Electro-Pneumatic Regulators

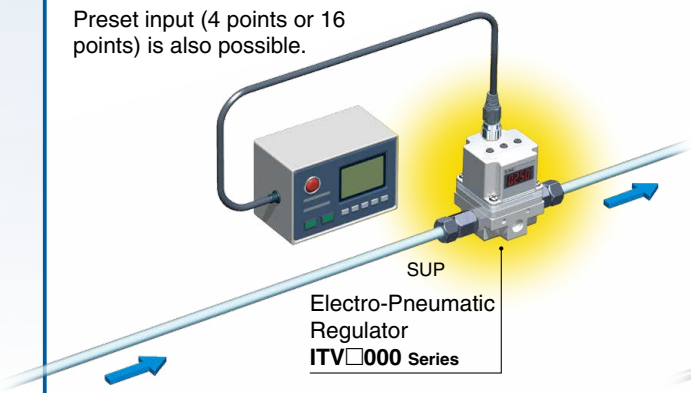
For the stepless control of air pressure in proportion to electrical signals

Multi-step Pressure Control

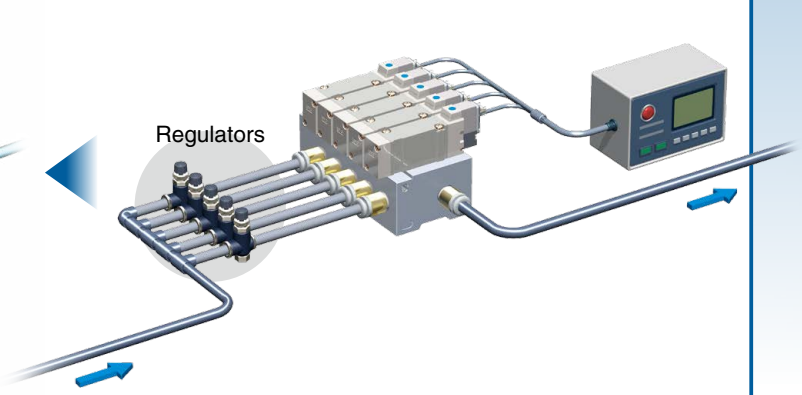
A single electro-pneumatic regulator can do the work of multiple regulators.

Digital Control

Preset input (4 points or 16 points) is also possible.



Analog Control



Electro-Pneumatic Regulators

ITV0000 Series *ITV1000 Series* *ITV2000 Series* *ITV3000 Series*

Serial Communication Specification

Reduced wiring

Applicable Fieldbus protocols

IO-Link RS-232C specification

CC-Link DeviceNet

PROFIBUS

Trademark:
DeviceNet® is a registered trademark of ODVA, Inc.

High Pressure Electro-Pneumatic Regulator

5.0 MPa
ITVX2000 Series

3.0 MPa
ITVH2000 Series

Electronic Vacuum Regulators

ITV009□ Series *ITV209□ Series*

Controller for Electro-Pneumatic Regulator

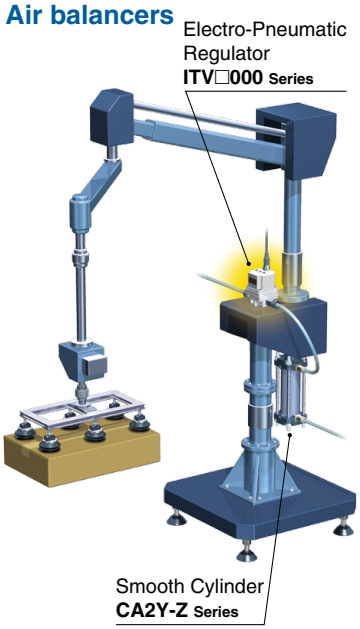
IC Series

ITV Series

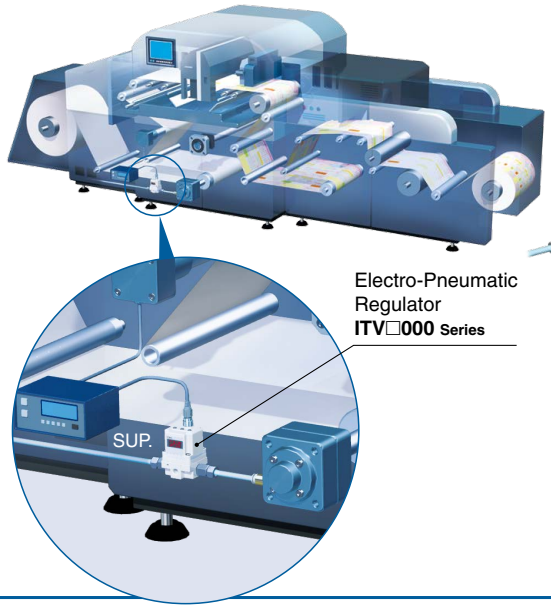
Applications

Tension Control

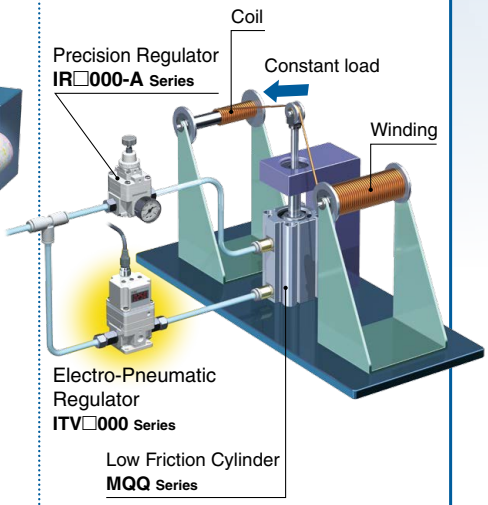
Air balancers



Printing machines / Film and cardboard processing machines

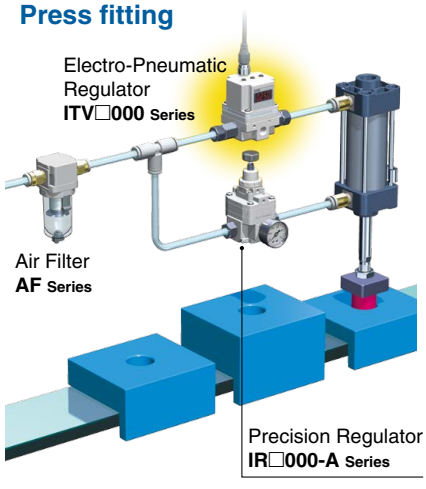


Coil winding machines



Actuator Output Control

Press fitting



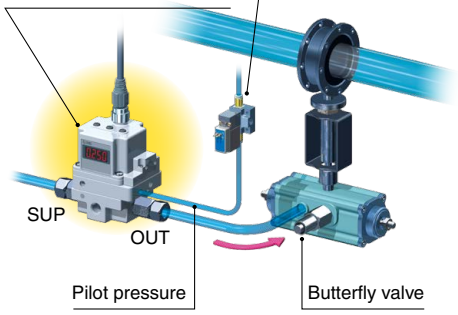
Opening/closing of butterfly valves

Power ON

Made to Order

Electro-Pneumatic Regulator
(Residual pressure relief specification)
ITV103□-DIT00243

3-port valve for pilot pressure control
V100 Series

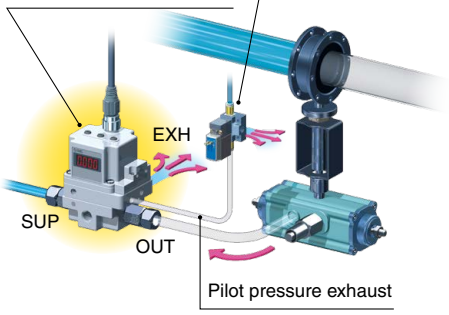


Power OFF

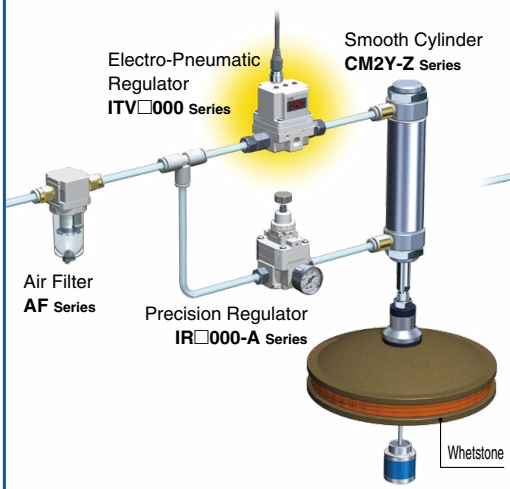
Made to Order

Electro-Pneumatic Regulator
(Residual pressure relief specification)
ITV103□-DIT00243

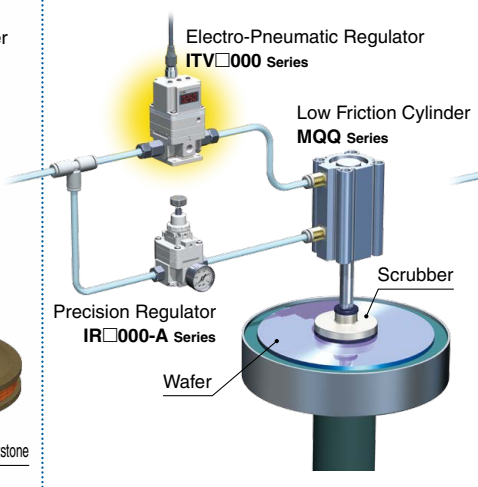
3-port valve for pilot pressure control
V100 Series



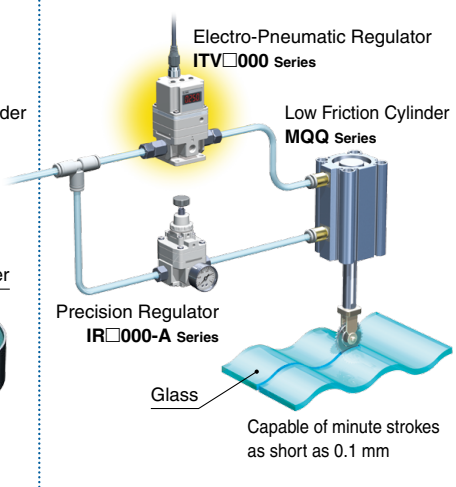
Whetstone polishing



Wafer polishing



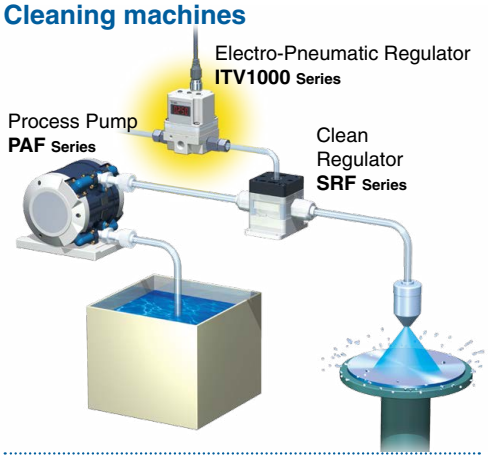
Wavy surface cutting



Flow Rate Control

By fixing the nozzle orifice, pressure control can be used to control the flow rate.

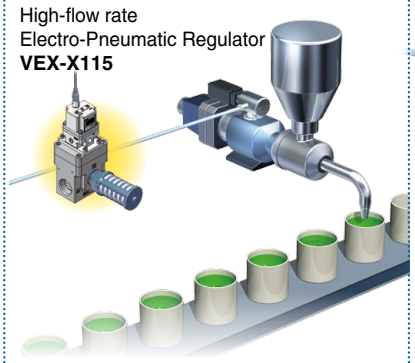
Cleaning machines



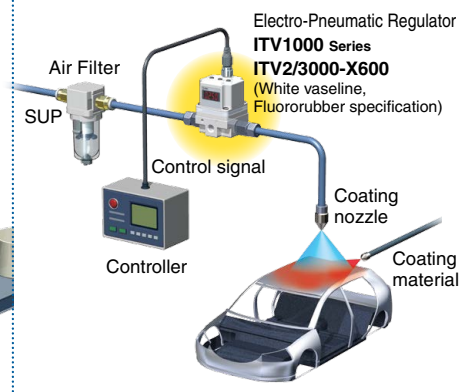
Filling machines

Made to Order

High-flow rate
Electro-Pneumatic Regulator
VEX-X115

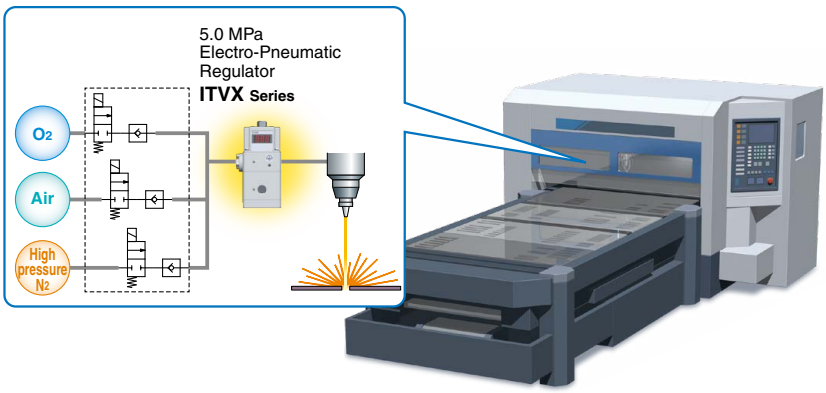


Painting machines



Liquid pressure feeding by tank pressurization

Laser processing machines

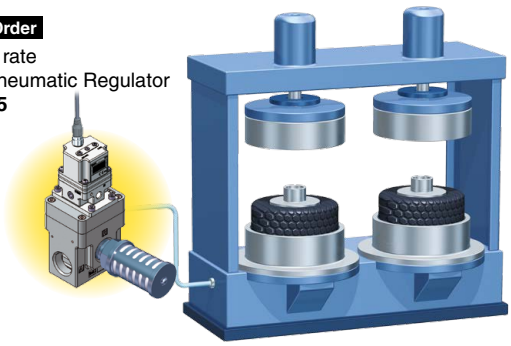


Pressure Filling

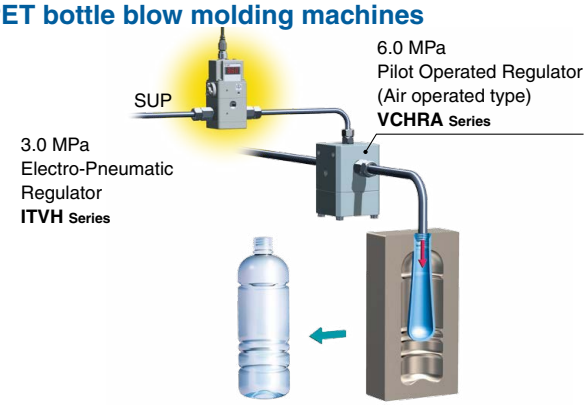
Tire molding machines/Balancers

Made to Order

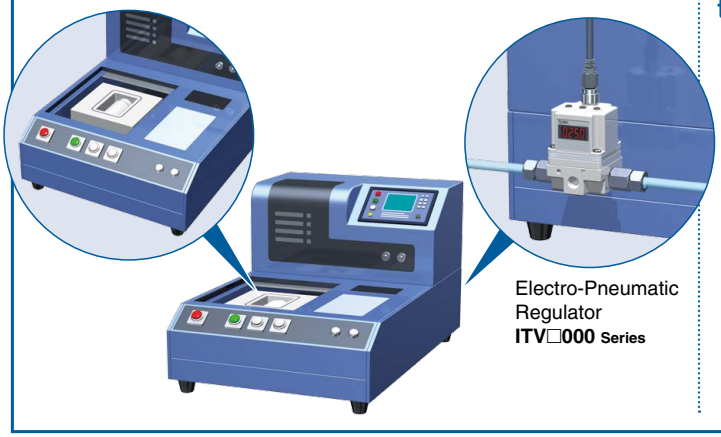
High-flow rate
Electro-Pneumatic Regulator
VEX-X115



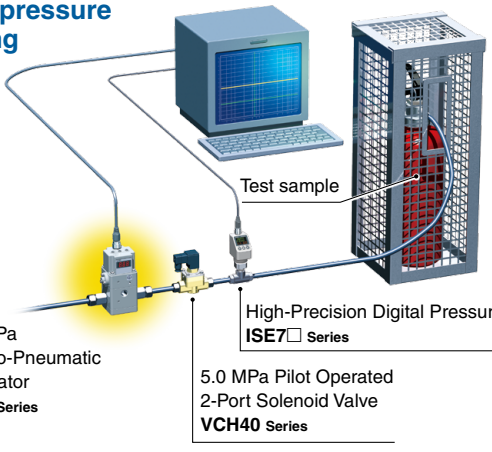
PET bottle blow molding machines



Leak tester



Tank pressure testing

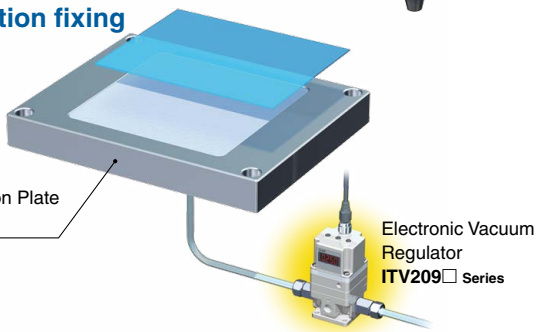


Vacuum Pressure Control

Leak tester

Electronic Vacuum Regulator
ITV209□ Series

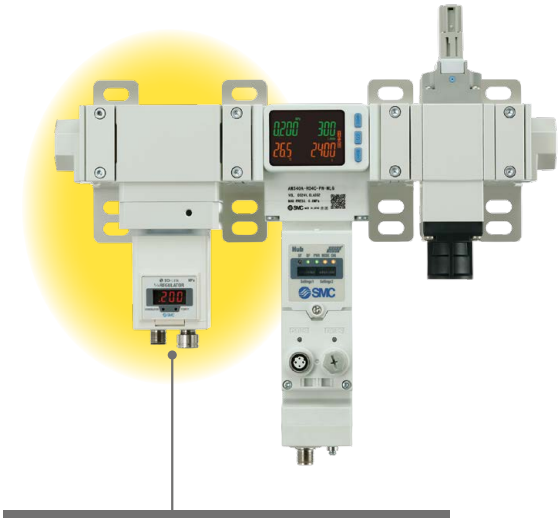
Adsorption fixing



Adsorption Plate
SP Series

Electronic Vacuum Regulator
ITV209□ Series

Air Management System



Standby Electro-Pneumatic Regulator

Based on the signal from the air management hub, the operating mode shifts to standby mode and the pressure is regulated to the standby pressure.
The non-relief type allows for the efficient use of air by not exhausting outlet air during the standby mode transition.

Electro-Pneumatic Regulator *ITV1000/2000/3000 Series*
Electronic Vacuum Regulator *ITV209□ Series*

Serial Communication Specification

Reduced wiring

Applicable Fieldbus Protocols

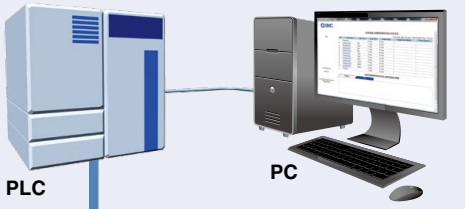
IO-Link RS-232C specification CC-Link DeviceNet PROFIBUS

Trademark: DeviceNet® is a registered trademark of ODVA, Inc.

IO-Link communication enables users to check device information and monitor device status in addition to performing pressure control.

IO-Link

IO-Link is an open communication interface technology between the sensor/actuator and the I/O terminal that is an international standard: IEC 61131-9.



PLC PC

Configuration File (IODD File*1)
·Manufacturer ·Product part no. ·Set value

*1 IODD File:
IODD is an abbreviation of IO Device Description. This file is necessary for setting the device and connecting it to a master. Save the IODD file on the PC to be used to set the device prior to use.

Various fieldbusses

IO-Link communication

IO-Link master

IO-Link Compatible Devices:
Electro-Pneumatic Regulator
ITV10□0/20□0/30□0-IL
Electronic Vacuum Regulator
ITV2090-IL

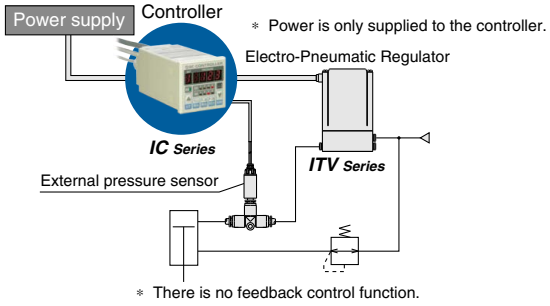
Series Variations

	Series	Model	Set pressure range	Max. flow rate	Sensitivity
Electro-Pneumatic Regulators	**ITV0000 Series** 	**ITV001□**	0.001 to 0.1 MPa	6 L/min (ANR)	0.2% F.S. or less
		ITV003□	0.001 to 0.5 MPa		
		ITV005□	0.001 to 0.9 MPa		
	ITV1000 Series 	**ITV101□**	0.005 to 0.1 MPa	200 L/min (ANR)	
		ITV103□	0.005 to 0.5 MPa		
		ITV105□	0.005 to 0.9 MPa		
	ITV2000 Series 	**ITV201□**	0.005 to 0.1 MPa	1500 L/min (ANR)	
		ITV203□	0.005 to 0.5 MPa		
		ITV205□	0.005 to 0.9 MPa		
	ITV3000 Series 	**ITV301□**	0.005 to 0.1 MPa	4000 L/min (ANR)	
		ITV303□	0.005 to 0.5 MPa		
		ITV305□	0.005 to 0.9 MPa		
Electronic Vacuum Regulators	**ITVH Series** 3.0 MPa 	**ITVH2020**	0.2 to 2.0 MPa	3000 L/min (ANR)	±1% F.S. or less
	ITVX Series 5.0 MPa 	**ITVX2030**	0.01 to 3.0 MPa	3000 L/min (ANR)	
Electronic Vacuum Regulators	**ITV009□ Series** 	**ITV009□**	−1 to −100 kPa	—	0.2% F.S. or less
	ITV209□ Series 	**ITV209□**	−1.3 to −80 kPa	—	

Controller for Electro-Pneumatic Regulator
IC Series

- Converts digital signals into analog signals
- The controller can be installed separately.

- Can be used in combination with ITV series electro-pneumatic regulators



Made to Order

Regulator Valve
VEX-X115-Q

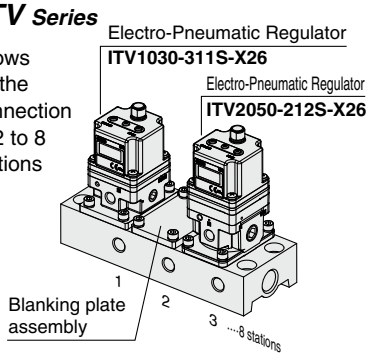
Supports 4 high-flow sizes and port sizes of up to 2"

Electro-Pneumatic Regulator
(Residual pressure relief specification)
ITV103□-□□□□□□□-DIT00243

Exhausts the OUT side residual pressure when the pilot pressure is 0 MPa

Manifold Specifications
(Excludes the ITV3000 series)
IITV Series

Allows for the connection of 2 to 8 stations



- **Reverse type (X102)**
  In accordance with the input signal, the inverse proportional pressure is output. (Excludes the ITV0000 series)
- **High-pressure type (SUP 1.2 MPa, OUT 1.0 MPa) (X224)**
  (Excludes the ITV0000 series)
- **Set pressure range: 1 to 100 kPa (X25)** (Excludes the ITV3000 series)
- **Analog output, current type (Source type) (X256)**
  Monitor output is analog output from 4 to 20 mADC (source type).
- **High-speed response time type (X88)**
  The pressure response with no load is approx. 0.1 s. (Excludes the ITV3000 series)
- **Manifold specifications (X26)**
  A manifold with 2 to 8 stations (Excludes the ITV3000 series)
- **Linearity: ±0.5% F.S. or less (X410)**
  Application examples: Polishing equipment and peripheral equipment for wafers, LCD glass, color filters, etc. (Excludes the ITV0000 series)
- **With alarm output (X420)**
  Outputs an alarm if the set pressure is not maintained for 5 s or more.
  Application examples: Pressure management for thrust control, etc. (Excludes the ITV0000 series)

Related Products

Smooth Cylinder
CA2Y-Z Series

Application: Air balancers

Smooth Cylinder
CM2Y-Z Series

Application: Whetstone polishing

Compact Low Friction Cylinder
MQQ Series

Application: Coil winding machines / Wafer polishing / Wavy surface cutting

Low Friction Cylinder
MQM Series

Application: Whetstone polishing

Direct Operated 3-Port Solenoid Valve
V100 Series

Application: Opening/closing of butterfly valves

Air Filter
AF Series

Application: Press fitting / Whetstone polishing

Precision Regulator
IR□000-A Series

Application: Press fitting / Whetstone polishing / Wafer polishing / Wavy surface cutting

Clean Regulator
SRF Series

Application: Flow rate control

6.0 MPa Pilot Operated Regulator (Air operated type)
VCHRA Series

Application: Blow molding

5.0 MPa Check Valve
VCHC Series

Application: Leak tester

5.0 MPa Pilot Operated 2-Port Solenoid Valve
VCH40 Series

Application: Proof pressure testing

High-Precision Digital Pressure Switch
ISE7□ Series

Application: Proof pressure testing / Leak tester

Process Pump
PAF Series

Application: Liquid transferring

Electro-Pneumatic Regulators *ITV Series*

⚠ **Safety Instructions**	Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

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