

Powering Innovation in Packaging Solutions - with SMC











INDEX

Stainless Steel Products	- 1	Resin Products	5
Stainless Steel Cylinder – CJ5•S, CG5•S, CG5-X6011 (NFPA mount)		Chemical Resistant One-touch Fittings – KP	
Stainless Steel Cylinder with Hygienic Switch Rail – CG5		High Purity Fluoropolymer Fittings – LQ3	
Stainless Steel Clean Design Cylinder – CG5-X2977		VIPER TM High Purity Fluoropolymer Air Operated 2 and 3 Way Valve	s
Stainless Steel Cylinder with ISO 6432 Dimensions – C85		High Purity Fluoropolymer Tubing – TL/TIL (FDA Compliance)	
Stainless Steel Cylinder – NCM-X6009		Soft Fluoropolymer Denatured PTFE Tubing – TD/TID (FDA Complian	nt) 6
Stainless Steel Speed Controller – ASG		General Grade PFA Fluoropolymer Tubing – TLM/TILM (FDA Complia	ant)
Stainless Steel 316 One-touch Fittings – KQG2		Polyethylene Tubing – PEAPP (FDA Compliance)	
Stainless Steel 316 Insert Fittings – KFG2	2	Fluoropolymer Tubing (FEP) – TH/TIH	
Stainless Steel 316 Miniature Fittings – MS		Polyurethane Tubing – TU/TIUB	
Stainless Steel Quick Connect S Couplers - KKA		Nylon Tubing – T/TIA	7
Compact Guided Cylinder / Stainless Steel Parts – MGP-XC6 (A/B)		Fieldbus Systems	7
Stainless Steel Filter/Regulator – AW30-X2207		Serial Transmission – EX250, EX260, EX500, EX600, EX600-W	
Hygienic	3	Smart Valve Interface – UIUSP-XXX-DUO02979	
Hygienic Design Cylinders – HYB, HYQ, HYC, HYG		Pressure Regulator & Electric Vacuum Regulator -UIUSP-DUQ00833	8 8
NAMUR Mount Hygienic 3/5 Port Solenoid Valve – VFN-X36		Static Electricity Removal Equipment	8
Hygienic Design & IP69K Valve Manifold – SY5000-X500		Ionizer Bar Type – IZS	
Other Cylinders	3	Ionizer Nozzle Type – IZN10	
Standard Cylinder – CQ2Z (Including Rear Clevis Type)		Hand Held Electrostatic Meter – IZH10	
Heavy Duty Stopper Cylinder – RS2H		Ionizer Fan Type – IZF10	
Parallel Style Air Gripper MHZ2	4	Instrumentation	9
Parallel Style Air Gripper: Wide Type – MHL2		Digital Pressure Switch – ISE/ZSE10	
Low Profile Air Gripper – MHF2		Digital Pressure Switch, IO-Link compatible – ISE-20	
Related Products	4	Digital Pressure Switch – ISE/ZSE40A	
Electroless Nickel Plated (Brass Parts) Fittings – KQB2		Digital Pressure Switch – ISE70, ISE75, ISE75H	
Epoxy Coated Air Preparation – AC Series		Digital Pressure Switch – ISE/ZSE80	
Epoxy Coated Water Separator – AMG-X229	5	Digital Flow Switch for Water – PF3W	10
Modular Style F.R.L. Combination – AC-A Series		Digital Flow Switch for Air- PFM	
		Electromagnetic Flow Switch for Water – LFE	

















Solenoid Valve	10	Air Preparation	16
5 Port Solenoid Valve - SY3000/5000		Thermo-Chiller – HRS	
5 Port Solenoid Valve - VQC1000/2000/4000	11	Thermo-Chiller – HRZ	
5 Port Solenoid Valve - SV1000/2000/3000/4000		Air Preparation – "Smart" FRL	17
3 Port Conveyor Valve – VFD		Filtration – AFF	
High Frequency Valve – VQJ01		Energy Saving Precision Regulator – IR	
High Frequency Valve – SX10		Membrane Air Dryer – IDG	18
Direct Operated 2 Port Solenoid Valve – VXN	12	Refrigerated Air Dryer – IDFB	
Direct Operated 2 Port Solenoid Valve – VX2		Diagnostic Products	18
Stand-By Valve – SBV		Automatic Leak Detection – ALDS	
Air Saving Valve – ASQ/ASR		Manual Leak Detection – MLDS	
Vacuum	12	Data Logger	19
Multistage Vacuum Ejector – ZL112/212		Air Management System - AirMaS TM Technology	
Vacuum Ejector – ZH	13	Safety Related	19
Vacuum Ejector In-line Type – ZU		ISO 13849-1 Compliant Safety Shut-off, Exhaust Valve – VG342	
Vacuum Saving Valve – ZP2V		Pilot operated check valves with direct monitoring – XT34-303	
Vacuum Pad with Integrated Ejector – ZHP		Safety Zone Valve, Manifold – SY	
Space Saving Vacuum Ejector/Pump System – ZB		Air Cylinder with Built-in Magnet and End Lock – CA2	20
Vacuum Pad – ZP3	14	Speed Control Valve with Pilot Operated Check Valve	
Vacuum Manifold – ZK2		Other Products	20
Large Blow and Vacuum Flow – ZH-X185		Reverse Pulse Jet Valve – JSXFA	
Non-Contact Suction Lift – XT661		Flow Control with Digital Indicator – AS-FS	
Energy Saving Ejector – ZM□□□-X298		Air Blow Gun – VMG	
Specialty Cylinders	15		
Electric Actuator – LES, LEF, LEJ, LEL, LEY, LEYG, LEP, LEH, LER			
Clean Series Electrical Actuator – LEY			
Servo and Step Motor Controller - LECP6, JXC			
Cost Effective Multi Position Cylinder – MPC	16		













Stainless Steel

Stainless Steel Cylinder







Series	Action	Bore size (mm)
CJ5·S	5	10, 16
CG5·S	Double acting Single rod	20, 25, 32, 40, 50, 63, 80, 100
CG5-X6011	Oil igic rod	40, 50, 63, 80, 100
Features	14 to 140°F (-10 to 6 • Pre-lubricated with food 9 • Repairable • X6011 option available to	ature: 70°C) (without auto switch) 50°C) (with auto switch)

Series	Action	Bore size (mm)
CJ5-X2977	Double acting Single rod	20, 25, 32, 40, 50, 63, 80, 100
Features	Easy and efficient to cle use of FDA and EU 193 The cylinders of the CG according to FDA and E penetration and meetin legislation requirements Perfectly suited for use	d aggressive environments. ean and globally usable through the 85/2004 compliant materials. 65-X2977 series have a special scraper EU 1935/2004, preventing water g American and European food s. in wet areas of food and beverage the pharmaceuticals industry.

Stainless Steel Cylinder with ISO 6432 Dimensions



Corrosion resistant Hygienic





Series	Action	Bore size (mm)
C85	Double acting Single rod	16, 20, 25, 32, 40, 50
Features	Hygienic design for splash area	

Stainless Steel Cylinder





Series	Action	Bore size (inch)
NCM-X6009	Double acting Single rod	3/4, 7/8, 1-1/16, 1-1/4, 1-1/2, 2
Features	External metal parts: Stainless s Seal parts: NBR or FKM Ambient and fluid temperature: 14 to 158°F (–10 to 70°C) (14 to 140°F (–10 to 60°C) (Food grade grease available Built-in rod wiper to protect inte Dimensionally interchangeable Enhanced side load capability of	without auto switch) with auto switch) rior from contaminants with standard NCM

Stainless Steel Speed Controller





Series	Applicable tubing O.D. (mm)	Connection thread (Metric)
ASG	4, 6, 8, 10, 12	M5, 1/8, 1/4, 3/8, 1/2
Features	Metal parts: Stainless steel 316 Seal parts: FKM Ambient and fluid temperature: Thread sealant standard	,

Stainless Steel

Stainless Steel 316 One-touch Fittings







Series	Applicable tubing O.D.	Connection thread
KQG2	3.2, 4, 6, 8, 10, 12, 16 mm Metric: M5, 1/8, 1/4, 3/8, 1/2 1/8, 5/32, 1/4, 5/16, 3/8, 1/2 inch: 10/32, 1/8, 1/4, 3/8, 1/2	
Features	Metal parts: Stainless steel 316 Seal parts: FKM Operating fluid temperature: 23 to 302°F Grease-free May be used with steam Certified to meet current Food Sanitation	,

Stainless Steel 316 Insert Fittings







Series	Applicable tubing O.D.	Connection thread
KFG2	4, 6, 8, 10, 12, 16 mm 1/8, 5/32, 1/4, 5/16, 3/8, 1/2 inch Metric & Inch: 1/8, 1/4, 3/8, 1/2	
Features	Metal parts: Stainless steel 316 Operating fluid temperature: -85 to 500°F (-65 to 260°C) 23 to 302°F (-5 to 150°C) (for sw. Grease-free May be used with steam Certified to meet current Food Sanitation.	,

Stainless Steel 316 Miniature Fittings



Series	Applicable tubing O.D. (mm)	Connection thread (Metric)
MS	3.2, 4, 6	M5, 1/8
Features	Metal parts: Stainless steel 316 Operating fluid temperature: 23 May be used with water	

Stainless Steel Quick Connect S Couplers





Series	Connection thread (R, Rc)
KKA	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 ¹ / ₄ , 1 ¹ / ₂
Features	 Metal parts: Stainless steel 304 Seal parts: FKM Operating fluid temperature: 23 to 302°F (–5 to 150°C) Grease-free Both plug and socket have integral check valve May be used with water

Compact Guided Cylinder / Stainless Steel Parts

Corrosion resistant



Series	Action	Bore size (mm)
MGP-XC6 (A or B)	Double acting	12, 16, 20, 25, 32, 100
Features	Material for steel parts and rods changed to stainless steel See document 99-E478 for more details	

Stainless Steel Filter/Regulator





Series	AW30-X2207
Features	Stainless steel body Hygienic design Operating pressure = 145 psi (1 MPa) on X2207 type and 60 psi (0.4 MPa) on X2592 type S micron filtration rating Consult SMC's Food & Packaging Industry Group for more details



Hygienic

Hygienic Design Cylinder





Type	Series	Action	Bore size (mm)
Round type	HYB		20, 25, 32, 40, 50, 63, 80, 100
Basic type	HYQ*	Double	20, 25, 32, 40, 50, 63
ISO standard type	HYC*	acting	32, 40, 50, 63
With guide	HYG		20, 25, 32, 40, 50, 63
Features	• Water resistant cylinders designed for easy cleaning • 5 times increase in service life, compared to other water resistant cylinders • Food grade grease available • Ambient and fluid temperature: 14 to 158°F (–10 to 70°C) (without auto switch) 14 to 140°F (–10 to 60°C) (with auto switch) • Seal material: NBR or FKM * Conform to ISO/VDMA standard		

NAMUR Mount Hygienic 3/5 Port Solenoid Valve





Series	Port size	Cv factor	Power consumption
VFN (-X36)	NPT1/4"	0.8	0.5 W
Features	Corrosion resistant and IP67 Ambient and fluid temperatur 3-way solenoid valve configu 5-way solenoid valve configu Throttle plate available to pre Available in AC and DC volta	re: 14 to 140°F (–10 to 6 uration (for Single acting uration (for Double acting ecisely control flow	actuator)

Hygienic Design & IP69K Valve Manifold



Corrosion resistant



Series	SY5000-X500 (Cv = 0.7 – metal / 0.9 – rubber)
Features	IP69K rated to withstand high-pressure and steam cleaning Ability to install valves outside of protective panel and close to actuators for better control No gap between stations / Easy to clean Small, lightweight package Corrosion resistant

Other Cylinders

Standard Cylinder







Series	Action	Bore size (mm)
CQ2Z	Double acting	12, 16, 20, 25, 32, 40, 50, 63 80, 100, 125, 140, 160, 180, 200
Features	Able to mount compact auto swit 12mm and 25mm bore) Less protrusion since auto switch Lightweight due to compact size	,

Heavy Duty Stopper Cylinder





Series	Action	Bore size (mm)
RS2H	Double acting Double acting spring type Single acting/spring extend	50, 60, 80
Features	Better handling and visibility of the lock Piping is available from 2 directions The roller can be selected from two ma (Resin, Carbon steel)	· · /

Other Cylinders

Parallel Style Air Gripper



Series	Action	Bore size (mm)
MHZ2	Double acting Single acting/Normally open and closed	6, 10, 16, 20, 25
Features	 Integral linear guide used of high rigidity and high precision Accommodates diverse workpiece diameters with a single unit Wide variety of types and broad size variations 	

Parallel Style Air Gripper: Wide Type



Series	Action	Bore size (mm)
MHL2	Double acting	10, 16, 20, 25
Features	Built-in Dust -protection mechanism Double-end type Oil-impregnated resinare used of all shafts. A large amount of gripping force is propiston mechanism, while maintaining a Smaller auto switch mountable.	vided through the use of double

Low Profile Air Gripper



Series	Action	Bore size (mm)
MHF2	Double acting	8, 10, 12, 16, 25, 20, 32
Features	Height is approximately 1/3 the size of an equivalent MHZ2 Stroke selection is available High degree of mounting flexibility Strong holding force	

Related Products

Electroless Nickel Plated (Brass Parts) Fittings



Corrosion resistant



Series	Application tubing O.D.	Connection thread
KQB2	Inch: ø1/8, 5/32, 1/4, 5/16, 3/8, 1/2 Metric: ø3.2, 4, 6, 8, 10, 12, 16 G: ø4, 6, 8, 10, 12, 16	Inch: 1/8, 1/4, 3/8, 1/2 Metric: M5, 1/8, 1/4, 3/8, 1/2 G: 1/8, 1/4, 3/8, 1/2
Features	All metal body Operating fluid temperature: 23 to 302°F (–5 to 150°C) Grease-free May be used with water Thread sealant standard	

Epoxy Coated Air Preparation

Corrosion resistant



Features

- · Stocking plan in place
- Low cost corrosion resistant option
- External surface of die-casted parts are coated
- Hardware changed to stainless steel
- See catalog NP146 for more details



Related Products

Epoxy Coated Water Separator



Series	Port size Metric, G, NPT	Ambient & fluid temperature
AMG	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1-1/2, 2	40 to 140°F / 5 to 60°C
Features	Removes 99.9% of water droplets Element is resistant to clogging SMC one-touch fitting standard on au Extremely low pressure drops Epoxy coating available (–X229 optice)	

Modular Style F.R.L. Combination



Series	Modular Style F.R.L. Combination – AC-A
Features	 Improved corrosion resistance due to use of resin material Better visibility and safety from Double Layer Polycarbonate bowl Standard backflow function to release residual air pressure Easy maintenance and installation with new spacer Mounting dimensions are interchangeable with current AC

Resin Products

Chemical Resistant One-touch Fittings

Corrosion resistant



Series	Tubing O.D. (mm)	Connection thread (Metric)
KP	ø4, ø6, ø8, ø10, ø12	1/8, 1/4, 3/8, 1/2
Features	Metal parts: brass w/electroless Resin parts: Polypropylene Seal parts: EPDM Operating fluid temperature: —4 May be used for vacuum Applicable fluids: Air, Water, Nitr	,

High Purity Fluoropolymer Fittings





Series	Port size	Tubing O.D	. (mm)
LQ3	1/8", 1/4", 3/8", 1/2", 3/4, 1"	Metric size	Inch size
		ø3, ø4, ø6, ø10	1/8", 1/4", 3/8"
		ø12, ø19, ø25	1/2" 3/4" 1"
Features	22 configurations Operating temperature up to 392°F (200°C) Able to withstand pressure up to 500 psi (3.45 MPa) Hyperflare type provides 3X to 5X improved performance for temperature, pressure, side-load, and tensile load vs. standard flare		

VIPER™ Air Operated 2 and 3 Way Valves



Space Saving Corrosion resistant



	Series	LVQ
•	Features	Material of construction high purity PFA Zero dead volume PTFE diaphragm construction ensures consistent and repeatable opening and closing Various types: manually operated, tube extension, back pressure tolerant

Tubing O.D.

High Purity Fluoropolymer Tubing

Corrosion resistant





	Conco	Metric size	Inch size
	TL/TIL	ø4 to ø19	ø1/8" to ø1"
A Compliance	Features	Maximum operating temp Materials: Super PFA FDA compliant to 21 CFF	, ,

Resin Products

Soft Fluoropolymer Denatured PTFE







FDA Compliance

Carrian	Tubing O.D.	
Series	Metric size	Inch size
TD/TID	ø4 to ø12	ø1/8" to ø1/2"
Features	Flexibility: Improved by approx. 20% compared to SMC series TL/TIL Passed the FDA elution test 177-1550 Material: Modified PTFE Maximum operating temperature: 500°F (260°C) Excellent chemical resistance	

General Grade PFA Fluoropolymer Tubing







FDA Compliance

Series	Tubing O.D.		Color
	Metric size	Inch size	Color
TLM/TILM	ø2 to ø25	ø1/8" to ø1-1/4"	Translucent, Black, Red, Blue
Features	Maximum operating temperature: 500°F (260°C) Passed the FDA elution test 177-1550 Excellent chemical resistance		

Polyethylene Tubing





FDA Compliance

Carrian	Tubing O.D.		
Series	Metric size	Inch size	
PEAPP	ø4, ø6, ø8, ø10, ø12, ø14, ø16	ø1/4, ø3/8, ø1/2, ø5/8	
Features	FDA type 1, Class A, category 4 polyer (Complies with FDA 21 CFR 177.1520) Economical and lightweight Excellent environmental stress crack resist colors Excellent resistance to solvents Chemically inert Resistant to sunlight and other forms conly) Service temperature range: –50 to 140.	for olefin polymers (par (c) 3.2a) esistance of ultra-violet radiation (black	

Fluoropolymer Tubing







Corios	Tubing O.D.		Color
Series	Metric size	Inch size	Color
TH/TIH	ø4, ø6, ø8, ø10, ø12	ø1/8, ø3/16, ø1/4 ø3/8, ø1/2, ø3/4	Translucent, Black, Red, Blue
Features	Material: FEP (Fluorinated Ethylene Propylene Resin) Maximum operating temperature: 392°F (200°C) Certified to meet current Food Sanitation Law standards See catalog ES50-22 for chemical resistance chart		

Polyurethane Tubing

Corrosion resistant



Tubing O.D.			
Series	Tubing O.D.		Color
Oches	Metric size	Inch size	00101
TU/TIUB	ø4, ø6, ø8, ø10, ø12	ø1/8, ø5/32, ø3/16, ø1/4 ø5/16, ø3/8, ø1/2	29 Color variations
Features	Made from polyether resin for better immunity to hydrolysis 5 standard stocked lengths Excellent flexibility High resistance to fungus and microorganism attacks		

Resin Products

Nylon Tubing





Corios	Tubing O.D.		O-lan
Series	Metric size	Inch size (nominal)	Color
T/TIA	Ø4, Ø 6, Ø8, Ø10, Ø12, Ø16 Ø1/8", Ø3/16", Ø1/4", Ø3/8", Ø1/2"		6 Color variations
Features	Excellent low moisture absorption and dimensional stability characteristics Broad chemical resistance		

Communication protocol

Fieldbus Systems

Serial Transmission



Applicable valve

SY3000/5000/7000

S0700

S0700

SV1000/2000/3000/4000





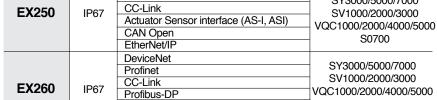














EtherCAT EtherNet/IP Simple connection options

DeviceNet Profibus-DP

Maximum 32 inputs (EX250)/32 outputs

Features

Series

Enclosure

· Rockwell Automation Encompass Partner DeviceNet

EX500

Profibus-DP VQC1000/2000/4000/5000 IP65 S0700 CC-Link EtherNet/IP SY3000/5000/7000 · Valve unit manifold and input unit manifold can be connected around the GW unit

Features

• Compatible with various protocols by replacing the GW unit

• 64 inputs/64 outputs

阿斯伯里	11 to 12 to
61.10 John	and the late
	CTH-HATE
THE STATE OF THE S	Al- Pri



• Reduction in wiring time with SPEEDCON (Phoenix contact)

· Digital & Analog Input/Output available Features

• 9 input and output units may be connected in any order

· Handheld terminal available for parameter setting and I/O monitor tool

EX600-W	IP67
---------	------

Features

SV1000/2000/3000 Profibus-DP VQC1000/2000/4000/5000 S0700 EtherNet/IP SY3000/5000/7000

Communication cables not required

• Point-to-multipoint communication

· Wiring material cost and installation work-hours can be reduced

Interchangeability is maintained between EX600 series SI units

· Replacement of wireless and wired systems is possible

Smart Valve Interface





· Field upgradable





IP65 and IP67





Communication Protocol				
	Protocol	Number of output	SI unit output polarity	Communication Connector
SEN1	Eth out lot/ID		Negative common (PNP)	
SEN2	EtherNet/IP	32	Positive common (NPN)	M12
SMB1	Modbus TCP		and the second of the second o	
SMB2	(Contact SMC for information)	32	Positive common (NPN)	
Features	available thro	guration settings and diagnostics ble through standard web browser switches to set • Device Level Ring (DLR) a sustain single failure in the still continue to function		ire in the ring and

Fieldbus Systems

E/P Pressure Regulator & Electric Vacuum Regulator w/Fieldbus Capability







UIUSP-DUQ00833	E/P Pressure Regulator
Features	Daisy chain Power Over Ethernet Built-in two port ethernet switch 12 Bit resolution In/Out Device Level Ring and Quick Connect (Ethernet/IP type) Built in web server Available in ITV1000, 2000 and 3000 sizes Available with Modus TCP (contact SMC for information) See flyer PDF248 for more details

Static Electricity Removal Equipment

Ionizer – Bar Type





Series	Type	lon generation method	Method of applying voltage	lon balance
IZS	Bar type	Corona discharge type	Sensing DC, Pulse DC, DC	30 V or less
Features	Quick discharge time Measures the polarity of a discharged object, as well as the amount of cheese electricity		ount of charged	

- · Continuously emits ions in accordance with the polarity applied onto a workpiece
- Built-in power supply so high voltage power supply cable is unnecessary

Ionizer - Nozzle Type





Series	Type	Ion generation method	Method of applying voltage	lon balance
IZN10	Nozzle	Corona discharge type	High frequency AC type	±10V
Features	Low airQuick dElectrodBuilt-in			ecessary

Handheld Electrostatic Meter



Series	IZH10
Features	Lightweight, handheld device AA battery powered Can display current, max or min value Measurement range ±20.0 kV Accuracy of ±5% full scale

Ionizer – Fan Type







Easy maintenance by simply removing the case to clean the electrodes

Series	IZF10
Features	Compact design allows for enclosure mounting Ion balance: ±15V Discharge time: 2.5 sec Detects dirt on the electrodes Does not require a pneumatic air supply



Instrumentation

Digital Pressure Switch



Series	Set pressure range (psi)	Mounting options
ISE20B	-15 to 152	Bracket, Panel
Features	Improved Operability Quick 3-step set up process Compact and Lightweight	

Digital Pressure Switch



Series	Set pressure range (psi)	Mounting options
ISE/ZSE10	-15 to 152	Direct, Panel, Din Rail
Features	 Extremely low profile Quick 3-step set up process Settings of the master sensor can be copied to up to 10 slave sensor 	

Digital Pressure Switch



Space Saving Labor Savings



501100	riated procedure range (per)	mounting options
ISE/ZSE40A	0.00 to14.69 (ZSE) -14.5 to 145 (ISE)	Bracket, panel mounting, One-touch fitting, direct/wall mounting, M8 or M12 connector
Features	Meets RoHS, UL, CE and CSA Standards Applicable media – Air, non-corrosive gas, Non-flammable gaster of the second seco	

Digital Pressure Switch





IP67

Series	Rated pressure range (psi)	Proof pressure (psi)
ISE70 (Air)	0 to 145	2175
ISE75 (General fluids)	58 to 1450	4350
ISE75H (General fluids)	72 to 2175	6525
Features	2-color digital display IP67 Liquid compatible	

Digital Pressure Switch





Series	Rated pressure range (psi)	Port size
ISE/ZSE80	-14.5 to 290	1/8, 1/4
Features	 Use for general fluids 2-color digital display Quick 3-step set up process Stainless steel (metal parts)	



Instrumentation

Digital Flow Switch for Water





Series	Fluid temperature range	Rated flow range (L/min)
PF3W	32 to 194°F (0 to 90°C) 0.5 to 4, 2 to 16, 5 to 40	
	Flow sensor, Flow Control Valve and integrated into one device	Temperature Sensor
Features • Display rotates for flexible installation		
	• 3-color/2 screen display	

Digital Flow Switch for Air

Space Saving Labor Savings





Series	Flow rate range (L/min)	Piping variations
PFM	10, 25, 50, 100	One-touch fittings, female threads, straight piping or bottom piping
Features	2-color digital display Repeatability: ± 1% F.S. or less Flow adjustment valve is integrated for reduced piping and space Response time: Either 50 msec., 0.5 sec., 1 sec. or 2 sec. can be chosen	

Electromagnetic Flow Switch for Water



Series	Rated flow gal/min (L/min)	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
Features	IP65 rated with M12 connector Reverse flow can be detected Repeatability ±1.5% full scale	

Solenoid Valve

5 Port Solenoid Valve

Energy Savings

Power consumption (W)



SY3000/5000	SY3000: 0.23 to 0.39 SY5000: 0.54 to 0.84	Up to 2-1/2" (63 mm)	0.35 W (standard) 0.1 W (with power saving circuit)
Features	 One valve series with many options Plug in style with six manifold variations and 12 wiring configurations Long life: 70 million cycles (rubber seal), 200 million cycles (metal seal) Optional IP67 rated option available in 8 mounting configurations Piping possible from top, side, bottom or mixed 		

Solenoid Valve

5 Port Solenoid Valve



Series	Cv (metal/rubber)	Applicable cylinder size	Power consumption	
VQC1000	0.18/0.25	Up to 2" (50 mm)	d MA (atamalawal)	
VQC2000	0.60/0.80	Up to 3" (80 mm)	1 W (standard) 0.5W (low voltage type)	
VQC4000	1.7/2.0	Up to 5-1/2" (140mm)	0.000 (low voltage type	
Features	_	cycles (VQC1000/2000), 100		

5 Port Solenoid Valve



Power consumption (W) Cv Applicable cylinder size Series SV1000 0.24 Up to 1-1/2" (40mm) 0.6W (Standard) 0.46 Up to 2-1/2" (63mm) SV2000 0.65W (with light) SV3000 0.91 Up to 4" (100mm) Up to 5" (125mm) SV4000 1.3

Features

- 4 position dual 3 port valves available to reduce length of manifold
- Flexibility to add stations

· Flexibility to add stations

• Relay output module available for control of devices up to 110 VAC, 3A

Solenoid Valve

IP67 available

3 Port Conveyor Valve



IP65

Series	Cv	Response time	Power consumption
VFD	0.1	ON: 14ms OFF: 5ms or less	0.62 W
Features	3-port direct operated po 24 VDC or 110 VAC Wide pressure range (0-conveyor lines using zero)	-72 psi) to handle pressure dro	ops found on long

High Frequency Valve





Series			VQJ01
	_		

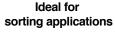
- Frequency of operation up to 1000 Hz (at 29 psi (0.2MPa))
- Expected life 1 billion cycles
- · Valve width 11 mm
- Features
- Flow 4.2 scfm (120L/m), (at 58 psi (0.4 MPa))
- · Available in body ported and base mounted manifold types up to 32 stations
- Replaceable one-touch fitting assemblies
- Response time/ON response 0.9 ±0.15ms

High Frequency Valve



Long life

Energy Savings







Series	SX10
Features	 Frequency of operation up to 1000 Hz [at 36 psi (0.25MPa)] Expected life up to 7 billion cycles Valve width 9 mm Flow 1.7 scfm (50 L/min), ±10% [at 36 psi (0.25MPa)] Base mount and clip mount



Solenoid Valve

Direct Operated 2 Port Solenoid Valve





Series	VXN
	For use with air, water, vacuum, and oil
	20% more flow compared to previous model
Features	Compact and lightweight
	Long life due to durable armature design
	C37 (Brass) or stainless steel body options

Direct Operated 2 Port Solenoid Valve

New Media Valve



Series	VX2
Features	Built-In Full Wave Rectifier which lowers heat, lowers power consumption and provides a quieter operation Improved magnetic properties of the solenoid coil, flow, and pressure attributes resulting in less power to actuate For use with vacuum, water, steam and oil applications: C37 (Brass) and SUS body types

Stand-By Valve

ergy Savings New Media \



Series	SBV
Operating Pressure Range	0.73 to 130 psi (0.005 to 0.9 MPa)
Ctand by Draggura Danga	0.73 to 130 psi (0.005 to 0.9 MPa)
Stand-by Pressure Range	[suggested 50 psi (0.35 MPa)]
Shut-off	Stand-by valve acts as a 2 port valve [(P out = 0 psi (0 MPa)]
Exhaust	Relieve the downstream pressure (optional)
	By using the stand-by valve and a flowmeter (through its outputs alarm function), your machine can:
Features	 Reduce the pressure directly Operate as an automatic stand-by system (inputs of the machine are not needed)

Air Saving Valve

New Media Valve



Series	ASR/ASQ
Features	ASR = pressure valve with regulator, check valve, and controller ASQ = flow control valve with quick supply, exhaust valve, and speed controller Cut air consumption by operating the return stroke at reduced pressure Offers easy piping Set pressure can be fixed or variable

Vacuum

Multistage Ejector



Series	ZL112/212
Features	Suction flow rate increased 250% and air consumption reduced 20% with 3 stage diffuser construction (vs one stage type) Series ZL212 has twice the flow rate of the ZL112 Integration of vacuum gauge, vacuum digital switch, supply valve and break valve is possible



Vacuum

Vacuum Ejector





Series	ZH
Features	 Compact and light weight Box type (with built-in silencer) or body ported Both One-touch and threaded connections can be combined on one ejector

• Body can be mounted and secured

Vacuum Ejector In-line Type

Space Saving



Series	ZU
Features	Space-saving ejector that can be installed in-line with the piping Vacuum port supply port are located collinearly to facilitate piping Lightweight construction achieved through the used of a resin body Built-in one touch fittings (Suitable for copper-free and fluorine-free applications)

Vacuum Saving Valve



Series	Thread size	Orifice size (mm)	Flow (scfm)
ZP2V	M5, M6, M8, R1/8, G1/8, NPT1/8	0.3 to 1.0	0.11 to 0.56
Features	When multiple vacuum pads are operated by one vacuum generator, and some are not holding the work piece, the reduction of vacuum pressure is restricted and the work piece can remain held by the rest of the pads.		

Vacuum Pad with Integrated Ejector

Energy Savings Space Saving



Series	Max. Suction Flow	Max. Vacuum pressure (kPa)
ZHP	1.68 to 2.69 scfm	– 91 (–26.87 inHg)
Features	Faster response time due to integral Energy efficient due to elimination of "Lock plate construction" which mak Energy saving and high performanc Easy design and dimensioning due	f long hoses es pad replacement easy e 2-stage ejector

Vacuum Ejector/Pump System



Series	Nozzle size	Suction flow [L/m (ANR)]	Maximum no. of stations
ZB	ø0.3, 0.4, 0.5, 0.6	2, 3.5, 4.5, 7	12
Features	needle, suction filter and • Easy one-touch operatior • Response time shortened • 21% increase in vacuum	n to replace suction filter If by 28% compared to previ pressure capability compare silve = 5ms, vacuum breakin	ous model ed to previous model



Vacuum

Vacuum Pad





Series	ZP3
Features	 Diameter size: Ø1.5, 2, 3.5, 4, 6, 8, 10, 13, & 16 Mounting styles: Male thread, female thread, barb fitting, One-touch fitting More compact compared to previous model Easy to mount Easy part number identification

Vacuum Manifold







Series	ZK2
	Integrated vacuum ejector and vacuum pump system
	• 90% reduction in air consumption compared to previous model
Features	When the vacuum pressure reaches the set value for suction, the digital vacuum switch with an energy saving function turns off the supply valve and the check valve keeps the vacuum. Then, when the vacuum pressure lowers to the set pressure for non-suction, the energy saving switch turns on the supply valves again, and keeps the vacuum to a certain level.
	• 58% weight reduction compared to previous model which make it ideal for EOA applications

Vacuum Flow





Series	ZH-X185
Features	A discharge flow rate 4X the supply air can be generated A suction flow rate 3X the supply air can be generated Application examples: Blow away water droplets, vacuum away smoke during soldering, transfer fine particles away from work area

Non-Contact Suction Lift

Unique solution



Series	Outer body diameter (mm)	Operating pressure
XT661	ø20, ø40, ø60, ø80, ø100 1.45 to 72 psi (0.01 to 0.5 M	
Features	Generates lifting force with positive pressure so the workpiece is not touched Application examples: Thin workpiece – Copper film, etc. Porous workpiece – Paper, Cardboard box, Lumber, etc. Workpiece with uneven and/or viscous surface	

Energy Saving Ejector



Series	ZM□□□ -298
Features	Monitors the vacuum level, and turns itself off when it doesn't need to operate Ejector air consumption reduced by 90% (compared to conventional products)



Specialty Cylinder

Electric Actuator





		<u> </u>	ن المارات
Series	Size	Stroke (mm)	Max. speed (mm/s)
LES	8, 16, 25	50 to 150	400
LEF	16, 25, 32, 40	100 to 2000	2000
LEJ	40, 63	200 to 3000	3000
LEL	25	100 to 1000	1000
LEY	16, 25, 32	30 to 500	500
LEYG	16, 25, 33	30 to 300	500
LEP	6, 10	25, 50, 75	350
LEH	10, 16, 20, 25, 32, 40	4 to 80	120 (open/close)
LER	10, 30, 50	Rotation angle 90°, 180°, 310° (LER10), 320°	420°/sec

- Easy programming of controller for DC motors type
- Fieldbus network gateways, including EhterNet/IP (DC controllers only)
- Pulse input or positioning drivers with absolute encoder (AC motors only)
- · Compact and light weight

Features

- Power saving option
- Long life: 10 million 30 million depending on series
- Equipped with seal band to prevent foreign matter from entering (LEF)
- Flexible mounting options
- Drop prevention in case of power failure (LES, LEF, LEY, LEH)
- · High precision repeatability

Clean Series Electric Actuator





Series	Stroke (mm)	Max. speed (mm/s)
LEY	0 to 800 up to 1000	
Features	 Smooth surface - Washdown capa Food compatible - can be used in the second compatible - can be used compatible - can be used compatible - can be used compat	the Food Industry

Servo and Step Motor Controller



LECP6

JXC

Step Motor Controllers

Series	LECP6, JXC
Features	Actual control Specified force operation Separated power supply Return to origin Alarm detection function 64 step data Area Output Data input method Easy mode and normal mode



Specialty Cylinder

Cost Effective Multi Position Cylinder





Series	Size	Stroke	Speed
MPC	25, 40	25mm bore – 50mm stroke 40mm bore – 100mm stroke 40mm bore – 150mm stroke (Coming soon!)	25mm/sec
Features	25, 40 40mm bore – 100mm stroke 25mm/sec		op, taking a feedback controlling pressure lives. Unlike analog lly are a simple There is no ager than the supply n when the external sition feedback to a

Air Preparation

Thermo-Chiller

Energy Efficient



Series	HRS
Features	UL/CE rated Energy efficient design using hot gas bypass Installation close to a wall on both sides is possible
Specifications	Cooling capacity from 1200 watts to 14,500 watts Temperature stability ± 0.1°C Serial communication (RS232/RS485) and contact I/O are standard Global power, all HRS chillers are dual rated 50/60Hz

Thermo-Chiller





Series	HRZ
Features	Temperature stability ±0.18°F (±0.1°C) and temperature range from –4 to 194°F (–20 to +90°C)
	Double inverter type is also available, saving energy more effectively through use of a DC inverter compressor and an inverter pump
	Conforms to UL



Air Preparation - "Smart" FRL

Energy Savings



Corrosion resistant epoxy coated option available!

Series	FRL	
Series	FNL	
Features	Smart FRL Standard AC series with pop-up indicator Smarter FRL Metal bowls protect against damage Regulator with digital pressure switch prevents over-pressurization by operators Differential pressure gauges ensure consistent air quality and warn you when filter changes are needed Combination quick-dump, soft start, lock out/fag out valve to remove pressure when machines are idle	 Smartest FRL Metal bowls protect against damage. Optional epoxy coated bowls for wash-down Digital differential pressure gauges to indicate when filter changes are required Regulator with digital pressure switch prevents over-pressurization by operators Combination quick-dump, soft start, lock out/tag out valve to remove pressure when machines are idle

Filtration





Series	AFF
Features	 Particle, water, oil, and odor removal Particle – to 1 μm (99.9%) Water – 99% liquid removal Integral auto drains available Flow rate to 512 scfm

Precision Regulator



Series	IR
Features	Air consumption is reduced with a new original structure High flow rate: Up to approx. twice (Compared to the current SMC Product) No fixed throttle in the new design Mounting is interchangeable with the current SMC model Exhaust (EXH) directions can be selected.

Air Preparation

Membrane Air Dryer





Series	IDG
Features	Dew points as low as -76°F (-60°C) (atmospheric) No power required Modular connectivity with prefilter

Refrigerated Air Dryer

Lona life



Series	IDFB
Features	Environmentally friendly R134a/R407C refrigerant Simple control system Stainless steel heat exchanger for long life cUL certified Pressure dew point to 37°F, flows to 400 SCFM 50Hz and CE marked units also available

Diagnostic Products

Automatic Leak Detection

Energy Savings



	Zinoigy carmigo
Series	ALDS
Features	Detects air leakages when they occur - even on a daily basis Confirms the exact value of the leak Provides maintenance personnel with a detailed report on where the leaks are located without the need to detect leaks in individual components
	 Operate an automatic test cycle outside production to detect leakages Ability to integrate in the machine's software without the need for any external supervision system - scad, etc.

Manual Leak Detection



Series	MLDS
	Portable air leakage measurement box
Features	Measures from 50 - 500 liters per minute
	• IP67 case
	Rechargeable battery pack
	Contact SMC's Energy Saving Team for more details



Diagnostic Products

Data Logger







**

Selles	Data Logger
	Monitors pressure and flow characteristics from compressed air systems
	Software allows a detailed report of pressure/flow fluctuations
Features	throughout the system

- · Can record 8 channels at once
- DataQ acquisition equipment packaged for rough service
- · Contact SMC's Energy Saving Team for more details

Air Management System - AirMaS™ Technology

Energy Savings





Series	Air Management System
Features	LOTO isolation (to OSHA standards) Point to use Filtration sized to suit minimum and maximum flow rate Flow monitoring Inlet pressure monitoring Slow start and dump valve Volume control system Process pressure monitoring

Safety Related

Category 3 & 4 Safety Shut-off and Exhaust Valve

Long Life



Series	VG342
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

Pilot operated check valve with direct monitoring

New Product



Series	XT34-303
Features	Pilot operated check valve with direct monitoring meeting safe stop Category 3 particularly with the vertical installation of actuators which are subject to heavy loads, pilot operated check valves should be screwed Directly into cylinder.

Safety Zone Manifold



Series	Safety Zone Manifold
Features	Allows maintenance without disrupting production. Main valve position when the valve is OFF: Signal output Main valve position when the valve is ON: No signal output Can be used as an interlock signal M8/M12 connector available



Safety Related

Cylinder with Built-In Magnet and End Lock



C(D)BA2, Air Cylinder, Double Acting, Single Rod, End Lock

Series CBA2 End Lock version of the light weight tie rod air cylinder. End of stroke locking mechanism locks the cylinder in place in case of a loss of air. Locks can be ordered for the extend stroke, retract stroke or both. The CA2 is available in a large variety of options that will make them suitable for many different applications. A variety of auto switches are available for mounting, including compact switches and magnetic field resistant switches. The CA2 is available in 40, 50, 63, 80 and 100 bores sizes, and is RoHS compliant

Series	CBA2
Features	CBA2, End lock cylinder Bores: ø40, ø50, ø63, ø80, ø100 Proof pressure: 1.5MPa Cushion: interchangeable Variety of mountings available Auto switch capable

Speed Control Valve with Pilot Operated Check Valve



Series ASP is a speed controller with integrated pilot check valve, permitting control of cylinder speeds and temporary intermediate stops.

Features

- Pilot check speed control with residual pressure relief valve
- One-touch connection for supply air only
- Universal type with one-touch fitting
- Uni-fit thread form

ASP is standard with electroless nickel plating on all brass parts and allows 360 degree freedom for tube mounting direction.

Series

Features

Other Products

Reverse Pulse Jet Valve





Service life is improved to 2-3X of competitor's valve due to integrated high strength elastomer diaphragm

Innovative Solution Ener

Energy Savings

- Long Service Life
 - Compression Fitting Connection
 - Improved Flow Characteristics

JSXFA

· High Output, Energy Saving

Speed Controller with Visual Indicator



Series	AS-FS
Features	Numerical indication of flow rate adjustments visible in handle to reduce flow setting time and setting errors Electroless nickel plating on metal parts is standard Indicator window rotates 180° for 2 choices in viewing the numerical setting

Air Blow Gun



Extension nozzie	
Available in 100, 150, 300 and 600mr	n lenaths

Series	VMG
Features	 Made of shock resistant resin Uses 20% less energy than conventional air guns Not affected by fluctuations in supply pressure Maintains effective impact pressure at low inlet pressure



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.

ITALY SMC Italia S.p.A.

KAZAKHSTAN

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.

SPAIN / PORTUGAL

SMC España, S.A.

SWEDEN

SMC Pneumatics Sweden AB

SWITZERLAND

SMC Pneumatik AG

TURKEY

SMC Pnömatik Sanayi Ticaret ve Servis A.Ş.

SMC Pneumatics (U.K.) Ltd.

ASIA / OCEANIA **AUSTRALIA**

SMC Pneumatics (Australia) Pty. Ltd.

CHINA

SMC (China) Co., Ltd.

SMC Pneumatics (Guangzhou) Ltd. HONG KONG

SMC Pneumatics (Hong kong) Ltd.

INDIA SMC Pneumatics (India) Pvt. Ltd.

INDONESIA PT. SMC Pneumatics Indonesia

JAPAN

SMC Corporation

MALAYSIA

SMC Pneumatics (S.E.A.) Sdn. Bhd.

NEW ZEALAND

SMC Pneumatics (N.Z.) Ltd.

PHILIPPINES

Shoketsu SMC Corporation

SINGAPORE SMC Pneumatics (S.E.A.) Pte. Ltd.

SOUTH KOREA

SMC Pneumatics Korea Co., Ltd.

TAIWAN SMC Pneumatics (Taiwan) Co., Ltd.

THAILAND

SMC (Thailand) Ltd.

UNITED ARAB EMIRATES

SMC Pneumatics Middle East FZE

SMC Pneumatics (VN) Co., Ltd

AFRICA

SOUTH AFRICA

SMC Pneumatics (South Africa) Pty Ltd

NORTH, CENTRAL & **SOUTH AMERICA**

ARGENTINA

SMC Argentina S.A.

BOLIVIA

SMC Pneumatics Bolivia S.R.L.

BRAZIL

SMC Pneumáticos do Brasil Ltda.

CANADA

SMC Pneumatics (Canada) Ltd.

CHILE SMC Pneumatics (Chile) S.A.

COLOMBIA

SMC Colombia Sucursal de SMC Chile, S.A.

MEXICO

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

PERU

SMC Corporation Peru S.A.C.

USA

SMC Corporation of America

VENEZUELA

SMC Neumatica Venezuela S.A.

U.S. & Canadian Sales Offices

WEST

Austin

Dallas

Los Angeles **Phoenix**

Portland San Jose

CENTRAL Chicago Cincinnati

Cleveland **Detroit**

Des Moines Grand Rapids

Indianapolis **Kansas City**

Milwaukee Minneapolis St. Louis

Albany

Atlanta

Birmingham Boston

Charlotte Knoxville

Nashville **New Jersey**

Rochester Tampa

CANADA

Vancouver **Toronto** Windsor

Montreal

Sales Branches

SMC Corporation of America

10100 SMC Blvd., Noblesville, IN 46060

SMC Pneumatics (Canada) Ltd.

www.smcusa.com

www.smcpneumatics.ca (800) SMC.SMC1 (762-7621)

e-mail: sales@smcusa.com International inquiries: www.smcworld.com

