



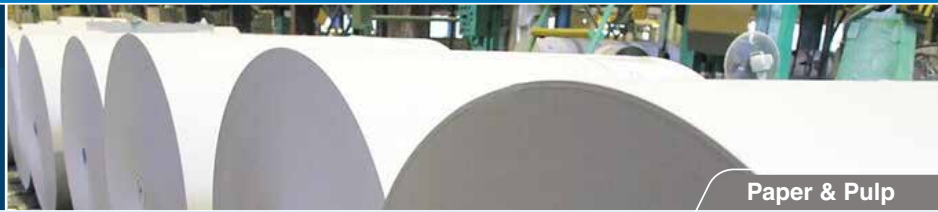
Oil & Gas



Forestry & Lumber

Products for Natural Resource Industries

Simplifying
Solutions for
Water Treatment



Paper & Pulp



Power Generation



Mining



Steel & Smelting



Asphalt, Concrete & Aggregates

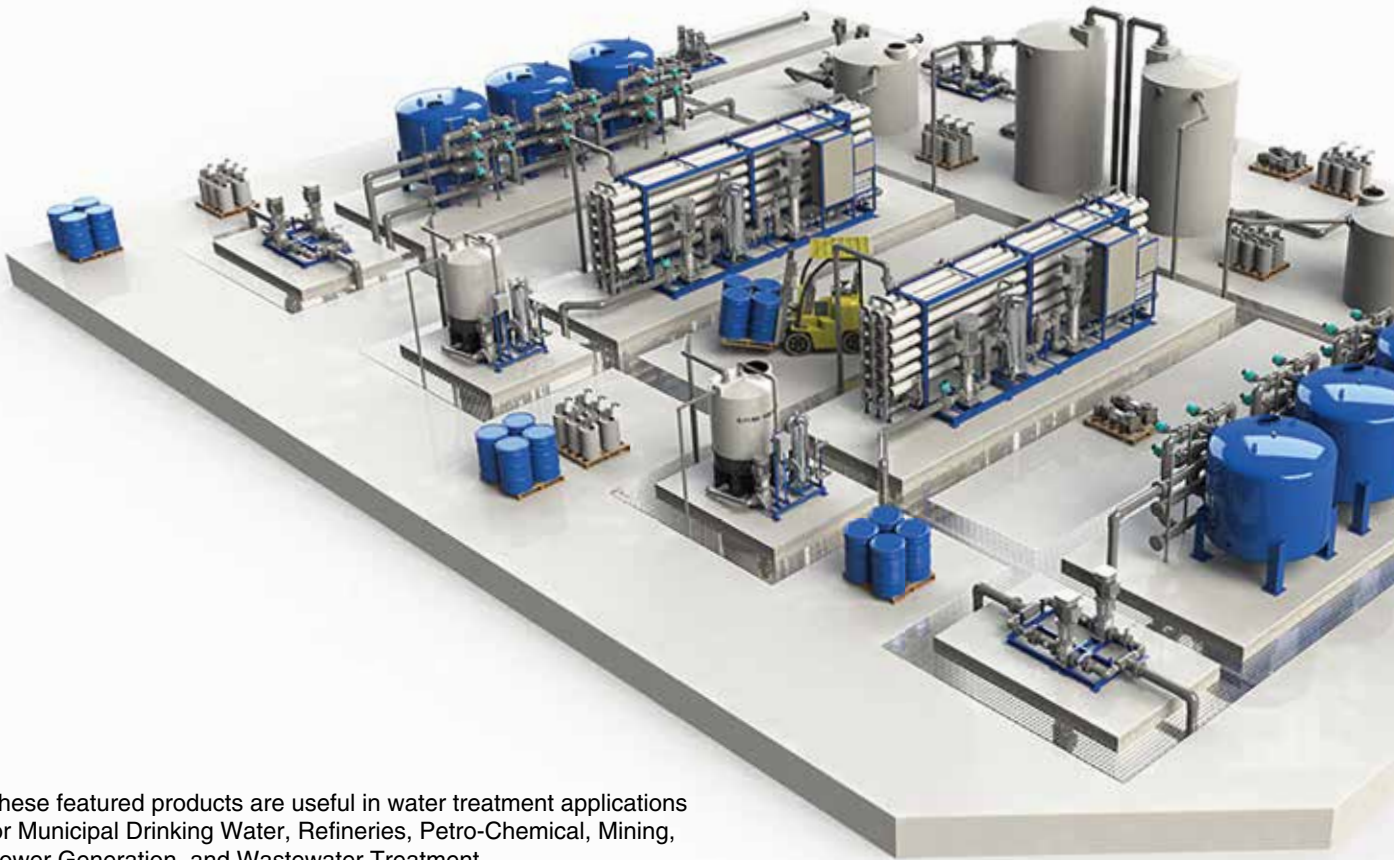


Products for Water Processing &

SMC provides a broad array of products capable of meeting diverse water treatment requirements such as:

- Continuous 24/7 operation
- Stringent industry regulations
- Constant exposure to moisture

SMC's pneumatic products are specifically designed for harsh environments like those in the Water and Wastewater Industries. Moisture and foreign matter can be very harmful to pneumatic systems. SMC has products and options created specifically for these environments. Our long lasting products will minimize downtime therefore maximizing your bottom line.



These featured products are useful in water treatment applications for Municipal Drinking Water, Refineries, Petro-Chemical, Mining, Power Generation, and Wastewater Treatment.



Air Preparation Equipment



Modular F.R.L./Pressure Control Equipment



Directional Control Valves



Air Cylinders

Why SMC?

SMC is recognized as the world leader in the design and manufacture of pneumatic components, and is continually developing new products to satisfy the growing demands for pneumatic and control technology.

The SMC product range now covers more than 700,000 components, specializing in Control Panels & Systems, Flow Control Equipment, Air Dryers & Filters, Fittings & Tubing, Instrumentation, Automation, Actuators, Vacuum and Valves for industries that include Water Treatment, Processing, Con-Ag, Lumber, Power Generation, Food & Beverage, Automotive, Transport, Chemical, Electronics, Mining, Machine Building, Packaging and Medical.

Through our worldwide network of operations, SMC offers individuals and organizations access to a vast and unique body of engineering expertise. With branches throughout North America, SMC has become renowned for its product range, on-time delivery and competitive cost structure. SMC can provide the technical knowledge and solutions necessary to address any manufacturing problems on a local/worldwide basis.

Being the largest manufacturer of pneumatic control equipment in the world, SMC offers you confidence in knowing your requirements and needs will be met - on time, every time.

SMC's commitment to automation offers:

- Product range covering a wide variety of applications with 12,000 products and 700,000 variations
- Local technical expertise with extensive industry knowledge and a variety of skill sets
- Local and global support
- Comprehensive distribution network
- Largest world market share
- A commitment to R & D
- Engineering to customer requirements
- Superior manufacturing facilities



Pneumatic Instrumentation Equipment



Equipment System Chart

1 Compressed Air Line

Compressor, Air Tank, After Cooler, Main Line Filter, Air Dryer, Mist Separator, Micromist Separator, Pressure Switch, Flow Switch

2 City/Industrial Water Line

Cooling Tower, Industrial Filter, 2 Port Valve, Flow Switch

2 City/Industrial Water Line

Cooling Tower, Industrial Filter, 2 Port Valve, Flow Switch

3 Chemicals/Solvents Line

Industrial Filter, *Sintered elements for polymer filters also available

4 Inert Gases Line

N₂ pressurized tank, Clean Regulator (SR), Process Gas Regulator (AK), 2 Port Valve, Flow Switch, Pressure Switch, Clean Gas Filter

5 Instrumentation Equipment Line

Booster Relay, Lock-up Valve, Filter Regulator, Pneumatic-Pneumatic Positioner, Electro-Pneumatic Positioner, Air Dryer (for purging inside panel), Control panel solenoid valve box, Manifold with SUP Stop Valve Explosion-proof Valve, Ball valve, Temperature Control Equipment Chiller, Circulating fluid outlet, Circulating fluid return port, Ball valve Temperature Control Line

SMC Carries a wide selection of equipment for use in all production processes including film, plastic, rubber, cosmetics, surfactants, fertilizer, paints and chemical fibers.

Here you will find various types of devices suited to fluid applications for compressed air, city/industrial water, solvents, inert gases and prepared liquids.

SMC fittings and tubing are a critical part of a pneumatic system.



KQ2 Series One-Touch Fittings



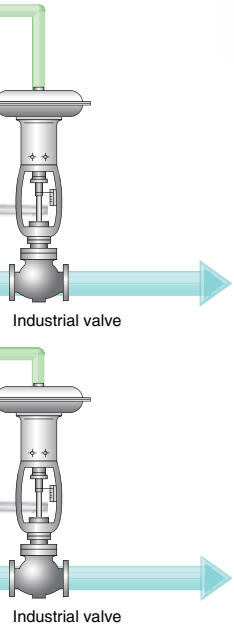
AC Series Air Preparation Equipment



VQC Series 5 Port Solenoid Valves



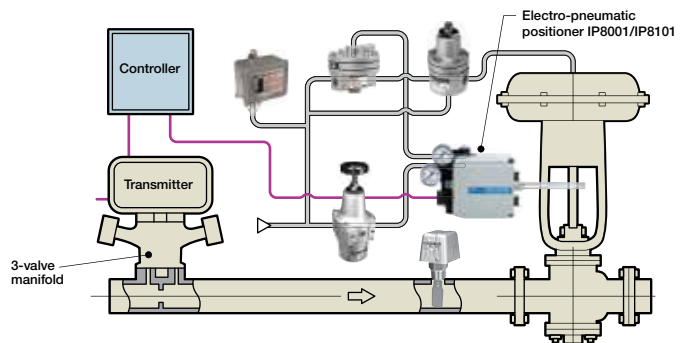
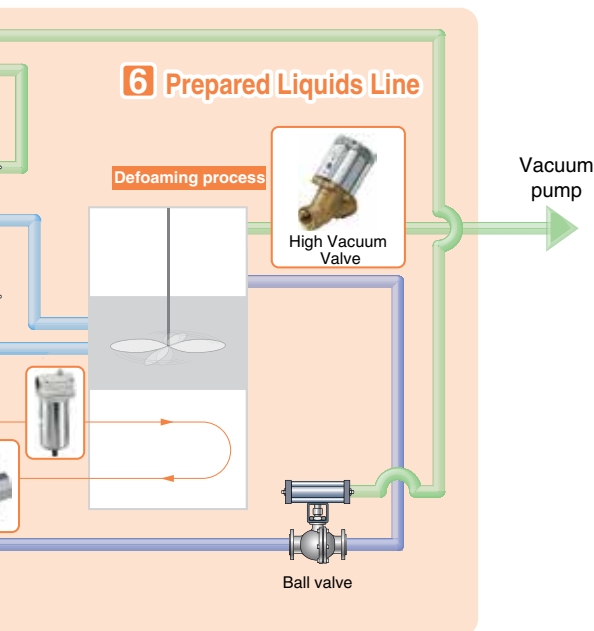
EX600 Serial Transmission



PF3W Digital Flow Switch for Water



ISE/ZSE Series Digital Pressure Switch



Typical electro-pneumatic control system

as fitted to a diaphragm valve using SMC Pneumatic Products.

Process - Lineup of Water/Wastewater Equipment

Main Line Filter **AFF**



Compressed Air Line

Features

Series AFF is mounted to main piping to remove impurities like oil, water, and particles in compressed air.

Series	Filtration (μm)	Rated flow ℓ/min (ANR)	Port Size
AFF	1 (Filtration Efficiency 99%) Water droplet removal	300 to 45000	1/8 to 4 ⁵ flange

Mist Separator **AM**



Compressed Air Line

Features

Separates out oil mist, removing rust, carbon etc in the form of fine particles of 0.3 μm or larger.

Series	Filtration (μm)	Rated flow ℓ/min (ANR)	Port Size
AM	0.3 (Filtration Efficiency 99%)	300 to 12000	1/8 to 2

Pilot Operated 2 Port Solenoid Valve **VXD**



Compressed Air Line

City/Industrial Water Line

Features

For air, water and oil.

Series	Valve type	Port Size	Orifice diameter (mm)
VXD	N.C./N.O.	1/4 to 1 8A to 50A	10 to 50

2 Port Solenoid Valve with Built-in Y-strainer **VXK**



Compressed Air Line

City/Industrial Water Line

Features

- For air, water, oil and steam
- Space-saving, reduces labor for piping
- Built-in strainer

Series	Valve type	Port Size	Orifice diameter (mm)
VXK21/22/23	N.C./N.O.	1/8 to 3/8	2 to 8



Related Products

Process - Lineup of Water/Wastewater Equipment

Zero Differential Pressure Type/Pilot Operated 2 Port Solenoid Valve **VXZ**



Compressed Air Line
City/Industrial Water Line

Features

For air, water, steam and heated water

Series	Valve type	Port Size	Orifice diameter (mm)
VXZ22/23	N.C./N.O.	1/4 to 1	10 to 25

Water Hammer Relief/Pilot Operated 2 Port Solenoid Valve **VXR**



City/Industrial Water Line

Features

For water and oil

Series	Valve type	Port Size	Orifice diameter (mm)
VXR21/22/23	N.C./N.O.	1/8 to 1/2	3 to 10

Category 3 & 4 Safety Shut-off and Exhaust Valve **VG342**



Long Life

Features

- 3/4 NPT or metric ports
- 24VDC
- Operating pressure: 36 to 101 psi
- External pilot for low operating pressures
- M12 connector for signal feedback
- Monitoring through certified safety switch
- Lifetime: 900,000 cycles
- EN ISO 13849-1



- Smaller Series VP version now available.

Electro-Pneumatic Positioner/Smart Positioner **IP8□00/IP8□01**



Instrumentation Equipment Line

Feature

- Enclosure: JISF8007 IP65 (IEC 60529)
- Monitoring function
- Explosion-proof structure
- Electro-Pneumatic Positioner:
 - TIIS withstand pressure explosion-proof structure (Exd BT5)
 - ATEX intrinsically safe explosion-proof structure (II 2G ex ib II CT5/T6)
- Smart Positioner
 - ATEX intrinsically safe explosion-proof structure (II 1G ex ia II CT4/T5/T6)
- Hart Communication function (Smart Positioner)

Description	Series	Type	Port size (Rc, NPT, G)	Supply air pressure (MPa)	Input current
Electro-Pneumatic Positioner	IP8000	Lever type	1/4	0.14 to 0.7	4 to 20mA DC
	IP8100	Rotary type			
Smart Positioner	IP8001	Lever type	1/4	0.3 to 0.7	4 to 20mA DC
	IP8101	Rotary type			

Cylinder Positioner **IP200**



Instrumentation Equipment Line

Features

- Cylinder position control also a precise, stable process control
- Used for cylinder position control in servo mechanisms and general industrial machinery

Series	Port size	Supply air pressure (MPa)	Input pressure (MPa)
IP200	Rc1/4	0.3 to 0.7	0.02 to 0.1

Lock-up Valve **IL**



Instrumentation Equipment Line

Features

When an abnormality occurs in supply such as trouble with air supply or in supply air piping in a pneumatics process control system, the lock-up valve reacts by maintaining the operating part in position as it is until the air supply returns to a normal state.

Series	Port size	Set pressure (MPa)	Shut-off air circuit pressure
IL201/211	Rc1/4	0.14 to 0.7	MAX. 0.7MPa

Booster Relay **IL**



Instrumentation Equipment Line

Features

Used when piping distance from instrumentation to operating part is extremely long or when operating part has large capacity, works to substantially accelerate drive speed to operating part.

Series	Port size	Input/Output	Input/Output pressure
IL100	Rc1/4, 3/8	1:1	MAX. 0.7MPa



■ Process - Lineup of Water/Wastewater Equipment

Contactless Position Cylinder

Remote Type



Instrumentation Equipment Line

Fixed Type



Item	Type		Type	
	IP8000		IP8100	
	Lever type lever feedback		Rotary type cam feedback	
	Single action	Double action	Single action	Double action
Input current	4 to 20mADC			
Input resistance	235±15Ω (4 to 20mADC)			
Supply air pressure	0.14 to 0.7MPa			
Filtration degree	5μ			
Sensitivity	Within 0.1%F.S.		Within 0.5%F.S.	
Linearity	Within ±1%F.S.		Within ±2%F.S.	
Hysteresis	Within 0.7%F.S.		Within 1%F.S.	
Repeatability	Within 0.5%F.S.			

Paddle Style Flow Switch IF3



City/Industrial Water Line

Features

- Used with general water stoppage or water reduction relay for cooling system etc
- Port size 3/4, 1
- IP42, IP44 equivalent

Series	Set flow range (l/min)	Contacts
IF3	14 to 60	Micro switch 1ab
	20 to 1500	
	36 to 2600	

Refrigerated Air Dryer IDFB



Features

- Environmentally friendly R134a/R407C refrigerant
- Simple control system, incorporating easy to read evaporator gauge
- Stainless steel heat exchangers providing long life and low pressure drop
- Compact design with staggered inlet/outlet ports for ease of installation
- 3/8" push-in condensate drain port

Model	Flow scfm at Pressure Dew Points		
	37°F	45°F	50°F
IDFB3E-11N	10	11	12
IDFB4E-11N	15	16	17
IDFB6E-11N	25	26	28
IDFB8E-11N	41	43	45
IDFB11E-11N	59	62	65
IDFB15E-11N	71	80	86
IDFB22E-11N	107	120	130
IDFB22E-23N			
IDFB37E-23N	161	173	181
IDFB55E-30N-X224	226	258	297
IDFB55E-46N			
IDFB75E-30N-X224	300	353	406
IDFB75E-46N			





Stainless Steel Filter Regulator **AW30-X2622**

Corrosion resistant

- Stainless steel body
- Ambient and fluid temperature -40 to 80°C
- Maximum Operating pressure = 2.0 MPa
- 5 micron filtration rating

Features



Electromagnetic Flow Switch for Water **LFE**

Unique solution

- Reverse flow can be detected
- Repeatability $\pm 1.5\%$ full scale

Features

Series	Rated flow gal/min (L/m)	Piping
LFE	0.1 to 5.3 (0.5 to 20) 0.66 to 26.4 (2.5 to 100) 1.3 to 52.8 (5 to 200)	3/8 to 1



Digital Flow Switch for Water **PF3W**

Space saving

- Flow sensor, flow control valve and temperature sensor integrated into one device
- Display rotates for flexible installation
- 3 color / 2 screen display

Features

Series	Fluid temperature range	Rated flow range (L/m)
PF3W	0 to 90°C	0.5 to 4, 2 to 15 5 to 40



Digital Pressure Switch **ISE/ZSE80**

High pressure

- Use for general fluids
- 2 color digital display
- Quick 3-step setup process
- Stainless steel (metal parts)
- IP65 protected

Features

Series	Rated pressure range	Port size
ISE/ZSE80	-14.5 to 290 MPa	1/8, 1/4



Polyurethane Tubing **TU/TIUB**

Corrosion resistant

- Made from polyether resin for better immunity to hydrolysis
- 5 standard stocked lengths
- Excellent flexibility
- High resistance to fungus and micro-organism attacks

Features

Series	Metric size	Inch size	Colors
TU/TIUB	ø4, ø6, ø8, ø10, ø12, ø16	ø1/8, ø5/32, ø3/16, ø1/4, ø3/8, ø1/2	29 color variations

Tube O.D.



Nylon Tubing **T/TIA**

Corrosion resistant

- Excellent low moisture absorption and dimensional stability characteristics
- Broad chemical resistance

Features

Series	Metric size	Inch size	Colors
T/TIA	ø4, ø6, ø8, ø10, ø12, ø16	ø1/8, ø3/16, ø1/4, ø3/8, ø1/2	6 color variations

Tube O.D.





SMC Engineers will design a system to meet your requirements

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



Control Cabinets

With an ongoing commitment to help our customers by providing them with total engineering solutions, we can also offer our customers a complete design and build service for all their electro/pneumatic control panel needs.

From a small simple assembly to a complex control system, our specialist teams of highly trained engineers have extensive experience building electro/pneumatic control cabinets for many industrial applications.

Having worked extensively for many years in the electronics, food processing and manufacturing, automotive, life science and mining industry sectors, we are particularly knowledgeable in these industries and their specific, individual requirements.

Whether it is making your control cabinet design a reality, or if you would like us to design something especially for you, our experts are on-hand to provide you with all the answers.

From a single, one-off special, or a multiple cabinet order, we have the resources and expertise to build high quality, fully tested control cabinets that will deliver outstanding performance and give you complete peace of mind.

For more information on our control panel design and build service, please contact your nearest SMC sales office.



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About SMC

- SMC Corporation of America, a subsidiary of the global SMC corporation based in Japan, is recognized as the world leader in the design and manufacture of pneumatic components.
- Through our worldwide network of operations, SMC offers individuals and organizations access to a vast and unique body of engineering expertise.



- SMC Corporation has 63 subsidiary or affiliated companies across 50 nations, with bases of operations in all major markets: Japan, North America, South America, Europe and Oceania.
- This coverage allows for the manufacture of products that best suit local requirements enabling flexibility in component design, delivery and after sales service.
- Although focused on local markets, SMC Corporation of America is networked with all of the Corporation's subsidiaries so that components procured locally will be supported world wide. In a globalized market it is important that you can also depend on product availability and technical support no matter where your overseas operations are situated or the countries to which you export.
- Components can be sourced from SMC subsidiary companies worldwide, with expert support and after sales service provided through a network of local branches.

Global Manufacturing, Distribution and Service Network

Worldwide Subsidiaries

EUROPE

AUSTRIA
SMC Pneumatik GmbH (Austria)

BELGIUM
SMC Pneumatics N.V./S.A.

BULGARIA
SMC Industrial Automation Bulgaria EOOD

CROATIA
SMC Industrijska Automatika d.o.o.

CZECH REPUBLIC
SMC Industrial Automation CZ s.r.o.

DENMARK
SMC Pneumatik A/S

ESTONIA
SMC Pneumatics Estonia

FINLAND
SMC Pneumatics Finland OY

FRANCE
SMC Pneumatique S.A.

GERMANY
SMC Pneumatik GmbH

GREECE
SMC Hellas EPE

HUNGARY
SMC Hungary Ipari Automatizálási Kft.

IRELAND
SMC Pneumatics (Ireland) Ltd.

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LLP "SMC Kazakhstan"

LATVIA
SMC Pneumatics Latvia SIA

LITHUANIA
UAB "SMC Pneumatics"

NETHERLANDS
SMC Pneumatics B.V.

NORWAY
SMC Pneumatics Norway AS

POLAND
SMC Industrial Automation Polska Sp. z o.o.

ROMANIA
SMC Romania S.r.l.

RUSSIA
SMC Pneumatik LLC.

SLOVAKIA
SMC Priemyselná Automatizácia, Spol s.r.o.

SLOVENIA
SMC Industrijska Avtomatika d.o.o.

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SMC Pneumatics (Guangzhou) Ltd.

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PT. SMC Pneumatics Indonesia

JAPAN
SMC Corporation

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SMC Pneumatics (N.Z.) Ltd.

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SMC Pneumatics Korea Co., Ltd.

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THAILAND
SMC (Thailand) Ltd.

UNITED ARAB EMIRATES
SMC Pneumatics Middle East FZE

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SMC Pneumatics (VN) Co., Ltd

AFRICA

SOUTH AFRICA
SMC Pneumatics (South Africa) Pty Ltd

NORTH, CENTRAL & SOUTH AMERICA

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SMC Argentina S.A.

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SMC Pneumáticos do Brasil Ltda.

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SMC Corporation (Mexico) S.A. de C.V.

PERU
SMC Corporation Peru S.A.C.

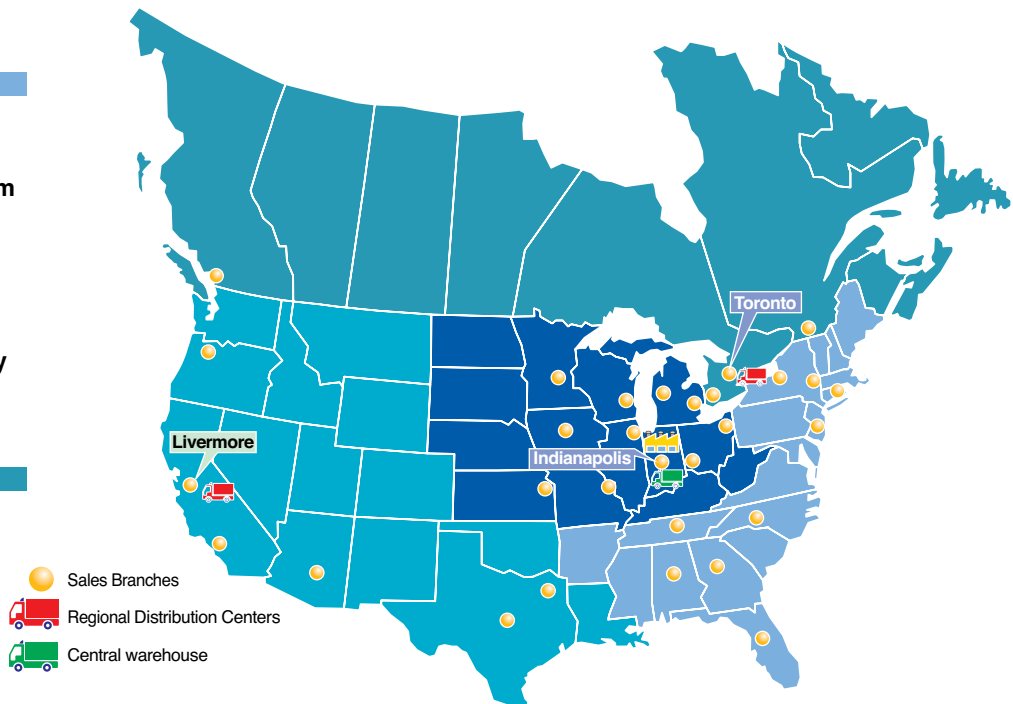
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SMC Corporation of America

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SMC Neumatica Venezuela S.A.

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