



HIGH-DURABILITY SOLUTIONS

**Boost your
productivity**



Expertise
Passion
Automation

SMC high-durability solutions

In today's fast-paced industrial environments, unplanned downtime and frequent maintenance are productivity's greatest adversaries. Maintaining peak performance while keeping operational costs low is a constant challenge. At SMC, we understand that the key to unlocking higher productivity and long-term cost savings lies in minimising maintenance efforts by extending the lifetime of your automation components.

Minimise maintenance, maximise productivity

With **SMC's high-durability solutions**, you can extend the life of your components, machinery, and installations, reducing the need for frequent maintenance. By selecting components engineered for superior durability, you can extend the lifespan of your machinery and installations, reducing the frequency of maintenance interventions and the associated labour, spare parts, and energy costs.

Our solutions are designed to help you **boost productivity** and reduce your **Total Cost of Ownership (TCO)**. From **cylinders** that last up to four times longer than standard models, to **metal-sealed valves** capable of enduring 200 million cycles, as well as **abrasion-resistant tubing** that can withstand harsh environments, our solutions are tailored to keep your production running smoother for longer.

Durability meets energy efficiency

At SMC, we understand the importance of energy efficiency and reliability in modern automation. That's why our high-durability components are designed to help you reduce maintenance, cut costs, and maximise machine availability – all while improving energy efficiency and ensuring long-lasting performance.

Explore SMC's high-durability solutions and discover how our long-lasting, energy-efficient components can be your strongest ally in minimising maintenance and maximising productivity.

3 A new approach to industrial maintenance

5 Choose high-durability products

12 Choose products according to application and environment

19 Choose condition optimised components

20 Our support network

21 SMC Business Continuity Plan

A new approach to industrial maintenance

In the industry, maintenance is often viewed as a necessary but costly function, with companies continuously seeking ways to reduce its impact on operational budgets. Traditional strategies like preventive and predictive maintenance help reduce downtime, but what if you could minimise maintenance needs right from the start?

That's the idea behind our concept: **Minimise maintenance by extending the lifetime of your automation components.**

This approach focuses on selecting **high-durability components** tailored to your specific application and working environment, helping you reduce maintenance frequency, lower operational costs, and improve energy efficiency – all while boosting productivity and machine availability.

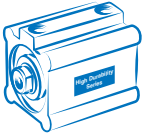


CHOOSE HIGH-QUALITY PRODUCTS

High-quality



High-durability

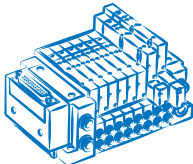


Lower maintenance cost



Lower TCO

e.g. Metal-to-metal sealing valve: **200** million cycles.



High-quality components

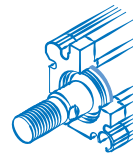
Choosing long-lasting components is key. Our solutions – like **metal sealed valves** that can withstand 200 million cycles or **high-durability cylinders** that last four times longer than standard — help lower your **Total Cost of Ownership (TCO)** by reducing replacements, downtime, and maintenance costs.

CHOOSE ACCORDING TO THE APPLICATION AND WORKING ENVIRONMENT



Right components-right environment

e.g. Reinforced scraper proves better in environments exposed to dirt or sand.



Resistance to wear & fatigue

Application-specific selection

Harsh environments demand the right products. Whether it's **reinforced scrapers** for dusty areas, **abrasion-resistant tubing**, or **lubrication retainers** to protect from micro-dust, choosing components suited to your conditions ensures consistent performance and longer lifespans.

CHOOSE CONDITION-OPTIMISED COMPONENTS

Reduce pressure



Reduce maintenance and the risk of failures

e.g. Stand-by valves. Lowering the pressure when machines are at rest extends the fatigue life of seals and, in turn, prolongs the useful life of your components.



Optimised working conditions

Simple adjustments like reducing system pressure, using **soft-start valves** to prevent surges, or ensuring high-quality compressed air, can significantly extend component life while improving energy efficiency.

By extending component life, you cut **MRO** costs, improve **OEE**, and reduce energy consumption, leading to fewer failures, less downtime, and a more sustainable, efficient production process.

With SMC's global expertise and support, you'll have everything you need to make this new approach to maintenance a reality.

Benefit from

Reducing cost of replacements



Increasing OEE



Increasing machine availability



Increasing energy efficiency



Choose high-durability products

Minimising maintenance starts with choosing the right components. SMC's **longer life cylinders** are designed to deliver over **four times** the durability of standard models, helping you reduce unplanned downtime and extend maintenance intervals. These cylinders are ideal for applications requiring continuous operation or frequent maintenance cycles, ensuring your machines stay productive for longer.

Friction is significantly reduced thanks to optimised sliding materials, enhanced lubricants, and refined component design – maintaining peak performance while increasing durability. This not only extends the cylinder's lifespan but also supports energy efficiency by preventing wear-related performance losses.

SMC's **longer life cylinders** provide a straightforward, effective solution that reduces maintenance demands, improve reliability, and support your drive towards greater efficiency.

The core of lasting performance

Longer life cylinders – Engineered for extended performance

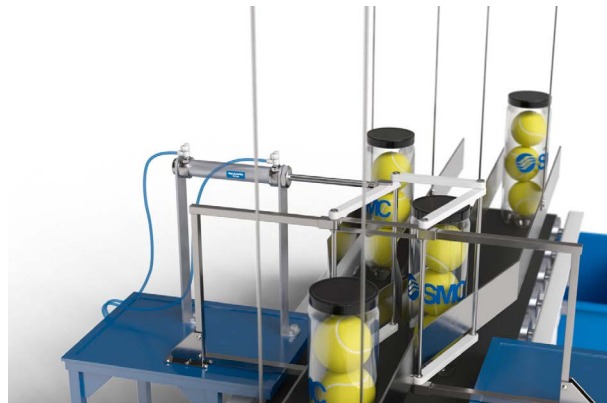


XB24 series for standard environments

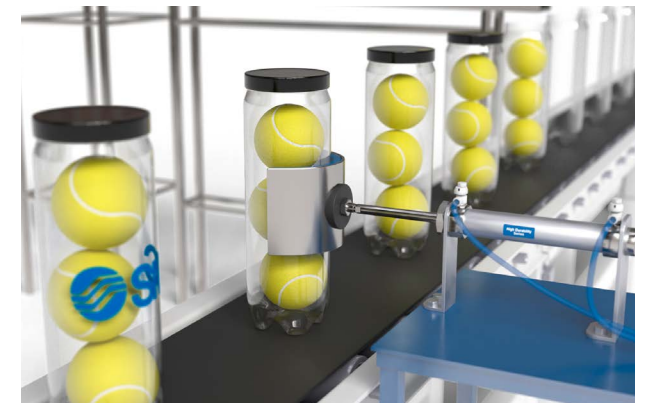
- **Extended machine availability** with fewer unplanned stoppages
- **Lower maintenance costs** thanks to reduced replacement parts and longer intervals between services
- Simplified identification with a distinct **High-Durability (HD)** label, improving traceability and preventing counterfeiting.

Suitable for high frequency operations

Sorting



Labelling



Round body and tie rod cylinders



CM2-Z1 Series +

Standard round body cylinder

Designed for flexibility with a compact build and a wide range of variations.



C75 Series +

Round body cylinder

Designed for easy and accurate mounting, with three head cover types to suit various applications.



C85 Series +

ISO 6432 round body cylinder

Conforms to ISO 6432, ensuring compatibility and standardised performance across applications.



CJ2 Series +

Compact round body cylinder

Small bore sizes and versatile mounting options, including 7 types and 4 rod end brackets for flexible installation.

Guided cylinders



MGP Series +

Standard guided cylinder

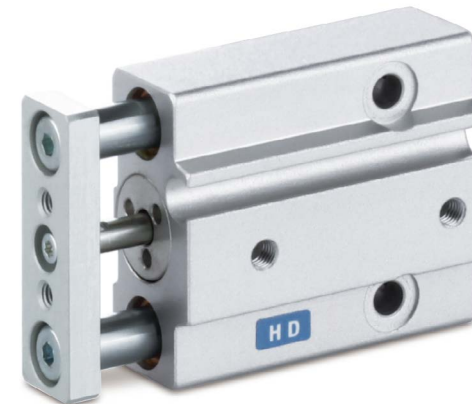
Ensures precise movement thanks to a lightweight design, and multiple mounting options for easy integration.



CXS2 Series +

Dual rod cylinder

Compact cylinders with a double-rod construction for increased force and non-rotating accuracy, ensuring precise movement and high load stability.



MGJ Series +

Miniature guided cylinder

Compact guided cylinder designed for the smallest spaces, ensuring precise movement and easy installation.

Compact cylinders



CQ2 Series +

Standard guided cylinder

Lightweight design, optimising space and reducing machine weight for increased productivity.



CU Series +

Free mount cylinder

Multiple direct mounting surfaces, offering maximum versatility and space-saving installation without the need for brackets.



CQS Series +

Compact profile cylinder

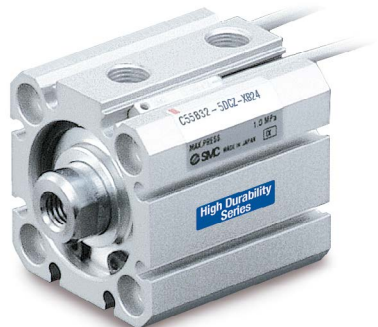
Hexagonal piston rod for superior non-rotating accuracy, ensuring precise movement in space-constrained applications.



CUJ Series +

Compact and versatile direct mount cylinder

Miniature free mount cylinder with multiple direct mounting surfaces, providing maximum versatility and space-saving installation for compact applications.

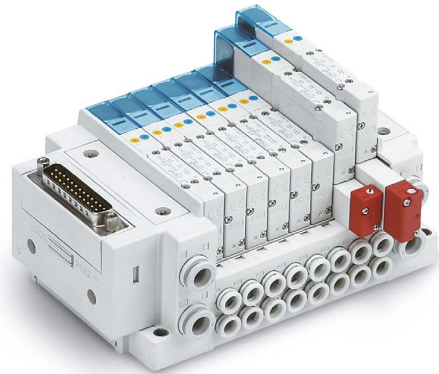


C55 Series +

ISO 21287 compact cylinder

C55 Series conforming to 21287, ensuring compatibility and standardised performance across applications.

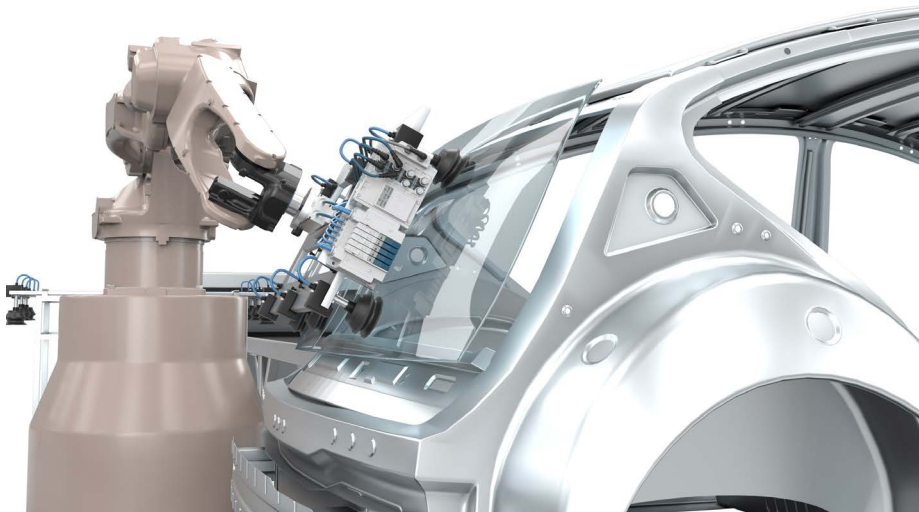
Metal seal solenoid valves



SY Series +

- **Durability:** designed to last up to 200 million cycles. Rubber seal valves have an expected durability of 70 million cycles.
- **Flow rate:** large flow rate capacity.
- **Flexibility:** customise your manifold with a wide range of combinations, including electrical and pneumatic connections, accessories, and various valve size.

Suitable for wide range of applications



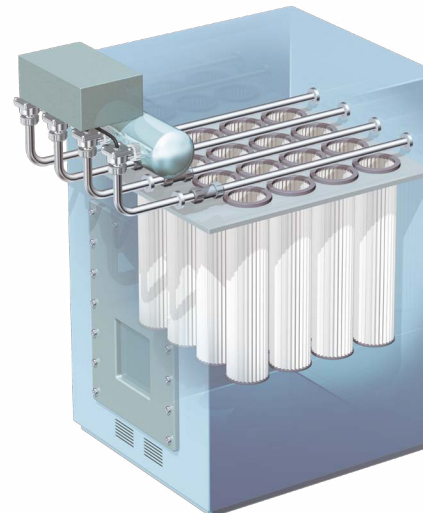
Pulse valves



JSXF Series +

- **Increased pulse blow efficiency:** High-peak pressure
- **Safe energy:** Low air consumption & fast response time
- **Guaranteed endurance:** 10 million cycles or more thanks to its elastomer diaphragm
- **Quick and simple installation:** Compression fitting and immersion type available.

Suitable for wide range of applications



Vacuum pads



ZP3M Series +

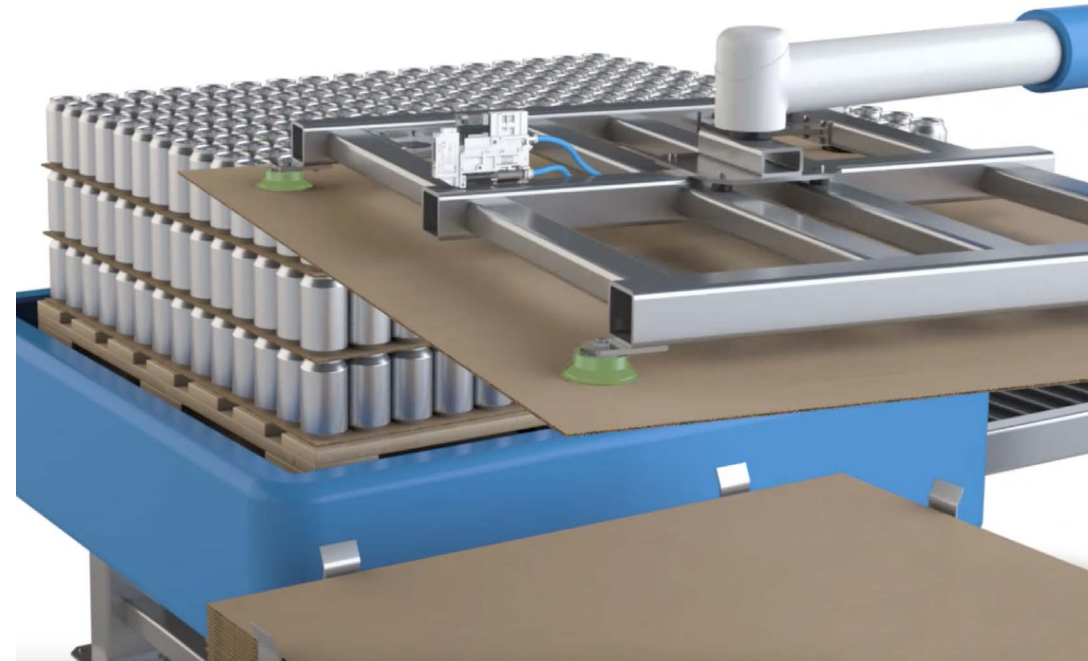
- **Slippage of workpieces prevention:** The anti-slip ribs provide high lateral holding force
- **Suitable for a wide variety of workpiece types:** Adaption to small radius of curvatures
- **Extended the lifetime:** FS61 (Fluoro-based rubber) provides excellent wear resistance.



ZP3C Series +

- **Ensure an adequate handling of highly abrasive workpieces** – FS61 material (Fluoro-based rubber)
- **Extended lifetime** – Mesh filter to reduce suction of foreign matter
- **Easy replacement of the pads and mesh filter** – Compatible with several mounting tools.

Suitable for wide range of applications



Ensure clean air and reliable connections

The durability and efficiency of your automation system start with two critical elements: clean, dry air and reliable connections. Without proper air treatment, contaminants such as dust, oil, and moisture can accumulate in your pneumatic system, leading to premature wear, inefficiencies, and potential failures. Ensuring high-quality compressed air is essential to maintaining the performance and longevity of your components.



IDFA Series +

Refrigerated air dryer ensuring reliable moisture removal, with a pressure dew point as low as 3 °C and eco-friendly refrigerant options for sustainable performance.



AFF Series +

Main line filter ensuring ISO 8573-certified air purity, with integrated water separation, easy maintenance, and optimised airflow for energy savings.



AC-D Series +

FRL combination units ensuring standardised air quality with ISO 8573-1:2010 certification, a clean design, and durable, easy-to-maintain components.



AS Series +

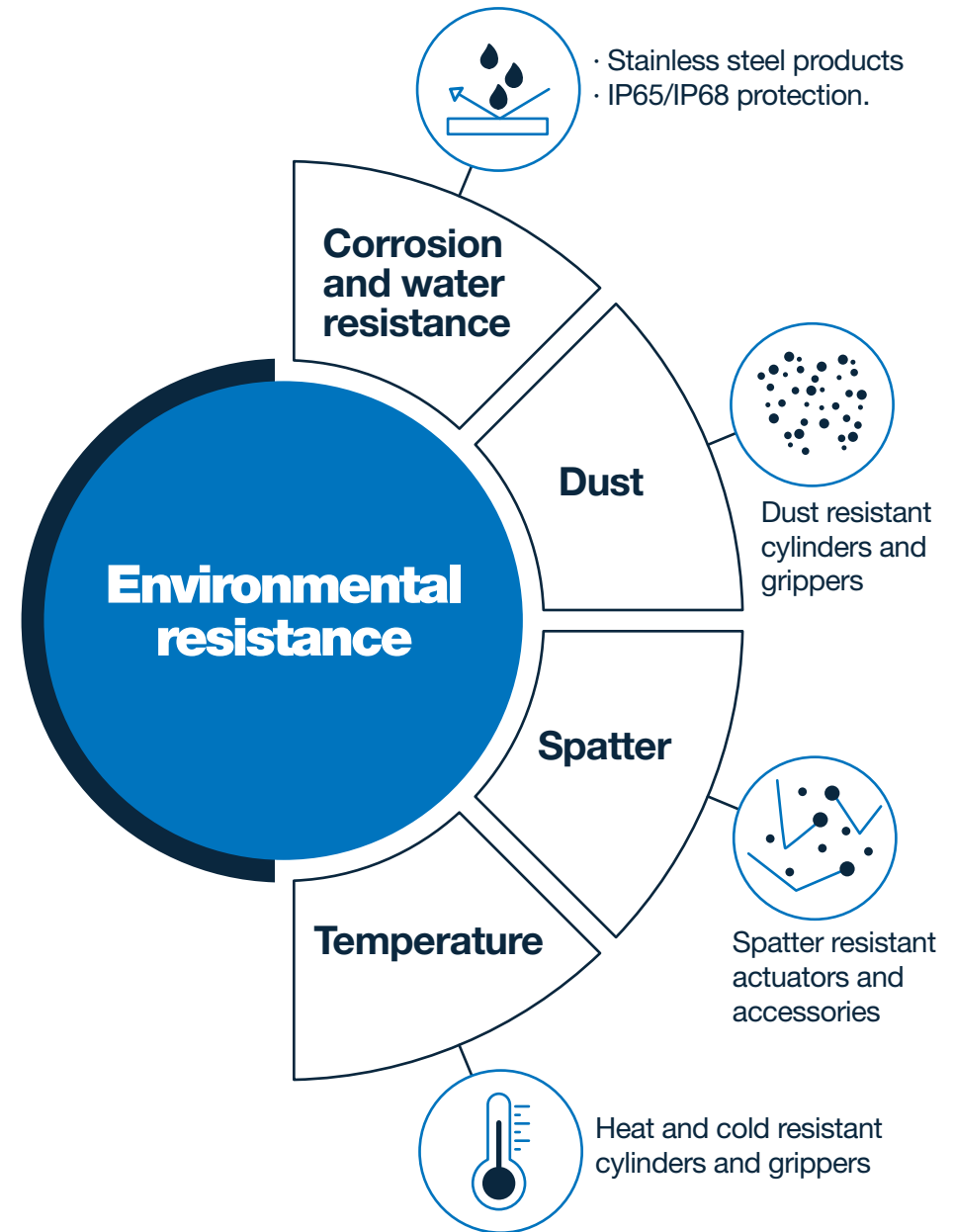
Speed controller with one-touch fitting ensuring secure, leak-free connections with quick installation, and compatibility across various operating environments.

Choose products according to application and environment

Every application presents unique challenges, from extreme temperatures to exposure to moisture or corrosive elements. At SMC, we offer a **wide range of solutions** designed to withstand the most demanding conditions, ensuring durability and consistent performance. Whatever your environment, you can rely on our expertise to provide the **right components** that will keep your operations running smoothly.

Tailored to your application

Reliable performance in any environment



Corrosion and water resistance

Applications exposed to water splashes or coolants, such as those in the automotive, food, or machine tool industries, require components that can withstand aggressive conditions. At SMC we offer corrosion and moisture-resistant solutions, including cylinders with special scrapers and IP-rated protection for electrical components.

Stainless steel products



CJ5/CG5 Series +

Air cylinder

- Bore sizes from 10 to 100 mm
- Strokes up to 400 mm.



ASG Series +

Speed controller

- Stainless steel 304 and 316.



KQB2L Series +

Fitting

- Corrosive environments with temperatures up to 150 °C.



JSX Series +

Process valve

- Applicable fluid: air, water, steam, heated water, vacuum or oil.

IP65/IP68 protection



HRS-H Series +

Chillers

- Cooling capacity: 1.7 to 4.5 kW
- Protection of the electrical unit: IP54.



ISE20 Series +

Sensors

- High-precision digital pressure switches
- IP65.



SY Series +

Solenoid valves

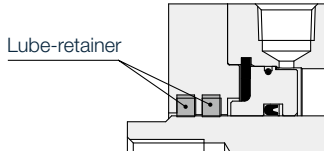
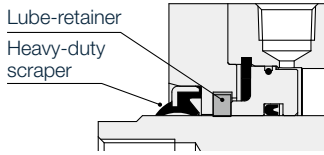
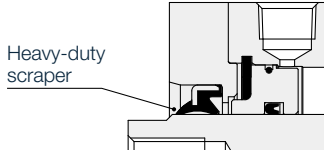
- High flow rates between 191 to 1751 l/min
- Up to IP67 enclosure.

Dusty environments

Air cylinders

Our solutions now include enhanced dust-resistant cylinders, designed for greater durability in demanding environments. To suit different application needs, we offer three specialised versions: with 2 lube-retainers, with a heavy-duty scraper and lube retainer, and, with a heavy-duty scraper.

With up to six times the durability of standard options, these cylinders help you extend maintenance intervals and ensure reliable performance in dusty conditions.

Description	Applicable powder particle size	Structure
With 2 lube-retainers XC4A	20 to 50 µm	 Lube-retainer
With heavy-duty scraper + lube-retainer XC4B	30 to 100 µm	 Lube-retainer Heavy-duty scraper
With heavy-duty scraper XC4C	50 to 100 µm	 Heavy-duty scraper



CQ2 Series +

Compact cylinders

- Bore sizes from 20 to 63 mm
- Strokes up to 100 mm.



MGP/MXQ Series +

Guided cylinders

- Bore sizes from 6 to 100 mm
- Strokes up to 400 mm.



CM2/CG1/MB Series +

Round body cylinders

- Bore sizes from 20 to 100 mm
- Strokes up to 1800 mm.

Air grippers



MHZAJ2 Series +

2 finger parallel gripper with dust cover



MHL2-Z Series +

2 finger parallel wide opening gripper



MHSJ3 Series +

3 finger gripper with dust cover



Suitable for dusty environments, such as tennis ball manufacturing process

Temperature resistance

Pneumatic cylinders, grippers and other components with improved grease material and seals for operation in temperatures from -70 °C to 150 °C.



Air cylinders and grippers



ASG Series +

Speed controller

- Maximum operating temperature of 150 °C
- Stainless steel 304 and 316.

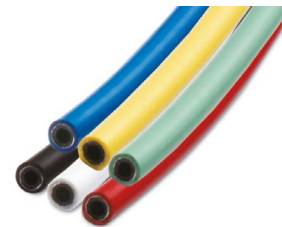
Spatter resistance

Specific products and materials for operating in welding spatter environments.



CKZ5T Series +

Clamp actuators



TRTU Series +

Flame resistant tubing



ASG Series +

Speed controller

- Maximum operating temperature of 150 °C
- Stainless steel 304 and 316.

Abrasion resistance

In demanding applications, continuous movement, friction, and pressure fluctuations accelerate component wear and increase the risk of failures.

Our solutions help:

- Reduce stress on critical components
- Extend their lifespan and prolong maintenance intervals
- Extend their lifespan and ensure reliable operation over time.

Wear resistant tubing



TUZ Series +

Wear resistant tubing

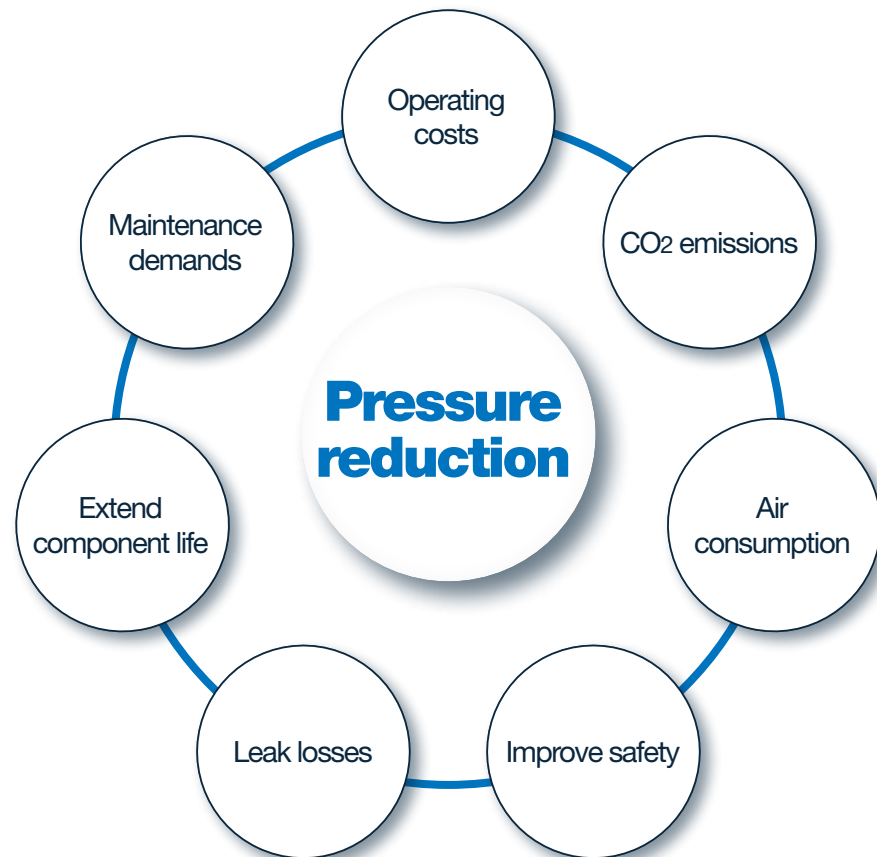
Fieldbus system



EXW1/EX600-W Series +

Wireless system

Choose condition optimised components



Reducing maintenance and minimising the risk of failures starts with optimising your system's working conditions. One of the most effective strategies is **lowering the operating pressure to 4 bar**, which helps reduce component stress, extends equipment lifespan, and lowers energy consumption.

Combining this approach with **stand-by valves and soft-start valves** further enhances system reliability. Stand-by valves reduce pressure when machines are idle, extending the fatigue life of seals and preventing unnecessary wear. Soft-start valves help protect pneumatic components by gradually increasing pressure at start-up, preventing sudden surges that can weaken critical parts over time. Together, these solutions create a **more efficient, durable, and cost-effective** pneumatic system.



AMS Series +

Air Management System



AV-A Series +

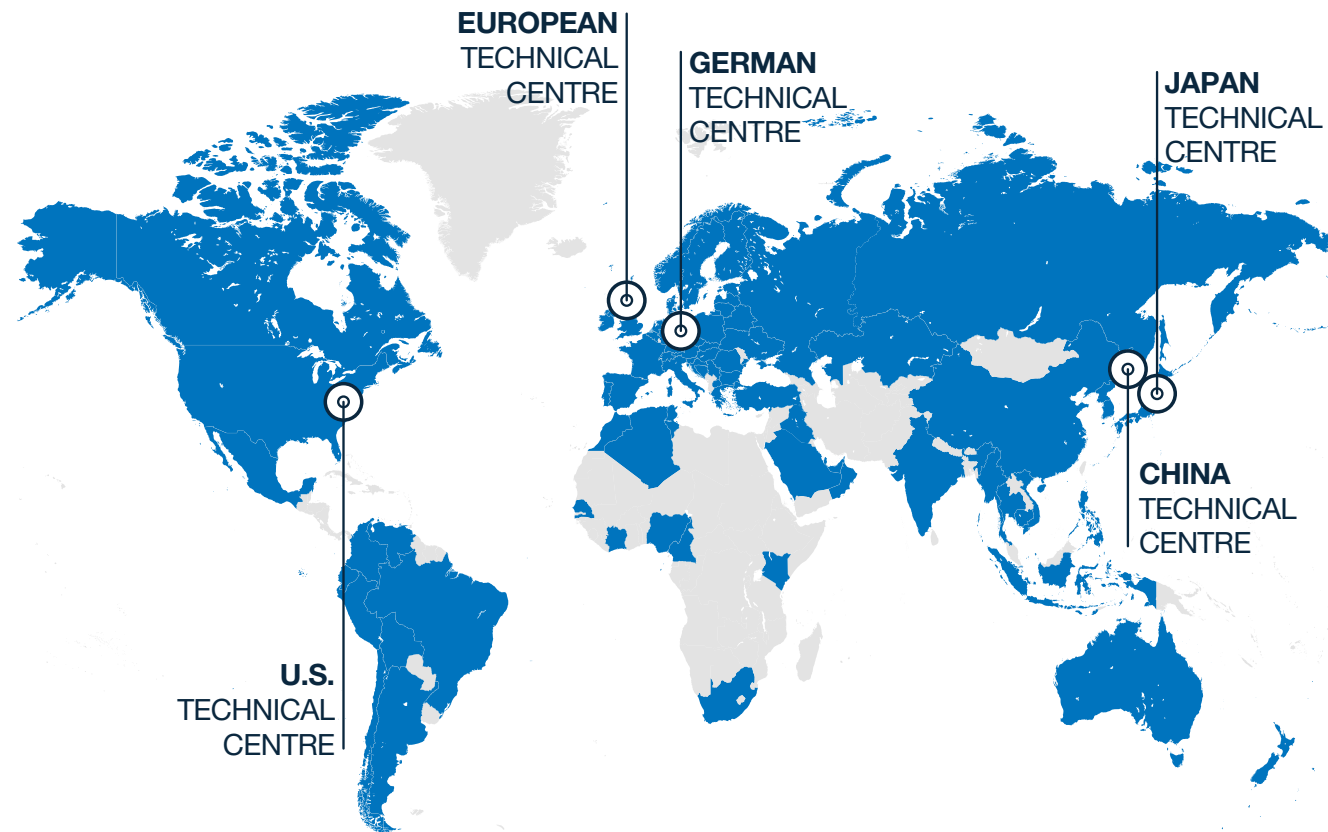
Soft start-up valve

Our support network

SMC's worldwide commitment

One of the things we do best at SMC is **being close to our customers**. Local support, on a global scale.

With **support** in over **500 locations** across **80 countries** and regions **worldwide**, our sales force of **7000 experts** maintains **close communication with customers**.



SMC Business Continuity Plan

Sustainable growth also means ensuring uninterrupted operations

We are committed to ensuring that SMC is prepared for any emergency and that our business activities will not stop in the event of such circumstances. SMC aims to fulfil our product supply responsibilities and maintain our customers' trust by contributing to both sustainable growth and the expansion of technological innovations.

SMC, as a comprehensive manufacturer of automatic control equipment that supports automation, is able to promptly provide products that meet our customers' needs anywhere in the world.

Production BCP

Ensure customer order fulfilment

Reliable delivery for you thanks to our 9 global logistic centres and 38 production sites worldwide, 10 of which are located in Europe. Moreover, flexibility to rapidly respond to any sudden change in the manufacturing environment.

Finance BCP

Safe & Solid financial base

In the event of an emergency, SMC can provide a safe and solid financial base (with cash, deposits, and equity capital) that will sufficiently cover the working capital and funds needed to rebuild buildings and the equipment required for business continuity. This is done to provide peace of mind to our customers and workers alike.

Information security BCP

Vital data kept safe

Strengthen information security for protection against computer viruses and cyberattacks, plus the installation of data centres to establish a disaster recovery system. Your information is safe with us.

Engineering BCP

Consistent technical support

2,100 engineers at our 5 technical centres around the globe (2 in Europe – Germany and UK).

Sales BCP

Consistent sales support

7,000 sales engineers worldwide ready to recommend the best solution for you. Over 80 global locations to make sure that wherever you are, we are there too.

[+ Discover more](#)



SMC Corporation

1-5-5, Kyobashi,
Chuo-ku, Tokyo
104-0031, Japan
Telephone: 03-6628-3000
<https://www.smcworld.com>

Austria	+43 (0)2262622800	www.smc.at	office.at@smc.com	Greece	+30 210 2717265	www.smchellas.gr	sales@smchellas.gr	Romania	+40 213205111	www.smcromania.ro	office.ro@smc.com
Belgium	+32 (0)33551464	www.smc.be	info@smc.be	Hungary	+36 23513000	www.smc.hu	office.hu@smc.com	Russia	+7 (812)3036600	www.smc.eu	sales@smcru.com
Bulgaria	+359 (0)2807670	www.smc.bg	sales.bg@smc.com	Ireland	+353 (0)14039000	www.smcautomation.ie	technical.ie@smc.com	Slovakia	+421 (0)413213212	www.smc.sk	sales.sk@smc.com
Croatia	+385 (0)13707288	www.smc.hr	sales.hr@smc.com	Italy	+39 03990691	www.smcitalia.it	mailbox.it@smc.com	Slovenia	+386 (0)73885412	www.smc.si	office.si@smc.com
Czech Republic	+420 541424611	www.smc.cz	office.at@smc.com	Latvia	+371 67817700	www.smc.lv	info.lv@smc.com	Spain	+34 945184100	www.smc.eu	post.es@smc.com
Denmark	+45 70252900	www.smc.dk.com	smc.dk@smc.com	Lithuania	+370 5 2308118	www.smclt.lt	info.lt@smc.com	Sweden	+46 (0)86031240	www.smc.nu	order.se@smc.com
Estonia	+372 651 0370	www.smc.ee	info.ee@smc.com	Netherlands	+31 (0)205318888	www.smc.nl	info@smc.nl	Switzerland	+41 (0)523963131	www.smc.ch	helpcenter.ch@smc.com
Finland	+358 207513513	www.smc.fi	smc.fi@smc.com	Norway	+47 67129020	www.smc-norge.no	post.no@smc.com	Turkey	+90 212 489 0 440	www.smcturkey.com.tr	satis.tr@smc.com
France	+33 (0)164761000	www.smc-france.fr	supportclient.fr@smc.com	Poland	+48 22 344 40 00	www.smc.pl	office.pl@smc.com	UK	+44 (0)845 121 5122	www.smc.uk	sales.gb@smc.com
Germany	+49 (0)61034020	www.smc.de	info.de@smc.com	Portugal	+351 214724500	www.smc.eu	apoiocliente.pt@smc.com	South Africa	+27 10 900 1233	www.smcza.co.za	Sales.za@smc.com

www.smc.eu

Release DU
HIGH DURABILITY-A-EN

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE AND ANY OBLIGATION ON THE PART OF THE MANUFACTURER