

Metal Processing

SMC products have been used in **Metal Processing Applications**. With SMC's vast array of pneumatic products, you are sure find the right product to meet your requirements.



SMC Actuators Built to Withstand Tough Environments

Series CS2

In applications where weight is critical, such as transport, the new CS2 Series offers all aluminum tube and end covers which result in substantial weight savings.

- Available in bore sizes of 125mm, 140mm and 160mm.
- Oversized piston rod adds to the overall cylinder strength
- Specially designed rod seal prevents internal contamination
- Unique end of stroke cushion seal to reduce end of stroke shock and start up problems.



Series CS1

The Heavy duty CS1 series offers aluminum or steel tube. The extremely robust pneumatic cylinder is preferred in mining and resource industries. Options such as:

- Mounted solenoid valve
- Position control and feedback
- Large range of end of stroke sensors that are mounted directly to the cylinder
- Available in bore size up to 300mm.



Series CQ2

The CQ2 series offers an extremely lightweight aluminum construction. The compact size allows the CQ2 to fit in extremely tight spaces.

- Available in 42 different standard options which make the CQ2 one of the most versatile cylinders on the market
- Available with a large range of end of stroke sensors that are mounted directly to the cylinder
- The CQ2 is available in bore sizes from 12mm to 200mm.



Series CS1 w/Position Sensor

The Pneumatic Position Sensor can be added to our CS1 series to add accurate, continuous pneumatic position control.



Series NCA1

The NCA1 series is our NFPA Interchangeable Medium Duty pneumatic cylinder

- Lightweight design
- End of stroke air cushion is standard
- Available in bore sizes from 1.5" to 8".



SMC Valves are the Heart of a Pneumatic System

5 Port Solenoid Valve (Series SY)

The SY valve series has been redesigned to be more energy efficient and improve flow rates. The new space saving design incorporates a narrower valve body and improved modularity to allow customization for a variety of automated manufacturing operations.

- Multiple porting configurations are available: top ported, side ported and bottom ported.
- Pneumatic and electrical connections of the manifold provides "Plug and Play" concept
- Broad range of operating air pressure and customization allows for your simplified replacement valve inventory management



Metal/Rubber Seal Large Flow Valve (VFS Series)

Series VFS consists of 5 port pilot solenoid valves with metal seals and base mounted or body ported type manifolds.

- Base mounted manifolds are available in plug-in and non plug-in styles
- Body ported manifolds are available with bar or separate type manifold bases
- Port sizes range from 1/8 to 3/4 with Rc(PT), NPTF & G(PF) thread types available
- Various options are also available.



Power Pneumatic Valve (VEX Series)

Power valve series VEX includes a regulator valve (VEX1*0), precision regulator (VEX1*3), 3 position valve (VEX3) and an economy valve (VEX5). The 3 port large capacity poppet exhausting regulator is equipped with a relief port the same size as the connection port. The 3-port, 3-position double solenoid that permits vacuum suction, vacuum destruction, & suspension (closed) is ideal for a system where many valves are used.



Serial Transmission (Series EX600)

The EX600 series I/O system represents the next logical step in the evolution of electronic/pneumatic control systems. While simple network I/O devices suffice in many applications, the EX600 allows for a much more comprehensive system design.



Mufflers (Series AN/ANA1)

Series AN silencers offer various styles and low backpressure in a compact, easy mounting design. The high noise reduction style provides over 35dB(A) noise reduction and the case is UL94-V0 grade, flame resistant material. Series AN is available with R(PT) or NPT threads.



The high noise reduction style silencer ANA1 keeps the noise level inside a plant below 85dB(A) with a noise reduction effect of 40dB(A). Series ANB1 has a noise reduction effect of 38dB(A) and has a larger effective area with the same port size as series ANA1. It is also available for common exhaust from manifolds.

SMC Fitting & Tubing are a Critical Part of a Pneumatic System

One-touch Fittings (Series KQ2)

With a broad base of pneumatic component suppliers, the importance of a solid design and an accurate production process is more critical than ever. SMC's fittings are designed to reduce your setup time with an easy grip and release feature.



Fittings w/Unifit Threads (Series KQ2)

The KQ2 with Unifit threads utilizes a stainless steel gasket laminated with NBR on both sides. The gasket will seal on the port chamfer instead of the port threads. Therefore, the same Unifit fitting can be used for Rc, G, NPT and NPTF port threads.



Stainless Steel One-Touch Fittings, Series KQG2

Series KQG2, the all stainless steel one-touch fittings, have been designed for superior chemical and temperature resistance. Using SUS316 for all metal components and FKM for seals, the KQG2 series can be used in wash-down and other corrosive environments. This construction also enables them to be used in higher temperatures such as package sealing applications. Operating fluid temperature of the fitting is 23° to 302° F. Finally, a broad base of port connection thread types are available and include M, R, Rc, UNF, NPT and G (inch and metric tubing sizes are also available).



Features of the stainless steel one-touch fittings appropriate for tough environments include:

- Superior chemical and temperature resistance
- SUS316 components and FKM seal
- Appropriate for steam use

Stainless Steel Insert Fitting (Series KFG2)

The KFG2 Series is an all 316 stainless steel insert fitting and uses no rubber parts in the construction. This allows for a high temperature range of -85°F to 500°F.



Polyethylene Tubing, Series PEAPP

Polyethylene tubing, Series PEAPP, is FDA compliant. Constructed from a linear low density polyethylene (LLDPE) tubing, the LLDPE resin is economical and lightweight. Typical applications for this type of tubing include transferring of air, liquids, and chemicals in industrial applications. The PEAPP series can be used for applications requiring FDA compliance, in humidifier fill lines, drain lines and instrument air lines. It also provides excellent environmental stress crack resistance and resistance to solvents.

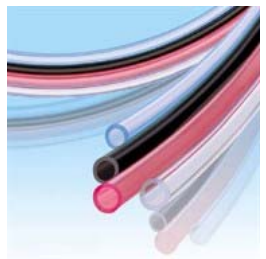


Unique abilities of polyethylene tubing which make it a good fit for the food packaging and processing industry are:

- FDA compliant (FDA Type 1, Class A, Category 4 complying with FDA21 CFR177.1520)
- Lightweight and economical
- Chemically inert
- Excellent resistance to solvents and stress crack resistance

Fluoropolymer Tubing (Series TL/TIL & TH/TIH)

Fluoropolymer tubing is excellent for high heat applications. The allowable temperature is up to 200°C. Fluoropolymer is also an excellent chemical resistant material. The TH series is available in 19 size and 4 color variations.



Air Prep is Vital to Keep Any Pneumatic System Working Properly

Water Separator Series (AMG)

The AMG Series of water removal filters can be a simple solution where water needs to be removed but true drying may not be an option. The resin element of the AMG efficiently collects water droplets of all sizes with no additional power required and allows the liquid to be drained. They can be quickly added to equipment as a point of use solution when water problems are not widespread throughout a plant.



Electro-pneumatic Regulators (Series ITV)

Using an ITV allows a machine to control the pressure based on an electronic signal, making the machine more productive. Today's buyers want a better-performing and easier-to-use regulator with an output signal and LED display. The ITV has an advanced design and features that leave it unequalled by its competitors.



Precision Regulator (Series IR)

The IR is a leading air operated precision regulator providing sensitivity within 0.2% F.S. (full span). The IR offers a compact and light weight design. Constant fluid pressure is accomplished through the IR's ability to adapt to the cylinder's piston displacement. In addition, since there is a large effective area for supply and exhaust, pressure setting can be done quickly accomplishing constant fluid pressure.



Micro Mist Separator (Series AMH)

Series AMH Micro Mist Separator provides the performance of a high quality 0.01 μm oil removal coalescing filter with a built in prefilter. The AMH eliminates the prefilter for multi filter installations reducing element replacement, saving space and a total pressure drop reduction.



Modular FRL Units (Series AC)

Series AC Modular FRL Units contain most of the basic necessities of clean and dry point of use air filtration, regulation, and lubrication. These units have excellent flow characteristics and are easy to assemble.

The regulator (Series AR) has a built-in gage option to make it easy to set system pressure. The AR series is capable of a low setting sensitivity of within 0.2% of full scale. Reverse flow functionality and integral digital pressure switches are standard features.



The air filter (AF Series) is installed at the inlet to prevent moisture and dust contained in compressed air from entering the pneumatic control circuit. A 5 μm (standard) has been employed for the air filter's nominal filtration rating. Filter elements are 2 μm , 5 μm , 10 μm , 20 μm , 40 μm , 70 μm or 100 μm .

Lockout Valves (Series VHS)

Safety is the main purpose for the VHS Series Lockout Valve. It is a manually operated valve that, when turned off, removes residual pressure

in pneumatic lines. It can also help prevent accidents because it can be padlock secured. This prevents an inadvertent air supply to the main pneumatic components. The VHS series also adds versatility because it can be mounted to our modular style FRL units.



Lockout Slo-Start Valves (Series AVL)

The AVL is an O.S.H.A. compliant, lockable soft start valve. The AVL gradually increases supply pressure which helps eliminates rapid movements at system start up. It also rapidly exhausts the system air at shut down. I can also help prevent accidents because it can be padlock secured. This prevents an inadvertent air supply to the main pneumatic components. The AVL series also adds versatility because it can be mounted to our modular style FRL units.

