



Oil & Gas



Forestry & Lumber

Products for Natural Resource Industries

Simplifying
Solutions
for Mining and
Aggregates



Power Generation



Paper & Pulp



Steel & Smelting



Water Treatment

Solutions for the Mining Industry

Established in 1959, SMC Corporation has become the global leader in pneumatic automation.

Technical Support Centers are located in the United States, Canada, Japan, China, and Europe employing Over 1,400 Engineers

360 Sales and Support Offices in 73 Countries



Featured PRODUCTS

Pneumatic Products Specifically Designed For Harsh Environments

SMC has been providing pneumatic solutions to the resources sector since 1968 including development of components to withstand some of the most aggressive environments known to industry.



SMC Air Servo



SMC Dart Valve Cylinder

Air Servo Application Success Story

At a customer's installation in Mexico, material recovery percentage for Flotation Cells was increased from 65% to 89% with the SMC Air Servo.



Air Servo Cylinder IN-777

Capable of air cylinder multipoint positioning and control



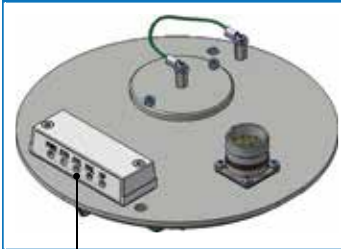
■ **Repeatability for the stopping position: ± 0.5 mm**

■ **Servo valve and controller integrated cylinder**

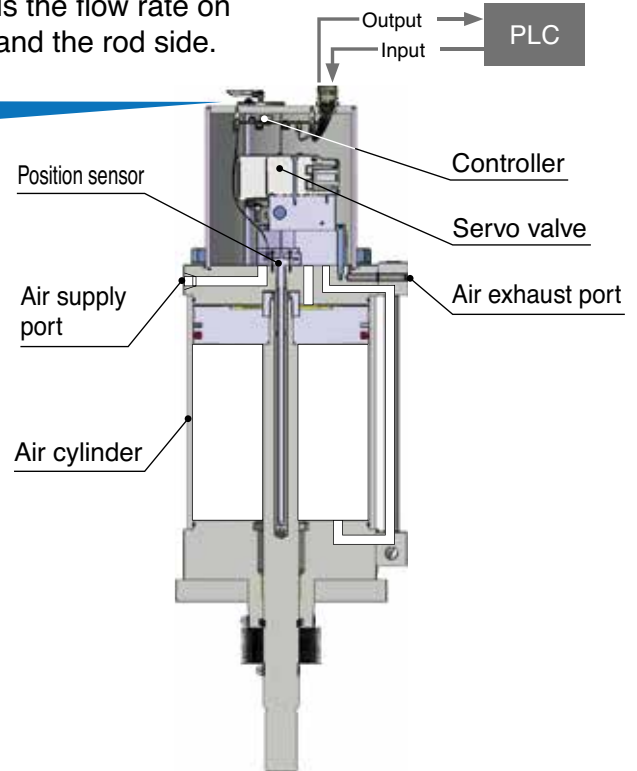
Built-in position sensor

The servo valve controls the flow rate on the cylinder head side and the rod side.

Self diagnosis function



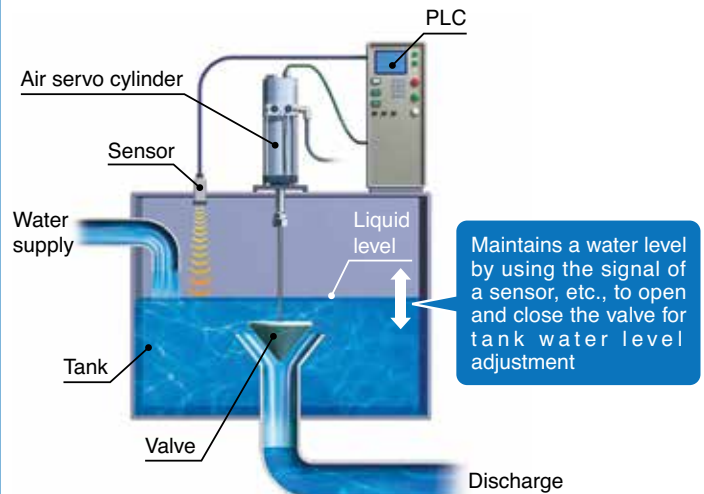
PWR : Power supply
CTR : Controller
CYL : Position sensor
VAL : Valve
RF : Rod friction



- IP67
- Ambient temperature: -20°C to 60°C (No freezing)
- Applicable to cylinders with diameters of $\phi 125$ to $\phi 400$
- Input signal: 4 to 20 mA
- With stroke position signal output function (4 to 20 mA)
- HART transmission
- With auto calibration function
- Supports the fail safe function

Application Example

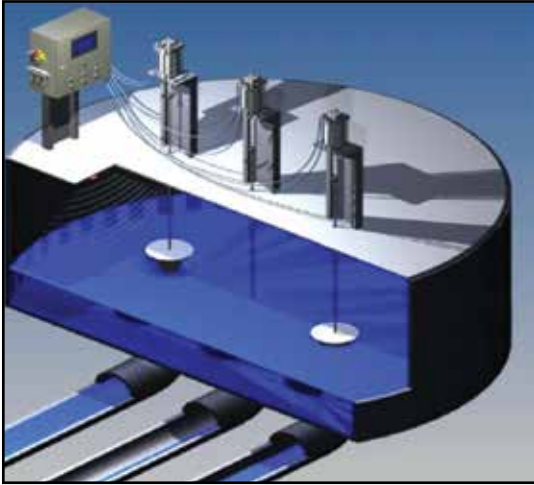
Cylinder control for maintaining a liquid level position





Dart Valve Installation

Flotation Cell



Control Cabinets





Crust Breaker Cylinder

Our high quality crust breaker cylinders are recognized by many in the smelter industry for their excellent operational life cycle performance and also their value. These steel bodied cylinders operate at a fixed air pressure, delivering a fixed stroke using a fixed dwell time, and SMC also offers variable crust strength and crust depth performance. Designed and developed specifically for the aluminum smelting industry, SMC now offers a crust breaker cylinder that has a life expectancy exceeding that of the pot.

Contact sensing solution • Variable stroke • Variable air pressure
Variable crust strength • Variable crust depth



Custom Valve Cylinder Application



For special applications, SMC can assist with the design and manufacture of specialty pneumatic cylinders to meet process industry requirements.



Contactless Positioner Cylinder

For heavy duty mining and process industry applications



Remote Type



Fixed Type

Medium Duty Air Cylinder

NCA1 Series - NFPA Interchangeable



Valve Positioning

For Integrated Assemblies



How can you achieve the best out of your compressed air preparation and improve energy efficiency while reducing costs?

Mining Industry specialists from SMC can calculate your requirements and determine the most suitable solution.



XT316 Air Shocker

The air shocker is a pneumatic piston type shock generator which removes material plugging due to bridging or adhesion of bulk material inside a hopper or chute.

IP8101 Rotary Smart Positioner

The IP8101 is a rotary type smart positioner that will control the accurate positioning of pneumatic cylinders or process valves. The cylinder or valve can be controlled accurately and maintain any selected position from fully open to fully closed position as determined from your control system.

Used extensively in mining and mineral processing, water treatment, chemical processing, steel processing, and many other industries the SMC IP8101 positioners are now an industry standard and mount as a direct upgrade for the current SMC IP6100 positioner.

Easy to set up and program, the positioner can be supplied individually or integrated onto process valves and cylinders as a complete solution. SMC has design, manufacturing and technical support to develop solutions for most industrial applications requiring positioners. The positioner can be fitted to a wide range of valves with adaptor brackets and feedback linkages already developed for many configurations.

With programming carried out using a three button keypad and an integrated LED display the zero and span setup and other features have never been easier to access. IP8101 is available in 4–20mA analog control and also with HART serial protocol.





Related Products

For low/high temperatures and aggressive ambient



Expanded Large Bore Cylinder Range

Whether the design requirement is for new lightweight all aluminium construction, a heavy duty steel tube and end covers, or a composite tube cylinder for process valves, an expanded range of large bore cylinders is now available from SMC.

Where weight is critical in such cases as transport the new CS2 range offers all aluminium tube and end covers. This results in weight savings up to 50% in bore sizes up to 500 mm.

Cylinder mounting options include standard foot, flange, single or double rear clevis and trunnion mount. Double rod clevis, spherical rod eye or floating joint mounts are available for the piston rod.

Heavy Duty CS1 Range

The heavy duty CS1 range offers aluminum or steel tube with steel covers. This extremely robust pneumatic cylinder is preferred in mining and resource industries with options such as solenoid valve, position control and feedback or a range of sensors mounted directly to the cylinder.

Compressed Air Preparation

Filtration to 0.01 micron
Dew Point Suppressor
Pressure Regulation
Pressure Drop Minimization
Flow Measurement



Filter Regulators



Air Dryers



CS1 Cylinders



Mainline Filtration



Shut-off Valves



Process Hints for the Mining Industry

PF2A Series

Measure process air requirements, benchmark and identify leakage easily with **PF2A Flowmeters**.



AVL Series

Safely isolate and lockout (LOTO) your compressed air services. Use the **AVL Slow Start and Isolation Valve**. Available in Manual and Electric/Manual versions.



VXE Series

Process valves with power saving coils. Reduce energy and coil temperature significantly. Improved valve performance with **VXE Valves**.



VBA Series

If you need more process pressure, the **VBA pressure Booster** will amplify your point of use current air pressure by up to 4 times.





Keeping you in control

- Pneumatic
- Electro-Pneumatic
- Process valve failsafe open/closed control panels to specification
- Positioning Systems
- Manual valve control panels
- Solenoid valve control panels
- Chemical process control panels



SMC Engineers will design to your requirements

- Stainless Steel
- Polycarbonate
- Free Standing
- Documentation
- Powder Coated
- Custom Panel Sized
- Mounted



Your control system is made to your requirements. There is no standard design.

SMC is committed to supporting your control requirements.
Through the use of our resources, SMC can provide control system engineering.

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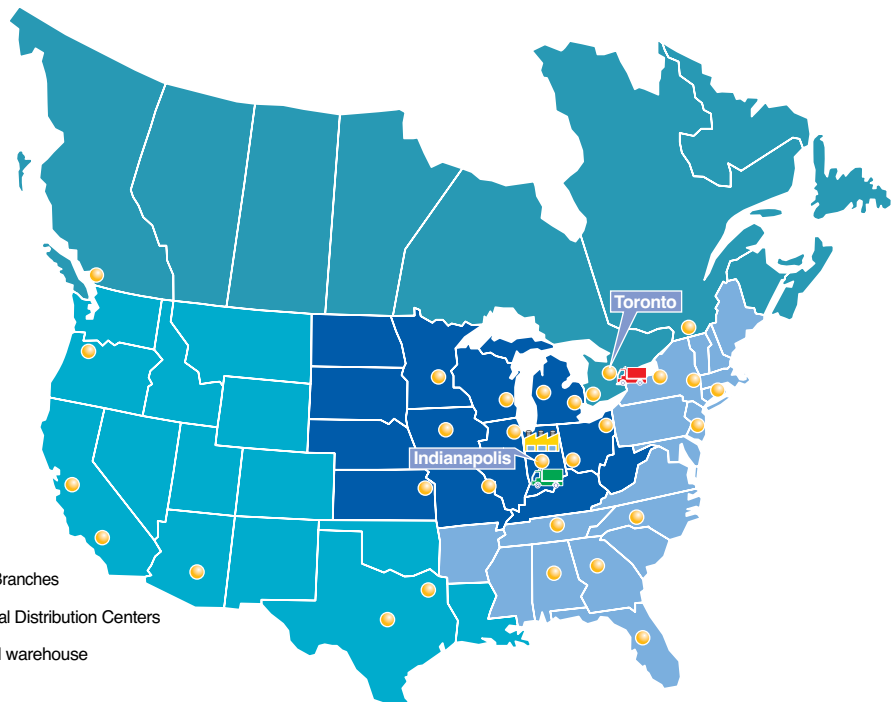
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