**TAU1208B-20** ●
Black- 100 m reel	**TAU3220B-100** ●	**TAU0425B-100** ●	**TAU0604B-100** ●	—	—	—

Fluoropolymer tubing (PFA) metric size

TLM Series

Ø : 2 • 3 • 4 • 6 • 8 • 10 • 12 • 16 • 19 • 25 mm

- Chemically compatible with more than 250 fluids
- Compatible with the §177-1550 elution test approved by the United States FDA
- Max. operating temperature: 260 °C
- 13 size variations (metric size)
- 4 colour variations
- A simple and visual solution to the maintenance works.

How to order

TLM0425 N – 20
① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TLM0201	2 x 1
TLM0302	3 x 2
TLM0425	4 x 2.5
TLM0403	4 x 3
TLM0604	6 x 4
TLM0806	8 x 6
TLM1075	10 x 7.5
TLM1008	10 x 8
TLM1209	12 x 9
TLM1210	12 x 10
TLM1613	16 x 13
TLM1916	19 x 16
TLM2522	25 x 22

② Colour indication

Symbol	Colour
N	Translucent
R	Red (Translucent)
BU	Blue (Translucent)
B	Black (Opaque)

③ Length per roll

Symbol	Type	Length
10	Roll	10 m
20		20 m
50		50 m
100		100 m
2S	Straight	2 m

1) Refer to the previous table as the tubing length differs depending on each size.

Specifications

Model				TLM0201	TLM0302	TLM0425	TLM0403	TLM0604	TLM0806	TLM1075	TLM1008	TLM1209	TLM1210	TLM1613	TLM1916	TLM2522
Tubing size				Ø 2 x Ø 1	Ø 3 x Ø 2	Ø 4 x Ø 2.5	Ø 4 x Ø 3	Ø 6 x Ø 4	Ø 8 x Ø 6	Ø 10 x Ø 7.5	Ø 10 x Ø 8	Ø 12 x Ø 9	Ø 12 x Ø 10	Ø 16 x Ø 13	Ø 19 x Ø 16	Ø 25 x Ø 22
O.D. [mm]				2	3	4	4	6	8	10	10	12	12	16	19	25
I.D. [mm]				1	2	2.5	3	4	6	7.5	8	9	10	13	16	22
Length per roll		**Colour**	**Symbol**													
Roll	**10 m**	**Translucent**	**N**	—	—	—	—	—	—	●	●	●	●	●	●	●
	20 m	**Translucent**	**N**	●	●	●	●	●	●	●	●	●	●	●	●	●
		Red (Translucent)	**R**	●	●	●	●	●	●	●	●	●	●	●	●	●
		Blue (Translucent)	**BU**	●	●	●	●	●	●	●	●	●	●	●	●	●
		Black (Opaque)	**B**	●	●	●	●	●	●	●	●	●	●	●	●	●
	50 m	**Translucent**	**N**	●	●	●	●	●	●	●	●	●	●	●	●	●
	100 m	**Translucent**	**N**	●	●	●	●	●	●	●	●	●	●	●	●	
Straight	**2 m**	**Translucent**	**N**	●	●	●	●	●	●	●	●	●	●	●	●	●
Fluid and applicable fittings				Fittings: Fluoropolymer fittings LQ1, LQ2, LQ3												
				Fittings: One-touch fittings KQ2, KQG2, clean one-touch fittings KP, KP☐ insert fittings KF, KFG2, miniature fittings M, MS (Hose nipple type)												
Max. operating pressure [MPa]				Refer to the max. operating pressure table												
Min. bending radius				10	20	20	35	35	60	95	100	100	130	160	220	400
Max. operating temperature				260 °C												
Material				PFA (Tetrafluoroethylene perfluoroalkoxy vinyl ether copolymer)												

1) Inch size also available as TLM Series.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Model	Max. operating pressure [MPa]			
	20 °C	100 °C	200 °C	260 °C
TLM0201	2.3	1.1	0.55	0.3
TLM0425	1.7	0.9	0.45	0.23
TLM0302	1.5	0.7	0.35	0.2
TLM0604				
TLM0403	1	0.5	0.25	0.15
TLM0806				
TLM1075				
TLM1209				
TLM1008	0.7	0.35	0.17	0.11
TLM1613				
TLM1210	0.6	0.3	0.15	0.1
TLM1916				
TLM2522	0.4	0.2	0.1	0.05

1) Inch size also available as TILM series.

Stocked items

TLM	Tubing O.D. [mm]				
	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12
Translucent - 20 m roll	**TLM0425N-20** ●	**TLM0604N-20** ●	**TLM0806N-20** ●	**TLM1008N-20** ●	**TLM1210N-20** ●
Translucent - 100 m roll	—	**TLM0604N-100** ●	—	—	—

Moisture control tube

IDK Series

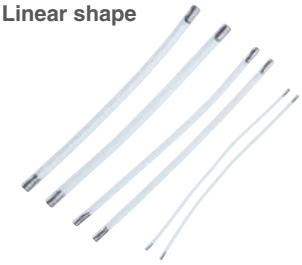
Ø : 2 • 4 • 6 mm

- Prevents condensation in piping for small cylinders / air grippers
- Diffuses water vapour in the piping to the outside
- Suitable for applications where cylinders do not rotate.

Customer benefits

– Longer life of other pneumatic equipment thanks to prevention of corrosion
– Prevents operational failure of small actuators, air grippers and pilot operated valves due to condensation.

Linear shape



IDK 02 – 100
① ②

① Tubing model

Symbol	O.D.
02	2 mm
04	4 mm
06	6 mm

② Nominal tube length

Symbol	Nominal length
100	100 mm
200	200 mm

Specifications

Model	IDK02	IDK04	IDK06
O.D. [mm]	2	4	6
I.D. [mm]	1,2	2,5	4
Min. bending radius [mm]	10	20	40
Max. operating pressure	0.7 MPa		
Operating temperature	0 to 60 °C (No freezing)		
Material	Fluoropolymer		

Stocked items

IDK	Tubing O.D. [mm]		
	Ø 3.2	Ø 4	Ø 6
Nominal length - 100 mm	IDK02-100 ●	IDK04-100 ●	IDK06-100 ●
Nominal length - 200 mm	IDK02-200 ●	IDK04-200 ●	IDK06-200 ●

Applicable fittings

KQ2 Series - One-touch Fittings - page 324

IDK-C1 Series

Ø : 4 • 6 mm

- Reduces IDK buckling of moving part.

Coil shape

IDK 04 – 100 – C1
① ②

① Tubing model

Symbol	O.D.
04	4 mm
06	6 mm

② Nominal tube length

Symbol	Nominal length
100	100 mm
200	200 mm

Part number for a set of 2 tubes

Specifications

Model	IDK04-□-C1	IDK06-□-C1
O.D. [mm]	4	6
I.D. [mm]	2.5	4
Max. operating pressure	0.7 MPa	
Operating temperature	0 to 60 °C (No freezing)	
Tube effective length [mm]	100, 200	
Material	Fluoropolymer	

Stocked items

IDK-C1	Tubing O.D. [mm]	
	Ø 4	Ø 6
Nominal length - 100 mm	IDK04-100-C1 ●	IDK06-100-C1
Nominal length - 200 mm	IDK04-200-C1	IDK06-200-C1

Applicable fittings

KQ2 Series - One-touch fittings - page 324

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

FEP tubing (Fluoropolymer)

TH Series

Ø : 4 • 6 • 8 • 10 • 12 mm

- Heat resistance: 200 °C
- 4 Colour variations: translucent, black, red, blue
- Certified to current Food Sanitation Legislation.

Customer benefits

- It can be used in extreme conditions as it has a high chemical and heat resistance as well as allowing higher operating pressure
- Compatible with the §177-1550 dissolution test approved by FDA (Food and Drug Administration).

Applicable fittings

KQ2 Series - One-touch fittings - page 324
KQG2 Series - SUS 316 one-touch fittings - page 366
KFG2 Series - SUS 316 insert fittings - page 370
M Series- Miniature fittings - page 357
MS Series - SUS 316 miniature fittings - page 372

How to order

TH0425 N 100

① ② ③

① Tubing model

Model	O.D. x I.D. [mm]
TH0402	4 x 2
TH0425	4 x 2.5
TH0604	6 x 4
TH0806	8 x 6
TH1075	10 x 7.5
TH1008	10 x 8
TH1209	12 x 9
TH1210	12 x 10

② Colour indication

Symbol	Colour
N	Translucent
R	Red (Translucent)
BU	Blue (Translucent)
B	Black (Opaque)

③ Length per roll

Symbol	Length
20	20 m
100	100 m

1) 100 m roll is available with translucent (colour indication: N) only.

Specifications

Model		TH0402	TH0425	TH0604	TH0806	TH1075	TH1008	TH1209	TH1210
O.D. [mm]		4		6	8	10		12	
I.D. [mm]		2	2.5	4	6	7.5	8	9	10
Fluid		Air, Water, Inert gas							
Max. operating pressure [MPa]	**20 °C**	2.3	1.7	1.5	1		0.7	1	0.7
	100 °C	0.85	0.6	0.55	0.4		0.25	0.4	0.25
	200 °C	0.4	0.3	0.3	0.2		0.1	0.2	0.1
Min. bending radius [mm]		15	20	35	60	95	100		130
Operating temperature		Air, inert gas: -20 to 200 °C Water: 0 to 100 °C (No freezing)							
Material		FEP (Fluorinated ethylene propylene resin)							

1) Consult the specific catalogue for more detailed information.

Stocked items

TH	Tubinng O.D. [mm]			
	Ø 4	Ø 6	Ø 8	Ø 10
Translucent - 20 m roll	**TH0425N-20** ●	**TH0604N-20** ●	**TH0806N-20** ●	**TH1008N-20** ●
Red (Translucent) - 20 m roll	**TH0425R-20** ●	**TH0604R-20** ●	**TH0806R-20** ●	**TH1008R-20** ●
Blue (Translucent) - 20 m roll	**TH0425BU-20** ●	**TH0604BU-20** ●	**TH0806BU-20** ●	**TH1008BU-20** ●
Black (Opaque) - 20 m roll	**TH0425B-20** ●	**TH0604B-20** ●	**TH0806B-20** ●	**TH1008B-20** ●

Related products

Multi tube holder
TM Series

• Flame resistant equivalent to UL94 standard V-0.

Part number	Ø	No. of tubes
TM-04 ●	4	12
TM-06 ●	6	
TM-08 ●	8	8
TM-10 ●	10	6
TM-12 ●	12	

Tube cutter
TK-1•2•3•6 Series

Part number	max. Ø
TK-1 ●	to 13
TK-2 ●	to 18
TK-3 ●	to 12
TK-6 ●	to 16

Tube releasing tool
TG Series

Part number	Ø tube
TG-1 ●	Ø 4, Ø 6
TG-2 ●	Ø 1/8 • Ø 1/4

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Blow gun
VMG Series

- Ergonomically designed body with patented valve design and KN nozzles produces considerably reduction in pressure losses
- 20 % reduction in power consumption with the SMC “Blow gun” + “S coupler” + “Coil tube”
- 2 connection options
- Minimum actuation force required.

Part number	Piping direction	Port thread	Colour	Operating pressure [MPa]
VMG11BU-F02 ●	Bottom	G1/4	Blue	0 ~ 1.0
VMG11BU-F03 ●		G3/8		
VMG11W-F02 ●		G1/4	White	
VMG11W-F03 ●		G3/8		
VMG12BU-F02 ●	Top	G1/4	Blue	
VMG12BU-F03 ●		G3/8		
VMG12W-F02 ●		G1/4	White	
VMG12W-F03 ●		G3/8		

Air nozzles
KN Series

- Wide range of various blow nozzles
- Designed for use with compressed air and cutting oils.

Male thread nozzle

High efficiency nozzle

Long copper pipe nozzle

Part number	Nozzle-Ø [mm]	Piping thread
KN-R02-100 ●	1	R1/4
KN-R02-150 ●	1.5	
KN-R02-200 ●	2	
KN-R02-250 ●	2,5	

Part number	Nozzle-Ø [mm]	Piping thread
KNH-R02-100 ●	1	R1/4
KNH-R02-150 ●	1.5	
KNH-R02-200 ●	2	

Part number	Nozzle-Ø [mm]	O.D. [mm]	Length [mm]
KNL3-06-150 ●	1,5	6	300
KNL3-06-200 ●	2		
KNL6-06-150 ●	1,5		600
KNL6-06-200 ●	2		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Flow control equipment

Our highlighted product for you

Speed controller, elbow and universal type

AS•1F•A Series

- Push lock type. Large handle
- 4 sizes
- Suitable for polyurethane and nylon tubes
- 360° rotation
- Precise adjustment using special throttle pin shape and fine thread
- Easy mounting
- Teflon-coated connection thread (gasket for M3, M5)
- Also available with G-thread
- Optional: Inlet air speed controller.

Customer benefits

- Easy adjustment and locking - larger handle and new push-lock type
- Reduced labour time, easy assembly and maintenance - improved insertion and removal of tube and higher position of the tube connection
- High resistance to corrosion - PBT thermoplastic and electroless nickel plated body.

Related products

TU Series - Polyurethane tubing - page 376
T Series - Nylon tubing - page 374
TH Series - Fluoropolymer (FEP) tubing - page 390
TLM Series - Fluoropolymer (PFA) tubing - page 387

With thread and one-touch fitting, push-lock type

Part number		Port size	Tube Ø [mm]	Flow [l/min]	Circuit symbol
Elbow type	Universal type				
AS1201F-M3-02 ●	—	M3	2	20	
AS1201F-M3-23 ●	**AS1301F-M3-23**		3.2		
AS1201F-M3-04 ●	**AS1301F-M3-04** ●		4		
AS1201F-M5-02A ●	—	M5	2	70	
AS1201F-M5-23A ●	**AS1301F-M5-23A** ●		3.2	110	
AS1201F-M5-04A ●	**AS1301F-M5-04A** ●		4		
AS1201F-M5-06A ●	**AS1301F-M5-06A** ●		6		
AS2201F-01-23SA ●	**AS2301F-01-23SA**	R1/8	3.2	145	
AS2201F-01-04SA ●	**AS2301F-01-04SA** ●		4	250	
AS2201F-01-06SA ●	**AS2301F-01-06SA** ●		6	290	
AS2201F-01-08SA ●	**AS2301F-01-08SA** ●		8		
AS2201F-01-10SA ●	—		10		
AS2201F-02-04SA ●	**AS2301F-02-04SA** ●	R1/4	4	325	
AS2201F-02-06SA ●	**AS2301F-02-06SA** ●		6	470	
AS2201F-02-08SA ●	**AS2301F-02-08SA** ●		8		
AS2201F-02-10SA ●	**AS2301F-02-10SA** ●		10		
AS3201F-03-06SA ●	**AS3301F-03-06SA** ●	R3/8	6	760	
AS3201F-03-08SA	**AS3301F-03-08SA** ●		8	860	
AS3201F-03-10SA ●	**AS3301F-03-10SA** ●		10	1190	
AS3201F-03-12SA ●	**AS3301F-03-12SA** ●		12		
AS4201F-04-10SA ●	**AS4301F-04-10SA** ●	R1/2	10	1580	
AS4201F-04-12SA ●	**AS4301F-04-12SA** ●		12	1760	
AS4201F-04-16SA	—		16		

1) Port M3 without push lock.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Speed controller with indicator

AS-FS Series

- Indicator window with numerical indication of handle rotation for flow rater
- Elbow and universal types
- Large push-lock type handle
- 4 indicator window directions available
- Models: electroless nickel plating, stainless steel type, G thread (face seal) type, Uni thread type
- Tubing sizes: from Ø 2 to Ø 16
- Port sizes: from M5 to 1/2.

Elbow type, meter-out control type

Part number	Port size	Tube Ø [mm]	Flow [l/min]	Circuit symbol
AS1201FS-M5-02 ●	M5	2	70	
AS1201FS-M5-23 ●		3.2	110	
AS1201FS-M5-04 ●		4		
AS1201FS-M5-06 ●		6		
AS2201FS-01-23S	R1/8	3.2	145	
AS2201FS-01-04S ●		4	250	
AS2201FS-01-06S ●		6	290	
AS2201FS-01-08S ●		8		
AS2201FS-01-10S ●		10		
AS2201FS-02-04S ●	R1/4	4	325	
AS2201FS-02-06S ●		6	470	
AS2201FS-02-08S ●		8	500	
AS2201FS-02-10S ●		10		
AS3201FS-03-06S ●	R3/8	6	760	
AS3201FS-03-08S ●		8	860	
AS3201FS-03-10S ●		10	1190	
AS3201FS-03-12S ●		12		
AS4201FS-04-10S ●	R1/2	10	1580	
AS4201FS-04-12S ●		12	1760	
AS4201FS-04-16S		16		

Meter-in control or universal types available on request
Other models, port sizes and seal methods available on request

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Speed controller with indicator, in line type

AS-2FS Series

- Numerical indication of handle rotation for flow rate with 4 selectable different indicator window orientations
- Large push-lock type handle to ease adjustment and locking
- 4 mounting options: Direct, holder, L-bracket, DIN-rail
- Index plate to incorporate an identification label
- Applicable tube material: Nylon, soft nylon, polyurethane
- Applicable tubing O.D.: Ø 3.2 to Ø 12.

Part number	Tube Ø [mm]	Flow [l/min]	Circuit symbol
AS1002FS-23	3.2	72	
AS1002FS-04 ●	4	76	
AS1002FS-06 ●	6	82	
AS2002FS-04 ●	4	96	
AS2002FS-06 ●	6	144	
AS2052FS-06	6	240	
AS2052FS-08 ●	8	305	
AS3002FS-06	6	295	
AS3002FS-08 ●	8	431	
AS3002FS-10 ●	10	647	
AS3002FS-12	12	790	
AS4002FS-10 ●	10	636	
AS4002FS-12	12	982	

Options

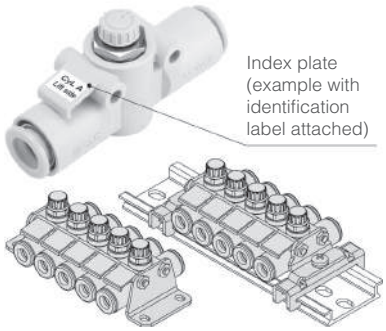
Adapter for direct mounting	DIN rail mounting bracket (2 units)	L-Bracket (2 units)	Applicable model
AS-10A1	AS-10D	AS-10L	AS1002FS☐
AS-20A1	AS-20D	AS-20L	AS2002FS☐
AS-25A1	AS-25D	AS-25L	AS2052FS☐
AS-30A1	AS-30D	AS-30L	AS3002FS☐
—	AS-40D	AS-40L	AS4002FS☐

1) AS4002FS can be mounted without the adapter
2) Prepare DIN rail by user

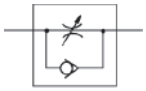
● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Speed controller, in line type

AS-2F Series



- It is possible to identify the product when multiple controllers are mounted and identify the flow direction by attaching an identification label
- Max. operating pressure 1 MPa (0.7 MPa in case of AS1002F-02).

Part number	Tube Ø [mm]	Flow [1] [l/min]	Circuit symbol
AS1002F-02 ●	2	20	
AS1002F-23 ●	3.2	100	
AS1002F-04 ●	4		
AS1002F-06 ●	6		
AS2002F-04 ●	4	130	
AS2002F-06 ●	6	230	
AS2052F-06 ●		290	
AS2052F-08 ●	8	460	
AS3002F-08 ●		660	
AS3002F-10 ●	10	920	
AS4002F-10 ●			
AS4002F-12 ●	12	1390	

1) At 0.5 MPa set pressure.

Options

Part number L - bracket	DIN rail mounting bracket	Applicable series
AS-12L	—	AS1002F-02
AS-10L ●	**AS-10D** ●	AS1002F
AS-20L ●	**AS-20D** ●	AS2002F
AS-25L ●	**AS-25D**	AS2052F
AS-30L ●	**AS-30D**	AS3002F
AS-40L	**AS-40D**	AS4002F

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Speed controller, in line type

AS-2F-A Series

- Large push-lock type handle to ease adjustment and locking
- 4 mounting options: Direct, holder, L-bracket, DIN-rail
- Index plate to incorporate an identification label
- Applicable tube material: Nylon, soft nylon, polyurethane
- Applicable tubing O.D.: Ø 3.2 to Ø 12.

Part number	Tube Ø [mm]	Flow [l/min]	Circuit symbol
AS1002F-23A	3.2	72	
AS1002F-04A ●	4	76	
AS1002F-06A ●	6	82	
AS2002F-04A ●	4	96	
AS2002F-06A ●	6	144	
AS2052F-06A	6	240	
AS2052F-08A ●	8	305	
AS3002F-06A	6	295	
AS3002F-08A ●	8	431	
AS3002F-10A ●	10	647	
AS3002F-12A	12	790	
AS4002F-10A	10	636	
AS4002F-12A	12	982	

Options

DIN rail mounting bracket (2 units)	L-Bracket (2 units)	Applicable model
AS-10D	AS-10L	AS1002FS☐
AS-20D	AS-20L	AS2002FS☐
AS-25D	AS-25L	AS2052FS☐
AS-30D	AS-30L	AS3002FS☐
AS-40D	AS-40L	AS4002FS☐

∗ Prepare DIN rail by user

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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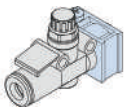
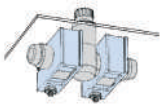
Holder for speed controller

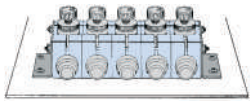
TMH Series



One side



3 sides for panel mounting



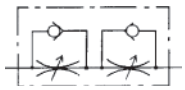
Stacked

Part number	Tube diameter				
	AS100$^1_2$F	AS200$^1_2$F	AS205$^1_2$F	AS300$^1_2$F	AS400$^1_2$F
TMH-23J ●	Ø 3.2		—	—	—
TMH-04J ●	Ø 4	Ø 4	—	—	—
TMH-06J ●	Ø 6	Ø 6	—	—	—
TMH-06 ●	—	—	Ø 6	—	—
TMH-07 ●	—	—	—	Ø 6	—
TMH-08 ●	—	—	Ø 8	Ø 8	—
TMH-10 ●	—	—	—	Ø 10	Ø 10
TMH-12 ●	—	—	—	Ø 12	—
TMH-13	—	—	—	—	Ø 12

Dual type speed controller

ASD•F Series

- Meter-in, meter-out combined in one body
- Plug-in connection rotates 360°
- Max. operating pressure 1 MPa.

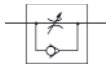
Part number	Thread port	Tube Ø [mm]	Flow [1] [l/min]	Circuit symbol
ASD230F-M5-04 ●	M5	4	75	
ASD330F-01-06S ●	R1/8	6	175	
ASD430F-02-06S ●	R1/4		295	
ASD430F-02-08S ●		8	350	
ASD530F-03-08S ●	R3/8		600	
ASD530F-03-10S ●		10	700	
ASD630F-04-12S ●	R1/2	12	1300	

1) At 0.5 MPa set pressure.

Speed controller

EAS Metal Series

- 4 sizes
- 360° rotation
- Precise adjustment using throttle pin shape and fine thread
- Easy to mount
- Lock nut used to fix the setting
- Lock nut used to fix the setting
- Max. operating pressure 1 MPa (0.7 MPa in case of AS1200-M3).

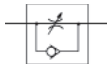
Part number	Port size	Flow [1] [l/min]	Circuit symbol (Meter-out type control)
AS1200-M3 ●	M3	20	
AS1200-M5 ●	M5	105	
EAS2200-F01-S ●	G1/8	230	
EAS2200-F02-S ●	G1/4	460	
EAS3200-F03-S ●	G3/8	920	
EAS4200-F04-S ●	G1/2	1700	

1) At 0.5 MPa set pressure.
2) The male thread is R thread.

Speed controller. Straight type
EAS Metal Series

- 4 sizes
- Superior flow capacity
- Fine thread for precise adjustment
- Easy to mount
- Max. operating pressure 1 MPa (0.7 MPa in case of AS1000).

Standard

Part number	Port size	Flow [1] [l/min]	Circuit symbol
AS1000-M3 ●	M3	20	
AS1000-M5 ●	M5	80	
EAS2000-F01 ●	G1/8	250	
EAS2000-F02 ●	G1/4	250	
EAS3000-F03 ●	G3/8	810	
EAS4000-F04 ●	G1/2	1670	

1) At 0.5 MPa set pressure.

For superior flow capacity

Part number	Port size	Flow [1] [l/min]	Circuit symbol
EAS500-F06 ●	G3/4	8100	
EAS600-F10 ●	G1	16900	
EAS800-F12 ●	G1 1/4	38500	
EAS900-F14 ●	G1 1/2	47500	
EAS900-F20 ●	G2	60800	

1) At 0.5 MPa set pressure.

Speed controller. Stainless steel
AS•FG Series

- Stainless steel screw connection (SUS303)
- Max. operating pressure 1 MPa.

Part number	Port size	Tube Ø [mm]	Flow [1] [l/min]	Circuit symbol
AS1201FG-M5-04 ●	M5	4	100	
AS1201FG-M5-06 ●		6		
AS2201FG-01-04S ●	R1/8	4	180	
AS2201FG-01-06S ●		6	230	
AS2201FG-01-08S ●		8		
AS2201FG-02-06S ●	R1/4	6	390	
AS2201FG-02-08S ●		8	460	
AS3201FG-03-08S ●	R3/8		790	
AS3201FG-03-10S ●		10	920	
AS4201FG-04-10S ●	R1/2		1580	
AS4201FG-04-12S ●		12	1710	

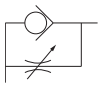
1) At 0.5 MPa set pressure.
Other combination upon request.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Stainless steel controller (Elbow type)

ASG Series

- SUS316 and special FKM construction to improve the resistance to corrosion
- Elbow design to allow the rotation of the tubing connection ports and suit installation to air cylinders
- Meter-in and meter-out type control
- One-touch fittings and 5 body sizes
- Applicable tubing: FEP, PFA, nylon, soft nylon, polyurethane and polyolefin
- Conforms to food sanitation laws
- Max. operating pressure 1 MPa.

Part number	Port size	Tube Ø [mm]	Flow [1] [l/min]	Circuit symbol (Meter-out type control)
ASG220F-M5-04 ●	M5	4	100	
ASG220F-M5-06 ●		6		
ASG320F-01-04S ●	R1/8	4	180	
ASG320F-01-06S ●		6	230	
ASG320F-01-08S ●		8		
ASG420F-02-06S ●	R1/4	6	390	
ASG420F-02-08S ●		8	460	
ASG420F-02-10S ●		10		
ASG520F-03-08S ●	R3/8	8	790	
ASG520F-03-10S ●		10	920	
ASG520F-03-12S ●		12		
ASG620F-04-12S ●	R1/2		1580	

1) Measured at 0.5 MPa and 20 °C.
2) Meter-in control option also available.

Speed controller, flat head screwdriver adjusting

AS•F-D Series

Universal type

Elbow type

- Flat set screw, to be operated only with a screwdriver
- Plug-in connection
- Sealant male thread from R1/8, gasket for M5
- Max. operating pressure 1 MPa.

Speed controller with flash set screw D version AS□F

Part number		Port size	Tube Ø [mm]	Flow [1] [l/min]
Elbow type	Universal type			
AS1201F-M5-23D ●	**AS1301F-M5-23D**	M5	3.2	100
AS1201F-M5-04D ●	**AS1301F-M5-04D** ●		4	
AS1201F-M5-06D ●	**AS1301F-M5-06D** ●		6	
AS2201F-01-06SD ●	**AS2301F-01-06SD** ●	R1/8		230
AS2201F-01-08SD ●	**AS2301F-01-08SD** ●		8	
AS2201F-02-06SD ●	**AS2301F-02-06SD**	R1/4	6	
AS2201F-02-08SD ●	**AS2301F-02-08SD**		8	
AS3201F-02-06SD ●	**AS3301F-02-06SD**		6	390
AS3201F-02-08SD ●	**AS3301F-02-08SD**		8	460
AS3201F-02-10SD ●	**AS3301F-02-10SD**		10	
AS3201F-03-06SD ●	**AS3301F-03-06SD**	R3/8	6	660
AS3201F-03-08SD ●	**AS3301F-03-08SD**		8	790
AS3201F-03-10SD ●	**AS3301F-03-10SD**		10	920

1) At 0.5 MPa set pressure.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Speed controller, flat head screwdriver adjusting, in line type

AS•F-D Series

- Max. operating pressure 1 MPa.

Speed controller with flash set screw D version AS□001F

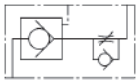
Part number Straight type	Tube Ø [mm]	Flow [l/min] 1)
AS1001F-23D ●	3.2	100
AS1001F-04D ●	4	
AS2001F-06D ●	6	230
AS2051F-06D ●		290
AS2051F-08D ●	8	460
AS3001F-08D ●		660
AS3001F-10D ●	10	920

1) At 0.5 MPa set pressure.

Speed controller with pilot check valve

ASP•F Series

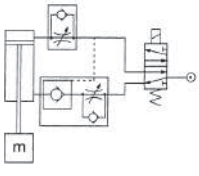
- 2 pneumatic functions in one valve – speed controller and pilot check valve
- Pilot check valve pressure 50 % of operating pressure (over 0.1 MPa)
- Mounted directly to actuator
- 360° rotation
- Max. operating pressure 1 MPa.

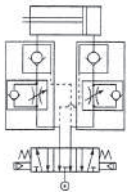
Part number	Port size	Port size Pilot air	Tube Ø [mm]	Flow 1) [l/min]	Circuit symbol
ASP330F-01-06S ●	R1/8	M5	6	180	
ASP330F-01-08S ●			8		
ASP430F-F02-06S ●	R1/4	G1/8	6	330	
ASP430F-F02-08S ●			8	350	
ASP530F-F03-08S ●	R3/8			600	
ASP530F-F03-10S ●			10	750	
ASP630F-F04-10S ●	R1/2	G1/4		1100	
ASP630F-F04-12S ●			12	1190	

1) At 0.5 MPa set pressure.

Enables speed control and temporary intermediate stopping with cylinders

Drop prevention





Emergency function

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Air saving speed controller

AS-R & AS-Q Series

- Air consumption can be reduced by up to 31 %
- Same mounting and operation as a standard speed controller
- No delay in the response time with rapid supply and exhaust function
- Push-lock type handle
- Applicable tubing O.D.: Ø 6 to Ø 12
- Thread types: R, G, NPT.

AS-R Series

Part number	Maximum flow rate [l/min]	Port size	Tube Ø [mm]
AS22R-G01-06	88	G1/8	Ø 6
AS22R-G01-08			Ø 8
AS22R-G02-06		G1/4	Ø 6
AS22R-G02-08			Ø 8
AS32R-G02-08	200		Ø 8
AS32R-G02-10			Ø 10
AS32R-G03-08		G3/8	Ø 8
AS32R-G03-10			Ø 10
AS42R-G03-10	375		Ø 10
AS42R-G03-12			Ø 12
AS42R-G04-10		G1/2	Ø 10
AS42R-G04-12			Ø 12

AS-Q Series

Part number	Maximum flow rate [l/min]	Port size	Tube Ø [mm]
AS22Q-G02-06	66	G1/4	Ø 6
AS22Q-G02-08			Ø 8
AS32Q-G02-06	250	G3/8	Ø 6
AS32Q-G02-08			Ø 8
AS32Q-G03-08			Ø 8
AS32Q-G03-10			Ø 10
AS42Q-G03-10	335	G1/2	Ø 10
AS42Q-G03-12			Ø 12
AS42Q-G04-10			Ø 10
AS42Q-G04-12			Ø 12

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Air saving valve

ASR Series (Pressure valve)
ASQ Series (Flow valve)

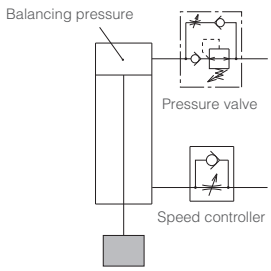
- 40 % reduction in air consumption (Cuts air consumption by operating the return stroke at a reduced pressure)
- Max. operating pressure 1 MPa
- Variable set pressure range ASR (0.1 to 0.3 MPa).

Part number		Port size	Applicable tubing O.D. [mm]			
Pressure valve	Flow valve		6*	8*	10	12
ASR430F-02-□S ●	**ASQ430F-02-□S** ●	R1/4	●	●	●	
ASR530F-02-□S ●	**ASQ530F-02-□S** ●		●	●	●	●
ASR530F-03-□S ●	**ASQ530F-03-□S** ●	R3/8	●	●	●	●
ASR630F-03-□S ●	**ASQ630F-03-□S** ●				●	●
ASR630F-04-□S ●	**ASQ630F-04-□S** ●	R1/2			●	●

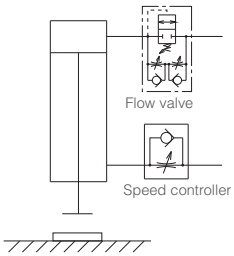
□: Add applicable tubing O.D. [mm].
∗ For tubing O.D. 6 mm, add (06), for tubing O.D. 8 mm, add (08).

Other applications

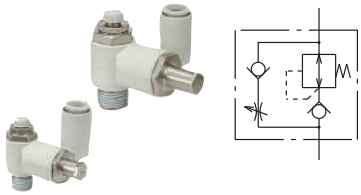
- Jerk prevention in vertical operation of the cylinder.



- Quick air charge at the end of stroke for press applications.

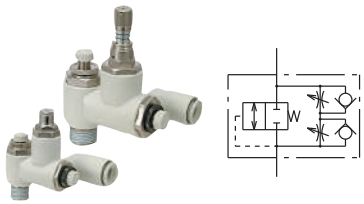


Pressure valve / ASR Series



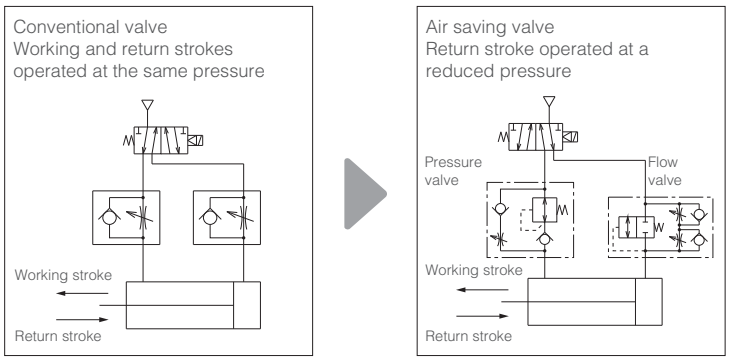
Regulator with check valve and flow control valve integrated into a single construction

Flow valve / ASQ Series



Pilot valve and two-way flow control valve integrated into a single construction

Cuts air consumption by operating the return stroke at a reduced pressure

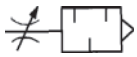


● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Metering valve with silencer

ASN2 Series

- Exhaust air noise reduction over 20 dB
- Simple speed reduction for cylinder
- Mounted directly to valve exhaust
- Operating pressure range 0 to 1 MPa.

Part number	Port size	Effective area [mm²]	Circuit symbol
ASN2-M5 ●	M5	1.8	
ASN2-01-S ●	R1/8	3.6	
ASN2-02-S ●	R1/4	6.5	
ASN2-03-S ●	R3/8	16.6	
ASN2-04-S ●	R1/2	24.5	

Speed controller, all metal exterior

AS-X737 Series

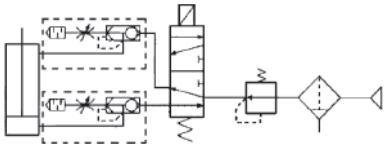
- Metallic exterior
- Spatter cover can be used
- Port sizes: R1/8, R1/4 and R3/8
- Applicable tubing O.D.: Ø 6, Ø 8 and Ø 10
- Ambient and fluid temperature: -5 to 60 °C

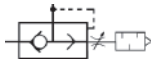
Part number	Thread port	Tube Ø [mm]	Flow [l/min]	Control type
AS2201-01-F06S-X737 ●	R1/8	6	230	Meter-out
AS2201-01-F08S-X737 ●	R1/8	8		
AS2201-02-F06S-X737 ●	R1/4	6	390	
AS2201-02-F08S-X737 ●	R1/4	8	460	
AS2201-02-F10S-X737 ●	R1/4	10		
AS3201-03-F08S-X737 ●	R3/8	8	790	
AS3201-03-F10S-X737 ●	R3/8	10	920	

Speed exhaust controller
ASV Series

- 3 pneumatic functions in one compact design
- Flame resistant equivalent to UL94 standard v-0 (for ASV3☐, ASV4☐ and ASV5☐)
- Simple, economical mounting
- Size M3 ~ 1/2”
- Integral 4 ~ 12 mm plug connection
- Max. operating pressure 1 MPa.

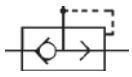
Cylinder with ASV



Part number	Port size	Tube Ø [mm]	Effective area [mm²]		Circuit symbol
			IN → OUT	OUT → Exh	
ASV120F-M3-04 ●	M3	4	0.3	0.3	
ASV220F-M5-04 ●	M5		1.3	1.3	
ASV220F-M5-06 ●		6			
ASV310F-01-06S ●	R1/8		7	8	
ASV310F-01-08S ●		8			
ASV410F-02-08S ●	R1/4		13.5	14	
ASV410F-02-10S ●		10			
ASV510F-03-10S ●	R3/8		27	29	
ASV510F-04-12S ●	R1/2	12			

Quick exhaust valve
AQ Series

- Large exhaust capacity
- Port thread M5 ~ 3/4”
- Superior flow capacity
- Max. operating pressure 1 MPa (0.7 MPa in case of AQ15☐).

Part number	Port size	Effective area [mm²]		Circuit symbol
		IN → OUT	OUT → Exh.	
AQ1500-M5 ●	M5 x 0.8	2	2.8	
EAQ1510-F01 ●	G1/8	4	5.8	
EAQ2000-F01 ●	G1/8	25	25	
EAQ2000-F02 ●	G1/4	35	40	
EAQ3000-F03 ●	G3/8	60	70	
EAQ5000-F04 ●	G1/2	105	115	
EAQ5000-F06 ●	G3/4	135	180	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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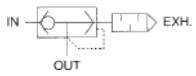
Quick exhaust valve, straight type

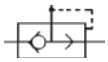
AQ240/340 Series

- Direct or common exhaust
- Simple, economical assembly by the user
- Built-in one touch fitting
- Suitable for nylon and polyurethane tubing
- Light weight
- Max. operating pressure 1 MPa.

Exhaust via silencer

Part number	Tube Ø [mm]	Effective area [mm²]		Circuit symbol
		IN → OUT	OUT → Exh.	
AQ240F-04-00 ●	4	1.7	2.5	
AQ240F-06-00 ●	6	2.4	2.7	
AQ340F-06-00 ●		4	4	

Common exhaust

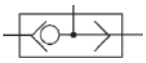
Part number	Tube Ø [mm]	Effective area [mm²]		Circuit symbol
		IN → OUT	OUT → Exh.	
AQ240F-04-04 ●	4	1.7	2.5	
AQ240F-06-06 ●	6	2.4	2.7	
AQ340F-06-06 ●		4	4	

Shuttle valve. Metal type

VR1210/1220 Series

- Max. operating pressure 1 MPa.

Metal type with female thread

Part number	Port size	Flow [l/min]	Circuit symbol
VR1210-F01 ●	G1/8	311	
VR1220-F02 ●	G1/4	695	

Shuttle valve. Plastic with one-touch fittings

VR1210F/1220F Series

- Max. operating pressure 1 MPa.

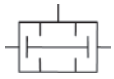
Plastic with one touch fittings

Part number	Tube Ø [mm]	Flow [l/min]	Circuit symbol
VR1210F-23 ●	3.2	123	
VR1210F-04 ●	4.0	173	
VR1220F-06 ●	6.0	345	
VR1220F-08 ●	8.0	518	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

AND Valve
VR1211F Series

- For pneumatic controls
- Simple, push-in mounting
- Rotates through 360°
- Max. operating pressure 1 MPa.

Part number	Tube Ø [mm]	Flow [l/min]	Circuit symbol
VR1211F-23	3.2	74	
VR1211F-04 ●	4.0	99	
VR1211F-06 ●	6.0	123	

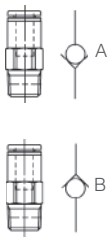
Check valve with one-touch fitting / thread
AKH/AKB Series

- Select from 3 designs
- One-touch fitting both sides
- Male thread / female thread
- Male thread / one-touch fitting
- Low cracking pressure (0.005 MPa)
- Operating pressure range -100 kPa to 1 MPa.

One-touch fitting both sides

Part number	Tube Ø [mm]	Effective area [mm²]	Circuit symbol
AKH04-00 ●	4	2.8	
AKH06-00 ●	6	6.5	
AKH08-00 ●	8	14	
AKH10-00 ●	10	24	
AKH12-00 ●	12	34	

Male thread / one-touch fitting

Part number	Connection thread	Tube Ø [mm]	Effective area [mm²]	Circuit symbol
AKH04 □-M5 ●	M5	4	2.8	
AKH04 □-01S ●	R1/8			
AKH06 □-M5 ●	M5	6	6.5	
AKH06 □-01S ●	R1/8			
AKH06 □-02S ●	R1/4			
AKH08 □-01S ●	R1/8	8	14	
AKH08 □-02S ●	R1/4			
AKH08 □-03S ●	R3/8			
AKH10 □-02S ●	R1/4	10	24	
AKH10 □-03S ●	R3/8			
AKH10 □-04S ●	R1/2			
AKH12 □-03S ●	R3/8	12	34	
AKH12 □-04S ●	R1/2			

□: Flow direction A or B.

Male thread / female thread

Part number	Port size	Effective area [mm²]	Circuit symbol
AKB01 □-01S ●	R1/8, Rc1/8	6.5	
AKB02 □-02S ●	R1/4, Rc1/4	14	
AKB03 □-03S ●	R3/8, Rc3/8	24	
AKB04 □-04S ●	R1/2, Rc1/2	34	

□: Flow direction A or B.

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Check valve

AK Series

- Superior flow capacity
- Low cracking pressure: 0.02 MPa
- Port size from 1/8 to 1
- Max. operating pressure 1 MPa.

Part number	Port size	Effective area [mm²]	Circuit symbol
EAK2000-F01 ●	G1/8	25	
EAK2000-F02 ●	G1/4	27.5	
EAK4000-F02 ●		47	
EAK4000-F03 ●	G3/8	85	
EAK4000-F04 ●	G1/2	95	
EAK6000-F06 ●	G3/4	200	
EAK6000-F10 ●	G1	230	

Optical indicator pneumatic

VR3100/3110 Series

VR3010

VR3110

- Optical pressure indication for monitoring pressure
- Port size Rc1/8
- Operating pressure range 0.1 to 0.8 MPa (0.15 to 1 MPa in case of VR3110).

Part number	Optical indication colour	Port size	Circuit symbol
VR3100-01R ●	Red painted	Rc1/8	
VR3100-01G ●	Green		
VR3100-01O ●	Orange		
VR3110-01R ●	Red painted	R1/8	
VR3110-01G ●	Green		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

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Digital pressure switches with integrated display

Series	Model	Fluid	Rated pressure range [Pa] (-100 k, 0, 300 k, 100 k, 500 k, 1 M, 1.5 M, 2 M, 5 M, 10 M, 15 M)	Piping	Display	Switch output 1-Output	Switch output 2-Output	Analogue output 1 to 5 V	Analogue output 4 to 20 mA	Enclosure
	ZSE10	Air		M5 (female) R 1/8	Red	○	○	○	—	IP40
	ZSE10F	Air		M5 (female) R 1/8	Red	○	○	○	—	IP40
	ISE10	Air		M5 (female) R 1/8	Red	○	○	○	—	IP40
	ZSE30A	Air		M5 (female) R 1/8, Ø 4, Ø 6, Ø 5/32	Red / Green	○	○	○	○	IP40
	ZSE30AF	Air		M5 (female) R 1/8, Ø 4, Ø 6, Ø 5/32	Red / Green	○	○	○	○	IP40
	ISE30A	Air		M5 (female) R 1/8, Ø 4, Ø 6, Ø 5/32	Red / Green	○	○	○	○	IP40
	ZSE20	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	—	—	—	IP40
	ZSE20F	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	○	○	○	IP40
	ISE20	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	○	○	○	IP40
	ZSE20A	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	—	—	—	IP40
	ZSE20AF	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	○	○	○	IP40
	ISE20A	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	○	○	○	IP40
	ZSE40A	Air		M5 (female) R 1/8, Ø 4, Ø 6, Ø 5/32	Red / Green	—	○	○	○	IP65
	ZSE40AF	Air		M5 (female) R 1/8, Ø 4, Ø 6, Ø 5/32	Red / Green	—	○	○	○	IP65
	ISE40A	Air		M5 (female) R 1/8, Ø 4, Ø 6, Ø 5/32	Red / Green	—	○	○	○	IP65
	ZSE20BF	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	○	○	○	IP65
	ISE20B	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	○	○	○	IP65
	ZSE20B-L	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	—	IO-Link		IP65
	ZSE20BF-L	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	—	IO-Link		IP65
	ISE20B-L	Air		M5 female thread, R 1/8, NPT 1/8	3-Screen Display. Orange, Red / Green	○	—	IO-Link		IP65
	ISE70	Air		Rc 1/4, NPT 1/4, G 1/4	3-Screen Display. Orange, Red / Green	○	○	IO-Link		IP67
	ISE71	Air		Rc 1/4, NPT 1/4, G 1/4	3-Screen Display. Orange, Red / Green	○	○	IO-Link		IP67
	ISE70G	Liquids		Rc 1/4, NPT 1/4, G 1/4	3-Screen Display. Orange, Red / Green	○	○	IO-Link		IP67
	ISE75G	Liquids		Rc 1/4, NPT 1/4, G 1/4	3-Screen Display. Orange, Red / Green	○	○	IO-Link		IP67
	ISE76G	Liquids		Rc 1/4, NPT 1/4, G 1/4	3-Screen Display. Orange, Red / Green	○	○	IO-Link		IP67
	ISE77G	Liquids		Rc 1/4, NPT 1/4, G 1/4	3-Screen Display. Orange, Red / Green	○	○	IO-Link		IP67
	ZSE80	Liquids		M5 (female) R 1/4, G 1/4 Rc 1/8, URJ 1/4 TSJ 1/4	Red / Green	○	○	○	○	IP65
	ZSE80F	Liquids		M5 (female) R 1/4, G 1/4 Rc 1/8, URJ 1/4 TSJ 1/4	Red / Green	○	○	○	○	IP65
	ISE80	Liquids		M5 (female) R 1/4, G 1/4 Rc 1/8, URJ 1/4 TSJ 1/4	Red / Green	○	○	○	○	IP65
	ISE80H	Liquids		M5 (female) R 1/4, G 1/4 Rc 1/8, URJ 1/4 TSJ 1/4	Red / Green	○	○	○	○	IP65
	ZSE20C	Liquids		R 1/4, NPT 1/4, G 1/4, Rc 1/8, URJ 1/4, TSJ 1/4	3-Screen Display. Orange, Red / Green	○	○	○	○	IP65
	ZSE20CF	Liquids		R 1/4, NPT 1/4, G 1/4, Rc 1/8, URJ 1/4, TSJ 1/4	3-Screen Display. Orange, Red / Green	○	○	○	○	IP65
	ISE20C	Liquids		R 1/4, NPT 1/4, G 1/4, Rc 1/8, URJ 1/4, TSJ 1/4	3-Screen Display. Orange, Red / Green	○	○	○	○	IP65
	ISE20CH	Liquids		R 1/4, NPT 1/4, G 1/4, Rc 1/8, URJ 1/4, TSJ 1/4	3-Screen Display. Orange, Red / Green	○	○	○	○	IP65

Digital pressure switches with remoted display

Series	Model	Fluid	Rated pressure range [Pa] (-100 k, 0, 300 k, 100 k, 500 k, 1 M, 1.5 M, 2 M, 5 M, 10 M, 15 M)	Piping	Display	Switch output 1-Output	Switch output 2-Output	Analogue output 1 to 5 V	Analogue output 4 to 20 mA	Enclosure
	PSE530	Air		M5 Ø 6 Ø 1/4	PSE200 PSE300	—	—	○	—	IP40
	PSE531	Air		M5 Ø 6 Ø 1/4	PSE200 PSE300	—	—	○	—	IP40
	PSE532	Air		M5 Ø 6 Ø 1/4	PSE200 PSE300	—	—	○	—	IP40
	PSE533	Air		M5 Ø 6 Ø 1/4	PSE200 PSE300	—	—	○	—	IP40
	PSE540	Air		M3, M5, R 1/8 NPT 1/8 Ø 4, Ø 6	PSE200 PSE300	—	—	○	—	IP40
	PSE541	Air		M3, M5, R 1/8 NPT 1/8 Ø 4, Ø 6	PSE200 PSE300	—	—	○	—	IP40
	PSE543	Air		M3, M5, R 1/8 NPT 1/8 Ø 4, Ø 6	PSE200 PSE300	—	—	○	—	IP40
	PSE550	Air	Rated differential pressure range: 0 to 2 kPa	Resin pipe (applicable to Ø 4 tubing)	PSE300	—	—	○	○	IP40
	PSE560	Liquids		R 1/8 R 1/4 NPT 1/8 NPT 1/4 URJ 1/4 TSJ 1/4	PSE200 PSE300	—	—	○	○	IP65
	PSE561	Liquids		R 1/8 R 1/4 NPT 1/8 NPT 1/4 URJ 1/4 TSJ 1/4	PSE200 PSE300	—	—	○	○	IP65
	PSE563	Liquids		R 1/8 R 1/4 NPT 1/8 NPT 1/4 URJ 1/4 TSJ 1/4	PSE200 PSE300	—	—	○	○	IP65
	PSE564	Liquids		R 1/8 R 1/4 NPT 1/8 NPT 1/4 URJ 1/4 TSJ 1/4	PSE300	—	—	○	○	IP65
	PSE573	Liquids		M12	PSE300AC, PSE200, PSE300	—	—	○	○	IP65
	PSE574	Liquids		M12	PSE300AC, PSE200, PSE300	—	—	○	○	IP65
	PSE570	Liquids		M12	PSE300AC, PSE200, PSE300	—	—	○	○	IP65
	PSE575	Liquids		M12	PSE300AC, PSE200, PSE300	—	—	○	○	IP65
	PSE576	Liquids		M12	PSE300AC, PSE200, PSE300	—	—	○	○	IP65
	PSE577	Liquids		M12	PSE300AC, PSE200, PSE300	—	—	○	○	IP65
	PSE200	4 Channels digital pressure sensor monitor			Red	5 switch outputs		—	—	IP65/IP40
	PSE300	1 Channel digital pressure sensor monitor			Red / Green	2 switch outputs		○	○	IP40
	PSE300AC	1 Channel digital pressure sensor monitor			3-Screen Display. Orange, Red / Green	○	○	—	—	IP65

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Digital flow switches

Series	Model	Fluid	Flow range [l/min] (0 1 5 10 20 50 100 200 600 3000 6000 12000)	Piping	Display	Switch output: 1-Output	Switch output: 2-Output	Switch output: 4-Output	Analogue output: 1 to 5 V	Analogue output: 4 to 20 mA	Enclosure
	PFM710	Dry air, N_2, Ar, CO_2 [1]		1/8, C4,C6	Integrated	○	○	—	○ [2]	○ [3]	IP40
	PFM510				PFM3	—	—	—			
	PFM725			1/8 C6, C8, N7	Integrated	○	○	—			
	PFM525				PFM3	—	—	—			
	PFM750			1/8 C6, C8, N7	Integrated	○	○	—			
	PFM550				PFM3	—	—	—			
	PFM711			1/4 C6, C8, N7	Integrated	○	○	—			
	PFM511				PFM3	—	—	—			
	PFM30□	Remote monitor for PFM5 models with analogue voltage output (1 to 5 V)			Red / Green	—	○	—	○	○	IP40
	PFM31□	Remote monitor for PFM5 models with analogue current output (4 to 20 mA)									
	PFMB7201	Air, N_2		1/4, C8	Integrated	○	○	—	○	○	IP40
	PFMB7501			1/2		○	○	—			
	PFMB7102					○	○	—			
	PF2A710	Dry air, N_2		1/8, 1/4	Integrated	—	○	—	—	—	IP65
	PF2A510				PF2A30	—	—	—	○	○	
	PF2A750				Integrated	—	○	—	—	—	
	PF2A550				PF2A30	—	—	—	○	○	
	PF2A711			3/8	Integrated	—	○	—	—	—	
	PF2A511				PF2A31	—	—	—	○	○	
	PF2A721				Integrated	—	○	—	—	—	
	PF2A521				PF2A31	—	—	—	○	○	
	PF2A751			1/2	Integrated	—	○	—	—	—	
	PF2A551				PF2A31	—	—	—	○	○	
	PF3A703H			1	Integrated	—	—	—	○	○	
	PF3A706H			1 1/2							
	PF3A712H			2							
	PFG300	Remote monitor for PF2A510 and PF2A550 models			3-Screen Display. Orange, Red / Green	○	○	—	○	○	IP40
	PF2A30	Remote monitor for PF2A510 and PF2A550 models			Red	—	○	—	—	—	IP40
	PF2A31	Remote monitor for PF2A511, PF2A521 and PF2A551 models				—	○	—			
	PF2A20	Remote 4-channel flow monitor for PF2A Series			Red (channels) / Orange (values)	—	—	○			
	PF2D504	Deonised water and chemicals		3/8	PF2D30	—	—	—	○	○	IP65
	PF2D520			1/2							
	PF2D540			3/4							
	PF2D30	Remote monitor for PF2D Series			Red	—	○	—	—	—	IP40
	PF2D20	Remote 4 channel flow monitor for PF2D Series			Red (channels) / Orange (values)	—	—	○			IP65 (front face) IP40 (rest)
	PF3W704	Water		3/8	Integrated	○	○	—	○	○	IP65
	PF3W504				PF3W30				○	○	
	PF3W720			3/8, 1/2	Integrated				○	○	
	PF3W520				PF3W30				○	○	
	PF3W740			1/2, 3/4	Integrated				○	○	
	PF3W540				PF3W30				○	○	
	PF3W711			3/4, 1	Integrated				○	○	
	PF3W511				PF3W30				○	○	
	PF3W721			1 1/4, 1 1/2	Integrated				○	○	
	PF3W521				PF3W30				○	○	
	PF3W30	Remote monitor for PF3W			Red / Green	○	○	—	○	○	IP40

1) For CO_2, flow range is half the indicated. 2) Only available if display selected is PFM30□. 3) Only available if display selected is PFM31□.

Sensors & Switches

Digital pressure switches (Self-contained type)

Digital pressure switch
ZSE10/ISE10 Series p. 425

High-precision digital pressure switch
ZSE20☐(F)/ISE20☐ Series p. 426

2-colour display high-precision digital pressure switch
ZSE30A/ISE30A Series p. 427

2-colour display high-precision digital pressure switch
ZSE40A/ISE40A Series p. 428

High-precision digital pressure switch with IO-link
ISE7☐/7☐G Series p. 429

2-colour display digital pressure switch for general fluids
ZSE80/ISE80 Series p. 430

Pressure or vacuum switch
PS1000/1100/1200 Series p. 431

2-colour display digital gap checker
ISA3 Series p. 432

Air catch sensor
ISA2 Series p. 432

Digital pressure switches (Separate type)

Vacuum and positive pressure sensor
PSE530 Series p. 433

Micro vacuum and pressure sensor
PSE540 Series p. 433

Low differential pressure sensor
PSE550 Series p. 434

Pressure sensor for general purpose fluids
PSE560 Series p. 434

Pressure sensor for general fluids
PSE570 Series p. 435

Monitors

Pressure monitor
PSE200/300 Series p. 436

Sensor monitor
PSE300AC Series p. 437

Digital flow monitor
PFG300 Series p. 437

Mechanical pressure switches

Pressure switch / Reed, switch
IS10 Series p. 438

Mechanical style pressure
IS3000 Series p. 438

Electronical pressure switches

Electronic pressure switch
ISE2 Series p. 439

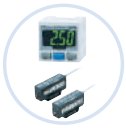
Electronic vacuum switch
ZSE1 Series p. 439

Digital flow switches

2-colour display flow switch
PFM Series p. 440

Digital flow switch
PFMB Series p. 441

Digital flow switch
PFMC Series p. 442



Flow sensor and voltage monitor
PFMV Series p. 442

Digital flow switch for air
PF2A Series p. 443

3-colour display digital flow switch for water
PF3W Series p. 444

Digital flow switch for large flow
PF3A7☐ Series p. 446

Digital flow switch for water IO-link compatible
PF3W7☐-X445 Series p. 446

Digital flow switch for deionised water & chemicals
PF2D Series p. 447

2-colour display digital flow switch Electromagnetic type
LFE Series p. 447

Ionizers

Bar type ionizer
IZS40/41/42 Series p. 448

Separate controller bar type ionizer
IZT40/41/42 Series p. 450

Nozzle type ionizer
IZN10E Series p. 452

Fan type ionizer
IZF10/10R Series p. 453

Fan type ionizer
IZF21/31 Series p. 454

Electrostatic sensor
IZD10 Series p. 454

Electrostatic sensor monitor
IZE11 Series p. 455

Handheld electrostatic meter
IZH10 Series p. 455

Desktop duster box
ZVB Series p. 456

Positioners

Electro-pneumatic positioner
IP8000/8100 Series p. 457

Smart positioner
IP8101/8001 Series p. 457

Thermo-chiller

Circulating fluid temperature controller, thermo-chiller compact type
HRS Series p. 458

Circulating fluid temperature controller, thermo-chiller, standard type
HRS090 Series p. 459

Circulating fluid temperature controller, thermo-chiller standard type
HRS100/150 Series p. 459

Circulating fluid temperature controller, thermo-chiller basic type
HRSE Series p. 460

Circulating fluid temperature controller, thermo-chiller, inverter type
HRSH Series p. 460

Thermo-con

Peltier-type chiller, thermo-con / rack mount type
HECR Series p. 461

Process pump

Process pump
PA3000/5000 Series p. 462

Process pump with pulsation attenuator
PAX1000 Series p. 462

Compact process pump (Diaphragm pump)
PB Series p. 462

Our highlighted product for you

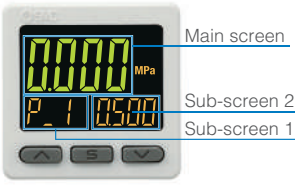
High-precision digital pressure switch
ZSE20(F)☐/ISE20☐ Series

For more details
go to page 426

Selectable delay time:
- Fastest 1.5 ms or less. Also 20, 100, 500, 1000, 2000 or 5000 ms selectable

Compact and lightweight
- 32 g to 51 g.

3-screen display
It can display simultaneously the current pressure and another selectable value (set value, hysteresis value, bottom value or peak value).



IO-Link
- Higher control of the applications
- Cost-effective: plug&play, minimum hardware and programming costs
- Integral communication, from sensors to actuators
- Noise immunity.

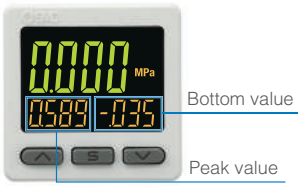
More & quicker information at your disposal

3 setting modes (without IO-Link output):
3-Step setting mode (+ snapshot). Press the button to modify:
- Threshold value [P_1]
- Hysteresis value [H_1]

Simple setting mode. Press 1-3 seconds to modify:
- Delay time [dt1]

Function selection (detailed setting) mode.
Press 3-5 seconds to modify:
- Output mode [oUt1]
- Selection of normal or reversed [Iot]
- Display colour selection [CoL]
- Others.

Peak and bottom values are maintained even if the power supply is cut.



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

High-precision digital pressure switch with IO-Link

ISE7□/7□G Series

For more details
go to page 429

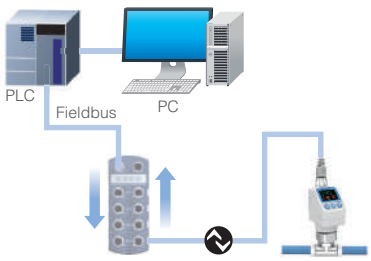
NPN/PNP switch function
Both NPN and PNP are available.
The number of stock items can be reduced

IP67 enclosure
Guarantee yourself endurance

Angled display
Good visibility from various mounting positions.

Obtain more

Enjoy IO-Link advantages
- Remote configuration
- Diagnosis
- Reduce wiring
- Easy sensor replacement
- Tamper free.



Diagnosis items - with IO-Link
- Internal product malfunction
- Outside of zero-clear range
- Outside of rated pressure range
- Upper temperature limit exceeded inside the product.

Our highlighted product for you

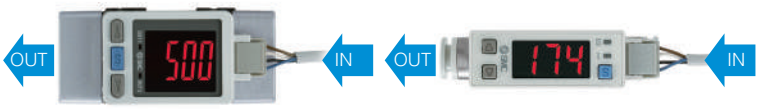
2-colour display digital flow switch

PFM/PFMB Series

For more details go to page 440/441

Wide range of flow measurement with one product

- **Reversed display mode**
  When the switch is used upside down, the orientation of the display can be rotated to make it easier to read.



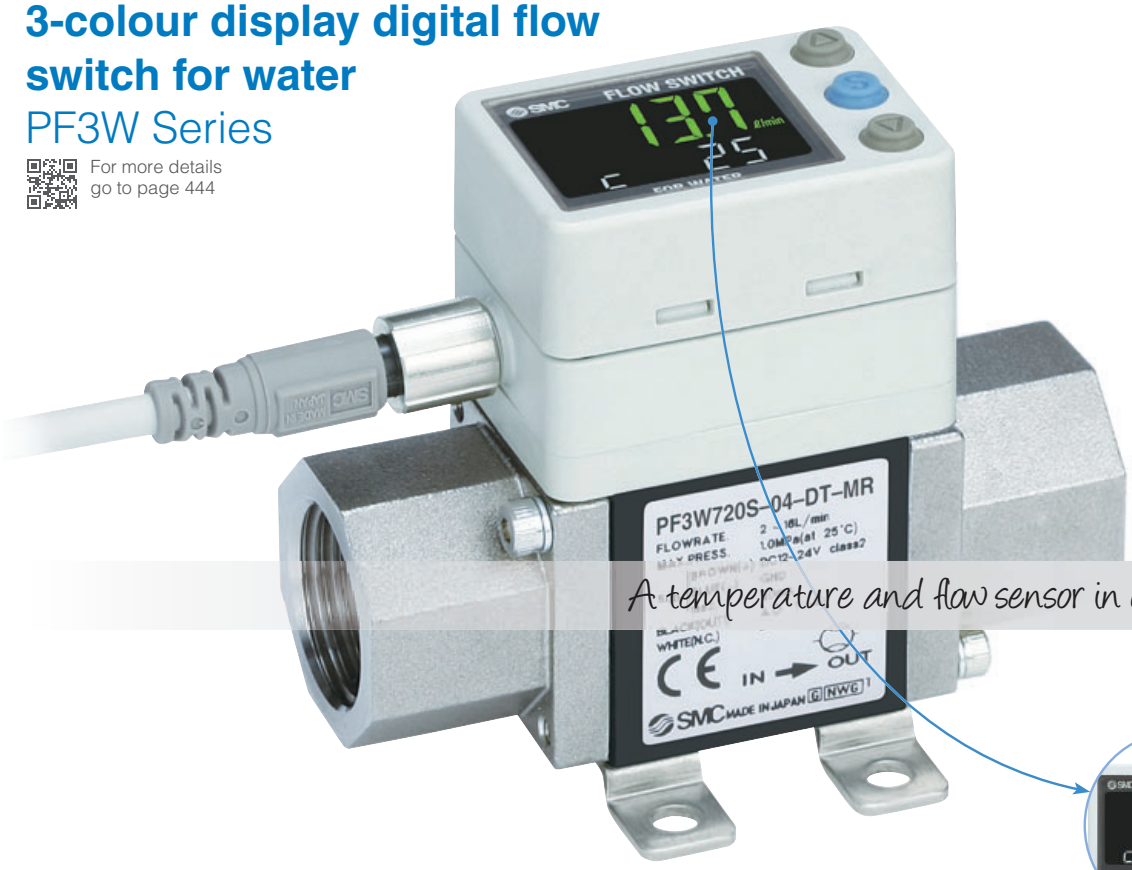
- **Repeatability: ±1 % F.S. or less**
- **Grease-free**
- **Flow adjustment valve** integrated available.
  Reduced piping and space saving
- Response time: **either 50 msec., 0.5 sec. 0.1 sec., 1 sec. or 2 sec. can be chosen**
- Wide flow rate range: **10, 25, 50, 100, 200, 500, 1000 l/min**

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

3-colour display digital flow switch for water

PF3W Series

For more details
go to page 444



A temperature and flow sensor in one device

Temperature sensor
Display range: **-10 to 110 °C**
(Temperature sensor alone)
Minimum setting unit: **1 °C**
Analogue output: **Current output/Voltage output**

Rotable display

Display can be rotated in increments of 45° to suit the installation conditions. Easy operation, improved visibility.
Counterclockwise 90°
Clockwise 225°.

Fluid temperature: **0 to 90 °C**

Ethylene glycol aqueous solution can be used.

PVC piping type

Applicable fluid: Deionized water, chemical, etc.
Integrated type and remote type available.

Remote type

- Remote sensor unit with indicator

Visually check status of via sensor via indicator.

- 3 colour display digital flow monitor

- Can copy to up to 10 switches simultaneously.
- Reducing setting labour.
- Minimising risk of mistakes in setting.

Our highlighted product for you

Digital flow switch for large flow
PF3A7□H Series

For more details
go to page 446

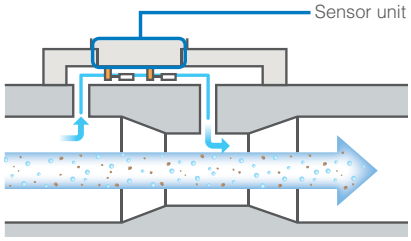
Flow ratio 100:1
Wide range of flow measurement with one product.

Analogue output gives more and detailed information of the application performance
The external input can reset the accumulated value, peak value and bottom value without manipulation.

Helping your efficiency

More information at a glance
Due to the 3-colour and 3-label screen display the operator can easily take notes and do the setting while checking the measured value. Moreover, the display adapts to the installation rotating 90° or reversing.

Extended Life – Improved drainage and resistance to foreign matter. Reduced pressure loss maintenance-free fluid passage. The aluminium structure of the body is sturdy and tough.



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

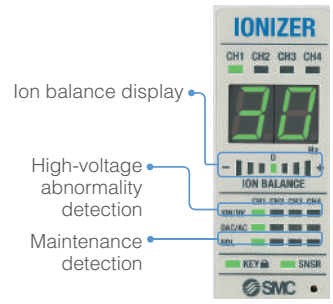
Separate controller bar type ionizer

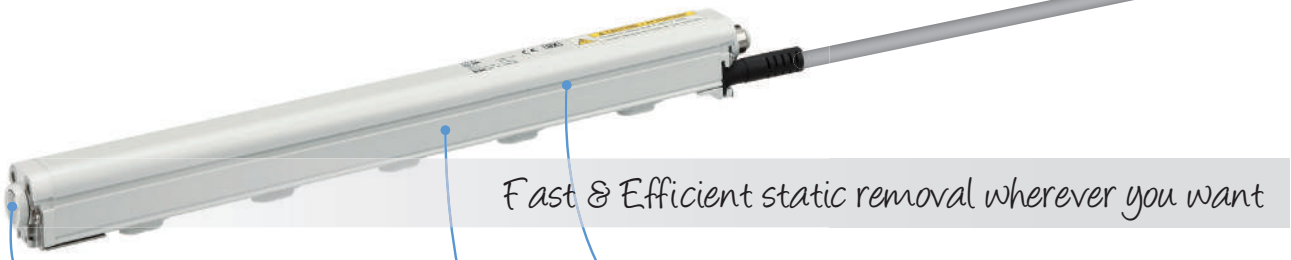
IZT40/41/42 Series

For more details
go to page 450

- **AC ion discharge (IZT40/41)**
  Rapid neutralisation of static electricity, as fast as 0.1 s
- **Dual AC ion discharge (IZT42)**
  - Potential amplitude of 25 V or less
  - Deionisation does not affect semiconductors
- **Air supply port is selectable**
  Right side / left side / both sides
- **Auto balance function (IZT41/42).**

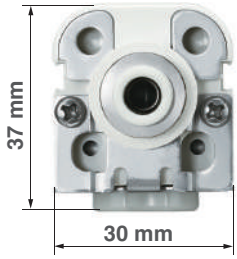
Multiple alarms, functions and LED display (IZT41/42)





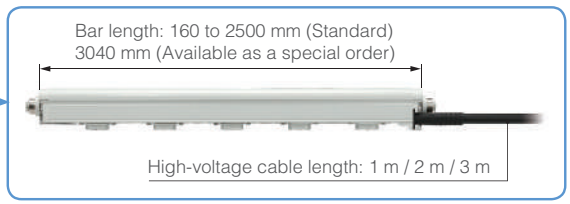
Fast & Efficient static removal wherever you want

Compact design

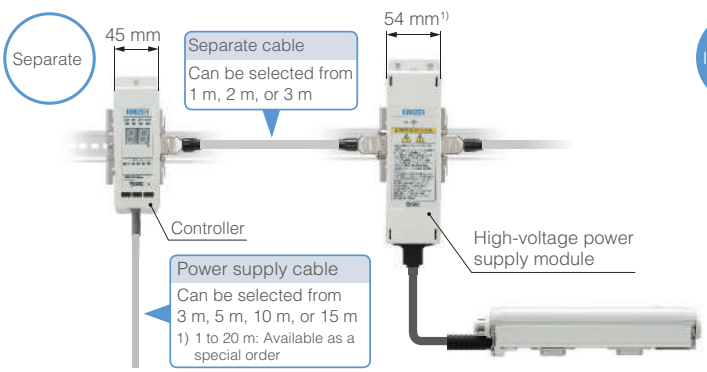


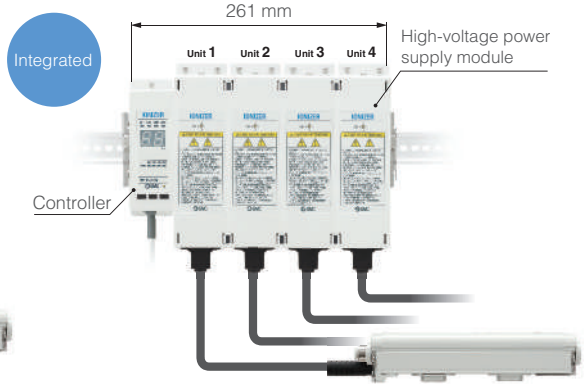
Separate controller and bar

- Bar can be mounted in a limited space
- Easily monitor and adjust bars installed in a place which cannot be accessed.



- **Up to 4 bars can be connected to one controller**





Our highlighted product for you

Fan type ionizer
IZF21/31 Series

For more details
go to page 454

- **Ion balance:** ±5 V
- **Effective electricity elimination distance:**
  50 to 1600 mm.

Optional filter

Fast static removal in your hands

Automatic cleaning function

Emitter

Contamination of the emitters can be detected

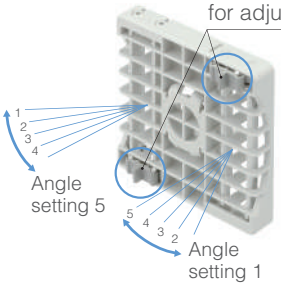
NDL lights up when contamination of the emitters is detected.

Flow rate adjustment function
- IZF21: up to 1800 l/min
- IZF31: up to 4400 l/min

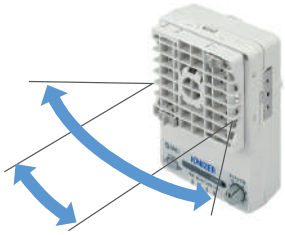
Flow rate adjustment dial

- **Extensive static neutralisation area can be covered with adjustable louver**

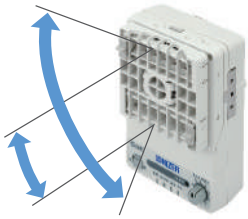
Angle adjustment trimmer for adjustable louver



Adjustable in 5-stages from wide to narrow angle



90-degree rotation mounting available (Adjustable in a vertical direction)



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

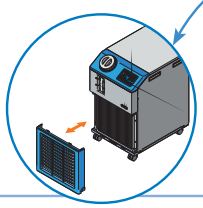
Circulating fluid temperature controller, thermo-chiller, compact type

HRS Series

For more details
go to page 458

As easy way to control the fluid temperature

Self diagnosis function and check display
35 types of alarm codes
Alarm codes notify when to check the pump and fan motor.



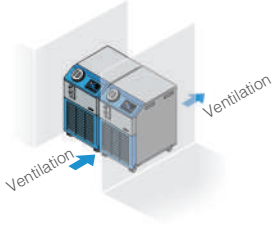
Easy maintenance
Dustproof filter Integrated with the grill of the front panel.
Mounting and removal can be done easily.

Compact
Fist neatly under a laboratory work bench

Light-weight
Only 40 kg (69 kg for HRS050)

Large cooling capacity
With several available cooling capacity ranges:
1100 W / 1700 W / 2100 W / 2600 W / 4700 W / 4900 W (50 Hz).

Space saving
Installation close to a wall is possible on both sides.
(Not available for HRS030/050/060 and option G).



Our highlighted product for you

Peltier-type chiller, thermo-con / rack mount type
HECR Series

For more details
go to page 461

Highly accurate temperature control due to peltier device
Impressive temperature stability: ±0.01 to 0.03 °C

Stackable and compact
Perfect to stack in a 19-inch (482.6 mm) rack. Height reduction of approx. 55 % and volume reduction by 36 %
(comparison between HECR002 and HEC002)

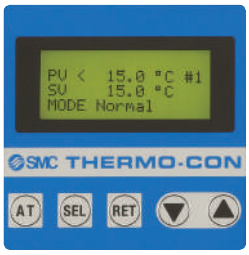
Low-noise and vibration design
Between 48 and 55 dB. Structure without compressor makes it less prone to vibrate. When the cooling load is low the fan rotations decrease
Suitable for putting all the required equipment in the same working-room

Water-cooled type
Reduces the amount of exhaust heat by 90 %

Set temperature range: 10 to 60 °C

14 alarms
Several types of alarm codes and conditions can be displayed. Also, it can generate relay output for upper / lower temperature limit alarm and output cut off alarm.

Easy interaction. Simple operation.



1) Turn the power ON
2) Press the (SEL) key, and adjust the temperature setting with the ▼▲ keys
3) Press the (RET) key to complete.

Great temperature stability for standard mounting

Power switch

Fluid fill port
Fluid can be supplied without removing the product from the rack.

Circulating fluid volume can be checked

Drain pan
Drain pan is equipped to avoid any risk of fluid leakage over equipment mounted in a lower rack.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Sensors and switches

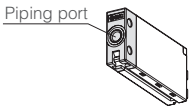
Digital pressure switch
ZSE10/ISE10 Series

- Reduced in depth: 9.8 mm
- 3 styles:
  ZSE10: Vacuum pressure
  ZSE10F: Compound pressure
  ISE10: Positive pressure
- Can copy up to 10 switches simultaneously
- 3-step setting; copy function
- Analogue output: 1 ~ 5 V
- Switch output: 2 NPN / PNP or 1 PNP / NPN
- Multi-angle indicator
- Piping is possible from two directions
- Mounting: direct mounting, panel mounting, DIN rail mounting
- Enclosure IP40.

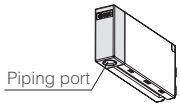
Part number	Rated pressure range	Connection port	Switch output	Voltage
ISE10-M5-B-G ●	Positive pressure: -0.1 ~ 1.0MPa	M5 female, side / rear ported (alsoavailable with R1/8 and NPT 1/8)	2 PNP	12 ~ 24 VDC
ISE10-M5-E-G			PNP + (1 ~ 5 V)	
ISE10-M5R-B-G*			2 PNP	
ISE10-M5R-E-G*			PNP + (1 ~ 5 V)	
ZSE10-M5-B-G ●	Vacuum pressure 0 ~ -101 kPa		2 PNP	
ZSE10-M5-E-G			PNP + (1 ~ 5 V)	
ZSE10-M5R-B-G*			2 PNP	
ZSE10-M5R-E-G*			PNP + (1 ~ 5 V)	
ZSE10F-M5-B-G ●	Vacuum + low pressure -100 ~ +100 kPa		2 PNP	
ZSE10F-M5-E-G			PNP + (1 ~ 5 V)	
ZSE10F-M5R-B-G*			2 PNP	
ZSE10F-M5R-E-G*			PNP + (1 ~ 5 V)	

NPN options available upon request.
* Rear ported

M5 female thread / side ported



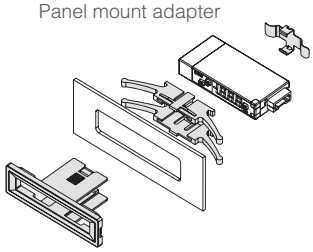
M5 female thread / Rear ported



Mounting accessories

Part number	Description
ZS-39-B	Panel mount adapter
ZS-39-R	DIN rail adapter
ZS-39-5G	Lead wire with connector (with connector cover) (5 cores, 2 m)

Panel mount adapter



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

High-precision digital pressure switch

ZSE20□(F)/ISE20□ Series

- 3-screen, 3-colour display
- Applicable fluid: air, non-corrosive gas, non-flammable gas, or general fluids
- Pressure ranges: from -0.1 to 2 MPa
- Repeatability: ±0.2 % F.S. ±1 digit
- Output: NPN/PNP, Analogue (Voltage / Current), IO-Link
- Select response time: from less than 1.5 ms to 5 s
- IP40 or IP65
- Consumption: 35 mA or less.

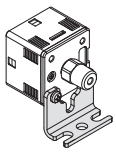
Model	Part number	Rated pressure range	Piping	Output	Applicable fluid	Enclosure
	ISE20-P-01-L ● [1]	-0.1 to 1 MPa	R1/8 Piping adapter	PNP open collector 1 output	Air, non-corrosive gas, non-flammable gas	IP40
	ZSE20-P-01-L ● [1]	0 to -101 kPa				
	ZSE20F-P-01	-100 to 100 kPa				
	ISE20A-T-01	-0.1 to 1 MPa		PNP open collector 2 outputs + Analogue voltage output [1]		
	ZSE20AF-T-01	-100 to 100 kPa				
	ZSE20A-T-01	0 to -101 kPa				
	ISE20A-V-01	-0.1 to 1 MPa		PNP open collector 2 outputs + Analogue current output [1]		
	ZSE20AF-V-01	-100 to 100 kPa				
	ZSE20A-V-01	0 to -101 kPa				
	ISE20B-T-01	-0.1 to 1 MPa		PNP open collector 2 outputs + Analogue voltage output [1]		IP65
	ZSE20BF-T-01	-100 to 100 kPa				
	ZSE20B-T-01	0 to -101 kPa				
	ISE20B-V-01	-0.1 to 1 MPa		PNP open collector 2 outputs + Analogue current output [1]		
	ZSE20BF-V-01	-100 to 100 kPa				
	ZSE20B-V-01	0 to -101 kPa				
	ISE20B-L-01	0 to 1 Mpa	R1/8 Piping adapter	IO-Link / Switch: 1 output	Air, non-corrosive gas, non-flammable gas	
	ZSE20BF-L-01	-100 to 100 kPa				
	ZSE20B-L-01	0 to -100 kPa				
	ISE20C-T-02	-0.1 to 1 MPa	R1/4 (M5 female thread)	PNP open collector 2 outputs + Analogue voltage output [1]	Fluid that will not corrode stainless steel 630 and 304	
	ISE20CH-T-02	-0.1 to 2 MPa				
	ZSE20CF-T-02	-100 to 100 kPa				
	ZSE20C-T-02	0 to -101 kPa				
	ISE20C-V-02	-0.1 to 1 MPa		PNP open collector 2 outputs + Analogue current output [1]		
	ISE20CH-V-02	-0.1 to 2 MPa				
	ZSE20CF-V-02	-100 to 100 kPa				
	ZSE20C-V-02	0 to -101 kPa				

1) With lead wire with connector

Accessories

Part number	Description	Model
ZS-46-A1	Bracket A - Tapping screw: Nominal size 3 x 8 L	All
ZS-46-A2	Bracket B - Tapping screw: Nominal size 3 x 8 L	Z/ISE20, Z/ISE20A, Z/ISE20B
ZS-46-D	Panel mount adapter + Front protection cover (Rear ported)	All
ZS-46-3L	Lead wire with connector (3-core, 2 m, Non-waterproof)	Z/ISE20
ZS-46-5LM12	Lead Wire M12 Connector. Non-waterproof	Z/ISE20, Z/ISE20A
ZS-46-5FM12	Lead Wire M12 Connector. Waterproof	Z/ISE20B(-L), Z/ISE20C

Part number	Description	Model
ZS-46-5L	Lead wire with connector (5-core, 2 m lead wire)	Z/ISE20A
ZS-46-5F	Lead wire with connector (5-core, 2 m, Waterproof)	Z/ISE20B, Z/ISE20C
ZS-46-N1	R1/8 piping adapter	Z/ISE20, Z/ISE20A, Z/ISE20B
ZS-46-N2	NPT1/8 piping adapter	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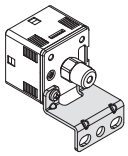
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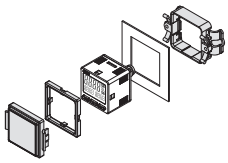
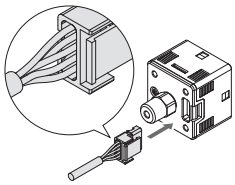
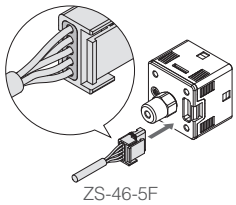
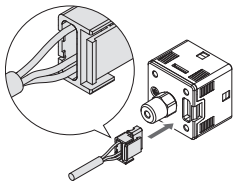

ZS-46-D


ZS-46-5L


ZS-46-5F


ZS-46-3L

2-colour display high-precision digital pressure switch

Adjustable vacuum, positive and compound

ZSE30A/ISE30A Series

- 3 styles:
  ZSE30A: Vacuum pressure
  ZSE30AF: Compound pressure
  ISE30A: Positive pressure
- Enclosure IP40
- Large, easy-to-read display
- 2 colour (green / red) display
- Easy operation: 3-step setting and copy function
- Analogue output: 4 ~ 20 mA or 1 ~ 5 V
- Switch output: 2 PNP / NPN or 1 PNP / NPN
- With straight and elbow one-touch fittings.

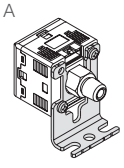
Part number	Rated pressure range	Connection port [1]	Switch output	Voltage
ISE30A-01-B-G ●	Positive Pressure: -0.1 ~ 1.0MPa	Male: R1/8 Female: M5	2 PNP	12 ~ 24 VDC
ISE30A-01-F-G ●			PNP + (2.4 ~ 20 mA)	
ZSE30A-01-B-G ●	Vacuum Pressure: 0 ~ -101 kPa		2 PNP	
ZSE30A-01-F-G ●			PNP + (4 ~ 20 mA)	
ZSE30AF-01-B-G ●	Vacuum + Low Pressure: -100 ~ +100 kPa		2 PNP	
ZSE30AF-01-F-G ●			PNP + (4 ~ 20 mA)	

NPN options available upon request.
1) Also available with Ø 4 or Ø 6 mm one-touch fitting.

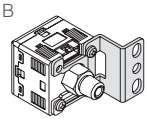
Mounting accessories

Part number	Description
ZS-38-A1	Bracket A
ZS-38-A2	Bracket B
ZS-27-C	Panel mount adapter
ZS-38-3G	Lead wire with connector cover (3 cores, for 1 output, 2 m)
ZS-38-4G	Lead wire with connector cover (4 cores, for 2 outputs, 2 m)
ZS-38-U	Lead wire unit with connector for copying

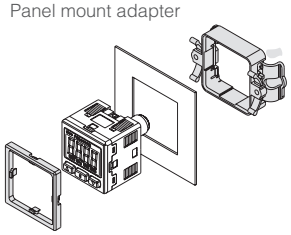
Bracket A



Bracket B



Panel mount adapter



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

2-colour display high-precision digital pressure switch

Adjustable Vacuum, Positive and Compound

ZSE40A/ISE40A Series

- 3 styles:
  ZSE40A: Vacuum
  ISE40A: Positive pressure
  ZSE40AF: Vacuum & low pressure combination
- Enclosure IP65
- Easy handling, space saving
- 2 colour (green / red) display
- Easy operation: 3 step setting and copy function.
- Analogue output: 4 ~ 20 mA or 1 ~ 5 V
- Switch output: 2 PNP / NPN
- M8 connector type available.

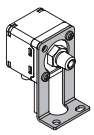
Part number	Rated pressure range	Connection port [1]	Switch output	Voltage
ISE40A-01-T ●	Positive pressure: -0.1 ~ 1.0MPa	Male: R1/8 Female: M5	2 PNP + (0.6 ~ 5 V)	12 ~ 24 VDC
ISE40A-01-V ●			PNP + (2.4 ~ 20 mA)	
ISE40A-01-Y ●			2 PNP	
ISE40A-01-P-L [2] ●			1 PNP	
ZSE40A-01-T ●	Vacuum pressure: 0 ~ -101.3 kPa		2 PNP + (1 ~ 5 V)	
ZSE40A-01-V ●			PNP + (4 ~ 20 mA)	
ZSE40A-01-Y ●			2 PNP	
ZSE40A-01-P-L [2] ●			1 PNP	
ZSE40AF-01-T ●	Vacuum + Low pressure: -100 ~ +100 kPa		2 PNP + (1 ~ 5 V)	
ZSE40AF-01-V ●			PNP + (4 ~ 20 mA)	
ZSE40AF-01-Y ●			2 PNP	

NPN options available upon request.
1) Also available with Ø 4 or Ø 6 mm one-touch fitting (not for M8 connector type).
2) M8 connector type.

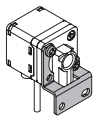
Mounting accessories

Part number	Description
ZS-24-A	Bracket A (with 2 mounting screws each of M3 x 5L and M4 x 5L)
ZS-24-B	Bracket B (with 2 mounting screws M4 x 5L)
ZS-24-D	Bracket D (with 2 mounting screws each of M3 x 5L and M4 x 5L)

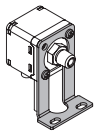
Bracket A



Bracket B



Bracket C



Our highlighted product for you

High-precision digital pressure switch with IO-link

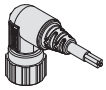
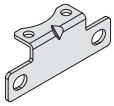
ISE7□/7□G Series

- Applicable fluid: Air and general fluids
- Pressure ranges: from 0 to 10 MPa
- Repeatability: ±0.5 % F.S. or less
- Output: IO-Link and NPN / PNP
- Selectable response times
- IP67
- Consumption: 35 mA or less.

Part number	Rated pressure range	Applicable fluid	Piping	Output	Response time
ISE70-F02-L2 ●	0 to 1 MPa	Air, non-corrosive gas, non-flammable gas	G1/4 [1)]	IO-Link: Switch output 1 + Switch output 2 (Switch output: NPN or PNP switching type)	1.5 ms or less, variable from 0 to 60 s / 0.01 s increments
ISE71-F02-L2	0 to 1.6 MPa				
ISE70G-F02-L2	0 to 1 MPa	Liquid or gas that will not corrode materials of parts in contact with fluid			2 ms or less, variable from 0 to 60 s / 0.01 s increments
ISE75G-F02-L2	0 to 2 MPa				
ISE76G-F02-L2	0 to 5 MPa				
ISE77G-F02-L2 ●	0 to 10 MPa				

1) ISO 1179-1 compliant

Accessories

Part number	Description	
ZS-31-B	Lead wire with M12 connector: Straight Lead wire length: 5 m	
ZS-31-C	Lead wire with M12 connector: Right-angled Lead wire length: 5 m	
ZS-50-A	Interchangeable with ISE70 on ISE75(H) With 2 mounting screws (M4 x 6L)	
ZS-50-B	With 2 mounting screws (M4 x 6L)	

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2-colour display digital pressure switch for general fluids

ZSE80/ISE80 Series

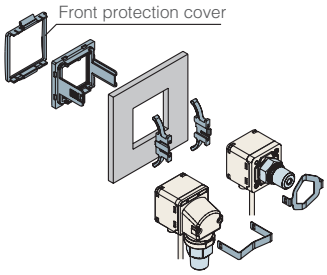
- 4 Rated pressure range: 0.0 to -101.0 kPa; -100.0 to 100.0 kPa; -0.100 to 1.000 MPa; -0.100 to 2.00 MPa
- Stainless diaphragm (Oil-free single-layer diaphragm structure)
  Sensor parts: Stainless steel 630
  Fitting parts: Stainless steel 304
- Choice of VCR® or Swagelok® fitting is available
- For use with water, hydraulic fluid, silicon oil, lubricant, fluorocarbon, argon, ammonia, carbon dioxide, air-containing drainage and nitrogen
- Enclosure IP65
- Outputs: analogue (1 ~ 5 V, 4 ~ 20 mA), 1/2 x PNP/NPN

Part number	Rated pressure range	Port size	Piping direction	Switch output	Voltage
ISE80-02-B ●	-0.1 to 1 MPa	R1/4	Rear ported	PNP open collector 2 outputs	12 ~ 24 VDC
ISE80-02L-B ●			Bottom ported		
ISE80-F02-B ●		G1/4	Rear ported		
ISE80H-02-B ●	-0.1 to 2 MPa	R1/4	Rear ported		
ISE80H-02L-B ●			Bottom ported		
ZSE80-A2-B ●	0 to -101 kPa	URJ1/4	Rear ported		
ZSE80-A2L-B ●			Bottom ported		
ZSE80F-02-B ●	-100 to 100 kPa	R1/4	Rear ported		
ZSE80F-A2-B ●		URJ1/4			

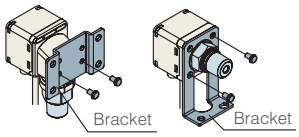
Option

Option	Piping direction	Part number
Bracket	Rear ported	ZS-24-A
	Rear ported	ZS-24-D
	Bottom ported	ZS-35-A
Panel mount	Rear ported	ZS-35-C
	Bottom ported	ZS-35-B
Panel mount + Front protection cover	Rear ported	ZS-35-F
	Bottom ported	ZS-35-E

Panel mount



Bracket mount



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Pressure or vacuum switch

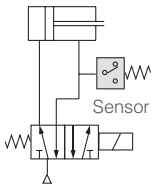
PS1000/1100/1200 Series

- LED switch point display
- Miniature design
- For mounting directly to one-touch fittings
- Piezo sensor gives long service life
- Can be plugged straight into a Ø 6 mm one-touch fitting
- Enclosure IP40.

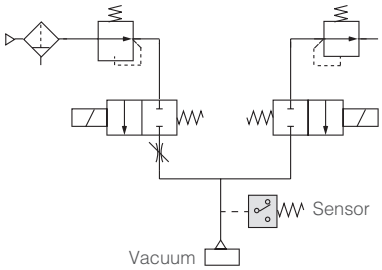
Part number	Operating pressure range	Switch point [MPa]	Switch output	Voltage
PS1000-R06L-Q ●	-0,1 to 1,0 Mpa	-0,1 to 0,45	Pressure ≥ Switch point: ON	12 ~ 24 VDC
PS1100-R06L-Q ●		-0,1 to 0,40	Pressure ≤ Switch point: ON	
PS1200-R06L-Q ●	-100 to 500 kPa	-100 to 0 kPa		

∗ with 3 m cable

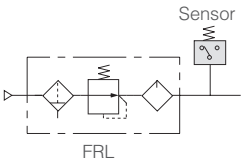
Pressure control on actuator



Suction monitoring



Pressure monitoring FRL



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3-colour display digital gap checker

ISA3 Series

- Visualization with digital display: Two displays enable various information to be checked
- Easy setting by the digital display: 3 step setting (Snap shot function)
- Withstand pressure 0.6 MPa
  (Improved 3 times compared with the series ISA2)
- Detection principle without exhaust air:
  - Exhaust noise: Zero
  - 60 % reduction of air consumption
- Measures against clogging:
  - Reducing the number of internal orifices from 3 to 1
  - A larger orifice area. Orifice rate ratio 68 % increase
- Manifold available with or without unit control
- IP67
- Centralised lead wire
- 2 outputs type has been added.

Part number	Type	Rated distance range [mm]	Port size	Operating pressure range [kPa]	Output specification	Voltage
ISA3-GFP-1N ●	1 station with straight cable Without control unit	0.02 to 0.15	G1/8	100 to 200	1 PNP	24 VDC
ISA3-HFP-1N ●		0.05 to 0.30				
ISA3-FFP-1N		0.01 to 0.03				

Accessories

Part number	Description
ISA-14	Bracket
ISA-12-C	Threaded plug with seal (G1/8)
ISA-5-☐	DIN rail (☐ number of stations)
ZS-31-C	Cable with connector (right angle 5 m)
ISA-19-☐	Centralised lead wire (☐ number of stations)

Air catch sensor

ISA2 Series

- Stable detection of 0.01 to 0.5 mm clearance
- Plug connectors (Centralised wiring)
- Modular construction, (Requires less man hours to wire)
- Repetition accuracy 0.01 mm or less
- Minimum operating pressure 30 kPa (ISA2-G).

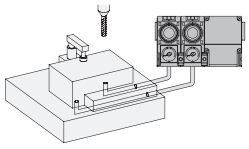
Controller Unit for 1 sensor

Part number	Type	Rated distance range [mm]	Port size	Operating pressure range [kPa]	Output specification	Voltage
ISA2-GFE25 ●	1 station with pressure gauge and straight cable Without terminal block box	0.01 to 0.25	G1/8	30 to 200	1 PNP	12 ~ 24 VDC
ISA2-HFE25 ●		0.03 to 0.5		50 to 200		

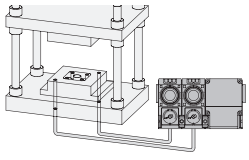
Mounting accessories

Part number	Description
ISA-4-A	Bracket
ISA-5-1	DIN rail for 1 station
ISA-9-A	DIN rail mounting bracket
ISA-8-B	Cable with connector (right angle 5 m)

To check the work piece position on the reference plane



Position check of metal mold



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Vacuum and positive pressure sensor

PSE530 Series

- Sensor and controller separate
- IP40
- Simple electr. connection using plug
- Controller unit: PSE200/PSE300.

Measuring sensor for compressed air

Part number	Connection thread	Pressure range	Output signal
PSE530-M5 ●	M5	0 ~ 1 MPa	Analogue 1 ~ 5 V
PSE531-M5 ●		0 ~ -101 kPa	
PSE532-M5 ●		0 ~ 101 kPa	
PSE533-M5 ●		-101 ~ 101 kPa	

Micro vacuum and pressure sensor

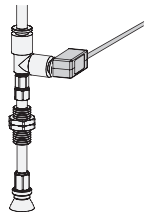
PSE540 Series

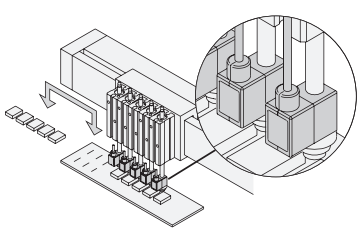
- 2 styles:
  PSE541: Vacuum pressure (0 ~ -101 kPa)
  PSE543: Compound pressure (-100 ~ 101kPa)
- Micro design, e.g. 9.6 x 20.8 x 18 mm
- Minimal weight, e.g. 1.9 g
- 1 ms response time
- Controller unit: PSE200/PSE300 (7 different connection types PSE300).

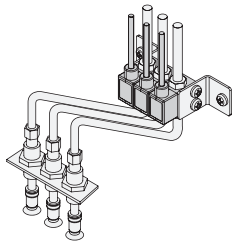
Compressed air micro sensor

Part number	Connection type	Pressure range	Output signal
PSE541-M3	M3 male	Low pressure and vacuum: 0 ~ -101 kPa	Analogue 1 ~ 5 V
PSE541-M5 ●	M5 male		
PSE541-01 ●	Male R1/8, female M5		
PSE541-R04 ●	Ø 4 mm reducer		
PSE541-R06 ●	Ø 6 mm reducer		
PSE541-IM5 ●	M5 female thread		
PSE541-IM5H	M5 female, with mounting holes		
PSE543-M3 ●	M3 male	Low pressure and vacuum: -100 ~ +100 kPa	
PSE543-M5 ●	M5 male		
PSE543-01 ●	Male R1/8, female M5		
PSE543-R04 ●	Ø 4 mm reducer		
PSE543-R06 ●	Ø 6 mm reducer		
PSE543-IM5 ●	M5 female thread		
PSE543-IM5H	M5 female, with mounting holes		

Application examples







● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Low differential pressure sensor

PSE550 Series

- Rated differential pressure range: 0 to 2 kPa
- Accuracy: ±1 % F.S.
- Proof pressure: 65 kPa
- Analogue output: 4 to 20 mA DC, 1 to 5 VDC
- Enclosure IP40
- Controller Unit: PSE300.

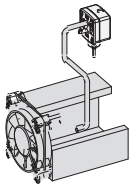
Part number	Output signal	Pressure range	Voltage
PSE550 ●	Voltage output type 1 to 5 V	-50 to 50 kPa [1]	12 ~ 24 VDC
PSE550-28 ●	Current output type 4 to 20 mA		

1) Can detect differential pressure from 0 to 2 kPa within the range of -50 to 50 kPa.

Mounting accessories

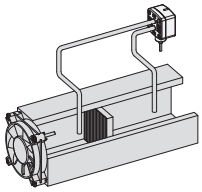
Part number	Description
ZS-30-A	Bracket
ZS-28-C	Connector for PSE300

Flow control



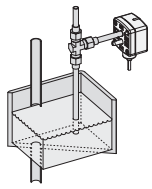
Can control air flow by monitoring the flow rate inside the duct.

Filter clogging monitoring



Can control air flow by monitoring the flow rate inside the duct.

Liquid level detection



Can control air flow by monitoring the flow rate inside the duct.

Pressure sensor for general purpose fluids

PSE560 Series

- Wetted material SUS316L
- Copper-free, fluorine free
- Oil-free (single diaphragm)
- Enclosure IP65
- Controller unit: PSE200/PSE300.

Part number	Port sizes in stock	Pressure range	Output signal	Voltage
PSE560-☐ ●	01, 02, N01, N02, A2	Positive pressure (0 to 1 MPa)	Voltage output type 1 to 5 V	12 ~ 24 VDC
PSE560-☐-28 ●	01, 02, C01, A2	Positive pressure (0 to 1 MPa)	Current output type 4 to 20 mA	
PSE561-☐ ●	01	Vacuum (0 to -101 kPa)	Voltage output type 1 to 5 V	
PSE561-☐-28 ●	01, 02	Vacuum (0 to -101 kPa)	Current output type 4 to 20 mA	
PSE563-☐ ●	01, 02	Compound pressure (-100 to 100 kPa)	Voltage output type 1 to 5 V	
PSE563-☐-28 ●	01, 02	Compound pressure (-100 to 100 kPa)	Current output type 4 to 20 mA	
PSE564-☐ ●	01, 02	Positive pressure (0 to 500 kPa)	Voltage output type 1 to 5 V	
PSE564-☐-28 ●	01, 02	Positive pressure (0 to 500 kPa)	Current output type 4 to 20 mA	

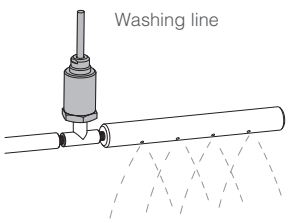
☐ Port size

01	R1/8 (with M5 female thread)
02	R1/4 (with M5 female thread)

C01	Rc1/8
A2	URJ1/4
B2	TSJ1/4

N01	NPT 1/8 (with M5 female thread)
N02	NPT 1/4 (with M5 female thread)

Washing line



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Pressure sensor for general fluids

PSE570 Series

- Rated pressure ranges: 0 to 1 MPa, -100 to 100 kPa, 0 to 500 kPa, 0 to 2 MPa, 0 to 5 MPa, 0 to 10 MPa
- Applicable fluids: gas or liquid that will not attack or corrode materials of parts in contact with fluid
- Proof pressure: 3 times higher than the rated pressure
- Withstand voltage: 500 VAC
- M12 connector for wiring
- Enclosure: IP65.

Part number	Port size	Pressure range	Output signal	Voltage
PSE570-☐ ●	01, 02	Positive pressure [0 to 1 MPa]	Voltage output type 1 to 5 V	12 ~ 24 VDC
PSE570-☐-28 ●			Current output type 4 to 20 mA	
PSE573-☐	01, 02	Compound pressure [-100 to 100 kPa]	Voltage output type 1 to 5 V	
PSE573-☐-28			Current output type 4 to 20 mA	
PSE574-☐ ●	01, 02	Positive pressure [0 to 500 kPa]	Voltage output type 1 to 5 V	
PSE574-☐-28 ●			Current output type 4 to 20 mA	
PSE575-☐	02	Positive pressure [0 to 2 MPa]	Voltage output type 1 to 5 V	
PSE575-☐-28			Current output type 4 to 20 mA	
PSE576-☐		Positive pressure [0 to 5 MPa]	Voltage output type 1 to 5 V	
PSE576-☐-28			Current output type 4 to 20 mA	
PSE577-☐		Positive pressure [0 to 10 MPa]	Voltage output type 1 to 5 V	
PSE577-☐-28			Current output type 4 to 20 mA	

☐ Port sizes

01	R1/8 (with M5 female thread)
02	R1/4 (with M5 female thread)

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Pressure monitor

PSE200/300 Series

PSE200:
- 4 channels digital pressure sensor controller
- Applicable to PSE530/540/560 series

PSE300:
- 1 channel digital pressure sensor controller
- Applicable to PSE530/540/550/560 series.

Controller unit for 1 sensor

Part number	Input	Switch output	Response time	Mounting
PSE303-LC ●	Voltage	2 x PNP + analogue 1 to 5 V	1 ms	Panel mounting
PSE304-LC ●	Voltage	2 x PNP + analogue 4 to 20 mA		
PSE313-LC	Current	2 x PNP + analogue 1 to 5 V		
PSE314-LC	Current	2 x PNP + analogue 4 to 20 mA		

NPN options and auto-shift input available upon request.
DIN rail mounting available upon request.
Including supply cable and sensor connector.

Accessories

Part number	Description
ZS-28-B	Bracket for PSE300
ZS-27-C	Panel mount adapter for PSE300
ZS-27-D	Panel mount adapter + protective front cover for PSE300

Controller unit for 4 sensors

Part number	Input	Switch output	Response time	Mounting
PSE201-4C ●	Voltage	PNP: 5 outputs	5 ms	Panel mounting

Including 4 sensor connector.

Accessories

Part number	Description
ZS-26-J	Sensor cable with plug
ZS-26-01	Protective cover for PSE201
ZS-26-B	Panel mounting adapter for PSE201
ZS-28-C	Sensor connector

Sensor monitor
PSE300AC Series

- Accepts 1 ~ 5 VDC or 4 ~ 20 mA sensor input signal
- Input Range Selection (for Pressure / Flow rate)
- Response time: 1 ms or less
- NPN / PNP Switch function
- M12 connector
- Enclosure: IP65.

Part number	Input	Switch output	Response time	Unit specification
PSE300AC-AB	Voltage	2 output (NPN or PNP switching type)	1 ms or less (with anti-chattering function: 20, 100, 500, 1000, 2000, 5000 ms)	With unit selection function
PSE310AC-AB	Current			

Accessories

Part number	Description
ZS-31-B	Power supply / output lead wire - Straight type 5 m
ZS-31-C	Power supply / output lead wire - Right angle type 5 m
PCA-1557743	Assembly type connector

Digital flow monitor
PFG300 Series

- 3-screen, 3-colour display
- Applicable series: PF3A7☐H, PFMB, PFMC
- Outputs: 2 outputs, NPN / PNP and analogue (voltage / current)
- IP40
- Copy function: copy master monitor settings to slaves
- External input: reset parameters remotely
- Repeatability: ±0.1 % F.S.
- Consumption: 25 mA or less.

Part number	Input	Switch output	Time [3]	Unit specification
PFG300-RT	Voltage input	2 outputs (NPN / PNP switching type) + Analogue voltage output [1] [2]	3 ms or less. Select from 0.00, 0.05 to 0.1 s, 0.1 to 1.0 s, 1 to 10 s, 20 s, 30 s, 40 s, 50 s, or 60 s	With unit selection function
PFG300-SV		2 outputs (NPN / PNP switching type) + Analogue current output [2]		
PFG310-RT	Current input	2 outputs (NPN / PNP switching type) + Analogue voltage output [1] [2]		
PFG310-SV		2 outputs (NPN / PNP switching type) + Analogue current output [2]		

1) Can switch between 1 to 5 V and 0 to 10 V
2) Can be switched to external input or copy function
3) Value without digital filter (at 0 ms).

Options / Part numbers
When only optional parts are required, order with the part numbers listed below.

Part number	Option	Note
ZS-28-C-1	Sensor connector	For PFMB
ZS-28-CA-4	Sensor connector	For PFMC, PF3A7☐H
ZS-46-A1	Bracket A (Vertical mounting)	Tapping screw: Nominal size 3 x 8 L (2 pcs.)
ZS-46-A2	Bracket B (Horizontal mounting)	Tapping screw: Nominal size 3 x 8 L (2 pcs.)
ZS-46-B	Panel mount adapter	
ZS-46-D	Panel mount adapter + Front protection cover	
ZS-46-5L	Power supply / output connection lead wire	5-core, 2 m
ZS-27-01	Front protection cover	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Pressure switch / Reed switch

IS10 Series

- Types:
  Standard: IS10
  With spacer: IS10M
  With piping adapter: IS10E
- Compact design and lightweight
- Can be connected to modular type F.R.L. units
- Set pressure range: 0.1 to 0.6 MPa.

Standard

Part number	Thread type	Pressure range	Cable length	Voltage
IS10-01S-6L ●	R1/8	0.1 ~ 0.6 MPa	3 m	24 VAC / DC or less 48 VAC / DC 100 VAC / DC

Mechanical style pressure

IS3000 Series

- Easy electrical wiring (wide space)
- Wide calibration range (0.1 to 0.7 MPa)
- High frequency operation and long service life:
  High frequency: 1 cycle/sec
  Long service life: 10 million cycles.

Standard

Part number	Port thread	Pressure range	Hysteresis [MPa]	Min. applicable load
IS3000-02 ●	Rc1/4	0.1 ~ 0.7 MPa	0.05 or less	5 VDC, 160 mA
IS3100	Gasket piping			
IS3010-02	Rc1/4			5 VDC, 1 mA
IS3110	Gasket piping			

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electronic pressure switch

ISE2 Series

- Small, compact design
- Response time 5 ms or less
- Indicator light
- Choose grommet type or plug.

Standard

Part number	Connection thread	Pressure range	Switch output	Hysteresis	Voltage	Wiring
ISE2-01-55CN ●	R1/8	0 ~ 1 MPa	PNP	< 3 % F.S.	12 ~ 24 VDC	Without connector
ISE2-01-55L ●						Grommet type (Lead wire 3 m)

NPN options available upon request.

Plug with 3 m cable	ZS-10-5A-30

Electronic vacuum switch

ZSE1 Series

- Response time 5 ms or less
- Indicator light
- Grommet type or plug connection
- Adjustable hysteresis
- Repeatability ±1 % F.S.

Standard

Part number	Connection thread	Pressure range	Switch output	Hysteresis	Voltage	Wiring
ZSE1-01-55CN ●	R1/8	-101 ~ 0 KPa	PNP	~1 to 10 % adjustable	12 ~ 24 VDC	Without connector
ZSE1-01-55L ●						Grommet type (Lead wire 3 m)

NPN options available upon request.

Plug with 3 m cable	ZS-20-5A-30

Our highlighted product for you

2-colour display flow switch

PFM Series

Integrated type

Remote type

- For air, N_2, Ar and CO_2
- A digital flow switch that uses MEMS sensor for detecting the flow
- Compact size
- Improved visibility with two colour display indication
- Two piping directions are possible
- Integrated flow adjustment valve is available as option
- Multiple mounting combinations.

Integrated type (without adjustment flow valve)

Part number	Port size	Flow rate Dry air, N_2, Ar	Flow rate CO_2	Output specification	Voltage	Operating pressure range
PFM710-C4-B ●	Ø 4 one-touch fitting	0.2 to 10 l/min	0.2 to 5 l/min	2 PNP	24 VDC	-100 kPa to 750 kPa
PFM710-C4-E				PNP + (1 ~ 5V)		
PFM710-C4-F				PNP + (4 ~ 20 mA)		
PFM725-C6-B ●	Ø 6 one-touch fitting	0.5 to 25 l/min	0.5 to 12,5 l/min	2 PNP		
PFM725-C6-E				PNP + (1 ~ 5V)		
PFM725-C6-F ●				PNP + (4 ~ 20 mA)		
PFM750-C6-B ●		1 to 50 l/min	1 to 25 l/min	2 PNP		
PFM750-C6-E ●				PNP + (1 ~ 5V)		
PFM750-C6-F ●				PNP + (4 ~ 20 mA)		
PFM711-C8-B ●	Ø 8 one-touch fitting	2 to 100 l/min	2 to 50 l/min	2 PNP		
PFM711-C8-E				PNP + (1 ~ 5V)		
PFM711-C8-F ●				PNP + (4 ~ 20 mA)		

Remote type (without adjustment flow valve)

PFM510-C4-1	Ø 4 one-touch fitting	0.2 to 10 l/min	0.2 to 5 l/min	1 ~ 5V	24 VDC	-100 kPa to 750 kPa
PFM510-C4-2				4 ~ 20 mA		
PFM525-C6-1	Ø 6 one-touch fitting	0.5 to 25 l/min	0.5 to 12,5 l/min	1 ~ 5V		
PFM525-C6-2				4 ~ 20 mA		
PFM550-C6-1		1 to 50 l/min	1 to 25 l/min	1 ~ 5V		
PFM550-C6-2				4 ~ 20 mA		
PFM511-C8-1	Ø 8 one-touch fitting	2 to 100 l/min	2 to 50 l/min	1 ~ 5V		
PFM511-C8-2				4 ~ 20 mA		

Accessories

Part number	Description
ZS-33-M	Bracket (for “without adjustment flow valve”)
ZS-33-J	Panel mount adapter (for “without adjustment flow valve”)
ZS-33-R*	DIN rail mounting bracket, *=number of stations (1 to 5)

Part number	Description
ZS-28-B	Bracket
ZS-27-C	Panel mount adapter
ZS-27-D	Panel mount adapter + front protective cover

Flow sensor monitor

Part number	Input specification	Output specification	Voltage	Note
PFM313-LF	Current input	2 PNP + 1 to 5 V outputs	24 VDC	With power / output connector included
PFM314-LF		2 PNP + 4 to 20 mA outputs		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Digital flow switch

PFMB Series

- 2-colour digital flow switch for dry air and N_2
- Large flow rates, up to 2000 l/min
- Wide measuring range, rangeability: 100:1
- Quick response: highest speed 0.05 s
- Compact
- Flip vertical option to adjust display's orientation
- Flow adjustment valve is integrated as option (only for PFMB7201 type)
- Use of by-pass structure, which reduces the contact of moist air and foreign matter with the sensor.

Part number	Flow adjustment valve	Port size	Flow rate [l/min]	Output specification	Voltage	Operating pressure range
PFMB7102-F04-B ●	None	G1/2	10 to 1000 l/min	2 PNP	12 to 24 V DC ±10 %	0 to 0.8 Mpa
PFMB7102-F04-E ●				PNP + Analogue 1 to 5 V		
PFMB7102-F04-F ●				PNP + Analogue 4 to 20 mA		
PFMB7201-C8-B ●		Ø 8 (5/16") One-touch fitting	2 to 200 l/min	2 PNP		0 to 0.75 Mpa
PFMB7201-C8-E ●				PNP + Analogue 1 to 5 V		
PFMB7201-C8-F ●				PNP + Analogue 4 to 20 Ma		
PFMB7201-02-B ●		Rc1/4		2 PNP		
PFMB7201-02-E ●				PNP + Analogue 1 to 5 V		
PFMB7201-02-F ●				PNP + Analogue 4 to 20 mA		
PFMB7201-F02-B ●		G1/4		2 PNP		
PFMB7201-F02-E ●				PNP + Analogue 1 to 5 V		
PFMB7201-F02-F ●				PNP + Analogue 4 to 20 mA		
PFMB7201S-C8-B ●	Yes	Ø 8 (5/16") One-touch fitting		2 PNP		
PFMB7201S-C8-E ●				PNP + Analogue 1 to 5 V		
PFMB7201S-C8-F ●				PNP + Analogue 4 to 20 mA		
PFMB7201S-02-B ●		Rc1/4		2 PNP		
PFMB7201S-02-E ●				PNP + Analogue 1 to 5 V		
PFMB7201S-02-F ●				PNP + Analogue 4 to 20 mA		
PFMB7201S-F02-B ●		G1/4		2 PNP		
PFMB7201S-F02-E ●				PNP + Analogue 1 to 5 V		
PFMB7201S-F02-F ●				PNP + Analogue 4 to 20 mA		
PFMB7202-F06-B ●	None	G3/4	20 to 2000 l/min	2 PNP		0 to 0.8 Mpa
PFMB7202-F06-E ●				PNP + Analogue 1 to 5 V		
PFMB7202-F06-F ●				PNP + Analogue 4 to 20 mA		
PFMB7501-F04-B ●		G1/2	5 to 500 l/min	2 PNP		
PFMB7501-F04-E ●				PNP + Analogue 1 to 5 V		
PFMB7501-F04-F ●				PNP + Analogue 4 to 20 mA		

Accessories

Part number	Description
ZS-33-M	Bracket for PFMB7201
ZS-42-C	Bracket for PFMB7501/7102
ZS-33-J	Panel mount adapter for PFMB7201
ZS-42-D	Bracket for PFMB7202

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Digital flow switch

PFMC Series

- 3-colour digital flow switch for dry air and N_2, with enclosure IP65
- Large flow rates, up to 2000 l/min
- Wide measuring range, with range ability: 100:1
- Quick response: highest speed 0.05 s
- Compact
- Display can be rotated 360° to suit installation
- M8 standard connector.

Part number	Flow rate [l/min]	Port size	Output specification	Voltage	Operating pressure range
PFMC7501-F04-B ●	5 to 500 l/min	G1/2	2 PNP	12 to 24 VDC ±10 %	0 to 0.8 Mpa
PFMC7501-F04-E ●			PNP+Analogue (1 to 5 V)		
PFMC7501-F04-F ●			PNP+Analogue (4 to 20 mA)		
PFMC7102-F04-B ●	10 to 1000 l/min		2 PNP		
PFMC7102-F04-E ●			PNP+Analogue (1 to 5 V)		
PFMC7102-F04-F			PNP+Analogue (4 to 20 mA)		
PFMC7202-F06-B ●	20 to 2000 l/min	G3/4	2 PNP		
PFMC7202-F06-E ●			PNP+Analogue (1 to 5 V)		
PFMC7202-F06-F			PNP+Analogue (4 to 20 mA)		

Accessories

Part number	Description
ZS-40-A	Lead wire and M8 connector. Length: 3 m
ZS-42-A	Bracket. Mounting screw for PFMC7501/7102 (M3 x 5, 2 pcs.)
ZS-42-B	Bracket. Mounting screw for PFMC7202 (M3 x 5, 2 pcs.)

Flow sensor and voltage monitor

PFMV Series

PFMV5

PFMV3

- Suction check of very small workpieces
- PFMV5: Flow sensor
  PFMV3: Voltage monitor for PFMV5
- Reduced piping space
- Response speed: 5 ms or less
- Applicable fluid: dry, air, N_2.

Flow sensor

Part number	Port size	Rated flow range [l/min]	Output specification	Voltage
PFMV505-1 ●	M5 x 0.8	0.0 to 0.5	Analogue output (1 ~ 5 V)	12 ~ 24 VDC
PFMV510-1 ●		0.0 to 1.0		
PFMV530-1 ●		0.0 to 3.0		
PFMV505F-1		-0.5 to 0.5		
PFMV510F-1		-1.0 to 1.0		
PFMV530F-1		-3.0 to 3.0		

Voltage monitor

Part number	Applicable sensor	Output specification	Voltage
PFMV303-M	PFMV5□□-1 (voltage input)	2 PNP + (1 ~ 5 V)	12 ~ 24 VDC
PFMV304-M ●		2 PNP + (4 ~ 20 mA)	
PFMV305-M		2 PNP + auto shift input	

Accessories

Part number	Description
ZS-28-A	Power supply / output connector (2 m)
ZS-28-B	Bracket
ZS-28-C	Sensor connector
ZS-27-C	Panel mount adapter
ZS-27-D	Panel mount adapter + front protective cover

Digital flow switch for air

PF2A Series

- For dry air and N_2
- Simple, LED display readout
- Either integrated or remote combination of sensor and display
- Key pad for simple adjustments
- 2 independent outputs / switch points
- No mechanically moving parts, so longer service life.

Integrated display type

Part number	Port size	Flow rate [l/min]	Min. set unit [l/min]	Switch outputs	Supply voltage	Operating pressure range
PF2A710-F01-67N	G1/8	1 ~ 10	0.1	2 PNP	12 ~ 24 VDC	-50 kPa ~ 0.5 MPa
PF2A710-F02-67N ●	G1/4	1 ~ 10				
PF2A750-F01-67N	G1/8	5 ~ 50	0.5			
PF2A750-F02-67N ●	G1/4	5 ~ 50				
PF2A711-F03-67N ●	G3/8	10 ~ 100	1			-50 kPa ~ 0.75 MPa
PF2A721-F03-67N ●	G3/8	20 ~ 200	2			
PF2A751-F04-67N ●	G1/2	50 ~ 500	5			
PF2A703H-F10-69N ●	G1	150 ~ 3000	5	PNP + (4 ~ 20 mA)	24 VDC	0.1 ~ 1.5
PF2A706H-F14-69N ●	G1 1/2	300 ~ 6000	10			
PF2A712H-F20-69N ●	G2	600 ~ 12000				

1) Lead wire with M12 connector is not included.

Remote type sensor unit

Part number	Port size	Flow rate [l/min]	Type	Switch outputs	Supply voltage	Operating pressure range
PF2A510-F01N	G1/8	1 ~ 10	Measuring sensor	—	12 ~ 24 VDC	-50 kPa ~ 0.5 MPa
PF2A510-F02N ●	G1/4	1 ~ 10				
PF2A550-F01N	G1/8	5 ~ 50				
PF2A550-F02N ●	G1/4	5 ~ 50				
PF2A511-F03N ●	G3/8	10 ~ 100				-50 kPa ~ 0.75 MPa
PF2A521-F03N ●	G3/8	20 ~ 200				
PF2A551-F04N ●	G1/2	50 ~ 500				
PF2A301-A ●	—	1 ~ 50	Display	2 PNP		—
PF2A311-A ●		10 ~ 500				

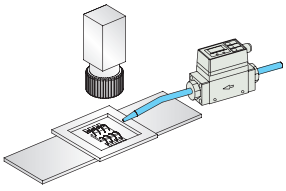
1) Lead wire with M12 connector is not included.
2) NPN option available upon request.

Accessory cable / plug with ferrite core

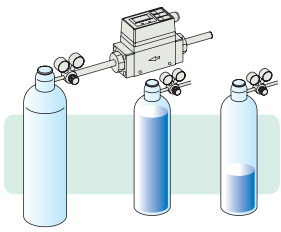
Straight	P398010-12
Elbow	P398010-13

Application examples

Monitoring an N_2 flow



Gas filling



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

3-colour display digital flow switch for water

PF3W Series

- Integrated temperature sensor
- Space saving, reduced piping space
- 3 colour / 2 screen integrated display
- Rotatable display: easy operation, improved visibility
- Two models: integrated type and remote type
- PVC piping type: for deionised water, chemical, etc (Viscosity 3 mPas or less)
- Integrated flow adjustment valve Up to 40 l/min
- Enclosure IP65.

Integrated type

Part number	Port size	Flow rate [l/min]	Output specification	Voltage
PF3W704-F03-BN-M ●	G3/8	0.5 to 4	2 PNP	12 ~ 24 VDC
PF3W704-F03-BTN-M ●				
PF3W704-F03-EN-M ●			PNP + (1 ~ 5V)	
PF3W704-F03-ETN-M ●				
PF3W704-F03-FN-M ●			PNP + (4 ~ 20 mA)	
PF3W704-F03-FTN-M ●				
PF3W720-F04-BN-M ●	G1/2	2 to 16	2 PNP	
PF3W720-F04-BTN-M ●				
PF3W720-F04-EN-M ●			PNP + (1 ~ 5V)	
PF3W720-F04-ETN-M ●				
PF3W720-F04-FN-M ●			PNP + (4 ~ 20 mA)	
PF3W720-F04-FTN-M ●				
PF3W740-F06-BN-M ●	G3/4	5 to 40	2 PNP	
PF3W740-F06-BTN-M ●				
PF3W740-F06-EN-M ●			PNP + (1 ~ 5V)	
PF3W740-F06-ETN-M ●				
PF3W740-F06-FN-M ●			PNP + (4 ~ 20 mA)	
PF3W740-F06-FTN-M ●				
PF3W711-F10-BN-M ●	G1	10 to 100	2 PNP	
PF3W711-F10-BTN-M ●				
PF3W711-F10-EN-M			PNP + (1 ~ 5V)	
PF3W711-F10-ETN-M				
PF3W711-F10-FN-M			PNP + (4 ~ 20 mA)	
PF3W711-F10-FTN-M				
PF3W721-F14-BN-M ●	G1 1/2	50 to 250	2 PNP	
PF3W721-F14-BTN-M ●				
PF3W721-F14-EN-M ●			PNP + (1 ~ 5V)	
PF3W721-F14-ETN-M ●				
PF3W721-F14-FN-M ●			PNP + (4 ~ 20 mA)	
PF3W721-F14-FTN-M ●				

1) Part numbers with “T” include temperature sensor.
2) Lead wire with M8 connector is not included.
3) NPN option available upon request.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Remote type

Part number	Port size	Flow rate [l/min]	Output specification	Voltage
PF3W504-F03-1N	G3/8	0.5 to 4	(1 ~ 5V)	12 ~ 24 VDC
PF3W504-F03-2N			(4 ~ 20 mA)	
PF3W504-F03-1TN			2 (1 ~ 5V)	
PF3W520-F04-1N	G1/2	2 to 16	(1 ~ 5V)	
PF3W520-F04-2N			(4 ~ 20 mA)	
PF3W520-F04-1TN			2 (1 ~ 5V)	
PF3W540-F06-1N	G3/4	5 to 40	(1 ~ 5V)	
PF3W540-F06-2N			(4 ~ 20 mA)	
PF3W540-F06-1TN			2 (1 ~ 5V)	
PF3W511-F10-1N	G1	10 to 100	(1 ~ 5V)	
PF3W511-F10-2N			(4 ~ 20 mA)	
PF3W511-F10-1TN			2 (1 ~ 5V)	
PF3W521-F14-1N	G1 1/2	50 to 250	(1 ~ 5V)	
PF3W521-F14-2N			(4 ~ 20 mA)	
PF3W521-F14-1TN			2 (1 ~ 5V)	

1) Part numbers with "T" include temperature sensor.
2) Lead wire with M8 connector is not included.
3) NPN option available upon request.

Digital flow monitor for PVC piping: Integrated type

Part number	Port size	Rated flow range [l/min]	Output specification	Voltage
PF3W711-U25-BN-M ●	25A (32 mm O.D.)	10 to 100	2 PNP	12 ~ 24 VDC
PF3W711-U25-EN-M			PNP + (1 ~ 5V)	
PF3W711-U25-FN-M			PNP + (4 ~ 20 mA)	
PF3W721-U30-BN-M	30A (38 mm O.D.)	30 to 250	2 PNP	
PF3W721-U30-EN-M			PNP + (1 ~ 5V)	
PF3W721-U30-FN-M			PNP + (4 ~ 20 mA)	

Remote type

Part number	Port size	Rated flow range [l/min]	Output specification	Voltage
PF3W511-U25-1N	25A (32 mm O.D.)	10 to 100	(1 ~ 5V)	12 ~ 24 VDC
PF3W511-U25-2N			(4 ~ 20 mA)	
PF3W521-U30-1N	30A (38 mm O.D.)	30 to 250	(1 ~ 5V)	
PF3W521-U30-2N			(4 ~ 20 mA)	

1) Lead wire with M8 connector is not included.

Digital flow monitor for PF3W series

Part number	Output specification	Voltage
PF3W30B-M	2 PNP	12 ~ 24 VDC
PF3W30E-M	PNP + (1 ~ 5V)	
PF3W30F-M	PNP + (4 ~ 20 mA)	

Accessories

Part number	Description
ZS-40-K	Bracket (with 4 tapping screws, 3 x 8, for PF3W704/720/504/520)
ZS-40-L	Bracket (with 4 tapping screws, 3 x 8, for PF3W740/540)
ZS-40-M	Bracket (with 4 tapping screws, 4 x 10, for PF3W711/511)
ZS-40-A	Lead wire (3 m) with M8 connector

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Our highlighted product for you

Digital flow switch for large flow

PF3A7□H Series

- Applicable fluid: Air and N_2
- 3-colour 2-line information display
- Flow ratio: 100:1
- Repeatability: ±1.0 % F.S.
- Outputs: NPN / PNP and analogue / External input
- IP65.

Part number	Flow rate [l/min]	Port size	Output specification	Lead wire
PF3A703H-F10-ES ●	30 to 3000	G1	PNP + Analogue Voltage / External input	With lead wire and M12 connector (3 m)
PF3A703H-F10-FS ●	30 to 3000		PNP + Analogue current / External input	
PF3A703H-F10-FSN ●	30 to 3000			Without lead wire and M12 connector
PF3A706H-F14-FS ●	60 to 6000	G1 1/2		With lead wire and M12 connector (3 m)
PF3A706H-F14-FSN ●	60 to 6000			Without lead wire and M12 connector
PF3A712H-F20-FS ●	120 to 12000	G2		With lead wire and M12 connector (3 m)
PF3A712H-F20-FSN ●	120 to 12000			Without lead wire and M12 connector

Accessories

Part number	Description
ZS-37-A	Lead wire and M12 connector. 3 m length

Digital flow switch for water IO-link compatible

PF3W7□-X445 Series

- Applicable fluid: Water and ethylene glycol aqueous solution
- 3-colour 2-screen display
- Flow ranges: from 0.5 to 40 l/min
- Flow ratio: 8:1
- Repeatability: ±2 % F.S.
- Output: 1 output, NPN / PNP or IO-Link
- IP65
- In-built temperature sensor (-10 to 110 °C)
- Consumption: 50 mA or less.

Part number	Flow rate [l/min]	Port size	Output specification	Voltage
PF3W704-F03-LTN-M-X445	0.5 to 4 l/min	G3/8	IO-Link: Switch output	12 to 24 VDC (when used as switch output device) 18 to 30 VDC (when used as an IO-Link device)
PF3W720-F04-LTN-M-X445	2 to 16 l/min	G1/2		
PF3W740-F06-LTN-M-X445	5 to 40 l/min	G3/4		

Accessories

Part number	Description
ZS-40-M12M8-A	M12-M8 conversion lead wire (0.1 m)
ZS-37-A	Lead wire with M12 connector (3 m)
ZS-40-A	Lead wire with M8 connector (3 m)

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Digital flow switch for deionised water & chemicals

PF2D Series

- Dust generation of 3 particles/cc or less (average number)
- Karman vortex eliminates moving parts and allows low dust generation
- Swept flow characteristics
- Tapered side seal minimises dead volume to reduce accumulation of liquid pool
- Body and Sensor: New PFA
- Tube: Super PFA
- Three type of flow range:
  0.4 ~ 4 l/min (PF2D504)
  1.8 ~ 20 l/min (PF2D520)
  4.0 ~ 40 l/min (PF2D540)

1 sensor display unit
PF2D30 Series

4-channel flow monitor
PF2D200 Series

- A single controller can monitor the flow rate of 4 different sensors.

Part number	Port size [inch]	Flow rate [l/min]	Type	Output specification	Voltage
PF2D504-11-1 ●	3/8	0.4 to 4	Sensor unit	1 ~ 5 V	12 ~ 24 VDC
PF2D504-11-2 ●				4 ~ 20 mA	
PF2D520-13-1 ●	1/2			1 ~ 5 V	
PF2D520-13-2 ●		1.8 to 20		4 ~ 20 mA	
PF2D540-19-1 ●	3/4			1 ~ 5 V	
PF2D540-19-2 ●				4 ~ 20 mA	
PF2D301-A ●	—	4 to 40	Monitor unit	2 PNP	24 VDC
PF2D201-A				4 PNP	

2-colour display digital flow switch

Electromagnetic type

LFE Series

- Applicable fluid: water, water-soluble coolant or any fluids with electric conductivity of 5 µS/cm or more which do not corrode the fluid contact materials
- Smooth fluid passage and no obstacles or moving parts in the fluid path
- Very low pressure loss (0.02 MPa or less)
- Construction without electrodes immersed in the fluid
- Good rangeability, 40:1 and flow range up to 200 l/min
- Backflow can be detected and the flow direction can be changed after installation.

Integrated display type

Part number	Type	Port size	Flow rate [l/min]	Output specification	Voltage	Parts material in contact with fluid
LFE1B4F1 ●	Integrated display type Without lead wire	G1/2	0.5 to 20	2 PNP	24 VDC	PPS, FKM, C37 (Brass)
LFE1C4F1 ●				NPN + (1 ~ 5 V)		
LFE1D4F1 ●				NPN + (4 ~ 20 mA)		
LFE2B6F1 ●		G3/4	2.5 to 100	2 PNP		
LFE2C6F1 ●				NPN + (1 ~ 5 V)		
LFE2D6F1 ●				NPN + (4 ~ 20 mA)		
LFE3B8F1 ●		G1	5 to 200	2 PNP		
LFE3C8F1 ●				NPN + (1 ~ 5 V)		
LFE3D8F1 ●				NPN + (4 ~ 20 mA)		

Accessories

Part number	Description
LFE-1-A3 ●	Lead wire with M12 connector

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Ionizers

Bar type ionizer

IZS40/41/42 Series

- Standard type Series IZS40
  Simple operation: Only power ON/OFF required
- Feedback sensor type Series IZS41
  Feedback sensor enables the rapid elimination of static electricity
  - Energy saving run mode
  - Continuous neutralization run mode
- Dual AC type Series IZS42
  - Reduced potential amplitude: 25 V or less
- Reduction of adjustment and maintenance time using an auto balance sensor:
  -Built-in type (Standard): The sensor is installed within the ionizer body and may be mounted anywhere
  -High accuracy type (Option): “Ion balance adjustment at external signal input” or “Ion balance adjustment at any time” can be selectable
- Setting ionizer with remote control
  - Can recognize and control up to 16 ionizers through address setting
- Low maintenance electrode cartridges
- Transition wiring may be used.

Part number	Characteristics	Bar length [mm]	Input signal	Output signal	Operating range [mm]
IZS40-340-06B ●	Plug & Play	340	—	—	50 ~ 2000
IZS40-400-06B ●		400			
IZS40-460-06B ●		460			
IZS40-580-06B ●		580			
IZS40-640-06B ●		640			
IZS40-820-06B ●		820			
IZS40-1120-06B ●		1120			
IZS40-1300-06B ●		1300			
IZS40-1600-08B ●		1600			
IZS40-1900-08B ●		1900			
IZS41-340P-06B ●	Applicable for feedback sensor	340	2 x PNP	2 x PNP	
IZS41-400P-06B ●		400			
IZS41-460P-06B ●		460			
IZS41-580P-06B ●		580			
IZS41-640P-06B ●		640			
IZS41-820P-06B ●		820			
IZS41-1120P-06B ●		1120			
IZS41-1300P-06B ●		1300			
IZS41-1600P-08B ●		1600			
IZS41-1900P-08B ●		1900			
IZS42-340P-06B ●	Dual AC-modus	340			
IZS42-400P-06B ●		400			
IZS42-460P-06B ●		460			
IZS42-580P-06B ●		580			
IZS42-640P-06B ●		640			
IZS42-820P-06B ●		820			
IZS42-1120P-06B ●		1120			
IZS42-1300P-06B ●		1300			
IZS42-1600P-08B ●		1600			
IZS42-1900P-08B ●		1900			

∗ Incl. 3 m power supply cable and bracket.

Accessories

Part number	Description
IZS30-M2 ●	Electrode needle cleaning kit
IZS41-RC ●	Remote control
IZS41-CF02 ●	Transition wiring cable (2 m)
IZS40-NT ●	High speed de-ionizing cartridge (tungsten)
IZS40-NJ ●	Energy saving - type de-ionizing cartridge (tungsten)
IZS40-E3 ●	Electrode cartridge drop prevention cover for 3 electrodes
IZS40-E4 ●	Electrode cartridge drop prevention cover for 4 electrodes
IZS40-E5 ●	Electrode cartridge drop prevention cover for 5 electrodes
IZF10-CG2EU	AC Adapter for IZS40
IZS41-CG2EU	AC Adapter for IZS41/42

Brackets

End bracket	IZS40-BE ●
Intermediate bracket	IZS40-BM ●

Sensor

Feedback sensor	IZS31-DF ●
Auto balance sensor	IZS31-DG ●

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Our highlighted product for you

Separate controller bar type ionizer

IZT40/41/42 Series

- Standard type IZT40 Series: Simple operation: Can be controlled by powering the ionizer ON
- AC Type IZT41 Series: Rapid neutralisation of static electricity, as fast as 0.1 s
- Dual AC type IZT42 Series: Reduced potential amplitude: 25 V or less
- Ion balance: Within ±30 V
- Separate controller and bar:
  - Bar can be mounted in a limited space
  - Easily monitor and adjust bars installed in a place which cannot be accessed
- Up to 4 bars can be connected to one controller
- Compact design (Height x Width): 37 mm x 30 mm
- Multiple alarms, functions and LED display (IZT41/42)
- Low maintenance electrode cartridges.

Part number	Model	Bar length [mm]	One-touch fitting	Emitter cartridge type / Emitter material	High-voltage cable length [m]	Applied voltage [V]	Effective static neutralisation range [mm]	Input / Output specification
IZT40-16-06B	Standard	160	Ø 6 Straight	High speed de-ionising cartridge / Tungsten	3	± 7000	50 to 2000	—
IZT40-22-06B		220						
IZT40-34-06B		340						
IZT40-40-06B		400						
IZT40-46-06B		460						
IZT40-58-06B		580						
IZT40-64-06B		640	Ø 8 Straight					
IZT40-82-06B		820						
IZT40-112-06B		1120						
IZT40-130-06B		1300						
IZT40-160-08B		1600						
IZT40-190-08B		1900	Ø 10 Straight					
IZT40-232-08B		2320						
IZT40-250-08B		2500						
IZT41-16P-06B	AC	160	Ø 6 Straight					PNP
IZT41-22P-06B		220						
IZT41-34P-06B		340						
IZT41-40P-06B		400						
IZT41-46P-06B		460						
IZT41-58P-06B		580						
IZT41-64P-06B		640	Ø 8 Straight					
IZT41-82P-06B		820						
IZT41-112P-06B		1120						
IZT41-130P-06B		1300						
IZT41-160P-08B		1600						
IZT41-190P-08B		1900	Ø 10 Straight					
IZT41-232P-08B		2320						
IZT41-250P-08B		2500						
IZT42-16P-06B	Dual AC	160	Ø 6 Straight			± 6000		
IZT42-22P-06B		220						
IZT42-34P-06B		340						
IZT42-40P-06B		400						
IZT42-46P-06B		460						
IZT42-58P-06B		580						
IZT42-64P-06B		640	Ø 8 Straight					
IZT42-82P-06B		820						
IZT42-112P-06B		1120						
IZT42-130P-06B		1300						
IZT42-160P-08B		1600						
IZT42-190P-08B		1900	Ø 10 Straight					
IZT42-232P-08B		2320						
IZT42-250P-08B		2500						

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Accessories

Part number	Description	Model
IZT40-ND	High speed de-ionizing cartridge	Tungsten
IZT40-NE		Silicon
IZT40-NL	Energy saving type de-ionizing cartridge	Tungsten
IZT40-NM		Silicon
IZT40-BE1	End bracket 1	
IZT40-BE2	End bracket 2	
IZT40-BM1	Intermediate bracket 1	
IZT40-BM2	Intermediate bracket 2	
IZT40-B1	DIN rail mounting bracket for controller	
IZT40-B2 (IZT40/41)	DIN rail mounting bracket for high-voltage power supply module	
IZT40-B3 (IZT42)		
IZT40-CG2	AC adapter without AC cord	
IZT40-CG2EU	AC adapter with AC cord	
IZT40-CF1	Separate cable	1 m
IZT40-CF2		2 m
IZT40-CF3		3 m
IZT40-CP3	Power supply cable	3 m
IZT40-CP5		5 m
IZT40-CP10		10 m
IZT40-CP15		15 m
IZS30-M2 ●	Cleaning kit	

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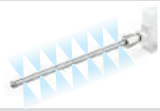
Nozzle type ionizer
IZN10E Series

- Different nozzles to adapt several applications: IZN10E (standard type) and IZN10E-X367 (with right angles and 360° rotation):
  - Energy saving static electricity elimination nozzle
  - High flow static electricity elimination nozzle
- Offset voltage (ion balance): ±10 V (Energy saving), ±15 V (Large flow)
- Compact and slim design
- With built-in power supply substrate
- Easy maintenance: electrode needle contamination detector with easy replacement of the cartridge
- Mounting variations: direct mount, bracket mount
- External switch input function (2 inputs). Switch output: PNP/NPN.

Part number	Nozzle type	Port size	Offset voltage [V]	Input / Output specification	Effective static neutralisation range [mm]	Power supply voltage	Ion generation method
IZN10E-01P06	Energy saving	Ø 6	Within ±10	PNP	20 to 500	24 VDC ±10 %	Corona discharge type
IZN10E-02P06	High flow rate		Within ±15				
IZN10E-11P06	Female threads for piping (interchangeable nozzle variations)		Depending on nozzle variation [1]				
IZN10E-01P06-X367	Energy saving with right angles		Within ±10				
IZN10E-02P06-X367	High flow rate with right angles		Within ±30				

1) For more information please consult SMC.

Nozzle variations

Part number	Description	Model
IZN10-G-X198 ●	Circular diffusion nozzle	
IZN10-G-X199 ●	Flat diffusion nozzle	
IZN10-G-□-X216 ●	Bar nozzle (straight type)	
IZN10-G-X278	Circumferential jet bar nozzle (straight type)	
IZN10-G-□-X205	Bender tube nozzle	
IZN10-G-□-X226	Long nozzle	

□ For bar length [mm]: 100, 200, 300, 400, 500 and 600.

Accessories

Part number	Description
IZN10-B1 ●	L-bracket
IZN10-B2 ●	Pivoting bracket
IZN10-B3 ●	DIN rail mounting bracket
IZN10E-CP	Power supply cable (3 m)
IZN10E-CPZ	Power supply cable (10 m)
IZN10E-CG2-P	AC Adapter without AC cord (PNP Input / Output specification)
IZN10E-CG2EU-P	AC Adapter with AC cord (PNP Input / Output specification)
IZS30-M2 ●	Cleaning kit

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Fan type ionizer
IZF10/10R Series

- Offset voltage (ion balance): Within ±13 V
- Compact design (Depth x Width x Height): 39 mm x 80 mm x 110 mm
- Weight: 280 g (IZF10), 260 g (IZF10R)
- 2 types of fans available (IZF10):
  - Fast deionising type: 1.5 seconds deionising time
  - Low noise type: 48 dB(A)
- Alarm functions: high-voltage error, electrode needle contamination detector
- Flow rate adjustment function (IZF10R)

Part number	Max. air flow [l/min]	Input / Output specifications	Power supply	Options / Accessories
IZF10-P ●	660	PNP output	With power supply cable (3 m)	—
IZF10-P-B				With bracket
IZF10R-P	800			—
IZF10R-P-B				With bracket

Accessories

Part number	Model	Description
IZF10-CG2 ●	IZF10	AC adapter (without AC cable)
IZF10R-CG2	IZF10R	
IZF10-CG2EU	IZF10	AC adapter (with AC cable)
IZF10R-CG2EU	IZF10R	
IZF10-CP ●	IZF10	Power supply cable (3 m)
IZF10R-CP	IZF10R	
IZF10-CPZ ●	IZF10	Power supply cable (10 m)
IZF10R-CPZ	IZF10R	
ZS-28-C ●	IZF10	e-con connector
IZF10-A1 ●	IZF10	Cartridge case
IZF10R-A1	IZF10R	
IZF10-B1 ●	IZF10 / IZF10R	Bracket
IZS30-M2 ●	IZF10 / IZF10R	Cleaning kit
IZS30-M1 ●	IZF10 / IZF10R	Adjustment screwdriver

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Our highlighted product for you

Fan type ionizer
IZF21/31 Series

- Offset voltage (ion balance): ±5 V
- Extensive and rapid static neutralisation:
  - IZF21: up to 1800 l/min (flow rate), as little as 1.0 s (discharge time)
  - IZF31: up to 4400 l/min (flow rate), as little as 0.5 s (discharge time)
- An optional adjustable louver allows for adjusting the static neutralisation area
- Improved performance and easier maintenance through several functions and features
- Modular, compact and slim design: 40 mm thickness.

Part number	Max. air flow [l/min]	Input / Output specifications	Power supply	Options / Accessories
IZF21-P ●	1800	PNP input / output	With power supply cable (3 m)	—
IZF21-P-B ●				With bracket
IZF31-P ●	4400			—
IZF31-P-B ●				With bracket

Accessories

Part number	Model	Description
IZF21-CG2 ●	IZF21 / IZF31	AC adapter (without AC cable)
IZF21-CG2EU	IZF21 / IZF31	AC adapter (with AC cable)
IZS41-CP ●	IZF21 / IZF31	Power supply cable (3 m)
IZS41-CPZ ●	IZF21 / IZF31	Power supply cable (10 m)
IZF21-NT ●	IZF21	Emitter cartridge
IZF31-NT ●	IZF31	
IZF21-HW ●	IZF21	Adjustable louver
IZF31-HW ●	IZF31	
IZF21-HS ●	IZF21	Automatic cleaning unit
IZF31-HS ●	IZF31	
IZF21-FU ●	IZF21	Air suction side filter: Filter + filter holder
IZF31-FU ●	IZF31	
IZF21-B1 ●	IZF21	Bracket
IZF31-B1 ●	IZF31	
IZS30-M2 ●	IZF21 / IZF31	Cleaning kit
IZS30-M1 ●	IZF21 / IZF31	Adjustment screwdriver

Electrostatic sensor
IZD10 Series

- Potential measurement:
  ±20 kV (detected at a 50 mm distance)
  ±0.4 kV (detected at a 25 mm distance)
- Detects the electrostatic potential and outputs an analogue voltage
- Small and easy to mount.

Part number	Potential measurement	Output voltage
IZD10-110 ●	±0.4 kV	1 to 5 V
IZD10-510 ●	±20 kV	1 to 5 V

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electrostatic sensor monitor

IZE11 Series

- Output: switch output x 2 + Analogue output (1 to 5 V, 4 to 20 mA)
- 2-colour display (red and green)
- Display accuracy: ±0.5 % F.S. ±1 digit or less
- Detection distance correction function (adjustable in 1 mm increments)
- Supports two types of sensors
- Connection by connector:
  - Connector for power supply / output
  - E-con connector: Connector to sensor.

Part number	Input / Output	Connector cable for power supply / output	Connector for sensor connection
IZE112-LC ●	2 PNP + (1 ~ 5 V)	Yes	Yes
IZE113-LC ●	2 PNP + (4 ~ 20 mA)	Yes	Yes

Option

Part number	Description
ZS-28-A ●	Connector cable for power supply / output (2 m)
ZS-28-B ●	Bracket
ZS-28-C ●	Connector for sensor connection
ZS-27-C ●	Panel mount adapter
ZS-27-D ●	Panel mount adapter + Front protective cover

Handheld electrostatic meter

IZH10 Series

- Easy to use
- Compact and lightweight
- Rated charge amount range: ±20.0 kV
- Functions:
  - Peak and bottom display function
  - Zero clear function
  - Auto power-off function
  - Low battery indication
  - Backlight

Part number	Option
IZH10 ●	None
IZH10-H ●	High-voltage measuring handle

Accessories

Part number	Description
IZH-A-01 ●	Ground wire, 1.5 m
IZH-B-01 ●	Soft case
IZH-C-01 ●	High-voltage measuring handle

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Desktop duster box
ZVB Series

- Integration of three processes – static neutralisation, dust removal and dust collection – in a single box by using nozzle type ionizers:
  - Efficient static neutralisation with a diffusion-type nozzle
  - Dust removal with dedicated nozzles for the air blow
  - Dust collection with a maintenance-free pneumatic dust collector
- Ion balance: ±10 V
- Use of emitters that are easy to remove, replace and clean
- Optional photoelectric sensor reflecting plate for automatic workpiece detection.

Part number	Static neutralisation space [mm] (width x depth)	Dimensions [mm] (width x depth)	Dust collector: exhaust flow rate [l/min]	Air consumption [l/min]	Ionizer: Nº. of mounted units
ZVB20-B	202 x 212	210 x 297	410 to 1580	420 [1)]	1
ZVB40-B	392 x 298	400 x 384	820 to 3160	800 [2)]	2

1) When supply pressure to the dust collector is set to 0.3 MPa and additional air blow supply pressure to 0.2 MPa
2) When supply pressure to the dust collector is set to 0.4 MPa and additional air blow supply pressure to 0.2 MPa

Accessories

Part number	Model	Description
ZVB-D3A	ZVB20 / ZVB40	3 m exhaust duct hose
ZVB-D1A	ZVB20 / ZVB40	1 m exhaust duct hose
ZVB-P1A	ZVB20 / ZVB40	Dust collecting bag
ZVB-AC1	ZVB20 / ZVB40	AC adapter (without AC cable)
ZVB-AC1EU	ZVB20 / ZVB40	AC adapter (with AC cable)
IZN10-NT-X325	ZVB20 / ZVB40	Emitter
ZVB-N10A	ZVB20 / ZVB40	Additional air blow nozzle
ZVB-V20A	ZVB20	Suction slope
ZVB-V40A	ZVB40	
AS2001F-06D-X678	ZVB20 / ZVB40	Air blow adjustment needle valve

Positioners

Electro-pneumatic positioner
IP8000/8100 Series

- Vibration resistance: No resonances 5 to 200 Hz
- Enclosure: JISF8007 IP65 (Conforms to IEC 60529)
- Monitoring function (Opening current transmission 4 to 20 mA DC, Accessory J, JR)
- ATEX intrinsically safe explosion-proof construction is available II 2 G Ex ib IIC T5/T6 (Special specification: –X14).

Model	Type	Function	Supply air pressure [MPa]	Stroke
IP8000-030-Q ●	Lever type feedback	Single / double action	0.14 ~ 0.7	10 ~ 85 mm
IP8100-000-H-Q [1] ●	Rotary type	Single / double action	0.14 ~ 0.7	60° ~ 100°

1) Without pressure gauge.

Smart positioner
IP8001/8101 Series

- HART transmission function
- Explosion-proof construction / ATEX intrinsically safe explosion-proof construction
  II 1G Ex ia II CT4/T5/T6 Ga
- Supply air pressure: 0.3 to 0.7 MPa
- Applicable actuator rotation angle: 60 to 100° (Rotary type)
- Enclosure: JISF8007 IP65 (Conforms to IEC 60529)
- Auto calibration
- Dual wire input
- Monitor output and software alarm
- Variety of parameter setting functions and displayable control condition
- Interchangeable mounting with IP8000 / 8100.

Part number	Type	ATEX compliant	Specifications
IP8101-030-Q	Smart rotary type	No	Basic type
IP8101-032-Q			With output (alarm + analogue outputs)
IP8101-033-Q			With HART transmission mode
52-IP8101-034-M		Yes	Intrinsically safe explosion-proof constr. + Output + HART transmission mode
IP8001-030-Q	Smart lever type	No	Basic type
IP8001-032-Q			With output (alarm + analogue outputs)
IP8001-033-Q			With HART transmission mode
52-IP8001-034-M		Yes	Intrinsically safe explosion-proof constr. + Output + HART transmission mode

Accessories (Lever type)

Fork lever assembly M	P368010-24
Fork lever assembly S	P368010-25

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Thermo-chiller

Our highlighted product for you

Circulating fluid temperature controller, thermo-chiller compact type

HRS Series

- Temperature stability: ±0.1 °C
- Temperature range setting: 5 to 40 °C
- Lightweight 43 to 73 kg
- Easy maintenance: tool-less maintenance of filter
- Self diagnosis function and check display
- Convenient functions:
  - Timer operation function
  - Low tank level detecting function
  - Power failure auto-restart function
  - Anti-freezing operation function
- Communication function: RS232C, RS485 and contact I/Os as standard
- HRS030 and HRS060 models available.

Part number	Cooling method	Cooling / heating capacity (50 Hz)	Pipe thread type	Power supply
HRS012-AF-20 ●	Air-cooled refrigeration	1100 W / 530 W	G (with PT-G conversion fitting set)	Single-phase 200 to 230 VAC (50/60 Hz)
HRS018-AF-20 ●		1700 W / 530 W		
HRS024-AF-20 ●		2100 W / 530 W		
HRS030-AF-20 ●		2600 W / 600 W		
HRS050-AF-20 ●		4700 W / 1100 W		
HRS060-AF-20 ●		4900 W / 1000 W		
HRS012-WF-20 ●	Water-cooled refrigeration	1100 W / 530 W		
HRS018-WF-20 ●		1700 W / 530 W		
HRS024-WF-20 ●		2100 W / 530 W		
HRS030-WF-20		2600 W / 400 W		
HRS050-WF-20 ●		4700 W / 1000 W		
HRS060-WF-20		4900 W / 1000 W		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Circulating fluid temperature controller, thermo-chiller, standard type

HRS090 Series

- Temperature stability: ±0.5 °C
- Temperature range setting: 5 to 35 °C
- Lightweight 136 kg
- Easy maintenance: tool-less maintenance of filter
- Self diagnosis function and check display
- Convenient functions:
  - Timer operation function
  - Unit conversion function
  - Power failure auto-restart function
  - Anti-freezing operation function
- Communication function: RS232C, RS485 and contact I/Os as standard.

Part number	Cooling method	Cooling / heating capacity (50 Hz)	Pipe thread type	Power supply
HRS090-AF-40 ●	Air-cooled refrigeration	8000 W / 1700 W	G (with RC-G conversion fitting)	3-phase 380 to 415 VAC (50/60 Hz)
HRS090-WF-40	Water-cooled refrigeration	9000 W / 1700 W		3-phase 380 to 415 VAC (50/60 Hz)

Circulating fluid temperature controller, thermo-chiller standard type

HRS100/150 Series

- Temperature stability: ±1.0 °C
- Temperature range setting: 5 to 35 °C
- Outdoor installation: IPX4
- Heating function available even with no heater
- Self diagnosis function and check display
- Convenient functions:
  - Timer operation function
  - Warming-up function
  - Power failure auto-restart function
  - Anti-freezing operation function
- Communication function: RS232C, RS485 and contact I/Os as standard.

Part number	Cooling method	Cooling / heating capacity (50 Hz)	Pipe thread type	Power supply
HRS100-AF-40 ●	Air-cooled refrigeration	9000 W / 1700 W	G (with RC-G conversion fitting)	3-phase 380 to 415 VAC (50/60 Hz)
HRS150-AF-40 ●		13000 W / 2500 W		
HRS100-WF-20	Water-cooled refrigeration	10000 W / 1700 W		3-phase 380 to 415 VAC (50/60 Hz)
HRS150-WF-20		14000 W / 2500 W		

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Circulating fluid temperature controller, thermo-chiller basic type

HRSE Series

- Temperature stability: ±2.0 °C
- Temperature range setting: 10 to 30 °C
- Energy saving by triple control
- Lightweight 35 kg
- Self diagnosis function and check display
- 2-step operation
- Maintenance free magnet pump.

Part number	Cooling method	Cooling capacity	Port size	Power supply
HRSE012-A-23 ●	Air-cooled refrigeration	1000 W (50 Hz)	Rc1/2	Single-phase 230 VAC (50/60 Hz)
HRSE018-A-23 ●		1400 W (50 Hz)		
HRSE024-A-23 ●		1900 W (50 Hz)		

Circulating fluid temperature controller, thermo-chiller, inverter type

HRSH Series

- Temperature stability: ±0.1 °C
- Temperature range setting: 5 to 35 °C (5 to 40 °C for HRSH090)
- Energy saving by triple inverter
- Outdoor installation: IPX4 (Except for HRSH090)
- Self diagnosis function and check display
- Convenient functions:
  - Timer operation function
  - Unit conversion function
  - Power failure auto-restart function
  - Anti-freezing operation function
- Communication function: RS232C, RS485 and contact I/Os as standard.

Part number	Cooling method	Cooling / heating capacity	Pipe thread type	Power supply
HRSH090-AF-20-S	Air-cooled refrigeration	9500 W / 2500 W	G (with RC-G conversion fitting)	3-phase 200 (50 Hz), 3-phase 200 to 230 VAC (60 Hz)
HRSH090-AF-40 ●		9500 W / 2500 W		3-phase, 380 to 415 VAC (50/60 Hz)
HRSH100-AF-20-S		10500 W / 2500 W		3-phase, 200 (50 Hz), 3-phase 200 to 230 VAC (60 Hz)
HRSH150-AF-20-S		15700 W / 3000 W		
HRSH200-AF-20-S		20500 W / 5500 W		
HRSH250-AF-20-S		25000 W / 7500 W		
HRSH300-AF-20-S		25000 W / 7500 W		
HRSH100-AF-40 ●		10500 W / 2500 W		3-phase, 380 to 415 VAC (50/60 Hz)
HRSH150-AF-40 ●		15700 W / 3000 W		
HRSH200-AF-40 ●		20500 W / 5500 W		
HRSH250-AF-40 ●		25000 W / 7500 W		
HRSH300-AF-40		25000 W / 7500 W		
HRSH090-WF-20-S	Water-cooled refrigeration	11000 W / 2500 W		3-phase, 200 (50 Hz), 3-phase 200 to 230 VAC (60 Hz)
HRSH090-WF-40		11000 W / 2500 W		3-phase, 380 to 415 VAC (50/60 Hz)
HRSH100-WF-20-S		11500 W / 2500 W		3-phase, 200 (50 Hz), 3-phase 200 to 230 VAC (60 Hz)
HRSH150-WF-20-S		15700 W / 3500 W		
HRSH200-WF-20-S		20600 W / 4000 W		
HRSH250-WF-20-S		24000 W / 7200 W		
HRSH100-WF-40		11500 W / 2500 W		3-phase, 380 to 415 VAC (50/60 Hz)
HRSH150-WF-40		15700 W / 3500 W		
HRSH200-WF-40		20600 W / 4000 W		
HRSH250-WF-40		24000 W / 7200 W		

Thermo-con

Our highlighted product for you

Peltier-type chiller, thermo-con / rack mount type
HECR Series

- Temperature stability: ±0.01 °C to 0.03 °C
- Temperature range setting: 10 to 60 °C
- Mountable in a 19-inch rack
- Self diagnosis function and check display
- It is easy to start up in 3 steps and to control, with 14 different alarm codes
- Maintenance free magnet pump
- Communication function: RS232C and RS485.

Part number	Radiating method	Cooling / heating capacity	Power supply	Option	Port size
HECR002-A5-F ●	Air-cooled	200 W / 600 W (Tap water)	Single-phase 100 to 240 VAC (50/60 Hz)	With flow switch	Rc1/4
HECR004-A5-F		400 W / 1000 W (Tap water)			Rc3/8
HECR006-A5-F		510 W / 1200 W (Tap water)			
HECR008-A5-F ●		800 W / 1400 W (Tap water)			
HECR010-A2-F ●		1000 W / 2000 W (Tap water)	Single-phase 200 to 240 VAC (50/60 Hz)		
HECR010-A2-P				High pressure pump mounted	
HECR010-A2-FP				With flow switch and high pressure pump mounted	
HECR008-W5-F	Water-cooled	800 W / 1400 W (Tap water)	Single-phase 100 to 240 VAC (50/60 Hz)	With flow switch	
HECR012-W2-F		1200 W / 2000 W (Tap water)	Single-phase 200 to 240 VAC (50/60 Hz)		
HECR012-W2-P				High pressure pump mounted	
HECR012-W2-FP				With flow switch and high pressure pump mounted	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Process pump

Process pump
PA3000/5000 Series

- Compact, large capacity diaphragm type pump (PA3000:Up to 20 l/min, PA5000 up to 45 l/min)
- Compatible with a wide variety of fluids
- Easy adjustment of discharge pressure and flow rate with adjustment of the pilot air pressure
- Self-priming type makes priming unnecessary.

Part number	Type of actuation	Port size	Material		Discharge rate [l/min] 1)	Average discharge pressure [MPa]	Pilot air pressure [MPa]
			Body wetted areas	Diaphragm			
PA3120-F03 ●	Automatically operated type (internal switching type)	G3/8	Aluminium	NBR	1 to 20	0 to 0.6	0.2 to 0.7
PA3110-F03 ●				PTFE			
PA3210-F03 ●			Stainless steel				
PA5120-F04 ●		G1/2	Aluminium	NBR	5 to 45		
PA5110-F04 ●				PTFE			
PA5210-F04 ●			Stainless steel				
PA5120-F06		G3/4	Aluminium	NBR			
PA5110-F06 ●				PTFE			
PA5210-F06 ●			Stainless steel				

1) The values are for normal temperatures and when the transferred fluid is fresh water.

Process pump with pulsation attenuator
PAX1000 Series

- Prevents spraying of discharge and foaming in tank
- Space-saving design eliminates separate piping with built-in pulsation attenuator
- Compatible with a wide variety of fluids.

Part number	Type of actuation	Port size	Material		Discharge rate [l/min] 1)	Average discharge pressure [MPa]	Pilot air pressure [MPa]
			Body wetted areas	Diaphragm			
PAX1112-F02	Automatically operated type (internal switching type)	G1/4	Aluminium	PTFE	0.5 to 10	0 to 0.6	0.2 to 0.7
PAX1212-F02			Stainless steel				
PAX1112-F03 ●		G3/8	Aluminium				
PAX1212-F03 ●			Stainless steel				

1) The values are for normal temperatures and when the transferred fluid is fresh water.

Compact process pump (Diaphragm pump)
PB Series

- Suitable for transferring and collecting a wide range of fluids
- Built-in solenoid valve or air operated (external switching type)
- Easy to adjust the flow rate by the frequency of ON/OFF of the solenoid valve
- Discharge 8 to 2000 ml/min. (for air operated type up to 1000 ml/min)
- Weight 0.11kg (PB1013A / Air-operated type without foot).

Part number	Type of actuation	Port size	Wetted parts	Discharge 1) [mL/min]	Average discharge pressure [MPa]	Pilot air pressure [MPa]
PB1011A-F01 ●	Built-in solenoid valve	G1/8	Polypropylene (PP), stainless steel (SUS316), PTFE, FKM	8 to 2000	0 to 0.6	0.2 to 0.7
PB1013A-F01 ●	Air operated			8 to 1000 2)		
PB1313A-F01 ●			New PFA, PTFE	8 to 1000	0 to 0.4	0.2 to 0.5

1) The values given for discharge and suction head are for no piping. Values will depend on piping conditions.
2) Applicable up to 2000 ml/min by using a solenoid valve with a large Cv value (Cv value of 0.5 or more).

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Process valves

Process valves
Page 472

Process valves

Direct operated 2 port solenoid valve for general use
VX2 Series p. 472

2 port solenoid valve with built-in y-strainer
VXK Series p. 473

Pilot operated 2 port solenoid valve
VXD Series p. 473

Zero differential pressure type pilot operated 2 port solenoid valve
VXZ Series p. 474

Zero differential pressure type pilot operated 2 port solenoid valve for steam
VXS Series p. 475

Angle seat valve Air operated type
VXB Series p. 476

2 port solenoid valve energy saving type
VXE Series p. 477

2 port solenoid valve for high pressure, pilot operated diaphragm type
VXH Series p. 477

2 port solenoid valve Air operated valve for dust collector
VXFA/VXF Series p. 478

3 port solenoid valve directly operated poppet
VX3 Series p. 478

2 port valve, air operated
VXA2 Series p. 479

3 port valve, air operated
VXA3 Series p. 479

2/3 port solenoid valve High pressure operation range: 0.5 to 5.0 Mpa
VCH41/42/410 Series p. 480

Check valve High pressure operation range: 0.05 to 5.0 MPa
VCHC40 Series p. 480

Compact direct operated 2 port solenoid valve
VDW10/20 Series p. 481

3 port solenoid valve directly operated poppet
VDW200/300 Series p. 481

Compact and lightweight 2 port solenoid valve
VDW30/40-XF Series p. 482

2 port solenoid valve specific pilot operated for dry air
VQ20/30 Series p. 482

High speed 2 port valve
SX10 Series p. 483

Compact proportional solenoid valve Flow rate smoothly controlled by electric current adjustment
PVQ Series p. 483

Compact direct operated 2/3 port solenoid valve for chemicals liquids
LVM Series p. 484

2/3 port media separated valve
LVMK Series p. 484

2 port valve air operated for air and air-hydro circuit control
VNA Series p. 485

2 port valve air operated for general use
VNB Series p. 485

Coolant valve
SGC/SGCA Series p. 486

High pressure coolant valve
SGH/SGHA Series p. 487

2 port valve air operated for steam

VND Series p. 488

2 port air operated, high purity chemical valve integral fitting type

LVC Series p. 488

2 port air operated, high purity chemical valve threaded type

LVA Series p. 489

2 port manually operated high purity chemical valve

LVH Series p. 489

2 port air operated, high purity chemical valve compact type

LVD Series p. 490

2 port air operated high purity chemical valve. Non-metallic exterior

LVQ Series p. 490

Our highlighted product for you

Direct operated 2 port solenoid valve for general use

VX2 Series

For more details go to page 472

Air | Medium vacuum | Water | Oil | Steam ∗ Can be used with heated water

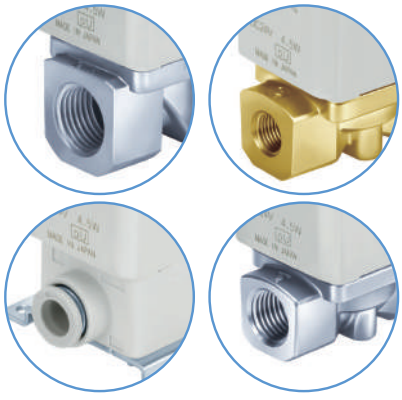
- **Large flow rate**
  Flow rate: 20 % more flow∗ (Size 1)
- **Compact**
  Height: 10 % smaller∗ (Size 1)
- **Lightweight**
  Weight: 30 % lighter∗ (Size 1, aluminium body)
- **Flame resistance UL94V-0 conformed**
- **IP65 degree of protection**
  Electrical entry “Faston” type terminal is IP40
- **Low noise construction**
  Metal noise reduced by the rubber bumper
- **Improved armature durability**
- **Power consumption**
  DC / Class B, N.C. valve:
  - 4.5 W (size 1)
  - 7 W (size 2)
  - 10.5 W (size 3).

∗ Comparison with SMC conventional model.

A more complete solution for medium flow demands

Body material
Air
- Aluminium, resin

Water / oil / medium vacuum / steam
- C37 (brass), stainless steel.



Piping variations

Thread piping, (G1/8 to G1/2)

One-touch fitting (Ø 6 to Ø 12 mm)

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

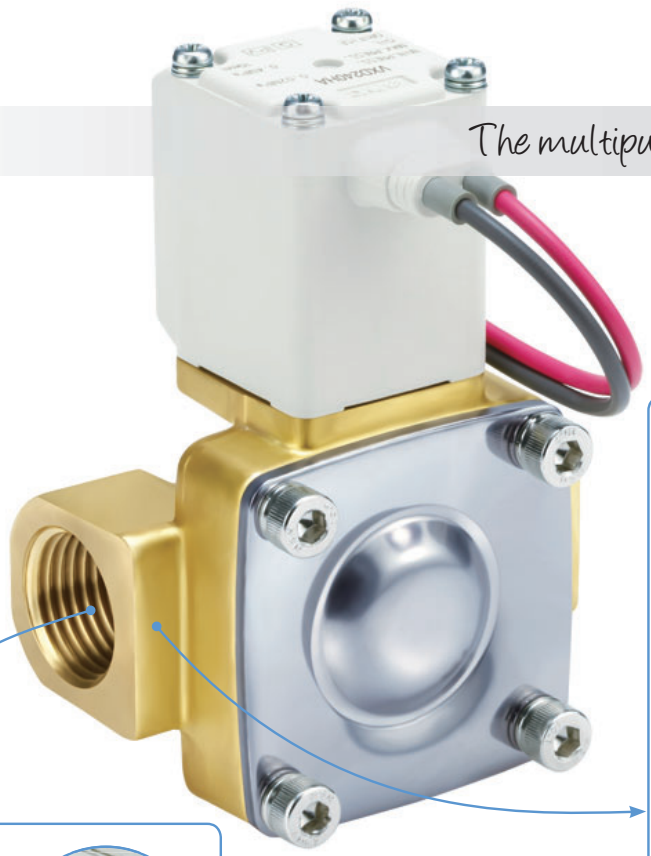
Pilot operated 2 port solenoid valve

VXD Series

For more details go to page 473

Air | Water | Oil | Heated water (99 °C) | High temperature oil (99 °C)

The multipurpose compact fluid valve



Body material

Air
- Aluminium (VXD2$^{3}_{A}$)
- Resin (VXD2$^{3}_{A}$)
- (C37) brass
- Stainless steel (VXD2$^{4}_{B}$ to 2$^{6}_{D}$)

Water / oil / heated water / high temperature oil
- (C37) Brass
- Stainless steel (VXD2$^{3}_{A}$ to 2$^{6}_{D}$)

Piping variations

Thread piping (G1/4 to G1) | One-touch fitting (Ø 10 to Ø 12 mm)

Compact
Height: approx. 7 % smaller* (7 mm) (VXD24)

Lightweight
Weight: 20 % lighter* (90 g) (VXD23 resin body)

Flame resistance UL94V-0 conformed

* Comparison with SMC conventional model.

IP65 degree of protection
Electrical entry "Faston" type terminal is IP40

Low noise construction
Impact noise reduced by the rubber buffer

Improved armature durability

Power consumption
- 4.5 W (VXD23 to 25)
- 7 W (VXD26).

Our highlighted product for you

Zero differential pressure type pilot operated 2 port solenoid valve

VXZ Series

For more details go to page 474

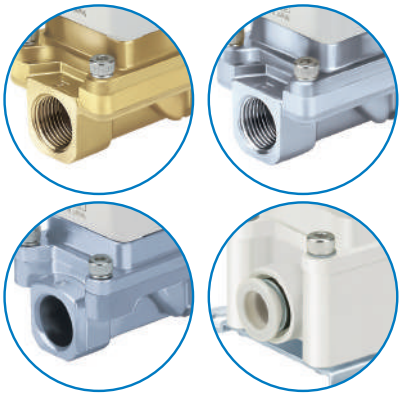
- **Compact**
  Height: approx. 4 % smaller* (4 mm)
  (VXZ24, C37 (brass) body)
- **Lightweight**
  Weight: 27 % lighter* (150 g)
  (VXZ23, resin body)
- **Can be used at 0 m hydraulic head!**
  Min. operating pressure differential: 0 MPa
- **Flame resistance UL94V-0 conformed**
- **IP65 degree of protection**
  Electrical entry “Faston” type terminal is IP40
- **Low noise construction**
  Impact noise reduced by the rubber buffer
- **Improved armature durability**

* Comparison with SMC conventional model.

When the application requires zero differential pressure

Body material
Air
- Aluminium, resin. (VXZ2$^{3}_{A}$)

Water / oil / air / heated water / high temperature oil
- C37 (Brass), stainless steel.



Piping variations

Thread piping (G1/4 to G1)

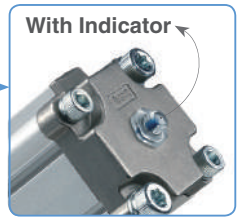
One-touch fitting (Ø 10 to Ø 12 mm)

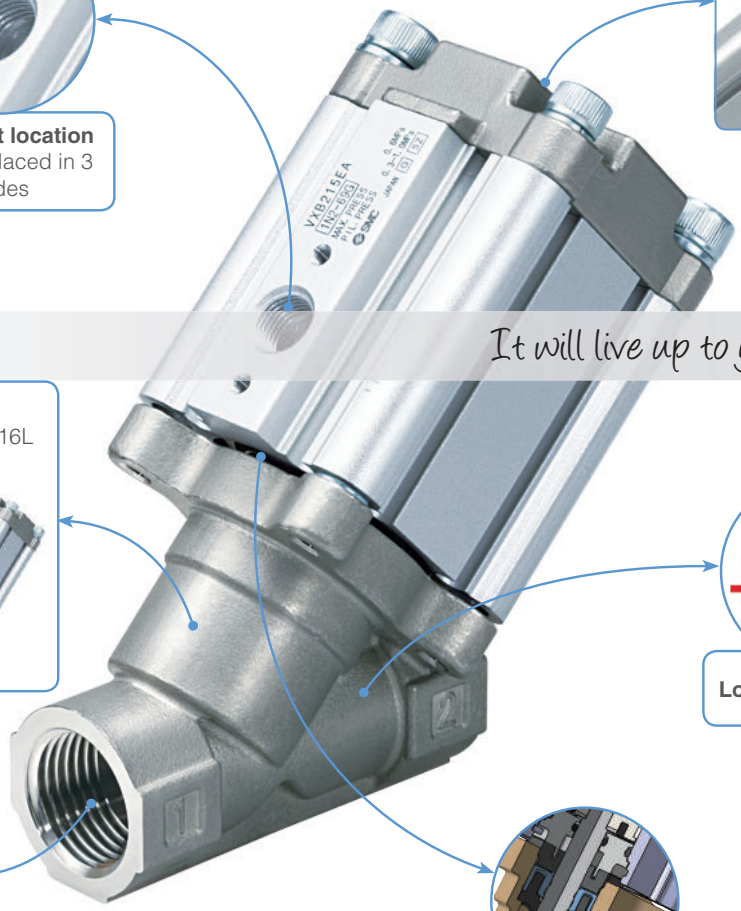
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Angle seat valve
Air operated type
VXB Series

For more details go to page 476

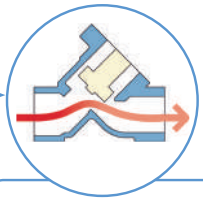
Pilot port location
Can be placed in 3 of its 4 sides





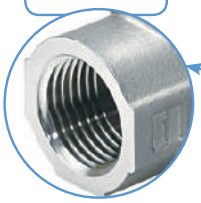
It will live up to your expectations

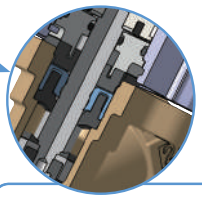
Body material
Bronze, stainless steel 316L equivalent



Low pressure loss

Port size:
3/8, 1/2, 3/4





Special construction:
- A **protective seal** prevents foreign particles from getting inside when the valve is open
- A **resin scraper** functions during the main valve stroke as a guide and prevents foreign particles from getting in
- **Squeeze seal** with scraper function added to shut off fluid leakage
- A **guide bushing** gives smooth shaft movement, prevents misalignment and lengthens the squeeze seal life.

Long service life:
- Air: 5 million cycles
- Steam: 3 million cycles

High sealing, minimal leakage:
- Minimal internal air leakage: **10 cm³/min or less** (Significantly better tightness than any PTFE sealed valve)
- High sealing thanks to a rubber seal made of a **special FKM**

Insulated adapter type
- Available for high temperature fluids.

Our highlighted product for you

Compact direct operated 2 port solenoid valve
VDW Series

For more details go to page 481

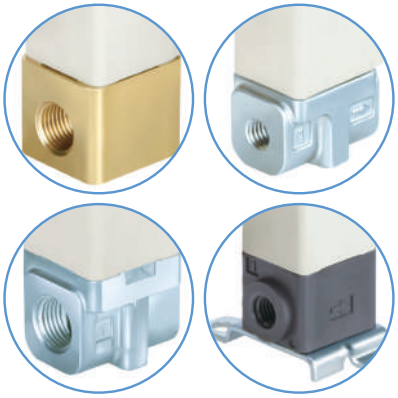
Air | Medium vacuum | Water

A basic, compact and light solution

Body material
Air
- Aluminium, resin (PPS)

Medium vacuum
- Brass, stainless steel

Water
- Resin (PPS), brass, stainless steel.



Piping variations

Thread piping (M5 to G1/8)

One-touch fitting (Ø 4 to Ø 6 mm)

- **Flame resistance UL94V-0 conformed**
- **IP65 degree of protection**
- **Seal material**
  - NBR (Air, water)
  - FKM (Medium vacuum)
- **Low noise construction**
  Metal noise reduced by the rubber damper
- **Improved armature durability**
- **Power consumption**
  - 2.5 W (Size 1)
  - 3 W (Size 2).

Lightweight

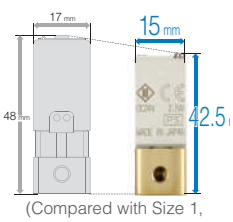
100g → 80g

Conventional Brass body (Size 2)

New Aluminium / Resin (PPS) body (Size 2)

Compact

Conventional model **New**



(Compared with Size 1, Brass / Stainless steel body)

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2 port valve air operated for general use

VNB Series

For more details go to page 485

Air | Water | Oil | Heated water (99 °C) | High temperature oil (99 °C) | Low vacuum

Many variations

Normally closed, normally open and C.O. (double acting) are available

Port sizes

From G1/8 to G2

Robust poppet construction

- Much more robust and reliable than solenoids
- The best option for treating viscous fluids or slightly dirty such as soluble oils
- Capable of retaining reverse pressure

A wide variety of fluids

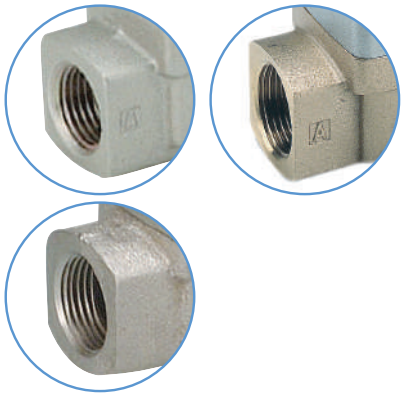
Proper selection with body and sealing materials permits application with a wide variety of fluids such as air, water, oil, gas and vacuum

Seal material

NBR, FKM, EPR.

Body material

Copper alloy, stainless steel, aluminium



The cylinder operated by external pilot air

The most versatile solution for large flow

Process valves

Our highlighted product for you

Direct operated 2 port solenoid valve for general use

VX2 Series

- Range of two port valves for air, medium vacuum and fluids
- Body materials: Aluminium, resin, brass and stainless steel
- Piping variations: Thread and one-touch fitting
- Low power consumption & low-noise construction
- N.C., N.O. options
- Oil free option available
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -20 to 60 °C.

Fluid	Part number	Valve type	Max. operating pressure differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body / seal material	Voltage	Electrical entry
Air	**VX210HG** ●	N.C.	1.0	0.23	0.20	2	Ø 6 mm	PBT resin / NBR	24 VDC	DIN terminal (with surge voltage suppressor)
	VX210JG ●		0.6	0.35	0.30	3	Ø 6 mm			
	VX210MG ●		0.6	0.41	0.35	3	Ø 8 mm			
	VX220HG ●		1.0	0.47	0.40	4	Ø 8 mm			
	VX230HG ●		1.0	0.70	0.60	5	Ø 10 mm			
Water	**VX212AGAXB** ●		1.0	0.23	0.20	2	G1/8	Brass / NBR		
	VX212EGAXB ●		0.6	0.42	0.36	3	G1/4			
	VX222AGAXB ●		1.0	0.63	0.54	4	G1/4			
	VX232DGAXB ●		1.0	0.75	0.64	5	G3/8			
Vacuum (oil free)	**VX214FGAXB** ●		0.2 [1)]	0.62	0.53	5	G1/4	Brass / FKM		
	VX224EGAXB ●		0.15 [1)]	1.08	0.93	7	G3/8			
	VX234GGA ●		0.1 [1)]	2.21	1.90	10	G1/2			
DI water / gas	**VX212HGKXB** ●		1.0	0.23	0.20	2	G1/8	SUS / FKM (Oil free)		
	VX212MGKXB ●		0.6	0.42	0.36	3	G1/4			
	VX222HGKXB ●		1.0	0.63	0.54	4	G1/4			
	VX232LGKXB ●		1.0	0.75	0.64	5	G3/8			

1) Pressurized port 1. Used with vacuum: 0.1 Pa·abs to atmospheric pressure
2) For other voltages replace G by L (230 VAC) or Z1V (24 VAC) in the part numbers above.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2 port solenoid valve with built-in y-strainer

VXK Series

- For air, water, oil, steam
- Space saving and reduced piping labour
- Built-in Y-strainer, 100 mesh, stainless steel
- The element can be replaced without removing piping
- N.C. / N.O. options
- Low noise construction
- Enclosure: IP65.

Part number	Valve type	Cv [Nl/min]	Kv [m³/h]	Max. operating pressure differential [MPa]	Orifice diameter [mm]	Port size	Body / seal material	Voltage	Electrical entry
VXK2110-01F-5DO1 ●	N.C.	0.17	0.15	1.5	2	G1/8	Brass / NBR	24 VDC	DIN terminal (without connector with gasket)
VXK2110-01F-JDOR1 ●								230 VAC [1]	
VXK2120-01F-5DO1 ●		0.33	0.28	0.5	3			24 VDC	
VXK2120-01F-JDOR1 ●								230 VAC [1]	
VXK2220-02F-5DO1 ●		0.33	0.28	1.5		G1/4		24 VDC	
VXK2220-02F-JDOR1 ●								230 VAC [1]	
VXK2230-02F-5DO1 ●		0.61	0.54	0.35	4.5			24 VDC	
VXK2230-02F-JDOR1 ●								230 VAC [1]	
VXK2320-03F-5DO1 ●		0.33	0.28	0.3	3	G3/8		24 VDC	
VXK2320-03F-JDOR1 ●								230 VAC [1]	
VXK2330-03F-5DO1 ●		0.61	0.54	0.9	4.5			24 VDC	
VXK2330-03F-JDOR1 ●								230 VAC [1]	

1) With built-in full wave rectifier.

Our highlighted product for you

Pilot operated 2 port solenoid valve

VXD Series

- Body materials: aluminium, resin, brass and stainless steel
- Piping variations: thread and one-touch fitting
- Low-noise construction
- N.C., N.O. options
- Oil free option available
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -20 to 60 °C.

Fluid	Part number	Valve type	Min. operating pressure differential [MPa]	Max. operating pressure differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body / seal material	Voltage	Electrical entry
Air	**VXD230DG** ●	N.C.	0.02	0.7	1.3	1.12	10	Ø 10 mm	PBT resin / NBR	24 VDC	DIN terminal (with surge voltage suppressor)
	VXD230FG ●			0.7	1.5	1.29	10	Ø 12 mm			
Water	**VXD232AGA** ●			0.5	1.9	1.63	10	G1/4	Brass / NBR		
	VXD242GGA ●			1.0	4.5	3.86	15	G3/8			
	VXD242HGA ●			1.0	5.5	4.72	15	G1/2			
	VXD252LGA ●			1.0	9.5	8.15	20	G3/4			
	VXD262NGA ●			1.0	13.0	11.15	25	G1			
DI Water / gas	**VXD232DGK** ●			0.5	1.9	1.63	10	G1/4	SUS / FKM (oil free)		
	VXD242JGK ●			1.0	4.5	3.86	15	G3/8			
	VXD242KGK ●			1.0	5.5	4.72	15	G1/2			
	VXD252MGK ●			1.0	9.5	8.15	20	G3/4			
	VXD262PGK ●			1.0	13.0	11.15	25	G1			

For other voltages replace G by L (230 VAC) or Z1V (24 VAC) in the part numbers above.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Zero differential pressure type pilot operated 2 port solenoid valve

VXZ Series

- Body materials: Aluminium, resin, brass and stainless steel
- Piping variations: Thread and one-touch fitting
- Low-noise construction
- N.C., N.O. options
- Oil free option available
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -20 to 60 °C.

Fluid	Part number	Valve type	Min. operating pressure differential [MPa]	Max. operating pressure differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body / seal material	Voltage	Electrical entry
Air	**VXZ230CG** ●	N.C.	0	0.7	1.7	1.46	10	Ø 10 mm	PBT resin / NBR	24 VDC	DIN terminal (with surge voltage suppressor)
	VXZ230EG ●			0.7	2.0	1.72	10	Ø 12 mm			
Water	**VXZ232AGA** ●			0.7	1.9	1.63	10	G1/4	Brass / NBR		
	VXZ232BGA ●			0.7	2.4	2.06	10	G3/8			
	VXZ242FGA ●			0.7	5.3	4.55	15	G1/2			
	VXZ252HGA ●			1.0	9.2	7.89	20	G3/4			
	VXZ262KGA ●			1.0	10.2	8.75	25	G1			
DI Water / gas	**VXZ232CGK** ●			0.7	1.9	1.63	10	G1/4	SUS / FKM (oil free)		
	VXZ232DGK ●			0.7	2.4	2.06	10	G3/8			
	VXZ242GGK ●			0.7	5.3	4.55	15	G1/2			
	VXZ252JGK ●			1.0	9.2	7.89	20	G3/4			
	VXZ262LGK ●			1.0	10.2	8.75	25	G1			

1) For other voltages replace G by L (230 VAC) or Z1V (24 VAC) in the part numbers above.

Zero differential pressure type pilot operated 2 port solenoid valve for steam

VXS Series

- Body materials: Brass and stainless steel
- Low-noise construction
- N.C. options
- Oil free option available
- Fluids: Steam and heated water
- Fluid temperature up to 183 °C (heated water: 99 °C)
- Ambient temperature -20 to 60 °C.

Fluid	Part number	Valve type	Min. operating pressure differential [MPa]	Max. operating pressure differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body / seal material	Voltage	Electrical entry
Steam and heated water	**VXS235AGA** ●	N.C.	0	1.0	2.4	2.1	10	G1/4	Brass / FKM	24 VDC	DIN terminal (With surge voltage suppresor)
	VXS235BGA ●				2.8	2.4	10	G3/8			
	VXS245FGA ●				5.3	4.6	15	G1/2			
	VXS255HGA ●				9.2	7.9	20	G3/4			
	VXS265KGA ●				12	10.4	25	G1			
	VXS235CGA ●				2.4	2.1	10	G1/4	SUS / FKM		
	VXS235DGA ●				2.8	2.4	10	G3/8			
	VXS245GGA ●				5.3	4.6	15	G1/2			
	VXS255JGA ●				9.2	7.9	20	G3/4			
	VXS265LGA ●				12	10.4	25	G1			

1) For other voltages replace G by L (230 VAC) or Z1V (24 VAC) in the part numbers above.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Our highlighted product for you

Angle seat valve
Air operated type
VXB Series

- Low pressure loss due to angle seat structure
- Reduced leakage with rubber seal
- Long service life: 3 million cycles (steam), 5 million cycles (air)
- Low leakage: 10 cm^3/min or less
- Space saving: Height 100 mm
- Body material: Stainless steel 316L equivalent, bronze.

Fluid	Part number	Valve type	Max. operating pressure differential [MPa]	Cv	Kv [m^3/h]	Orifice diameter [mm]	Port size	Body / seal material
Steam, water and air	**VXB215AA□** ●	N.C.	1.0	3.5	3	11	G3/8	Brass / FKM
	VXB215BA□ ●		0.6	5.4	4.6	14	G1/2	
	VXB215CA□ ●		0.4	7.6	6.5	18	G3/4	
	VXB215DA□ ●		1.0	3.5	3	11	G3/8	SUS / FKM
	VXB215EA□ ●		0.6	5.4	4.6	14	G1/2	
	VXB215FA□ ●		0.4	7.6	6.5	18	G3/4	
	VXB215AHA□ ●		1.6	3.5	3	11	G3/8	Brass / FKM
	VXB215BHA□ ●		1.2	5.4	4.6	14	G1/2	
	VXB215CHA□ ●		0.6	7.6	6.5	18	G3/4	
	VXB215DHA□ ●		1.6	3.5	3	11	G3/8	SUS / FKM
	VXB215EHA□ ●		1.2	5.4	4.6	14	G1/2	
	VXB215FHA□ ●		0.6	7.6	6.5	18	G3/4	

□: Insert “L” if indicator option is required.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2 port solenoid valve energy saving type
VXE Series

- Energy saving type of the VX2, VXD2 and VXZ2 2 port solenoid valve series (replaceable coil)
- Power consumption when holding reduced to 1/3
- Coil heat reduction
- For various fluids and variety of sizes
- Applicable voltages: 24 and 12 VDC.

Part number	Valve type	Max. operating pressure differential [MPa][1)]	Cv	Kv [m³/h]	Port size	Body / seal material	Rated voltage + electrical entry
VXE2 Series Direct operated type							
VXE2110-01F-5DO1 ●	N.C.	1.5	0.18	0.15	G1/8	Brass / NBR	24 VDC, for DIN terminal (without connector, with gasket), with built-in surge voltage supressor circuit
VXE2120-02F-5DO1 ●		0.5	0.33	0.28	G1/4		
VXE2330-02F-5DO1 ●		0.9	0.61	0.52			
VXE2230-03F-5DO1 ●		0.35	0.61	0.52	G3/8		
VXE2330-03F-5DO1 ●		0.9	0.61	0.52			
VXE2360-04F-5DO1 ●		0.07	2.20	1.86	G1/2		
VXED2 Series Pilot operated type							
VXED2130-02F-5DO1 ●	N.C.	0.5	1.9	1.63	G1/4	Brass / NBR	24 VDC, for DIN terminal (without connector, with gasket), with built-in surge voltage supressor circuit
VXED2140-03F-5DO1 ●		1.0	4.5	3.86	G3/8		
VXED2140-04F-5DO1 ●			5.5	4.71	G1/2		
VXED2150-06F-5DO1 ●			9.5	8.14	G3/4		
VXED2260-10F-5DO1 ●			13	11.14	G1		
VXEZ2 Series Zero differential pressure pilot operated type							
VXEZ2230-02F-5DO1 ●	N.C.	0.7	1.9	1.63	G1/4	Brass / NBR	24 VDC, for DIN terminal (without connector, with gasket), with built-in surge voltage supressor circuit
VXEZ2230-03F-5DO1 ●			2.40	2.06	G3/8		
VXEZ2240-04F-5DO1 ●			5.3	4.54	G1/2		
VXEZ2350-06F-5DO1 ●		1.0	9.2	7.88	G3/4		
VXEZ2360-10F-5DO1 ●		1.0	12	10.28	G1		

1) Values for water

2 port solenoid valve for high pressure
Pilot operated diaphragm type
VXH Series

- High pressure applications (2 MPa)
- Body material: Brass
- Seal material: NBR
- Other voltages available (AC).

These models are suitable for air, water, steam and oil (1.5 MPa)

Part number	Valve type	Cv	Kv [m³/h]	Min. operating pressure differential [MPa]	Max. operating pressure differential [MPa]	Port size	Body / seal material	Voltage	Electrical entry
VXH2230-02-4D-Q	2 N.C.	2.0	1.64	0.05	2.0	Rc1/4	Brass / NBR	220 VAC	DIN Terminal
VXH2230-03-4D-Q		2.3	2.07			Rc3/8			
VXH2230-04-4D-Q		2.3	2.07			Rc1/2			

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

2 port solenoid valve
Air operated valve for dust collector
VXF/VXFA Series

- Wide range of piping options: direct piping, flange, flange mounting and through hole mounting
- Port sizes from 3/4" to 4" and orifices from 22 to 100 mm
- Quick discharge of the bags - large orifice sizes and large discharge flow rates
- High speed response - double diaphragm structure
- Low minimum operating pressure: 0.03 MPa (sizes 21 to 23) and 0.1 MPa (sizes 24 to 28)
- Controller for operation with VXF valves available
- Applicable for high temperature up to 100 °C.

Part number	Valve type	Max. operating pressure differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body / Diaphragm assembly material	Fluid temperature	Voltage	Electrical entry
Solenoid valve type										
VXF21AAGA	N.C.	0.7	9.5	8.14	22	G3/4	Aluminium / NBR POM	Max. 60 °C	24 VDC	DIN terminal (With surge voltage suppressor)
VXF22AAGA			18	15.43	28	G1				
VXF23AAGA			45	38.57	44	G1 1/2				
VXF24AAGA			64	54.85	53	G2				
VXF25AAGA			100	85.70	70	G2 1/2				
VXF26AAGA			155	132.84	80	G3				

1) For other voltages replace G by L (230 VAC) or Z1V (24 VAC) in the part numbers above.

Air operated type								
VXFA21AAA	N.C.	0.7	9.5	8.14	22	G3/4	Aluminium / NBR POM	Max. 60 °C
VXFA22AAA			18	15.43	28	G1		
VXFA23AAA			45	38.57	44	G1 1/2		
VXFA24AAA			64	54.85	53	G2		
VXFA25AAA			100	85.70	70	G2 1/2		
VXFA26AAA			155	132.84	80	G3		

3 port solenoid valve directly operated poppet
VX3 Series

- Low power consumption
- Enclosure IP65
- Low-noise construction
- Good maintenance performance
- Can be mounted on manifold
- Body materials: brass or stainless steel
- Seal materials: NBR, FKM, EPDM or PTFE
- Other voltages available (AC, DC).

These models are suitable for water, oil, low vacuum and air [1)]

Part number	Valve type	Cv	Kv [m³/h]	Max. operating pressure differential [MPa]	Port size	Body / Seal material	Voltage	Electrical entry
VX3114-01F-5D1 ●	C.O.	0.08	0.07	0.7	G1/8	Brass / NBR	24 VDC	DIN Terminal
VX3114-02F-5D1		0.08	0.07	0.7	G1/4			
VX3224-02F-5D1 ●		0.19	0.16	0.7				
VX3324-02F-5D1		0.19	0.16	1				
VX3334-03F-5D1		0.33	0.28	0.6	G3/8			
VX3114V-01F-5D1		0.08	0.07	0.7	G1/8	Brass / FKM (non-leak)		
VX3124V-01F-5D1		0.16	0.14	0.4				
VX3234V-02F-5D1		0.33	0.28	0.3	G1/4			
VX3344V-02F-5D1		0.5	0.43	0.3				
VX3344V-03F-5D1		0.5	0.43	0.3	G3/8			

1) For steam and medium vacuum applications, please select the suitable materials from the catalogue.
C.O.: Bi-directional normally open that can also be used normally closed.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2 port valve, air operated
VXA2 Series

- For high viscosity fluids (500 cSt)
- Easy to disassemble and reassemble in a short time
- Direction of pilot port can be easily changed
- Body material: brass or stainless steel
- Seal material: NBR, EPDM or FKM.

These models are suitable for air, inert gas, low vacuum and water [1)]

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Max. operating presure differential [MPa]	Port size	Body / Seal material
VXA2120-01F-1 ●	2 N.C.	135	0.28	1	G1/8	Brass / NBR
VXA2130-01F-1		250	0.54	0.5		
VXA2230-02F-1 ●		250	0.54	1	G1/4	
VXA2240-02F-1 ●		450	0.93	0.6		
VXA2240-03F-1 ●		450	0.93	0.6	G3/8	
VXA2120V-01F-1 ●		135	0.28	1	G1/8	Brass / FKM (non-leak)
VXA2130V-02F-1 ●		250	0.54	0.5		
VXA2230V-01F-1		250	0.54	1	G1/4	
VXA2240V-02F-1 ●		450	0.93	0.6		
VXA2240V-03F-1		450	0.93	0.6	G3/8	

1) For oil and medium vacuum applications, please select the suitable materials from the catalogue.

3 port valve, air operated
VXA3 Series

- For high viscosity fluids (500 cSt)
- Easy to disassemble and reassemble in a short time
- Free take off direction pilot port
- Body material: Brass or stainless steel
- Seal material: NBR, EPDM or FKM.

These models are suitable for air, inert gas, low vacuum and water [1)]

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Max. operating pressure differential [MPa]	Port size	Body / seal material
VXA3114-01F ●	3 C.O.	75	0.07	1	G1/8	Brass / NBR
VXA3124-01F		148	0.14	0.5		
VXA3134-02F		196	0.29	0.3	G1/4	
VXA3234-02F		271	0.32	0.6		
VXA3244-03F		383	0.43	0.3	G3/8	
VXA3114V-01F		75	0.07	1	G1/8	Brass / FKM (non-leak)
VXA3124V-01F		148	0.14	0.5		
VXA3134V-02F		196	0.29	0.3	G1/4	
VXA3234V-02F		271	0.32	0.6		
VXA3244V-03F		383	0.43	0.3	G3/8	

1) For oil and medium vacuum applications, please select the suitable materials from the catalogue.
C.O.: Bi-directional normally open that can also be used normally closed.

2/3 port solenoid valve
High pressure operation range: 0.5 to 5.0 Mpa
VCH41/42/410 Series

- Energy saving: Low power consumption
- Enclosure splash proof (equivalent to IP65)
- Body material: Brass / aluminium
- Seal material: Polyurethane elastomer
- Other voltages available (AC, DC)
- Thread type: Conforming to ISO 1179-1 on the pneumatic / hydraulic G thread.

These models are suitable for air and inert gas

Part number	Valve type	Q [Nl/min]	Operating pressure range [MPa]	Port size	Body / Seal material	Voltage	Electrical entry
VCH41-5D-06G-Q ●	2 N.C.	3821	0.5 to 5.0	G3/4	Brass / Polyurethane elastomer	24 VDC	DIN Terminal
VCH41-5D-10G-Q				G1			
VCH42-5D-06G-Q ●	2 N.O.			G3/4			
VCH42-5D-10G-Q				G1			

Part number	Valve type	Q [Nl/min]	Operating pressure range [MPa]	Port size	Body / Seal material	Voltage	Electrical entry
VCH410-5D-04G-Q	3 N.C.	1→2: 4961 2→3: 5457 1→2: 5819 2→3: 6348	0.5 to 5.0	G1/2	Aluminium / Polyurethane elastomer	24 VDC	DIN Terminal
VCH410-5D-06G-Q ●				G3/4			
VCH410-5D-10G-Q ●				G1			

Check valve
High pressure operation range: 0.05 to 5.0 MPa
VCHC40 Series

- Body material: Brass
- Seal material: Polyurethane elastomer
- Thread type: Conforming to ISO 1179-1 on the pneumatic / hydraulic G thread.

These models are suitable for air and inert gas

Part number	Symbol	Q [Nl/min]	Operating pressure range [MPa]	Port size	Body / seal material
VCHC40-06G ●		6525	0.05 to 5.0	G3/4	Brass / polyurethane elastomer
VCHC40-10G				G1	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Compact direct operated 2 port solenoid valve

VDW10/20 Series

- Ultra compact 2 port valves for air, vacuum and fluids
- Body materials: Aluminium, resin, brass and stainless steel
- Piping variations: Thread and one-touch fitting
- Low weight
- IP65 enclosure
- Oil free option available
- Fluid temperature 1 to 50 °C (for water)
- Ambient temperature -10 to 50 °C.

Fluid	Part number	Valve type	Max. operating pressure differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body / seal material	Voltage	Electrical entry
Air	**VDW10AA** ●	N.C.	0.9	0.04	0.03	1	M5	PPS resin / NBR	24 VDC	Grommet [2]
	VDW10EA ●						Ø 4 mm			
	VDW20DA ●		0.7	0.07	0.06	1.6	Ø 4 mm			
	VDW20GA ●						Ø 6 mm			
Water	**VDW12GA** ●		0.9	0.04	0.03	1	M5	Brass / NBR		
	VDW12HA ●		0.4	0.07	0.06	1.6	M5			
	VDW22NAA ●		0.7	0.07	0.06	1.6	G1/8			
	VDW22PAA ●		0.4	0.18	0.15	2.3	G1/8			
Vacuum (oil free)	**VDW14HA** ●		0.4 [1]	0.07	0.06	1.6	M5	Brass / FKM		
	VDW24WAA ●		0.2 [1]	0.30	0.26	3.2	G1/8	SUS / FKM (oil free)		
DI water / gas	**VDW22UAM** ●		0.7	0.07	0.06	1.6	G1/8			
	VDW22VAM ●		0.4	0.18	0.15	2.3	G1/8			

1) Pressurized port 1. Used with vacuum: 0.1 Pa·abs to atmospheric pressure.
2) Standard lead wire length: 300 mm

3 port solenoid valve directly operated poppet

VDW200/300 Series

- Compact and lightweight
- Improved durability
- Highly compact valve owing to its mold coil design
- Built-in rectifier for the AC specification
- Body material: Brass or stainless steel
- Seal material: NBR or FKM
- Other voltages available (AC, DC).

These models are suitable for water, deionised water (industry use), air and low vacuum

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Max. operating pressure differential [MPa]	Port size	Body / seal material	Voltage	Electrical entry
VDW250-5G-1-M5-Q ●	3 C.O.	16	0.03	0.9	M5	Brass / NBR	24 VDC	Grommet [1]
VDW250-5G-2-01F-Q ●		33	0.07	0.7	G1/8			
VDW350-5G-2-01F-Q ●		66	0.14	0.8				
VDW350-5G-3-02F-Q ●		115	0.24	0.4	G1/4			
VDW250-5G-1-M5-H-Q ●		16	0.03	0.9	M5	SUS / FKM		
VDW250-5G-2-01F-H-Q ●		33	0.07	0.7	G1/8			
VDW350-5G-2-01F-H-Q ●		66	0.14	0.8				
VDW350-5G-3-01F-H-Q ●		115	0.24	0.4				

1) Standard lead wire lenght: 300 mm
C.O.: Bi-directional normally open that can also be used normally closed.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Compact / lightweight 2 port solenoid valve

VDW30/40-XF Series

- For air, water
- Compact / Lightweight resin body (PPS)
  Weight: 120 g (VDW30-XF)
- Power consumption:
  - 3 W (Standard)
  - 0.5 W (With power-saving circuit)
- Piping labour reduced:
  - One-touch fitting body
  - Quick fastener body
- Enclosure: IP65.

Part number	Valve type	Cv	Max. operating pressure differential [MPa]	Port size One-touch fitting Ø [mm]	Body / seal material	Voltage	Electrical entry
			Pressure port 1				
VDW31-5G-1-C4-XF	2/2 N.C.	0.09	0.6	4	PPS / NBR	24 VDC	Grommet [1]
VDW31-5G-3-C6-XF		0.28	0.1	6			
VDW41-5GE-4-C8-XF		0.61	0.1 (with power-saving circuit)	8			
VDW31-6G-1-C4-XF		0.09	0.6	4		12 VDC	
VDW31-6G-3-C6-XF		0.28	0.1	6			
VDW41-6GE-4-C8-XF		0.61	0.1 (with power-saving circuit)	8			

1) Standard lead wire lenght: 300 mm.

2 port solenoid valve specific pilot operated for dry air

VQ20/30 Series

- High frequency operation
- Compact and lightweight
- Long operating life
- Easy piping with one-touch fittings
- Enclosure IP65
- Single and manifold body type options available
- Full wave rectifier and power-saving circuit options available
- Body material: Resin (PBT)
- Seal material: NBR
- Other voltages available (AC, DC).

These models are suitable for dry air, air and inert gas

Part number	Valve type	Q [Nl/min]	Max. operating pressure differential [MPa]	Min. operating pressure differential [MPa]	Tube connection Ø [mm]	Body / seal material	Voltage	Electrical entry
VQ21A1-5YO-C6-Q ●	2 N.C.	393	0.6	0.01	6	Resin / NBR	24 VDC	DIN terminal without connector
VQ21A1-5YO-C8-Q ●		491			8			
VQ31A1-5YO-C10-Q ●		785	0.5		10			
VQ31A1-5YO-C12-Q ●		981			12			

High speed 2 port valve
SX10 Series

- High speed response times: ON at 0.45 ms, OFF at 0.4 ms
- High frequency rates: Up to 1200 Hz
- Long life service: More than 5000 million cycles
- Filter attached.

Quick disconnect type Part number	Screw mount type Part number [1]	Flow rate [l/min] [at 24 VDC, 0.25 MPa]	Min. operating pressure differential [MPa]	Max. operating pressure differential [Mpa] [at 24 VDC]	Power consumption [W]	Max. operating frequency [Hz] [at 24 VDC, 0.25 MPa]	Lead wire (grommet) length [mm]
SX12F-AH ●	**SX11F-AH** ●	50	0.15	0.7	80	1200	500
SX12F-BH ●	**SX11F-BH** ●			0.7	40	1000	
SX12F-CH ●	**SX11F-CH** ●			0.7	10	550	
SX12F-DH ●	**SX11F-DH** ●			0.6	4	350	
SX12F-EH ●	**SX11F-EH** ●	100		0.7	80	650	
SX12F-FH ●	**SX11F-FH** ●			0.7	40	550	
SX12F-GH ●	**SX11F-GH** ●			0.6	10	300	
SX12F-HH ●	**SX11F-HH** ●			0.4	4	200	
SX12F-JH ●	**SX11F-JH** ●	150		0.7	80	600	
SX12F-KH ●	**SX11F-KH** ●			0.7	40	500	
SX12F-LH ●	**SX11F-LH** ●			0.4	10	250	
SX12F-MH ●	**SX11F-MH** ●			0.25	4	150	

1) Two mounting screws (M3 x 0.5) and a gasket are included (packaged together)
2) For other lead wire lengths replace H by G (300 mm) or J (1000 mm) in the part numbers above.

Compact proportional solenoid valve Flow rate smoothly controlled by electric current adjustment
PVQ Series

- Compact format
- Service life of 25 million cycles (based on SMC test conditions)
- Low leakage
- Operation noise during opening / closing of the valve reduced
- Base mounted and body ported configurations
- Body material: Brass or stainless steel (only PVQ30)
- Seal material: FKM
- Other voltages available (DC).

These models are suitable for air and inert gas. Vacuum applications possible

Part number	Valve type	Flow rate [Nl/min]	Max. operating pressure differential [MPa]	Port size	Body type	Body / Seal material	Voltage	Electrical entry
PVQ13-5L-03-M5-A ●	2 N.C.	0 to 5	0.7	M5	Base mounted	Brass / FKM	24 VDC	L Plug Connector
PVQ13-5L-04-M5-A ●		0 to 6	0.45					
PVQ13-5L-06-M5-A ●			0.2					
PVQ13-5L-08-M5-A ●		0 to 5	0.1					
PVQ31-5G-16-01F ●		0 to 100	0.7	G1/8	Body ported			Grommet [1]
PVQ31-5G-23-01F			0.35					
PVQ31-5G-40-01F ●		0 to 75	0.12					
PVQ33-5G-16-01F ●		0 to 100	0.7		Base mounted			
PVQ33-5G-23-01F ●			0.35					
PVQ33-5G-40-01F ●		0 to 75	0.12					

1) Standard lead wire length: 300 mm.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Compact direct operated 2/3 port solenoid valve for chemicals liquids

LVM Series

- Direct operated diaphragm type valve
- Valve chamber volume up to 20 µl or less
- Compactness (width: 13 mm) and lightweight (30 g or less)
- Energy saving: Low power consumption (1 ~ 1.5 W)
- Body ported and base mounted valve options
- Wetted parts material: PEEK or PFA. EPDM, FKM, or FFKM.

Suitable for air, water, pure water, diluent, cleaning solvent

Part number	Valve type	Cv factor	Operating pressure range [MPa]	Orifice diameter [mm]	Body type	Body / diaphragm material	Voltage
LVM11-5B-Q	2/2 N.C.	0.04	0 to 0.25 MPa	1.5	Body ported (M5 x 0.8)	PEEK / FKM	24 VDC
LVM10R1-5B-Q		0.03	-75 kPa to 0.25 MPa	1.4	Body ported (Tubing type)		
LVM10R3-5B-Q					Base mounted		
LVM10R6-5B-Q ●							
LVM105R-5B-Q ●	3 Universal						

2/3 port media separated valve

LVMK Series

- Fluid separation structure
- 2 models: Base mounted and body ported
- Low particle generation
- Oil free and metal free
- Minimal dead space
- Flow rate adjustment not required for 3 port valve.

Suitable for air, water, deionized water, diluent, cleaning fluid

Part number	Valve type	Cv factor	Operating pressure range [MPa]	Orifice diameter [mm]	Body type	Piping direction	Body / diaphragm material	Voltage
LVMK23-5K	2/2 N.C.	0.065	-90 kPa to 0,2 MPa	2 mm	Base mounted	—	PPS / FKM	24 VDC
LVMK23-5J							PPS / EPDM	
LVMK205-5J	3 Universal							
LVMK205-5K							PPS / FKM	
LVMK202-5J					Body ported	Bottom ported	PPS / EPDM	
LVMK202-5K							PPS / FKM	
LVMK207-5K						Side ported		
LVMK207-5J							PPS / EPDM	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2 port valve air operated for air and air-hydro circuit control

VNA Series

- The balanced poppet permits normal and reverse flow
- Operation from 0 MPa is possible
- Body material: Aluminium
- Seal material: NBR, EPR or FKM.

These models are suitable for compressed air, air-hydro circuit control

(Ar, He, N_2, CO_2, turbine oil, Freon® 11, 113, 114 and hydraulic fluids up to 99 °C)

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Port size	Body / seal material
VNA101A-F6A	2 N.C.	687	0.62	0 to 1.0	G1/8	Aluminium / NBR
VNA101A-F8A ●		1276	1.10		G1/4	
VNA101A-F10A ●		1963	1.68		G3/8	
VNA201A-F10A		3730	3.36			
VNA201A-F15A ●		4908	4.32		G1/2	
VNA301A-F20A ●		7852	6.45		G3/4	
VNA401A-F25A		11778	10.32		G1	
VNA501A-F32A		17667	15.36		G1 1/4	
VNA601A-F40A		27482	24.00		G1 1/2	
VNA701A-F50A ●		42204	36.96		G2	

Our highlighted product for you

2 port valve air operated for general use

VNB Series

- A wide variety of suitable fluids, due to body and seal options
- Robust poppet construction
- N.C., N.O., C.O. options
- External pilot solenoid option
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -5 to 60 °C.

Part number	Valve Type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Port size	Body / seal material
EVNB104A-F8A ●	2 N.C.	982	0.94	Low vacuum to 1.0	G1/4	Bronze / NBR
EVNB104A-F10A ●		1276	0.94		G3/8	
EVNB204A-F15A ●		2945	2.23		G1/2	
EVNB304A-F20A ●		4908	4.63		G3/4	
EVNB404A-F25A ●		6871	6.01		G1	
EVNB604A-F40A ●		10797	16.30		G1 1/2	
EVNB704A-F50A ●		18649	24.88		G2	
EVNB201A-F10A ●		28464	3.43	Low vacuum to 0.5	G3/8	
EVNB201A-F15A ●		4908	4.12		G1/2	
EVNB301A-F20A ●		7852	6.35		G3/4	
EVNB401A-F25A ●		11778	10.30		G1	
EVNB601A-F40A ●		27482	24.02		G1 1/2	
EVNB701A-F50A ●		42204	36.89		G2	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Coolant valve
SGC/SGCA Series

- Coolant valve suitable for cutting oils and coolants for machines
- 0.5, 1 and 1.6 MPa operating pressure ranges available
- Extended service life up to 5 million cycles due to enhanced construction
- With auto switches to verify if the valve is open or closed (SGC2, 3, 4 only)
- Body material: Cast iron
- Seal material: NBR or FKM
- Other voltages available (AC, DC)
- SGC5, 6 and 7 series available.

External pilot solenoid

Part number	Valve type	Kv [m³/h]	Operating pressure range [MPa]	Port size	Body / seal material	Voltage	Electrical entry	Pilot valve
SGC221A-10G15Y-5D	2 N.C.	4.1	0 to 1	G1/2	Cast iron / NBR	24 VDC	DIN Terminal	0.35 W type (V116)
SGC321A-10G20Y-5D		6.1		G3/4				
SGC421A-10G25Y-5D		9.4		G1				
SGC521A-10G32Y-5D		17.1		G1 1/4				
SGC621A-10G40Y-5D		25.7		G1 1/2				
SGC721A-10G50Y-5D		41.1		G2				
SGC521A-10G32H-5D		17.1		G1 1/4				1.8 W type (VO307)
SGC621A-10G40H-5D		25.7		G1 1/2				
SGC721A-10G50H-5D		41.1		G2				

Air operated

Part number	Valve type	Kv [m³/h]	Operating pressure range [MPa]	Port size	Body / seal material
SGCA221A-10G10	2 N.C.	3	0 to 1	G3/8	Cast iron / NBR
SGCA221A-10G15		4.1		G1/2	
SGCA321A-10G20		6.1		G3/4	
SGCA421A-10G25 ●		9.4		G1	
SGCA521A-10G32		17.1		G1 1/4	
SGCA621A-10G40		25.7		G1 1/2	
SGCA721A-10G50		41.1		G2	

Applicable auto-switches

Part number	Electrical entry	Special function	Wiring (output)
D-M9PL	3 m wire with grommet	—	3-wire (PNP)
D-M9PSAPC	0,5 m with M8 connector	—	3-wire (PNP)
D-M9BAL	3 m wire with grommet	Water resistant (2-colour display)	2-wire

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

High pressure coolant valve
SGH/SGHA Series

SGH SGHA

- For high speed grinding or continuous drilling operations
- Coolant valve for high pressure coolant that is ideal for lubrication, metal chips blowing and cooling
- Service life: 3 million cycles
- Power consumption: 0.35 W (24 VDC)
- N.C. / N.O. options
- Water hammer: Reduced by 20 % (compared to existing model, 2-port VNH series)
- 3-port dual pressure type is standardised
- Seal material: NBR or FKM
- Enclosure: IP65.

External pilot solenoid

Part number	Valve type	Kv [m³/h]		Operating pressure range [MPa]	Port size	Body / seal material	Voltage	Electrical entry
		1 → 2	1 → 3					
SGH121A-70G10Y-5D	2/2 N.C.	1.54	—	0 to 7	G3/8	Cast iron / NBR	24 VDC	DIN Terminal
SGH221A-70G15Y-5D		2.32	—		G1/2			
SGH321A-70G20Y-5D		4.03	—		G3/4			
SGH421A-70G25Y-5D		5.58	—		G1			
SGH130A-30G10Y-5D	3/2	1.8	1.97	0 to 3	G3/8			
SGH230A-30G15Y-5D		1.97	2.57		G1/2			
SGH330A-30G20Y-5D		3.26	3.26		G3/4			
SGH430A-30G25Y-5D		4.8	4.98		G1			
SGH130A-70G10Y-5D		0.94	0.86	0 to 7	G3/8			
SGH230A-70G15Y-5D		1.63	1.72		G1/2			
SGH330A-70G20Y-5D		2.83	2.32		G3/4			
SGH430A-70G25Y-5D		3.69	3		G1			

Air operated

Part number	Valve type	Kv [m³/h]		Operating pressure range [MPa]	Port size	Body / seal material
		1 → 2	1 → 3			
SGHA121A-70G10	2/2 N.C.	1.54	—	0 to 7	G3/8	Cast iron / NBR
SGHA221A-70G15		2.32	—		G1/2	
SGHA321A-70G20		4.03	—		G3/4	
SGHA421A-70G25		5.58	—		G1	
SGHA130A-30G10	3/2	1.8	1.97	0 to 3	G3/8	
SGHA230A-30G15		1.97	2.57		G1/2	
SGHA330A-30G20		3.26	3.26		G3/4	
SGHA430A-30G25		4.8	4.98		G1	
SGHA130A-70G10		0.94	0.86	0 to 7	G3/8	
SGHA230A-70G15		1.63	1.72		G1/2	
SGHA330A-70G20		2.83	2.32		G3/4	
SGHA430A-70G25		3.69	3		G1	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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2 port valve air operated for steam

VND Series

- PTFE seal for steam related applications
- With operation confirmation indicator
- Body material: Bronze or stainless steel
- Seal material: PTFE.

These models are suitable for steam up to 180 °C

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Port size	Body / Seal material
EVND104D-F8A-L ●	2 N.C.	982	0.86	0 to 0.97	G1/4	Bronze / PTFE
EVND200D-F15A-L ●		4930	4.32		G1/2	
EVND300D-F20A-L ●		7361	6.45		G3/4	
EVND400D-F25A-L ●		11778	10.32		G1	
EVND500D-F32A-L ●		17530	15.36		G1 1/4	
EVND600D-F40A-L ●		27391	24.00		G1 1/2	
EVND700D-F50A-L ●		42182	36.96		G2	

2 port air operated, high purity chemical valve integral fitting type

LVC Series (Clean wet series)

- Integral fitting construction: Hyper Fitting® series used
- Minimal internal dead volume
- Piston damper to minimise particle generation
- PTFE diaphragm to prevent micro-bubble generation
- New PFA body provides outstanding corrosion resistance
- Excellent back-pressure resistance and service life
- 3 port valve version available
- Wetted parts material: PFA (body), PTFE (diaphragm)
- Also available with flow rate adjustment, bypass and suck back function.

Compatible with high purity chemicals and deionised water (semiconductor industry)

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Tubing O.D. [mm]	Body / diaphragm material
LVC20-S06 ●	2 N.C.	344	0.30	0 to 0.5	6	PFA / PTFE
LVC30-S10 ●		1669	1.46		10	
LVC40-S12		2454	2.15		12	
LVC50-S19		5889	5.16	0 to 0.4	19	
LVC60-S25		7852	6.88		25	

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

2 port air operated, high purity chemical valve threaded type

LVA Series (Clean wet series)

- Minimal internal dead volume
- Piston damper to minimise particle generation
- PTFE diaphragm to prevent micro-bubble generation
- New PFA body provides outstanding corrosion resistance
- Excellent back-pressure resistance and service life
- 3 port valve version available
- Wetted parts material: PFA, stainless steel or PPS (body), NBR, EPR or PTFE (diaphragm)
- Also available with flow rate adjustment and valve position indicator.

Compatible with high purity chemicals and deionised water (semiconductor industry)

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Port size	Body / diaphragm material
LVA10-01F-A	2 N.C.	69	0.06	0 to 0.5	G1/8	Stainless Steel / PTFE
LVA20-02F-A ●		344	0.30		G1/4	
LVA30-03F-A ●		1669	1.46		G3/8	
LVA40-04F-A ●		3239	2.84		G1/2	
LVA50-06F-A		5889	5.16	0 to 0.4	G3/4	
LVA60-10F-A		7852	6.88		G1	
LVA10-01F-B		69	0.06	0 to 0.5	G1/8	PPS / PTFE
LVA20-02F-B ●		344	0.30		G1/4	
LVA30-03F-B ●		1669	1.46		G3/8	
LVA40-04F-B ●		3239	2.84		G1/2	
LVA50-06F-B ●		5889	5.16	0 to 0.4	G3/4	

2 port manually operated high purity chemical valve

LVH Series (Clean wet series)

- Locking and non-locking types available
- Integral fitting type / threaded type
- Wide range of valve variations available
- Wetted parts materials: PFA, stainless steel, or PPS (body); PTFE (diaphragm).

Compatible with high purity chemicals and deionised water (semiconductor industry)

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Tubing O.D. [mm]	Body / diaphragm material
LVH20-S06	2 N.C.	344	0.30	0 to 0.5	6	PFA / PTFE
LVH30-S10		1669	1.46		10	
LVH40-S12		2454	2.15		12	

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

2 port air operated, high purity chemical valve compact type

LVD Series (Clean wet series)

- Compact valve: Dimension across inlet / outlet ports reduced by up to 25 %
- Minimal internal dead volume
- Integral fitting construction: Hyper Fitting® Series
- Piston damper to minimise particle generation
- Piping from 4 directions possible
- Wide range of valve variations available
- Wetted parts materials: PFA / PTFE
- Also available with flow rate adjustment, bypass and suck back function.

Compatible with high purity chemicals and deionised water (semiconductor industry)

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range [MPa]	Tubing O.D. [mm]	Body / diaphragm material
LVD10-S03	2 N.C.	88	0.08	0 to 0.5	3	PFA / PTFE
LVD10-S04 ●		88	0.08		4	
LVD20-S06		344	0.30		6	
LVD30-S10		1276	1.12	0 to 0.3	10	
LVD40-S12		1865	1.63		12	
LVD50-S19		4908	4.30		19	

2 port air operated high purity chemical valve Non-metallic exterior

LVQ Series (Clean wet series)

- Non-metallic construction without metal screws
- New PFA body, PTFE diaphragm and PVDF actuator section
- Minimal internal dead volume
- Integral fitting construction: Hyper Fitting® Series
- Piston damper to minimise particle generation
- Piping from 8 directions possible
- Space saving: reduction in dimensions
- Wetted parts materials: PFA / PTFE
- Also available with flow rate adjustment, bypass, valve position indicator and suck back function.

Compatible with high purity chemicals and deionised water (semiconductor industry)

Part number	Valve type	Q [Nl/min]	Kv [m³/h]	Operating pressure range	Tubing O.D. [mm]	Body / diaphragm material
LVQ20-S06	2 N.C.	344	0.30	-98 kPa to 0.5 MPa	6	PFA / PTFE
LVQ30-S10		1276	1.12		10	
LVQ40-S12		1865	1.63		12	
LVQ50-S19		4908	4.30	-98 kPa to 0.4 MPa	19	
LVQ60-S25		7852	6.88		25	

Vacuum

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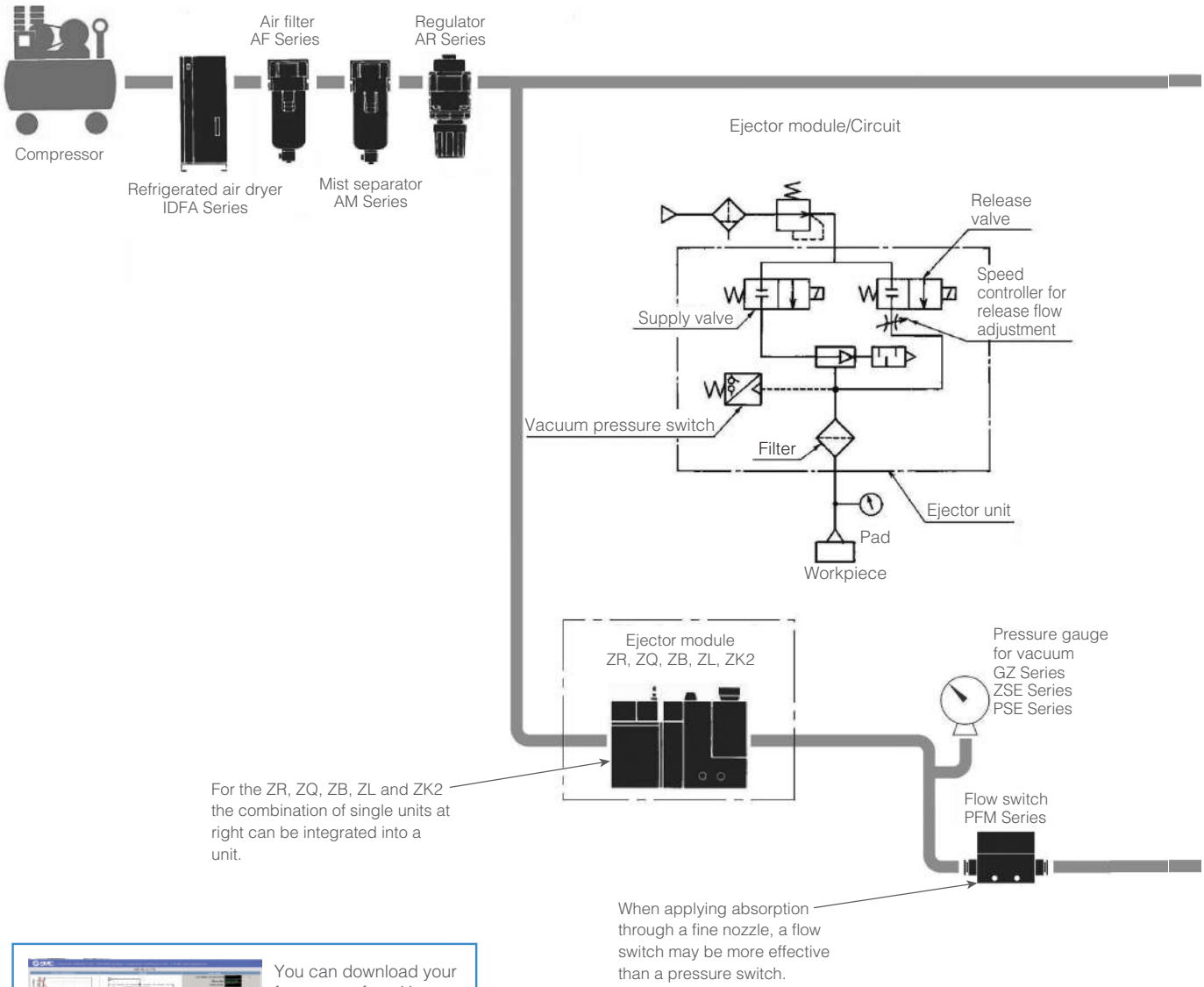
Vacuum equipment

Choose options

Absorption Transfer System by Ejector

Ejector Module System

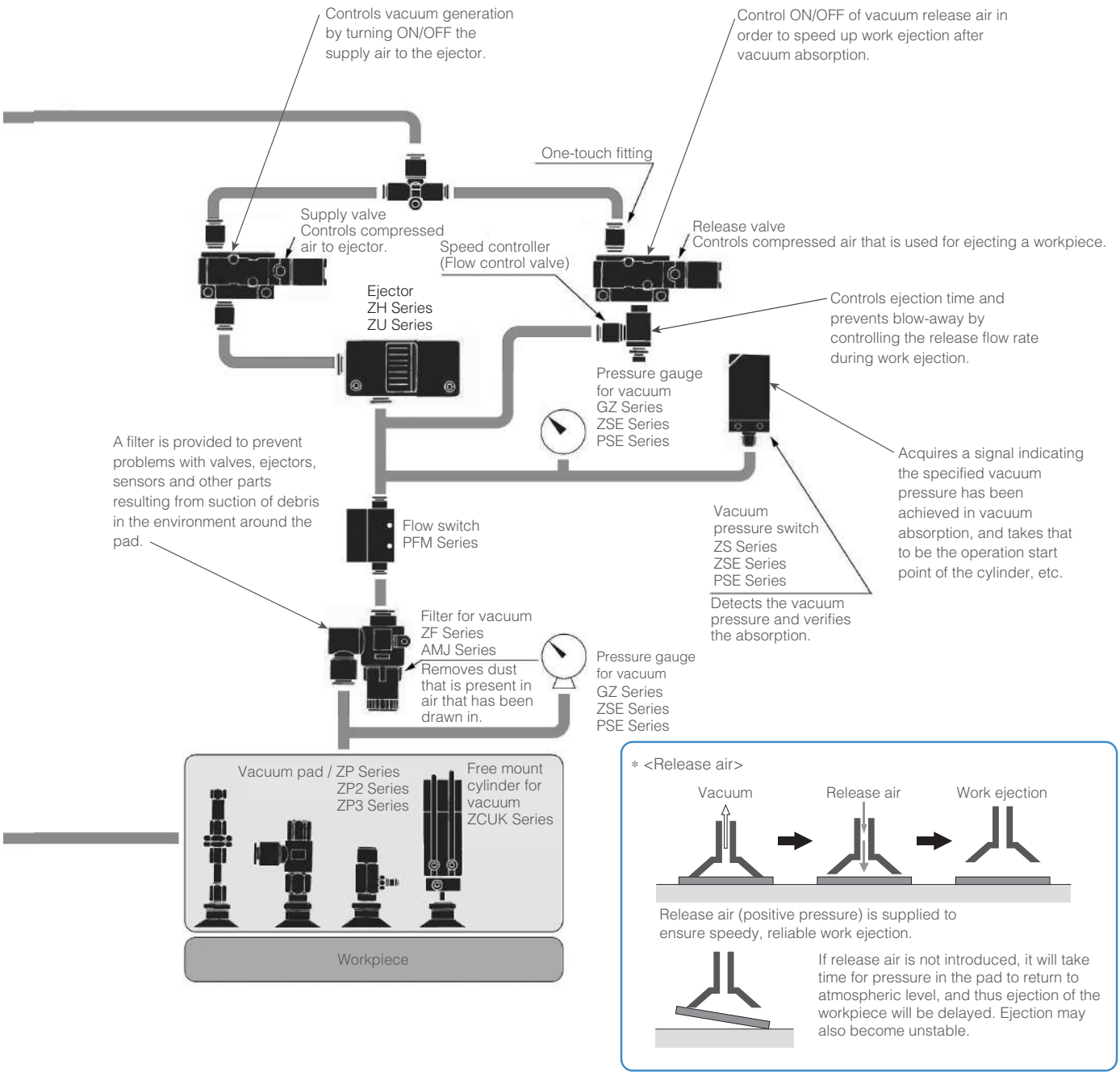
Equipment (ejector supply valve, vacuum release valve, throttle valve, vacuum pressure switch, and filter) that is needed for the ejector absorption transfer system has been integrated to achieve efficient assembly work and a compact design.



You can download your free copy of our Vacuum Selection Software at www.smc.eu

Single Unit System

Equipment such as an ejector is configured as an individual unit. Thus, it is possible to create a flexible system configuration in which the circuit composition and the mounting locations can be selected as desired.

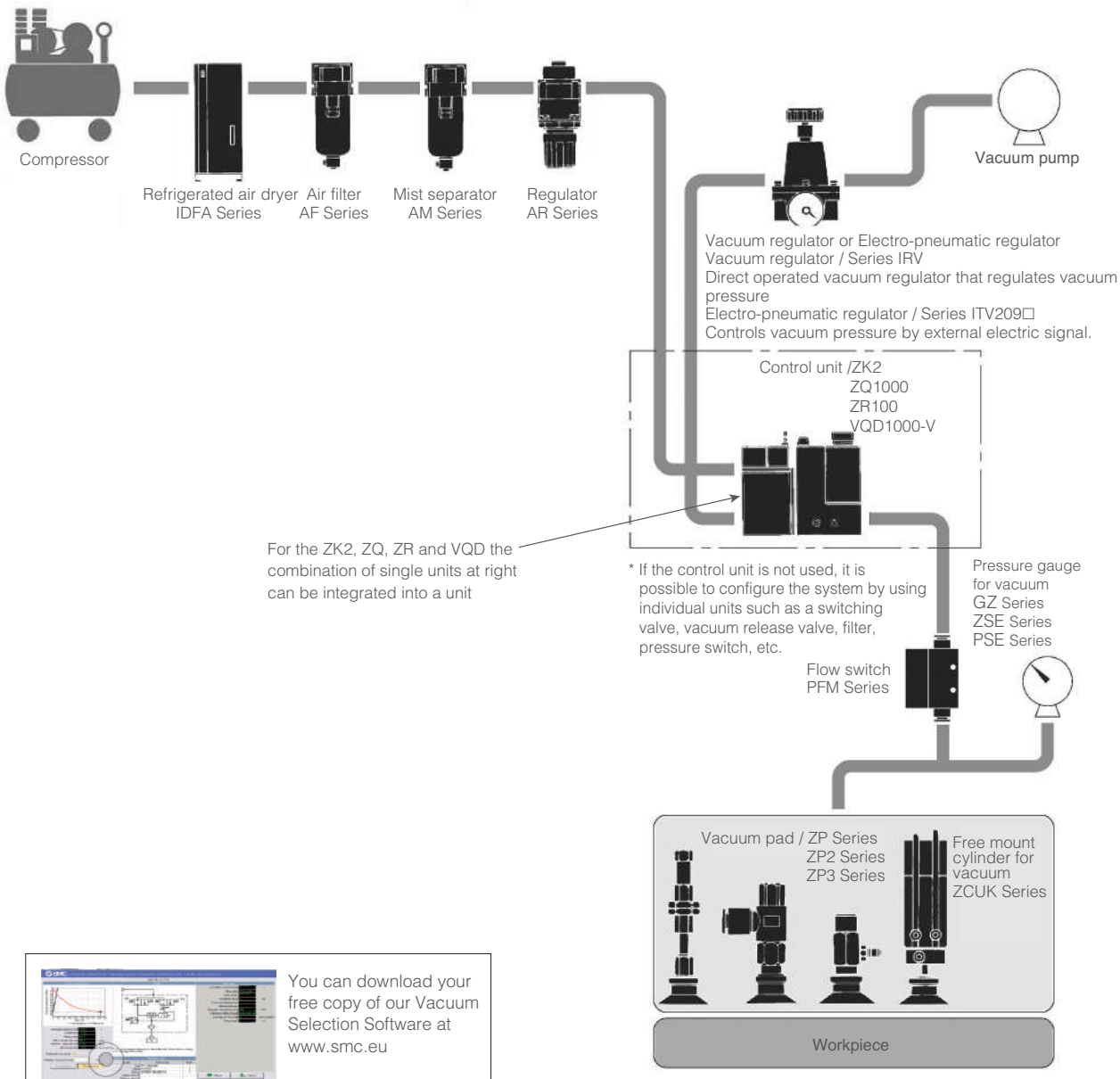


Vacuum equipment

Choose options

Absorption Transfer System for Vacuum Pump

Equipment (vacuum switching valve, vacuum release valve, throttle valve, vacuum pressure switch, and filter) that is needed for controlling the vacuum pressure has been integrated to achieve efficient assembly work and a compact design.



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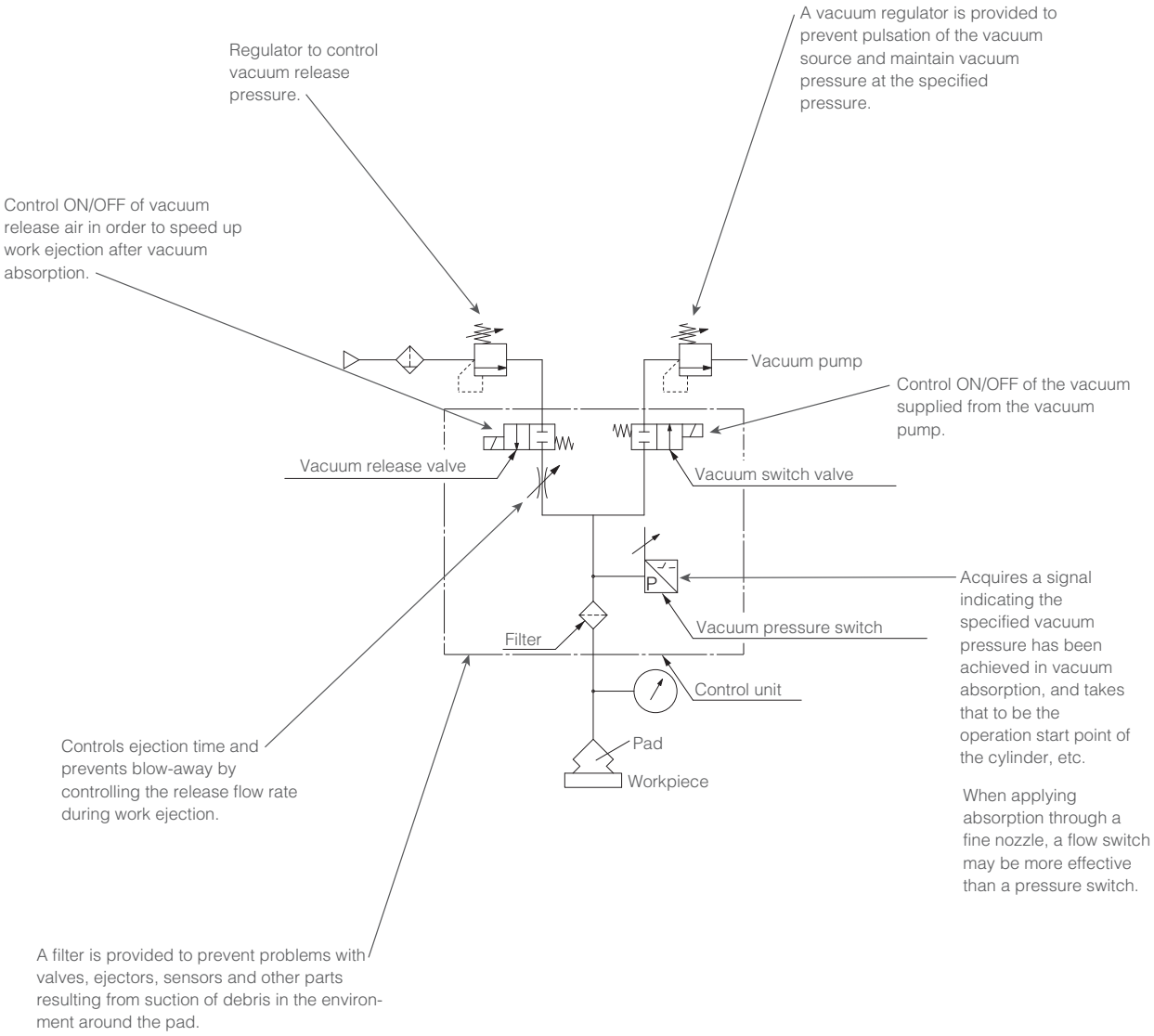
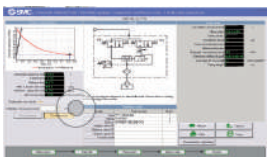
Control unit / Circuit





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Vacuum equipment

Select a product with a nozzle diameter corresponding to the pad diameter.

Ejector System

Main applicable work type (Reference)		Handlers/Mounters				Semiconductors/ Electronic components			Automobiles/Machine tools/ Packaging machinery/ Food processing machinery				Machine tools/Sheet metal/ Woodworking machinery/ Packaging machinery	
Series		ZB Series				ZQ Series			ZK2 Series				ZL Series	
Applicable workpiece (Reference)		Ultra-small				Small			Small/Medium (Large leakage)				Large (Large leakage)	
Features		Small and lightweight, so it can be installed near the hand. Enables speedy absorption and release.				Modular type (Equipment can be selected and combined as necessary.)			Digital pressure switch with an energy saving function is mounted. Suction flow is increased by the two-stage ejector. Both the single unit and manifold are applicable to reduced-wiring. Valve with a self-holding function ensures power saving. Can also accommodate a pump system.				Suction flow rate increased by a 3-stage diffuser construction. Functions such as a digital vacuum switch or a vacuum pressure gauge can be selected.	
Appearance														
Single unit / Width [mm]		10				10			15				36	40
Single unit / Weight [g]		46				109			81				450	700
Nozzle diameter [mm]		0.3	0.4	0.5	0.6	0.5	0.7	1.0	0.7	1.0	1.2	1.5	1.2	1.2 x 2
Max. suction flow rate [l/min (ANR)]		2	3.5	4.5	7	5	10	22	29	44	61	67	100	200
Air consumption [l/min (ANR)]		3.5	6.5	10	18	14	23	46	24	40	58	90	63	126
Tube diameter [mm] or port size		2, 3.2, 4				M5, 3.2, 4, 6			6, 8				12	Rc3/4
Guideline for applicable pad diameters [mm] [1]	2	●	●	●	●	●	●	●	●	●	●	●	●	●
	4	●	●	●	●	●	●	●	●	●	●	●	●	●
	6	●	●	●	●	●	●	●	●	●	●	●	●	●
	8	●	●	●	●	●	●	●	●	●	●	●	●	●
	10		●	●	●	●	●	●	●	●	●	●	●	●
	13			●	●	●	●	●	●	●	●	●	●	●
	16				●		●	●	●	●	●	●	●	●
	20				●		●	●	●	●	●	●	●	●
	25							●	●	●	●	●	●	●
	32							●	●	●	●	●	●	●
	40								●	●	●	●	●	●
	50									●	●	●	●	●
	63										●	●	●	●
	80										●	●	●	●
	100										●	●	●	●
	125										●	●	●	●
	150											●	●	●
	200												●	●
	250												●	●
Valve compatible			●				●			●				●
Filter compatible			●				●			●				●
Silencer compatible			●				●			●				●
Manifold compatible			●				●			●				
Pressure switch compatible										●				
Digital pressure switch compatible			●				●			●				●
Pressure voltage output compatible			●				●			●				●
Built-in air tank for release														

C. Choose the ejector.

1) Applicable pad diameter is the value under the fixed conditions below.
Use values as a guideline. Applicable pad diameter calculation conditions:
Less than 1 sec with (1) margin rate of 1/2.5
(2) maximum suction flow rate applied for each product (3) 1 m
with applicable piping size

	All types of industry	Liquid crystals/Automobiles/ Machine tools/Packaging machinery/ Food processing machinery	Semiconductors/ Electronic components
	ZH-NEW Series	ZR Series	ZU-A Series
	Small/Medium/Large	Medium/Large	Small
	• Simple, lightweight types with ejector and silencer • The ZU is a straight type that requires little mounting space.	• Necessary functions can be combined through modular design. • Double solenoids provide a self-holding function.Can be also accommodate a vacuum pump.	• Simple, lightweight types with ejector and silencer • The ZU-A is a straight type that requires little mounting space.
	14.4 to 19.3	31	10.4
	5.0 5.2 6.1 12.4 13.4 22.2 23.3	275	3.9 18.6 4.3 19.1
	0.5 0.7 1.0 1.3 1.5 1.8 2.0	1.0 1.3 1.5 1.8 2.0	0.5 0.7
	13 28 52 78 78 128 155	22 38 54 62 84	13 16
	13 27 52 84 113 162 196	46 78 95 150 185	14 28
	Ø 6 Ø 6 Ø 6 Ø 8 Ø 8 Ø 10 Ø 10	Rc1/8	Ø 6 Rc1/8 Ø 6 Rc1/8
	● ● ● ● ● ● ●	● ● ● ● ●	● ● ● ●

Vacuum equipment

C. choose the ejector

Select a product with a Cv value corresponding to the pad diameter.

Vacuum pump system

1) Applicable pad diameter is the value under the fixed conditions below. Use values as a guideline.
Applicable pad diameter calculation conditions: Less than 1 sec with (1) margin rate of 1/2.5
(2) maximum suction flow rate applied for each product (3) 1 m with applicable piping size

Main applicable work type (Reference)		Handlers/ Mounters	Semiconductors/ Electronic components		Liquid crystals/ Automobiles/ Machine tools	Handlers/Mounters
Series		ZB Series	ZQ Series	ZK2 Series	ZR Series	VQD1000-V Series
Applicable workpiece (Reference)		Ultra-Small	Small	Small	Medium/Large	Small
Shape		Modular type (Equipment can be selected and combined as necessary.)				Has built-in release air tank to prevent blow away of small, lightweight work-pieces during ejection
Appearance						
Single unit / Width [mm]		10	10	15	31	23
Single unit / Weight [g]		46	109	83		
Cv value		0.025	0.11	0.09	0.45	0.08
Max. suction flow rate [l/min (ANR)]		—	—	—	—	—
Air consumption [l/min (ANR)]		—	—	—	—	—
Tube diameter [mm] or port size		M5	M5	6.8	Rc1/8	M5
Guideline for applicable pad diameters [mm] [1]	2	●	●	●	●	
	4	●	●	●	●	
	6	●	●	●	●	
	8	●	●	●	●	
	10	●	●	●	●	
	13	●	●	●	●	
	16	●	●	●	●	
	20	●	●	●	●	
	25		●	●	●	
	32		●	●	●	
	40		●		●	
	50				●	
	63				●	
	80				●	
	100				●	
	125				●	
	150				●	
	200					
	250					
Valve compatible		●	●	●	●	●
Filter compatible		●	●	●	●	
Silencer compatible		●	●	●	●	
Manifold compatible		●	●	●	●	●
Pressure switch compatible				●	●	
Digital pressure switch compatible		●	●	●	●	
Pressure voltage output compatible		●	●		●	
Built-in air tank for release						●

Vacuum selection guide

Selecting a vacuum system

1) Find the vacuum pad size.

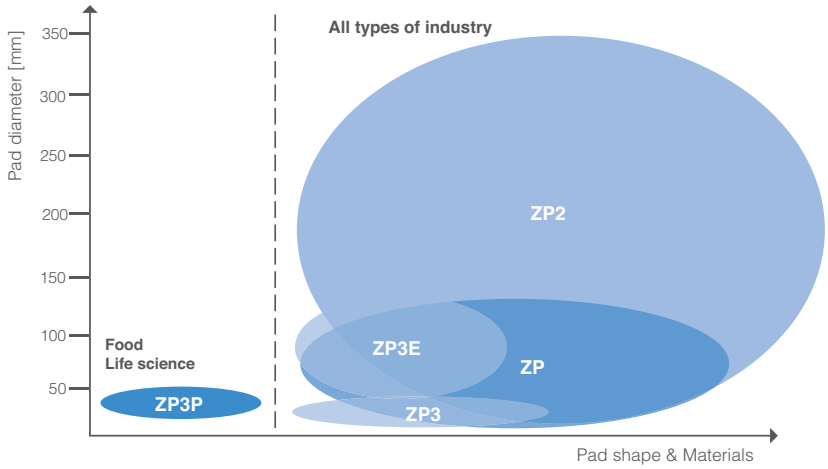
The total area of vacuum pads for a horizontal lift ( ) can be easily calculated from this equation which includes a safety factor.

Where W = Lifting force [N]
P = Vacuum pressure [kPa]
S = Pad area [cm²]

$$\frac{40W}{P} = S$$

For most vacuum applications, assume a vacuum pressure of (-) 80 kPa.

Vacuum pad range



The area (Scm) is the pad area required. This can be made up by one pad or several smaller pads - depending on the object to be lifted. The shape of the pad (flat, bellows, ribbed etc) is chosen, then the stem style (plain, buffer, etc). For single pads, the area is shown below in the table.

Pad diameter (Ø 2 to Ø 50)

Pad dia [mm]	Ø 2	Ø 4	Ø 6	Ø 8	Ø 10	Ø 13	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50
Pad area [cm²]	0.03	0.13	0.28	0.50	0.79	1.3	2.0	3.1	4.9	8.0	12.6	19.6

Pad diameter (Ø 63 to Ø 340)

Pad dia [mm]	Ø 63	Ø 80	Ø 100	Ø 125	Ø 150	Ø 250	Ø 300	Ø 340
Pad area [cm²]	31.2	50.2	78.5	122.7	176.7	490.6	706.5	907.5

Oval pad (2 x 4 to 8 x 30)

Pad dia [mm]	2 x 4	3.5 x 7	4 x 10	5 x 10	6 x 10	4 x 20	5 x 20	6 x 20	8 x 20	4 x 30	5 x 30	6 x 30	8 x 30
Pad area [cm²]	0.07	0.21	0.36	0.44	0.52	0.76	0.94	1.12	1.46	1.16	1.44	1.72	2.26

Pad type

Pad form	Application
Flat	To be used when absorption surface of work is flat and not deformed.
Flat with ribs	To be used when work is likely to deform or in the case of releasing work certainly.
Deep	To be used when work is curved shape.
Bellows	To be used when there is not enough space to install buffer or absorption surface of work is slanted.
Oval	To be used when work has limited absorption surface or long in length and work is required to locate precisely.

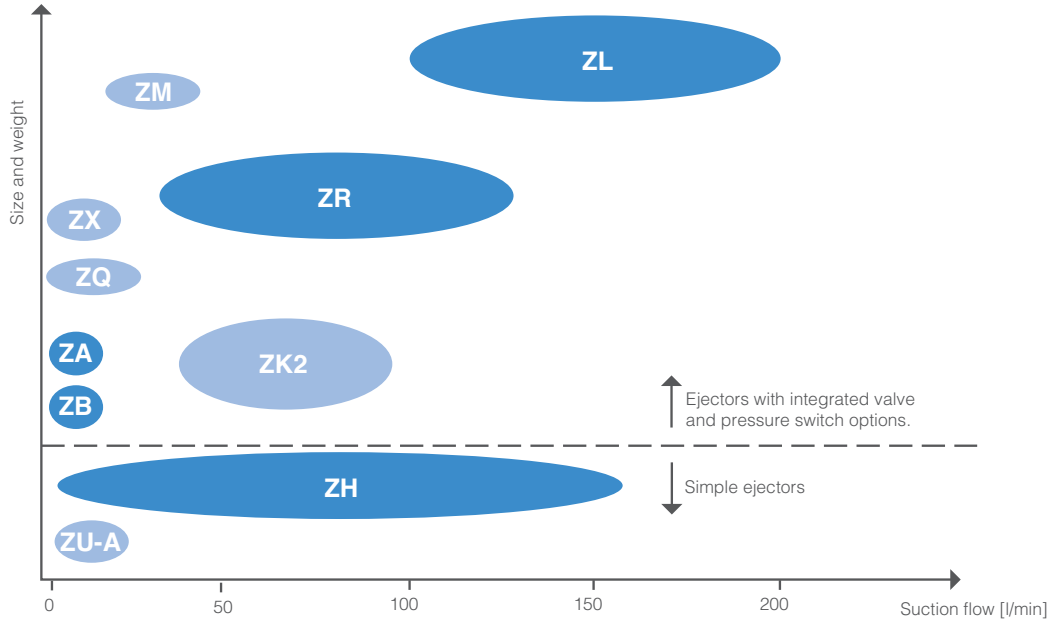
Pad form	Application
Ball joint type	To be used when absorption surface of work is not horizontal.
Buffer	To be used when work height is not even or cushioning toward work is required.
Large size	To be used when work is heavy weight.
Conductive pad	As one of the countermeasures against the static electricity, rubber material with reduced resistance is used. For antistatic measures.

Vacuum selection guide

2) Choose the ejector

Two things infuence the choice, is a simple ejector suitable (ZU or ZH type), which will be smaller and lighter or are integrated control valves and vacuum switches required? The other factor is suction flow, a higher suction flow will evacuate a system faster, but the ejector will be larger and will consume more air.

Vacuum ejector choices



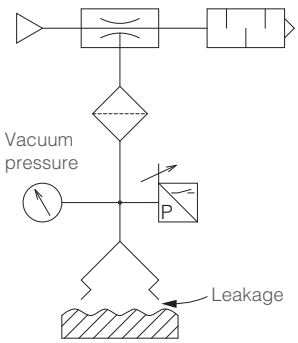
SMC vacuum ejectors produce a vacuum around -80 kPa, most ranges include a variant with lower vacuum levels (eg: -50 kPa).

3) Specify the rest of the system

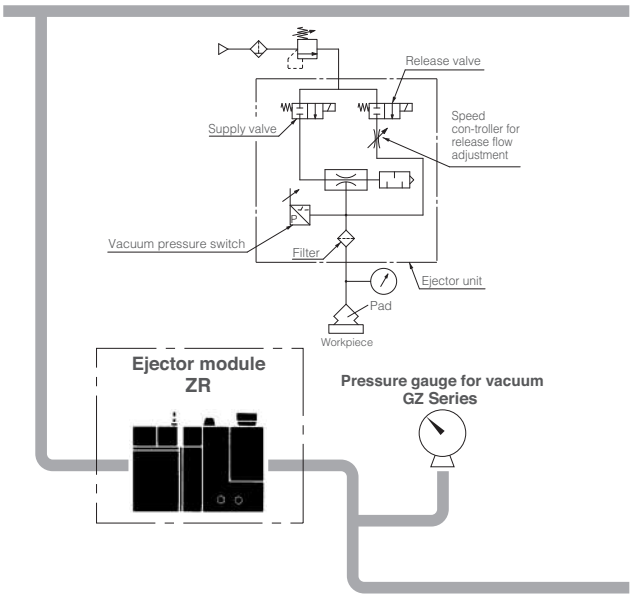
When pad(s) and ejector have been selected, the rest of the system can be specified. If dirt and liquid may be picked up by the pad, a ZF filter or AMJ separator should be put into the system to protect the ejector. The valves to control compressed air and vacuum, fittings and tubing can also be specified.

Typical circuit

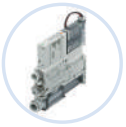
Simple ejector circuit (eg: ZH)



Integrated ejector circuit (eg: ZR)

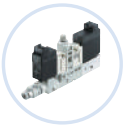


Vacuum ejectors



Vacuum unit
ZK2 Series p. 509

Space saving vacuum ejector & vacuum pump system
ZQ Series p. 510



Compact vacuum unit
ZB Series p. 511

Ejector system, stackable vacuum
ZR Series p. 512

Multistage ejector
ZL Series p. 513

Body ported type vacuum ejector
ZH Series p. 514

In-line type vacuum ejector
ZU□A Series p. 515

Vacuum pads

Vacuum pads
ZP□ Series p. 518

Flat type vacuum pad
ZP3P Series p. 533

Vacuum pad with ejector
ZHP Series p. 534

Non-contact gripper
XT661 Series p. 535

Air suction filters

Air suction filter
ZFA Series p. 515

Air suction filter with one-touch fittings
ZFB Series p. 516

In-line air filter
ZFC Series p. 516

Vacuum filter
AFJ Series p. 517

Vacuum valve

Vacuum saving valve
ZP2V Series p. 536

Free mount cylinder

Compact cylinder for vacuum applications
ZCUK Series p. 537

Drain separator

Water separator for vacuum
AMJ Series p. 537

Regulator

Vacuum regulator
IRV10/20 Series p. 538

Vacuum system peripherals & related products

Air amplifier
ZH-X185 Series p. 539

2-colour display digital flow switch
PFM Series p. 540

Electric vacuum switch
ZSE1 Series p. 541

Adjustable vacuum pressure switch with display
ZSE40A Series p. 541

Adjustable vacuum and positive pressure switch with display
ZSE30A Series p. 542

Vacuum and pressure sensor with controller unit
PSE530/200 Series p. 542

Micro vacuum and pressure sensor with controller unit
PSE540/300 Series p. 543

Pressure or vacuum switch
PS1000/1100/1200 Series p. 544

Pressure gauge for vacuum
GZ46 Series p. 544

Electronic vacuum regulator
ITV0090/2090 Series p. 545

Check valve
AK Series p. 546

Vacuum release unit
VQD1000-V Series p. 546

Our highlighted product for you

Vacuum unit
ZK2 Series

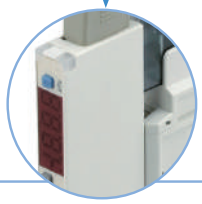
For more details
go to page 509

The all-in-one energy saving vacuum solution

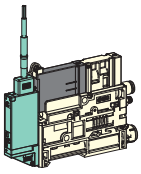
Power saving pilot valve
Supply and release valve are low power consumption type **(0.35 W)**

Supply valve: Self-holding type (Dual 2 port valve)
Even if there is a voltage drop, the vacuum is maintained as long as there is supply air.
1- The vacuum is maintained during power failure as long as air is supplied. This can prevent the workpiece from being dropped.
2- The unit turns on by instantaneous energising (minimum 20 ms). Continuous energizing is not necessary. This can reduce the power consumption.

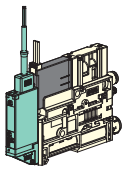
Linked type supply and release valves operation
The self-holding type supply valve will be turned off by turning on the release valve. It is not necessary to send a signal to stop the vacuum, which simplifies the wiring and programming. (Conventional double solenoid and latching type require a signal to stop the vacuum).



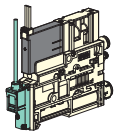
Variations



With digital pressure switch for vacuum with energy saving function



Digital pressure switch for vacuum



Pressure sensor

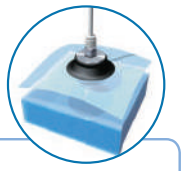
- **More efficient ejector**
  Suction flow **50 % increased**
  Air consumption **30 % reduced**
  (Compared to other SMC single stage ejectors)
- **Compact / lightweight**
  Volume 88 cm^3 **28 % reduced**
  Weight 81 g **59 % reduced**
- **Energy-saving ejector**
  Air consumption **90 % reduced**
  Digital pressure switch for vacuum with energy saving function cuts supply air when the pressure reaches the desired vacuum.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Vacuum pads
ZP Series

For more details
go to page 518

Vacuum pad for transferring disks
- For adsorbing circular components like CD and DVD
- Bellows mechanism is realised in the pad to dampen the impact to the work.



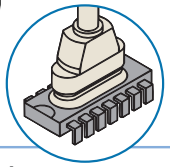
Flat / thin flat
- Flat: for adsorption of general workpieces; and for adsorption of workpieces with flat and not deformed surface.
- Thin flat: for a workpiece which is likely to deform. Wrinkling or deformation during adsorption is reduced.
  For sheets of vinyl

Vacuum saving valve
- Can restrict the reduction of vacuum pressure even when there is no workpiece
- No need for switching operation when changing workpieces
- Multiple vacuum pads can be operated by one ejector
- When the workpieces have different shapes, the control circuit can be simplified
  For energy saving applications!

Bellows
- For use where there is no space for the buffer (spring type).
- For adsorption of workpieces with inclined surface.

Broad range of designs, shapes, sizes and materials

Deep
- To be used when work is curved shape.

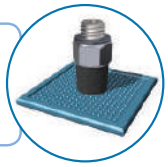


Oval pad
- For workpieces with limitation on the adsorption surface.
  For rectangular workpieces!

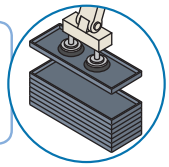
Flat with rib
- When surface is likely to deform.
- For releasing a workpiece certainly.

Mark-free
- For use where adsorption marks must no be left on workpieces.

Sponge
- For adsorption of workpieces with bumps.



Heavy duty
– For heavy or large workpieces.



Compact / short / nozzle pad
- For adsorption of small components such as IC chips.
- Compact, space-saving.

Mark-free cyclone pad XT661
- Workpiece with uneven and / or viscous surface.
- Workpiece sensitive to scars or suction traces.
- Workpiece with holes.
- Thin / porous workpiece.

Vacuum pad for fixing panel
- For adsorbing and fixing the stage of panels or glass circuit board etc.
- Bellows mechanism allows complete contact with curved work surface.

Long stroke buffer
- To be used when work height is not even or cushioning toward work is required.

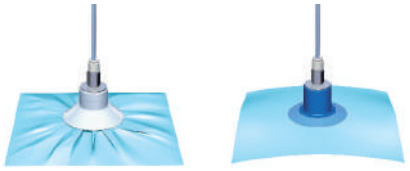
Ball joint
- To be used when adsorption surface of work is not horizontal.

Our highlighted product for you

Vacuum pad
ZP3P Series

For more details
go to page 533

Stopper in the centre of the pad
Reduction of wrinkles made on thin workpieces (film, vinyl, etc.).



Sealing design: Thin and soft skirt
Better adsorbing performance for film-wrapped workpieces:
- Better sealing, reduced leakage (stable adsorption)
- Better grip when adsorbing a workpiece.

Introduce adaptability in your handling

Blue coloured pad
Easy to distinguish the vacuum pad by colour during contamination inspection.

- **Silicone rubber compliant with the FDA 21CFR§177.2600 elution test**
  Rubber material has no effect on the human body.
- **Mounting flexibility and versatility to adapt to any application**
  Configurable with an adapter (7 types) or buffer (non-rotating and rotating, 10 or 20 mm stroke).

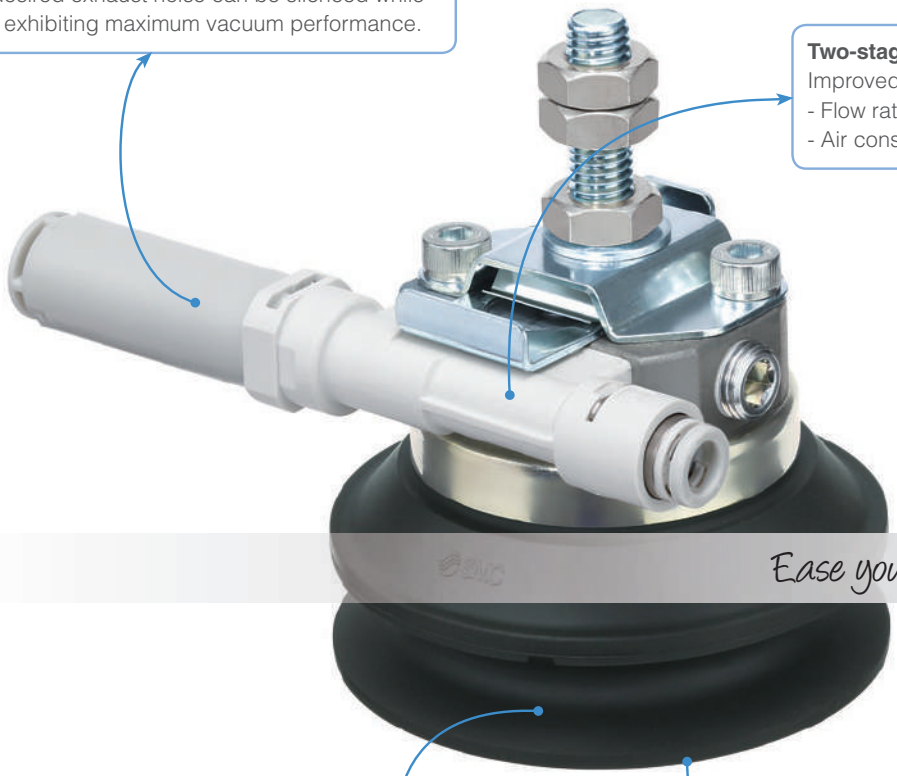
For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Vacuum pad with ejector
ZHP Series

For more details
go to page 534

Ejector silencer
By dispersing the exhaust in all directions, undesired exhaust noise can be silenced while still exhibiting maximum vacuum performance.

Two-stage ejector
Improved vacuum generating efficiency:
- Flow rate increased by 50 %
- Air consumption reduced by 30 %



Ease your vacuum generation

Vacuum ejector and pad are integrated in a single compact unit
- Pad diameters: Ø 63, Ø 80
- Pad forms: bellows type with groove; flat type with groove
- Pad material: NBR, silicone rubber, urethane rubber, FKM
- Nozzle size [mm]: Ø 0.7, Ø 1.0, Ø 1.2, Ø 1.5

Strainer that prevents foreign matter from entering

- **Lock-plate structure enables easy and one-touch replacement of the pad**
- **3 port locations available in the adapted pad, allowing for variety of connections, such as vacuum release, vacuum pressure sensor and piping**

Our highlighted product for you

Air amplifier
ZH-X185 Series

For more details
go to page 539

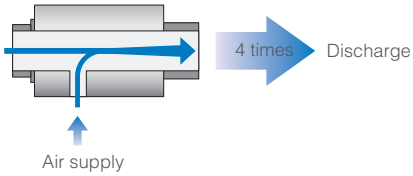
Complete combination of blowing and suction without any maintenance

A simple, light, cost effective tool that takes energy from a small volume of compressed air **to produce high velocity, high volume, low pressure output airflow**

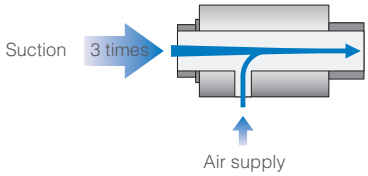
▸ The Air Amplifier **uses the Coanda effect**, the phenomena in which a jet flow attaches itself to a nearby surface and remains attached when the surfaces curves away from the initial jet direction. Using a small amount of compressed air as their power source, Air Amplifiers pull in large volumes of surrounding air to produce high volume, high velocity outlet flow.

▸ For one unit of air you feed into the device, it creates **output flow 4 times greater**

Blowing is possible at a flow rate quadruple that of the supplied air.



Suctioning is possible at a flow rate triple the supplied air.



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Vacuum ejectors

Our highlighted product for you

Vacuum unit
ZK2 Series

- Energy saving switch turns off supply valve when vacuum level is reached reducing air consumption. Vacuum level is kept by check valve. Supply valve is turned on again when the vacuum lowers to the set pressure
- Two-stage ejector reduces air consumption and increases suction flow rate
- Supply valve with self-holding function
- Interlink between supply valve and release valve
- In case of combination of supply valve and release valve: R
- High-noise reduction silencer:
  - Noise: As low as 46 dB
  - Suction flow rate: Improved by up to approx. 20 %

Ejector module - Single units (N.C. supply valve, N.C. release valve, 24 VDC)

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum (V) port size	Switch output	Switch pressure range [kPa]	Max. suction flow [l/min (ANR)]	Max. vacuum pressure
ZK2A07K5CL-08 ●	Silencer exhaust	0.7	Ø 8 One-touch fitting	2 PNP	0 to -101	29	-91 kPa
ZK2A10K5CL-08 ●		1.0				44	
ZK2A12K5CL-08 ●		1.2				61	
ZK2A15K5CL-08		1.5				67	
ZK2G07K5CL-08	High-noise reduction silencer exhaust	0.7				32	
ZK2G10K5CL-08		1.0				48	
ZK2G12K5CL-08		1.2				70	
ZK2G15K5CL-08		1.5				80	

Ejector module - Single units (N.C. supply valve, N.C. release valve, 24 VDC) with energy saving vacuum switch

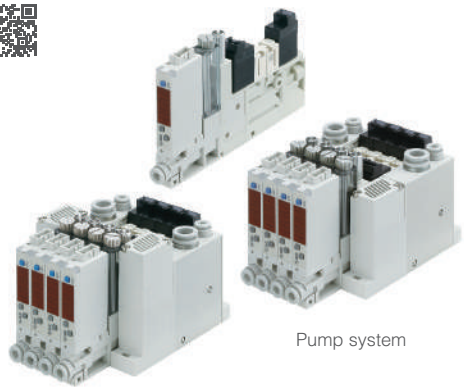
Part number	Exhaust type	Nozzle Ø [mm]	Vacuum (V) port size	Switch output	Switch pressure range [kPa]	Max. suction flow [l/min (ANR)]	Max. vacuum pressure
ZK2A07K5RW-08	Silencer exhaust	0.7	Ø 8 One-touch fitting	1 PNP	-100 to 100	29	-91 kPa
ZK2A10K5RW-08		1.0				44	
ZK2A12K5RW-08 ●		1.2				61	
ZK2A15K5RW-08 ●		1.5				67	
ZK2G07K5RW-08	High-noise reduction silencer exhaust	0.7				32	
ZK2G10K5RW-08		1.0				48	
ZK2G12K5RW-08		1.2				70	
ZK2G15K5RW-08		1.5				80	

1) Other sizes, options, manifold and vacuum pump system versions available upon request

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Space saving vacuum ejector & vacuum pump system

ZQ Series



Pump system

Ejector

- Single unit with vacuum pressure switch and suction filter
- Width 10 mm
- Easy-to-use vacuum pressure switch:
  - Digital vacuum pressure switch LED with display
  - Push button type provides easy operation
  - Copy function
- 2 NPN / PNP outputs
- With one-touch fitting.

Ejector system

Part number	Nozzle Ø [mm]	Suction cap. [l/min]	Vacuum pressure switch	Switch output	Voltage
ZQ1051U-K15LO-F-Q	0.5	14	—	—	24 VDC
ZQ1051U-K15LO-EB-Q			0 ~ -101 kPa	2 PNP	
ZQ1051U-K15LO-EE-Q				1 PNP + (1 ~ 5 V)	
ZQ1051U-K15LO-FB-Q			100 ~ -100 kPa	2 PNP	
ZQ1051U-K15LO-FE-Q				1 PNP + (1 ~ 5 V)	
ZQ1071U-K15LO-F-Q	0.7	23	—	—	
ZQ1071U-K15LO-EB-Q			0 ~ -101 kPa	2 PNP	
ZQ1071U-K15LO-EE-Q				1 PNP + (1 ~ 5 V)	
ZQ1071U-K15LO-FB-Q			100 ~ -100 kPa	2 PNP	
ZQ1071U-K15LO-FE-Q				1 PNP + (1 ~ 5 V)	
ZQ1101U-K15LO-F-Q	1.0	46	—	—	
ZQ1101U-K15LO-EB-Q			0 ~ -101 kPa	2 PNP	
ZQ1101U-K15LO-EE-Q				1 PNP + (1 ~ 5 V)	
ZQ1101U-K15LO-FB-Q			100 ~ -100 kPa	2 PNP	
ZQ1101U-K15LO-FE-Q				1 PNP + (1 ~ 5 V)	

Vacuum pump system

Part number	Vacuum pressure	Switch output	Voltage
ZQ1000U-K15LO-F-Q	—	—	24 VDC
ZQ1000U-K15LO-EB-Q	0 ~ -101 kPa	2 PNP	
ZQ1000U-K15LO-EE-Q		1 PNP + (1 ~ 5 V)	
ZQ1000U-K15LO-FB-Q	100 ~ 100 kPa	2 PNP	
ZQ1000U-K15LO-FE-Q		1 PNP + (1 ~ 5 V)	

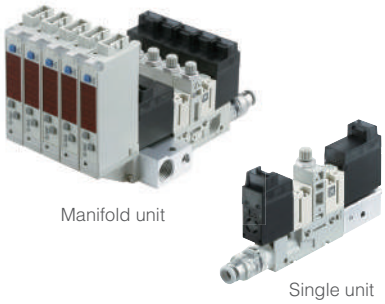
Common parts

Solenoid valve		**VQ110-5LO-Q** ●
Valve connector assembly		**AXT661-14A-10** ●
Vacuum pressure switch	0 ~ -101 kPA, 2 PNP	**ZQ1-ZSEB-0-A** ●
	0 ~ -101 kPA, 1 PNP + (1 ~ 5 V)	**ZQ1-ZSEE-0-A**
	-100 ~ 100 kPA, 2 PNP	**ZQ1-ZSFB-0-A**
	-100 ~ 100 kPA, 1 PNP + (1 ~ 5 V)	**ZQ1-ZSFE-0-A**

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Compact vacuum unit

ZB Series

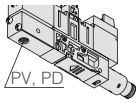
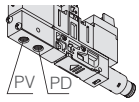


Manifold unit

Single unit

- Compact and lightweight: can be mounted on moving parts
- High speed absorption: direct operated supply valve and reduction of internal volume
- Energy saving design: lower supply pressure
- Digital vacuum switch with copy function available as option.

Single units (N.C. supply valve, N.C. release valve, 24 VDC)

Part number	Nozzle Ø [mm]	Port specification	Port		Suction cap. [l/min]	Max. Vacuum pressure
			Air (PV, PD)	Vacuum [V]		
ZB0411-K15L-C4 ●	0.4		M5 thread depth 4	Ø 4 mm	3.5	-90 kPa
ZB0611-K15L-C4 ●	0.6				7	
ZB0421-K15L-C4 ●	0.4				3.5	
ZB0621-K15L-C4 ●	0.6				7	

1) Models with digital vacuum switch available upon request.
2) Manifold versions available upon request.

Ejector system, stackable vacuum

ZR Series

- Vacuum unit specially for heavy work pieces of up to 5 kg
- Allows both manifold mounting and mounting as an individual device
- Modular design
- Compact and light (plastic body).

Ejector system
Ejector unit, standard

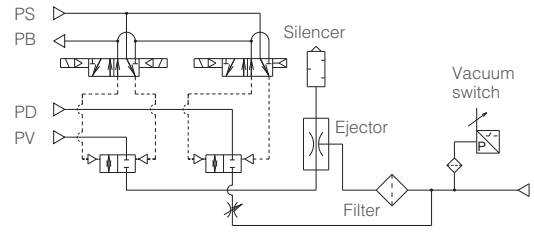
Part number	Nozzle Ø [mm]	Switch output	Suction cap. [l/min]	Max. Vacuum pressure	Voltage / Solenoid valve	
ZR115S1-K15LOZ-E55CN-Q	1.5	PNP	54	-84 kPa	24 VDC	Double
ZR115S1-K25LOZ-E55CN-Q						Single
ZR120S1-K15LOZ-E55CN-Q ●	2.0	PNP	84	-84 kPa		Double
ZR120S1-K25LOZ-E55CN-Q ●						Single

Ejector unit, superior suction capacity

Part number	Nozzle Ø [mm]	Switch output	Suction cap. [l/min]	Max. Vacuum pressure	Voltage / Solenoid valve	
ZR120L1-K15LOZ-E55CN-Q	2.0	PNP	105	-53 kPa	24 VDC	Double
ZR120L1-K25LOZ-E55CN-Q						Single

Valve connector assembly

Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
SY100-30-4A-6 ●	SY100-30-4A-10 ●	SY100-30-4A-20 ●	SY100-30-4A-30 ●



Connection cable for vacuum switch

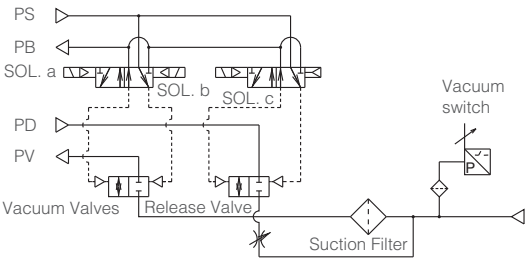
3 m
ZS-10-5A-30 ●

Vacuum pump system, valve unit with vacuum switch

Part number	Switch output	Voltage / Solenoid valve	
ZR100-K15LOZ-E55CN-Q	PNP	24 VDC	Double
ZR100-K25LOZ-E55CN-Q			Single

Valve connector assembly

Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
SY100-30-4A-6 ●	SY100-30-4A-10 ●	SY100-30-4A-20 ●	SY100-30-4A-30 ●



Connection cable for vacuum switch

3 m
ZS-10-5A-30 ●

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Multistage ejector
ZL Series

- Compact design
- 3 different types:
  – Ejector + vacuum switch
  – Ejector + vacuum gauge
  – Only ejector
- Vacuum built by 3 stage ejector therefore less air consumption, by the nozzle
- Nozzle diameter 1.2 mm
- Suction capacity 100 l/min or 200 l/min with ZL212
- Different ways of fixing to body.

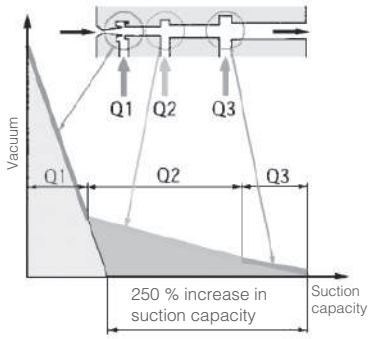
Part number	Nozzle Ø [mm]	Type	Switch output	Suction cap. [l/min]	Max. Vacuum Pressure
ZL112-Q ●	1.2	Standard	—	100	-84 kPa
ZL112-G-Q ●		Standard with vacuum pressure gauge	—		
ZL112-DPL-Q ●		Standard with vacuum switch	PNP		
ZL112-DNL-Q ●			NPN		
ZL112-DEL-Q			PNP + (1 ~ 5V)		
ZL112-K15LOZ-DBL-Q ●		Standard with vacuum switch and control valves	2 PNP		
ZL112-K15LOZ-DAL-Q			2 NPN		
ZL112-K15LOZ-DEL-Q			PNP + (1 ~ 5V)		
ZL212-Q ●	2 x 1.2	Standard	—	200	-84 kPa
ZL212-G-Q ●		Standard with vacuum pressure gauge	—		
ZL212-DPL-Q ●		Standard with vacuum switch	PNP		
ZL212-DNL-Q ●			NPN		
ZL212-DEL-Q			PNP + (1 ~ 5V)		

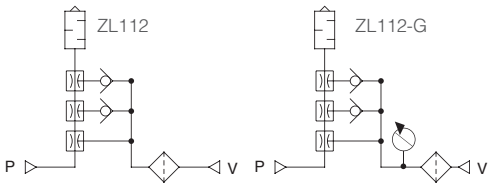
1) Bracket is included.

Valve connector assembly

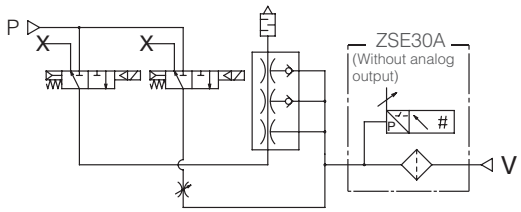
Cable	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without casing	SY100-30-4A-6 ●	SY100-30-4A-10 ●	SY100-30-4A-20 ●	SY100-30-4A-30 ●

3 stage function

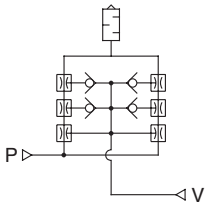




ZL112-K15LOZ-E



ZL212



● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Body ported type vacuum ejector

ZH Series

- Compact and lightweight
- Nozzle size [mm]: Ø 0.5, Ø 0.7, Ø 1, Ø 1.3, Ø 1.5, Ø 1.8, Ø 2
- Many piping variations. One-touch and screw-in combinations to choose
- Direct or standard bracket mounting options
- L-bracket or DIN rail mounting options
- Easy identification of product type, different release button colour
- Silencer available.

Part number	Nozzle size Ø [mm]	Port			Maximum suction flow rate [l/min (ANR)]	Vacuum pressure reached [kPa]	Air consumption [l/min(ANR)]	Accessories
		SUP.	VAC.	EXH.				
ZH05DSA-06-06-06 ●	0.5	Ø 6	Ø 6	Ø 6	6	-90	13	Standard bracket
ZH05DLA-06-06-06					13	-48		
ZH07DSA-06-06-06 ●	0.7				12	-90	27	
ZH07DLA-06-06-06					28	-48		
ZH10DSA-06-06-08 ●	1			Ø 8	26	-90	52	
ZH10DLA-06-06-08 ●					52	-48		
ZH13DSA-08-10-10 ●	1.3	Ø 8	Ø 10	Ø 10	40	-90	84	
ZH13DLA-08-10-10 ●					78	-48		
ZH15DSA-08-10-10	1.5				58	-90	113	
ZH15DLA-08-10-10					78	-66		
ZH18DSA-10-12-12	1.8	Ø 10	Ø 12	Ø 12	76	-90	162	
ZH18DLA-10-12-12					128	-66		
ZH20DSA-10-12-12	2				90	-90	196	
ZH20DLA-10-12-12					155	-66		
ZH05DSA-01-01-01	0.5	Rc1/8	Rc1/8	Rc1/8	6	-90	13	
ZH05DLA-01-01-01					13	-48		
ZH07DSA-01-01-01	0.7				12	-90	27	
ZH07DLA-01-01-01					28	-48		
ZH10DSA-01-01-01 ●	1				26	-90	52	
ZH10DLA-01-01-01					52	-48		
ZH13DSA-01-02-02 ●	1.3		Rc1/4	Rc1/4	40	-90	84	
ZH13DLA-01-02-02					78	-48		
ZH15DSA-02-03-03 ●	1.5	Rc1/4	Rc3/8	Rc3/8	58	-90	113	
ZH15DLA-02-03-03					78	-66		
ZH18DSA-03-03-03 ●	1.8	Rc3/8			76	-90	162	
ZH18DLA-03-03-03 ●					128	-66		
ZH20DSA-03-04-04 ●	2		Rc1/2	Rc1/2	90	-90	196	
ZH20DLA-03-04-04 ●					155	-66		

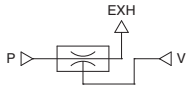
Accessories

Part number	Model	Description	Applicable thread size
AS-10L ●	ZH05/07/10D□A	L-Bracket	M3
AS-25L ●	ZH13/15D□A		M4
AS-30L ●	ZH18/20D□A		
AS-10D ●	ZH05/07/10D□A	DIN rail mounting bracket	M3
AS-25D	ZH13/15D□A		M4
AS-30D	ZH18/20D□A		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

In-line type vacuum ejector
ZU□A Series

- Compact and lightweight:
  - O.D.: Ø 10.4
  - Weight: 3.9 g
  - Overall length: 52 mm
- Vacuum pressure reached:
  - Type L: -48 kPa
  - Type S: -90 kPa
- Piping variations:
  - Screw-in connections: Rc1/8
  - Oval type one-touch fitting: Ø 6 mm

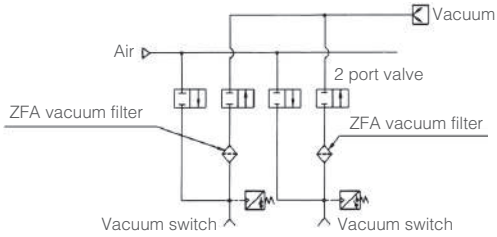
Part number	Nozzle size Ø [mm]	Vacuum pressure reached [kPa]	Maximum suction flow rate [l/min(ANR)]	Air consumption [l/min(ANR)]	Port size	Weight [g]	Circuit symbol
ZU05SA ●	0.5	-90	7	14	Ø 6 One-touch fitting	3.9	
ZU05SA01					Rc1/8 female thread	18.6	
ZU05LA ●		-48	13		Ø 6 One-touch fitting	3.9	
ZU05LA01					Rc1/8 female thread	18.6	
ZU07SA ●	0.7	-90	11	28	Ø 6 One-touch fitting	4.3	
ZU07SA01					Rc1/8 female thread	19.1	
ZU07LA ●		-48	16		Ø 6 One-touch fitting	4.3	
ZU07LA01					Rc1/8 female thread	19.1	

Air suction filters

Air suction filter
ZFA Series

- Filters intake air before the vacuum ejector
- Large filter element increases service life
- Light, compact design
- Stackable
- Filter element replaced quickly and easily.

Application with vacuum pump



Accessories

Part number	ZFA100	ZFA200
Replacement filter	EJ001H-030N ●	EJ101H-030N ●
Mounting bracket	BP-1H-1A ●	BP-1H-2A ●

Part number	Port	Flow [l/min]	Vacuum release pressure	Filtration accuracy	Circuit symbol
ZFA100-F01 ●	G1/8	50	Max. 0.5 MPa (Unable to hold when pressurized)	30 µm (Filtration efficiency 95 %)	
ZFA200-F02 ●	G1/4	200			

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Air suction filter with one-touch fittings

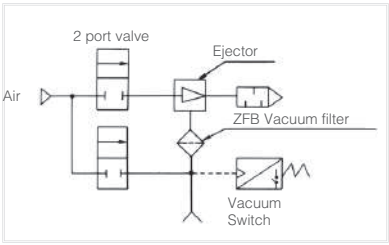
ZFB Series

- 360° rotation
- Prevents soiling in the vacuum ejector
- Integrated one-touch fittings for simple mounting
- Filter element quickly replaced
- Transparent polycarbonate permits visual checking of soiling level.

Part number	Port Ø [mm]	Flow [l/min]	Vacuum release pressure	Filtration accuracy	Circuit symbol
ZFB100-04 ●	4	10	Max. 0.5 MPa (Unable to hold when pressurized)	30 µm (Filtration efficiency 95 %)	
ZFB100-06 ●	6	20			
ZFB200-06 ●	6	30			
ZFB200-08 ●	8	50			
ZFB300-08 ●	8	75			
ZFB300-10 ●	10	75			

Replacement filter element

Model	ZFB100	ZFB200	ZFB300
Part number	I-34S-A ●	I-35S-A ●	I-36S-A ●



In-line air filter

ZFC Series

- Compact and lightweight design in plastic
- Bayonet socket simplifies filter element replacement
- Simple mounting via one-touch fittings
- Transparent filter case.

Part number	Port Ø [mm]	Flow [l/min]		Filtration rating [µm]	Max. operating pressure	Circuit symbol
		Vacuum pressure	Positive pressure			
ZFC11	2	2	15	5	-100 kPa to 1.0 MPa (at 20 °C)	
ZFC12	3.2	5	45			
ZFC32 ●		7	50			
ZFC33 ●	4	10	80			
ZFC53 ●			100			
ZFC54 ●	6	20	200			
ZFC74 ●		30	250			
ZFC75 ●	8	70	450			
ZFC76 ●	10	80	550			
ZFC77 ●	12	100	650			

Accessories

Model	Filter white element: 5 µm (Spare element 10 pcs.)	Filter blue element: 5 µm (1 pc.)	Filter white element: 10 µm (1 pc.)	Bracket
ZFC1	ZFC-EL-1	ZFC-EL019	ZFC-EL021	ZFC-BR001
ZFC3	ZFC-EL-2	ZFC-EL020	ZFC-EL022	ZFC-BR002
ZFC5	ZFC-EL-3 ●	ZFC-EL015	ZFC-EL017	ZFC-BR003
ZFC7	ZFC-EL-4 ●	ZFC-EL016	ZFC-EL018	ZFC-BR004

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Vacuum filter
AFJ Series

- Fluid: Air
- 2 models: large flow type or water drop removal type
- Selectable filtration rating: 5 µm, 40 µm (washable) and 80 µm (washable)
- Large flow capacity: Max. 660 l/min (ANR)
- Transparent double layer bowl construction:
  - Better environmental resistance by not exposing the pressurised inner bowl to corrosive chemicals or oil splashes
  - 360° visibility – total visibility from any angle
- Selectable bowl material, either polycarbonate or nylon
- Modular connection with standard SMC product.

Part number	Type	Body size	Port size	Bowl material	Nominal filtration rating [µm]	Recommended flow rate [l/min (ANR)]	Operating pressure range
AFJ20-F02-5-T ●	Large flow type AFJ-T series	20	G1/4	Polycarbonate	5	140	-100 to 0 kPa
AFJ20-F02-40-T ●					40	180	
AFJ20-F02-80-T					80		
AFJ30-F03-5-T		30	G3/8		5	250	
AFJ30-F03-40-T					40	380	
AFJ30-F03-80-T					80		
AFJ40-F04-5-T		40	G1/2		5	440	
AFJ40-F04-40-T ●					40	660	
AFJ40-F04-80-T					80		
AFJ20-F02-5-S	Water drop removal type AFJ-S series	20	G1/4		5	100	
AFJ20-F02-40-S ●					40	130	
AFJ20-F02-80-S					80		
AFJ30-F03-5-S ●		30	G3/8		5	230	
AFJ30-F03-40-S					40	340	
AFJ30-F03-80-S					80		
AFJ40-F04-5-S		40	G1/2		5	370	
AFJ40-F04-40-S					40	500	
AFJ40-F04-80-S					80		

Accessories

Part number	Model	Description		Material
AF20P-060S ●	AFJ20	Filter element	5 µm	Non-woven fabric
AF30P-060S ●	AFJ30			
AF40P-060S ●	AFJ40			
AF22P-820S	AFJ20		40 µm	PA
AF32P-820S	AFJ30			
AF42P-820S	AFJ40			
AF22P-830S	AFJ20		80 µm	
AF32P-830S	AFJ30			
AF42P-830S	AFJ40			
AF22P-050AS ●	AFJ20	Bracket assembly [1]		—
AF32P-050AS ●	AFJ30			
AF42P-050AS ●	AFJ40			
C2SJ	AFJ20	Bowl assembly [2]		Polycarbonate
C3SJ	AFJ30			
C4SJ	AFJ40			

1) Assembly of a bracket and 2 mounting screws
2) Bowl assembly includes the bowl O-ring
Please consult with SMC separately for psi and °F unit display specifications
Bowl assembly for the AFJ30 and AFJ40 models comes with a bowl guard (Material: Polycarbonate).

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Vacuum pads

Flat type vacuum pad

ZPT Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Flat: To be used when adsorption surface of workpiece is flat and not deformed
  - Flat with rib: To be used when workpiece is likely to deform or in the case of releasing work certainly
  - Heavy-duty: Reinforced pad to prevent deformation when transferring heavy or large workpieces
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Male thread

Pad Ø [mm]	Pad style	Part number				Vacuum inlet	Mounting thread size
		Material: NBR		Material: Silicone rubber			
		Vacuum pad	With adapter	Vacuum pad	With adapter		
2	Flat	**ZP02UN** ●	**ZPT02UN-A5** ●	**ZP02US** ●	**ZPT02US-A5** ●	M5 x 0.8	—
4		**ZP04UN** ●	**ZPT04UN-A5** ●	**ZP04US** ●	**ZPT04US-A5** ●		
6		**ZP06UN** ●	**ZPT06UN-A5** ●	**ZP06US** ●	**ZPT06US-A5** ●		
8		**ZP08UN** ●	**ZPT08UN-A5** ●	**ZP08US** ●	**ZPT08US-A5** ●		
10		**ZP10UN** ●	**ZPT10UN-A5** ●	**ZP10US** ●	**ZPT10US-A5** ●		
13		**ZP13UN** ●	**ZPT13UN-A5** ●	**ZP13US** ●	**ZPT13US-A5** ●		
16		**ZP16UN** ●	**ZPT16UN-A5** ●	**ZP16US** ●	**ZPT16US-A5** ●		
20		**ZP20UN** ●	**ZPT20UN-A6** ●	**ZP20US** ●	**ZPT20US-A6** ●	M6 x 1	
25		**ZP25UN** ●	**ZPT25UN-A6** ●	**ZP25US** ●	**ZPT25US-A6** ●		
32		**ZP32UN** ●	**ZPT32UN-A6** ●	**ZP32US** ●	**ZPT32US-A6** ●		
40		**ZP40UN** ●	**ZPT40UN-A6** ●	**ZP40US** ●	**ZPT40US-A6** ●		
50		**ZP50UN** ●	**ZPT50UN-A6** ●	**ZP50US** ●	**ZPT50US-A6** ●		
10	Flat with rib	**ZP10CN** ●	**ZPT10CN-A5** ●	**ZP10CS** ●	**ZPT10CS-A5** ●	M5 x 0.8	—
13		**ZP13CN** ●	**ZPT13CN-A5** ●	**ZP13CS** ●	**ZPT13CS-A5**		
16		**ZP16CN** ●	**ZPT16CN-A5** ●	**ZP16CS** ●	**ZPT16CS-A5** ●		
20		**ZP20CN** ●	**ZPT20CN-A6** ●	**ZP20CS** ●	**ZPT20CS-A6** ●	M6 x 1	
25		**ZP25CN** ●	**ZPT25CN-A6** ●	**ZP25CS** ●	**ZPT25CS-A6**		
32		**ZP32CN** ●	**ZPT32CN-A8** ●	**ZP32CS** ●	**ZPT32CS-A8** ●	M8 x 1.25	
40		**ZP40CN** ●	**ZPT40CN-A8** ●	**ZP40CS** ●	**ZPT40CS-A8**		
50		**ZP50CN** ●	**ZPT50CN-A8**	**ZP50CS** ●	**ZPT50CS-A8**		
40	Heavy-duty	**ZP40HN** ●	**ZPT40HN-A14** ●	**ZP40HS** ●	**ZPT40HS-A14**	Rc1/8	M14 x 1
50		**ZP50HN** ●	**ZPT50HN-A14** ●	**ZP50HS**	**ZPT50HS-A14**		
63		**ZP63HN** ●	**ZPT63HN-A16** ●	**ZP63HS** ●	**ZPT63HS-A16**		M16 x 1.5
80		**ZP80HN** ●	**ZPT80HN-A16** ●	**ZP80HS**	**ZPT80HS-A16**		
100		**ZP100HN** ●	**ZPT100HN-A16** ●	**ZP100HS**	**ZPT100HS-A16**		
125		**ZP125HN** ●	**ZPT125HN-A16** ●	**ZP125HS**	**ZPT125HS-A16**		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Female thread

Pad Ø [mm]	Pad style	Part number				Vacuum inlet	Part number		Vacuum inlet	Mounting thread size
		Material: NBR		Material: Silicone rubber			Buffer assembly			
		Vacuum pad	With adapter	Vacuum pad	With adapter		Rotating	Non-rotating		
2	Flat	**ZP02UN** ●	**ZPT02UN-B5** ●	**ZP02US** ●	**ZPT02US-B5** ●	M5 x 0.8	**ZPB2J10-B5** ● **ZPB2J20-B5** ● **ZPB2J30-B5** ● **ZPB2J40-B5** ● **ZPB2J50-B5** ●	**ZPB2K10-B5** ● **ZPB2K20-B5** ● **ZPB2K30-B5** ● **ZPB2K40-B5** ● **ZPB2K50-B5** ●	M5 x 0.8 M10	M10 x 1
4		**ZP04UN** ●	**ZPT04UN-B5** ●	**ZP04US** ●	**ZPT04US-B5** ●					
6		**ZP06UN** ●	**ZPT06UN-B5** ●	**ZP06US** ●	**ZPT06US-B5** ●					
8		**ZP08UN** ●	**ZPT08UN-B5** ●	**ZP08US** ●	**ZPT08US-B5** ●					
10		**ZP10UN** ●	**ZPT10UN-B5** ●	**ZP10US** ●	**ZPT10US-B5** ●					
13		**ZP13UN** ●	**ZPT13UN-B5** ●	**ZP13US** ●	**ZPT13US-B5** ●					
16		**ZP16UN** ●	**ZPT16UN-B5** ●	**ZP16US** ●	**ZPT16US-B5** ●					
20		**ZP20UN** ●	**ZPT20UN-B5** ●	**ZP20US** ●	**ZPT20US-B5** ●					
25		**ZP25UN** ●	**ZPT25UN-B5** ●	**ZP25US** ●	**ZPT25US-B5** ●					
32		**ZP32UN** ●	**ZPT32UN-B5** ●	**ZP32US** ●	**ZPT32US-B5** ●					
40		**ZP40UN** ●	**ZPT40UN-B8** ●	**ZP40US** ●	**ZPT40US-B8** ●	M8 x 1.25	**ZPB3J10-B01** ● **ZPB3J20-B01** ● **ZPB3J30-B01** ● **ZPB3J50-B01** ●	**ZPB3K10-B01** ● **ZPB3K20-B01** ● **ZPB3K30-B01** ● **ZPB3K50-B01** ●	Rc1/8	M14 x 1
50		**ZP50UN** ●	**ZPT50UN-B8** ●	**ZP50US** ●	**ZPT50US-B8** ●					
10	Flat with rib	**ZP10CN** ●	**ZPT10CN-B5** ●	**ZP10CS** ●	**ZPT10CS-B5** ●	M5 x 0.8	**ZPB2J10-B5** ● **ZPB2J20-B5** ● **ZPB2J30-B5** ● **ZPB2J40-B5** ● **ZPB2J50-B5** ●	**ZPB2K10-B5** ● **ZPB2K20-B5** ● **ZPB2K30-B5** ● **ZPB2K40-B5** ● **ZPB2K50-B5** ●	M5 x 0.8 M10	M10 x 1
13		**ZP13CN** ●	**ZPT13CN-B5** ●	**ZP13CS** ●	**ZPT13CS-B5**					
16		**ZP16CN** ●	**ZPT16CN-B5** ●	**ZP16CS** ●	**ZPT16CS-B5** ●					
20		**ZP20CN** ●	**ZPT20CN-B5** ●	**ZP20CS** ●	**ZPT20CS-B5** ●					
25		**ZP25CN** ●	**ZPT25CN-B8** ●	**ZP25CS** ●	**ZPT25CS-B8**	M8 x 1.25	**ZPB3J10-B01** ● **ZPB3J20-B01** ● **ZPB3J30-B01** ● **ZPB3J50-B01** ●	**ZPB3K10-B01** ● **ZPB3K20-B01** ● **ZPB3K30-B01** ● **ZPB3K50-B01** ●	Rc1/8	M14 x 1
32		**ZP32CN** ●	**ZPT32CN-B8** ●	**ZP32CS** ●	**ZPT32CS-B8**					
40		**ZP40CN** ●	**ZPT40CN-B8** ●	**ZP40CS** ●	**ZPT40CS-B8** ●					
50		**ZP50CN** ●	**ZPT50CN-B8** ●	**ZP50CS** ●	**ZPT50CS-B8** ●					
40	Heavy-duty	**ZP40HN** ●	**ZPT40HN-B8** ●	**ZP40HS** ●	**ZPT40HS-B8**	Rc1/8	**ZPB-T1J25-B01** **ZPB-T1J50-B01** **ZPB-T1J75-B01**	—	Rc1/8	M18 X 1.5
50		**ZP50HN** ●	**ZPT50HN-B8** ●	**ZP50HS**	**ZPT50HS-B8** ●					
63		**ZP63HN** ●	**ZPT63HN-B8**	**ZP63HS** ●	**ZPT63HS-B8**		**ZPB-T2J25-B01** **ZPB-T2J50-B01** **ZPB-T2J75-B01**			
80		**ZP80HN** ●	**ZPT80HN-B8**	**ZP80HS**	**ZPT80HS-B8**					
100		**ZP100HN** ●	**ZPT100HN-B12** ●	**ZP100HS**	**ZPT100HS-B12**		**ZPB-T3J25-B01** **ZPB-T3J50-B01** **ZPB-T3J75-B01** **ZPBT3J100-B01**			M22 X 1.5
125		**ZP125HN** ●	**ZPT125HN-B12**	**ZP125HS**	**ZPT125HS-B12**					

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Bellows type vacuum pad

ZPT Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Deep: To be used when workpiece is curved shape
  - Bellows: To be used when there is not enough space to install buffer or adsorption surface of workpiece is slanted
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Male thread

Pad Ø [mm]	Pad style	Part number				Vacuum inlet	Mounting thread size
		Material: NBR		Material: Silicone rubber			
		Vacuum pad	With adapter	Vacuum pad	With adapter		
10	Deep	**ZP10DN** ●	**ZPT10DN-A5**	**ZP10DS** ●	**ZPT10DS-A5**	M5 x 0.8	—
16		**ZP16DN** ●	**ZPT16DN-A5**	**ZP16DS** ●	**ZPT16DS-A5**		
25		**ZP25DN** ●	**ZPT25DN-A6** ●	**ZP25DS** ●	**ZPT25DS-A6**	M6 x 1	
40		**ZP40DN** ●	**ZPT40DN-A6** ●	**ZP40DS** ●	**ZPT40DS-A6**		
6	Bellows	**ZP06BN** ●	**ZPT06BN-A5** ●	**ZP06BS** ●	**ZPT06BS-A5** ●	M5 x 0.8	—
8		**ZP08BN** ●	**ZPT08BN-A5** ●	**ZP08BS** ●	**ZPT08BS-A5** ●		
10		**ZP10BN** ●	**ZPT10BN-A5** ●	**ZP10BS** ●	**ZPT10BS-A5** ●		
13		**ZP13BN** ●	**ZPT13BN-A5**	**ZP13BS** ●	**ZPT13BS-A5** ●		
16		**ZP16BN** ●	**ZPT16BN-A5** ●	**ZP16BS** ●	**ZPT16BS-A5** ●		
20		**ZP20BN** ●	**ZPT20BN-A6** ●	**ZP20BS** ●	**ZPT20BS-A6** ●	M6 x 1	—
25		**ZP25BN** ●	**ZPT25BN-A6** ●	**ZP25BS** ●	**ZPT25BS-A6**		
32		**ZP32BN** ●	**ZPT32BN-A6** ●	**ZP32BS** ●	**ZPT32BS-A6**		
40		**ZP40BN** ●	**ZPT40BN-A6**	**ZP40BS** ●	**ZPT40BS-A6**		
50		**ZP50BN** ●	**ZPT50BN-A6**	**ZP50BS** ●	**ZPT50BS-A6**		
40	Large size bellows	**ZP40HBN** ●	**ZPT40HBN-A14** ●	**ZP40HBS** ●	**ZPT40HBS-A14**	Rc1/8	M14 x 1
50		**ZP50HBN** ●	**ZPT50HBN-A14** ●	**ZP50HBS**	**ZPT50HBS-A14**		
63		**ZP63HBN** ●	**ZPT63HBN-A16** ●	**ZP63HBS**	**ZPT63HBS-A16** ●		M16 x 1.5
80		**ZP80HBN** ●	**ZPT80HBN-A16** ●	**ZP80HBS** ●	**ZPT80HBS-A16**		
100		**ZP100HBN** ●	**ZPT100HBN-A16** ●	**ZP100HBS**	**ZPT100HBS-A16**		
125		**ZP125HBN** ●	**ZPT125HBN-A16** ●	**ZP125HBS**	**ZPT125HBS-A16**		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Female thread

Pad Ø [mm]	Pad style	Part number				Vacuum inlet	Part number		Vacuum inlet	Mounting thread size
		Material: NBR		Material: Silicone rubber			Buffer assembly			
		Vacuum pad	With adapter	Vacuum pad	With adapter		Rotating	Non-rotating		
10	Deep	**ZP10DN** ●	**ZPT10DN-B5** ●	**ZP10DS** ●	**ZPT10DS-B5** ●	M5 x 0.8	**ZPB2J10-B5** ● **ZPB2J20-B5** ● **ZPB2J30-B5** ● **ZPB2J40-B5** ● **ZPB2J50-B5** ●	**ZPB2K10-B5** ● **ZPB2K20-B5** ● **ZPB2K30-B5** ● **ZPB2K40-B5** ● **ZPB2K50-B5** ●	M5 x 0.8 M10	M10 x 1
16		**ZP16DN** ●	**ZPT16DN-B5** ●	**ZP16DS** ●	**ZPT16DS-B5** ●					
25		**ZP25DN** ●	**ZPT25DN-B5** ●	**ZP25DS** ●	**ZPT25DS-B5**					
40		**ZP40DN** ●	**ZPT40DN-B8** ●	**ZP40DS** ●	**ZPT40DS-B8**	M8 x 1.25	**ZPB3J10-B01** ● **ZPB3J20-B01** ● **ZPB3J30-B01** ● **ZPB3J50-B01** ●	**ZPB3K10-B01** ● **ZPB3K20-B01** ● **ZPB3K30-B01** ● **ZPB3K50-B01** ●	Rc1/8	M14 x 1
6	Bellows	**ZP06BN** ●	**ZPT06BN-B5** ●	**ZP06BS** ●	**ZPT06BS-B5** ●	M5 x 0.8	**ZPB2J10-B5** ● **ZPB2J20-B5** ● **ZPB2J30-B5** ● **ZPB2J40-B5** ● **ZPB2J50-B5** ●	**ZPB2K10-B5** ● **ZPB2K20-B5** ● **ZPB2K30-B5** ● **ZPB2K40-B5** ● **ZPB2K50-B5** ●	M5 x 0.8 M10	M10 x 1
8		**ZP08BN** ●	**ZPT08BN-B5** ●	**ZP08BS** ●	**ZPT08BS-B5** ●					
10		**ZP10BN** ●	**ZPT10BN-B5** ●	**ZP10BS** ●	**ZPT10BS-B5** ●					
13		**ZP13BN** ●	**ZPT13BN-B5** ●	**ZP13BS** ●	**ZPT13BS-B5** ●					
16		**ZP16BN** ●	**ZPT16BN-B5** ●	**ZP16BS** ●	**ZPT16BS-B5** ●					
20		**ZP20BN** ●	**ZPT20BN-B5** ●	**ZP20BS** ●	**ZPT20BS-B5** ●					
25		**ZP25BN** ●	**ZPT25BN-B5** ●	**ZP25BS** ●	**ZPT25BS-B5** ●					
32		**ZP32BN** ●	**ZPT32BN-B5** ●	**ZP32BS** ●	**ZPT32BS-B5** ●					
40		**ZP40BN** ●	**ZPT40BN-B8** ●	**ZP40BS** ●	**ZPT40BS-B8**	M8 x 1.25	**ZPB3J10-B01** ● **ZPB3J20-B01** ● **ZPB3J30-B01** ● **ZPB3J50-B01** ●	**ZPB3K10-B01** ● **ZPB3K20-B01** ● **ZPB3K30-B01** ● **ZPB3K50-B01** ●	Rc1/8	M14 x 1
50		**ZP50BN** ●	**ZPT50BN-B8** ●	**ZP50BS** ●	**ZPT50BS-B8**					
40	Large size bellows	**ZP40HBN** ●	**ZPT40HBN-B10** ●	**ZP40HBS** ●	**ZPT40HBS-B10**	M10	—	**ZPB-T1J25-B01** **ZPB-T1J50-B01** **ZPB-T1J75-B01**	Rc1/8	M18 x 1.5
50		**ZP50HBN** ●	**ZPT50HBN-B10** ●	**ZP50HBS**	**ZPT50HBS-B10**					
63		**ZP63HBN** ●	**ZPT63HBN-B12**	**ZP63HBS**	**ZPT63HBS-B12**	M12		**ZPB-T2J25-B01** **ZPB-T2J50-B01** **ZPB-T2J75-B01**		
80		**ZP80HBN** ●	**ZPT80HBN-B12**	**ZP80HBS** ●	**ZPT80HBS-B12**					
100		**ZP100HBN** ●	**ZPT100HBN-B12**	**ZP100HBS**	**ZPT100HBS-B12**			**ZPB-T3J25-B01** **ZPB-T3J50-B01** **ZPB-T3J75-B01** **ZPB-T3J100-B01**		M22 x 1.5
125		**ZP125HBN** ●	**ZPT125HBN-B12**	**ZP125HBS**	**ZPT125HBS-B12**					

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Flat type vacuum pad

ZP2/ZP3/ZP3E Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Nozzle: For adsorption of small pieces (such as IC chips)
  - Flat: To be used when adsorption surface of workpiece is flat and not deformed
  - Flat with rib / groove: To be used when workpiece is likely to deform or in the case of releasing work certainly
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Male thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Vacuum inlet	Part number
		Material: NBR		Material: Silicone rubber				Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter			
0.8	Nozzle	**ZP2-08ANN** ●	**ZP2-T08ANN-A5**	**ZP2-08ANS** ●	**ZP2-T08ANS-A5**	M5 x 0.8	—	—
1.1		**ZP2-11ANN** ●	**ZP2-T11ANN-A5**	**ZP2-11ANS** ●	**ZP2-T11ANS-A5**			
2	Flat	**ZP2-B02MUN** ●	**ZP2-TB02MUN-A3**	**ZP2-B02MUS** ●	**ZP2-TB02MUS-A3**	M3 x 0.5	—	—
3.5		**ZP2-B035MUN** ●	**ZP2-TB035MUN-A3**	**ZP2-B035MUS** ●	**ZP2-TB035MUS-A3**			
4		**ZP2-B04MUN** ●	**ZP2-TB04MUN-A3**	**ZP2-B04MUS** ●	**ZP2-TB04MUS-A3**			
5		**ZP2-B05MUN** ●	**ZP2-TB05MUN-A3**	**ZP2-B05MUS** ●	**ZP2-TB05MUS-A3**			
6		**ZP2-B06MUN** ●	**ZP2-TB06MUN-H5**	**ZP2-B06MUS** ●	**ZP2-TB06MUS-H5**	M5 x 0.8		
8		**ZP2-B08MUN** ●	**ZP2-TB08MUN-H5**	**ZP2-B08MUS** ●	**ZP2-TB08MUS-H5**			
10		**ZP2-B10MUN** ●	**ZP2-TB10MUN-H5**	**ZP2-B10MUS** ●	**ZP2-TB10MUS-H5**			
15		**ZP2-B15MUN** ●	**ZP2-TB15MUN-H5**	**ZP2-B15MUS** ●	**ZP2-TB15MUS-H5**			
10	Flat with rib	**ZP2-B10MTN** ●	**ZP2-TB10MTN-H5**	**ZP2-B10MTS** ●	**ZP2-TB10MTS-H5**	M5 x 0.8	—	—
15		**ZP2-B15MTN** ●	**ZP2-TB15MTN-H5**	**ZP2-B15MTS** ●	**ZP2-TB15MTS-H5**			
20		**ZP2-B20MTN** ●	**ZP2-TB20MTN-H5**	**ZP2-B20MTS** ●	**ZP2-TB20MTS-H5**			
25		**ZP2-B25MTN** ●	**ZP2-TB25MTN-H5**	**ZP2-B25MTS** ●	**ZP2-TB25MTS-H5**			
30		**ZP2-B30MTN** ●	**ZP2-TB30MTN-H5**	**ZP2-B30MTS** ●	**ZP2-TB30MTS-H5**			
1.5	Flat	**ZP3-015UN**	**ZP3-T015UN-A3**	**ZP3-015US**	**ZP3-T015US-A3**	M3 x 0.5	—	—
2		**ZP3-02UN**	**ZP3-T02UN-A3**	**ZP3-02US**	**ZP3-T02US-A3**			
3.5		**ZP3-035UN**	**ZP3-T035UN-A3**	**ZP3-035US** ●	**ZP3-T035US-A3**			
4	Flat with groove	**ZP3-04UMN**	**ZP3-T04UMN-A5**	**ZP3-04UMS**	**ZP3-T04UMS-A5**	M5 x 0.8	—	—
6		**ZP3-06UMN**	**ZP3-T06UMN-A5**	**ZP3-06UMS**	**ZP3-T06UMS-A5**			
8		**ZP3-08UMN**	**ZP3-T08UMN-A5**	**ZP3-08UMS**	**ZP3-T08UMS-A5**			
10		**ZP3-10UMN**	**ZP3-T10UMN-A5**	**ZP3-10UMS**	**ZP3-T10UMS-A5**			
13		**ZP3-13UMN**	**ZP3-T13UMN-A5**	**ZP3-13UMS**	**ZP3-T13UMS-A5**			
16		**ZP3-16UMN**	**ZP3-T16UMN-A5**	**ZP3-16UMS**	**ZP3-T16UMS-A5**			
32	Flat with groove	**ZP3E-32UMN**	**ZP3E-T32UMN-AL14**	**ZP3E-32UMS**	**ZP3E-T32UMS-AL14**	M14 x 1	Rc1/8	**ZP3EB-T1JB10** **ZP3EB-T1JB30** **ZP3EB-T1JB50**
40		**ZP3E-40UMN**	**ZP3E-T40UMN-AL14**	**ZP3E-40UMS**	**ZP3E-T40UMS-AL14**			
50		**ZP3E-50UMN**	**ZP3E-T50UMN-AL14**	**ZP3E-50UMS**	**ZP3E-T50UMS-AL14**			
63		**ZP3E-63UMN**	**ZP3E-T63UMN-AL16**	**ZP3E-63UMS**	**ZP3E-T63UMS-AL16**	M16 x 1.5		**ZP3EB-T2JB10** **ZP3EB-T2JB30** **ZP3EB-T2JB50**
80		**ZP3E-80UMN**	**ZP3E-T80UMN-AL16**	**ZP3E-80UMS**	**ZP3E-T80UMS-AL16**			
100		**ZP3E-100UMN**	**ZP3E-T100UMN-AL16**	**ZP3E-100UMS**	**ZP3E-T100UMS-AL16**			
125		**ZP3E-125UMN**	**ZP3E-T125UMN-AL16**	**ZP3E-125UMS**	**ZP3E-T125UMS-AL16**			

Female thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Part number	
		Material: NBR		Material: Silicone rubber			Buffer assembly	
		Vacuum pad	With adapter	Vacuum pad	With adapter		Rotating	Non-rotating
6	Flat	**ZP2-B06MUN** ●	**ZP2-TB06MUN-B5**	**ZP2-B06MUS** ●	**ZP2-TB06MUS-B5**	M5 x 0.8	**ZP3B-T2AJ3-B5** **ZP3B-T2AJ6-B5** **ZP3B-T2AJ10-B5**	**ZP3B-T2AK3-B5** **ZP3B-T2AK6-B5** **ZP3B-T2AK10-B5**
8		**ZP2-B08MUN** ●	**ZP2-TB08MUN-B5**	**ZP2-B08MUS** ●	**ZP2-TB08MUS-B5**			
10		**ZP2-B10MUN** ●	**ZP2-TB10MUN-B5**	**ZP2-B10MUS** ●	**ZP2-TB10MUS-B5**		**ZP3B-T2BJ3-B5** **ZP3B-T2BJ6-B5** **ZP3B-T2BJ10-B5**	**ZP3B-T2BK3-B5** **ZP3B-T2BK6-B5** **ZP3B-T2BK10-B5**
15		**ZP2-B15MUN** ●	**ZP2-TB15MUN-B5**	**ZP2-B15MUS** ●	**ZP2-TB15MUS-B5**			
10	Flat with rib	**ZP2-B10MTN** ●	**ZP2-TB10MTN-B5**	**ZP2-B10MTS** ●	**ZP2-TB10MTS-B5**	M5 x 0.8	**ZP3B-T2BJ3-B5** **ZP3B-T2BJ6-B5** **ZP3B-T2BJ10-B5**	**ZP3B-T2BK3-B5** **ZP3B-T2BK6-B5** **ZP3B-T2BK10-B5**
15		**ZP2-B15MTN** ●	**ZP2-TB15MTN-B5**	**ZP2-B15MTS** ●	**ZP2-TB15MTS-B5**			
1.5	Flat	**ZP3-015UN**	**ZP3-T015UN-B3**	**ZP3-015US**	**ZP3-T015US-B3**	M3 x 0.5	**ZP3B-T1J3-B3** **ZP3B-T1J6-B3**	**ZP3B-T1K6-B3** **ZP3B-T1K6-B3**
2		**ZP3-02UN**	**ZP3-T02UN-B3**	**ZP3-02US**	**ZP3-T02US-B3**			
3.5		**ZP3-035UN**	**ZP3-T035UN-B3**	**ZP3-035US** ●	**ZP3-T035US-B3**			
4	Flat with groove	**ZP3-04UMN**	**ZP3-T04UMN-B5**	**ZP3-04UMS**	**ZP3-T04UMS-B5**	M5 x 0.8	**ZP3B-T2AJ3-B5** **ZP3B-T2AJ6-B5** **ZP3B-T2AJ10-B5**	**ZP3B-T2AK3-B5** **ZP3B-T2AK6-B5** **ZP3B-T2AK10-B5**
6		**ZP3-06UMN**	**ZP3-T06UMN-B5**	**ZP3-06UMS**	**ZP3-T06UMS-B5**			
8		**ZP3-08UMN**	**ZP3-T08UMN-B5**	**ZP3-08UMS**	**ZP3-T08UMS-B5**			
10		**ZP3-10UMN**	**ZP3-T10UMN-B5**	**ZP3-10UMS**	**ZP3-T10UMS-B5**		**ZP3B-T2BJ3-B5** **ZP3B-T2BJ6-B5** **ZP3B-T2BJ10-B5**	**ZP3B-T2BK3-B5** **ZP3B-T2BK6-B5** **ZP3B-T2BK10-B5**
13		**ZP3-13UMN**	**ZP3-T13UMN-B5**	**ZP3-13UMS**	**ZP3-T13UMS-B5**			
16		**ZP3-16UMN**	**ZP3-T16UMN-B5**	**ZP3-16UMS**	**ZP3-T16UMS-B5**			
32	Flat with groove	**ZP3E-32UMN**	**ZP3E-T32UMN-B10**	**ZP3E-32UMS**	**ZP3E-T32UMS-B10**	M10 x 1.5	See options in ZP3E Series catalogue	
40		**ZP3E-40UMN**	**ZP3E-T40UMN-B10**	**ZP3E-40UMS**	**ZP3E-T40UMS-B10**			
50		**ZP3E-50UMN**	**ZP3E-T50UMN-B10**	**ZP3E-50UMS**	**ZP3E-T50UMS-B10**			
63		**ZP3E-63UMN**	**ZP3E-T63UMN-B18**	**ZP3E-63UMS**	**ZP3E-T63UMS-B18**	M18 x 1.5		
80		**ZP3E-80UMN**	**ZP3E-T80UMN-B18**	**ZP3E-80UMS**	**ZP3E-T80UMS-B18**			
100		**ZP3E-100UMN**	**ZP3E-T100UMN-B18**	**ZP3E-100UMS**	**ZP3E-T100UMS-B18**			
125		**ZP3E-125UMN**	**ZP3E-T125UMN-B18**	**ZP3E-125UMS**	**ZP3E-T125UMS-B18**			

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Flat type vacuum pad with ball joint

ZP2/ZP3E Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Flat with rib / groove: To be used when workpiece is likely to deform or in the case of releasing work certainly
  - Heavy-duty: Reinforced pad to prevent deformation when transferring heavy or large workpieces
- **Ball joint:**
  - To be used when adsorption surface of workpiece is not horizontal
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Male thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Vacuum inlet	Part number
		Material: NBR		Material: Silicone rubber				Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter			
40	Flat with rib (Heavy-duty)	**ZP40HN** ●	**ZP2-TF40HN**	**ZP40HS** ●	**ZP2-TF40HS**	M14 x 1	Rc1/8	**ZP2B-TF1JB25** **ZP2B-TF1JB50** **ZP2B-TF1JB75**
50		**ZP50HN** ●	**ZP2-TF50HN**	**ZP50HS** ●	**ZP2-TF50HS**			
63		**ZP63HN** ●	**ZP2-TF63HN**	**ZP63HS** ●	**ZP2-TF63HS**	M16 x 1.5		**ZP2B-TF2JB25** **ZP2B-TF2JB50** **ZP2B-TF2JB75** **ZP2B-TF2JB100**
80		**ZP80HN** ●	**ZP2-TF80HN**	**ZP80HS** ●	**ZP2-TF80HS**			
100		**ZP100HN** ●	**ZP2-TF100HN**	**ZP100HS** ●	**ZP2-TF100HS**			**ZP2B-TF3JB25** **ZP2B-TF3JB50** **ZP2B-TF3JB75** **ZP2B-TF3JB100**
125		**ZP125HN** ●	**ZP2-TF125HN**	**ZP125HS** ●	**ZP2-TF125HS**			
32	Flat with groove	**ZP3E-32UMN**	**ZP3E-TF32UMN-AL14**	**ZP3E-32UMS**	**ZP3E-TF32UMS-AL14**	M14 x 1	Rc1/8	**ZP3EU-TF1JB10** **ZP3EU-TF1JB30** **ZP3EU-TF1JB50**
40		**ZP3E-40UMN**	**ZP3E-TF40UMN-AL14**	**ZP3E-40UMS**	**ZP3E-TF40UMS-AL14**			
50		**ZP3E-50UMN**	**ZP3E-TF50UMN-AL14**	**ZP3E-50UMS**	**ZP3E-TF50UMS-AL14**			**ZP3EU-TF2JB10** **ZP3EU-TF2JB30** **ZP3EU-TF2JB50**
63		**ZP3E-63UMN**	**ZP3E-TF63UMN-AL16**	**ZP3E-63UMS**	**ZP3E-TF63UMS-AL16**	M16 x 1.5		**ZP3EU-TF3JB10** **ZP3EU-TF3JB30** **ZP3EU-TF3JB50**
80		**ZP3E-80UMN**	**ZP3E-TF80UMN-AL16**	**ZP3E-80UMS**	**ZP3E-TF80UMS-AL16**			
100		**ZP3E-100UMN**	**ZP3E-TF100UMN-AL16**	**ZP3E-100UMS**	**ZP3E-TF100UMS-AL16**			**ZP3EU-TF4JB10** **ZP3EU-TF4JB30** **ZP3EU-TF4JB50**
125		**ZP3E-125UMN**	**ZP3E-TF125UMN-AL16**	**ZP3E-125UMS**	**ZP3E-TF125UMS-AL16**			**ZP3EU-TF5JB10** **ZP3EU-TF5JB30** **ZP3EU-TF5JB50**

Female thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Part number
		Material: NBR		Material: Silicone rubber			Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter		
32	Flat with groove	**ZP3E-32UMN**	**ZP3E-TF32UMN-B8**	**ZP3E-32UMS**	**ZP3E-TF32UMS-B8**	M8 x 1.25	See options in ZP3E Series catalogue
40		**ZP3E-40UMN**	**ZP3E-TF40UMN-B8**	**ZP3E-40UMS**	**ZP3E-TF40UMS-B8**		
50		**ZP3E-50UMN**	**ZP3E-TF50UMN-B8**	**ZP3E-50UMS**	**ZP3E-TF50UMS-B8**		
63		**ZP3E-63UMN**	**ZP3E-TF63UMN-B12**	**ZP3E-63UMS**	**ZP3E-TF63UMS-B12**	M12 x 1.75	
80		**ZP3E-80UMN**	**ZP3E-TF80UMN-B12**	**ZP3E-80UMS**	**ZP3E-TF80UMS-B12**		
100		**ZP3E-100UMN**	**ZP3E-TF100UMN-B12**	**ZP3E-100UMS**	**ZP3E-TF100UMS-B12**		
125		**ZP3E-125UMN**	**ZP3E-TF125UMN-B12**	**ZP3E-125UMS**	**ZP3E-TF125UMS-B12**		

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Bellows type vacuum pad
ZP2/ZP3/ZP3E Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Bellows / Bellows type with groove: To be used when there is not enough space to install buffer or adsorption surface of workpiece is slanted
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Male thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Vacuum inlet	Part number
		Material: NBR		Material: Silicone rubber				Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter			
4	Bellows	**ZP2-B04MBN** ●	**ZP2-TB04MBN-A3**	**ZP2-B04MBS** ●	**ZP2-TB04MBS-A3** ●	M3 x 0.5	Rc1/8	—
6		**ZP2-B06MBN** ●	**ZP2-TB06MBN-H5**	**ZP2-B06MBS** ●	**ZP2-TB06MBS-H5**	M5 x 0.8		
8		**ZP2-B08MBN** ●	**ZP2-TB08MBN-H5** ●	**ZP2-B08MBS** ●	**ZP2-TB08MBS-H5**			
10		**ZP2-B10MBN** ●	**ZP2-TB10MBN-H5**	**ZP2-B10MBS** ●	**ZP2-TB10MBS-H5**			
15		**ZP2-B15MBN** ●	**ZP2-TB15MBN-H5**	**ZP2-B15MBS** ●	**ZP2-TB15MBS-H5** ●			
20		**ZP2-B20MBN** ●	**ZP2-TB20MBN-H5** ●	**ZP2-B20MBS** ●	**ZP2-TB20MBS-H5** ●			
4	Bellows	**ZP3-04BN**	**ZP3-T04BN-A5**	**ZP3-04BS**	**ZP3-T04BS-A5**	M5 x 0.8	Rc1/8	—
6		**ZP3-06BN**	**ZP3-T06BN-A5**	**ZP3-06BS**	**ZP3-T06BS-A5**			
8		**ZP3-08BN**	**ZP3-T08BN-A5**	**ZP3-08BS**	**ZP3-T08BS-A5**			
10		**ZP3-10BN**	**ZP3-T10BN-A5**	**ZP3-10BS**	**ZP3-T10BS-A5**			
13		**ZP3-13BN**	**ZP3-T13BN-A5**	**ZP3-13BS**	**ZP3-T13BS-A5**			
16		**ZP3-16BN**	**ZP3-T16BN-A5**	**ZP3-16BS**	**ZP3-T16BS-A5**			
32	Bellows type with groove	**ZP3E-32BMN**	**ZP3E-T32BMN-AL14**	**ZP3E-32BMS**	**ZP3E-T32BMS-AL14**	M14 x 1	Rc1/8	**ZP3EB-T1JB10** **ZP3EB-T1JB30** **ZP3EB-T1JB50**
40		**ZP3E-40BMN**	**ZP3E-T40BMN-AL14**	**ZP3E-40BMS**	**ZP3E-T40BMS-AL14**			
50		**ZP3E-50BMN**	**ZP3E-T50BMN-AL14**	**ZP3E-50BMS**	**ZP3E-T50BMS-AL14**			
63		**ZP3E-63BMN**	**ZP3E-T63BMN-AL16**	**ZP3E-63BMS**	**ZP3E-T63BMS-AL16**	M16 x 1.5		**ZP3EB-T2JB10** **ZP3EB-T2JB30** **ZP3EB-T2JB50**
80		**ZP3E-80BMN**	**ZP3E-T80BMN-AL16**	**ZP3E-80BMS**	**ZP3E-T80BMS-AL16**			
100		**ZP3E-100BMN**	**ZP3E-T100BMN-AL16**	**ZP3E-100BMS**	**ZP3E-T100BMS-AL16**			
125		**ZP3E-125BMN**	**ZP3E-T125BMN-AL16**	**ZP3E-125BMS**	**ZP3E-T125BMS-AL16**			

Female thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Part number	
		Material: NBR		Material: Silicone rubber			Buffer assembly	
		Vacuum pad	With adapter	Vacuum pad	With adapter		Rotating	Non-rotating
6	Bellows	**ZP2-B04MBN** ●	**ZP2-TB06MBN-B5**	**ZP2-B04MBS** ●	**ZP2-TB06MBS-B5**	M5 x 0.8	**ZP3B-T2AJ3-B5** **ZP3B-T2AJ6-B5** **ZP3B-T2AJ10-B5**	**ZP3B-T2BK3-B5** **ZP3B-T2BK6-B5** **ZP3B-T2BK10-B5**
8		**ZP2-B08MBN** ●	**ZP2-TB08MBN-B5**	**ZP2-B08MBS** ●	**ZP2-TB08MBS-B5**			
4	Bellows	**ZP3-04BN**	**ZP3-T04BN-B5**	**ZP3-04BS**	**ZP3-T04BS-B5**	M5 x 0.8	**ZP3B-T2AJ3-B5** **ZP3B-T2AJ6-B5** **ZP3B-T2AJ10-B5**	**ZP3B-T2AK3-B5** **ZP3B-T2AK6-B5** **ZP3B-T2AK10-B5**
6		**ZP3-06BN**	**ZP3-T06BN-B5**	**ZP3-06BS**	**ZP3-T06BS-B5**			
8		**ZP3-08BN**	**ZP3-T08BN-B5**	**ZP3-08BS**	**ZP3-T08BS-B5**			
10		**ZP3-10BN**	**ZP3-T10BN-B5**	**ZP3-10BS**	**ZP3-T10BS-B5**		**ZP3B-T2BJ3-B5** **ZP3B-T2BJ6-B5** **ZP3B-T2BJ10-B5**	**ZP3B-T2BK3-B5** **ZP3B-T2BK6-B5** **ZP3B-T2BK10-B5**
13		**ZP3-13BN**	**ZP3-T13BN-B5**	**ZP3-13BS**	**ZP3-T13BS-B5**			
16		**ZP3-16BN**	**ZP3-T16BN-B5**	**ZP3-16BS**	**ZP3-T16BS-B5**			
32	Bellows type with groove	**ZP3E-32BMN**	**ZP3E-T32BMN-B10**	**ZP3E-32BMS**	**ZP3E-T32BMS-B10**	M10 x 1.5	See options in ZP3E Series catalogue	
40		**ZP3E-40BMN**	**ZP3E-T40BMN-B10**	**ZP3E-40BMS**	**ZP3E-T40BMS-B10**			
50		**ZP3E-50BMN**	**ZP3E-T50BMN-B10**	**ZP3E-50BMS**	**ZP3E-T50BMS-B10**			
63		**ZP3E-63BMN**	**ZP3E-T63BMN-B18**	**ZP3E-63BMS**	**ZP3E-T63BMS-B18**	M18 x 1.5		
80		**ZP3E-80BMN**	**ZP3E-T80BMN-B18**	**ZP3E-80BMS**	**ZP3E-T80BMS-B18**			
100		**ZP3E-100BMN**	**ZP3E-T100BMN-B18**	**ZP3E-100BMS**	**ZP3E-T100BMS-B18**			
125		**ZP3E-125BMN**	**ZP3E-T125BMN-B18**	**ZP3E-125BMS**	**ZP3E-T125BMS-B18**			

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● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Bellows type vacuum pad with ball joint

ZP2/ZP3E Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Bellows / Bellows type with groove: To be used when there is not enough space to install buffer or adsorption surface of workpiece is slanted
- **Ball joint:**
  - To be used when adsorption surface of workpiece is not horizontal
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Male thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Vacuum inlet	Part number
		Material: NBR		Material: Silicone rubber				Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter			
40	Bellows	**ZP40HBN** ●	**ZP2-TF40HBN**	**ZP40HBS** ●	**ZP2-TF40HBS**	M14 x 1	Rc1/8	**ZP2B-TF1JB25** **ZP2B-TF1JB50** **ZP2B-TF1JB75**
50		**ZP50HBN** ●	**ZP2-TF50HBN**	**ZP50HBS**	**ZP2-TF50HBS**			
63		**ZP63HBN** ●	**ZP2-TF63HBN**	**ZP63HBS**	**ZP2-TF63HBS**	M16 x 1.5		**ZP2B-TF2JB25** **ZP2B-TF2JB50** **ZP2B-TF2JB75** **ZP2B-TF2JB100**
80		**ZP80HBN** ●	**ZP2-TF80HBN**	**ZP80HBS** ●	**ZP2-TF80HBS**			
100		**ZP100HBN** ●	**ZP2-TF100HBN**	**ZP100HBS**	**ZP2-TF100HBS**			**ZP2B-TF3JB25** **ZP2B-TF3JB50** **ZP2B-TF3JB75** **ZP2B-TF3JB100**
125		**ZP125HBN** ●	**ZP2-TF125HBN**	**ZP125HBS**	**ZP2-TF125HBS**			
32	Bellows type with groove	**ZP3E-32BMN**	**ZP3E-TF32BMN-AL14**	**ZP3E-32BMS**	**ZP3E-TF32BMS-AL14**	M14 x 1	Rc1/8	**ZP3EU-TF1JB10** **ZP3EU-TF1JB30** **ZP3EU-TF1JB50**
40		**ZP3E-40BMN**	**ZP3E-TF40BMN-AL14**	**ZP3E-40BMS**	**ZP3E-TF40BMS-AL14**			
50		**ZP3E-50BMN**	**ZP3E-TF50BMN-AL14**	**ZP3E-50BMS**	**ZP3E-TF50BMS-AL14**			**ZP3EU-TF2JB10** **ZP3EU-TF2JB30** **ZP3EU-TF2JB50**
63		**ZP3E-63BMN**	**ZP3E-TF63BMN-AL16**	**ZP3E-63BMS**	**ZP3E-TF63BMS-AL16**	M16 x 1.5		**ZP3EU-TF3JB10** **ZP3EU-TF3JB30** **ZP3EU-TF3JB50**
80		**ZP3E-80BMN**	**ZP3E-TF80BMN-AL16**	**ZP3E-80BMS**	**ZP3E-TF80BMS-AL16**			
100		**ZP3E-100BMN**	**ZP3E-TF100BMN-AL16**	**ZP3E-100BMS**	**ZP3E-TF100BMS-AL16**			**ZP3EU-TF4JB10** **ZP3EU-TF4JB30** **ZP3EU-TF4JB50**
125		**ZP3E-125BMN**	**ZP3E-TF125BMN-AL16**	**ZP3E-125BMS**	**ZP3E-TF125BMS-AL16**			**ZP3EU-TF5JB10** **ZP3EU-TF5JB30** **ZP3EU-TF5JB50**

Female thread

Pad Ø [mm]	Pad style	Part number				Mounting thread size	Part number
		Material: NBR		Material: Silicone rubber			Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter		
32	Bellows type with groove	**ZP3E-32BMN**	**ZP3E-TF32BMN-B8**	**ZP3E-32BMNS**	**ZP3E-TF32BMS-B8**	M8 x 1.25	See options in ZP3E Series catalogue
40		**ZP3E-40BMN**	**ZP3E-TF40BMN-B8**	**ZP3E-40BMNS**	**ZP3E-TF40BMS-B8**		
50		**ZP3E-50BMN**	**ZP3E-TF50BMN-B8**	**ZP3E-50BMNS**	**ZP3E-TF50BMS-B8**		
63		**ZP3E-63BMN**	**ZP3E-TF63BMN-B12**	**ZP3E-63BMNS**	**ZP3E-TF63BMS-B12**	M12 x 1.75	
80		**ZP3E-80BMN**	**ZP3E-TF80BMN-B12**	**ZP3E-80BMNS**	**ZP3E-TF80BMS-B12**		
100		**ZP3E-100BMN**	**ZP3E-TF100BMN-B12**	**ZP3E-100BMNS**	**ZP3E-TF100BMS-B12**		
125		**ZP3E-125BMN**	**ZP3E-TF125BMN-B12**	**ZP3E-125BMNS**	**ZP3E-TF125BMS-B12**		

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

4.5-stage bellows pad
ZP2 Series

- **Material:**
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - To be used when there is not enough space to install buffer or adsorption surface of workpiece is slanted
- **Applications:**
  - For adsorbing workpieces flowing at high speeds. Semiconductor, removing from die-casting, thin workpieces, food processor.

Pad Ø [mm]	Part number		Mounting thread size	Vacuum inlet
	Vacuum pad	With adapter		
15	**ZP2-B15ZJS**	**ZP2-TB15ZJS-AL12-06** ●	M12 x 1	Ø 6
20	**ZP2-B20ZJS**	**ZP2-TB20ZJS-AL12-06** ●		
30	**ZP2-B30ZJS**	**ZP2-TB30ZJS-AL14-06** ●	M14 x 1	
40	**ZP2-40ZJS** ●	**ZP2-T40ZJS-AL14-06** ●		
46	**ZP2-46ZJS** ●	**ZP2-T46ZJS-AL14-06** ●		

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Oval type vacuum pad
ZP2 Series

- **Material:**
  - NBR (Nitrile rubber): Good oil resistance, abrasion resistance, and aging resistance. Colour: Black
  - Silicone rubber: Excellent heat resistance and cold resistance (-30 °C to 200 °C). Colour: White
- **Pad style:**
  - Oval: To be used when workpiece has limited adsorption surface or long in length and work is required to locate precisely
- **Applications:**
  - NBR (Nitrile rubber): Transfer of general workpieces, corrugated board, veneer plate, iron plate and others
  - Silicone rubber: Semiconductor, removing from die-casting, thin workpieces, food processor.

Female thread

Pad Ø [mm]	Pad style	Part number				Vacuum inlet	Part number
		Material: NBR		Material: Silicone rubber			Buffer assembly
		Vacuum pad	With adapter	Vacuum pad	With adapter		
3.5 x 7	Oval	**ZP2-3507WN** ●	**ZP2-T3507WN-B5**	**ZP2-3507WS** ●	**ZP2-T3507WS-B5**	M5 x 0.8	**ZPB2K10-B5** ● **ZPB2K20-B5** ● **ZPB2K30-B5** ● **ZPB2K40-B5** ● **ZPB2K50-B5** ●
4 x 10		**ZP2-4010WN** ●	**ZP2-T4010WN-B5**	**ZP2-4010WS** ●	**ZP2-T4010WS-B5**		
5 x 10		**ZP2-5010WN** ●	**ZP2-T5010WN-B5**	**ZP2-5010WS** ●	**ZP2-T5010WS-B5**		
6 x 10		**ZP2-6010WN** ●	**ZP2-T6010WN-B5**	**ZP2-6010WS** ●	**ZP2-T6010WS-B5**		
4 x 20		**ZP2-4020WN** ●	**ZP2-T4020WN-B5**	**ZP2-4020WS** ●	**ZP2-T4020WS-B5**		
5 x 20		**ZP2-5020WN** ●	**ZP2-T5020WN-B5**	**ZP2-5020WS** ●	**ZP2-T5020WS-B5**		
6 x 20		**ZP2-6020WN** ●	**ZP2-T6020WN-B5**	**ZP2-6020WS** ●	**ZP2-T6020WS-B5**		
8 x 20		**ZP2-8020WN** ●	**ZP2-T8020WN-B5**	**ZP2-8020WS** ●	**ZP2-T8020WS-B5**		
4 x 30		**ZP2-4030WN** ●	**ZP2-T4030WN-B5**	**ZP2-4030WS** ●	**ZP2-T4030WS-B5**		
5 x 30		**ZP2-5030WN** ●	**ZP2-T5030WN-B5**	**ZP2-5030WS** ●	**ZP2-T5030WS-B5**		
6 x 30		**ZP2-6030WN** ●	**ZP2-T6030WN-B5**	**ZP2-6030WS** ●	**ZP2-T6030WS-B5**		
8 x 30		**ZP2-8030WN** ●	**ZP2-T8030WN-B5**	**ZP2-8030WS** ●	**ZP2-T8030WS-B5**		

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Mark-free flat type vacuum pad

ZP2 Series

- **Material:**
  - Mark-free NBR with stuck fluororesin (Fluororesin sheet is baked into the pad adsorption surface): Good oil resistance, abrasion resistance, and aging resistance. Does not leaf adsorption marks on workpieces. Prevents the transfer of rubber constituents Colour: Black
- **Pad style:**
  - Flat with rib: To be used when workpiece is likely to deform or in the case of releasing work certainly
- **Applications:**
  - Transfer of semiconductors, glass, solar cells, semi-finished parts, or any other workpiece that is sensitive to being marked in handling, etc.

Male thread

Pad Ø [mm]	Pad style	Part number		Mounting thread size	Part number
		Material: NBR			Buffer assembly
		Vacuum pad	With adapter		
40	Flat with rib	**ZP2-40HNT**	**ZP2A-TF1**	M14 x 1	**ZP2B-TF1JB25** **ZP2B-TF1JB50** **ZP2B-TF1JB75**
50		**ZP2-50HNT**			
63		**ZP2-63HNT**	**ZP2A-TF2**	M16 x 1.5	**ZP2B-TF2JB25** **ZP2B-TF2JB50** **ZP2B-TF2JB75** **ZP2B-TF2JB100**
80		**ZP2-80HNT**			
100		**ZP2-100HNT**	**ZP2A-TF3**		**ZP2B-TF3JB25** **ZP2B-TF3JB50** **ZP2B-TF3JB75** **ZP2B-TF3JB100**
125		**ZP2-125HNT**			

Female thread

Pad Ø [mm]	Pad style	Part number		Mounting thread size	Part number
		Material: NBR			Buffer assembly
		Vacuum pad	With adapter		
40	Flat with rib	**ZP2-40HNT**	**ZPA-T1-B8** **ZPA-T1-B10**	M8 x 1.25 M10 x 1.5	See options in ZP2 Series catalogue
50		**ZP2-50HNT**			
63		**ZP2-63HNT**	**ZPA-T2-B8** **ZPA-T2-B10** **ZPA-T2-B12** **ZPA-T2-B16**	M8 x 1.25 M10 x 1.5 M12 x 1.75 M16 x 1.5	
80		**ZP2-80HNT**			
100		**ZP2-100HNT**	**ZPA-T3-B12** **ZPA-T3-B16**	M12 x 1.75 M16 x 1.5	
125		**ZP2-125HNT**			

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Mark-free flat type vacuum pad
ZP2/ZP3E Series

- **Material:**
  - Mark-free NBR (Halogenated NBR): Good oil resistance, abrasion resistance, and aging resistance. Does not leaf adsorption marks on workpieces. Colour: Black
- **Pad style:**
  - Flat: To be used when adsorption surface of workpiece is flat and not deformed
  - Flat with rib / groove: To be used when workpiece is likely to deform or in the case of releasing work certainly
  - Heavy-duty: Reinforced pad to prevent deformation when transferring heavy or large workpieces
- **Applications:**
  - Transfer of semiconductors, glass, solar cells, semi-finished parts, or any other workpiece that is sensitive to being marked in handling, etc.

Male thread

Pad Ø [mm]	Pad style	Part number Material: NBR		Mounting thread size	Vacuum inlet	Part number
		Vacuum pad	With adapter			Buffer assembly
4	Flat	**ZP2-04UCL**	**ZPT1-A5** ● **ZPT1-A6** ●	M5 x 0.8 M6 x 1	—	See options in ZP2 Series catalogue
6		**ZP2-06UCL**				
8		**ZP2-08UCL**				
10		**ZP2-10UCL** ●	**ZPT2-A5** ● **ZPT2-A6** ●	M5 x 0.8 M6 x 1		
12		**ZP2-12UCL**				
16		**ZP2-16UCL** ●				
25		**ZP2-25UCL**	**ZPT3-A6** ● **ZPT3-A8** ●	M6 x 1 M8 x 1		
32		**ZP2-32UCL**				
40		**ZP2-40UCL**	**ZPT4-A6** ● **ZPT4-A8** ●	M6 x 1 M8 x 1		
50		**ZP2-50UCL**				
40	Flat with rib (Heavy-duty)	**ZP2-40HCL**	**ZP2A-TF1**	M14 x 1	—	**ZP2B-TF1JB25** **ZP2B-TF1JB50** **ZP2B-TF1JB75**
50		**ZP2-50HCL**				
63		**ZP2-63HCL**	**ZP2A-TF2**	M16 x 1.5		**ZP2B-TF2JB25** **ZP2B-TF2JB50** **ZP2B-TF2JB75** **ZP2B-TF2JB100**
80		**ZP2-80HCL**				
100		**ZP2-100HCL**	**ZP2A-TF3**			**ZP2B-TF3JB25** **ZP2B-TF3JB50** **ZP2B-TF3JB75** **ZP2B-TF3JB100**
125		**ZP2-125HCL**				
32	Flat type with groove	**ZP3E-32UMCL**	**ZP3E-T32UMCL-AL14**	M14 x 1	Rc1/8	**ZP3EB-T1JB10** **ZP3EB-T1JB30** **ZP3EB-T1JB50**
40		**ZP3E-40UMCL**	**ZP3E-T40UMCL-AL14**			
50		**ZP3E-50UMCL**	**ZP3E-T50UMCL-AL14**			
63		**ZP3E-63UMCL**	**ZP3E-T63UMCL-AL16**	M16 x 1.5		**ZP3EB-T2JB10** **ZP3EB-T2JB30** **ZP3EB-T2JB50**
80		**ZP3E-80UMCL**	**ZP3E-T80UMCL-AL16**			
100		**ZP3E-100UMCL**	**ZP3E-T100UMCL-AL16**			
125		**ZP3E-125UMCL**	**ZP3E-T125UMCL-AL16**			

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Female thread

Pad Ø [mm]	Pad style	Part number		Mounting thread size	Part number
		Material: NBR			Buffer assembly
		Vacuum pad	With adapter		
4	Flat	**ZP2-04UCL**	**ZPT1-B4** **ZPT1-B5** ●	M4 x 0.7 M5 x 0.8	See options in ZP2 Series catalogue
6		**ZP2-06UCL**			
8		**ZP2-08UCL**			
10		**ZP2-10UCL** ●	**ZPT2-B5** ● **ZPT2-B6** ●	M5 x 0.8 M6 x 1	
12		**ZP2-12UCL**			
16		**ZP2-16UCL** ●			
25		**ZP2-25UCL**	**ZPT3-B5** ● **ZPT3-B6** ● **ZPT3-B8** ●	M5 x 0.8 M6 x 1 M8 x 1.25	
32		**ZP2-32UCL**			
40		**ZP2-40UCL**	**ZPT4-B6** ● **ZPT4-B8** ●	M6 x 1 M8 x 1.25	
50		**ZP2-50UCL**			
40	Flat with rib (Heavy-duty)	**ZP2-40HCL**	**ZPA-T1-B8** **ZPA-T1-B10**	M8 x 1.25 M10 x 1.5	
50		**ZP2-50HCL**			
63		**ZP2-63HCL**	**ZPA-T2-B8** **ZPA-T2-B10** **ZPA-T2-B12** **ZPA-T2-B16**	M8 x 1.25 M10 x 1.5 M12 x 1.75 M16 x 1.5	
80		**ZP2-80HCL**			
100		**ZP2-100HCL**	**ZPA-T3-B12** **ZPA-T3-B16**	M12 x 1.75 M16 x 1.5	
125		**ZP2-125HCL**			
32	Flat type with groove	**ZP3E-32UMCL**	**ZP3E-T32UMCL-B10**	M10 x 1.5	See options in ZP3E Series catalogue
40		**ZP3E-40UMCL**	**ZP3E-T40UMCL-B10**		
50		**ZP3E-50UMCL**	**ZP3E-T50UMCL-B10**		
63		**ZP3E-63UMCL**	**ZP3E-T63UMCL-B18**	M18 x 1.5	
80		**ZP3E-80UMCL**	**ZP3E-T80UMCL-B18**		
100		**ZP3E-100UMCL**	**ZP3E-T100UMCL-B18**		
125		**ZP3E-125UMCL**	**ZP3E-T125UMCL-B18**		

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Mark-free bellows type vacuum pad
ZP3E Series

- **Material:**
  - Mark-free NBR (Halogenated NBR): Good oil resistance, abrasion resistance, and aging resistance. Does not leaf adsorption marks on workpieces. Colour: Black
- **Pad style:**
  - Bellows type with groove: To be used when there is not enough space to install buffer or adsorption surface of workpiece is slanted
- **Applications:**
  - Transfer of semiconductors, glass, solar cells, semi-finished parts, or any other workpiece that is sensitive to being marked in handling, etc.

Male thread

Pad Ø [mm]	Pad style	Part number Material: NBR		Mounting thread size	Vacuum inlet	Part number
		Vacuum pad	With adapter			Buffer assembly
32	Bellows type with groove	**ZP3E-32BMCL**	**ZP3E-T32BMCL-AL14**	M14 x 1	Rc1/8	**ZP3EB-T1JB10** **ZP3EB-T1JB30** **ZP3EB-T1JB50**
40		**ZP3E-40BMCL**	**ZP3E-T40BMCL-AL14**			
50		**ZP3E-50BMCL**	**ZP3E-T50BMCL-AL14**			
63		**ZP3E-63BMCL**	**ZP3E-T63BMCL-AL16**	M16 x 1.5		**ZP3EB-T2JB10** **ZP3EB-T2JB30** **ZP3EB-T2JB50**
80		**ZP3E-80BMCL**	**ZP3E-T80BMCL-AL16**			
100		**ZP3E-100BMCL**	**ZP3E-T100BMCL-AL16**			
125		**ZP3E-125BMCL**	**ZP3E-T125BMCL-AL16**			

Female thread

Pad Ø [mm]	Pad style	Part number Material: NBR		Mounting thread size	Part number
		Vacuum pad	With adapter		Buffer assembly
32	Bellows type with groove	**ZP3E-32BMCL**	**ZP3E-T32BMCL-B10**	M10 x 1.5	See options in ZP3E Series catalogue
40		**ZP3E-40BMCL**	**ZP3E-T40BMCL-B10**		
50		**ZP3E-50BMCL**	**ZP3E-T50BMCL-B10**		
63		**ZP3E-63BMCL**	**ZP3E-T63BMCL-B18**	M18 x 1.5	
80		**ZP3E-80BMCL**	**ZP3E-T80BMCL-B18**		
100		**ZP3E-100BMCL**	**ZP3E-T100BMCL-B18**		
125		**ZP3E-125BMCL**	**ZP3E-T125BMCL-B18**		

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Mark-free bellows type vacuum pad

ZPT/ZP2 Series

- **Material:**
  - Mark-free NBR with PEEK resin attached: Good oil resistance, abrasion resistance, and aging resistance. Does not leaf adsorption marks on workpieces. Prevents the transfer of rubber constituents. Colour: White ring on black body
- **Pad style:**
  - Bellows: To be used when there is not enough space to install buffer or adsorption surface of workpiece is slanted
- **Applications:**
  - Transfer of semiconductors, glass, solar cells, semi-finished parts, or any other workpiece that is sensitive to being marked in handling, etc.

Male thread

Pad Ø [mm]	Pad style	Part number Material: NBR		Mounting thread size	Vacuum inlet	Part number Buffer assembly
		With adapter	Resin attachment			
6	Bellows	**ZPT06BN-A5** ●	**ZP2-06KP**	M10 x 1	M5 x 0.8	—
8		**ZPT08BN-A5** ●	**ZP2-08KP**			
10		**ZPT10BN-A5** ●	**ZP2-10KP** ●			
13		**ZPT13BN-A6** ●	**ZP2-13KP**		M6 x 1	
16		**ZPT16BN-A6** ●	**ZP2-16KP**			
20		**ZPT20BN-A6** ●	**ZP2-20KP**			
25		**ZPT25BN-A6** ●	**ZP2-25KP**			
32		**ZPT32BN-A6** ●	**ZP2-32KP**			

Female thread

Pad Ø [mm]	Pad style	Part number Material: NBR		Mounting thread size	Vacuum inlet	Part number Buffer assembly
		With adapter	Resin attachment			
6	Bellows	**ZPT06BN-B5** ●	**ZP2-06KP**	M10 x 1	M5 x 0.8	**ZPB2J10-B5** ● **ZPB2J20-B5** ● **ZPB2J30-B5** ● **ZPB2J40-B5** ● **ZPB2J50-B5** ●
8		**ZPT08BN-B5** ●	**ZP2-08KP**			
10		**ZPT10BN-B5** ●	**ZP2-10KP** ●			
13		**ZPT13BN-B5** ●	**ZP2-13KP**			
16		**ZPT16BN-B5** ●	**ZP2-16KP**			
20		**ZPT20BN-B5** ●	**ZP2-20KP**			
25		**ZPT25BN-B5** ●	**ZP2-25KP**			
32		**ZPT32BN-B5** ●	**ZP2-32KP**			

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

Our highlighted product for you

Flat type vacuum pad
ZP3P Series

- **Material:** Silicone rubber compliant with the FDA 21CFR§177.2600 elution test. Colour: Blue. Easy to distinguish by colour during contamination inspection
- **Pad style:** Good for film packaging applications where the shape of the workpiece changes easily from being lifted. Reduced leakage: Sealing skirt design, better sealing performance even for thin films. Reduction of wrinkles made on thin workpieces (film, vinyl, etc.) during adsorption
- **Applications:** Food / beverage, medical / pharmaceutical and packaging industries.

Male thread

Pad Ø [mm]	Part number			Mounting thread size
	Vacuum pad	With adapter	Buffer assembly	
20	**ZP3P-20PTSF**	**ZP3P-T20PTSF-A5**	—	M5 x 0.8
		ZP3P-T20PTSF-AG1 ●		G1/8
25	**ZP3P-25PTSF**	**ZP3P-T25PTSF-A5**		M5 x 0.8
		ZP3P-T25PTSF-AG1 ●		G1/8
35	**ZP3P-35PTSF**	**ZP3P-T35PTSF-AG2** ●		G1/4
		ZP3P-T35PTSF-AG3		G3/8
50	**ZP3P-50PTSF**	**ZP3P-T50PTSF-AG2** ●		G1/4
		ZP3P-T50PTSF-AG3		G3/8

Female thread

Pad Ø [mm]	Part number			Mounting thread size
	Vacuum pad	With adapter	Buffer assembly	
20	**ZP3P-20PTSF**	**ZP3P-T20PTSF-B5**	**ZPB2K10-B5** ● **ZPB2J10-B5** ● **ZPB2K20-B5** ● **ZPB2J20-B5** ●	M5 x 0.8
				G1/8
25	**ZP3P-25PTSF**	**ZP3P-T25PTSF-B5** ●		M5 x 0.8
				G1/8
35	**ZP3P-35PTSF**	**ZP3P-T35PTSF-B8**	**ZPB3K10-B01** ● **ZPB3J10-B01** ● **ZPB3K20-B01** ● **ZPB3J20-B01** ●	M8 x 1.25
				G3/8
50	**ZP3P-50PTSF**	**ZP3P-T50PTSF-B8**		M8 x 1.25
				G3/8

1) This catalogue includes the most common product options. Other options and materials available, consult with SMC.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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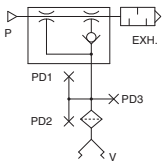
Our highlighted product for you

Vacuum pad with ejector

ZHP Series

- Vacuum ejector and pad are integrated in a single compact unit
- Lock-plate structure enables easy and one-touch replacement of the pad
- More efficient two-stage ejector mounted, with improved vacuum generating efficiency
- By placing a silencer in the release, the exhaust is discharged directly to atmosphere, thus reducing noise and minimising clogging
- 3 port locations available in the adapted pad, allowing for variety of connections, such as vacuum release, vacuum pressure sensor and piping
- Daisy-chain piping possible thanks to the existence of 3 port locations.

Pad Ø [mm]	Pad form	Part number	Pad material	Mounting		Ejector / Nozzle nominal size [mm]	Supply (P) port	Exhaust release	Circuit symbol
				Thread	Size				
63	Bellows type with groove	**ZHP63BMNB-07C6S**	NBR (Black)	Male	M10	Ø 0.7	Ø 6 One-touch fitting	Silencer exhaust	
	Flat type with groove	**ZHP63UMNB-07C6S**							
	Bellows type with groove	**ZHP63BMNB-10C6S** ●				Ø 1.0			
	Flat type with groove	**ZHP63UMNB-10C6S**							
80	Bellows type with groove	**ZHP80BMNB-12C6S**				Ø 1.2			
	Flat type with groove	**ZHP80UMNB-12C6S**							
	Bellows type with groove	**ZHP80BMNB-15C6S** ●				Ø 1.5			
	Flat type with groove	**ZHP80UMNB-15C6S**							
63	Bellows type with groove	**ZHP63BMSB-07C6S**	Silicone rubber (White)			Ø 0.7	Ø 6 One-touch fitting	Silencer exhaust	
	Flat type with groove	**ZHP63UMSB-07C6S**							
	Bellows type with groove	**ZHP63BMSB-10C6S**				Ø 1.0			
	Flat type with groove	**ZHP63UMSB-10C6S**							
80	Bellows type with groove	**ZHP80BMSB-12C6S**				Ø 1.2			
	Flat type with groove	**ZHP80UMSB-12C6S**							
	Bellows type with groove	**ZHP80BMSB-15C6S**				Ø 1.5			
	Flat type with groove	**ZHP80UMSB-15C6S**							
63	Bellows type with groove	**ZHP63BMUB-07C6S**	Urethane rubber (Brown)			Ø 0.7	Ø 6 One-touch fitting	Silencer exhaust	
	Flat type with groove	**ZHP63UMUB-07C6S**							
	Bellows type with groove	**ZHP63BMUB-10C6S**				Ø 1.0			
	Flat type with groove	**ZHP63UMUB-10C6S**							
80	Bellows type with groove	**ZHP80BMUB-12C6S**				Ø 1.2			
	Flat type with groove	**ZHP80UMUB-12C6S**							
	Bellows type with groove	**ZHP80BMUB-15C6S**				Ø 1.5			
	Flat type with groove	**ZHP80UMUB-15C6S**							

Accessories

Part number	Model	Description	
ZP3E-63BMN	ZHP63	Pad form: Bellow type with groove	Pad material: NBR
ZP3E-80BMN	ZHP80		
ZP3E-63BMS	ZHP63		Pad material: Silicone rubber
ZP3E-80BMS	ZHP80		
ZP3E-63BMU	ZHP63		Pad material: Urethane rubber
ZP3E-80BMU	ZHP80		
ZP3E-63UMN	ZHP63	Pad form: Flat type with groove	Pad material: NBR
ZP3E-80UMN	ZHP80		
ZP3E-63UMS	ZHP63		Pad material: Silicone rubber
ZP3E-80UMS	ZHP80		
ZP3E-63UMU	ZHP63		Pad material: Urethane rubber
ZP3E-80UMU	ZHP80		

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Non-contact gripper
XT661 Series

Cyclone type

Low profile cyclone type

Bernoulli type

- Two working principles result in two gripper types:
  - **Cyclone type**
    High lifting force - up to 44 N - with low air consumption
  - **Bernoulli type**
    Reduction of rotation load due to no directionality of whirlwind air
- Wide size range: from Ø 20 to Ø 150
- Compact and lightweight (low profile cyclone type)
- Maximum workpiece suction distance: 10 mm
- Grease free
- Possible to be disassembled and cleaned the inside
- Easy suction detection of a workpiece via a sensor

Type	Part number	Outer body diameter [mm]	Operating pressure	Piping port size
Cyclone type	**XT661-2A-R** ●	Ø 20	0.01 ~ 0.5 MPa	M5 X 0.8
	XT661-2A-L ●			
	XT661-4A-R ●	Ø 40		
	XT661-4A-L ●			
	XT661-6A-R ●	Ø 60		
	XT661-6A-L ●			
	XT661-8A-R	Ø 80		Rc1/8
	XT661-8A-L			
	XT661-10A-R	Ø 100		
	XT661-10A-L			
Low profile cyclone type	**XT661-2A-R-X260**	Ø 20	0.01 ~ 0.5 MPa	Ø 1.6
	XT661-2A-L-X260			
	XT661-3A-L-X260	Ø 25		
	XT661-3A-R-X260			
Bernoulli type	**XT661-4C-X321**	Ø 39	0.01 ~ 0.4 MPa	M5 x 0.8
	XT661-6C-X321	Ø 59		
	XT661-8C-X321	Ø 79		
	XT661-10C-X321	Ø 99		Rc1/8
	XT661-120E-X322	Ø 120		
	XT661-150E-X322	Ø 150		

Accessories • Bernoulli type

XT661-120E-3A-X322	Guide assembly (4 units needed for one gripper)
MXQ-A627	Adjustment bolt assembly (4 units needed for one gripper)

1) Only for XT661-120E-X322 and XT661-150E-X322

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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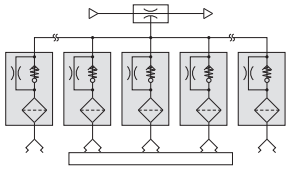
Vacuum valve

Vacuum saving valve

ZP2V Series

- Can avoid the loss of pressure even when there is no workpiece
- No need of switching operation when changing workpieces
- When the workpieces have different shapes, the control circuit can be simplified
- With one-touch fitting, male thread and female thread types available.



Part number	Port				Thread size		Detail drawing
	0.3	0.5	0.7	1.0	Pad size	Vacuum generator size	
ZP2V-A5-☐ ●	O	O	O	–	M5		Vacuum generator side Female thread / Male thread **Pad side**
ZP2V-A8-☐ ●	–	O	O	O	M8		
ZP2V-AG1-☐ ●	–	O	O	O	G1/8		
ZP2V-B5-☐ ●	O	O	O	–	M5		Vacuum generator side Male thread / Female thread **Pad side**
ZP2V-B6-☐ ●	O	O	O	–	M6		
ZP2V-BG1-☐ ●	–	O	O	O	G1/8		
ZP2V-A5A5-☐	O	O	O	-	M5		Vacuum generator side Male thread / Male thread **Pad side**
ZP2V-AG1AG1-☐	-	O	O	O	G1/8		
ZP2V-B5B5-☐	O	O	O	-	M5		Vacuum generator side Female thread / Female thread **Pad side**
ZP2V-BG1BG1-☐	-	O	O	O	G1/8		
ZP2V-A5W4-☐	O	O	O	-	M5		Vacuum generator side One-touch fitting / Male thread **Pad side**
ZP2V-AG1W6-☐	-	O	O	O	G1/8		
ZP2V-B5W4-☐	O	O	O	-	M5	Ø 4	Vacuum generator side One-touch fitting / Female thread **Pad side**
ZP2V-BG1W6-☐	-	O	O	O	G1/8	Ø 6	
ZP2V-W4-☐	O	O	O	-	Ø 4		Vacuum generator side One-touch fitting / One-touch fitting **Pad side**
ZP2V-W6-☐	-	O	O	O	Ø 6		

☐: Fixed orifice size, 03 → 0.3, 05 → 0.5, 07 → 0.7, 10 → 1.0

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Free mount cylinder

Compact cylinder for vacuum applications

ZCUK Series

- Sizes Ø 10 to 32 mm
- Suction pads mounted directly to the hollow double piston rod
- Non rotating piston rod is standard
- Vacuum pads from Ø 2 to 50 mm
- Auto switch for end position detection with LED in 2 wire type, can be mounted on 2 sides.

Part number	Piston Ø [mm]	Standard stroke lengths [mm]	Piston rod thread	Port size
ZCDUKC10-□D ●	10	5, 10, 15, 20, 25, 30	M4	M5
ZCDUKC16-□D ●	16		M5	
ZCDUKC20-□D ●	20	5, 10, 15, 20, 25, 30, 40, 50	M6	
ZCDUKC25-□D ●	25		M8	
ZCDUKC32-□D ●	32		M10	G1/8

□: Stroke length

Possible auto switches

Reed	D-A93L ●
3-wire, solid state	NPN: D-M9NL ●, PNP: D-M9PL ●
2-wire solid state	D-M9BL ●

Drain separator

Water separator for vacuum

AMJ Series

- Fluid: Air
- At least 90 % of the water that is sucked in is removed
- Manual discharge mechanism
- Bayonet socket simplifies filter element replacement
- Bowl protection standard.

Part number	Port size	Flow [l/min]	Operating pressure		Circuit symbol
			min.	max.	
AMJ3000-F02 ●	G1/4	200	-0.1 MPa	1.0 MPa	
AMJ3000-F03 ●	G3/8				
AMJ4000-F03 ●	G3/8	300			
AMJ4000-F04 ●	G1/2				
AMJ5000-F06 ●	G3/4	500			
AMJ5000-F10 ●	G1				

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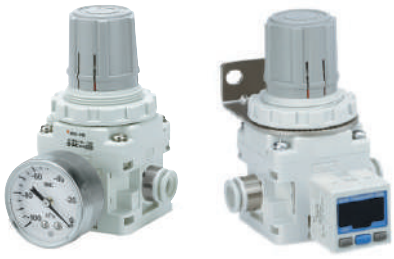
Regulator

Vacuum regulator

IRV10/20 Series



- Standard and single sided connections (elbow, straight)
- Integrated digital pressure switch for panel mounting (IRV-X1)
- Easy to attach / detach the pressure gauge or digital pressure switch due to attachment by clip
- Built-in one-touch fittings.

Part number	Pressure range	Tubing O. D.	Operation temperature range	Connection
IRV10-C06 ●	-100 ~ -1.3 kPa	Ø 6	+5° ~ +60 °C	Standard connections
IRV10-C08 ●		Ø 8		
IRV20-C06 ●		Ø 6		
IRV20-C08 ●		Ø 8		
IRV20-C10 ●		Ø 10		
IRV10A-C06 ●		Ø 6		Single sided connections
IRV10A-C08 ●		Ø 8		
IRV20A-C06 ●		Ø 6		
IRV20A-C08 ●		Ø 8		
IRV20A-C10 ●		Ø 10		

Accessories

	IRV10(A)	IRV20(A)
Bracket assembly	P601010-17 ●	P601020-17 ●
Bottom bracket assembly	P601010-14 ●	P601020-14 ●
Pressure gauge assembly	P601010-12	P601020-12 ●
Digital switch assembly	P601010-13□	

∗ Consult SMC for more information.

Vacuum system peripherals & related products

Our highlighted product for you

Air amplifier
ZH-X185 Series

- Energy efficiency - 1:4
  - A blow flow rate 4 times the supply air.
  - A vacuum flow rate 3 times the supply air.
- Compact design, simple & lightweight.
- Large passage diameter available for suction of machining chips, particles, etc.
- Instant on-off control.
- Air driven - no electrical supply required. Maintenance free.
- It is a flow amplifi er not a pressure booster
- It can replace electrical fans.

Part number	Passage diameter [mm]	Supply pressure range [MPa]	Suction flow rate at 5 bar [l/min]	Vacuum pressure at 5 bar supply [kPa]	Discharge flow at 5 bar supply [l/min]	Air consumption at 5 bar supply [l/min]	Weight [g]
ZH10-B-X185 ●	13	0 to 0.7	520	-6	700	180	110
ZH20-B-X185 ●	21.6		1200		1600	400	430
ZH30-B-X185 ●	30		2300		3000	700	970
ZH40-B-X185 ●	42		3400		4700	1300	2000

1) Bracket is included.

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2-colour display digital flow switch

PFM Series

- For air, N_2, Ar and CO_2
- A digital flow switch that uses MEMS sensor for detecting the flow
- Compact size
- Improved visibility with two colour display indication
- Two piping directions are possible
- Integrated flow adjustment valve is available as option
- Multiple mounting combinations.

Integrated type

Part number	Port size	Flow rate dry air, N_2, Ar	Flow rate CO_2	Output specification	Voltage	Operating pressure range
PFM710-C4-B ●	Ø 4 one-touch fitting	0.2 to 10 l/min	0.2 to 5 l/min	2 PNP	24 VDC	-100 kPa to 750 kPa
PFM710-C4-E				PNP + (1 ~ 5V)		
PFM710-C4-F				PNP + (4 ~ 20 mA)		
PFM725-C6-B ●	Ø 6 one-touch fitting	0.5 to 25 l/min	0.5 to 12,5 l/min	2 PNP		
PFM725-C6-E				PNP + (1 ~ 5V)		
PFM725-C6-F ●				PNP + (4 ~ 20 mA)		
PFM750-C6-B ●	Ø 6 one-touch fitting	1 to 50 l/min	1 to 25 l/min	2 PNP		
PFM750-C6-E ●				PNP + (1 ~ 5V)		
PFM750-C6-F ●				PNP + (4 ~ 20 mA)		
PFM711-C8-B ●	Ø 8 one-touch fitting	2 to 100 l/min	2 to 50 l/min	2 PNP		
PFM711-C8-E				PNP + (1 ~ 5V)		
PFM711-C8-F ●				PNP + (4 ~ 20 mA)		

Remote type

PFM510-C4-1	Ø 4 one-touch fitting	0.2 to 10 l/min	0.2 to 5 l/min	1 ~ 5V	24 VDC	-100 kPa to 750 kPa
PFM510-C4-2				4 ~ 20 mA		
PFM525-C6-1	Ø 6 one-touch fitting	0.5 to 25 l/min	0.5 to 12,5 l/min	1 ~ 5V		
PFM525-C6-2				4 ~ 20 mA		
PFM550-C6-1	Ø 6 one-touch fitting	1 to 50 l/min	1 to 25 l/min	1 ~ V		
PFM550-C6-2				4 ~ 20 mA		
PFM511-C8-1	Ø 8 one-touch fitting	2 to 100 l/min	2 to 50 l/min	1 ~ 5V		
PFM511-C8-2				4 ~ 20 mA		

Accessories

Bracket (for “without adjustment flow valve”)	ZS-33-M ●
Panel mount adapter (for “without adjustment flow valve”)	ZS-33-J ●
DIN rail mounting bracket ∗ =number of stations (1 to 5)	ZS-33-R* ●

Flow sensor monitor

Part number	Input specification	Output specification	Voltage	Note
PFM313-LF	Current input	2 PNP + 1 to 5 V outputs	24 VDC	With power / output connector included
PFM314-LF		2 PNP + 4 to 20 mA outputs		

Accessories

Bracket	ZS-28-B ●
Panel mount adapter	ZS-27-C ●
Panel mount adapter + front protective cover	ZS-27-D ●

Electric vacuum switch

ZSE1 Series

- Response time 5 ms or less
- LED switch point display
- Option of grommet style or plug connection
- Adjustable hysteresis
- Repeatability ±1 % F.S.

Part number	Thread connection	Switch point	Switch output	Hysteresis	Voltage
ZSE1-01-15L ●	R1/8	-101 to 0 KPa	NPN, 3 m cable (grommet)	~1 to 10 % adjustable	12 ~ 24 VDC
ZSE1-01-55L ●			PNP, 3 m cable (grommet)		
ZSE1-01-55CN ●			PNP, without plug		

Plug with 3 m cable	ZS-20-5A-30 ●

Adjustable vacuum pressure switch with display

ZSE40A Series

- 2 styles:
  - ZSE40A: Vacuum
  - ZSE40AF: Vacuum & low pressure combination
- Enclosure IP65
- Easy handling, space saving
- 2 colour (green / red) display
- Easy operation: 3 step setting and copy function
- Analogue output: 4 ~ 20 mA or 1.5 V
- Switch output: 2 PNP / NPN
- M8 connector type available.

Part number	Rated pressure range	Connection port [1]	Switch output	Voltage
ZSE40A-01-T ●	Vacuum Pressure 0 ~ -101.3 kPa	Male: R1/8 Female: M5	2 PNP + (1 ~ 5 V)	12 ~ 24 VDC
ZSE40A-01-V ●			PNP + (4 ~ 20 mA)	
ZSE40A-01-Y ●			2 PNP	
ZSE40A-01-P-L [2] ●			1 PNP	
ZSE40AF-01-T ●	Vacuum + Low Pressure -100 ~ +100 kPa		2 PNP + (1 ~ 5 V)	
ZSE40AF-01-V ●			PNP + (4 ~ 20 mA)	
ZSE40AF-01-Y ●			2 PNP	

NPN options available upon request.
1) Also available with Ø 4 or Ø 6 mm one-touch fitting. (Not for M8 connector type)
2) M8 connector type.

Mounting accessories

Bracket A (with 2 mounting screws each of M3 x 5L and M4 x 5L)	ZS-24-A ●
Bracket B (with 2 mounting screws M4 x 5L)	ZS-24-B ●
Bracket D (with 2 mounting screws each of M3 x 5L and M4 x 5L)	ZS-24-D ●

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Adjustable vacuum and positive pressure switch with display

ZSE30A Series

- 2 styles:
  - ZSE30A: Vacuum pressure
  - ZSE30AF: Compound pressure
- Enclosure IP40
- Large, easy-to-read display
- 2 colour (green / red) display
- Easy operation: 3-step setting and copy function
- Analogue output: 4 ~ 20 mA or 1 ~ 5 V
- Switch output: 2 PNP / NPN or 1 PNP / NPN
- With straight and elbow one-touch fittings.

Part number	Switch point	Connection port	Switch output	Voltage
ZSE30A-01-B-G ●	Vacuum pressure 0 ~ -101 kPa	Male: R1/8 Female: M5 (also available with Ø 4 or 6 mm push-in fitting)	2 PNP	12 ~ 24 VDC
ZSE30A-01-F-G ●			PNP + (4 ~ 20 mA)	
ZSE30AF-01-B-G ●	Vacuum + Low pressure -100 ~ +100 kPa		2 PNP	
ZSE30AF-01-F-G ●			PNP + (4 ~ 20 mA)	

NPN options available upon request.

Mounting accessories

Bracket A	ZS-38-A1 ●
Bracket B	ZS-38-A2 ●
Bracket D	ZS-38-A3 ●
Panel mount adapter	ZS-27-C ●
Lead wire with connector cover (3 cores, for 1 output, 2 m)	ZS-38-3G ●
Lead wire with connector cover (4 cores, for 2 outputs, 2 m)	ZS-38-4G ●

Vacuum and pressure sensor with controller unit

PSE530/200 Series

- Sensor and controller separate

  PSE530:
  - IP40
  - Simple electr. connection using plug
  - Minimal response times

  PSE200:
  - Controller for 4 sensor inputs
  - Automatic sensor recognition
  - Auto shift function.

Measuring sensor for compressed air

Part number	Connection thread	Pressure range	Output signal
PSE531-M5 ●	M5	0 ~ -101 kPa	Analogue 1~ 5 V
PSE533-M5 ●		-101 ~ 101 kPa	

Controller unit

Part number	Switch output	Mounting	Response time	Note
PSE201-4C ●	PNP, 80 mA	Panel mounting	5 ms	With 4 sensor connectors

Accessories

Sensor cable with plug	ZS-26-J ●
Protective cover for PSE201	ZS-26-01 ●
Panel mounting adapter for PSE201	ZS-26-B ●
Sensor connector	ZS-28-C ●

Micro vacuum and pressure sensor with controller unit

PSE540/300 Series

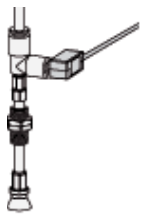
PSE540
- Micro design, e.g. 9.6 x 20.8 x 18 mm
- Minimal weight, e.g. 3.2 g
- 7 different connection types PSE300
- 1 ms response time
- Analogue output.

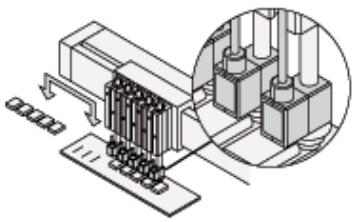
Compressed air micro sensor

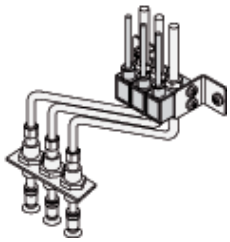
Part number	Connection thread	Pressure range	Output signal
PSE541-M3	M3 male	Low pressure and vacuum: 0 ~ -101 kPa	Analogue 1 ~ 5 V
PSE541-M5 ●	M5 male		
PSE541-01 ●	Male R1/8, female M5		
PSE541-R04 ●	Ø 4 mm reducer		
PSE541-R06 ●	Ø 6 mm reducer		
PSE541-IM5 ●	M5 female thread		
PSE541-IM5H	M5 female, with mounting holes		
PSE543-M3 ●	M3 male	Low pressure and vacuum: -100 ~ +100 kPa	
PSE543-M5 ●	M5 male		
PSE543-01 ●	Male R1/8, female M5		
PSE543-R04 ●	Ø 4 mm reducer		
PSE543-R06 ●	Ø 6 mm reducer		
PSE543-IM5 ●	M5 female thread		
PSE543-IM5H	M5 female, with mounting holes		

Controller unit

Part number	Switch output	Response time	Note
PSE303-LC ●	2 PNP + (1 ~ 5 V)	1 ms	Incl. supply cable, end sensor plug







● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
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Pressure or vacuum switch

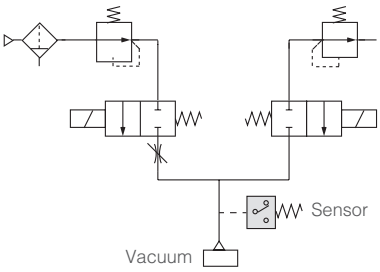
PS1000/1100/1200 Series

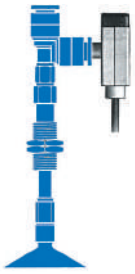
- LED switch point display
- Miniature design
- For mounting directly to one-touch fittings
- Piezo sensor gives long service life
- Can be plugged straight into a Ø 6 mm one-touch fitting
- Enclosure IP40.

Part number	Operating pressure range	Switch point [MPa]	Switch output	Voltage
PS1000-R06L-Q ●	-0,1 ~ 1,0 Mpa	-0,1 ~ 0,45	Pressure ≥ switch point: ON	12 ~ 24 VDC
PS1100-R06L-Q ●		-0,1 ~ 0,40	Pressure ≤ switch point: ON	
PS1200-R06L-Q ●	-100 to 500 kPa	-100 ~ 0 kPa	Pressure ≤ Switch point: ON	

With 3 m cable

Suction monitoring





Pressure gauge for vacuum

GZ46 Series

- 1/8 or 1/4 port on rear side
- Also available for panel mounting.

Part number	Mounting	Display	Port size	Diameter
GZ46-K-01 ●	Direct	-100 KPa ~ 0 kPa	R1/8	42.5 mm
GZ46-K-01-C ●	Panel mounting			
GZ46-K-02 ●	Direct		R1/4	
GZ46-K-02-C ●	Panel mounting			

Electronic vacuum regulator
ITV0090/2090 Series

- 2 types:
  - ITV2090: Standard
  - ITV0090: Compact
- Vacuum can be steplessly regulated
- Compact and lightweight
- ITV2090: Fieldbus compatibility:
  - Reduced wiring
  - RS-232C serial communications
- ITV0090:
  - Built-in one-touch fittings
  - With error indication LED
  - High speed response: 0.1 s
  - High stability
- Enclosure IP65.

Part number	Control signal	Output signal	Operation voltage	Port thread	Pressure range	Flow [l/min]
ITV2090-01F2N5 ●	4 ~ 20 mA / DC	Analogue 1 ~ 5 VDC	24 VDC	G1/4	-1.3 ~ -80 KPa	130
ITV2090-03F2N5 ●		PNP, 30 mA				
ITV2090-31F2N5 ●	0 ~ 10 VDC	Analogue 1 ~ 5 VDC				
ITV2090-33F2N5 ●		PNP, 30 mA				
ITV0090-0N	4 ~ 20 mA / DC	Analogue 1 ~ 5 VDC		One-touch fittings Ø 4	-1 ~ -100 KPa	2
ITV0090-3N ●	0 ~ 10 VDC					

Part number	Description
ITV2090-■F2N	Control signal ■: DE: DeviceNet™ PR: PROFIBUS DP RC: RS-232C Communication

Part number	Cable connector	
ITV2090-0 **ITV2090-3**	—	P398020-500-3 (Straight) P398020-501-3 (Right angle)
ITV2090-DE	Power	P398020-504-3 (Straight) P398020-505-3 (Right angle)
	Communication	PCA-1557633 (Socket type) PCA-1557646 (Plug type)
ITV2090-PR	Power	P398020-500-3 (Straight) P398020-501-3 (Right angle)
	Communication	PCA-1557688 (Socket type) PCA-1557691 (Plug type)
ITV2090-RC	Power	P398020-500-3 (Straight) P398020-501-3 (Right angle)
	Communication	P398020-502-3 (Straight) P398020-503-3 (Right angle)
ITV0090-0 **ITV0090-3**	—	M8-4DSX3MG4 (Straight) P398000-501-2 (Right angle)

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Check valve

AK Series

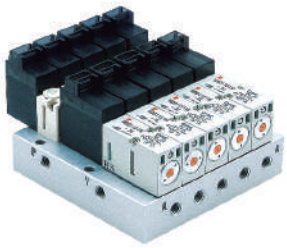
AK
- Superior flow capacity
- Low cracking pressure : 0.02 MPa
- Port size from 1/8 to 1

AKH / AKB
- Select from 3 designs
- One-touch fitting both sides
- Male thread / female thread
- Male thread / one-touch fitting
- Low cracking pressure.

Type		Series	Port size	Applicable tubing O.D.	
				Metric size	Inch size
Check valve	In-line type	AK2000/4000/6000	1/8 to 1	—	—
	Straight type	AKH	—	Ø 4 to Ø 12	Ø 5/32 to Ø 1/2
	Male connector type		M5 to 1/2	Ø 4 to Ø 12	Ø 5/32 to Ø 1/2
	Bushing type	AKB	1/8 to 1/2	—	—

Vacuum release unit

VQD1000-V Series



Model	Suction flow rate [l/min]	Vacuum use
VQD1000-V	16	-101.2 KPa

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electric actuators

Electric actuators

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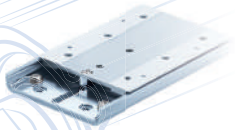
Controller

Page 563



Card motor

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Electric actuators

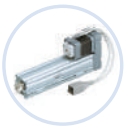
Electric actuators

Electric actuator slider type
LEF Series p. 551

Electric actuator slider type, high rigidity
LEJ Series p. 553

Electric actuator guide rod slider
LEL Series p. 553

Electric actuator slider type, low profile
LEM Series p. 554



Electric actuator rod type
LEY Series p. 555

Guide rod type electric actuator
LEYG Series p. 556

Electric slide table
LES Series p. 557

Electric actuator miniature type
LEP Series p. 558

Electric rotary table
LER Series p. 558

Electric gripper
LEH Series p. 559

Electric actuators - Motorless type
LEF/LEJ/LEY(G) Series p. 560

Controllers

Step data input type controller
LECP6/A6 Series p. 563

Programless controller
LECP1 Series p. 563

Programless controller, with stroke study
LECP2 Series p. 563

Pulse input type controller
LECPA Series p. 563

Multi-Axis step motor controller
JXC92/JXC□3 Series p. 564

Step motor controller
JXC□1 Series p. 565

Fieldbus-compatible gateway unit
LEC-G Series p. 565

AC servo motor driver
LECS Series p. 567

AC servo motor driver, MECHATROLINK compatible
LECY Series p. 567

Card motor

Card motor
LAT3 Series p. 568

Card motor controller
LATCA Series p. 568

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Step motor controller
JXC91/E1/P1/D1/L1 Series

For more details
go to page 565

Broader & safer control

Direct operation of electric actuators through a fieldbus or industrial Ethernet network

Simplified control systems and wiring
- Applicable fieldbus protocols

EtherNet/IP™ EtherCAT® DeviceNet™

IO-Link PROFINET®

- 10/100 Mbps high-speed communication for JXC91/E1/P1, up to 500 kbps for JXCD1, 230.4 kbps for JXCL1
- Real time operation.

Compatible electric actuators:
LEF, LEL, LEM, LEY/LEYG, LES, LEP, LER, LEH.

Dual port connection, IN and OUT

No loss of communication despite having a disconnected location: this allows for linear topology or Device Level Ring (DLR) topology (not for JXCL1 and JXCD1)
- Less wiring
- Good recovery after disconnection
- Easy identification of disconnected spot.

IO-Link

IO-Link compatible type, JXCL1
- Higher control of the applications
- Cost-effective: plug&play, minimum hardware and programming costs
- Integral communication, from sensors to actuators
- Noise immunity.

Our highlighted product for you

Multi-Axis step motor controller

JXC73/83/92/93 Series

For more details
go to page 564

Multiply your control

2 models for communicating
- JXC92/93, EtherNet/IP™ type - direct connection to a fieldbus network
- JXC73/83, parallel I/O type.

JXC92 **JXC93** **JXC73/83**

Direct operation of up to 4 electric actuators only with one controller, for either single or multiple axes
- 4-axis (3-axis for JXC92) operation can be set collectively in one step
- 4-axis (3-axis for JXC92) speed tuning control.

Step data input with maximum 2048 points
- Absolute / relative position coordinates instructions
- Positioning / pushing operation.

Approximation to linear and circular interpolation for XYZ and XY axes respectively

Reduction in the amount of equipment and wiring

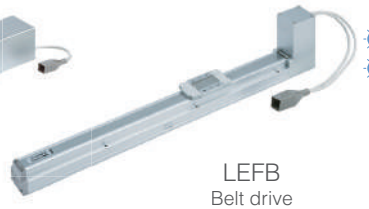
Compatible electric actuators: LEF, LEY/LEYG, LES, LEP, LER, LEH.

Electric actuators

Electric actuator slider type
LEF Series

- Simple installation: possible to mount the main body without removing the external cover
- Two transmission options: belt drive (LEFB); ball screw drive (LEFS)
- Motor mounting direction can be selected
- Optional non-magnetising type lock mechanism for the motor
- High-precision type, LEFSH
- Support guide type, LEFG.

LEFS
Ball screw drive



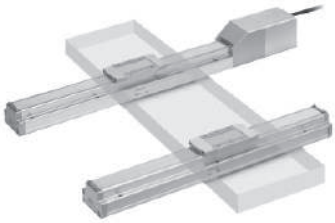
LEFB
Belt drive

Drive method	Specifications	Series	Stroke [mm]	Workload [kg]		Speed [mm/s] 1)	Screw lead [mm]	Positioning repeatability [mm]	Controller series
				Horizontal	Vertical				
Ball screw drive	Step motor (Servo / 24 VDC)	**LEFS16**	50 to 500	14 [9]	2	10 to 700 [500]	10	±0.02 {±0.015}	LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
				15 [10]	4	5 to 360 [250]	5		
		LEFS25	50 to 800	12 [10]	0.5	20 to 1100 [1000]	20	±0.02	
				25 [20]	7.5	12 to 750 [500]	12	±0.02 {±0.015}	
				30 [20]	15	6 to 400 [250]	6		
		LEFS32	50 to 1000	20 [15]	4	24 to 1200 [1200]	24	±0.02	
				45 [40]	10	16 to 800 [500]	16	±0.02 {±0.015}	
				50 [45]	20	8 to 520 [250]	8		
		LEFS40	150 to 1200	25 [20]	2	30 to 1200 [500]	30	±0.02	
				55 [50]		20 to 1000 [500]	20	±0.02 {±0.015}	
				65 [60]	23	10 to 300 [250]	10		
	Servo motor (24 VDC)	**LEFS16A**	50 to 500	7	2	10 to 700	10	±0.02 {±0.015}	LECA6
				10	4	5 to 360	5		
		LEFS25A	50 to 800	5	1	20 to 1100	20	±0.02	
				11	2.5	12 to 750	12	±0.02 {±0.015}	
				18	5	6 to 400	6		
	AC Servo motor (100 / 200 / 400 W)	**LEFS25**	50 to 800	10	4	max. 1500	20	±0.02 {±0.01}	LECSA, LECSB, LECSC, LECSS, LECSS-T, LECYU, LECYM
				20	8	max. 900	12		
					15	max. 450	6		
		LEFS32	50 to 1000	30	5	max. 1500	24		
				40	10	max. 1000	16		
				45	20	max. 500	8		
		LEFS40	150 to 1200	30	7	max. 1500	30		
				50	15	max. 1000	20		
				60	30	max. 500	10		
Belt drive	Step motor (Servo / 24 VDC)	**LEFB16**	300 to 1000	1 [1]	—	48 to 1100	48	±0.08	LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
		LEFB25	300 to 2000	10 [5]		48 to 1400			
		LEFB32		19 [14]		48 to 1500			
	Servo motor (24 VDC)	**LEFB16A**	300 to 1000	1		5 to 2000			LECA6
		LEFB25A	300 to 2000	2					
	AC Servo motor (100 / 200 400 W)	**LEFB25**		5		max. 2000	54	±0.06	LECSA, LECSB, LECSC, LECSS, LECSS-T, LECYU, LECYM
		LEFB32	300 to 2500	15					
		LEFB40	300 to 3000	25					

∗ [ ] Indicates value when “LECPA, JXC92, JXC□3 controller” is selected.
∗ { } Indicates value when “high precision slider type electric actuator LEFSH” is selected.
1) Maximum value depends on stroke range.

Support guide

LEFG Series



- Designed to support workpieces with significant overhang
- Standard equipped seal bands prevent grease from splashing and external foreign matter from entering
- Easy assembly thanks to same dimensions as the LEF series body.

Type	Specifications	Series	Stroke [mm]
Ball screw drive	Step motor (Servo / 24 VDC) Servo motor (24 VDC) AC Servo motor	**LEFG16-S**	50 to 500
		LEFG25-S	50 to 800
		LEFG32-S	50 to 1000
		LEFG40-S	150 to 1200
Belt drive	Step motor (Servo / 24 VDC) Servo motor (24 VDC)	**LEFG16-BT**	300 to 1000
		LEFG25-BT	300 to 2000
		LEFG32-BT	
	AC Servo motor	**LEFG25-BS**	
		LEFG32-BS	300 to 2500
		LEFG40-BS	300 to 3000

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electric actuator slider type, high rigidity

LEJ Series

- Low profile and low centre of gravity (62 mm height)
- Double axis linear guide construction provides high-precision and high rigidity
- Even further improved position repeatability and lost motion with high-precision type
- Dustproof construction, as it is equipped with seal band as standard
- Maximum acceleration / deceleration: 20000 mm/s^2
- High precision type, LEJSH
- Standard auto-switches can be mounted.

Ball screw drive

LEJS Series

- Suitable for repeatable accurate positioning.

Belt drive

LEJB Series

- Suitable for long-stroke high-speed and light-load transfer.

Drive method	Specifications	Series	Stroke [mm]	Workload [kg]		Max. speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]	Controller series
				Horizontal	Vertical				
Ball screw drive	AC Servo motor (100/200 W)	**LEJS40**	200 to 1200	15	3	1800	24	±0.02 {±0.01}	LECSA, LECSB, LECSC, LECSS, LECSS-T, LECYU, LECYM
				30	5	1200	16		
				55	10	600	8		
		LEJS63	300 to 1500	30	6	1800	30		
				45	10	1200	20		
				85	20	600	10		
Belt drive		**LEJB40**	200 to 2000	20 [10]	—	2000	27	±0.04	
		LEJB63	300 to 3000	30	—	3000	42		

∗ { } Indicates value when “high precision type” is selected
∗ [ ] Indicates value when the stroke exceeds 1000.

Possible auto switches

3 wire solid state / 2 colour – PNP	D-M9PWL
3 wire solid state / 2 colour – NPN	D-M9NWL

Electric actuator guide rod slider

LEL Series

- Low-profile electric actuator (48 mm height); no interference with motor even wish large workpieces
- Compatible with sliding bearing and ball bushing bearing:
  - Sliding bearing: reduced noise, 60 dB or less
  - Ball bushing bearing: high-speed transport – 1000 mm/s – suitable for moment loads
- Optional non-magnetising type lock mechanism for the motor
- Manual override screw for adjustment operation
- Adjustable position, speed and positioning
- Standard auto-switches can be mounted.

Drive method	Series	Bearing	Stroke [mm]	Workload (horizontal) [kg]	Speed [mm/s]	Equivalent lead [mm]	Positioning repeatability [mm]	Controller series
Step motor (Servo / 24 VDC)	**LEL25M**	Sliding bearing	100 to 1000	3	48 to 500	48	±0.08	LECP6, LECP1, JXC□1
	LEL25L	Ball bushing bearing		5	48 to 1000			

Possible auto switches

3 wire solid state / 2 colour – PNP	D-M9PWL
3 wire solid state / 2 colour – NPN	D-M9NWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Electric actuator slider type, low profile

LEM Series

- Low profile and low centre of gravity
- Selectable guide mechanism, step motor mounting direction and control method:
  - Guide mechanism: LEMB, LEMC, LEMH, LEMHT
  - Motor mounting direction: top / bottom, right / left
- The drive unit and guide unit are separable (not LEMB)
- Standard auto-switches can be mounted.

Basic type

LEMB Series

- Light load transfer
- Easy connection to an external guide with floating bracket option
- Long stroke.

Cam follower guide type

LEMC Series

- Workpiece direct mounting
- Long stroke.

Linear guide single axis type

LEMH Series

- Workpiece direct mounting
- Provide more moment resistance than the cam follower guide type
- High speed transfer.

Linear guide single axis type

LEMHY Series

- Workpiece direct mounting
- Provide more moment resistance than the linear guide single axis type
- High speed transfer.

Drive method	Specifications	Series	Stroke [mm]	Workload (horizontal) [kg]	Speed [mm/s]	Max. Acceleration / deceleration [mm/s²] 1)	Screw lead [mm]	Positioning repeatability [mm]	Controller series
Belt drive	Step motor (Servo / 24 VDC)	**LEMB25**	50 to 2000	6 (10)	48 to 1000	20000	48	±0.08	LECP6, LECP1, LECP2, JXC□1
		LEMB32		11 (20)					
		LEMC25		10					
		LEMC32		20					
		LEMH25	50 to 1000	10	48 to 2000				
		LEMH32	50 to 1500	20					
		LEMHT25	50 to 1000	10					
		LEMHT32	50 to 1500	20					

∗ ( ) When combined with external guide.
1) The acceleration / deceleration is dependent on the work load.

Possible auto switches

3 wire solid state / 2 colour – PNP	D-M9PWL
3 wire solid state / 2 colour – NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electric actuator rod type
LEY Series

Parallel motor

In-line motor

- Ball screw drive actuator with selectable motor (servo motor, step motor)
- Standard auto-switches can be mounted
- Mounting flexibility: three position for direct mounting and three types of mounting brackets, plus rod end brackets
- Selectable motor mounting direction
- Optional non-magnetising type lock mechanism for the motor
- Reduced actuator height by in-line motor mounting, in-line motor type LEY□D
- High-precision rod type electric actuator, LEYH(D).

Specifications	Series	Stroke [mm]	Pushing force [N]	Workload [kg]		Speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]	Controller series
				Horizontal	Vertical				
Step motor (Servo / 24 VDC)	**LEY16□**	30 to 300	14 to 38	6 [4]	2	15 to 500	10	±0.02	LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
			27 to 74	17 [11]	4	8 to 250	5		
			51 to 141	30 [20]	8	4 to 125	2.5		
	LEY25□	30 to 400	63 to 122	20 [12]	8	18 to 500	12		
			126 to 238	40 [30]	16	9 to 250	6		
			232 to 452	60 [30]	30	5 to 125	3		
	LEY32□	30 to 500	80 to 189	30 [20]	11	24 to 500	16		
			156 to 370	45 [40]	22	12 to 300 [250]	8		
			296 to 707	60 [40]	43	6 to 150 [125]	4		
	LEY40□		132 to 283	50 [30]	13	24 to 500 [300]	16		
			266 to 553	60 [60]	27	12 to 350 [150]	8		
			562 to 1058	80 [60]	53	6 to 175 [75]	4		
Servo motor (24 VDC)	**LEY16□A**	30 to 300	16 to 30	3	2	1 to 500	10		LECA6
			30 to 58	6	4	1 to 250	5		
			57 to 111	12	8	1 to 125	2.5		
	LEY25□A	30 to 400	18 to 35	7	3	2 to 500	12		
			37 to 72	15	6	1 to 250	6		
			66 to 130	30	12	1 to 125	3		
AC Servo motor (100 / 200 W)	**LEY(H)25□**		65 to 131	18	8	max. 900	12	±0.02 {±0.01}	LECSA, LECSB, LECSC, LECSS, LECSS-T, LECYU, LECYM
			127 to 255	50	16	max. 450	6		
			242 to 485		30	max. 225	3		
	LEY(H)32□	30 to 500	79 (98) to 157(197)	30	9 (12)	max. 1200 (1000)	20 (16)		
			154 (192) to 308 (385)	60	19 (24)	max. 600 (500)	10 (8)		
			294 (368) to 588 (736)		37 (46)	max. 300 (250)	5 (4)		
AC Servo motor (400 W)	**LEY(H)63□**	100 to 800	156 to 521	40	19	max. 1000	20		
			304 to 1012	70	38	max. 500	10		
			573 to 1910	80	72	max. 250	5		
			1003 to 3343 [1]	200 [1]	115 [1]	max. 70 [1]	2.86 [1]		

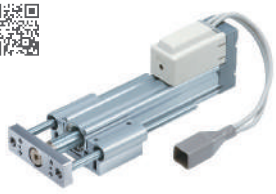
∗ ( ) Indicates value when “in-line type” is selected
∗ [ ] Indicates value when “LECPA, JXC92, JXC□3 controller” is selected
∗ { } Indicates value when “high-precision slider type electric actuator LEYH” is selected
1) Not available for in-line motor type.

Possible auto switches

3 wire solid state / 2 colour – PNP	D-M9PWL
3 wire solid state / 2 colour – NPN	D-M9NWL

Guide rod type electric actuator

LEYG Series



Parallel motor

In-line motor

- Two compact and integrated guide rods provide lateral load resistance and high non-rotating accuracy
- Compatible with sliding bearing and ball bushing bearing
- Selectable motor mounting direction
- Optional non-magnetising type lock mechanism for the motor
- High-precision guide rod type LEYHG
- Reduced actuator height by in-line motor mounting, in-line motor type LEYG□D
- Standard auto-switches can be mounted.

Specifications	Series	Stroke [mm]	Pushing force [N]	Workload [kg]		Speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]	Controller series
				Horizontal	Vertical				
Step motor (Servo / 24 VDC)	**LEYG16□**	30 to 200	14 to 38	6 [4]	1.5	15 to 500	10	±0.02	LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
			27 to 74	17 [11]	3.5	8 to 250	5		
			51 to 141	30 [20]	7.5	4 to 125	2.5		
	LEYG25□	30 to 300	63 to 122	20 [12]	7	18 to 500	12		
			126 to 238	40 [30]	15	9 to 250	6		
			232 to 452	60 [30]	29	5 to 125	3		
	LEYG32□		80 to 189	30 [20]	9	24 to 500	16		
			156 to 370	45 [40]	20	12 to 300 [250]	8		
			296 to 707	60 [40]	41	6 to 150 [125]	4		
	LEYG40□		132 to 283	50 [30]	11	24 to 500 [300]	16		
			266 to 553	60 [60]	25	12 to 350 [150]	8		
			562 to 1058	80 [60]	51	6 to 175 [75]	4		
Servo motor (24 VDC)	**LEYG16□A**	30 to 200	16 to 30	3	1.5	1 to 500	10		LECA6
			30 to 58	6	3.5	1 to 250	5		
			57 to 111	12	7.5	1 to 125	2.5		
	LEYG25□A	30 to 300	18 to 35	7	2	2 to 500	12		
			37 to 72	15	5	1 to 250	6		
			66 to 130	30	11	1 to 125	3		
AC Servo motor (100 / 200 W)	**LEY(H)G25□**		65 to 131	18	7	max. 900	12	±0.02 {±0.01}	LECSA, LECSB, LECSC, LECSS, LECSS-T, LECYU, LECYM
			127 to 255	50	15	max. 450	6		
			242 to 485		29	max. 225	3		
	LEY(H)G32□		79 (98) to 157(197)	30	7 (10)	max. 1200 (1000)	20 (16)		
			154 (192) to 308 (385)	60	17 (22)	max. 600 (500)	10 (8)		
			294 (368) to 588 (736)		35 (44)	max. 300 (250)	5 (4)		

∗ ( ) Indicates value when “in-line type” is selected
∗ [ ] Indicates value when “LECPA, JXC92, JXC□3 controller” is selected
∗ { } Indicates value when “high-precision rod type electric actuator LEYHG” is selected.

Possible auto switches

3 wire solid state / 2 colour – PNP	D-M9PWL
3 wire solid state / 2 colour – NPN	D-M9NWL

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electric slide table
LES Series

- High rigidity type LESH☐ available
- Reduced cycle time: maximum acceleration 5000 mm/s²; maximum speed 400 mm/s
- Easy and flexible mounting of the table, with selectable motor:
  - Step motor (servo / 24 VDC): ideal for high load transfer at a low speed and pushing operation
  - Servo motor (24 VDC): stable at high speed and suitable for silent operations
- Optional dustproof specification, IP5X equivalent.

Basic type
LESR/LESHR Series

- Compact and space saving by built-in motor.

Symmetrical type
LESL/LESHL Series

- Compact and space saving by built-in motor
- The locations of the table and cable are opposite those of the basic type.

In-line motor type
LESD/LESHD Series

- Reduced width and height by in-line motor mounting.

Specifications		Series	Stroke [mm]	Pushing force [N]	Workload [kg]		Speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]	Controller series
					Horizontal	Vertical				
Compact type	Step motor (Servo / 24 VDC)	**LES8☐**	30, 50, 75	6 to 15	1	0.5	10 to 200	4	±0.05	LECP6, LECP1, LECPA, JXC☐1, JXC92, JXC☐3
				4 to 10		0.25	20 to 400	8		
		LES16☐	30, 50, 75, 100	23.5 to 55	3	3	10 to 200	5		
				15 to 35		1.5	20 to 400	10		
		LES25☐	30, 50, 75 100, 125, 150	77 to 180	5	5	10 to 200	8		
				43 to 100		2.5	20 to 400	16		
	Servo motor (24 VDC)	**LES8☐A**	30, 50, 75	7.5 to 11	1	1	1 to 200	4		LECA6
				5 to 7.5		0.5	1 to 400	8		
		LES16☐A	30, 50, 75, 100	17.5 to 35	3	3	1 to 200	5		
				10 to 20		1.5	1 to 400	10		
		LES25☐A [1]	30, 50, 75 100, 125, 150	31 to 62	5	4	1 to 200	8		
				19 to 38		2	1 to 400	16		
High rigidity type	Step motor (Servo / 24 VDC)	**LESH8☐**	50, 75	6 to 15	2	0.5	10 to 200	4		LECP6, LECP1, LECPA, JXC☐1, JXC92, JXC☐3
				4 to 10	1	0.25	20 to 400	8		
		LESH16☐	50, 100	23.5 to 55	8	2	10 to 200	5		
				15 to 35	5	1	20 to 400	10		
		LESH25☐	50, 100, 150	77 to 180	12	4	10 to 150	8		
				43 to 100	8	2	20 to 400	16		
	Servo motor (24 VDC)	**LESH8☐A**	50, 75	7.5 to 11	2	0.5	1 to 200	4		LECA6
				5 to 7.5	1	0.25	1 to 400	8		
		LESH16☐A	50, 100	17.5 to 35	5	2	1 to 200	5		
				10 to 20	2.5	1	1 to 400	10		
		LESH25☐A [1]	50, 100, 150	31 to 62	6	2.5	1 to 150	8		
				19 to 38	4	1.5	1 to 400	16		

1) Not available for in-line motor type.

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Electric actuator miniature type

LEP Series

LEPY
Rod type

LEPS
Slide table type

- Palm-sized electric actuators, compact and lightweight
- Motor type selectable:
  - High pushing force type – basic type
  - Compact and lightweight motor type (size 10 only)
- Manual override screw for adjustment operation
- Possible to set position, speed and force.

Specifications	Type	Series	Stroke [mm]	Screw lead [mm]	Pushing force [N]		Max. workload (horizontal) [Kg]		Max. workload (vertical) [Kg]		Speed (horizontal) [mm/s]		Positioning repeatability [mm]	Controller series
					Basic	Compact	Basic	Compact	Basic	Compact	Basic	Compact		
Step motor (Servo / 24 VDC)	Miniature rod type	**LEPY6**	25, 50 75	4	14 to 20	—	2.0	—	0.5	—	10 to 150	—	±0.05	LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
				8	7 to 10		1.0		0.25		20 to 300 (250)			
		LEPY10		5	25 to 50	24 to 40	6.0	4.0	1.5		10 to 200			
				10	12.5 to 25	12 to 20	3.0	2.0	1.0		20 to 350 (250)			
	Miniature slide table type	**LEPS6**	25, 50	4	14 to 20	—	1.0	—	0.5	—	10 to 150	—		
				8	7 to 10		0.75		0.25		20 to 300 (250)			
		LEPS10		5	25 to 50	24 to 40	2.0		1.5		10 to 200			
				10	12.5 to 25	12 to 20	1.5		1.0		20 to 350 (250)			

∗ ( ) Indicates value when stroke is 25 mm.

Electric rotary table

LER Series

- Adjustable speed, acceleration and position
- Easy setting operation and installation
- Selectable rotation angles, with continuous rotation model available: 90°, 180°, 320° (310° for LER10), 360°
- Maximum acceleration 3000 °/s², maximum speed 420 °/s.

Specifications	Series	Rotating torque [N·m]		Speed [°/s]		Positioning repeatability [°]		Controller series 1)
		Basic	High torque	Basic	High torque	Basic	High torque	
Step motor (Servo / 24 V DC)	**LER10**	0.22	0.32	30 to 420	20 to 280	±0.05 [±0.01] (±0.05)		LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
	LER30	0.8	1.2			±0.05 [±0.01] (±0.03)		
	LER50	6.6	10					

∗ [ ] Indicates value when an external stopper is used
∗ ( ) Indicates value when "high-precision type" is selected
1) LECPA, LECP1, JXC92, JXC□3: not available for 360° rotation angle.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Electric gripper
LEH Series

- Drop prevention function (self-lock mechanism) is provided
- Energy saving: power consumption reduced by self-lock mechanism
- Gripping check function is provided.

2 finger electric gripper
LEHZ Series

- Extremely compact and lightweight, with various gripping forces.

2 finger electric gripper with dust cover
LEHZJ Series

- Sealed-construction dust cover, equivalent to IP50
- 3 selectable cover materials for the fingers.

2 finger long-stroke electric gripper
LEHF Series

- Possible to hold various types of workpieces due to long stroke.

3 finger electric gripper
LEHS Series

- Suitable for holding round workpieces.

Specifications	Series	Opening / closing stroke both sides [mm]	Gripping force [N]		Opening / closing speed [mm/s]	Pushing speed [mm/s]	Repeatability [mm]	Controller series
			Basic	Compact				
Step motor (Servo / 24 VDC)	**LEHZ10**	4	6 to 14	2 to 6	5 to 80	5 to 50	±0.02	LECP6, LECP1, LECPA, JXC□1, JXC92, JXC□3
	LEHZ16	6		3 to 8				
	LEHZ20	10	16 to 40	11 to 28	5 to 100	5 to 50		
	LEHZ25	14						
	LEHZ32	22	52 to 130	—	5 to 120	5 to 50		
	LEHZ40	30	84 to 210	—				
	LEHZJ10	4	6 to 14	3 to 6	5 to 80	5 to 50		
	LEHZJ16	6		4 to 8				
	LEHZJ20	10	16 to 40	11 to 28	5 to 100	5 to 50		
	LEHZJ25	14						
	LEHF10	16 (32)	3 to 7		5 to 80	5 to 20	±0.05	
	LEHF20	24 (48)	11 to 28		5 to 100	5 to 30		
	LEHF32	32 (64)	48 to 120					
	LEHF40	40 (80)	72 to 180					
	LEHS10	4	2.2 to 5.5	1.4 to 3.5	5 to 70	5 to 50	±0.02	
	LEHS20	6	9 to 22	7 to 17	5 to 80	5 to 50		
	LEHS32	8	36 to 90	—	5 to 100	5 to 50		
	LEHS40	12	52 to 130	—	5 to 120	5 to 50		

∗ ( ) Indicates value when “long stroke” is selected

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Electric actuators - Motorless type

LEF/LEJ/LEY(G) Series

- Compatible with 100/200/400 W motors of main manufacturers:
  - OMRON Corporation
  - Siemens AG
  - Beckhoff Automation GmbH
  - YASKAWA Electric Corporation
  - Panasonic Corporation
  - Delta Electronics, Inc.
  - FANUC Corporation
  - FASTECH Co., Ltd.
  - FUJI ELECTRIC CO., LTD.
  - KEYENCE Corporation
  - Mitshubishi Electric Corporation
  - NIDEC SANKYO Corporation
  - Rockwell Automation, Inc. (Allen-Bradley)
  - SANYO DENKI CO., LTD.
  - ORIENTAL MOTORCo., Ltd.
- Available series with no motor attached: LEFS/LEFB, LEJS, LEY/LEYG
- Standard auto-switches can be mounted (except in LEFS/LEFB Series).

Slider type

LEFS/LEFB Series

Drive method	Series	Stroke [mm]	Workload [kg]		Max. speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]
			Horizontal	Vertical			
Ball screw drive	**LEFS25**	50 to 800	10	4	1500	20	±0.02 (±0.01)
			20	8	900	12	
				15	450	6	
	LEFS32	50 to 1000	30	5	1500	24	
			40	10	1000	16	
			45	20	500	8	
	LEFS40	150 to 1200	30	7	1500	30	
			50	15	1000	20	
			60	30	500	10	
Belt drive	**LEFB25**	300 to 2000	5	—	2000	54	±0.06
	LEFB32	300 to 2500	15				
	LEFB40	300 to 3000	25				

∗ ( ) Indicates value when “high-precision type” is selected.

High rigidity slider type

LEJS Series

Drive method	Series	Stroke [mm]	Workload [kg]		Max. speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]
			Horizontal	Vertical			
Ball screw drive	**LEJS40**	200 to 1200	15	3	1800	24	±0.02 (±0.01)
			30	5	1200	16	
			55	10	600	8	
	LEJS63	300 to 1500	30	6	1800	30	
			45	10	1200	20	
			85	20	600	10	

∗ ( ) Indicates value when “high-precision type” is selected.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Rod type

LEY Series

Series	Motor mounting position	Stroke [mm]	Pushing force [N]	Workload [kg]		Max. speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]
				Horizontal	Vertical			
LEY25	Top / parallel In-line	30 to 400	65 to 131	18	8	900	12	±0.02 (±0.01)
			127 to 255	50	16	450	6	
			242 to 485		30	225	3	
LEY32	Top / parallel	30 to 500	79 to 157	30	9	1200	16	
			154 to 308	60	19	600	8	
			294 to 588		37	300	4	
	In-line		98 to 197	30	12	1000	16	
			192 to 385	60	24	500	8	
			368 to 736		46	250	4	
LEY63	Top / parallel	100 to 800	156 to 521	40	19	1000	20	
			304 to 1012	70	38	500	10	
			573 to 1910	80	72	250	5	
			1003 to 3343	200	115	70	2.86	
	In-line		156 to 521	40	19	1000	20	
			304 to 1012	70	38	500	10	
			573 to 1910	80	72	250	5	

∗ ( ) Indicates value when “high-precision type” is selected.

Guide rod type

LEYG Series

Series	Motor mounting position	Stroke [mm]	Pushing force [N]	Workload [kg]		Max. speed [mm/s]	Screw lead [mm]	Positioning repeatability [mm]
				Horizontal	Vertical			
LEYG25	Top In-line	30 to 300	65 to 131	18	7	900	12	±0.02 (±0.01)
			127 to 255	50	15	450	6	
			242 to 485		29	225	3	
LEYG32	Top		79 to 157	30	7	1200	20	
			154 to 308	60	17	600	10	
			294 to 588		35	300	5	
	In-line		98 to 197	30	10	1000	16	
			192 to 385	60	22	500	8	
			368 to 736		44	250	4	

∗ ( ) Indicates value when “high-precision type” is selected.

Possible auto switches

3 wire solid state / 2 colour - PNP	D-M9PWL
3 wire solid state / 2 colour - NPN	D-M9NWL

● Stocked items. ● Partly stocked items, the stocked options are highlighted in green.
Stocked items and product information could be subject to change without prior notice.

Controller & drivers

	Compatible motor	Control method	Compatible encoder		Compatible option		
			Type	Resolution	Teaching box	Network gateway unit	Blank controller [1]
Controller (24 VDC) **LECP6**	Step 24 VDC	Positioning (64 points)	Incremental	800	✓	✓	✓
Controller (24 VDC) **LECA6**	Servo 24 VDC				✓	✓	✓
Programless controller (24 VDC) **LECP1**	Step 24 VDC	Positioning (14 points)			✗	✗	✗
Programless controller, with stroke study (24 VDC) **LECP2**		Positioning (14 points) [2]			✗	✗	✗
Pulse input type step motor driver (24 VDC) **LECPA**		Pulse input			✓	✗	✓
4 axis controller (24 VDC) **JXC73/83**		Positioning (2048 points)			✗	✗	✗
3 axis controller (24 VDC) **JXC92**		Positioning (2048 points) [3]			✗	✗	✗
4 axis controller (24 VDC) **JXC93**		Positioning (2048 points) [3]			✗	✗	✗
Direct input type step motor controller (24 VDC) **JXC91/E1/P1/D1/L1**		Positioning (64 points) & Network direct input [4]			✓	✗	✓

1) A blank controller is a controller to which the customer can write the data of the actuator it is to be combined and used with
Refer to catalogue of each controller / driver series for more information
2) 2 stroke end points plus 12 intermediate points
3) Communication protocol: EtherNet/IP™
4) Communication protocols: EtherCAT®, EtherNet/IP™, PROFINET, DeviceNet™, IO-Link.

Step data input type controller

LEC Series

LECP6
Step motor (Servo / 24 VDC)

LECA6
Servo motor (24 VDC)

- Two types: to control step motor (LECP6) and servo motor (LECA6)
- LECP6 compatible with actuators series: LEF, LEL, LEM, LEY/LEYG, LES, LEP, LER, LEH
- LECA6 compatible with actuators series: LEF, LEY/LEYG, LES
- 64 points positioning
- Software or teaching box for programming the parameters.

Programless controller

LECP1 Series

- Compatible with actuators series: LEF, LEL, LEM, LEY/LEYG, LES, LEP, LER, LEH
- 14 points positioning
- Speed and acceleration: 16-level adjustment via switches
- No software to put into operation (control panel setting).

Programless controller, with stroke study

LECP2 Series

- Specialised for LEM series
- 14 points positioning: 2 stroke end points + 12 intermediate points positioning
- Speed and acceleration: 16-level adjustment via switches
- No software to put into operation (control panel setting).

Pulse input type controller

LECPA Series

- Compatible with actuators series: LEF, LEY/LEYG, LES, LEP, LER, LEH
- Type activated controller by pulse signals, capable of positioning at any position
- Software or teaching box for setting data.

Our highlighted product for you

Multi-axis step motor controller

JXC73/83/92/93 Series

JXC73/83
Parallel I/O type

JXC92
EtherNet/IP

JXC93
EtherNet/IP

- Compatible with actuators series: LEF, LEY/LEYG, LES, LEP, LER, LEH
- Step data input with maximum 2048 points:
  - Absolute / relative position coordinates instructions
  - Positioning / pushing operation
- Approximation to linear and circular interpolation for XYZ and XY axes respectively
- Direct operation of up to 4 electric actuators only with one controller, for either single or multiple axes:
  JXC92:
  - 3-axis operation can be set collectively in one step
  - 3-axis speed tuning control

  JXC73/83/93:
  - 4-axis operation can be set collectively in one step
  - 4-axis speed tuning control
- Software or teaching box for setting data (teaching box not for JXC92 and JXC93).

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Our highlighted product for you

Step motor controller

JXC91/E1/P1/D1/L1 Series

JXC91	JXCE1	JXCP1	JXCD1	JXCL1
EtherNet/IP	EtherCAT	PROFINET	DeviceNet	IO-Link

- Compatible with actuators series: LEF, LEY/LEYG, LES, LEP, LER, LEH, LEL, LEM
- Direct operation through a fieldbus or industrial Ethernet network:
  - 10/100 Mbps high-speed communication for JXC91/E1/P1, up to 500 kbps for JXCD1, 230.4 kbps for JXCL1
  - Real time operation
- Dual port connection, IN and OUT, that allows for linear topology or Device Level Ring (DLR) topology (not for JXCL1 and JXCD1):
  - Less wiring
  - Good recovery after disconnection
  - Easy identification of disconnected spot
- IO-Link compatible type, JXCL1:
  - Higher control of the applications
  - Cost-effective: Plug & play, minimum hardware and programming costs
  - Integral communication, from sensors to actuators
  - Noise immunity
- Software or teaching box for setting data.

Fieldbus-compatible gateway unit

LEC-G Series

LEC-GEN1	LEC-GPR1	LEC-GDN1	LEC-GMJ2
EtherNet/IP	PROFINET	DeviceNet	CC-Link V2

- Allows connection of LECP6/LECA6 controllers to fieldbus networks:
  - LEC controllers are processed from the PLC through the LEC-G
  - Up to 12 LEC controllers are connectable via serial communication RS485.
- Compatible actuators: LEF, LEY/LEYG, LES, LEP, LER, LEH, LEL, LEM
- Three operation modes:
  - Step data input mode – the actuator uses preset step data of the controller (parallel I/O)
  - Numerical data input mode – the actuator uses values, such as position and speed, sent directly from the PLC
  - Step data writing mode – the actuator uses editable step data of the controller (parallel I/O) that can be changed through the gateway unit.

AC servo motor driver

	Compatible motor	Control method	Compatible encoder		Setting / graph / monitor method
			Type	Resolution	
Pulse / Positioning 100/200/400 W (100/200 VAC) **LECSA**	AC servo	Positioning (Max. 7 points) & Pulse input	Incremental	131072 (17-bit)	Digital I/O signal or pulse signal input through PLC (Setup software – MR configurator2™)
Pulse 100/200/400 W (100/200 VAC) **LECSB**		Pulse input	Absolute	262144 (18-bit)	Pulse signal input though PLC (Setup software – MR configurator2™)
CC-Link 100/200/400 W (100/200 VAC) **LECSC**		Positioning (Max. 255 points) & Network direct input (CC-Link)			PLC (CC-Link master unit) (Setup software – MR configurator2™)
SSCNET III 100/200/400 W (100/200 VAC) **LECSS**		Network direct input (SSCNET III) [1]			PLC (positioning unit / Motion controller) (Setup software – MR configurator2™)
SSCNET III/H 100/200/400 W (200 VAC) **LECSS-T**		Network direct input (SSCNET III/H) [1, 2]		4194304 (22-bit)	
MECHATROLINK-II 100/200/400 W (200 VAC) **LECYM**		Network direct input (MECHATROLINK-II) [2]		1048576 (20-bit)	PLC (positioning unit / Motion controller) (Setup software – SigmaWin+™)
MECHATROLINK-III 100/200/400 W (200 VAC) **LECYU**		Network direct input (MECHATROLINK-III) [2]			

1) High-speed optical communication
2) STO (Safe Torque Off) safety function available.

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

AC servo motor driver

LECS Series

LECSA/LECSB
Pulse input type

LECSC
CC-Link V2

LECSS
SSCNETIII

LECSS-T
SSCNETIII/H

- Compatible with actuators series: LEF, LEJ, LEY/LEYG
- With display setting function.

LECSA Series – Pulse input type or positioning type, for incremental encoder

- Positioning type, with up to 7 positioning points by point table

LECSB Series – Pulse input type, for absolute encoder

- 10/6 parallel inputs / outputs

LECSC Series – CC-Link direct input type, for absolute encoder

- Suitable for multipoint positioning, being possible to set position data / speed data and operation start / stop

LECSS Series – SSCNET III type, for absolute encoder

- Optimum for interpolation and with enhanced noise resistance by using the fiber optics for communication

LECSS-T Series – SSCNET III / H type, for absolute encoder

- Optical communication protocol with STO – Safe Torque Off – function (in accordance with IEC61800-5-2) and homing done by z-phase, ideal for machines with axis motion.

AC servo motor driver, MECHATROLINK compatible

LECY Series

LECYM
MECHATROLINK-II

LECYU
MECHATROLINK-III

- Compatible with actuators series: LEF, LEJ, LEY/LEYG
- Position control, speed control and torque control can be achieved
- STO – Safe Torque Off – function in accordance with IEC61800-5-2
- Homing can be performed by mechanical end stop
- Lock cable integrated with motor cable.

LECYM Series – MECHATROLINK-II type

- Number of connectible drivers: 30 units
- Maximum communication speed 10 Mbps, minimum communication cycle 250 µs.

LECYU Series – MECHATROLINK-III type

- Number of connectible drivers: 62 units
- Maximum communication speed 100 Mbps, minimum communication cycle 125 µs.

Card motor

LAT3 Series

- 3 functions in 1 unit
- Compact design – 9 mm thickness – and lightweight – from 130 to 360 g
- Easy programming by Cycle Time Entry Method:
  Operation setting is completed by only introducing 3 parameters:
  target position + positioning time + workload
- Modbus serial communication compatible.

Series	Stroke [mm]	Sensor (optical linear encoder)	Linear motor	Linear guide	Pushing	Positioning repeatability	Pushing measurement	Maximum load mass [g]		Maximum speed [mm/s]
		Resolution [µm]	Type		Instantaneous max. thrust [N]	Accuracy [µm]		Horizontal	Vertical 1)	
LAT3	10, 20, 30	30	Moving magnet type linear motor	Linear guide with circulating balls	5.2 up to 6	±90	±100	1000	100 (50)	400
LAT3F	10, 20, 30, 50	1.25				±5	±10			
LAT3M	50	5				±20	±40		—	

∗ ( ) indicates value when 30 mm is selected.
1) Vertical is not possible when 50 mm stroke is selected.

Card motor controller

LATCA Series

- Direct and remote control of LAT3 card motor
- 3 types of input signals to work with:
  - Step data input: I/O for general, with 15 step data and 6/4 parallel I/O
  - Pulse input: With 4 step data and 6/4 parallel I/O
  - Serial input (based on step data input): Allows the connection in series of up to 16 controllers via RS485
- Automatic calculation of speed, acceleration and deceleration with Cycle Time Entry method.

Compatible motor	Operation method	Parallel inputs / ouputs	Position & speed setting method	Compatible encoder type
Moving magnet type linear motor	Step data input	6 inputs / 4 outputs	Software	Incremental
	Pulse input		Inputted pulse	
	Serial input		Software or inputted data	

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Safety instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution”, “Warning” or “Danger.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC) *1), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
etc.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.
Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.
1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalogue.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠Warning

1. The product is provided for use in manufacturing industries.
The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

⚠Warning

SMC products are not intended for use as instruments for legal metrology.
Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, wichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

***2) Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Safety Instructions Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

Common precautions

Be sure to read before handling.
For detailed precautions on every series, refer to main catalogue.

Selection

⚠Warning

1. Confirm the specifications.
   Products represented in this catalog are designed for use in compressed air appllications only (including vacuum), unless otherwise indicated.
   Do not use the product outside their design parameters.
   Please contact SMC when using the products in applications other than compressed air (including vacuum).

Mounting

⚠Warning

1. Instruction manual
   Install the products and operate them only after reading the instruction manual carefully and understanding its contents. Also keep the manual where it can be referred to as necessary.
2. Securing the space for maintenance
   When installing the products, please allow access for maintenance.
3. Tightening torque
   When installing the products, please follow the listed torque specifications.

Piping

⚠Warning

1. Before piping
   Make sure that all debris, cutting oil, dust, etc, are removed from the piping.
2. Wrapping of pipe tape
   When screwing piping or fittings into ports, ensure that chips from the pipe threads or sealing material do not get inside the piping. Also, when the pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.

Air supply

⚠Warning

1. Operating fluid
   Please consult with SMC when using the product in applications other than compressed air (including vacuum).
   Regarding products for general fluid, please ask SMC about applicable fluids.
2. Install an air dryer, aftercooler, etc.
   Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction.
   Installation of an air dryer, after cooler etc. is recommended.
3. Drain flushing
   If condensate in the drain bowl is not emptied on a regular basis, the bowl will over flow and allow the condensate to enter the compressed air lines.
   If the drain bowl is difficult to check and remove, it is recommended that a drain bowl with the auto-drain option be installed.
   For compressed air quality, refer to “Air Preparation Equipment” catalog.
4. Use clean air
   If the compressed air supply is contaminated with chemicals, cynthetic materials, corrosive gas, etc., it may lead to break down or malfunction.

Operating environment

⚠Warning

1. Do not use in environments where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.
2. Do not expose the product to direct sunlight for an extended period of time.
3. Do not use in a place subject to heavy vibrations and/or shocks.
4. Do not mount the product in locations where it is exposed to radiant heat.

Maintenance

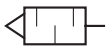
⚠Warning

1. Maintenance procedures are outlined in the operation manual.
   Not following proper procedures could cause the product to malfunction and could lead to damage to the equipment or machine.
2. Maintenance work
   If handled improperly, compressed air can be dangerous. Assembly, handling and repair of pneumatic systems should be performed by qualified personnel only.
3. Drain flushing
   Remove drainage from air filters regularly. (Refer to the specifications.)
4. Shut-down before maintenance
   Before attempting any kind of maintenance make sure the supply pressure is shut of and all residual air pressure is released from the system to be worked on.
5. Start-up after maintenance and inspection
   Apply operating pressure and power to the equipment and check for proper operation and possible air leaks. If operation is abnormal, please verify product set-up parameters.
6. Do not make any modifications to be product.
   Do not take the product apart.

Common pneumatics symbols

Supply of compressed air (1 or P)

Exhaust (3, 5 or E, R)


Silencer

Filter with manual water drain

Filter with automatic water drain

Pressure regulator with secondary exhaust

Lubricator

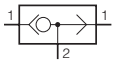
FRL – filter/regulator/lubricator-assembly

Check valve

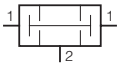
Flow controller

Adjustable flow controller

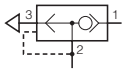
Adjustable speed controller



OR valve



AND valve



Quick exhaust valve

Valve control, general symbol

Valve control, roll

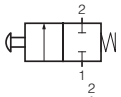
Valve control, spring

Valve control, push button

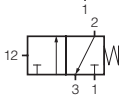
Valve control, pilot valve

Valve control, direct acting solenoid

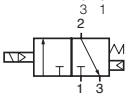
Valve control, solenoid pilot valve



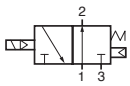
2/2 valve, normally closed, monostable, push button-controlled with spring return



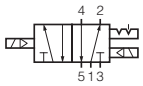
3/2 valve, normally closed, monostable, pressure-controlled with spring return



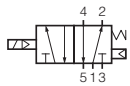
3/2 valve, normally closed



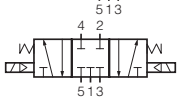
3/2 valve, normally open



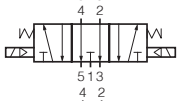
5/2 valve, bistable



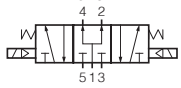
5/2 valve, monostable



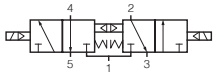
5/3 valve, closed centre



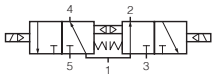
5/3 valve, open centre



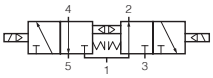
5/3 valve, pressurized centre



Double 3/2 valve, normally closed / normally closed



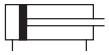
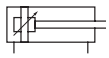
Double 3/2 valve, normally open / normally open

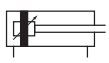


Double 3/2 valve, normally closed / normally open

Single acting cylinder with spring return

Double acting cylinder


Double acting cylinder with magnetic piston for sensors

Double acting cylinder with adjustable cushioning at both end positions


Double acting cylinder with magnetic piston for sensors and adjustable cushioning at both end positions

Rotary actuator

Numbering of connections

Explanation of how the different connections on the pneumatic components are named

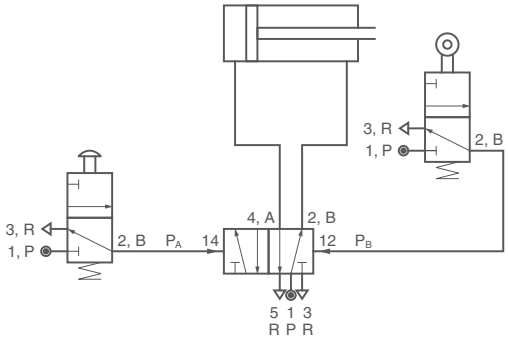
Port number:

1 (P) Inlet, usually related to mains air supply.
2 (B) Outlet to consumers.
3 (R, E) Drain exhaust.
4 (A) Outlet to consumers.
5 (R, E) Drain exhaust.

10 Connection for impulse that closes the valve. Only 3/2 N.O.
12 Connection for impulse that combines inlet 1 with outlet 2.
14 Connection for impulse that combines inlet 1 with outlet 4.

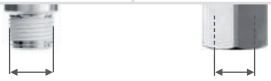
- Single digit even numbers indicates the outlet.
- Single digit odd numbers (except 1) indicate exhaust.
- Double digits indicating controlling connections.

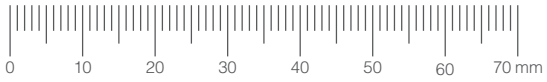
Other definitions exist depending on the brand.



Thread sizes

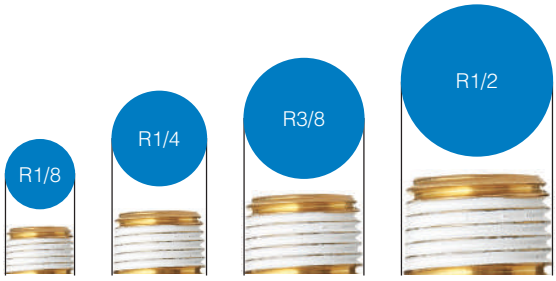
Thread designation			Thread designation	Inside diameter
M3	—		3 mm	2.5 mm
M5	—		5 mm	4.2 mm
1/8"	01	R6	9.7 mm	8.6 mm
1/4"	02	R8	13.2 mm	11.4 mm
3/8"	03	R10	16.7 mm	15 mm
1/2"	04	R15	21 mm	18.6 mm
3/4"	06	R20	26.4 mm	24.1 mm
1"	10	R25	33.2 mm	30.3 mm
1 1/4"	12	R32	41.9 mm	39.8 mm
1 1/2"	14	R40	47.8 mm	44.8 mm
2"	20	R50	59.6 mm	56.7 mm





SMC's part number provides information on the thread. In chapter 10 you will find KQ2 fittings. The last positions in the order number indicate the type of thread. Here you can see what they stand for:

U01 UNI-thread. Fits tapered, NPT, straight threads. Disc for sealing.
01S Taper thread. Also fits straight thread. Sprayed PTFE on the threads to seal.
G01 Straight thread. Disc for sealing.
M3/M5 Metric thread. Disc for sealing.



Expressions and definitions

A short glossary of common terms and definitions in pneumatics

Cylinders

Double acting cylinder Where the piston movement in both directions occurs through the influence of pressurized medium.
Single acting cylinder Where the piston movement in one direction is done by the influence of pressurized medium and in the other direction by some other force (spring).
Cylinder end cover The end caps that limit the piston movement in the cylinder.
Piston rod The part that is firmly connected to the piston and passes through one end or both ends.
Extension When the piston rod moves out of the cylinder.
Retraction When the piston rod moves into the cylinder.
Extended When the piston rod is in its outer end position.
Retracted When the piston rod is in its inner end position.
Plus chamber The cylinder chamber, which when pressurized generates extension.
Minus chamber The cylinder chamber, which when pressurized generates retraction.

Valves

2/2 valve Valve with an inlet and an outlet, can assume two different positions.
3/2 valve Valve with an inlet, an outlet and an exhaust, can assume two different positions.
5/2 valve Valve with one inlet, two outlets and two exhausts, can assume two different positions.
5/3 valve Valve with one inlet, two outlets and two exhausts, can assume three different positions.

Normally closed valve (N.C.) If the valve is not activated, the connection between inlet and outlet is closed.
Normally closed valve (N.O.) If the valve is not activated, the connection between inlet and outlet is open.

Bistable valve Missing spring and remains in position until it is activated. Has two stable positions and “memory”.
Monostable valve Has a spring and returns to its home position when it is not activated.

Directional control valve Valve that can control the flow of alternate routes, or open and close the flow path.
Flow control valve Valve that can regulate the flow volume.
Pressure control valve Valve that can regulate the pressure.

Direct operated The valve is direct activated by hand, foot, or by mechanical means.
Pilot operated The valve is indirect activated by compressed air through amplifying a manual, mechanical or electrical signal to the valve stem or spool. A small and easily adjustable valve controls the major valve.

SI units and designations

The SI system is based on seven basic units that can be combined to derived units. Here are the units that are common in pneumatics

In Europe, the SI system is used since a long time, and it is introduced in more than one hundred countries worldwide.
The abbreviation "SI" is French and is read Système International d'Unités – that is "The International System of Units".

Prefix

In the SI system, the units are made larger or smaller by using a prefix to indicate orders of magnitude.
Common prefixes are found in the table on the right.

Exponent	Connection thread	Prefix	Symbol
10^{-6}	0.000 001	micro-	µ
10^{-3}	0.001	milli-	m
10^{-2}	0.01	centi-	c
10^{-1}	0.1	deci-	d
10^{1}	10	deca-	da
10^{2}	100	hecto-	h
10^{3}	1 000	kilo-	k
10^{6}	1 000 000	mega-	M

Units for pressure

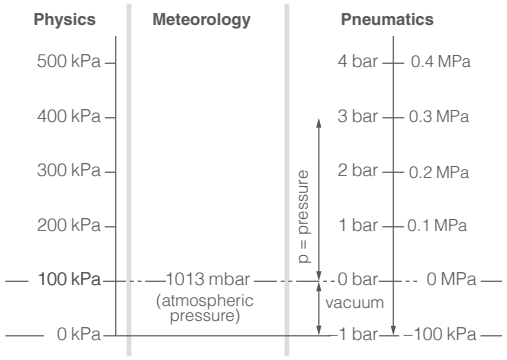
Pressure in pascal (bar is an older term used less and less).
1 bar = 100 000 Pa (pascal) = 100 kPa (kilopascal) = 0.1 MPa (megapascal).

Pressure in physics

In physics, used absolute pressure (*p abs*), which means that the scale begins with zero point at absolute vacuum.

Pressure in pneumatics

In pneumatics a scale is used where zero is at atmospheric pressure and –100 kPa at absolute vacuum. This is how we define air pressure in this product overview.
Air in the normal state is usually denoted by an n after the device (for example ln for normal liters). Normal air has an atmospheric pressure, is 20 °C and has a relative humidity of 65 %. Popularly known as "air in the room environment".



Quantity	Symbol	Unit symbol	Unit name	Comments
Basic units				
Mass	m	kg	Kilogram	
Length	s	m	Meter	
Time	t	s	Second	
Derived units				
Area	A	m^2	Square meter	
Volume	V	m^3	Cubic meter	
Velocity	v	m/s	Meter per second	
Acceleration	a	m/s^2	Meter per second squared	
Inertia	J	kgm^2	Kilogram square meter	
Force	F	N	Newton	$= kg \cdot m/s^2$
Weight	G	N	Newton	$= kg \cdot 9.82$
Energy (work)	W	J	Joule (= newtonmeter)	$= kg \cdot m^2/s^2$
Moment	M	Nm	Newtonmeter	
Effect	P	W	Watt	= J/s = Nm/s
Derived units related to compressed air				
Pressure	p	Pa	Pascal	$= N/m^2$
Standard volume	V_n	m^3_n	Normal cubic meter	
Volume flow	Q_n	m^3_n/s	Normal cubic meter per second	

Units for flow

Comparison and conversion between different international flow units

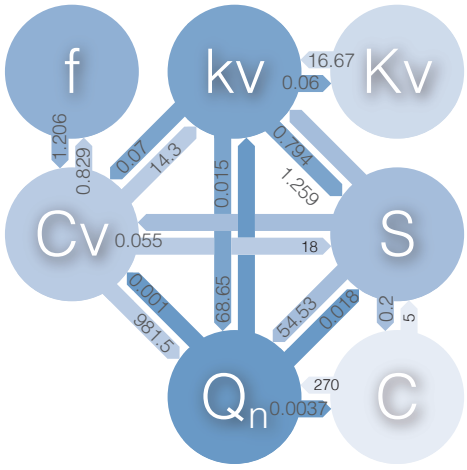
In order to determine if a valve has sufficient output for a given application, requires more than knowing the maximum flow. You must also know how a value is measured in order to use it in the actual case.

A valve flow performance depends not only on the dimensions and geometry of the valve body. The following variables are significant:

- The pressure at the output port
- The pressure drop across the valve
- The relationship between this pressure and the primary pressure.
- The temperature

In all cases, based on a data flow performance on the so-called normal volume. It is the volume of air occupied at atmospheric pressure, 20 °C and relative humidity of 65 % (normal air). This volume is frequently given in l_n resp Nm³. Since newton (N) has been introduced as a unit of force, this writing is no longer correct. Since liter is not an SI unit, volume should be given in dm^3_n, and since that unit is unnecessarily complicated, we have chosen l_n for simplicity.

In the adjacent chart is shown the international use of the units and their interrelationships. The arrows pointing to another unit states the conversion factor.



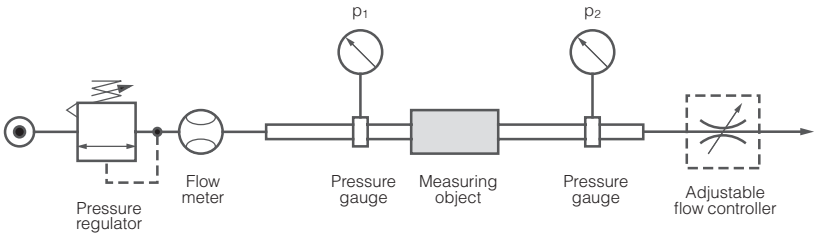
	S mm²	kv dm³/min	Kv m³/h	Cv USG/min	f gal/min	Q_n l_n/min
S	1	0.794	0.048	0.055	0.046	54.53
kv	1.259	1	0.06	0.07	0.058	68.65
Kv	20.979	16.667	1	1.166	1.035	1 144
Cv	18	14.3	0.858	1	0.829	981.5
f	21.7	17.243	0.967	1.206	1	1 184

Q_n – normal flow rate

To roughly indicate flow, volume is currently used, i.e. the flow that the valve is performing at a primary pressure of 6 bar and 1 bar pressure drop across the valve. It is only a rough indication, because the measurement methods and conditions may vary from make to make.

S – equivalent flow area

The value of S in mm² is the flow area (holes) in a measuring instrument that provides the same pressure drop as a valve or a system of components at the same output. SMC specifies this value for each component. It is measured with air as a medium and can be converted to other units, such as kv or Cv factor.



C value

C value (conductance) is the unit that ISO and the current standard uses to indicate flow. One way to find out a product's C value is dividing the product's maximum flow rate (Q) with the absolute inlet pressure (P1a). The unit is liter / second / bar. $Q \approx C \cdot 270$. The factor 270 will vary depending on the product's b value.

b value

A product's b value is obtained by dividing the absolute outlet pressure (P2a) with the absolute inlet pressure (P1a), at the crossing between the upper and lower critical flow. The value is a number less than 1 and is without a unit as it indicates a relationship. The larger the number, the greater the flow. Two products can have the same C value but different b value. This means that the products have the same maximum flow rate (Q), but different pressure drops in, for example, half the flow.

kv value

Metric measurements in "normal liters per minute". This measurement is based on measurements of water. When a liter of water each minute passes with a pressure drop of 1 bar is defined q value to 1. There is thus a pure and dimensionless correlation factor.

Kv value

As the kv value above, however, expressed in m/h, a measure that meets the SI standard.

Cv factor

As the above value but based on the Anglo-Saxon system of measurement. It is related to US gallons (USG) per minute at a pressure drop of 1 psi (0.07 bar) and a temperature of 60 °F (15.6 °C).

f factor

As Cv factor but in Imperial gallons (gal) per minute.

Dimensioning

Get help to calculate the cylinder size that is best suited for each task

Cylinder force can be determed by using the table or the following formulas below to calculate the theoretical cylinder power:

$$F = P \cdot A \qquad A = \frac{\pi \cdot d^2}{4}$$

F = Force [N]
P = Pressure [MPa]
d = Cylinder bore [mm]
A = Area [mm²]

At retraction, the force is lower because the rod reduces the available piston area.
Load rating should be around 70 % for ordinary cylinder movements and around 50 % for slow moving. Check available pressure (as a basic rule, SMC uses the column for 0.5 MPa).
Example: For cylinder force 1 000 N, choose cylinder bore 63 mm: 1 000 (force) ÷ 0.7 (maximum load rate 70 %) ≈ 1 428, the next higher cylinder force in the column for 0.5 MPa is 1 559 N corresponding bore 63.

Calculation of theoretical cylinder force

Nominal cylinder bore	Piston rod diameter	Operation	Effective piston area [cm²]	Pressure [MPa], cylinder force in newton [N]								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
6 mm	3 mm	Extens. Retract.	0.28 0.21	6 4	8 6	11 8	14 11	17 13	20 15	— —	— —	
10 mm	4 mm	Extens. Retract.	0.79 0.66	16 13	24 20	31 26	39 33	47 40	55 46	— —	— —	
12 mm	6 mm	Extens. Retract.	1.13 0.85	23 17	34 25	45 34	57 42	68 51	79 59	90 68	102 76	113 85
16 mm	6 mm	Extens. Retract.	2.01 1.73	40 35	60 52	80 69	101 86	121 104	141 121	161 138	181 155	201 173
20 mm	8 mm	Extens. Retract.	3.14 2.64	63 53	94 79	126 106	157 132	188 158	220 185	251 211	283 238	314 264
25 mm	10 mm	Extens. Retract.	4.91 4.12	98 82	147 124	196 165	245 206	295 247	344 289	393 330	442 371	491 412
32 mm	12 mm	Extens. Retract.	8.04 6.91	161 138	241 207	322 276	402 346	483 415	563 484	643 553	724 622	804 691
40 mm	16 mm	Extens. Retract.	12.57 10.58	251 211	377 317	503 422	628 528	754 633	880 739	1005 844	1131 950	1257 1056
50 mm	20 mm	Extens. Retract.	19.63 16.49	393 330	589 495	785 660	982 825	1178 990	1374 1155	1571 1319	1767 1484	1963 1649
63 mm	20 mm	Extens. Retract.	31.17 28.03	623 561	935 841	1247 1121	1559 1402	1870 1682	2182 1962	2494 2242	2806 2523	3117 2803
80 mm	25 mm	Extens. Retract.	50.27 45.36	1005 907	1508 1361	2011 1814	2514 2268	3016 2722	3519 3175	4022 3629	4522 4082	5027 4536
100 mm	30 mm	Extens. Retract.	78.53 71.47	1571 1429	2356 2144	3141 2859	3927 3574	4712 4288	5497 5003	6282 5718	7068 6432	7853 7147
125 mm	32 mm	Extens. Retract.	123 115	2450 2294	3680 3441	4910 4588	6150 5735	7360 6882	8590 8029	9820 9176	11040 10323	12270 11470
140 mm	36 mm	Extens. Retract.	154 144	3080 2880	4620 4320	6160 5760	7700 7200	9240 8640	10800 10100	12300 11500	13900 13000	15400 14400
160 mm	40 mm	Extens. Retract.	201 189	4020 3770	6030 5650	8040 7540	10050 9420	12060 11310	14070 13190	16080 15080	18100 16960	20110 18858
180 mm	45 mm	Extens. Retract.	254 239	5080 4780	7620 7170	10200 9560	12700 12000	15200 14300	17800 16700	20300 19100	22900 21500	25400 23900
200 mm	50 mm	Extens. Retract.	314 295	6280 5900	9420 8850	12600 11800	15700 14800	18800 17700	22000 20700	25100 23600	28300 26600	31400 29500
250 mm	60 mm	Extens. Retract.	491 463	9820 9260	14700 13900	19600 18500	24600 23200	29500 27800	34400 32400	39300 37000	44200 41700	49100 46300
300 mm	70 mm	Extens. Retract.	707 668	14100 13400	21200 20000	28300 26700	35400 33400	42400 40100	49500 46800	56600 53400	63600 60100	70700 66800

Flow in tubing and fittings

A simple quick reference sheet to calculate the air flow in tubes of varying lengths and dimensions

The table below shows the air flow in the different tube sizes and lengths. The upper value is only the tubing and lower is the tubing with a straight KQ2H fitting at one end and a KQ2L elbow fitting at the other end.

The flow (Q_n) is given in l_n/min. i.e.: IN = 0,6 MPa and OUT = 0,5 MPa.

Note! If you choose tubing with the same flow as the selected valve, flow is reduced to 71 % of valve capacity.

Tubing (outer / inner diam.)	0.5 m	1 m	2 m	5 m
3.2 mm / 2 mm with fittings	76 61	54 48	35 33	27 26
4 mm / 2.5 mm with fittings	134 98	101 82	61 56	48 45
6 mm / 4 mm with fittings	424 314	333 272	209 191	165 156
8 mm / 5 mm with fittings	722 473	581 426	374 321	297 268
8 mm / 6 mm with fittings	1105 700	906 641	596 498	476 422
10 mm / 8 mm with fittings	2156 1083	1826 1056	1251 958	1012 879
12 mm / 9 mm with fittings	2780 1662	2387 1565	1666 1419	1355 1276

Example: A VZ3000-valve (196 l_n/min) with 3 meters of tube, diameter 6 mm / 4 mm (191 l_n/min with fittings), provides a flow of about 140 l_n/min.

Serial connection w. same flow rates	**Serial connection w. diff. flow rates**	**Parallel connection**
1 + 1 ⇨ 71 %	2 + 1 ⇨ 89 %	1 + 1 ⇨ 2
1 + 1 + 1 ⇨ 58 %	3 + 1 ⇨ 95 %	1 + 2 ⇨ 3
1 + 1 + 1 + 1 ⇨ 50 %	4 + 1 ⇨ 97 %	1 + 3 ⇨ 4

Example: If two components with the same flow (1) are serially connected, the flow is reduced to 71 % of what a component normal has.

Serial connection

$$\frac{1}{S^2} = \frac{1}{S_1^2} + \frac{1}{S_2^2} + \frac{1}{S_n^2}$$

Parallel connection

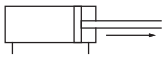
$$S = S_1 + S_2 + S_n$$

Average air consumption

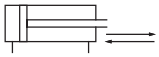
How to calculate the average air co sumtion of cylinders and air lines.

You need to know the average air consumption to determine the compressor size and running cost. Here we show how to use the charts on this Page to calculate the average air consumption of cylinders and air lines.

Single stroke (extension or retraction)



Double stroke = cycle (extension and retraction)



Example:

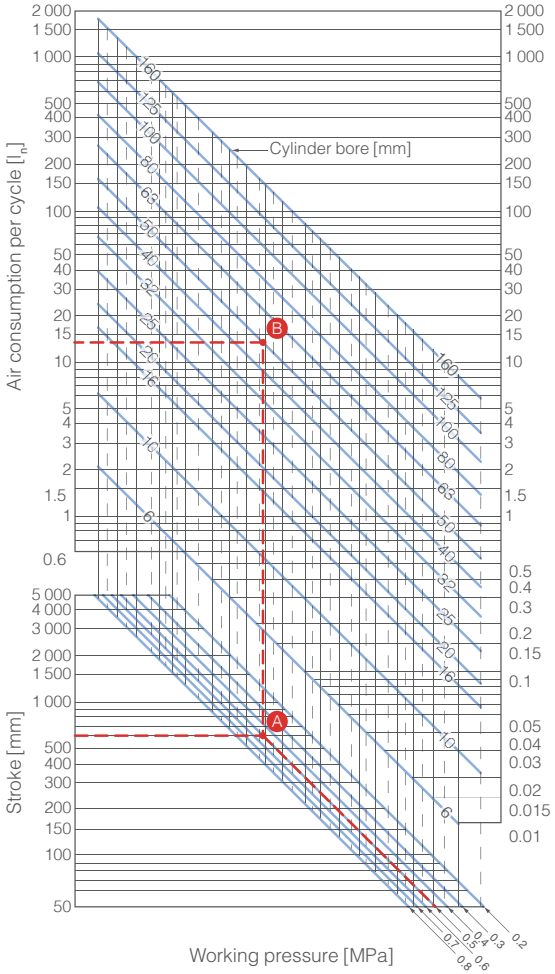
Cylinder bore: 50 mm
Stroke: 600 mm
Working pressure: 0.5 MPa
Work cycles: 5 cycles per minute
Air tubing inner diameter: 6 mm
Air tubing length: 2 m

Air consumption of cylinder

1. Use chart 1 and find the point where the working pressure line (0.5 MPa) crosses the stroke line (600 mm). See point A.
2. From point A, go straight up until you cross the bore line (50 mm). See point B.
3. From there, go horizontally to the right or the left and find air consumption per cycle (Q_t) = 13 l_n.
4. Since there are five working cycles per minute, multiply the air consumption per cycle (Q_t) with 5 to get the actual average air consumption (Q_v).

$Q_v = Q_t \cdot$ number of cycles per minute
$Q_v = 13\ l_n/min \cdot 5$
$Q_v = 65\ l_n/min$

Chart 1 – cylinder air consumption per cycle



For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Air consumption for air tubing

5. Use chart 2 and find the point where the working pressure line (0.5 MPa) crosses the line for air tubing length (2 m). See point C.
6. From point C, go straight up until you cross the line for air tubing inner diameter (6 mm). See point D.
7. From there, go horizontally to the right or the left and find air consumption per cycle (Q_t) = 0.56 l_n.
8. Since there are five working cycles per minute, multiply the air consumption per cycle (Q_t) with 5 to get the actual average air consumption (Q_v).

$Q_v = Q_t \cdot$ number of cycles per minute
$Q_v = 0.56\ l_n/min \cdot 5$
$Q_v = 2.8\ l_n/min$

Total air consumption

The total average air consumption (Q) for the cylinder and air line is obtained by adding the two Q_v values.

$Q = Q_v$ cylinder + Q_v air tubing
$Q = 65\ l_n/min + 2.8$ ln/min
$Q = 67.8\ l_n/min$

Formulas

The average air consumption can also be calculated by the following formulas:

Average air consumption for cylinder

$$Q = \frac{D^2 \cdot \frac{\pi}{4} \cdot v \cdot (p + 0.1) \cdot 60}{10^5}$$

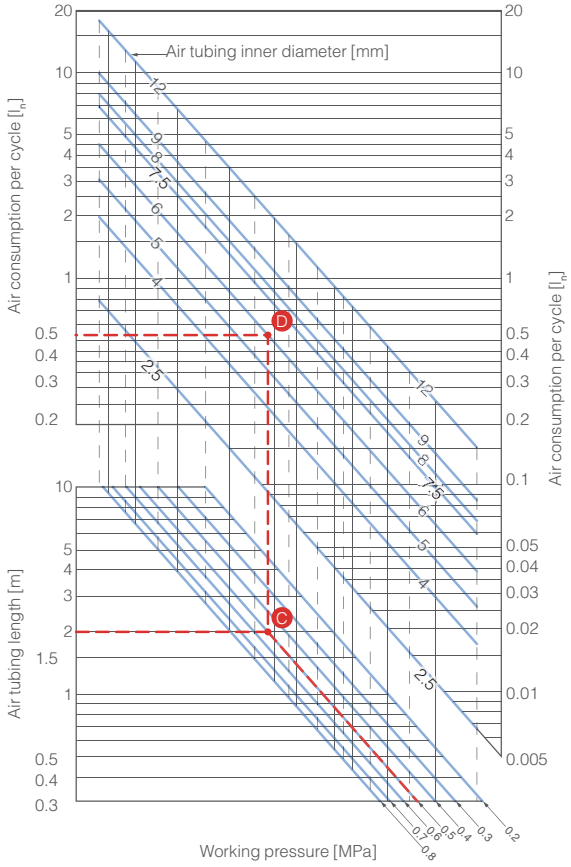
Average air consumption for air tubing

$$Q = \frac{ID^2 \cdot \frac{\pi}{4} \cdot L \cdot p \cdot n}{10^5}$$

Q = Air consumption [l_n/min]
D = Cylinder bore [mm]
H = Stroke [mm]
ID = Air tubing inner diameter [mm]
L = Air tubing length [mm]
p = Working pressure [MPa]
n = Number of single strokes per minute

Air consumption – or flow – indicated in normal liters per minute (l_n/min). 1 normal liter is 1 dm^3 air at "room environment" (normal atmospheric pressure, temperature 20 °C and a relative humidity of 65 %).

Chart 2 – air tubing air consumption per cycle



Maximum air flow

How to calculate the maximum air flow in cylinders and air tubing

It is necessary to know the maximum air flow in order to determine the size of the FRL, valves, tubings, and more. If the components are too small, the maximum / required cylinder speed is not achieved.
Here we show how to use the chart on this Page to calculate the maximum air flow for a cylinder.

Example:
Cylinder bore: 63 mm
Average piston speed: 355 mm/s
Working pressure: 0.6 MPa

Maximum air flow for cylinder

1. Determine the maximum piston speed by multiplying the average speed of 1.41.

   v max = v average· 1.41
   v max = 355 mm/s · 1.41 = 500 mm/s

2. Use chart 3 and find the point where the working pressure line (0.6 MPa) crosses the line for maximum piston speed (500 mm/s). See point E.
3. From point E, go straight up until you cross the cylinder bore line (63 mm). See point F.
4. From point F, go horizontally left or right and find the maximum air flow (Q) = 620 l_n/min.

Formulas

The maximum air flow can also be calculated using the following formulas:

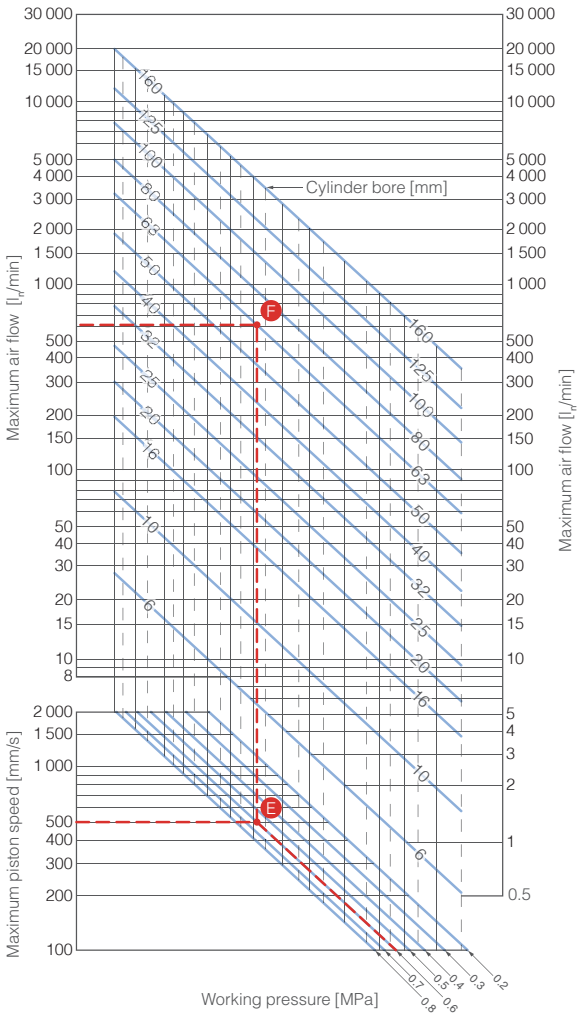
Maximum air flow for cylinder

$$Q = \frac{ID^2 \cdot \frac{\pi}{4} \cdot v_1 \cdot p \cdot 60}{10^5}$$

Maximum air flow for air tubing

$$Q = \frac{D^2 \cdot \frac{\pi}{4} \cdot v \cdot (p + 0.1) \cdot 60}{10^5}$$

Chart 3 – cylinder maximum air flow



Q = Air flow [l_n/min]
D = Cylinder bore [mm]
ID = Air tubing inner diameter [mm]
p = Working pressure [MPa]
v = Max. speed = average speed · 1.41 [mm/s]
v_1 = Max. speed of air movement in tubing

For more product options and details please refer to the specific catalogues in our website: www.smc.eu

Quick selection for choosing right flow

If you do not make an estimate of cylinder air consumption by the methods shown on previous Pages, the following speed selection table provide benchmarks for dimensioning

The table below shows the maximum air flow (in normal liters per minute [l_n/min]) a cylinder needs. This value depends on the cylinder piston diameter and operating speed.
The table is applicable at a pressure of 0.5 MPa and the rate used is the maximum speed / end speed.

$$v\,\text{max} \approx v\,\text{average} \cdot 1.4$$

Example:
A cylinder with a bore of 32 mm is moving at max. 300 mm/s. According to the table, the cylinder needs a flow of 90 normal liters per minute.
Should you choose a suitable filter, regulator, valve and tubing you can not select these components with a flow rate of about 90 normal liters per minute. If you do, the pressure drop is too large, and the flow into the cylinder is halved. Any components before the cylinder is like a long chain, producing constrictions and losses.
As a general rule you can say that the pressure drop is max. 0.03 MPa of each component. To get the right flow to the cylinder, each component must handle much more in flow. A rough guideline is that each component shall have four times greater flow than the cylinder needs.
Since 4 · 90 is 360, the filter, the regulator and all the other components should have a flow of about 400 normal liters per minute.

The beginning of chapter 4 contains tables that can also be useful when dimensioning.

Air flow requirement for cylinder – l_n/min, at a pressure of 0.5 MPa

Bore [mm]	Maximum cylinder speed [mm/s]									
	100	200	300	400	500	600	700	800	900	1000
20	10	30	40	50	60	70	80	90	100	120
25	20	40	60	70	90	110	130	140	160	180
32	30	60	90	120	150	180	210	230	260	290
40	50	90	140	180	230	270	320	370	410	460
50	70	140	210	280	360	430	500	570	640	710
63	110	230	340	450	560	680	790	900	1 010	1 130
80	180	360	550	730	910	1 090	1 270	1 450	1 630	1 810
100	290	570	850	1 130	1 420	1 700	1 980	2 260	2 550	2 830
125	440	880	1 320	1 770	2 210	2 650	3 090	3 530	3 970	4 420
140	550	1 110	1 660	2 220	2 770	3 320	3 880	4 430	4 990	5 540
160	720	1 450	2 170	2 890	3 620	4 340	5 060	5 790	6 510	7 230
180	920	1 830	2 750	3 660	4 580	5 490	6 410	7 320	8 240	9 160
200	1 130	2 260	3 390	4 520	5 650	6 780	7 910	9 040	10 170	11 300
250	1 770	3 530	5 300	7 070	8 830	10 600	12 360	14 130	15 900	17 660
300	2 540	5 090	7 630	10 170	12 720	15 260	17 800	20 350	22 890	25 430

Lifting force of vacuum pads

How to calculate the theoretical lifting force of vacuum pads at different vacuum

To be able to choose the correct dimensions on the vacuum pads, you should know the different vacuum pads theoretical lifting force at different vacuum levels. Here we present formulas and a table that you can use as a basis for your calculations.

Formulas

Vacuum in kPa

$$F = P \cdot A \cdot \frac{1}{t} \div 10$$

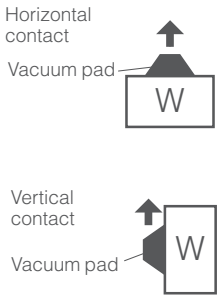
P = Vacuum (kPa)

Vacuum in mmHg

$$F = P \div 760 \cdot A \cdot \frac{1}{t} \cdot 10.13$$

P = Vacuum (mmHg)

F = Lifting force with safety factor [N]
A = Pad area [cm²]
t = Safety factor (horizontal contact surface: 2–4; vertical contact surface: 4–8)



As a complement to these formulas, you can find the lifting force at different vacuum in the table below. Note! The values you get from the table should be multiplied by $\frac{1}{t}$ as in the above formulas.

Calculation of theoretical lifting force

Vacuum pad diameter			2 mm	4 mm	6 mm	10 mm	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm
Vacuum pad area [cm²]			0.031	0.126	0.238	0.785	2.01	3.14	4.91	8.04	12.6	19.6
Vacuum	–86 kPa	–650 mmHg	0.27 N	1.09 N	2.45 N	6.8 N	17.4 N	27.2 N	42.5 N	69.7 N	109.2 N	169.8 N
	–80 kPa	–600 mmHg	0.25 N	0.98 N	2.26 N	6.3 N	16.1 N	25.1 N	39.3 N	64.3 N	100.8 N	156.7 N
	–73 kPa	–550 mmHg	0.23 N	0.92 N	2.07 N	5.8 N	14.7 N	23 N	36 N	58.9 N	92.4 N	143.7 N
	–66 kPa	–500 mmHg	0.21 N	0.84 N	1.89 N	5.2 N	13.4 N	20.9 N	32.7 N	53.6 N	84 N	130.6 N
	–60 kPa	–450 mmHg	0.19 N	0.76 N	1.7 N	4.7 N	12.1 N	18.8 N	29.5 N	48.2 N	75.6 N	117.6 N
	–53 kPa	–400 mmHg	0.17 N	0.67 N	1.51 N	4.2 N	10.7 N	16.7 N	26.2 N	42.9 N	67.2 N	104.5 N
	–46 kPa	–350 mmHg	0.14 N	0.59 N	1.32 N	3.7 N	9.4 N	14.6 N	22.9 N	37.5 N	58.8 N	91.5 N
	–40 kPa	–300 mmHg	0.12 N	0.5 N	1.13 N	3.14 N	8 N	12.6 N	16.9 N	32.1 N	50.4 N	78.4 N

100 kPa = 0.1 MPa = 1 bar = 1000 mbar

Evacuation time of vacuum pads

How to calculate evacuation time for vacuum pads, and choosing ejector and tubing

Here we show, using formulas and charts, how to calculate how long it takes for a vacuum pad to achieve the desired vacuum level.

Calculation of evacuation time

Average suction flow in ejector

$$Q_1 = 0.4 \cdot Q_{max}$$

Tubing maximum flow

$$Q_2 = S \cdot 11.1$$

Tubing volume between ejector and vacuum pad

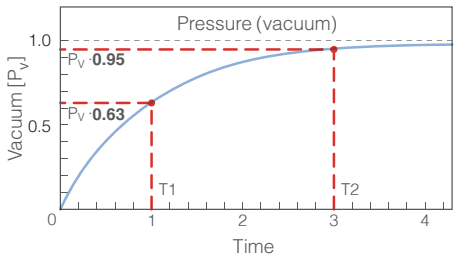
$$V = 1 \div 1000 \cdot \varpi \div 4 \cdot D^2 \cdot L$$

Evacuation time

$$T1 = V \cdot 60 \div Q$$

$$T2 = 3 \cdot T1$$

Q_{max} = Ejector's maximum suction flow (l/min), see the technical data



S = Tubing equivalent cross-sectional area (mm²), see chart 4

V = Tubing volume (l) between ejector and vacuum pad

T1 = Time (s) to reach 63 % of maximum vacuum level (P_V)

T2 = Time (s) to reach 95 % of maximum vacuum level (P_V)

Q = The lowest of Q_1 and Q_2

Example:

Ejector: ZH10BS-06-06

Max. vacuum (P_V): –88 kPa

Max. suction flow (Q_{max}): 24 l/min

Tubing length (L): 1 m

Tubing inner diameter (D): 6 mm

Vacuum pad diameter: 10 mm

Necessary vacuum: 63 % of P_V, no leakage

1. Calculate ejector's average suction flow (Q_1) by multiplying the maximum suction flow by 0.4.

   $Q_1 = 0.4 \cdot 24$ l/min = 9.6 l/min

2. Calculate maximum tubing flow (Q_2) by finding the tubing's equivalent cross-sectional area (S) in chart 4 and multiplying this by 11.1.

   $Q_2 = 18 \cdot 11.1 = 198$ l/min

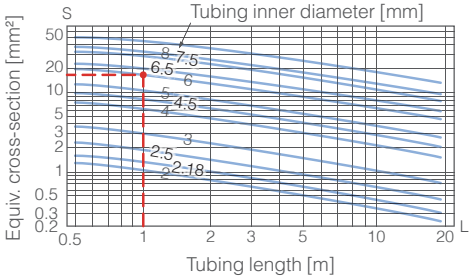
3. Calculate tubing volume between ejector and pad.

   $V = 1 \div 1000 \cdot \varpi \div 4 \cdot 6^2 \cdot 1 = 0.028$ l

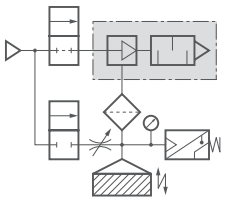
4. Calculate evacuation time. Since Q_1 is lower than Q_2 this means $Q = Q_1$ i.e. 9.6 l/min. The time to reach 63 % of max. vacuum equals:

   T1 = 0.028 · 60 ÷ 9.6 = 0.18 s

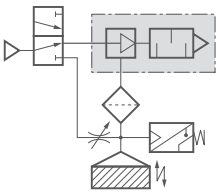
Chart 4 – tubing equivalent cross-sectional area



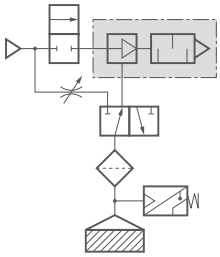
Connection examples



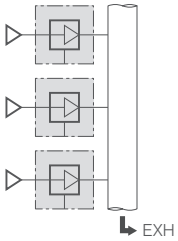
Individual control of ejector and release



Switching between vacuum and release



Switching between vacuum and release – on suction side



Common exhaust

Instructions

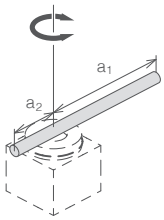
Supply connection (supply): Dimension supply line, valves and connections considering the ejector's air consumption (see technical data).
Vacuum ejector (vac): The tubing between ejector and vacuum pad should be as short as possible. Filters should be installed for use in dusty environment (dust).
Ejector exhaust connection (exh): *Type B* – Do not block the silencer. *Type D* – do not connect longer tubing that 0.5 meter (= pressure < 5 kPa).
Number of vacuum pads: One vacuum pad per ejector for maximum safety.

Mass moment of inertia

When dimensioning a rotary actuator you must, in addition to necessary torque, also consider the load's mass moment of inertia. For your aid, please find the formulas below (dimensions in meters)

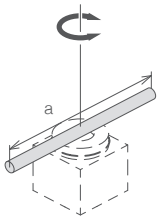
1. Thin axle, excentrically suspended

$$J = m_1 \cdot \frac{a_1^2}{3} + m_2 \cdot \frac{a_2^2}{3}$$



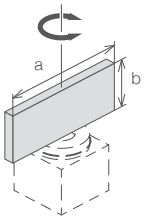
2. Thin axle, centered suspension

$$J = m \cdot \frac{a^2}{12}$$



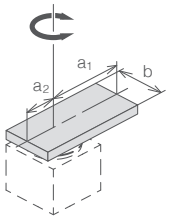
3. Thin rectangular plate, on edge and centered

$$J = m \cdot \frac{a^2}{12}$$



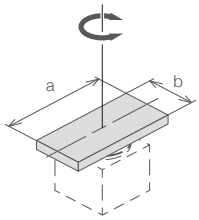
4. Thin rectangular plate, lying down and excentrically suspended

$$J = m_1 \cdot \frac{4a_1^2 + b^2}{12} + m_2 \cdot \frac{4a_2^2 + b^2}{12}$$



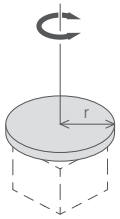
5. Thin rectangular plate, lying down and centered

$$J = m \cdot \frac{a^2 + b^2}{12}$$



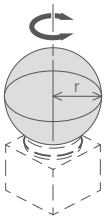
6. Thin disc, lying down and centered

$$J = m \cdot \frac{r^2}{2}$$



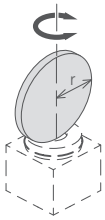
7. Sphere (ball), centered

$$J = m \cdot \frac{2r^2}{5}$$



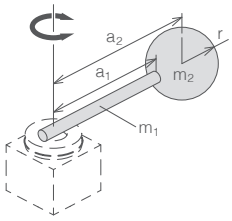
8. Thin disc, on edge and centered

$$J = m \cdot \frac{r^2}{4}$$



9. Thin axle with mass

$$J = m_1 \cdot \frac{a_1^2}{3} + m_2 \cdot a_2^2 + K$$



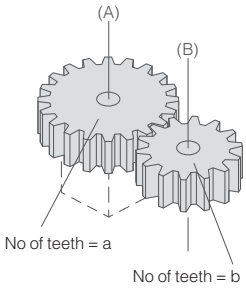
When m_2 is spherical, K equals, as in case 7:
If the axle is carrying a disc, calculate K as in case 6 or 8.

$$K = m \cdot \frac{2r^2}{5}$$

10. Transmission

First calculate mass moment of inertia for gears A and B (as in case 6) and then:

$$J = (\frac{a}{b})^2 J_B + J_B$$



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The CE mark indicates that machines and components meet essential requirements of all the EC Directives applied.
It has been obligatory to apply CE marks indicating conformity with EC Directives when machines and components are exported to the member Nations of the EU.
Once "A manufacturer himself" declares a product to be safe by means of CE marking (declaration of conformity by manufacturer), free distribution inside the member Nations of the EU is permissible.

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SMC provides CE marking to products to which EMC and Low Voltage Directives have been applied, in accordance with CETOP (European hydraulics and pneumatics committee) guide lines.

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  The Machinery Directive contains essential health and safety requirements for machinery, as applied to industrial machines e.g. machine tools, injection molding machines and automatic machines. Pneumatic equipment is not specified in Machinery Directive. However, the use of SMC products that are certified as conforming to EN Standards, allows customers to simplify preparation work of the Technical Construction File required for a Declaration of Conformity.

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SMC's Global Service Network

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Ireland **SMC Pneumatics (Ireland) Ltd.**
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Netherlands **SMC Nederland BV**
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Belgium **SMC Belgium NV/SA**
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Denmark **SMC Danmark A/S**
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Kenya <Distributor> **Flow Controls Ltd.**
Off Lusaka Road, Pemba Street, Nairobi, Kenya
Phone: +254-555-808 Fax: +254-551-880

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China <Beijing/Shanghai> SMC (China) Co., Ltd.
A2, XingSheng Street, BDA, Beijing, 100176 P. R. China
Phone: (010) 67885566 Fax: (010) 67881837

China <Guangzhou> SMC Automation (Guangzhou) Limited
2, Dongming Road 3, Science Park Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, P. R. China
Phone: (020) 28397668 Fax: (020) 28397669

Hong Kong <Hong Kong/South China> SMC Pneumatics (Hong Kong) Ltd.
29/F, Clifford Centre, 778-784 Cheung Sha Wan Road, Kowloon, Hong Kong, China
Phone: 2744-0121 Fax: 2785-1314

Taiwan SMC Pneumatics (Taiwan) Co., Ltd.
No.16, Lane 205, Nansan Rd., Sec.2, Luzhu-hsiang, Taoyuan-hsien, Taiwan
Phone: (03) 322-3443 Fax: (03) 322-3387

Korea SMC Pneumatics Korea Co., Ltd.
Scout B/D 8F, 14, Gukhoe-daero 62-gil (Yeouido-dong), Yeongdeungpo-gu, Seoul, 150-914, Korea
Phone: +82-(02) 3219-0700 Fax: +82-(02) 3219-0702

Singapore SMC Pneumatics (S.E.A.) Pte. Ltd. (Sales subsidiary)
33, Tuas Avenue 8, Singapore 639251
Phone: 6861-0888 Fax: 6861-1889

Malaysia SMC Automation (Malaysia) Sdn Bhd.
Lot 36, Jalan Delima 1/1, Subang Hi-Tech Industrial Park, Batu Tiga, 47500 Subang Jaya, Selangor, Malaysia
Phone: +60-(03) 56350590 Fax: +60-(03) 56350602

Thailand SMC (Thailand) Ltd.
134/6 Moo 5, Tiwanon Road, Bangkadi Amphur, Muang, Patumthani 12000, Thailand
Phone: (02) 963-7099 Fax: (02) 501-2937

Philippines Shoketsu SMC Corporation
Building 7, Don Mariano Lim Industrial Complex, Alabang-Zapote Road, Almanza, Las Piñas City, Philippines 1740
Phone: (02) 809-0565 Fax: (02) 809-0586

India SMC Pneumatics (India) Pvt. Ltd.
A-4, Sector-88, Noida-201 305 India
Phone: 0120-4780222, 2449222 Fax: 0120-2558933

Australia SMC Pneumatics (Australia) Pty. Ltd.
14-18 Hudson Avenue, Castle Hill, Sydney, New South Wales 2154, Australia
Phone: (02) 93548222 Fax: (02) 93548252

New Zealand SMC Pneumatics (N.Z.) Ltd.
5 Pacific Rise Mt Wellington Auckland 1060, New Zealand (P. O. Box 62-226, Sylvia Park, Auckland, 1644)
Phone: (09) 573-7007 Fax: (09) 573-7002

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Kvutzat Geva 1891500, Israel
Phone: 04-653-5960 Fax: 04-653-1445

Indonesia PT. SMC Pneumatics Indonesia
EJIP Industrial Park Plot 6J-1 Cikarang Selatan - Bekasi 17550 Indonesia
Phone: (0)21897-1123 Fax: (0)21897-0517

Vietnam SMC Corporation (Vietnam) Co., Ltd.
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Phone: +84-(0) 8-6281-1110 Fax: +84-(0) 8-6281-1120

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Phone: 21-243 9070 / 21-243 8449 Fax: 21-241 4589

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U.A.E SMC Pneumatics Middle East FZE
P. O. Box 261035, Jebel Ali, Dubai, United Arab Emirates
Phone: 4 801 5900 Fax: 4 801 5988

Kuwait <Distributor> Esco Trading Est.
Al Raqum Building, Tunis St.P. O.Box 44400 Hawally, Kuwait-ZIP: 32058
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B-20/28 Babor Road (Gr.Floor) Mohammadpur, Dhaka - 1207 Bangladesh
Phone: 9132538/0171-546863 Fax: 9131512

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P. O.Box 37956, Doha, Qatar
Phone: 4430035 Fax: 4430025

Oman <Distributor> Al Wadood Modern Enterprises LLC
P. O. Box 154, Rusayl - behind Amiantit Oman, Muscat, Sultanate of Oman
Phone: +968-2442 3434 Fax: +968-2442 2349

MYANMAR <Distributor> MYANMAR GOLDEN TOP CO., LTD.
No.25(A)South Race Course Street, Tamwe Township, Yangon, Myanmar
Phone: +95 01-557-886

America

U.S.A. SMC Corporation of America
10100 SMC Blvd. Noblesville IN 46060, U.S.A.
Phone: 317-899-4440 Fax: 317-899-0819

Canada SMC Pneumatics (Canada) Ltd.
6700 Millcreek Drive, Unit #3, Mississauga, ON L5N 8B3, Toronto
Phone: +1-905-812-0400 Fax: +1-905-812-8686

Mexico SMC Corporation (Mexico), S.A. de C.V.
Carr. Silao-Trejo K.M. 2.5 S/N Predio San Jose del Durazno C.P. 36100, Silao, Gto. Mexico
Phone: 472-72-2-55-00 Fax: 472-72-2-59-44, 472-72-2-59-46

Brazil SMC Pneumáticos do Brasil Ltda.
Av. Piraporinha, 777 Bairro Planalto, São Bernardo do Campo São Paulo, Brazil ZIP : 09891-001
Phone: 11-4082-0777 Fax: 11-4082-0685

Chile SMC Pneumatics (Chile) S.A.
Av. La Montana, #1115 P. Norte km. 16,5
Parque Industrial Valle Grande, Lampa, Santiago, Chile
Phone: +56-2-270-86-00 Fax: +56-2-270-86-01

Colombia SMC Pneumatics (Chile) S.A.
Av. La Montana, #1115 P. Norte km. 16,5
Parque Industrial Valle Grande, Lampa, Santiago, Chile
Phone: +56-2-270-86-00 Fax: +56-2-270-86-01

Argentina SMC Argentina S.A.
Austria Norte 1831, Troncos del Talar,
Parque Industrial Tigre, Buenos Aires - Argentina
Phone/Fax: +54-011-4555-5762

Bolivia SMC Pneumatics Bolivia S.r.l.
Av. Canal Cotoca # 2635 (entre Calle 9 y 10) Santa Cruz, Bolivia
Phone: (0) 3-3649957 Fax: (0) 3-3649959

Venezuela SMC Neumatica Venezuela S.A.
Ave. Michelena Zona Industrial Edificio Canaima Local 4
Valencia-Edo Carabobo, Venezuela
Phone: 241-8345617 Fax: 241-8348258

Peru SMC CORPORATION PERU S.A.C.
Calle Andres Reyes 191, San Isidro, Lima, LIMA27, Peru
Phone: 1-4401280 Fax: 1-4401280

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SMC Corporation
Akihabara UDX 15F, 4-14-1
Sotokanda, Chiyoda-ku, Tokyo 101-0021, JAPAN
Phone: 03-5207-8249
Fax: 03-5298-5362

Austria	+43 (0)2262622800	www.smc.at	office@smc.at
Belgium	+32 (0)33551464	www.smcpneumatics.be	info@smcpneumatics.be
Bulgaria	+359 (0)2807670	www.smc.bg	office@smc.bg
Croatia	+385 (0)13707288	www.smc.hr	office@smc.hr
Czech Republic	+420 541424611	www.smc.cz	office@smc.cz
Denmark	+45 70252900	www.smcdk.com	smc@smcdk.com
Estonia	+372 6510370	www.smcpneumatics.ee	smc@smcpneumatics.ee
Finland	+358 207513513	www.smc.fi	smcfi@smc.fi
France	+33 (0)164761000	www.smc-france.fr	info@smc-france.fr
Germany	+49 (0)61034020	www.smc.de	info@smc.de
Greece	+30 210 2717265	www.smchellas.gr	sales@smchellas.gr
Hungary	+36 23513000	www.smc.hu	office@smc.hu
Ireland	+353 (0)14039000	www.smcpneumatics.ie	sales@smcpneumatics.ie
Italy	+39 0292711	www.smcitalia.it	mailbox@smcitalia.it
Latvia	+371 67817700	www.smclv.lv	info@smclv.lv
Lituania	+370 5 2308118	www.smclt.lt	info@smclt.lt
Netherlands	+31 (0)205318888	www.smcpneumatics.nl	info@smcpneumatics.nl
Norway	+47 67129020	www.smc-norge.no	post@smc-norge.no
Poland	+48 222119600	www.smc.pl	office@smc.pl
Portugal	+351 226166570	www.smc.eu	postpt@smc.smces.es
Romania	+40 213205111	www.smcromania.ro	smcromania@smcromania.ro
Russia	+7 8127185445	www.smc-pneumatik.ru	info@smc-pneumatik.ru
Slovakia	+421 (0)413213212	www.smc.sk	office@smc.sk
Slovenia	+386 (0)73885412	www.smc.si	office@smc.si
Spain	+34 902184100	www.smc.eu	post@smc.smces.es
Sweden	+46 (0)86031200	www.smc.nu	post@smc.nu
Switzerland	+41 (0)523963131	www.smc.ch	info@smc.ch
Turkey	+90 212 489 0 440	www.smcpnomatik.com.tr	info@smcpnomatik.com.tr
UK	+44 (0)845 121 5122	www.smcpneumatics.co.uk	sales@smcpneumatics.co.uk

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