



MINING INDUSTRY

Proven Mining Application Experience

MINING INDUSTRY

Established in 1959, SMC Corporation has become the global leader in the development, manufacture and supply of pneumatic automation solutions to industry.

With technical Centers located in Japan, China, Europe and the United States employing over 1,400 engineers, SMC can offer innovative and cost effective solutions to its customers through a product range consisting of nearly 620,000 variations.

There are 360 sales offices in 73 countries maintaining close communication with customers throughout the world keeping our engineering teams and products at the leading edge of pneumatic technology.



SMC North America Headquarters

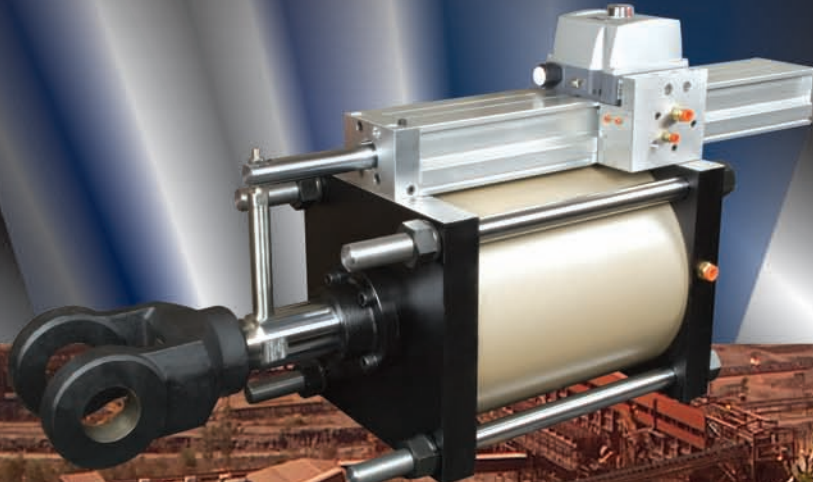


Research & Development Center Japan



Pneumatic Products Specifically Designed For Harsh Environments

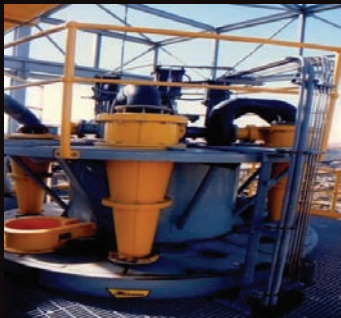
SMC has been providing pneumatic solutions to the resources sector since 1968 including development of components to withstand some of the most aggressive environments known to industry.



Flotation cells



Coal wagon dump doors



Cyclone Valve Actuation and Controls



Laboratory automation



Dart Valve cylinder

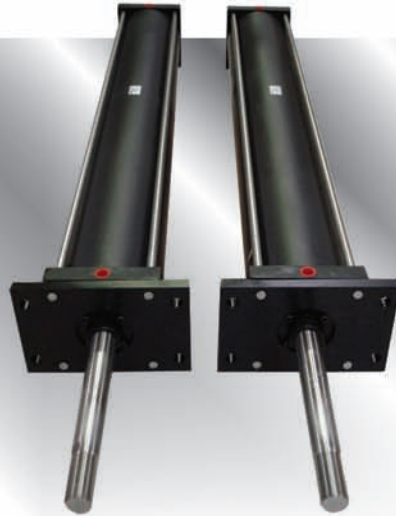


Load out tunnel cylinder

The **TOOLS**

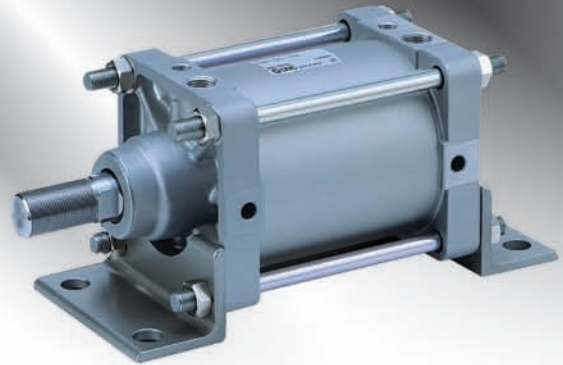
For accurate control

CS1 Heavy Duty Steel Cylinder
fitted with Positioner



Up to every challenge

Long Stroke CS1 Cylinder



50% lighter than the current CS1

CS2 Aluminum Large bore Cylinder

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To discover the benefits of SMC Products

**NFPA Interchangeable
Medium Duty Air Cylinder**

NCA1



Expanded Large Bore Cylinder Range

Whether the design requirement is for a new light weight all aluminium construction, a heavy duty steel tube and end covers, or a composite tube cylinder for process valve, 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 500mm.

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

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

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

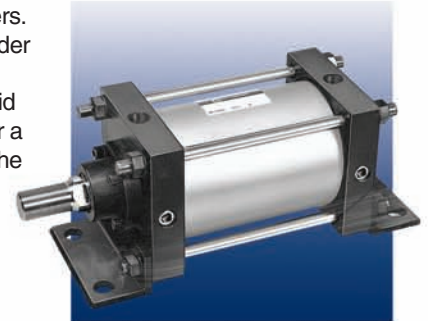
Other Products



Filter Regulators



Air Dryers



CS1 Cylinders



Mainline Filtration



Shut-off Valves

The **TOOLS**

CPV bore size range form 80mm to 500mm Cylinder with Smart Positioner

Ideal for process valve applications, the CPV actuator has steel or composite tubing. Composite tubing enables this range to be manufactured in bore sizes up to 500mm diameter as standard. Position control and feedback sensors can be easily supplied and fitted.



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Discover the Cost Saving



Custom Valve Cylinder Application

For any special applications, the sales division of your nearest SMC branch can assist with the local design and manufacture of specialty large bore pneumatic cylinders to meet process industry requirements.

XT316 Air Shocker

The air shocker is a pneumatic piston type shock generator.

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 setup 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.



The **TOOLS**

Process Hints for the Mining Industry



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



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



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



Need more process pressure. The **VBA pressure Booster** will amplify your point of use current air pressure by up to 4 times.

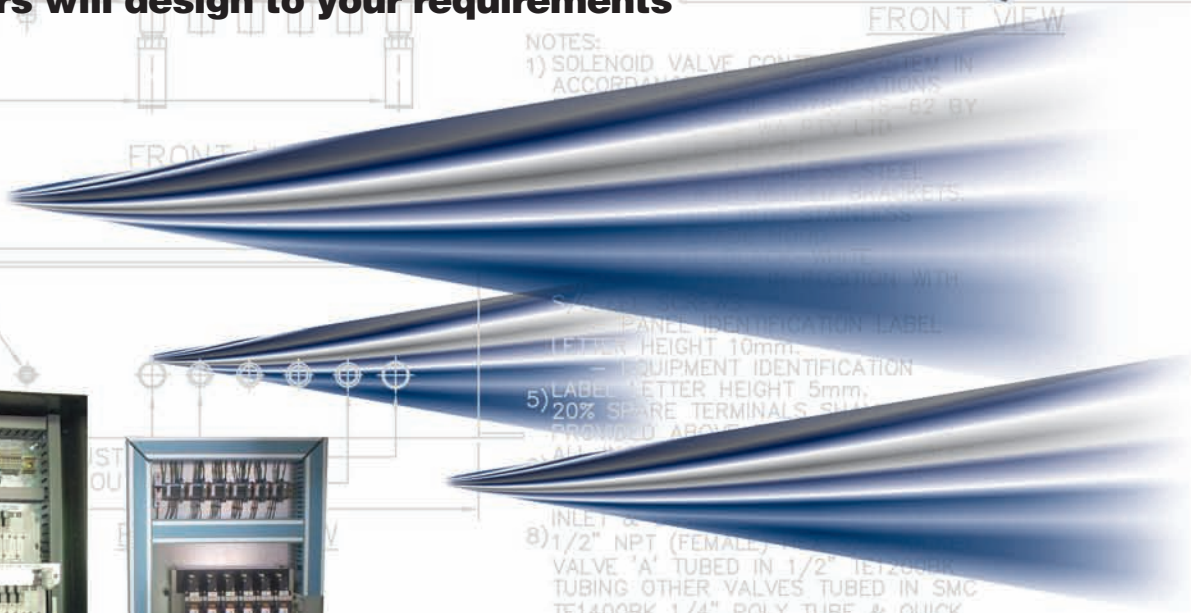
Keeping you in control

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

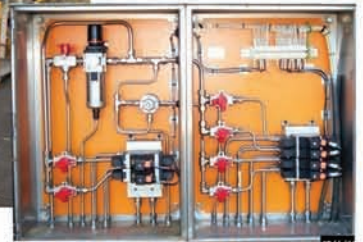
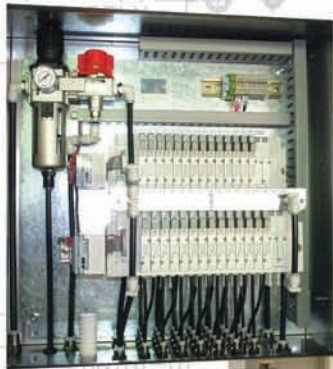


SMC Engineers will design to your requirements

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



NOTES:
 1) SOLENOID VALVE CONNECTIONS IN ACCORDANCE WITH IEC 60364-5-52 BY SMC
 2) ALL VALVES TO BE MOUNTED WITH PANEL IDENTIFICATION LABEL (LETTER HEIGHT 10mm) - EQUIPMENT IDENTIFICATION LABEL (LETTER HEIGHT 5mm)
 5) 20% SPARE TERMINALS SHALL BE PROVIDED ABOVE MAIN TERMINALS
 8) 1/2" NPT (FEMALE) VALVE 'A' TUBED IN 1/2" 1ET200BK TUBING OTHER VALVES TUBED IN SMC TE1400BK 1/4" POLY TUBE & QUICK CONNECT FITTINGS



13	VH212-02		
12	ENGRXFH###		
11	VZM550-01		
10	AN300-03		
9	ASR06063		
8	AS420-04		
7	VR1210-01		
6	VPA7-8-FG-D-1A04	5/2 POLOT VALVE	1
5	VP7-6-FG-D-5NA02	5/2 SOLENOID VALVE (110VAC)	1
4	AN203-02		
3	AN400-04	1/2" SILENCER	3
2	AW4000-04500	MELK 1000: WITH DISCREET BRAIN & LOGIC	1
1	VHS40-04	ISOLATION VALVE	1
ITEM	PART NUMBER	DESCRIPTION	QTY

There is no standard design!
"Your Control System", made to your requirements
 SMC is committed to supporting your control requirements.
 Through the use of our resources, SMC can provide Control System engineering.

Proven Mining Application Experience

SMC Products are used in a wide range of mining application

Underground Mining

- Vent Doors
- Refuge Chamber
- De-Watering pumps
- Skip Loading
- Air Campers
- Head Frame
- Diverter Gate
- Transfer Station

Open-Cut Mining

- Drill Rig Sampling
- Vehicle Ladders
- Centralized Lubrication
- Mobile Service Vehicles
- Anfo Truck
- Water Tanker
- In Pit Pumps

Dry & Wet Ore Processing

- Crushing
- Ball. Rod Mill Charging
- Screening
- Feeder Chutes
- Bypass Chutes
- Grinding
- Regrind Circuit
- Diverter Gates
- Sampling
- Dust Suppression/Control
- Slurry Pumps

Concentration / Beneficiation

- Cyclones
- Washing
- Surge Bins
- Belt Tracking
- Conveyor Shifts

Ore Stockpiling, Loading

- Diverter Gates
- Transfer Station
- Sampling Station
- Surge Bins
- Load-out Tunnel
- Dust Suppression Control
- Dust Extraction

Copper, Gold, Lead, Magnesium, Nickel, Zinc Processing

- Sampling
- Floatation, Dart Valves
- Launders
- Tank Aeration
- Oxygen Plant
- Agitation
- Leaching
- Thickeners
- Refining
- Reagent Storage & Handling
- Process Valves
- Packaging
- Tailing

Copper, Gold, Lead Magnesium, Nickel, Zinc Refining

- Sampling Laboratory
- Smelting
- Electrowinning
- Acid Plant
- Fume Extraction
- Water Treatment
- Roaster

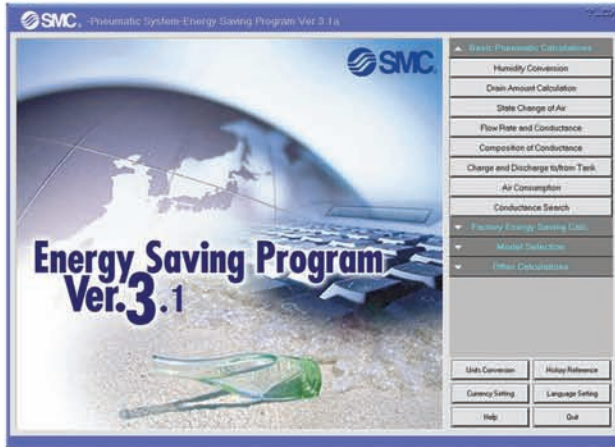
Mining Ancillary Services

- Track Grinder
- Track Tamper
- Ballast Wagons
- Bottom Dump Wagons
- Sand Plant
- Mobile Equipment Workshop
- Vehicle Simulators
- Vehicle Washing
- Water Treatment
- Power Station
- Heat Recovery
- Fume Extraction
- Tank Farm
- Belt Tracking
- Fire Truck
- Lubrication Systems

Visit www.smcusa.com/mining for the latest application technology information



Reduce Compressed Air Costs Reduce Energy Costs



Use the **SMC Energy Saving Software for the Mining Industry** to easily calculate the compressed air consumption and cost for your processes. Identify compressed air energy saving initiatives, reduce costs and improve performance.

Download from www.smcusa.com. If you require assistance contact your local SMC office.



Digital Pneumatic Products Builder

The online application to select, size and build pneumatic automation products!











- Download CAD files
- Configure part numbers
- Save and e-mail part lists
- Millions of part numbers available

Global Manufacturing, Distribution and Service Network

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WEST

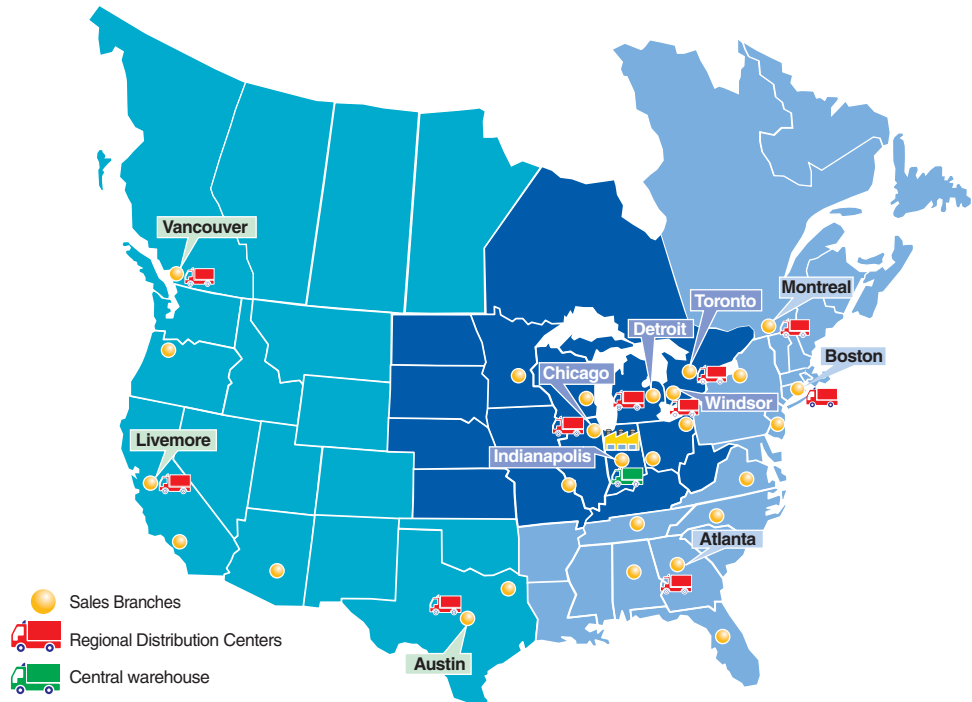
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