

Compact flow rate controller
RAPIFLOW

FCM Series

- For air, nitrogen, argon, oxygen, city gas, methane, propane (flow rate range: 0.5 to 100 L/min)
- Hydrogen, helium (flow rate range: 0 to 20 L/min)



FCM Series for air, nitrogen, argon, oxygen, city gas, methane, propane

Specifications

1 MPa = 10 bar

Item		FCM-[*1] [*2]-[*3] [*4] [*5]								
Valve drive method		Proportional solenoid valve When not energized: Closed								
		Full scale flow rate	Al (Air, nitrogen)	AR (Argon)	O2 (Oxygen)	LN (City gas)	C1 (Methane)	C3 (Propane)		
Flow rate range	*1	Standard model	9500	500 mL/min	●	●	●	●	●	
			0001	1 L/min	●	●	●	●	●	
			0002	2 L/min	●	●	●	●	●	
			0005	5 L/min	●	●	●	●	●	
			0010	10 L/min	●	●	●	●	●	
			0020	20 L/min	●	●				
			0050	50 L/min	●	●				
			0100	100 L/min (resin)	●					
			Low diff press model (SS)	L9500	500 mL/min	●		●	●	●
				L0001	1 L/min	●		●	●	●
L0002	2 L/min	●			●	●	●			
L0005	5 L/min	●			●	●	●			
L0010	10 L/min	●			●	●	●			
Applicable fluids	*2	Al	Compressed air, nitrogen	●						
		AR	Argon		●					
		O2	Oxygen (oil-prohibited specifications)			●				
		LN	City gas (13A) Note 3				●			
		C1	Methane (CH4 100%)					●		
		C3	Propane (C3H8 100%)						●	
Port size, Body material	*3	H6	ø6 push-in, resin (excluding 50, 100 L/min)	●						
		H8	ø8 push-in, resin	●						
		8A	Rc 1/4, stainless steel	●	●	●	●	●		
		UF	9/16-18UNF, stainless steel	●	●	●	●	●		
Control	Guaranteed accuracy range		3 to 100% F.S.							
	Response time	*1	9500 to 0020, L9500 to L0010	Within 0.5 sec. to setting ±5% F.S. (TYP.)						
			0050 to 0100	Within 1 sec. to setting ±5% F.S. (TYP.)						
	Accuracy		Within ±3% F.S.							
	Repeatability		Within ±1% F.S.							
	Temperature characteristics		Within ±0.2% F.S./°C (25°C (77°F) reference)							
Pressure characteristics		Within ±1% F.S. per 98 kPa (≈14 psi) (standard differential pressure reference)								
Pressure	Standard differential pressure		Note 4 Refer to the separate table							
	Operating differential pressure range		Note 5 Refer to the separate table							
	Max. working pressure		Note 5 Refer to the separate table							
	Proof pressure	*3	H6/H8 (Resin body)	490 kPa (≈71 psi, 4.9 bar)						
		8A/UF (SUS body)	980 kPa (≈140 psi, 9.8 bar)							
Operating ambient temperature, humidity		0 (32°F) to 50°C (122°F), 90% RH or less (no condensation)								
I/O	Input signal/ Preset input	*4	0	0 to 10 VDC (6.7 kΩ) / 4 points (2 bit)						
			1	0 to 5 VDC (10 kΩ) / 4 points (2 bit)						
			2	4 to 20 mA DC (250 Ω) / 4 points (2 bit)						
			P	Parallel 10 bit/none						
	Output signal	*5	AN	Analog output: 1 to 5 V (connecting load impedance 500 kΩ and over) Error output: NPN open collector output, 50 mA or less, voltage drop 2.4 V or less						
			AP	Analog output: 1 to 5 V (connecting load impedance 500 kΩ and over) Error output: PNP open collector output, 50 mA or less, voltage drop 2.4 V or less						
			SN	Switch output: NPN open collector output, 50 mA or less, voltage drop 2.4 V or less Error output: NPN open collector output, 50 mA or less, voltage drop 2.4 V or less						
			SP	Switch output: PNP open collector output, 50 mA or less, voltage drop 2.4 V or less Error output: PNP open collector output, 50 mA or less, voltage drop 2.4 V or less						
	Flow rate display	Display method		7-segment LED 3-digit, indicator accuracy: control accuracy ±1 digit						
		Display range, display resolution		Refer to the separate table						
Integrating functions		Refer to the separate table								
Power supply	Power supply voltage		24 VDC ± 10% (stabilized power supply with ripple rate 2% or less)							
	Current consumption		Note 11 250mA or less							
Mounting orientation		Unrestricted in vertical/horizontal direction								
Wetted section materials	*3	H6/H8 (Resin body)	Polyamide resin, fluoro rubber, stainless steel, alumina, semiconductor silicon, soldering							
		8A/UF (SUS body)	Stainless steel, fluoro rubber, alumina, semiconductor silicon, soldering							
Weight	*3	H6/H8 (Resin body)	Approx. 200g							
		8A/UF (SUS body)	Approx. 480g							
Degree of protection		IEC standards IP40 or equivalent								
Protection circuit		Note 6 Power reverse connection protection, switch output reverse connection protection, switch output load short-circuit protection								
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8								

Pressure

Standard differential pressure, operating differential pressure Note 4, Note 5

(Standard model)

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

		Flow rate range *1								
		9500	0001	0002	0005	0010	0020	0050	0100	
Applicable fluids *2	AI	Std diff press (kPa)	50	100	100	100	100	150	200	300
		Operating diff press (kPa)	20 to 150	50 to 200	50 to 250	50 to 250	50 to 250	100 to 300	150 to 300	250 to 350
		Max. working pressure (kPa)	150	200	250	250	250	300	300	350
	AR	Std diff press (kPa)	50	100	100	100	100	150	200	
		Operating diff press (kPa)	20 to 150	50 to 200	50 to 250	50 to 250	50 to 250	100 to 300	150 to 300	
		Max. working pressure (kPa)	150	200	250	250	250	300	300	
	O2	Std diff press (kPa)	50	100	100	100	100			
		Operating diff press (kPa)	20 to 150	50 to 200	50 to 250	50 to 250	50 to 250			
		Max. working pressure (kPa)	150	200	250	250	250			
	LN/C1	Std diff press (kPa)	50	50	50	50	50			
		Operating diff press (kPa)	20 to 150	20 to 150	20 to 150	20 to 150	30 to 150			
		Max. working pressure (kPa)	150	150	150	150	150			
C3	Std diff press (kPa)	50	50	50	50	50				
	Operating diff press (kPa)	20 to 150	20 to 150	20 to 150	20 to 150	30 to 150				
	Max. working pressure (kPa)	150	150	150	150	150				

(Low differential pressure model)

1 MPa = 10 bar

		Flow rate range *1					
		L9500	L0001	L0002	L0005	L0010	
Applicable fluids *2	AI/O2	Std diff press (kPa)	20 (≈2.9 psi)	20 (≈2.9 psi)	20 (≈2.9 psi)	20 (≈2.9 psi)	20 (≈2.9 psi)
	LN/C1	Operating diff press (kPa)	5 (≈0.8 psi) to 50 (≈7.2 psi)	5 (≈0.8 psi) to 50 (≈7.2 psi)	5 (≈0.8 psi) to 50 (≈7.2 psi)	5 (≈0.8 psi) to 50 (≈7.2 psi)	10 (≈1.5 psi) to 50 (≈7.2 psi)
	C3 Note 7	Max. working pressure (kPa)	50 (≈7.2 psi)	50 (≈7.2 psi)	50 (≈7.2 psi)	50 (≈7.2 psi)	50 (≈7.2 psi)

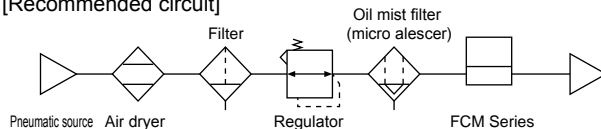
Display, integrating functions

		Flow rate range *1							
		9500 L9500	0001 L0001	0002 L0002	0005 L0005	0010 L0010	0020	0050	0100
Flow rate	Display range	0 to 500 mL/min	0.00 to 1.00 L/min	0.00 to 2.00 L/min	0.00 to 5.00 L/min	0.0 to 10.0 L/min	0.0 to 20.0 L/min	0.0 to 50.0 L/min	0 to 100 L/min
display Note 12	Display resolution	1 mL/min	0.01 L/min	0.01 L/min	0.01 L/min	0.1 L/min	0.1 L/min	0.1 L/min	1 L/min
Integrating functions	Display range	999999 mL	9999.99 L	9999.99 L	9999.99 L	99999.9 L	99999.9 L	99999.9 L	999999 L
	Display resolution	1 mL	0.01 L	0.01 L	0.01 L	0.1 L	0.1 L	0.1 L	1 L
	Note 10	Pulse output rate	5 mL	0.01 L	0.02 L	0.05 L	0.1 L	0.2 L	0.5 L

Note 1: The value converted to volumetric flow rate at standard condition (20°C 1 barometric pressure (101 kPa) relative humidity 65%). Full scale stands for max. scale flow rate in the flow rate range.

Note 2: Use dry gas which does not contain corrosive elements such as chlorine, sulfur or acids, and which is clean and does not contain dust or oil mist. When using compressed air, use clean air compliant with JIS B8392-1: 2012 (ISO 8573-1: 2010) [1: 1: 1 to 1: 6: 2]. Compressed air from the compressor contains drainage-water, oil oxide, foreign substances, etc. To maintain the function of this product, install a filter, air dryer (min. pressure dew point 10°C or less), and oil mist filter (max. oil content 0.1 mg/m³) on the primary side (upstream side) of this product.

[Recommended circuit]



[Recommended device]

Air filter: F series
Oil mist filter: M series

Note 3: The value for city gas 13A is a value for methane (CH₄) 88% gas generated from LNG.

Note 4: Standard differential pressure is the differential pressure when this product is calibrated. (Secondary side released to atmosphere)

Note 5: Operating differential pressure is the differential pressure required for normal operation of this product. Note that the values depend on the flow rate range and applicable fluids.

The min. value of operating differential pressure is the differential pressure required for the full scale flow rate to flow when secondary side is released to atmosphere. The max. working pressure (max. value of operating differential pressure) is the max. value of primary side pressure. If more pressure is applied, control may become unstable, or the max. flow rate may not be controllable.

Note 6: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.

Note 7: When using a low pressure city gas line (1 to 2.5 kPa), the operating differential pressure range is exceeded.

Note 8: The valve inside this product cannot be used as a stop valve requiring zero leakage. Slight leakage is allowed for in the specifications.

Note 9: The output impedance of the analog output voltage section is approx. 1 kΩ. If the impedance of the connecting load is small, output and error increase. Check error with the impedance of the connecting load before using.

Note 10: The integrating flow is a reference value. It is reset when the power is turned OFF.

Note 11: Current for when 24 VDC is connected, no load is applied, and flow rate is full scale. The current consumption will vary depending on the load.

Note 12: The flow rate display is rounded off at approx. 1% F.S. or less (forced zero).

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

FCM Series for hydrogen, helium Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		FCM-[*1] [*2]-[*3] [*4] [*5]				
Valve drive method		Proportional solenoid valve When not energized: Closed				
		Full scale flow rate	H2 (Hydrogen)		HE (Helium)	
Flow rate range Note 1	*1	0002	2 L/min	●	●	
		0005	5 L/min	●	●	
		0010	10 L/min	●	●	
		0020	20 L/min	●	●	
Applicable fluids Note 2	*2	H2	Hydrogen	●		
		HE	Helium		●	
Port size	*3	8A	Rc1/4	●	●	
		UF	9/16-18UNF	●	●	
		4S	1/4" double barbed fitting	●	●	
		4RM	1/4" JXR male fitting	●	●	
Control	Guaranteed accuracy range		3 to 100% F.S.			
	Response time		*1 Within 0.5 sec. to setting ±5% F.S. (TYP.)			
	Accuracy		Within ±3% F.S.			
	Repeatability		Within ±1% F.S.			
	Temperature characteristics		Within ±0.2% F.S./°C (25°C (77°F) reference)			
	Pressure characteristics		Within ±1% F.S. per 98 kPa (≈14 psi) (standard differential pressure reference)			
Pressure	Standard differential pressure		Note 3	Refer to the separate table		
	Operating differential pressure range		Note 4	Refer to the separate table		
	Max. working pressure		Note 4	Refer to the separate table		
	Proof pressure			980 kPa (≈140 psi, 9.8 bar)		
Operating ambient temperature, humidity		0 (32°F) to 50°C (122°F), 90% RH or less (no condensation)				
External leakage		1 x 10 ⁻⁶ Pa·m ³ /s or less (helium leakage rate)				
I/O	Input signal/ Preset input	*4	0	0 to 10 VDC (6.7kΩ) / 4 points (2 bit)		
			1	0 to 5 VDC (10kΩ) / 4 points (2 bit)		
			2	4 to 20 mADC (250 Ω) / 4 points (2 bit)		
			P	Parallel 10 bit/none		
	Output signal	*5	AN	Analog output: 1 to 5 V (connecting load impedance 500 kΩ and over) Error output: NPN open collector output, 50 mA or less, voltage drop 2.4 V or less		
			AP	Analog output: 1 to 5 V (connecting load impedance 500 kΩ and over) Error output: PNP open collector output, 50 mA or less, voltage drop 2.4 V or less		
			SN	Switch output: NPN open collector output, 50 mA or less, voltage drop 2.4 V or less Error output: NPN open collector output, 50 mA or less, voltage drop 2.4 V or less		
			SP	Switch output: PNP open collector output, 50 mA or less, voltage drop 2.4 V or less Error output: PNP open collector output, 50 mA or less, voltage drop 2.4 V or less		
Flow rate display	Display method		7-segment LED 3-digit, indicator accuracy: control accuracy ±1 digit			
	Display range, display resolution		Refer to the separate table			
Integrating functions		Refer to the separate table				
Power supply	Power supply voltage		24 VDC ± 10% (stabilized power supply with ripple rate 1% or less)			
	Current consumption		Note 9	270 mA or less		
Mounting orientation		Unrestricted in vertical/horizontal direction				
Wetted section materials		Stainless steel, fluoro rubber, alumina, semiconductor silicon, soldering				
Weight	*3	8A/UF	Approx. 480 g			
		4S/4RM	Approx. 560 g			
Degree of protection		IEC standards IP40 or equivalent				
Protection circuit		Note 5	Power reverse connection, switch output reverse connection, switch output load short-circuit			
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8				

Pressure

Standard differential pressure, operating differential pressure

1 MPa = 10 bar

		Flow rate range *1				
		0002	0005	0010	0020	
Applicable fluids *2	H2	Std diff press (kPa)	20 (≈2.9 psi, 0.2 bar)	50 (≈7.3 psi, 0.5 bar)	50 (≈7.3 psi, 0.5 bar)	50 (≈7.3 psi, 0.5 bar)
		Operating diff press (kPa)	10 (≈1.5 psi) to 50 (≈7.2 psi)	30 (≈4.4 psi) to 80 (≈12 psi)	30 (≈4.4 psi) to 80 (≈12 psi)	30 (≈4.4 psi) to 80 (≈12 psi)
		Max. working pressure (kPa)	50 (≈7.2 psi, 0.5 bar)	80 (≈12 psi, 0.8 bar)	80 (≈12 psi, 0.8 bar)	80 (≈12 psi, 0.8 bar)
	HE	Std diff press (kPa)	50 (≈7.3 psi, 0.5 bar)	100 (≈15 psi, 1 bar)	100 (≈15 psi, 1 bar)	100 (≈15 psi, 1 bar)
		Operating diff press (kPa)	20 (≈3 psi) to 100 (≈15 psi)	50 (≈7.3 psi) to 150 (≈22 psi)	50 (≈7.3 psi) to 150 (≈22 psi)	50 (≈7.3 psi) to 150 (≈22 psi)
		Max. working pressure (kPa)	100 (≈15 psi, 1 bar)	150 (≈22 psi, 1.5 bar)	150 (≈22 psi, 1.5 bar)	150 (≈22 psi, 1.5 bar)

Display, integrating functions

		Flow rate range *1			
		0002	0005	0010	0020
Flow rate	Display range	0.00 to 2.00 L/min	0.00 to 5.00 L/min	0.0 to 10.0 L/min	0.0 to 20.0 L/min
display Note 10	Display resolution	0.01 L/min	0.01 L/min	0.1 L/min	0.1 L/min
Integrating functions	Display range	9999.99 L	9999.99 L	99999.9 L	99999.9 L
	Display resolution	0.01 L	0.01 L	0.1 L	0.1 L
	Note 8 Pulse output rate	0.02 L	0.05 L	0.1 L	0.2 L

Note 1: Flow rate converted to volumetric flow rate at 20°C, 1 barometric pressure (101 kPa). Full scale stands for max. scale flow rate in the flow rate range.

Note 2: Use dry gas which does not contain corrosive elements such as chlorine, sulfur or acids, and which is clean and does not contain dust or oil mist.

Note 3: Standard differential pressure is the differential pressure when this product is calibrated. (Secondary side released to atmosphere)

Note 4: Operating differential pressure is the differential pressure required for normal operation of this product. Note that the values depend on the flow rate range and applicable fluids.

The min. value of operating differential pressure is the differential pressure required for the full scale flow rate to flow when secondary side is released to atmosphere. The max. working pressure (max. value of operating differential pressure) is the max. value of primary side pressure. If more pressure is applied, control may become unstable, or the max. flow rate may not be controllable.

Note 5: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.

Note 6: The valve inside this product cannot be used as a stop valve requiring zero leakage. Slight leakage is allowed for in the specifications.

Note 7: The output impedance of the analog output voltage section is approx. 1 kΩ. If the impedance of the connecting load is small, output and error increase. Check error with the impedance of the connecting load before using.

Note 8: The integrating flow is a calculated (reference) value. It is reset when the power is turned OFF.

Note 9: Flow rate for when 24 VDC is connected, no load is applied, and flow rate is full scale. The current consumption will vary depending on the load.

Note 10: The flow rate display is rounded off at approx. 1% F.S. or less (forced zero).

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdris FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRSens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

■ For air, nitrogen, argon, oxygen, city gas, methane, propane

How to order

FCM - 9500 AI - H6 0 AN R 1 B T

Model No.

Traceability

Bracket

A Flow rate range

B Applicable fluid

C Port size, body material

D Input signal

E Output specifications

F Display direction

G Cable

Code	Description								
A Flow rate range									
		Applicable fluid	AI	AR	O2	LN	C1	C3	
9500	Standard model	0 to 0.5 L/min	●	●	●	●	●	●	
0001		0 to 1 L/min	●	●	●	●	●	●	
0002		0 to 2 L/min	●	●	●	●	●	●	
0005		0 to 5 L/min	●	●	●	●	●	●	
0010		0 to 10 L/min	●	●	●	●	●	●	
0020		0 to 20 L/min	●	●					
0050		0 to 50 L/min	●	●					
0100		0 to 100 L/min (resin body only)	●						
L9500		Low differential pressure model (stainless steel only)	0 to 0.5 L/min	●		●	●	●	●
L0001			0 to 1 L/min	●		●	●	●	●
L0002	0 to 2 L/min		●		●	●	●	●	
L0005	0 to 5 L/min		●		●	●	●	●	
L0010	0 to 10 L/min		●		●	●	●	●	

B Applicable fluid	
AI	Compressed air, nitrogen gas
AR	Argon
O2	Oxygen (oil-prohibited specifications)
LN	City gas (13A)
C1	Methane (CH ₄)
C3	Propane (C ₃ H ₈)

C Port size, body material		AI	AR	O2	LN	C1	C3
H6	Push-in (ø6), resin body (Flow rate range: excluding 0050, 0100)	●					
H8	Push-in (ø8), resin body	●					
8A	Rc1/4, stainless steel body	●	●	●	●	●	●
UF *1	9/16-18UNF, stainless steel body	●	●	●	●	●	●

D Input signal	
0	Analog 0 to 10 VDC
1	Analog 0 to 5 VDC
2	Analog 4 to 20 mADC
P	Parallel 10 bit

E Output specifications	
AN	1 to 5 V analog error (NPN)
AP	1 to 5 V analog error (PNP)
SN	Switch (NPN), error (NPN)
SP	Switch (PNP), error (PNP)

F Display direction	
Blank	Forward direction
R	Reverse direction

G Cable	
Blank	None
1	1 m
3	3 m

H Bracket	
Blank	None
B	With bracket

I Traceability	
Blank	None
T	Traceability certification with series variation diagram and company certification
K	With company certification

[Example of model No.]

FCM-0001AI-H81ANR1BK

Model name: Compact flow rate controller RAPIFLOW FCM

- A Flow rate range : 0 to 1 L/min
- B Applicable fluid : Compressed air, nitrogen
- C Port size, body material : Push-in (ø8), resin body
- D Input signal : Analog 0 to 5 VDC
- E Output specifications : 1 to 5 V analog, error (NPN)
- F Display direction : Reverse direction
- G Cable : 1 m
- H Bracket : With bracket
- I Traceability : With company certification

⚠ Precautions for model No. selection

*1: Refer to dimensions on page 1502 for shape of 9/16-18UNF thread.

Discrete option model No.

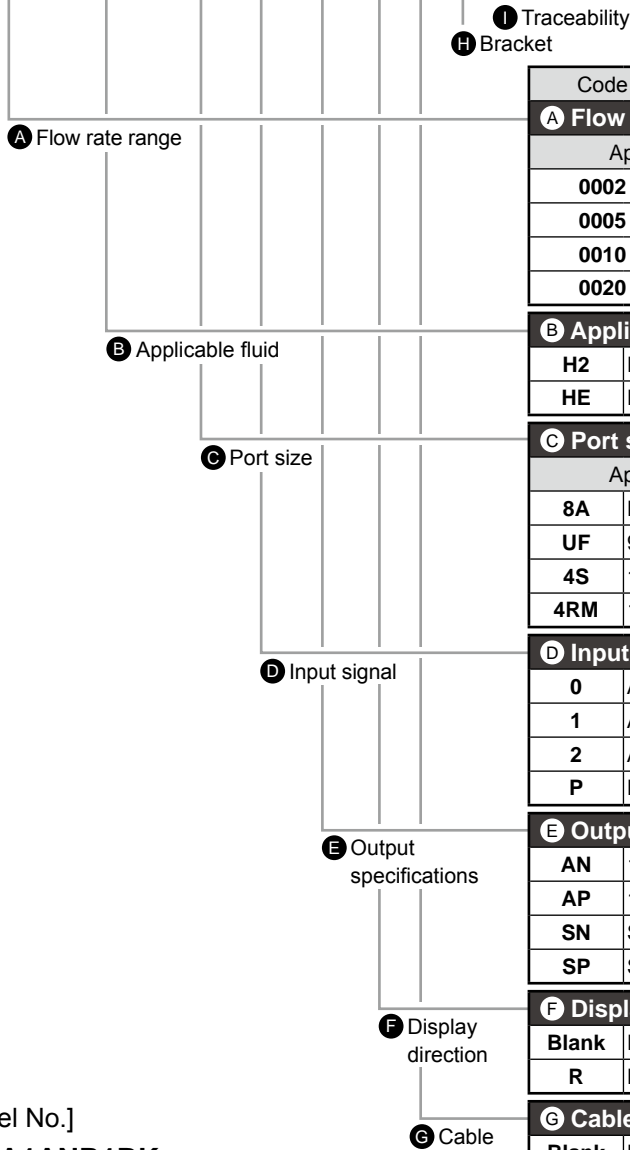
FCM - AC1

Code	Description
AC1	Analog 9-conductor, 1 m cable
AC3	Analog 9-conductor, 3 m cable
PC1	Parallel 15-conductor, 1 m cable
PC3	Parallel 15-conductor, 3 m cable
LB1	Bracket

■ For hydrogen, helium
How to order

FCM - **0002** **H2** - **8A** **0** **AN** **R** **1** **B** **T**

Model No.



[Example of model No.]

FCM-0002H2-8A1ANR1BK

- A** Flow rate range : 0 to 2 L/min
- B** Applicable fluid : Hydrogen
- C** Port size : Rc1/4
- D** Input signal : Analog 0 to 5 VDC
- E** Output specifications : 1 to 5 V analog, error (NPN)
- F** Display direction : Reverse direction
- G** Cable : 1 m
- H** Bracket : With bracket
- I** Traceability : With company certification

Discrete option model No.

FCM - **AC1**

Code	Description
AC1	Analog 9-conductor, 1 m cable
AC3	Analog 9-conductor, 3 m cable
PC1	Parallel 15-conductor, 1 m cable
PC3	Parallel 15-conductor, 3 m cable
LB1	Bracket

Code	Description		
A Flow rate range			
	Applicable fluid	H2	HE
0002	0 to 2 L/min	●	●
0005	0 to 5 L/min	●	●
0010	0 to 10 L/min	●	●
0020	0 to 20 L/min	●	●
B Applicable fluid			
H2	Hydrogen		
HE	Helium		
C Port size			
	Applicable fluid	H2	HE
8A	Rc1/4	●	●
UF	9/16-18UNF	●	●
4S	1/4" double barbed fitting	●	●
4RM	1/4" JXR male fitting	●	●
D Input signal			
0	Analog 0 to 10 VDC		
1	Analog 0 to 5 VDC		
2	Analog 4 to 20 mA DC		
P	Parallel 10 bit		
E Output specifications			
AN	1 to 5 V analog error (NPN)		
AP	1 to 5 V analog error (PNP)		
SN	Switch (NPN), error (NPN)		
SP	Switch (PNP), error (PNP)		
F Display direction			
Blank	Forward direction		
R	Reverse direction		
G Cable			
Blank	None		
1	1 m		
3	3 m		
H Bracket			
Blank	None		
B	With bracket		
I Traceability			
Blank	None		
T	Traceability certification with series variation diagram and company certification		
K	With company certification		

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech
Press SW
Res press
exh valve
SlowStart
Anti-bac/Bac-
remove Filtr
Film
Resist FR
Oil-ProhR
Med
Press FR
No Cu/
PTFE FRL
Outdrs FRL
Adapter
Joiner
Press
Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/
other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro
Press SW
ContactSW
AirSens
PresSW
Cool
Air Flo
Sens/Ctrl
WaterRISens
TotAirSys
(Total Air)
TotAirSys
(Gamma)
Gas
generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg
etc
Ending

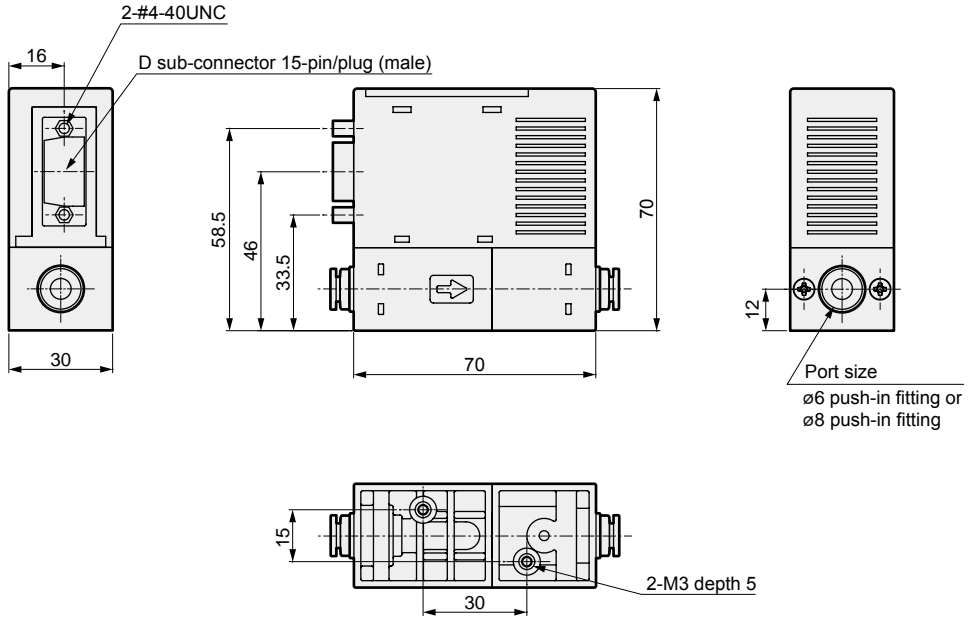
F.R.L. Dimensions

F.R. Body material: Resin, port size: $\varnothing 6, \varnothing 8$

F (Filtr) ● FCM-□-H8/H6□

For FCM-□-□R□, display direction is reversed.

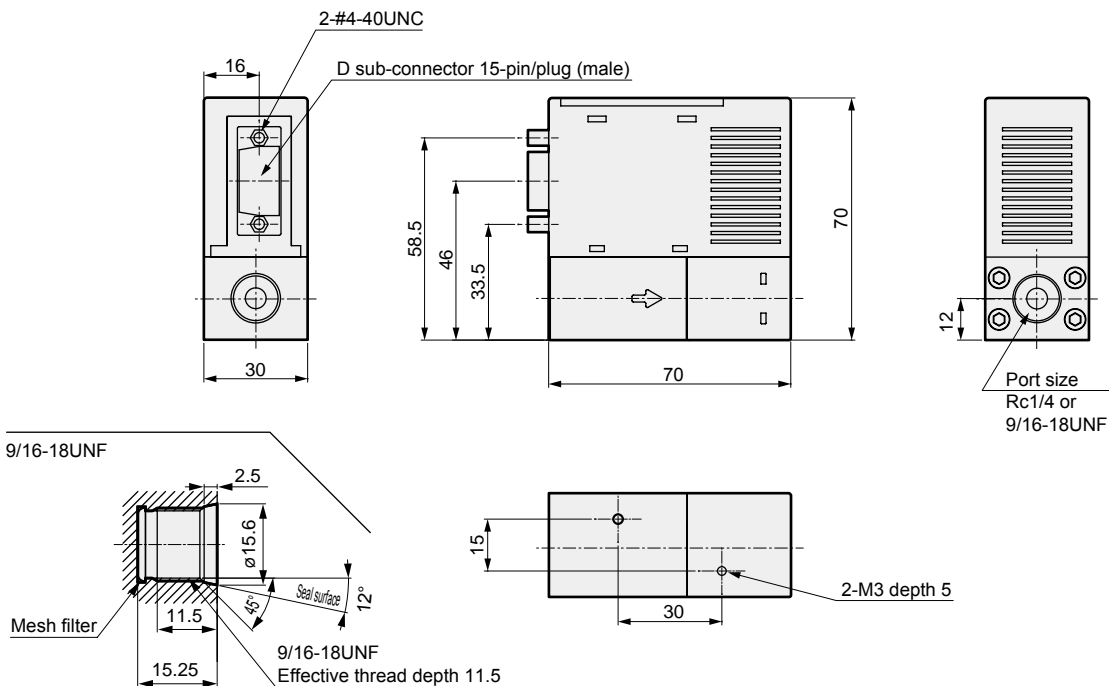
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



Body material: Stainless steel, Port size: Rc1/4, 9/16-18UNF

● FCM-□-8A/UF

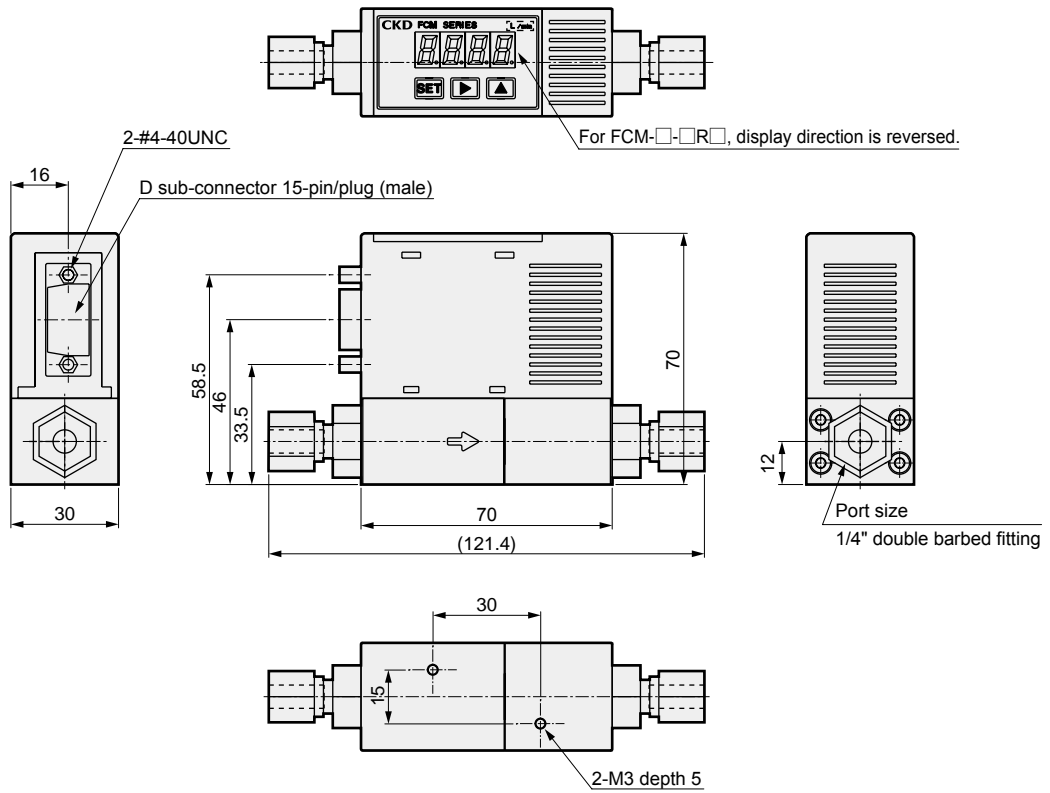
For FCM-□-□R□, display direction is reversed.



Dimensions

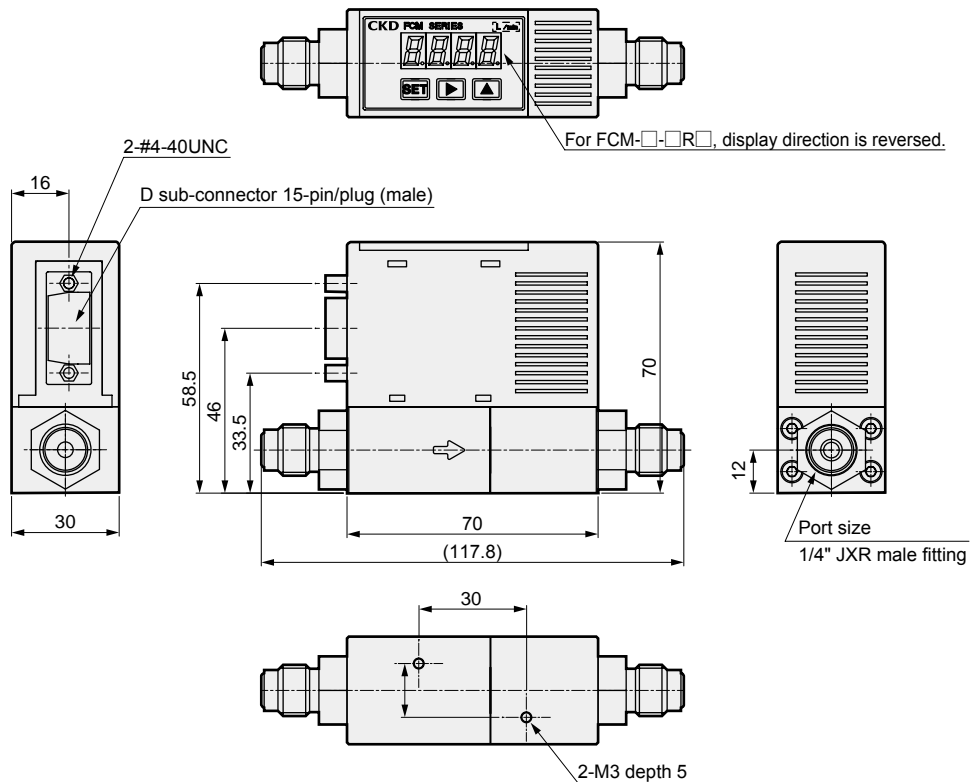
Port size: 1/4" double barbed fitting

● FCM-□-4S



Port size: 1/4" JXR male fitting

● FCM-□-4RM

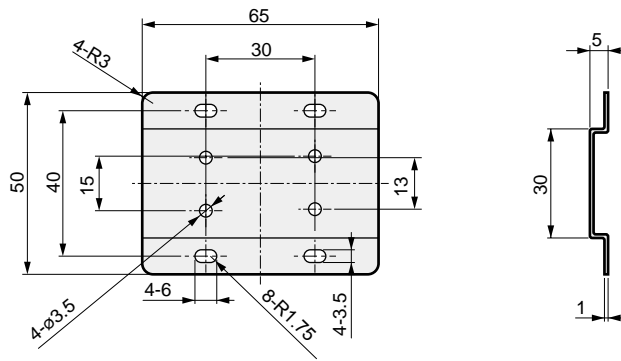


F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

F.R.L. Dedicated bracket (floor mounted)

F.R. Discrete model No.: FCM-LB1

- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhrR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneUR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

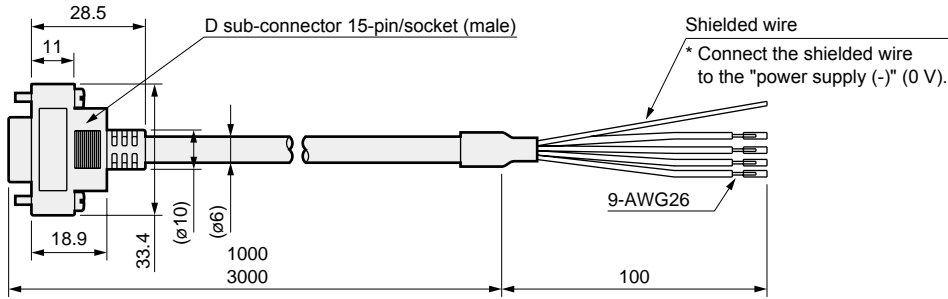


Material: Steel
Weight: 28g

Cable optional dimensions

● 9-conductor cable for analog input

Discrete option model No.: FCM-AC1, AC3



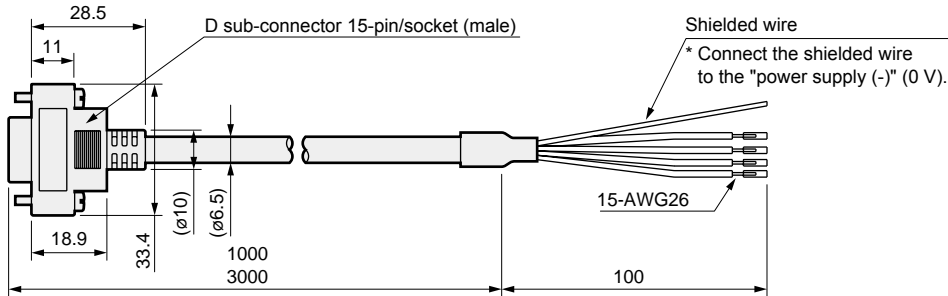
Cable	Weight g
FCM-AC1	68
FCM-AC3	166

D sub-socket pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Insulator color	Brown	Orange	Yellow	-	Red	-	-	-	-	Gray	White	-	Green	Blue	Black		
Name	Preset input signal		Integration reset signal	Vacant	Power supply +	Vacant	Vacant	Vacant	Vacant	Common	Input signal		Vacant	Analog output	Switch output	Error output	Power supply - (0V)
Input	Bit 1	Bit 2			+24 VDC						0 to 10 VDC	0 to 5 VDC	4 to 20 mADC	Vacant	1 to 5 VDC	NPN or PNP output	

Note: The No. 10 pin common is the common for the preset input and integration reset signal (pin No. 1 to 3).

● 15-conductor cable for parallel input

Discrete option model No.: FCM-PC1, PC3



Cable	Weight g
FCM-PC1	82
FCM-PC3	205

D sub-socket pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Insulator color	Brown	Orange	Yellow	Purple	Red	Light blue	Pink	White/black line	Red/black line	Gray	White	Green/black line	Green	Blue	Black	
Name	Parallel input signal				Power supply +	Parallel input signal				Common	Parallel input signal		Analog output	Switch output	Error output	Power supply - (0V)
Input	Bit 1	Bit 2	Bit 3	Bit 4	+24 VDC	Bit 5	Bit 6	Bit 7	Bit 8		Bit 9	Bit 10	1 to 5 VDC	NPN or PNP output	NPN or PNP output	

Note: The No. 10 pin common is the common for the parallel input signal (pin No. 1 to 4, 6 to 9, 11, 12).