



Expertise – Passion – Automation

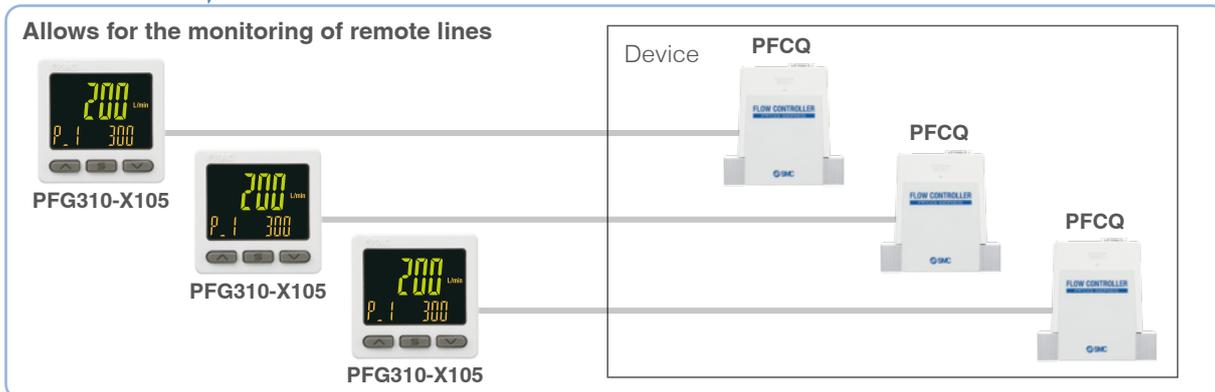


**Reliable flow setting,
versatile control**
SMC's air flow controllers

Quick overview

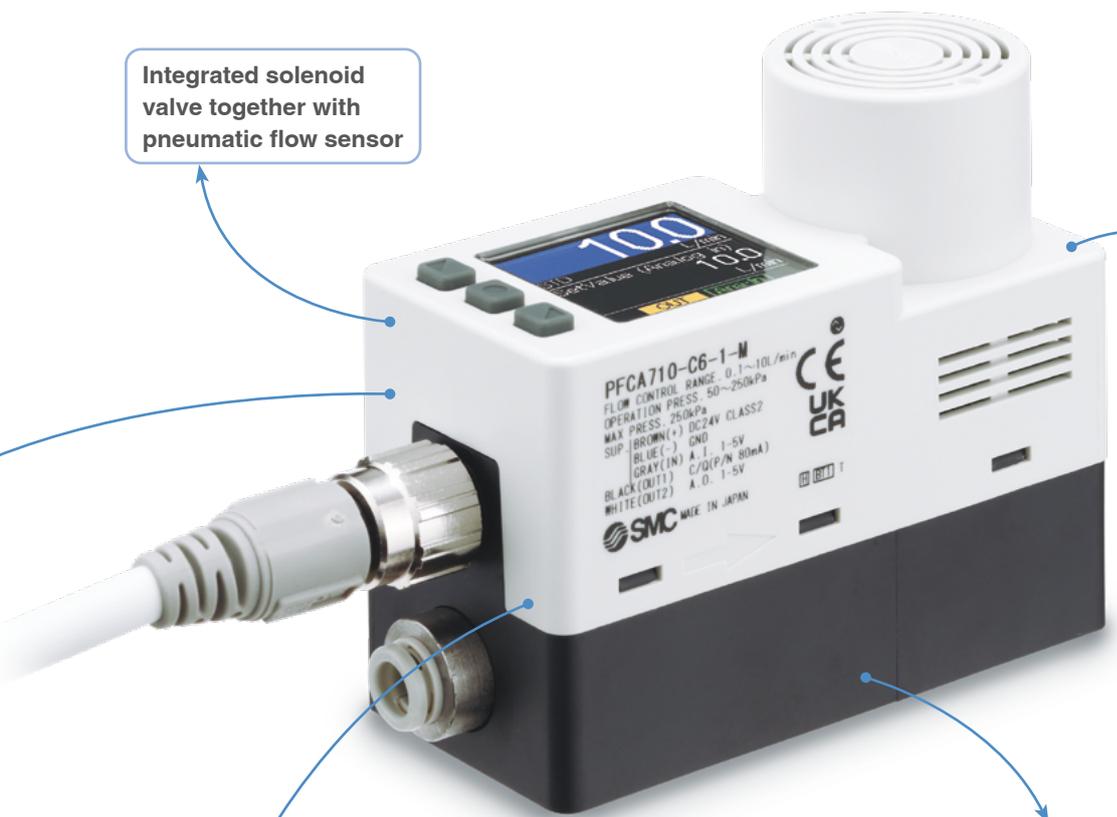
General specifications

Main features



Integrated solenoid valve together with pneumatic flow sensor

Maximum control flow rate of 100 l/min



IO-Link

	Instantaneous flow value				
	Blue background with white characters	Red background with white characters	Black background with green character	Black background with red character	Black background with white characters
Main screen Instantaneous flow value					
Sub screen Commanded flow rate IO-Link status Accumulated flow rate value Peak/bottom value Line name					
	Commanded flow rate	IO-Link status	Accumulated flow rate value	Peak/bottom value	Line name

3-screen display

Current control flow rate value (Main screen)

FLOW CONTROLLER

Label (Sub screen/Left side) | Value (Sub screen/Right side)

Visualisation of settings

- Flow rate command value: 5.0
- Outlet pressure value: 500 kPa
- Flow rate bottom value: H.Lo
- Flow rate peak value: H.Hi 500
- Mode display: Mode 5.0

Maximum control flow rate of 2000 l/min

Combination of an air supply solenoid valve and an exhaust solenoid valve, together with an integrated flow sensor



Product overview

Variations

Series	Variation	Rated flow range [l/min]	Flow control accuracy	Repeatability	Applicable fluid
PFCA7 Series 	PFCA710	0.1 to 10	±3 % F.S. (For dry air)	±1 % F.S.	Dry air N ₂ Ar CO ₂
	PFCA725	0.2 to 25			
	PFCA750	0.5 to 50			
	PFCA711	1 to 100			
PFCQ Series 	PFCQ531	9 to 300	±3 % F.S. ¹⁾		Dry air N ₂
IN502-44/45/46 	IN502-44	50 to 500	±5 % F.S.	±2 % F.S. * Includes a control dead band (±1 %F.S.)	
	IN502-45	100 to 1000			
	IN502-46	200 to 2000			

1) Operating differential pressure: 0.3 MPa, temperature: 25 °C.

Input specifications	Output specifications	Grease	Display	Port size	Enclosure
Analogue (1 to 5 V) Analogue (0 to 10 V) Analogue (4 to 20 mA)	IO-Link/NPN/PNP + Analogue (1 to 5 V ↔ 0 to 10 V) IO-Link/NPN/PNP + Analogue (4 to 20 mA)	Grease-free	Dot-matrix LCD colour 2-screen display (Can be rotated 90, 180, and 270 degrees)	Rc1/8, NPT1/8, G1/8, Ø 4, Ø 6	IP40
				Rc1/8, NPT1/8, G1/8, Ø 6, Ø 6, Ø 1/4"	
				Rc1/8, NPT1/8, G1/8, Ø 6, Ø 6, Ø 1/4"	
				Rc1/4, NPT1/4, G1/4, Ø 6, Ø 6, Ø 1/4"	
NPN/PNP + Analogue (1 to 5 V) NPN/PNP + Analogue (4 to 20 mA)	NPN + Analogue (1 to 5 V) NPN + Analogue (4 to 20 mA) PNP + Analogue (1 to 5 V) PNP + Analogue (4 to 20 mA)	Grease-free	Remote digital flow monitor available	Rc1/2	IP40
Analogue (0 to 5 V) Analogue (0 to 10 V) Analogue (4 to 20 mA) IO-Link	Analogue (1 to 5 V) Analogue (0 to 10 V) Analogue (4 to 20 mA) NPN/PNP IO-Link	<ul style="list-style-type: none"> - Grease compatible with low dew points - White vaseline (compatible with paint and other coatings) - Grease for food (compatible with NSF H1 grade food grade greases). 	LCD 3-screen 3-colour display	Rc1/2	IP65

Air flow controller PFC A7 Series



- Integration of a flow sensor, a control valve and a control mechanism in the one unit
- Rated flow range: up to 100 l/min
- Dot-matrix LCD colour display with 128x128 pixel and that can be rotated by 90°
- Applicable fluids: dry air, nitrogen, carbon dioxide, argon
- IO-Link compatible
- IP40 enclosure.

Part number	Rated flow range [l/min]	Input specification	Output specification	Port size	Lead wire	Other specifications				
PFCA710-C6-1N	0.1 to 10	Analogue (1 to 5 V)	IO-Link/NPN/ PNP + Analogue (1 to 5 V) or (0 to 10 V)	Ø 6	Without lead wire with function	Without bracket With operation manual Without calibration certificate				
PFCA710-F1-1N				G1/8						
PFCA725-C6-1N	0.2 to 25			Ø 6						
PFCA725-F1-1N				G1/8						
PFCA750-C6-1N	0.5 to 50			Ø 6						
PFCA750-F1-1N				G1/8						
PFCA711-C6-1N	1 to 100			Ø 6						
PFCA711-F2-1N				G1/4						
PFCA710-C6-2N	0.1 to 10			Analogue (4 to 20 mA)			IO-Link/NPN/ PNP + Analogue (4 to 20 mA)	Ø 6	Without lead wire with function	Without bracket With operation manual Without calibration certificate
PFCA710-F1-2N								G1/4		
PFCA725-C6-2N	0.2 to 25	Ø 6								
PFCA725-F1-2N		G1/4								
PFCA750-C6-2N	0.5 to 50	Ø 6								
PFCA750-F1-2N		G1/4								
PFCA711-C6-2N	1 to 100	Ø 6								
PFCA711-F2-2N		G1/4								

Air flow controller PFC Q Series



- Integration of a flow sensor, a built-in linear motor and a control mechanism into one unit, thus giving a direct flow rate command using a control signal
- Rated flow range: up to 300 l/min
- Remote display available
- Applicable fluids: dry air, nitrogen
- IP40 enclosure.

Part number	Rated flow range [l/min]	Input specification	Output specification	Port size	Lead wire	Other specifications
PFCQ531-04-A3C	9 to 300	NPN/PNP + Analogue (1 to 5 V)	PNP + Analogue (1 to 5 V)	Rc1/2	With power supply cable (3 m)	—
PFCQ531-04-A4C		NPN/PNP + Analogue (4 to 20 mA)	PNP + Analogue (4 to 20 mA)			
PFCQ531-04-A3C-M		NPN/PNP + Analogue (1 to 5 V)	PNP + Analogue (1 to 5 V)			With remote display
PFCQ531-04-A4C-M		NPN/PNP + Analogue (4 to 20 mA)	PNP + Analogue (4 to 20 mA)			

Air flow controller IN502-44/45/46 Series



- Solution similar to the combination of flow sensor, electro-pneumatic regulator and feedback controller
- Rated flow range: up to 2000 l/min
- LCD 3-screen 3-colour display
- Applicable fluids: dry air, nitrogen
- IP65 enclosure
- Applicable grease: grease compatible with low dew points, white Vaseline (compatible with paint and other coatings), grease for food (compatible with NSF H1 food grade greases).

Part number	Rated flow range [l/min]	Input/Output specification	Port size	Grease	Unit specification	Operation at power-off ¹⁾			
IN502-44-2	50 to 500	Analogue voltage input/output + Switch output	Rc1/2	Grease compatible with low dew points	With unit selection function	Flow rate zero			
IN502-44-4		Analogue current input/output + Switch output							
IN502-44-6		Analogue voltage input/output + IO-Link/Switch output							
IN502-44-8		Analogue current input/output + IO-Link/Switch output							
IN502-44-6B		Analogue voltage input/output + IO-Link/Switch output							
IN502-44-8B		Analogue current input/output + IO-Link/Switch output							
IN502-45-2	100 to 1000	Analogue voltage input/output + Switch output		Rc1/2			Grease compatible with low dew points	With unit selection function	Flow rate zero
IN502-45-4		Analogue current input/output + Switch output							
IN502-45-6		Analogue voltage input/output + IO-Link/Switch output							
IN502-45-8		Analogue current input/output + IO-Link/Switch output							
IN502-45-6B		Analogue voltage input/output + IO-Link/Switch output							
IN502-45-8B		Analogue current input/output + IO-Link/Switch output							
IN502-46-2	200 to 2000	Analogue voltage input/output + Switch output	Rc1/2		Grease compatible with low dew points	With unit selection function	Flow rate zero		
IN502-46-4		Analogue current input/output + Switch output							
IN502-46-6		Analogue voltage input/output + IO-Link/Switch output							
IN502-46-8		Analogue current input/output + IO-Link/Switch output							
IN502-46-6B		Analogue voltage input/output + IO-Link/Switch output							
IN502-46-8B		Analogue current input/output + IO-Link/Switch output							

1) The operation at power-off, or the operation that is activated when the power supply turns OFF during flow rate control, can be selected via the part number.
Note that when flow rate zero is selected, it is not guaranteed to function as a shut valve. When flow rate retention is selected, it does not guarantee flow rate retention.

Related products



Air filter
AF-D Series



Micro mist separator
AFD-D Series



Large flow micro mist separator
AMD Series



Inline clean Air filter
SFD Series



Inline bacteria removal
HF2-SFDA Series



Precision regulator
IR□200-A Series



2-port solenoid valve
JSXZ Series



IO-Link compact wireless remote
EXW1-R Series



Proportional control valve, body ported
JSP Series



Mist separator
AFM-D Series



Large flow mist separator
AM Series



Membrane air dryer
IDG-D Series



**Antibacterial/Odour Removal/
Bacteria Removal**
HF2-BF Series



Proportional regulator
ITV Series



Blow nozzles
KN Series



Finger valve
VHK2A Series

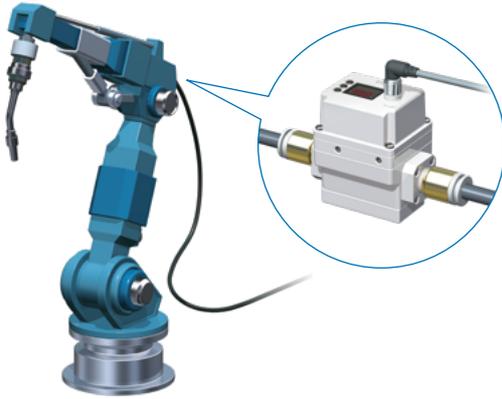


High-precision digital pressure switch
ISE20 Series

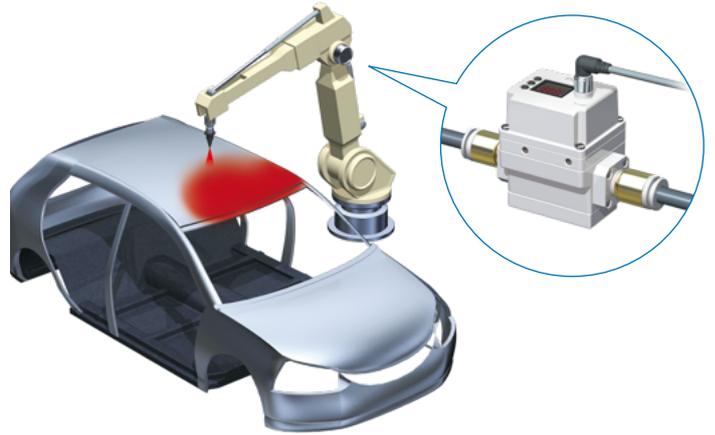
Applications

IN502-44/45/46 Series

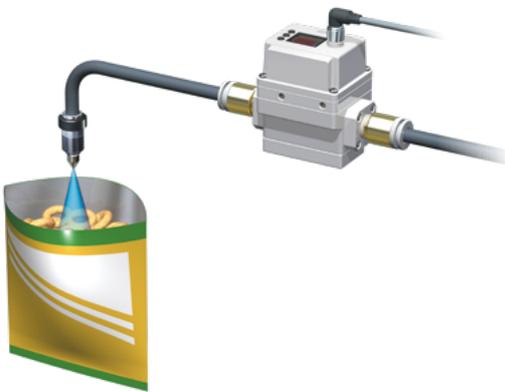
Arc welding (control of purge air)



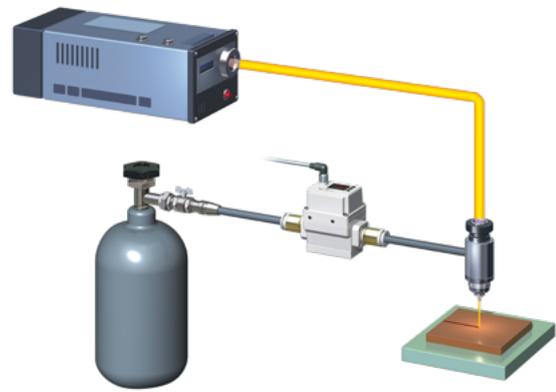
Painting (control of shaping air/bell rotation control air)



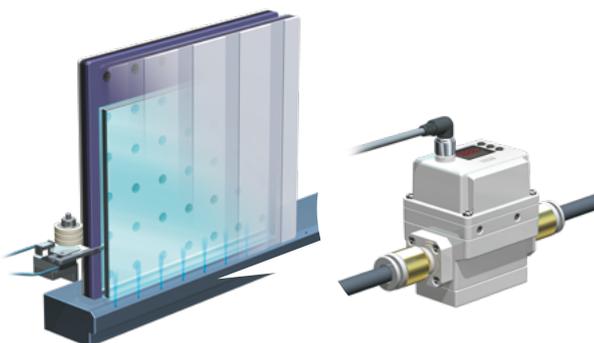
Food packaging (control of charge gases)



Laser welding (control of assist gases)



Laminated glass gas filling control

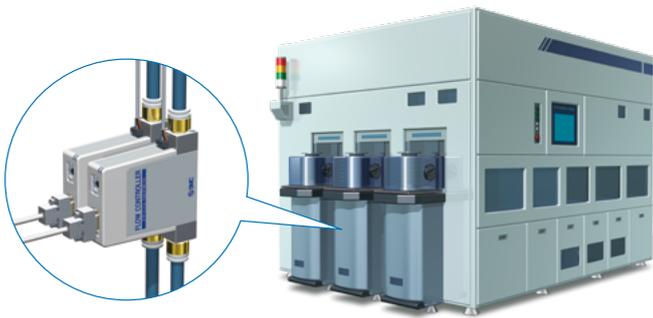


Laminated metal machining unit shielding gas control

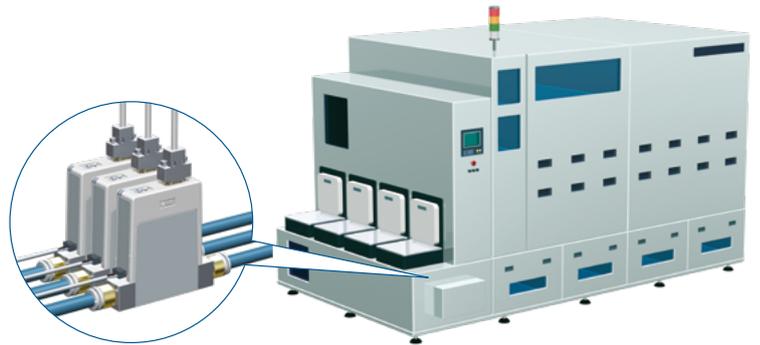


PFCQ Series

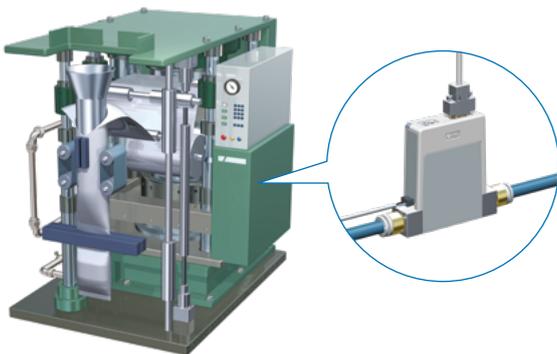
Load port FOUP (Front Opening Unified Pod)



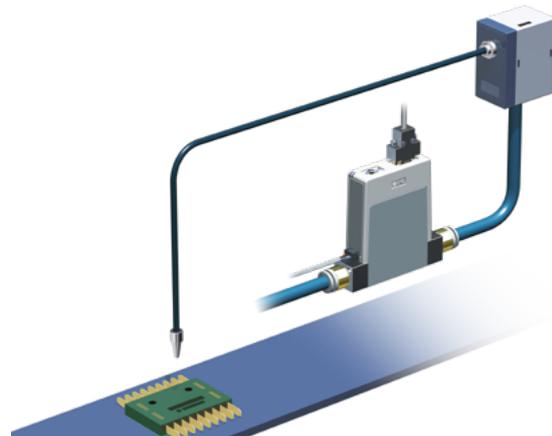
EFEM (Equipment Front End Module)



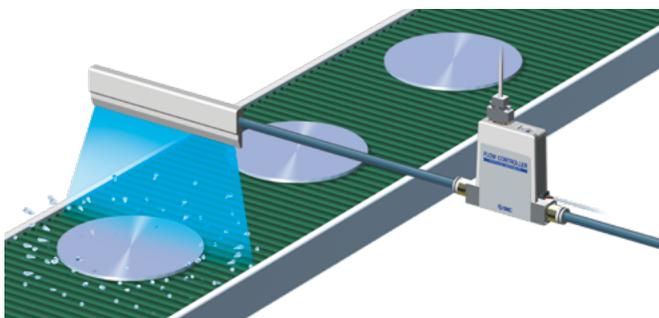
N2 filling to prevent oxidation of food



Wire tension control



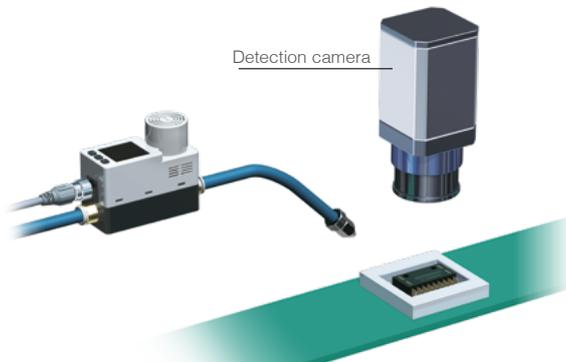
N2 purge of silicon wafers



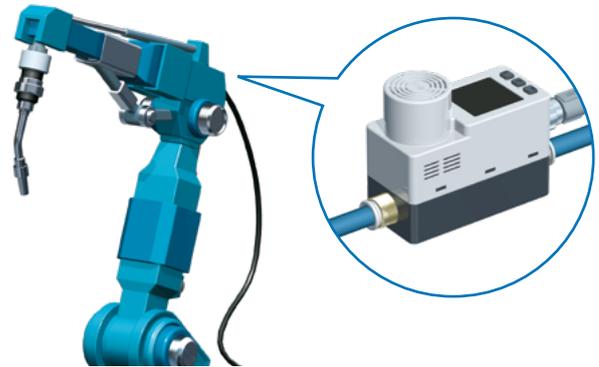
N2 blow

PFCA7 Series

Air blow



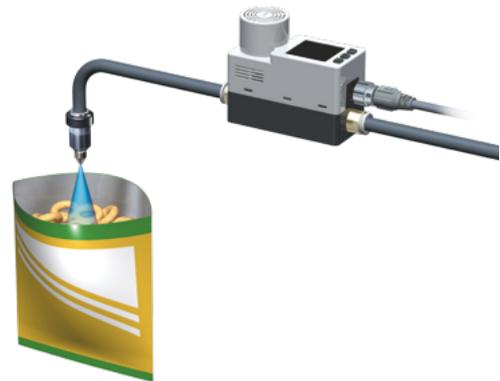
Welding machines



N2 gas cylinder peripheral equipment



Nitrogen replenishment

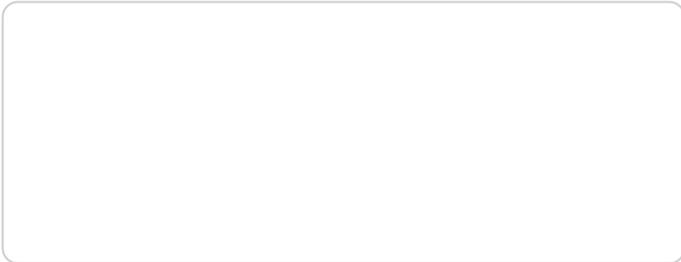




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