



Compact flow rate sensor RAPIFLOW

FSM3 Series

LCD display

● Resin body (flow rate range: 500 mL/min to 1000 L/min)

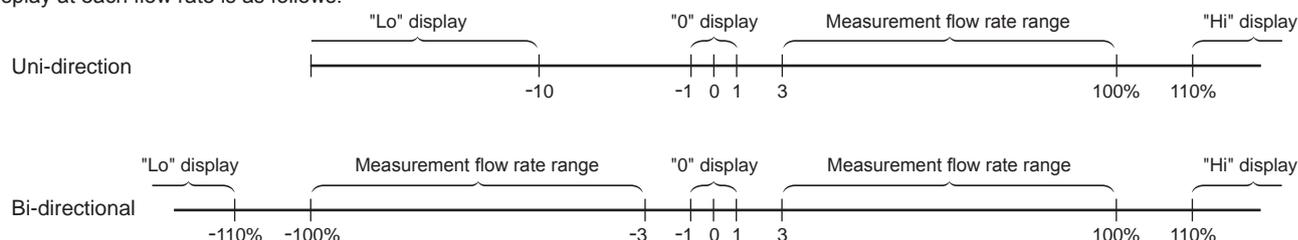


LCD display specifications

Item			FSM3-[A][B][C][D][E][F][G][H][I]-[]											
			[B]											
			005	010	020	050	100	200	500	101	201	501	102	
Flow direction	[C]	U	Uni-direction											
		B	Bi-direction											
Measurement flow rate range (□/min) *1	[B]	U	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.15 to 5.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L	15 to 500 L	30 to 1000 L	
		B	-500 to -15, 15 to 500 mL	-1000 to -30, 30 to 1000 mL	-2.00 to -0.06, 0.06 to 2.00 L	-5.00 to -0.15, 0.15 to 5.00 L	-10.00 to -0.30, 0.30 to 10.00 L	-20.0 to -0.6, 0.6 to 20.0 L	-50.0 to -1.5, 1.5 to 50.0 L	-100.0 to -3.0, 3.0 to 100.0 L	-200 to -6, 6 to 200 L	-500 to -15, 15 to 500 L	-1000 to -30, 30 to 1000 L	
Display			4 digit + 4 digit 2 color LCD											
Flow rate display range (□/min) *2	[B]	U	-49 to 549 mL	-99 to 1099 mL	-0.19 to 2.19 L	-0.49 to 5.49 L	-0.99 to 10.99 L	-1.9 to 21.9 L	-4.9 to 54.9 L	-9.9 to 109.9 L	-19 to 219 L	-49 to 549 L	-99 to 1099 L	
		B	-549 to 549 mL	-1099 to 1099 mL	-2.19 to 2.19 L	-5.49 to 5.49 L	-10.99 to 10.99 L	-21.9 to 21.9 L	-54.9 to 54.9 L	-109.9 to 109.9 L	-219 to 219 L	-549 to 549 L	-1099 to 1099 L	
Integration display *3	Display range		0 to ±9999999 mL			0.00 to ±99999.99 L			0.0 to ±999999.9 L			0 to ±9999999 L		
	Pulse output rate		5 mL	10 mL	0.02 L	0.05 L	0.1 L	0.2 L	0.5 L	1 L	2 L	5 L	10 L	
Working conditions	Applicable fluid *4		Clean air (JIS B 8392-1:2012 1.1.1 to 5.6.2), compressed air (JIS B 8392-1:2012 1.1.1 to 1.6.2) nitrogen, argon, carbon dioxide, gas mixture (argon + carbon dioxide)											
	Temperature range		0 to 50°C (no condensation)											
	Pressure range		-0.09 to 0.75 MPa											
	Proof pressure		1 MPa											
Operating ambient temperature/humidity			0 to 50 °C, 90% RH or less											
Storage temperature			-10 to 60°C											
Accuracy *5 (Fluid: in dry air)	Accuracy *6		Within ±3% F.S. (Secondary side released to atmosphere) (The scope of warranty is in accordance with the "measurement flow rate range.")											
	Repeatability *7		Within ±1% F.S. (Secondary side released to atmosphere)											
	Temperature characteristics		Within ±0.2% F.S./°C (15 to 35°C, base temperature 25°C)											
	Pressure characteristics		Within ±5% F.S. (where secondary side is released to atmosphere)									Within ±5% F.S. (0.35 MPa standard)		
Response time *8			50 msec or less (setting response time OFF)											
Switch output	[G]	A, B, E, F	NPN open collector output (50 mA or less, voltage drop 2.4 V or less)											
		C, D, G, H	PNP open collector output (50 mA or less, voltage drop 2.4 V or less)											
Analog output *9	[G]	A, B, C, D	1 to 5 V voltage output (connecting load impedance 50 kΩ or more)											
		E, F, G, H	4 to 20 mA current output (connecting load impedance 0 to 300 Ω)											
Power supply voltage *10	[G]	A, B, C, D	12 to 24 VDC (10.8 to 26.4 V) ripple rate 1% or less											
		E, F, G, H	24 VDC (21.6 to 26.4 V) ripple rate 1% or less											
Current consumption *11			45 mA or less											
Lead wire			ø3.7, AWG26 or equivalent × 5-conductor (connector), insulator O.D. ø1.0											
Functions *12			① Gas type selection, ② setting copy function, ③ flow rate integration, ④ peak hold, etc.											
Degree of protection			IP40 or equivalent (IEC standard)											
Protection circuit *13			Power reverse connection protection, switch output reverse connection protection, switch output load short-circuit protection											
Vibration resistance			10 to 150 Hz, 100 m/s ² , 2 hours each in X, Y, Z directions											
EMC Directive			EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8											
Mounting	Mounting orientation *14		Unrestricted in vertical/horizontal direction											
	Straight piping section *15		Not required											

*1: The value converted to volumetric flow rate at standard condition (20°C, 1 barometric pressure (101 kPa), 65%RH).
(20°C, 1 atmospheric pressure (101 kPa), 0%RH with a type of gas other than air.)

*2: Display at each flow rate is as follows.



*3: The integrated flow is a calculated (reference) value. When using the integrated save function, take care to prevent the number of saves from exceeding the access count limit of the storage device (1 million times). (Changes to the settings are counted in number of accesses.)

$$\text{Number of saves} = \frac{\text{Usage time}}{5 \text{ mins}} < 1 \text{ million times}$$

When the instantaneous flow rate is 1% or less, the flow rate is counted as integrated flow rate.

*4: 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 that complies with JIS B 8392-1:2012 Class 1.1.1 to 1.6.2. Compressed air from the compressor contains drainage (water, oil oxides, foreign matter, 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. (Refer to page 1119 for details on recommended circuit.)

*5: Compressed air is used for adjusting and inspecting this product. Accuracy for gas types other than air is a guideline.

*6: Accuracy is based on a CKD standard flow rate meter. It does not indicate absolute accuracy.

Repeatability, temperature characteristics, and pressure characteristics are not included for an accuracy of ±3% F.S.

Consider separately according to the working environment and working conditions.

*7: Repeatability calculated during a short time. Change over time is not included. (Refer to the product specifications for details.)

*8: The actual response time changes depending on the piping conditions. As a guideline, the response time setting can be selected within the range 50 msec to 1.5 sec.

*9: The output impedance of the output impedance of the analog output voltage output is approximately 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.

*10: The power supply voltage specifications differ for the voltage output and current output types.

*11: Current for when 24 VDC is connected, and no load is applied. The current consumption will vary depending on how the load is connected.

*12: The gas type switching function enables switching to argon, carbon dioxide and a gas mixture of argon 80% + carbon dioxide 20%. The full scale flow rate and analog output after changing are as follows. (Note that the 500 L/min and 1,000 L/min models do not have a gas change function.)

Gas	Flow direction	Measured flow rate range (□/min)							
		005	010	020	100	200	500	101	201
• Air • Nitrogen • Argon • Argon80%+ Carbon dioxide20%	Uni-direction	15~500mL	30~1000mL	0.06~2.00L	0.30~10.00L	0.6~20.0L	1.5~50.0L	3.0~100.0L	6~200L
	Bi-direction	-500~-15mL	-1000~-30mL	-2.00~-0.06L	-10.00~-0.30L	-20.0~-0.6L	-50.0~-1.5L	-100.0~-3.0L	-200~-6L
• Carbon dioxide	Uni-direction	15~250mL	30~500mL	0.06~1.00L	0.30~5.00L	0.6~10.0L	1.5~25.0L	3.0~50.0L	6~100L
	Bi-direction	-250~-15mL	-500~-30mL	-1.00~-0.06L	-5.00~-0.30L	-10.0~-0.6L	-25.0~-1.5L	-50.0~-3.0L	-100~-6L
	15~250mL	30~500mL	0.06~1.00L	0.30~5.00L	0.6~10.0L	1.5~25.0L	3.0~50.0L	6~100L	

Gas	Flow direction	Analog output			
		Output A		Output B	
		Voltage	Current	Voltage	Current
• Carbon dioxide	Uni-direction	1~3V	4~12mA	1~5V	4~20mA
	Bi-direction	2~4V	8~16mA	1~5V	4~20mA

The "Setting copy function" setting is selected at "Ⓞ Output specifications".

Note that the "External input" function is not available on models on which the "Setting copy function" is enabled.

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

*14: This product measures changes in heat distribution that are caused by flow.

When this product is mounted in a vertical orientation, convective flow may affect heat distribution or cause the zero point to deviate.

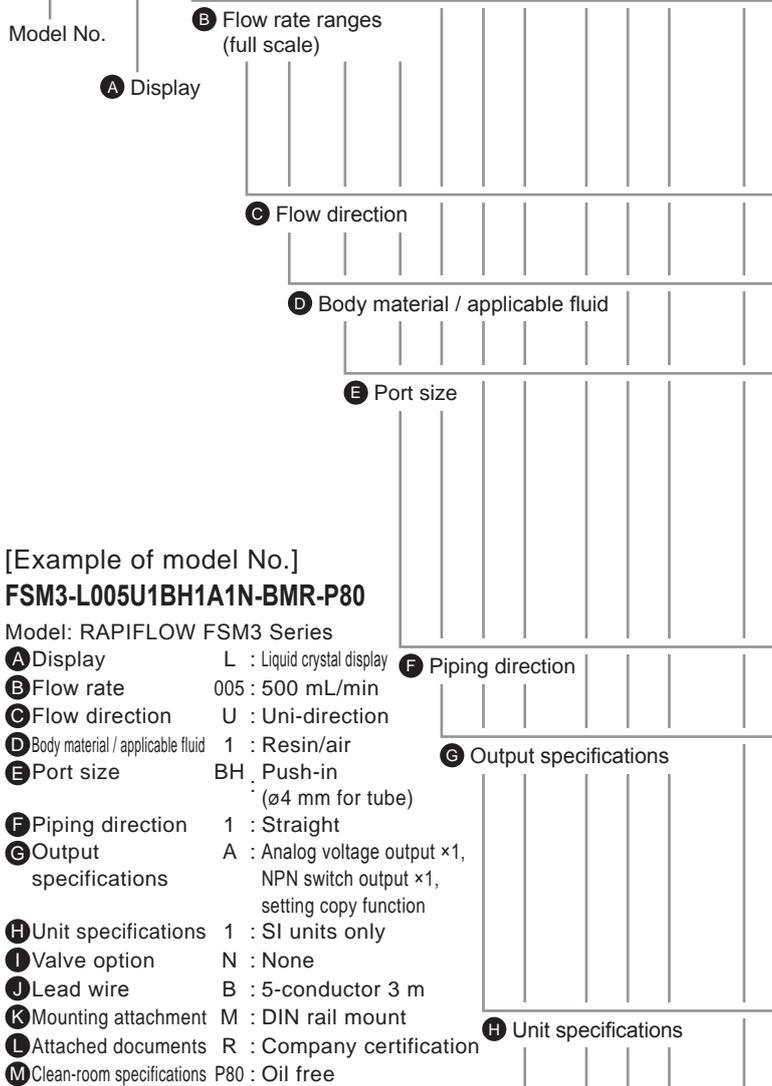
*15: Accuracy may be affected by the piping conditions. To perform measurement with greater accuracy, install a straight pipe with a piping I.D. ten times larger. With the 500 L/min and 1,000 L/min models, use piping with an internal diameter of 9 mm or more. If it is less than 9 mm, accuracy may be negatively affected.

*16: Refer to page 1106 for weight.

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder Switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R.(module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

How to order

FSM3 - L 005 U 1 BH 1 A 1 N - B M R - P80



[Example of model No.]

FSM3-L005U1BH1A1N-BMR-P80

Model: RAPIFLOW FSM3 Series

- A** Display L : Liquid crystal display
- B** Flow rate 005 : 500 mL/min
- C** Flow direction U : Uni-direction
- D** Body material / applicable fluid 1 : Resin/air
- E** Port size BH : Push-in (ø4 mm for tube)
- F** Piping direction 1 : Straight
- G** Output specifications A : Analog voltage output ×1, NPN switch output ×1, setting copy function
- H** Unit specifications 1 : SI units only
- I** Valve option N : None
- J** Lead wire B : 5-conductor 3 m
- K** Mounting attachment M : DIN rail mount
- L** Attached documents R : Company certification
- M** Clean-room specifications P80 : Oil free

⚠ Precautions for model No. selection

- *1: Refer to the correspondence table on the following page when selecting the model.
- *2: For "B: bi-directional" models, **I** the only valve option is "N: none". Note that "T: with needle valve" cannot be selected.
- *3: The G thread connection shape is compliant with ISO16030 standards.
- *4: Please refer to the external dimension diagram (Pages 1056 to 1057) for the G thread connection shape when making a selection. (The G thread connection shape is compliant with JIS B 2351-1, O types.)
- *5: Note that if you mount the elbow fitting in an upward position, it will interfere with the connector, and if you mount the elbow fitting in a downward position, it will interfere with the DIN rail mounting.
- *6: Models with the unit switching function are not sold in Japan.
- *7: Note that the bracket mounting position may interfere with the elbow fitting.
- *8: Optional parts are provided with the product. They are not assembled with the product.
- *9: The product surface is degreased and cleaned before packaging, and heat-sealed into an antistatic bag on a clean bench (Class 1000 or more).
- *10: In addition to P70 specifications, wetted section materials are degreased and cleaned.

Code	Description
A Display	
L	Liquid crystal display

B Flow rate ranges (full scale)			
005	500 mL/min	500	50 L/min
010	1000 mL/min	101	100 L/min
020	2 L/min	201	200 L/min
050	5 L/min	501	500 L/min
100	10 L/min	102	1000 L/min
200	20 L/min		

C Flow direction		*2
U	Uni-direction	
B	Bi-direction	

D Body material / applicable fluid		
	Body material	Applicable fluid
1	Resin	Air (gas switchable)

E Port size			
BH	Push-in (for ø4 mm tube)	AF	G1/8 *3
CH	Push-in (for ø6 mm tube)	BF	G1/4 *3
DH	Push-in (for ø8 mm tube)	CF	G1/2 *3
EH	Push-in (for ø10 mm tube)	AB	G1/8 *4
HH	Push-in (for ø1/4" tube)	BB	G1/4 *4
JH	Push-in (for ø3/8" tube)	CB	G1/2 *4
AA	Rc1/8	AC	NPT1/8
BA	Rc1/4	BC	NPT1/4
CA	Rc1/2	CC	NPT1/2

F Piping direction		*5
1	Straight	
2	Elbow	

G Output specifications			
	Analog output	Switch output	Setting copy function
A	1 point (Voltage)	1 point (NPN)	With
B		2 points (NPN)	-
C	1-point output (PNP)	1-point output (PNP)	With
D	1-5 V	2-points output (PNP)	-
E	1 point	1 point (NPN)	With
F	Current output	2 points (NPN)	-
G		1-point output (PNP)	With
H	4-20 mA	2-points output (PNP)	-

H Unit specifications		*6
1	SI units only	
2	With unit switching function (overseas models only)	

I Valve option		*2
N	None	
T	With needle valve (only for models 200 L or less)	

J Lead wire	
Blank	None
A	5-conductor 1 m
B	5-conductor 3 m

K Mounting attachments		*7, *8
Blank	None	
H	Bracket 1 (for models 200 L or less)	
J	Bracket 2 (for 500 or 1000 L models)	
K	Panel mounting (for sensor products of models 200 L or less)	
L	Panel mounting (for needle valves of models 200 L or less)	
M	DIN rail mounting (for models 200 L or less)	

L Attached documents	
Blank	None
R	Company certification
S	Company certification + Traceability certification

M Clean-room specifications		*9
Blank	None	
P70	Anti-dust generation	
P80	Oil free	*10

Compatibility table of flow rate range, port size, and needle valve options

		E Port sizes F Piping direction																	
		BH1	CH1	DH1	EH1	HH1	JH1	BH2	CH2	DH2	EH2	HH2	JH2	AA1	BA1	CA1	AA2		
B	Flow rate code	005	●○	●○			●○		●○	●○			●○		●○			●○	
		010	●○	●○			●○		●○	●○			●○		●○			●○	
		020	●○	●○			●○		●○	●○			●○		●○			●○	
		050	●○	●○			●○		●○	●○			●○		●○			●○	
		100	●○	●○			●○		●○	●○			●○		●○			●○	
		200	●○	●○			●○		●○	●○			●○		●○			●○	
		500		●○	●○		●○			●○	●○		●○		●○	●○		●○	
		101			●○	●○		●○			●○	●○		●○		●○			
		201			●○	●○		●○			●○	●○		●○		●○			
		501															●		
		102															●		
				BA2	AF1	BF1	CF1	AF2	BF2	AB1	BB1	CB1	AB2	BB2	AC1	BC1	CC1	AC2	BC2
		005		●○			●○			●○			●○		●○			●○	
		010		●○			●○			●○			●○		●○			●○	
		020		●○			●○			●○			●○		●○			●○	
		050		●○			●○			●○			●○		●○			●○	
		100		●○			●○			●○			●○		●○			●○	
		200		●○			●○			●○			●○		●○			●○	
		500	●○	●○	●○		●○	●○	●○	●○	●○		●○	●○	●○	●○		●○	●○
		101	●○		●○			●○		●○			●○		●○			●○	●○
201	●○		●○			●○		●○			●○		●○			●○	●○		
501				●						●					●				
102				●						●					●				

●: Port compatibility ○: Needle valve option compatibility

Compatibility table of port sizes and clean-room specifications

		E Port size F Piping direction																
		BH1	CH1	DH1	EH1	HH1	JH1	BH2	CH2	DH2	EH2	HH2	JH2	AA1	BA1	CA1	AA2	
M	Clean-room specifications	Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P80	●	●					●	●					●	●	●	●
			BA2	AF1	BF1	CF1	AF2	BF2	AB1	BB1	CB1	AB2	BB2	AC1	BC1	CC1	AC2	BC2
		Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge

Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/ tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

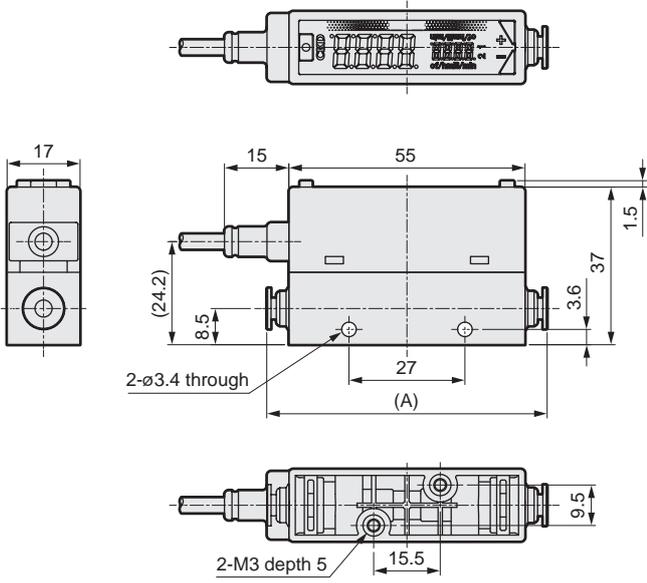
Ending

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- FR (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

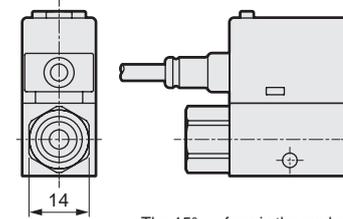
Dimensions (LCD display)

Port sizes: Straight $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4"$, Rc1/8, G1/8, NPT1/8

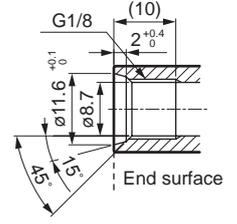
● FSM3-L□□1/BH1/CH1/HH1/AA1/AF1/AB1/AC1-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



Rc1/8, NPT1/8, G1/8 (AB1)

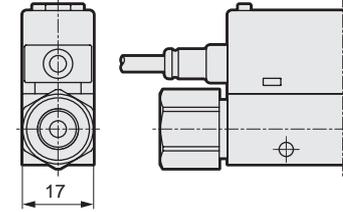


G thread shape (AB)



The 15° surface is the seal surface.
Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

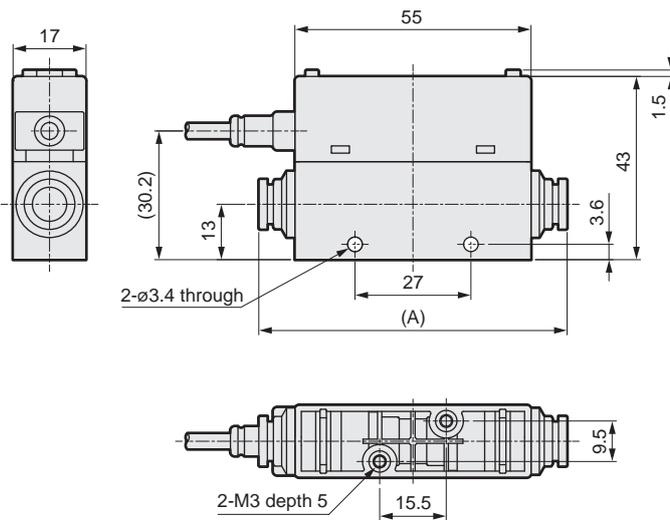
G1/8 (AF1)



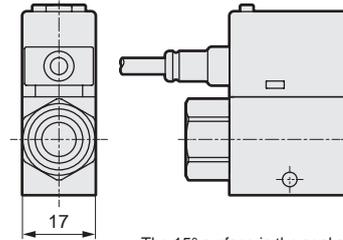
Model No.	Fitting	Dimension (A)
FSM3-L□□1BH1	Push-in $\varnothing 4$ mm	(65)
FSM3-L□□1CH1	Push-in $\varnothing 6$ mm	(67.2)
FSM3-L□□1HH1	Push-in 1/4"	(70.4)
FSM3-L□□1AA1	Rc1/8	(75)
FSM3-L□□1AF1	G1/8	(87)
FSM3-L□□1AB1	G1/8	(87)
FSM3-L□□1AC1	NPT1/8	(75)

Port sizes: Straight $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8"$, Rc1/4, G1/4, NPT1/4

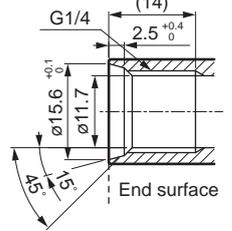
● FSM3-L□□1/DH1/EH1/JH1/BA1/BF1/BB1/BC1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



Rc1/4, NPT1/4, G1/4 (BB1)

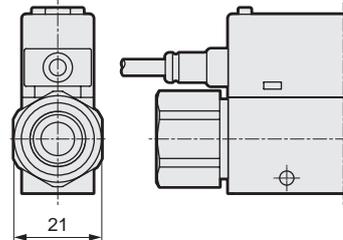


G thread shape (BB)



The 15° surface is the seal surface.
Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

G1/4 (BF1)

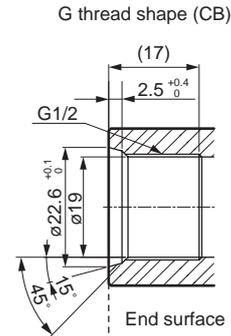
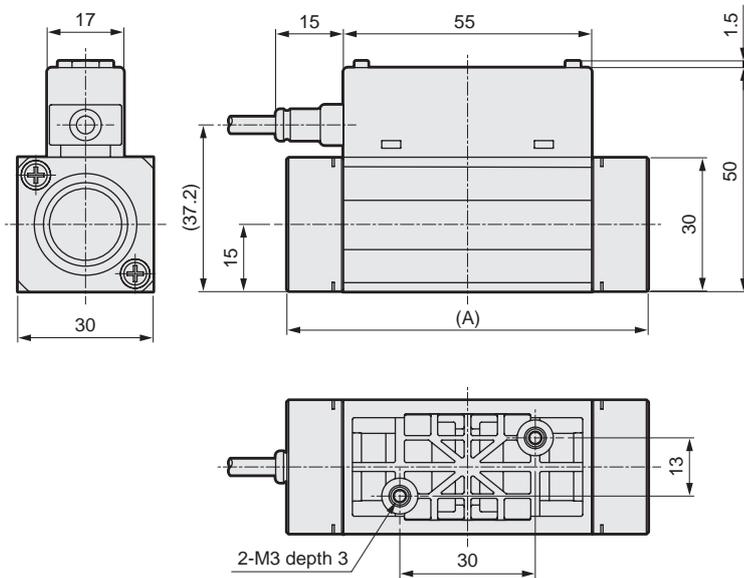


Model No.	Fitting	Dimension (A)
FSM3-L□□1DH1	Push-in $\varnothing 8$ mm	(70.6)
FSM3-L□□1EH1	Push-in $\varnothing 10$ mm	(82.1)
FSM3-L□□1JH1	Push-in 3/8"	(83.4)
FSM3-L□□1BA1	Rc1/4	(75)
FSM3-L□□1BF1	G1/4	(89)
FSM3-L□□1BB1	G1/4	(89)
FSM3-L□□1BC1	NPT1/4	(75)

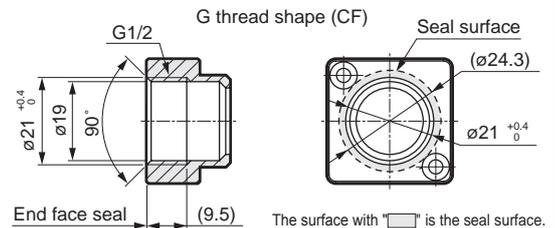
Dimensions (LCD display)

Port sizes: Straight Rc1/2, G1/2, NPT1/2

● FSM3-L[][]1/CA1/CF1/CB1/CC1-P70/P80 (Full scale flow rates: 500, 1000 L/min)



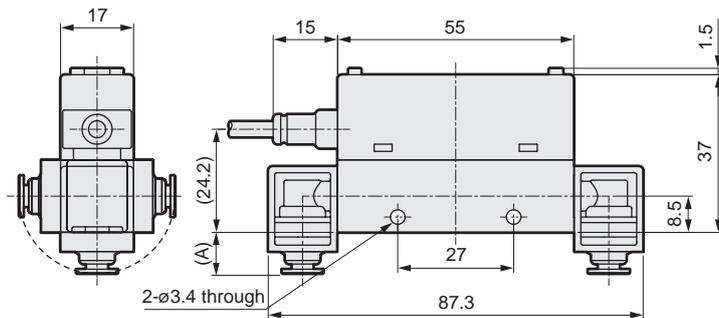
The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.



Model No.	Fitting	Dimension (A)
FSM3-L[][]1CA1	Rc1/2	(80)
FSM3-L[][]1CF1	G1/2	(80)
FSM3-L[][]1CB1	G1/2	(95.4)
FSM3-L[][]1CC1	NPTG1/2	(80)

Port sizes: Elbow $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4$ ", Rc1/8, G1/8, NPT1/8

● FSM3-L[][]1/BH2/CH2/HH2/AA2/AF2/AB2/AC2-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



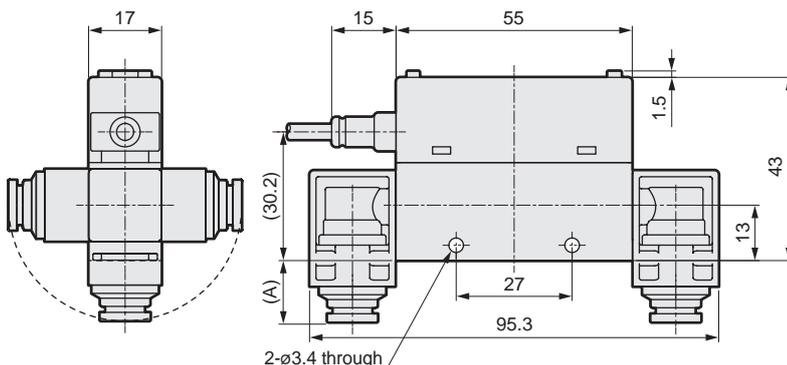
* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-L[][]1BH2	Push-in $\varnothing 4$ mm	(9.5)
FSM3-L[][]1CH2	Push-in $\varnothing 6$ mm	(10.6)
FSM3-L[][]1HH2	Push-in 1/4"	(12.2)
FSM3-L[][]1AA2	Rc1/8	(14.5)
FSM3-L[][]1AF2	G1/8 *	(20.5)
FSM3-L[][]1AB2	G1/8 *	(20.5)
FSM3-L[][]1AC2	NPT1/8	(14.5)

*Please refer to the straight type for the G thread shape.

Port sizes: Elbow $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8$ ", Rc1/4, G1/4, NPT1/4

● FSM3-L[][]1/DH2/EH2/JH2/BA2/BF2/BB2/BC2-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-L[][]1DH2	Push-in $\varnothing 8$ mm	(13.6)
FSM3-L[][]1EH2	Push-in $\varnothing 10$ mm	(19.3)
FSM3-L[][]1JH2	Push-in 3/8"	(20.0)
FSM3-L[][]1BA2	Rc1/4	(15.8)
FSM3-L[][]1BF2	G1/4 *	(22.8)
FSM3-L[][]1BB2	G1/4 *	(22.8)
FSM3-L[][]1BC2	NPT1/4	(15.8)

*Please refer to the straight type for the G thread shape.

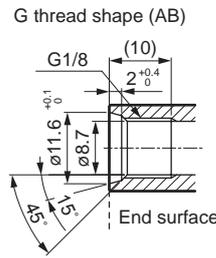
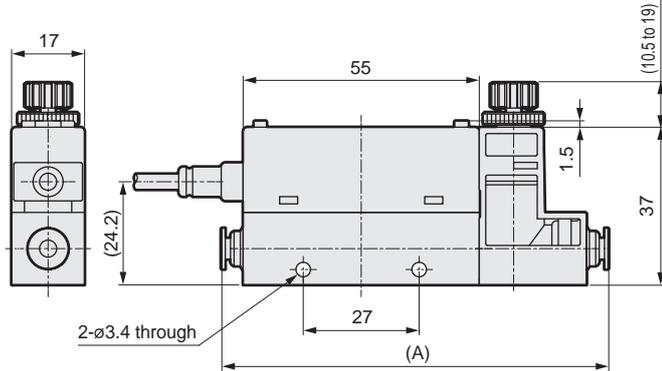
SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/
tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

Solenoid valve with needle dimensions

Port sizes: $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4$ " , Rc1/8, G1/8, NPT1/8

● FSM3-L[][]1/BH1/CH1/HH1/AA1/AF1/AB1/AC1/[][]T-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



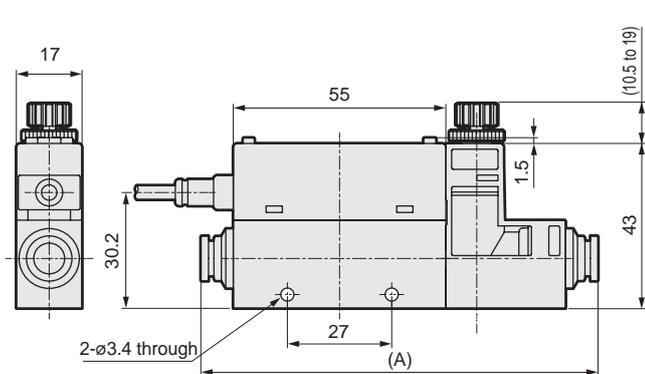
The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

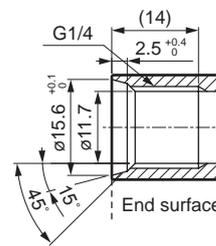
Model No.	Fitting	Dimension (A)
FSM3-L[][]1BH1	Push-in $\varnothing 4$ mm	(90)
FSM3-L[][]1CH1	Push-in $\varnothing 6$ mm	(92.2)
FSM3-L[][]1HH1	Push-in 1/4"	(95.4)
FSM3-L[][]1AA1	Rc1/8	(100)
FSM3-L[][]1AF1	G1/8	(112)
FSM3-L[][]1AB1	G1/8	(112)
FSM3-L[][]1AC1	NPT1/8	(100)

Port sizes: $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8$ " , Rc1/4, G1/4, NPT1/4

● FSM3-L[][]1/DH1/EH1/JH1/BA1/BF1/BB1/BC1/[][]T-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



G thread shape (BB)



The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-L[][]1DH1	Push-in $\varnothing 8$ mm	(101.6)
FSM3-L[][]1EH1	Push-in $\varnothing 10$ mm	(113.1)
FSM3-L[][]1JH1	Push-in 3/8"	(114.4)
FSM3-L[][]1BA1	Rc1/4	(106)
FSM3-L[][]1BF1	G1/4	(120)
FSM3-L[][]1BB1	G1/4	(120)
FSM3-L[][]1BC1	NPT1/4	(106)

MEMO

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder
Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module
unit)

Clean
F.R

Precision
R

Press gauge
Diff. press gauge

Electro-
pneumatic R

Speed
controller

Auxiliary
valve

Fitting/
tube

Clean
air unit

Pressure
sensor

Flow rate
sensor

Valve for
air blow

Ending



Compact flow rate sensor RAPIFLOW

FSM3 Series

Bar display

● Resin body (flow rate range: 500 mL/min to 1000 L/min)



Bar display specifications

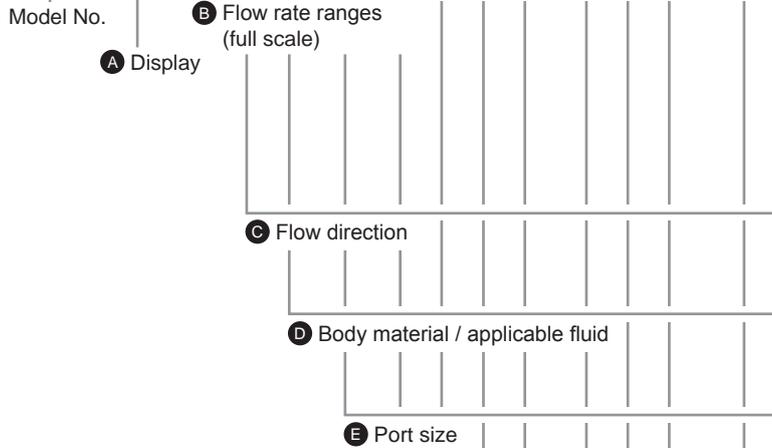
Item		FSM3-[A][B][C][D][E][F][G][H][I]-[]											
		[B]											
		005	010	020	050	100	200	500	101	201	501	102	
Flow direction	[C]	U	Uni-direction										
		B	Bi-direction										
Measurement flow rate range (□/min) *1	[B]	U	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.15 to 5.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L	15 to 500 L	30 to 1000 L
		B	-500 to -15, 15 to 500 mL	-1000 to -30, 30 to 1000 mL	-2.00 to -0.06, 0.06 to 2.00 L	-5.00 to -0.15, 0.15 to 5.00 L	-10.00 to -0.30, 0.30 to 10.00 L	-20.0 to -0.6, 0.6 to 20.0 L	-50.0 to -1.5, 1.5 to 50.0 L	-100.0 to -3.0, 3.0 to 100.0 L	-200 to -6, 6 to 200 L	-500 to -15, 15 to 500 L	-1000 to -30, 30 to 1000 L
Display		LED bar display											
Working fluid	Applicable fluid *2	Clean air (JIS B 8392-1:2012 1.1.1 to 5.6.2), compressed air (JIS B 8392-1:2012 1.1.1 to 1.6.2), nitrogen gas											
	Temperature range	0 to 50°C (no condensation)											
	Pressure range	-0.09 to 0.75 MPa											
	Proof pressure	1 MPa											
Operating ambient temperature/humidity		0 to 50°C, 90% RH or less											
Storage temperature		-10 to 60°C											
Accuracy	Accuracy *3	Within ±3% F.S. (Secondary side released to atmosphere) (The scope of warranty is in accordance with the "measurement flow rate range.")											
	Repeatability *4	Within ±1% F.S. (Secondary side released to atmosphere)											
	Temperature characteristics	Within ±0.2% F.S./°C (15 to 35°C, base temperature 25°C)											
	Pressure characteristics	Within ±5% F.S. (where secondary side is released to atmosphere)									Within ±5% F.S. (0.35 MPa standard)		
Response time *5		50 msec or less											
Analog output *6	[G]	J	1 to 5 V voltage output (connecting load impedance 50 kΩ or more)										
		K	4 to 20 mA current output (connecting load impedance 0 to 300 Ω)										
Power supply voltage *7	[G]	J	12 to 24 VDC (10.8 to 26.4 V) ripple rate 1% or less										
		K	24 VDC (21.6 to 26.4 V) ripple rate 1% or less										
Current consumption *8		45 mA or less											
Lead wire		ø3.7, AWG26 or equivalent × 4-conductor (connector), insulator O.D. ø1.0											
Degree of protection		IP40 or equivalent (IEC standard)											
Protection circuit *9		Power supply reverse connection protection											
Vibration resistance		10 to 150 Hz, 100 m/s ² , 2 hours each in X, Y, Z directions											
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8											
Mounting	Mounting orientation *10	Unrestricted in vertical/horizontal direction											
	Straight piping section *11	Not required											

- *1: The value converted to volumetric flow rate at standard condition (20°C 1 barometric pressure (101 kPa) 65%RH)
- *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 that complies with JIS B 8392-1:2012 Class 1.1.1 to 1.6.2. Compressed air from the compressor contains drainage (water, oil oxides, foreign matter, 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. (Refer to page 1118 for details on recommended circuit.)
- *3: Accuracy is based on a CKD standard flow rate meter. It does not indicate absolute accuracy.
Repeatability, temperature characteristics, and pressure characteristics are not included for an accuracy of ±3% F.S.
Consider separately according to the working environment and working conditions.
- *4: Repeatability calculated during a short time. Change over time is not included. (Refer to the product specifications for details.)
- *5: The actual response time changes depending on the piping conditions.
- *6: The output impedance of the output impedance of the analog output voltage output is approximately 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.
- *7: The power supply voltage specifications differ for the voltage output and current output types.
- *8: Current for when 24 VDC is connected, and no load is applied. The current consumption will vary depending on how the load is connected.
- *9: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.
- *10: This product measures changes in heat distribution that are caused by flow.
When this product is mounted in a vertical orientation, convective flow may affect heat distribution or cause the zero point to deviate.
- *11: Accuracy may be affected by the piping conditions. To perform measurement with greater accuracy, install a straight pipe with a piping I.D. ten times larger. With the 500 L/min and 1,000 L/min models, use piping with an internal diameter of 9 mm or more. If it is less than 9 mm, accuracy may be negatively affected.
- *12: Refer to page 1106 for weight.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

How to order

FSM3 - B 005 U 1 BH 1 J 1 N - D H S - P70



[Example of model No.]

FSM3-B005U1BH1J1N-DHS-P70

Model: RAPIFLOW FSM3 Series

- A** Display B : Bar display
- B** Flow rate 005 : 500 mL/min
- C** Flow direction U : Uni-direction
- D** Body material / applicable fluid 1 : Resin/air
- E** Port size BH : Push-in (ø4 mm for tube)
- F** Piping direction 1 : Straight
- G** Output specifications J : Analog voltage output x1
- H** Unit specifications 1 : SI units only
- I** Valve option N : None
- J** Lead wire D : 4-conductor 3 m
- K** Mounting attachment H : Bracket
- L** Attached documents S : Company certification + Traceability certification
- M** Clean-room specifications P70 : Anti-dust generation

⚠ Precautions for model No. selection

- *1: Refer to the correspondence table on the following page when selecting the model.
- *2: When using in combination with a separated display (FSM2-D), select ""J": analog voltage output x 1 point".
- *3: For "B: bi-directional" models, **I** the only valve option is "N: none".
- *4: The G thread connection shape is compliant with ISO16030 standards.
- *5: Please refer to the external dimension diagram (Pages 1064 to 1065) for the G thread connection shape when making a selection. (The G thread connection shape is compliant with JIS B 2351-1, O types.)
- *6: Note that if you mount the elbow fitting in an upward position, it will interfere with the connector, and if you mount the elbow fitting in a downward position, it will interfere with the DIN rail mounting.
- *7: "Panel mount" option cannot be selected. Note that the bracket mounting position may interfere with the elbow fitting.
- *8: Optional parts are provided with the product. They are not assembled with the product.
- *9: The product surface is degreased and cleaned before packaging, and heat-sealed into an antistatic bag on a clean bench (Class 1000 or more).
- *10: In addition to P70 specifications, wetted section materials are degreased and cleaned.

Code	Description
A	Display
B	Bar display

B Flow rate ranges (full scale)			
005	500 mL/min	500	50 L/min
010	1000 mL/min	101	100 L/min
020	2 L/min	201	200 L/min
050	5 L/min	501	500 L/min
100	10 L/min	102	1000 L/min
200	20 L/min		

C Flow direction		*3
U	Uni-direction	
B	Bi-direction	

D Body material / applicable fluid		
	Body material	Applicable fluids
1	Resin	Air

E Port size			
BH	Push-in (for ø4 mm tube)	AF	G1/8 *4
CH	Push-in (for ø6 mm tube)	BF	G1/4 *4
DH	Push-in (for ø8 mm tube)	CF	G1/2 *4
EH	Push-in (for ø10 mm tube)	AB	G1/8 *5
HH	Push-in (for ø1/4" tube)	BB	G1/4 *5
JH	Push-in (for ø3/8" tube)	CB	G1/2 *5
AA	Rc1/8	AC	NPT1/8
BA	Rc1/4	BC	NPT1/4
CA	Rc1/2	CC	NPT1/2

F Piping direction		
1	Straight	
2	Elbow	*6

G Output specifications		*2
J	Analog voltage output x 1 point	
K	Analog current output x 1 point	

H Unit specifications	
1	SI units only

I Valve option		*3
N	None	

J Lead wire	
Blank	None
C	4-conductor 1 m
D	4-conductor 3 m

K Mounting (not assembled)		*7, *8
Blank	None	
H	Bracket 1 (for models 200 L or less)	
J	Bracket 2 (for 500 or 1000 L models)	
M	DIN rail mounting (for models 200 L or less)	

L Attached documents	
Blank	None
R	Company certification
S	Company certification + Traceability certification

M Clean-room specifications		
P70	Anti-dust generation	*9
P80	Oil free	*10

Compatibility table of flow rate range and port size

		E Port sizes F Piping direction																	
		BH1	CH1	DH1	EH1	HH1	JH1	BH2	CH2	DH2	EH2	HH2	JH2	AA1	BA1	CA1	AA2		
B	Flow rate codes	005	●	●			●		●	●			●		●			●	
		010	●	●			●		●	●			●		●			●	
		020	●	●			●		●	●			●		●			●	
		050	●	●			●		●	●			●		●			●	
		100	●	●			●		●	●			●		●			●	
		200	●	●			●		●	●			●		●			●	
		500		●	●		●			●	●			●		●		●	
		101			●	●		●			●	●		●		●			
		201			●	●		●			●	●		●		●			
		501																●	
		102																●	
				BA2	AF1	BF1	CF1	AF2	BF2	AB1	BB1	CB1	AB2	BB2	AC1	BC1	CC1	AC2	BC2
			005		●			●		●			●		●			●	
			010		●			●		●			●		●			●	
			020		●			●		●			●		●			●	
			050		●			●		●			●		●			●	
			100		●			●		●			●		●			●	
			200		●			●		●			●		●			●	
			500	●	●	●		●	●	●	●		●	●	●	●		●	●
			101	●		●			●		●			●		●			●
	201	●		●			●		●			●		●			●		
	501				●					●					●				
	102				●					●					●				

● : Port compatibility

Compatibility table of port sizes and clean-room specifications

		E Port size F Piping direction																
		BH1	CH1	DH1	EH1	HH1	JH1	BH2	CH2	DH2	EH2	HH2	JH2	AA1	BA1	CA1	AA2	
M	Clean-room specifications	Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P80	●	●					●	●					●	●	●	●
			BA2	AF1	BF1	CF1	AF2	BF2	AB1	BB1	CB1	AB2	BB2	AC1	BC1	CC1	AC2	BC2
		Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

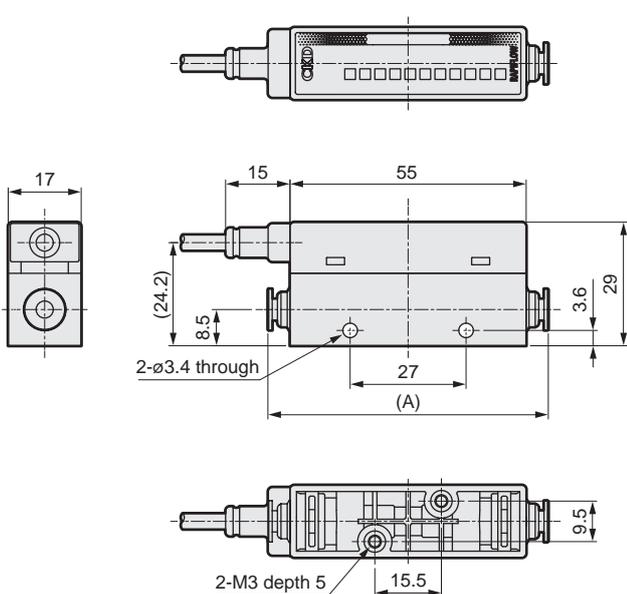
Valve for air blow

Ending

Dimensions (bar display)

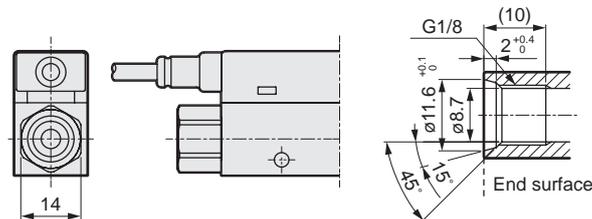
Port sizes: Straight $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4$ ", Rc1/8, G1/8, NPT1/8

● FSM3-B□□1/BH1/CH1/HH1/AA1/AF1/AB1/AC1-P79/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



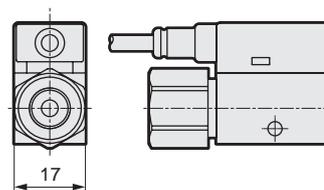
Rc1/8, NPT1/8, G1/8 (AB1)

G thread shape (AB)



The 15° surface is the seal surface.
Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

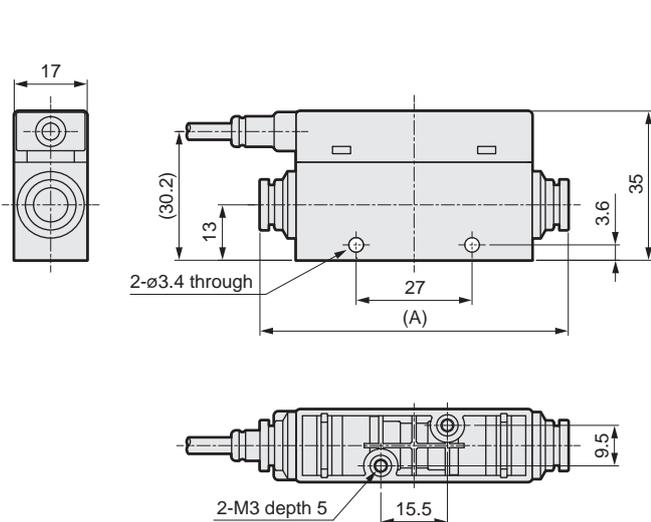
G1/8 (AF1)



Model No.	Fitting	Dimension (A)
FSM3-B□□1BH1	Push-in $\varnothing 4$ mm	(65)
FSM3-B□□1CH1	Push-in $\varnothing 6$ mm	(67.2)
FSM3-B□□1HH1	Push-in 1/4"	(70.4)
FSM3-B□□1AA1	Rc1/8	(75)
FSM3-B□□1AF1	G1/8	(87)
FSM3-B□□1AB1	G1/8	(87)
FSM3-B□□1AC1	NPT1/8	(75)

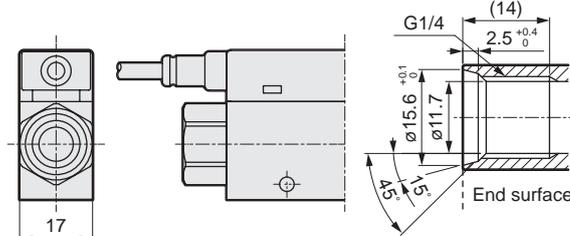
Port sizes: Straight $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8$ ", Rc1/4, G1/4, NPT1/4

● FSM3-B□□1/DH1/EH1/JH1/BA1/BF1/BB1/BC1-P79/P80 (Full scale flow rates: 50, 100, 200 L/min)



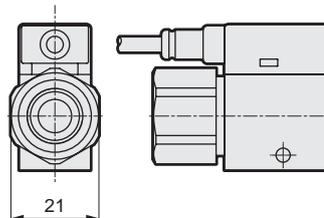
Rc1/4, NPT1/4, G1/4 (BB1)

G thread shape (BB)



The 15° surface is the seal surface.
Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

G1/4 (BF1)

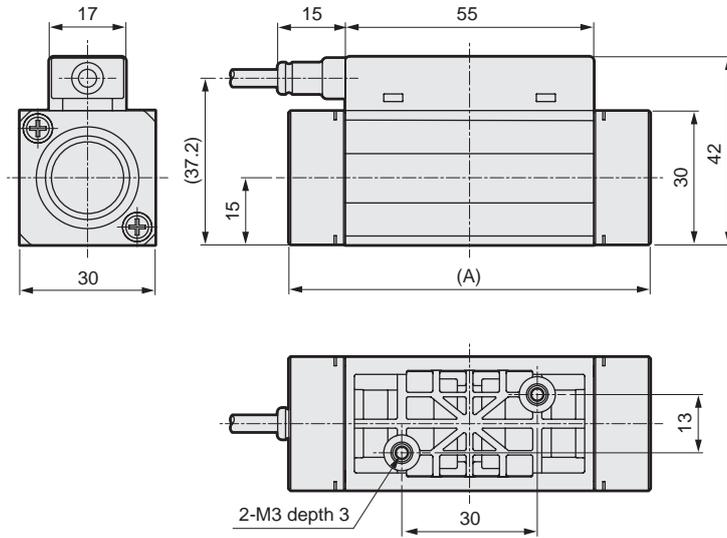


Model No.	Fitting	Dimension (A)
FSM3-B□□1DH1	Push-in $\varnothing 8$ mm	(70.6)
FSM3-B□□1EH1	Push-in $\varnothing 10$ mm	(82.1)
FSM3-B□□1JH1	Push-in 3/8"	(83.4)
FSM3-B□□1BA1	Rc1/4	(75)
FSM3-B□□1BF1	G1/4	(89)
FSM3-B□□1BB1	G1/4	(89)
FSM3-B□□1BC1	NPT1/4	(75)

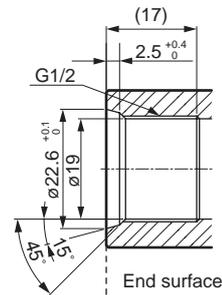
Dimensions (bar display)

Port sizes: Straight Rc1/2, G1/2, NPT1/2

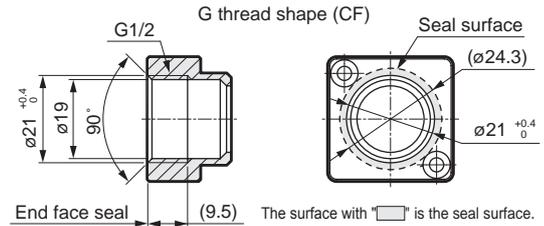
● FSM3-B□□1/CA1/CF1/CB1/CC1-P79/P80 (Full scale flow rates: 500, 1000 L/min)



G thread shape (CB)



The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

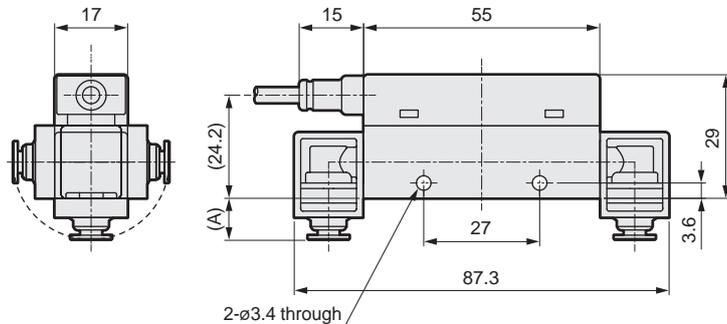


The surface with □ is the seal surface.

Model No.	Fitting	Dimension (A)
FSM3-B□□1CA1	Rc1/2	(80)
FSM3-B□□1CF1	G1/2	(80)
FSM3-B□□1CB1	G1/2	(95.4)
FSM3-B□□1CC1	NPT1/2	(80)

Port sizes: Elbow $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4$ " , Rc1/8, G1/8, NPT1/8

● FSM3-B□□1/BH2/CH2/HH2/AA2/AF2/AB2/AC2-P79/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



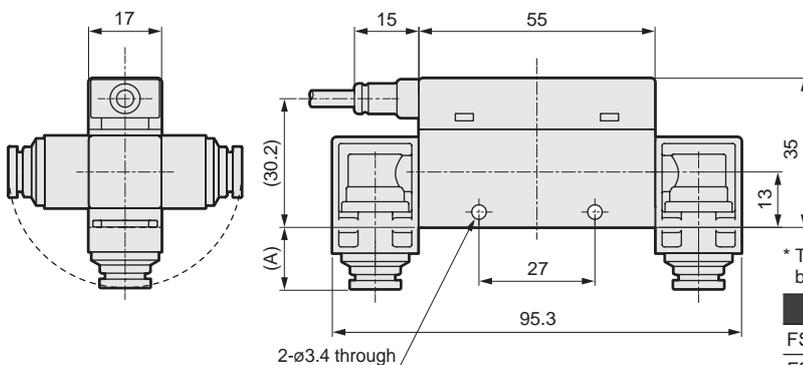
* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-B□□1BH2	Push-in $\varnothing 4$ mm	(9.5)
FSM3-B□□1CH2	Push-in $\varnothing 6$ mm	(10.6)
FSM3-B□□1HH2	Push-in 1/4"	(12.2)
FSM3-B□□1AA2	Rc1/8	(14.5)
FSM3-B□□1AF2	G1/8 *	(20.5)
FSM3-B□□1AB2	G1/8 *	(20.5)
FSM3-B□□1AC2	NPT1/8	(14.5)

*Please refer to the straight type for the G thread shape.

Port sizes: Elbow $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8$ " , Rc1/4, G1/4, NPT1/4

● FSM3-B□□1/DH2/EH2/JH2/BA2/BF2/BB2/BC2-P79/P80 (Full scale flow rates: 50, 100, 200 L/min)



* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-B□□1DH2	Push-in $\varnothing 8$ mm	(13.6)
FSM3-B□□1EH2	Push-in $\varnothing 10$ mm	(19.3)
FSM3-B□□1JH2	Push-in 3/8"	(20.0)
FSM3-B□□1BA2	Rc1/4	(15.8)
FSM3-B□□1BF2	G1/4 *	(22.8)
FSM3-B□□1BB2	G1/4 *	(22.8)
FSM3-B□□1BC2	NPT1/4	(15.8)

*Please refer to the straight type for the G thread shape.

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/
tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending



Compact flow rate sensor RAPIFLOW

FSM3 Series

IO-Link

● Resin body (flow rate range: 500 mL/min to 1000 L/min)



IO-Link specifications

Item		FSM3-[A][B][C][D][E][F][G][H][I]-[]											
		[B]											
		005	010	020	050	100	200	500	101	201	501	102	
Flow direction	[C]	U	Uni-direction										
		B	Bi-direction										
Measurement flow rate range (□/min) *1	[B]	U	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.15 to 5.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L	15 to 500 L	30 to 1000 L
		B	-500 to -15, 15 to 500 mL	-1000 to -30, 30 to 1000 mL	-2.00 to -0.06, 0.06 to 2.00 L	-5.00 to -0.15, 0.15 to 5.00 L	-10.00 to -0.30, 0.30 to 10.00 L	-20.0 to -0.6, 0.6 to 20.0 L	-50.0 to -1.5, 1.5 to 50.0 L	-100.0 to -3.0, 3.0 to 100.0 L	-200 to -6, 6 to 200 L	-500 to -15, 15 to 500 L	-1000 to -30, 30 to 1000 L
Display		LED display (power and status indicators)											
Working fluid	Applicable fluid *2	Clean air (JIS B 8392-1:2012 1.1.1 to 5.6.2), compressed air (JIS B 8392-1:2012 1.1.1 to 1.6.2) nitrogen, argon, carbon dioxide, gas mixture (argon + carbon dioxide)											
	Temperature range	0 to 50°C (no condensation)											
	Pressure range	-0.09 to 0.75 MPa											
	Proof pressure	1 MPa											
Operating ambient temperature/humidity		0 to 50°C, 90% RH or less											
Storage temperature		-10 to 60°C											
Accuracy *3 (Fluid: in dry air)	Accuracy *4	Within ±3% F.S. (Secondary side released to atmosphere) (The scope of warranty is in accordance with the "measurement flow rate range.")											
	Repeatability *5	Within ±1% F.S. (Secondary side released to atmosphere)											
	Temperature characteristics	Within ±0.2% F.S./°C (15 to 35°C, base temperature 25°C)											
	Pressure characteristics	Within ±5% F.S. (where secondary side is released to atmosphere)									Within ±5% F.S. (0.35 MPa standard)		
Response time *6		50 msec or less											
Power supply voltage		18 to 30 VDC (ripple rate 1% or less)											
Current consumption *7		45 mA or less											
Lead wire *8		M12 both-end connector lead wire (3 m), AWG#23 or equivalent, 4-conductor											
Functions *9		① Gas type selection, ② flow rate integration, ③ peak hold, etc.											
Degree of protection		IP40 or equivalent (IEC standard)											
Protection circuit *10		Power supply reverse connection protection											
Vibration resistance *11		10 to 150 Hz, 100 m/s ² , 2 hours each in X, Y, Z directions											
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8											
Mounting	Mounting orientation *12	Unrestricted in vertical/horizontal direction											
	Straight piping section *13	Not required											

* Refer to page 1112 for communication specifications.

- *1: The value converted to volumetric flow rate at standard condition (20°C 1 barometric pressure (101 kPa) 65%RH) (20°C, 1 atmospheric pressure (101 kPa), 0%RH with a type of gas other than air.)
- *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 that complies with JIS B 8392-1:2012 Class 1.1.1 to 1.6.2. Compressed air from the compressor contains drainage (water, oil oxides, foreign matter, 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. (Refer to page 1118 for details on recommended circuit.)
- *3: Compressed air is used for adjusting and inspecting this product. Accuracy for gas types other than air is a guideline.
- *4: Accuracy is based on a CKD standard flow rate meter. It does not indicate absolute accuracy.
Repeatability, temperature characteristics, and pressure characteristics are not included for an accuracy of ±3% F.S.
Consider separately according to the working environment and working conditions.
- *5: Repeatability calculated during a short time. Change over time is not included. (Refer to the product specifications for details.)
- *6: The actual response time changes depending on the piping conditions.
- *7: Current for when 24 VDC is connected, and no load is applied. The current consumption will vary depending on how the load is connected.
- *8: The male end is straight, and the female end is angled. (Refer to page 1114.)
Tighten the M12 connector at a torque of 0.5 N·m or less.
Note, however, that using excessive force to tighten the connector can cause it to break.
- *9: The gas type switching function enables switching to argon, carbon dioxide and a gas mixture of argon 80% + carbon dioxide 20%.
The measurement flow rate ranges after switching are as follows. (Note that the 500 L/min and 1,000 L/min models do not have a gas change function.)

Gas type	Flow direction	Measurement flow rate range (□/min)							
		005	010	020	100	200	500	101	201
• Air • Nitrogen • Argon • Argon 80% + carbon dioxide 20%	Uni-direction	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L
	Bi-direction	-500 to -15 mL	-1000 to -30 mL	-2.00 to -0.06 L	-10.00 to -0.30 L	-20.0 to -0.6 L	-50.0 to -1.5 L	-100.0 to -3.0 L	-200 to -6 L
• Carbon dioxide	Uni-direction	15 to 250 mL	30 to 500 mL	0.06 to 1.00 L	0.30 to 5.00 L	0.6 to 10.0 L	1.5 to 25.0 L	3.0 to 50.0 L	6 to 100 L
	Bi-direction	-250 to -15 mL	-500 to -30 mL	-1.00 to -0.06 L	-5.00 to -0.30 L	-10.0 to -0.6 L	-25.0 to -1.5 L	-50.0 to -3.0 L	-100 to -6 L
		15 to 250 mL	30 to 500 mL	0.06 to 1.00 L	0.30 to 5.00 L	0.6 to 10.0 L	1.5 to 25.0 L	3.0 to 50.0 L	6 to 100 L

The integrating flow is a reference value.

When using the integrated save function, take care to prevent the number of saves from exceeding the access count limit of the storage device (1 million times).

(Changes to the settings are counted in number of accesses.)

$$\text{Number of saves} = \frac{\text{Usage time}}{5 \text{ mins}} < 1 \text{ million times}$$

- *10: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.
- *11: A communication error might occur depending on the vibration conditions. Install this product as far as possible in a place not subject to vibration.
- *12: This product measures changes in heat distribution that are caused by flow.
When this product is mounted in a vertical orientation, convective flow may affect heat distribution or cause the zero point to deviate.
- *13: Accuracy may be affected by the piping conditions. To perform measurement with greater accuracy, install a straight pipe with a piping I.D. ten times larger. With the 500 L/min and 1,000 L/min models, use piping with an internal diameter of 9 mm or more. If it is less than 9 mm, accuracy may be negatively affected.
- *14: Refer to page 1106 for weight.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

How to order

FSM3 - C 005 U 1 BH 1 L 1 N - G H R - P70

Model No.

B Flow rate ranges (full scale)

A Display

C Flow direction

D Body material / applicable fluid

E Port size

F Piping direction

G Output specifications

H Unit specifications

I Valve option

J Lead wire

K Mounting (not assembled)

L Attached documents

M Clean-room specifications

[Example of model No.]

FSM3-C005U1BH1L1N-GHR-P70

Model: RAPIFLOW FSM3 Series

- A** Display C : IO-Link
- B** Flow rate 005 : 500 mL/min
- C** Flow direction U : Uni-direction
- D** Body material / applicable fluid 1 : Resin/air
- E** Port size BH : Push-in (ø4 mm for tube)
- F** Piping direction 1 : Straight
- G** Output specifications L : IO-Link
- H** Unit specifications 1 : SI units only
- I** Valve option N : None
- J** Lead wire G : M12 both-end lead wire with connector (3 m)
- K** Mounting attachment H : Bracket
- L** Attached documents R : Company certification
- M** Clean-room specifications P70 : Anti-dust generation

⚠ Precautions for model No. selection

- *1: Refer to the correspondence table on the following page when selecting the model.
- *2: The G thread connection shape is compliant with ISO16030 standards.
- *3: Please refer to the external dimension diagram (Pages 1070 to 1071) for the G thread connection shape when making a selection. (The G thread connection shape is compliant with JIS B 2351-1, O types.)
- *4: Note that if you mount the elbow fitting in an upward position, it will interfere with the connector, and if you mount the elbow fitting in a downward position, it will interfere with the DIN rail mounting.
- *5: Note that the bracket mounting position may interfere with the elbow fitting.
- *6: Optional parts are provided with the product. They are not assembled with the product.
- *7: The product surface is degreased and cleaned before packaging, and heat-sealed into an antistatic bag on a clean bench (Class 1000 or more).
- *8: In addition to P70 specifications, wetted section materials are degreased and cleaned.

Code	Description
------	-------------

A Display	
C	IO-Link

B Flow rate ranges (full scale)			
005	500 mL/min	500	50 L/min
010	1000 mL/min	101	100 L/min
020	2 L/min	201	200 L/min
050	5 L/min	501	500 L/min
100	10 L/min	102	1000 L/min
200	20 L/min		

C Flow direction	
U	Uni-direction
B	Bi-direction

D Body material / applicable fluid		
	Body material	Applicable fluid
1	Resin	Air (gas switchable)

E Port size			
BH	Push-in (for ø4 mm tube)	AF	G1/8 *2
CH	Push-in (for ø6 mm tube)	BF	G1/4 *2
DH	Push-in (for ø8 mm tube)	CF	G1/2 *2
EH	Push-in (for ø10 mm tube)	AB	G1/8 *3
HH	Push-in (for ø1/4" tube)	BB	G1/4 *3
JH	Push-in (for ø3/8" tube)	CB	G1/2 *3
AA	Rc1/8	AC	NPT1/8
BA	Rc1/4	BC	NPT1/4
CA	Rc1/2	CC	NPT1/2

F Piping direction	
1	Straight
2	Elbow *4

G Output specifications	
L	IO-Link communication

H Unit specifications	
1	SI units only

I Valve option	
N	None

J Lead wire	
Blank	None
G	M12 both-end lead wire with connector (3 m)

K Mounting (not assembled) *5, *6	
Blank	None
H	Bracket 1 (for models 200 L or less)
J	Bracket 2 (for 500 or 1000 L models)
M	DIN rail mounting (for models 200 L or less)

L Attached documents	
Blank	None
R	Company certification
S	Company certification + Traceability certification

M Clean-room specifications	
P70	Anti-dust generation *7
P80	Oil free *8

Flow rate ranges and port sizes

		E Port sizes F Piping direction																	
		BH1	CH1	DH1	EH1	HH1	JH1	BH2	CH2	DH2	EH2	HH2	JH2	AA1	BA1	CA1	AA2		
B	Flow rate codes	005	●	●			●		●	●			●		●			●	
		010	●	●			●		●	●			●		●			●	
		020	●	●			●		●	●			●		●			●	
		050	●	●			●		●	●			●		●			●	
		100	●	●			●		●	●			●		●			●	
		200	●	●			●		●	●			●		●			●	
		500		●	●		●			●	●			●		●		●	
		101			●	●		●			●	●		●		●			
		201			●	●		●			●	●		●		●			
		501																●	
		102																●	
				BA2	AF1	BF1	CF1	AF2	BF2	AB1	BB1	CB1	AB2	BB2	AC1	BC1	CC1	AC2	BC2
		005			●			●		●			●		●			●	
		010			●			●		●			●		●			●	
		020			●			●		●			●		●			●	
		050			●			●		●			●		●			●	
		100			●			●		●			●		●			●	
		200			●			●		●			●		●			●	
		500	●	●	●		●	●	●	●	●		●	●	●	●		●	●
		101	●		●			●			●			●		●			●
201	●		●			●			●			●		●			●		
501				●						●					●				
102				●						●					●				

● : Port size compatibility

Compatibility table of port sizes and clean-room specifications

		E Port sizes F Piping direction																
		BH1	CH1	DH1	EH1	HH1	JH1	BH2	CH2	DH2	EH2	HH2	JH2	AA1	BA1	CA1	AA2	
M	Clean-room specifications	Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P80	●	●					●	●					●	●	●	●
			BA2	AF1	BF1	CF1	AF2	BF2	AB1	BB1	CB1	AB2	BB2	AC1	BC1	CC1	AC2	BC2
		Blank	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		P80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending

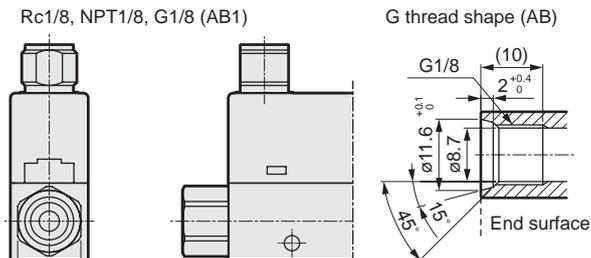
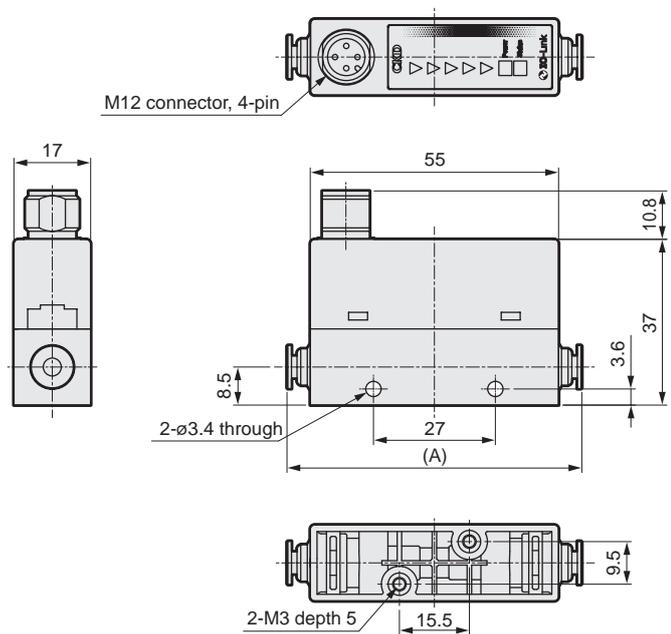
FSM3 Series

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

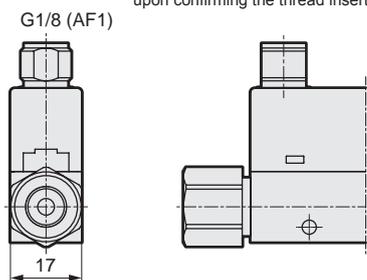
Dimensions (IO-Link)

Port sizes: Straight $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4$ " , Rc1/8, G1/8, NPT1/8

● FSM3-C□□1/BH1/CH1/HH1/AA1/AF1/AB1/AC1-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



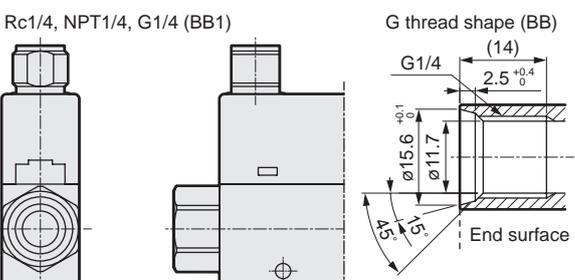
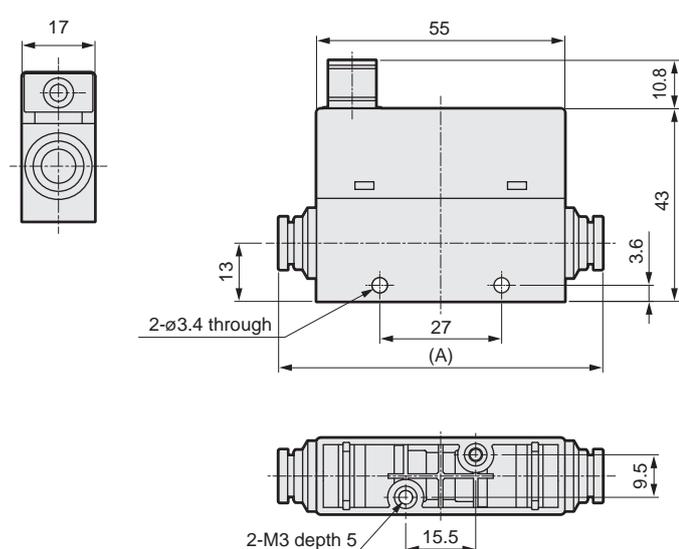
The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.



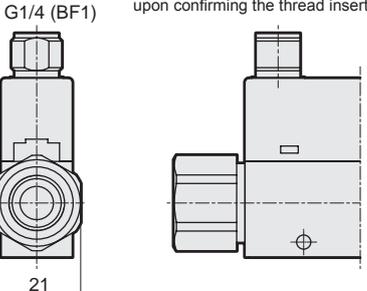
Model No.	Fitting	Dimension (A)
FSM3-C□□1BH1	Push-in $\varnothing 4$ mm	(65)
FSM3-C□□1CH1	Push-in $\varnothing 6$ mm	(67.2)
FSM3-C□□1HH1	Push-in 1/4"	(70.4)
FSM3-C□□1AA1	Rc1/8	(75)
FSM3-C□□1AF1	G1/8	(87)
FSM3-C□□1AB1	G1/8	(87)
FSM3-C□□1AC1	NPT1/8	(75)

Port sizes: Straight $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8$ " , Rc1/4, G1/4, NPT1/4

● FSM3-C□□1/DH1/EH1/JH1/BA1/BF1/BB1/BC1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

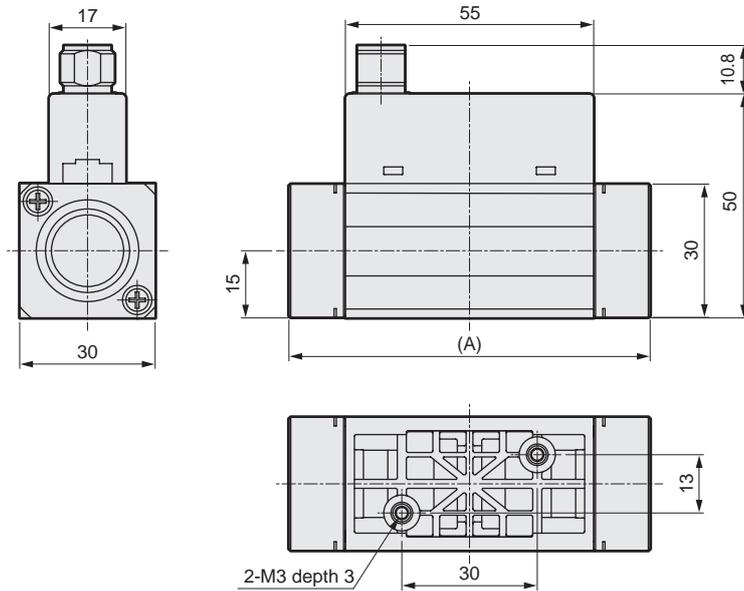


Model No.	Fitting	Dimension (A)
FSM3-C□□1DH1	Push-in $\varnothing 8$ mm	(70.6)
FSM3-C□□1EH1	Push-in $\varnothing 10$ mm	(82.1)
FSM3-C□□1JH1	Push-in 3/8"	(83.4)
FSM3-C□□1BA1	Rc1/4	(75)
FSM3-C□□1BF1	G1/4	(89)
FSM3-C□□1BB1	G1/4	(89)
FSM3-C□□1BC1	NPT1/4	(75)

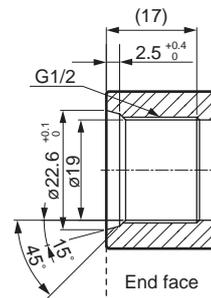
Dimensions (IO-Link)

Port sizes: Straight Rc1/2, G1/2, NPT1/2

● FSM3-C□□1/CA1/CF1/CB1/CC1-P70/P80 (Full scale flow rates: 500, 1000 L/min)

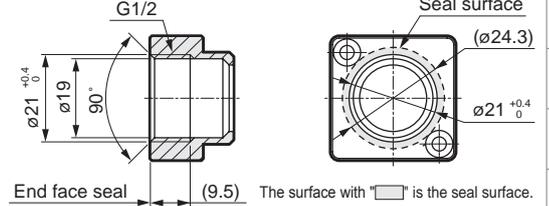


G thread shape (CB)



The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

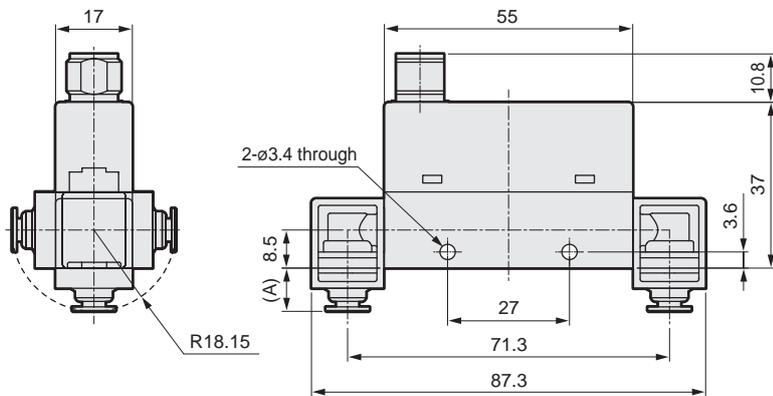
G thread shape (CF)



Model No.	Fitting	Dimension (A)
FSM3-C□□1CA1	Rc1/2	(80)
FSM3-C□□1CF1	G1/2	(80)
FSM3-C□□1CB1	G1/2	(95.4)
FSM3-C□□1CC1	NPT1/2	(80)

Port sizes: Elbow $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 1/4$ " , Rc1/8, G1/8, NPT1/8

● FSM3-C□□1/BH2/CH2/HH2/AA2/AF2/AB2/AC2-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



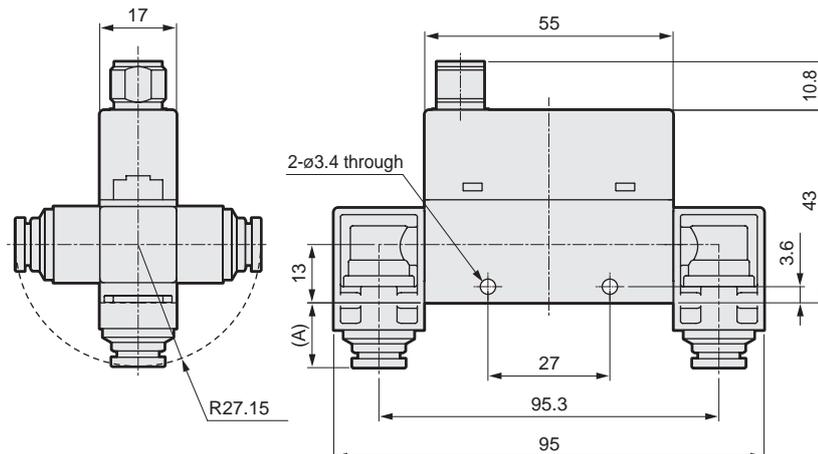
* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-C□□1BH2	Push-in $\varnothing 4$ mm	(9.5)
FSM3-C□□1CH2	Push-in $\varnothing 6$ mm	(10.6)
FSM3-C□□1HH2	Push-in 1/4"	(12.2)
FSM3-C□□1AA2	Rc1/8	(14.5)
FSM3-C□□1AF2	G1/8 *	(20.5)
FSM3-C□□1AB2	G1/8 *	(20.5)
FSM3-C□□1AC2	NPT1/8	(14.5)

*Please refer to the straight type for the G thread shape.

Port sizes: Elbow $\varnothing 8$ mm, $\varnothing 10$ mm, $\varnothing 3/8$ " , Rc1/4, G1/4, NPT1/4

● FSM3-C□□1/DH2/EH2/JH2/BA2/BF2/BB2/BC2-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

Model No.	Fitting	Dimension (A)
FSM3-C□□1DH2	Push-in $\varnothing 8$ mm	(13.6)
FSM3-C□□1EH2	Push-in $\varnothing 10$ mm	(19.3)
FSM3-C□□1JH2	Push-in 3/8"	(20.0)
FSM3-C□□1BA2	Rc1/4	(15.8)
FSM3-C□□1BF2	G1/4 *	(22.8)
FSM3-C□□1BB2	G1/4 *	(22.8)
FSM3-C□□1BC2	NPT1/4	(15.8)

*Please refer to the straight type for the G thread shape.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge
Dif. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending



Compact flow rate sensor RAPIFLOW

FSM3 Series

LCD display

● Stainless steel body (flow rate range: 500 mL/min to 1000 L/min)

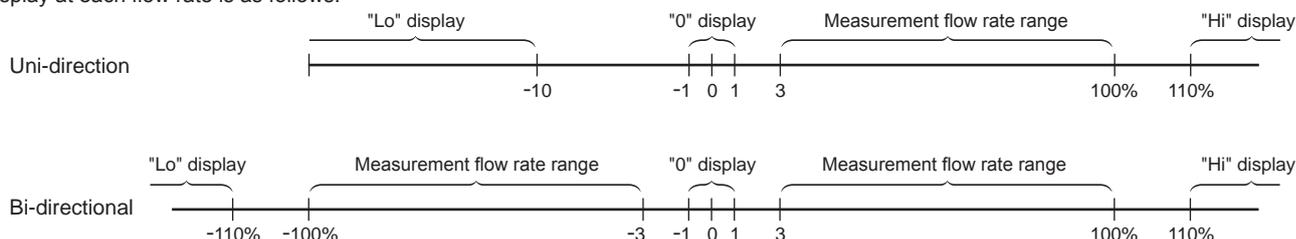


LCD display specifications

Item		FSM3-[A][B][C][D][E][F][G][H][I]-[]												
		[B]												
		005	010	020	050	100	200	500	101	201	501	102		
Flow direction	[C]	U	Uni-direction											
		B	Bi-direction											
Measurement flow rate range (□/min) *1	[B]	U	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.15 to 5.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L	15 to 500 L	30 to 1000 L	
		B	-500 to -15, 15 to 500 mL	-1000 to -30, 30 to 1000 mL	-2.00 to -0.06, 0.06 to 2.00 L	-5.00 to -0.15, 0.15 to 5.00 L	-10.00 to -0.30, 0.30 to 10.00 L	-20.0 to -0.6, 0.6 to 20.0 L	-50.0 to -1.5, 1.5 to 50.0 L	-100.0 to -3.0, 3.0 to 100.0 L	-200 to -6, 6 to 200 L	-500 to -15, 15 to 500 L	-1000 to -30, 30 to 1000 L	
Display		4 digit + 4 digit 2 color LCD												
Flow rate display range (□/min) *2	[B]	U	-49 to 549 mL	-99 to 1099 mL	-0.19 to 2.19 L	-0.49 to 5.49 L	-0.99 to 10.99 L	-1.9 to 21.9 L	-4.9 to 54.9 L	-9.9 to 109.9 L	-19 to 219 L	-49 to 549 L	-99 to 1099 L	
		B	-549 to 549 mL	-1099 to 1099 mL	-2.19 to 2.19 L	-5.49 to 5.49 L	-10.99 to 10.99 L	-21.9 to 21.9 L	-54.9 to 54.9 L	-109.9 to 109.9 L	-219 to 219 L	-549 to 549 L	-1099 to 1099 L	
Integration display *3	Display range		0 to ±9999999 mL			0.00 to ±99999.99 L			0.0 to ±999999.9 L			0 to ±9999999 L		
	Pulse output rate		5 mL	10 mL	0.02 L	0.05 L	0.1 L	0.2 L	0.5 L	1 L	2 L	5 L	10 L	
Working conditions	Applicable fluid *4		Clean air (JIS B 8392-1:2012 1.1.1 to 5.6.2), compressed air (JIS B 8392-1:2012 1.1.1 to 1.6.2), nitrogen gas Argon, carbon dioxide, and gas mixture (argon + carbon dioxide)									-		
	Temperature range		0 to 50°C (no condensation)											
	Pressure range		-0.09 to 1.00 MPa										-0.09 to 0.75 MPa	
	Proof pressure		1.5 MPa											
Operating ambient temperature/humidity		0 to 50°C, 90% RH or less												
Storage temperature		-10 to 60°C												
Accuracy *5 (Fluid: in dry air)	Accuracy *6		Within ±3% F.S. (Secondary side released to atmosphere) (The scope of warranty is in accordance with the "measurement flow rate range.")											
	Repeatability *7		Within ±1% F.S. (Secondary side released to atmosphere)											
Precision R	Temperature characteristics		Within ±0.2% F.S./°C (15 to 35°C, base temperature 25°C)											
	Pressure characteristics		Within ±5% F.S. (where secondary side is released to atmosphere)									Within ±5% F.S. (0.35 MPa standard)		
Response time *8		50 msec or less (setting response time OFF)												
Switch output	[G]	A, B, E, F	NPN open collector output (50 mA or less, voltage drop 2.4 V or less)											
		C, D, G, H	PNP open collector output (50 mA or less, voltage drop 2.4 V or less)											
Analog output *9	[G]	A, B, C, D	1 to 5 V voltage output (connecting load impedance 50 kΩ or more)											
		E, F, G, H	4 to 20 mA current output (connecting load impedance 0 to 300 Ω)											
Power supply voltage *10	[G]	A, B, C, D	12 to 24 VDC (10.8 to 26.4 V) ripple rate 1% or less											
		E, F, G, H	24 VDC (21.6 to 26.4 V) ripple rate 1% or less											
Current consumption *11		45 mA or less												
Lead wire		ø3.7, AWG26 or equivalent x 5-conductor (connector), insulator O.D. ø1.0												
Functions *12		① Gas type selection, ② Setting copy function, ③ Flow rate integration, ④ Peak hold, etc.												
Degree of protection		IP40 or equivalent (IEC standard)												
Protection circuit *13		Power reverse connection protection, switch output reverse connection protection, switch output load short-circuit protection												
Vibration resistance		10 to 150 Hz, 100 m/s ² , 2 hours each in X, Y, Z directions												
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8												
Mounting	Mounting orientation *14		Unrestricted in vertical/horizontal direction											
	Straight piping section *15		Not required											

*1: The value converted to volumetric flow rate at standard condition (20°C 1 barometric pressure (101 kPa) 65%RH).
(20°C, 1 atmospheric pressure (101 kPa), relative humidity 0%RH with a type of gas other than air.)

*2: Display at each flow rate is as follows.



*3: The integrated flow is a calculated (reference) value. When using the integrated save function, take care to prevent the number of saves from exceeding the access count limit of the storage device (1 million times). (Changes to various settings also are counted in the access count.)

$$\text{Number of saves} = \frac{\text{Usage time}}{5 \text{ mins}} < 1 \text{ million times}$$

When the instantaneous flow rate is 1% or less, the flow rate is counted as integrated flow rate.

*4: 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 that complies with JIS B 8392-1:2012 Class 1.1.1 to 1.6.2. Compressed air from the compressor contains drainage (water, oil oxides, foreign matter, 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. (Refer to page 1118 for details on recommended circuit.)

The sensor for oxygen gas is a custom model. To prevent ignition accidents, do not allow oxygen to flow again when a fluid other than oxygen has flown even once.

*5: Compressed air is used for adjusting and inspecting this product. Accuracy for gas types other than air is a guideline.

*6: Accuracy is based on a CKD standard flow rate meter. It does not indicate absolute accuracy.

Repeatability, temperature characteristics, and pressure characteristics are not included for an accuracy of ±3% F.S. Consider separately according to the working environment and working conditions.

*7: Repeatability calculated during a short time. Change over time is not included. (Refer to the product specifications for details.)

*8: The actual response time changes depending on the piping conditions. As a guideline, the response time setting can be selected within the range 50 msec to 1.5 sec.

*9: The output impedance of the output impedance of the analog output voltage output is approximately 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.

*10: The power supply voltage specifications differ for the voltage output and current output types.

*11: Current for when 24 VDC is connected, and no load is applied. The current consumption will vary depending on how the load is connected.

*12: The gas type switching function enables switching to argon, carbon dioxide and a gas mixture of argon 80% + carbon dioxide 20%. The full scale flow rate and analog output after changing are as follows. (Note that the gas change function cannot be set with the 500 L/min, and 1000 L/min oxygen models.)

Gas	Flow direction	Measured flow rate range (□/min)							
		005	010	020	100	200	500	101	201
•Air •Nitrogen •Argon •Argon80%+ Carbon dioxide20%	Uni-direction	15 to 500mL	30 to 1000mL	0.06 to 2.00L	0.30 to 10.00L	0.6 to 20.0L	1.5 to 50.0L	3.0 to 100.0L	6 to 200L
	Bi-direction	-500 to -15mL	-1000 to -30mL	-2.00 to -0.06L	-10.00 to -0.30L	-20.0 to -0.6L	-50.0 to -1.5L	-100.0 to -3.0L	-200 to -6L
•Carbon dioxide	Uni-direction	15 to 250mL	30 to 500mL	0.06 to 1.00L	0.30 to 5.00L	0.6 to 10.0L	1.5 to 25.0L	3.0 to 50.0L	6 to 100L
	Bi-direction	-250 to -15mL	-500 to -30mL	-1.00 to 0.06L	-5.00 to 0.30L	-10.0 to -0.6L	-25.0 to -1.5L	-50.0 to -3.0L	-100 to -6L
		15 to 250mL	30 to 500mL	0.06 to 1.00L	0.30 to 5.00L	0.6 to 10.0L	1.5 to 25.0L	3.0 to 50.0L	6 to 100L

Gas	Flow direction	Analog output			
		Output A		Output B	
		Voltage	Current	Voltage	Current
•Carbon dioxide	Uni-direction	1 to 3V	4 to 12mA	1 to 5V	4 to 20mA
	Bi-direction	2 to 4V	8 to 16mA	1 to 5V	4 to 20mA

The "Setting copy function" setting is selected at "Ⓞ Output specifications".

Note that the "External input" function is not available on models on which the "Setting copy function" is enabled.

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

*14: This product measures changes in heat distribution that are caused by flow.

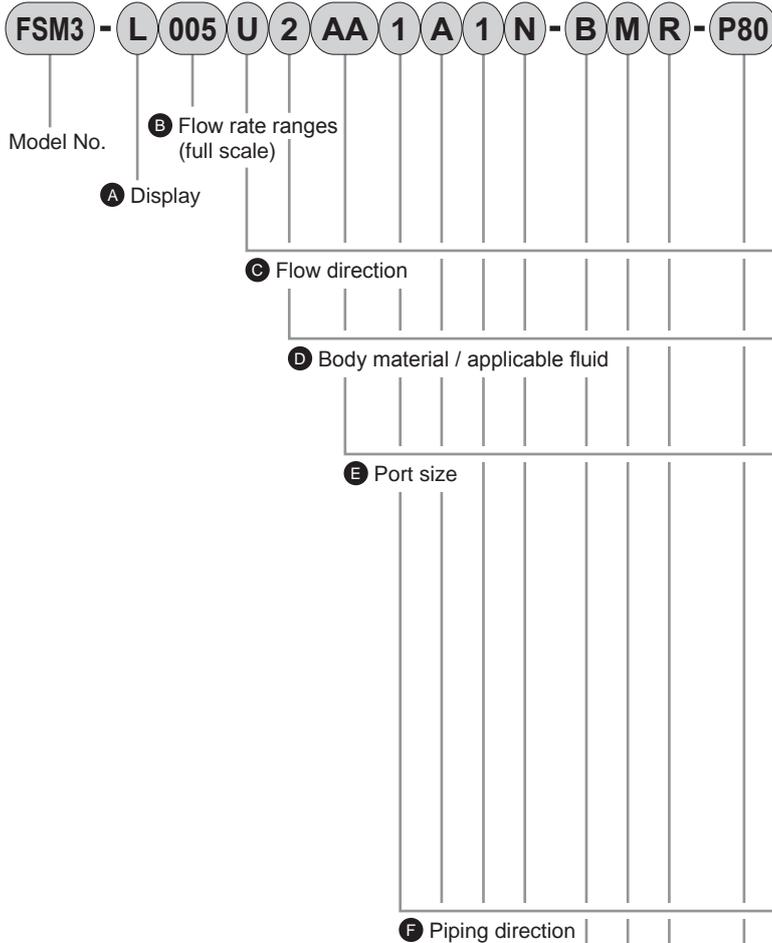
When this product is mounted in a vertical orientation, convective flow may affect heat distribution or cause the zero point to deviate.

*15: Accuracy may be affected by the piping conditions. To perform measurement with greater accuracy, install a straight pipe with a piping I.D. ten times larger. With the 500 L/min and 1,000 L/min models, use piping with an internal diameter of 9 mm or more. If it is less than 9 mm, accuracy may be negatively affected.

*16: Refer to page 1106 for weight.

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder Switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R.(module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

How to order



[Example of model No.]

FSM3-L005U2AA1A1N-BMR-P80

Model: RAPIFLOW FSM3 Series

A Display L : Liquid crystal display

B Flow rate 005 : 500 mL/min

C Flow direction U : Uni-direction

D Body material / applicable fluid 2 : SUS/air

E Port size AA : Rc1/8

F Piping direction 1 : Straight

G Output specifications A : Analog voltage output ×1, NPN switch output ×1, setting copy function

H Unit specifications 1 : SI units only

I Valve option N : None

J Lead wire B : 5-conductor 3 m

K Mounting attachment M : DIN rail mount

L Attached documents R : Company certification

M Clean-room specifications P80 : Oil free

⚠ Precautions for model No. selection

- *1: Refer to the correspondence table on the following page when selecting the model.
- *2: The only **I** valve option is "N: None" with models where the flow direction is "B: Bidirectional" and models where the applicable fluid is oxygen.
- *3: "3: Oxygen" cannot be selected with 500 L/min and 1000 L/min models.
- *4: The G thread connection shape is compliant with ISO16030 standards.
- *5: Please refer to the external dimension diagram (Page 1076) for the G thread connection shape when making a selection. (The G thread connection shape is compliant with JIS B 2351-1, O types.)
- *6: Models with the unit switching function are not sold in Japan.
- *7: Optional parts are provided with the product. They are not assembled to the product.
- *8: The product surface is degreased and cleaned before packaging, and heat-sealed into an antistatic bag on a clean bench (Class 1000 or more).
- *9: In addition to P70 specifications, wetted section materials are degreased and cleaned.
- *10: No oxygen type can be selected (None only).

Code	Description		
A Display			
L	Liquid crystal display		
B Flow rate ranges (full scale)			
005	500 mL/min	500	50 L/min
010	1000 mL/min	101	100 L/min
020	2 L/min	201	200 L/min
050	5 L/min	501	500 L/min
100	10 L/min	102	1000 L/min
200	20 L/min		
C Flow direction *2			
U	Uni-direction		
B	Bi-direction		
D Body material / applicable fluid			
	Body material	Applicable fluid	
2	SUS	Air (gas switchable)	
3	SUS	Oxygen (oil-prohibited specifications) *3	
E Port size			
AA	Rc1/8		
BA	Rc1/4		
CA	Rc1/2		
AF	G1/8	*4	
BF	G1/4	*4	
CF	G1/2	*4	
AB	G1/8	*5	
BB	G1/4	*5	
CB	G1/2	*5	
AC	NPT1/8		
BC	NPT1/4		
CC	NPT1/2		
AD	1/4" double barbed fitting (50 L/min or less)		
BD	1/4" double barbed fitting (50 to 200 L/min)		
AE	1/4" JXR male fitting (50 L/min or less)		
BE	1/4" JXR male fitting (50 to 200 L/min)		
F Piping direction			
1	Straight		
G Output specifications			
	Analog output	Switch output	Setting copy function
A	1 point	1 point (NPN)	With
B	(Voltage	2 points (NPN)	-
C	output)	1-point output (PNP)	With
D	1-5 V	2-points output (PNP)	-
E	1 point	1 point (NPN)	With
F	(Current	2 points (NPN)	-
G	output)	1-point output (PNP)	With
H	4-20 mA	2-points output (PNP)	-
H Unit specifications			
1	SI units only		
2	With unit switching function (overseas models only) *6		
I Valve option *2, *10			
N	None		
T	With needle valve (only for models 200 L or less)		
J Lead wire			
Blank	None		
A	5-conductor 1 m		
B	5-conductor 3 m		
K Mounting (not assembled) *7			
Blank	None		
H	Bracket 1 (for models 200 L or less)		
J	Bracket 2 (for 500 or 1000 L models)		
K	Panel mounting (for sensor products of models 200 L or less)		
L	Panel mounting (for needle valves of models 200 L or less)		
M	DIN rail mounting (for models 200 L or less)		
L Attached documents			
Blank	None		
R	Company certification		
S	Company certification + Traceability certification		
M Clean-room specifications *10			
P70	Anti-dust generation *8		
P80	Oil free *9		

Flow rate ranges and port sizes

		E Port sizes															
		AA	BA	CA	AF	BF	CF	AB	BB	CB	AC	BC	CC	AD	BD	AE	BE
		Rc1/8	Rc1/4	Rc1/2	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2	NPT1/8	NPT1/4	NPT1/2	1/4" Double barbed fitting		1/4" JXR Male fitting	
B Flow rate codes	005	●○			●○			●○			●○			●○		●○	
	010	●○			●○			●○			●○			●○		●○	
	020	●○			●○			●○			●○			●○		●○	
	050	●○			●○			●○			●○			●○		●○	
	100	●○			●○			●○			●○			●○		●○	
	200	●○			●○			●○			●○			●○		●○	
	500	●○	●○		●○	●○		●○	●○		●○	●○		●○	●○	●○	●○
	101		●○			●○			●○			●○			●○		●○
	201		●○			●○			●○			●○			●○		●○
	501			●			●			●			●				
	102			●			●			●			●				

●: Port size compatibility ○: Needle valve option compatibility

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge

Dif. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/ tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending

Dimensions (LCD display) (flow rate range: 500 mL/min to 50 L/min)

Port sizes: Straight Rc1/8, G1/8, NPT1/8

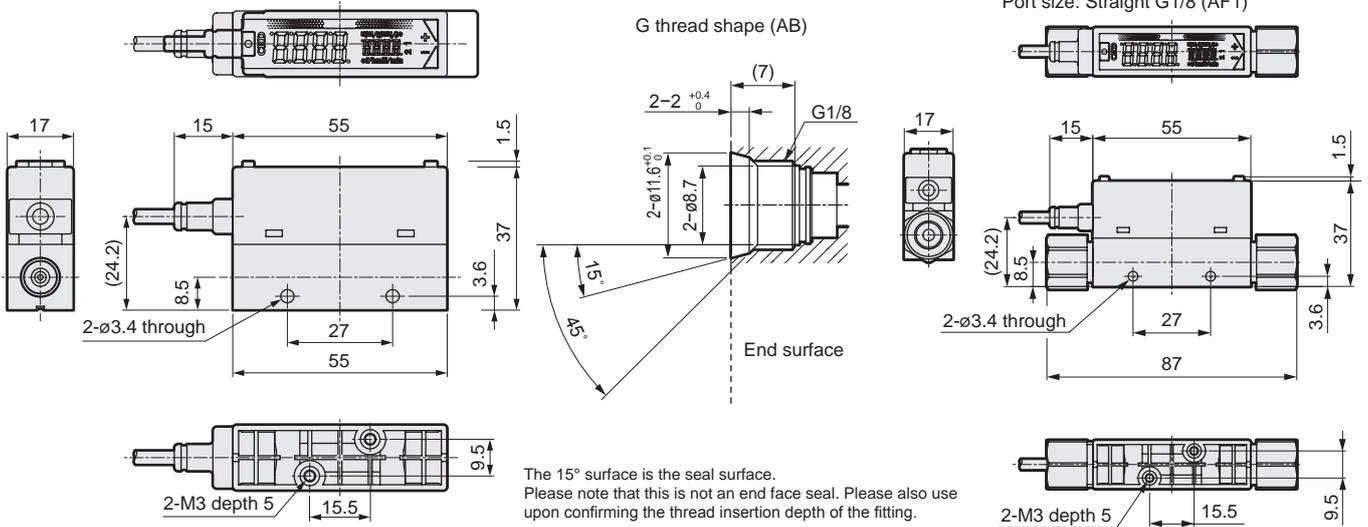
● FSM3-L $\frac{1}{8}$ AA1/AB1/AC1-P70/P80

(Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)

Port size: Straight G1/8

● FSM3-L $\frac{1}{8}$ AF1

(Full scale flow rates: 500mL/min, 1, 2, 5, 10, 20, 50L/min)



Port size: Straight 1/4" double barbed fitting

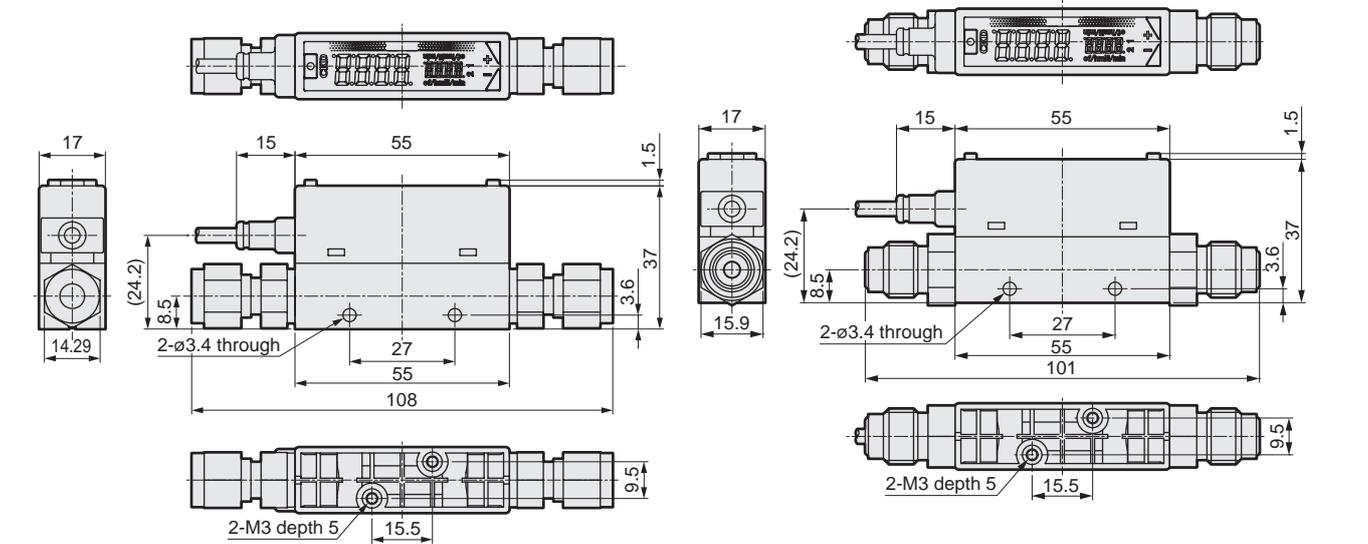
● FSM3-L $\frac{1}{4}$ AD1-P70/P80

(Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)

Port size: Straight 1/4" JXR male fitting

● FSM3-L $\frac{1}{4}$ AE1 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10,

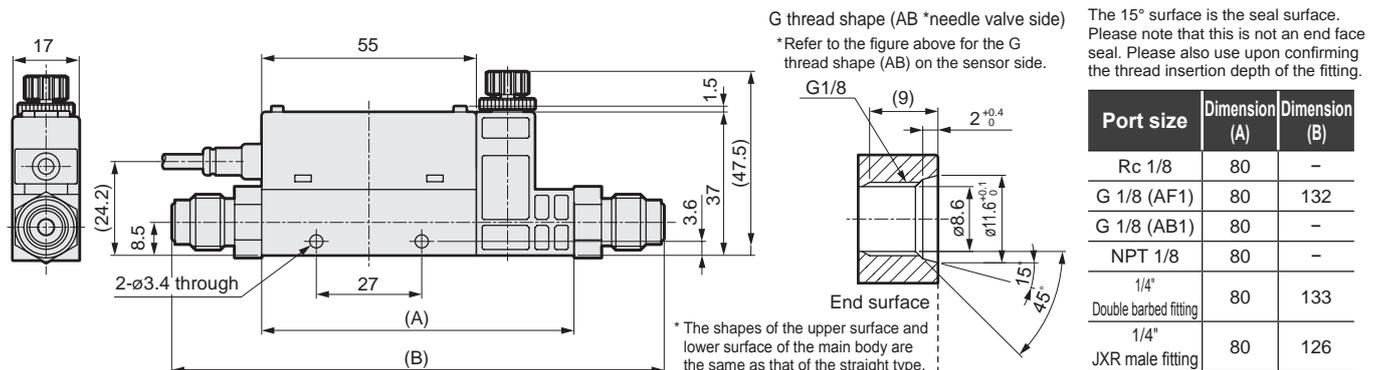
20, 50 L/min)



Solenoid valve with needle dimensions

Port sizes: Rc1/8, G1/8, NPT1/8, 1/4" double barbed fitting, 1/4" JXR male fitting

● FSM3-L $\frac{1}{8}$ AA1AF1/AB1/AC1/AD/AE $\frac{1}{4}$ HIT-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)

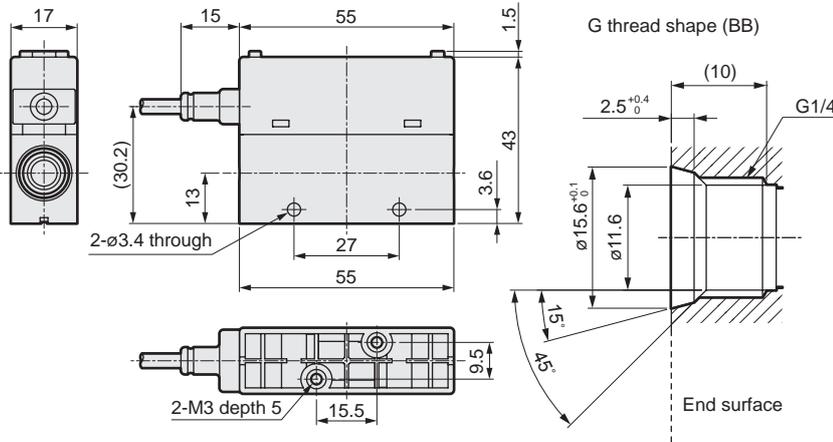


Dimensions (LCD display) (flow rate range: 50 L/min to 200 L/min)

Port sizes: Straight Rc1/4, G1/4, NPT1/4

● FSM3-L[□]C₂/BA1/BB1/BC1-P70/P80

(Full scale flow rates: 50, 100, 200 L/min)

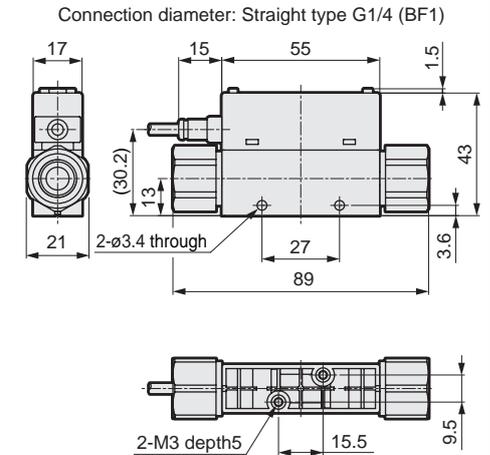


The 15° surface is the seal surface.
Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

Port size: Straight G1/4 (BF1)

● FSM3-L[□]C₂/BF1

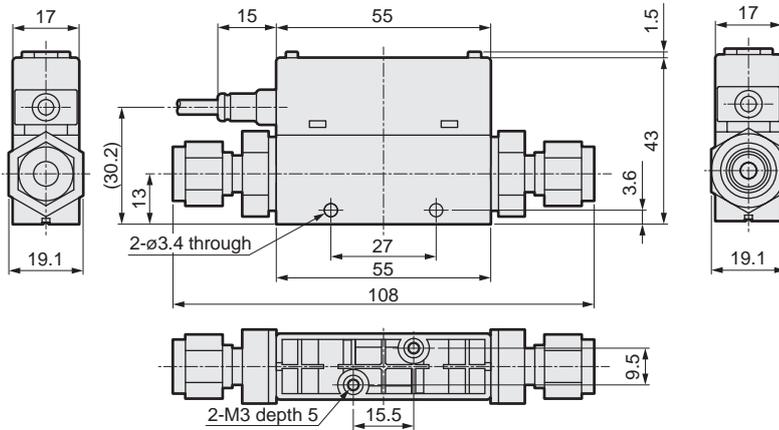
(Full scale flow rates: 50, 100, 200 L/min)



Port size: Straight 1/4" double barbed fitting

● FSM3-L[□]C₂/BD1-P70/P80

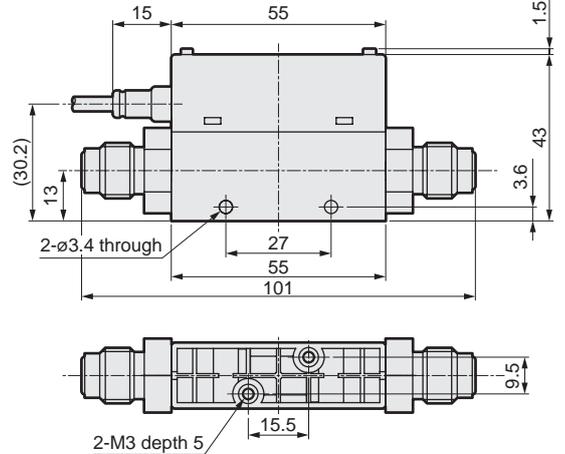
(Full scale flow rates: 50, 100, 200 L/min)



Port size: Straight 1/4" JXR male fitting

● FSM3-L[□]C₂/BE1

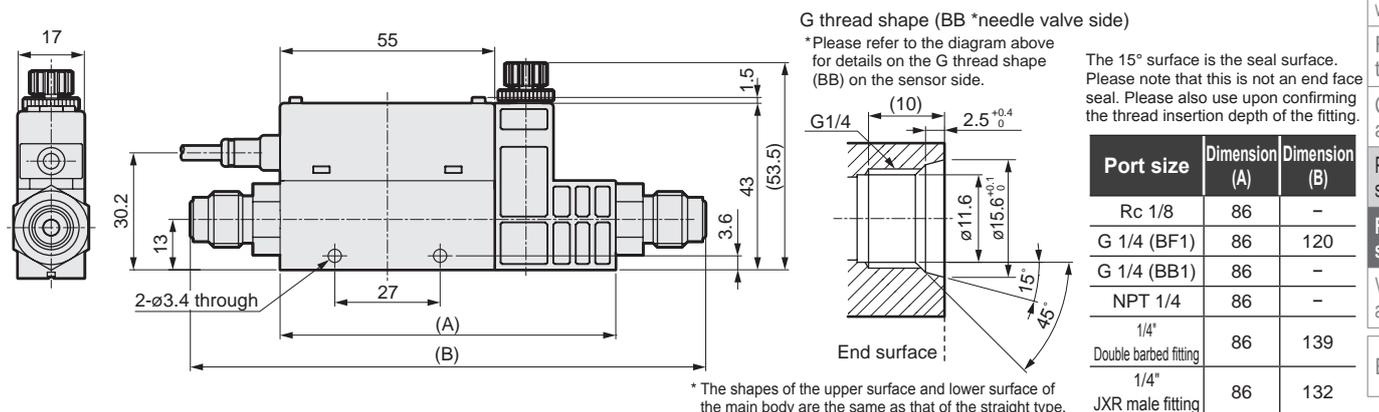
(Full scale flow rates: 50, 100, 200 L/min)



Solenoid valve with needle dimensions

Port sizes: Rc1/4, G1/4, NPT1/4, 1/4" double barbed fitting, 1/4" JXR male fitting

● FSM3-L[□]C₂/BA1/BF1/BB1/BC1/BD/BE[G/H]T-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



G thread shape (BB *needle valve side)

*Please refer to the diagram above for details on the G thread shape (BB) on the sensor side.

The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

Port size	Dimension (A)	Dimension (B)
Rc 1/8	86	-
G 1/4 (BF1)	86	120
G 1/4 (BB1)	86	-
NPT 1/4	86	-
1/4" Double barbed fitting	86	139
1/4" JXR male fitting	86	132

* The shapes of the upper surface and lower surface of the main body are the same as that of the straight type.

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge

Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/ tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

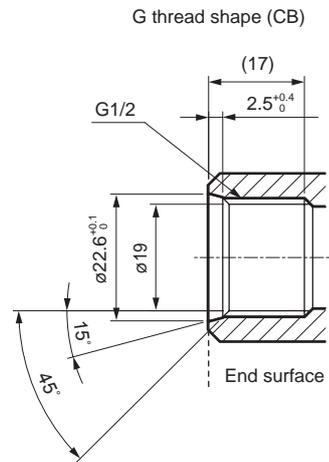
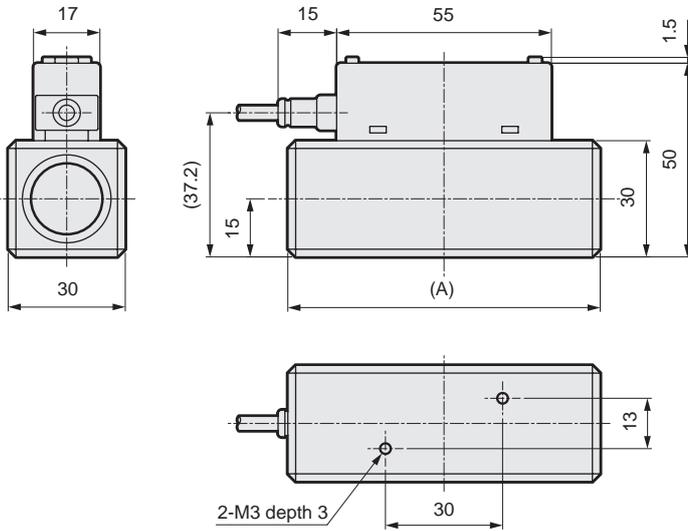
Ending

SCPD3 Dimensions (LCD display) (flow rate range: 500 L/min to 1000 L/min)

SCM Port sizes: Straight Rc1/2, G1/2, NPT1/2

SSD2 ● FSM3-L □ □ 2/CA1/CF1/CB1/CC1-P70/P80

(Full scale flow rates: 500, 1000L/min)



The 15° surface is the seal surface.
Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

Model No.	Port size	Dimension (A)
FSM3-L □ □ 2CA1	Rc1/2	(80)
FSM3-L □ □ 2CF1	G1/2	(80)
FSM3-L □ □ 2CB1	G1/2	(95.4)
FSM3-L □ □ 2CC1	NPT1/2	(80)

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

MEMO

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder
Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module
unit)

Clean
F.R

Precision
R

Press gauge
Diff. press gauge

Electro-
pneumatic R

Speed
controller

Auxiliary
valve

Fitting/
tube

Clean
air unit

Pressure
sensor

Flow rate
sensor

Valve for
air blow

Ending



Compact flow rate sensor RAPIFLOW

FSM3 Series

Bar display

● Stainless steel body (flow rate range: 500 mL/min to 1000 L/min)



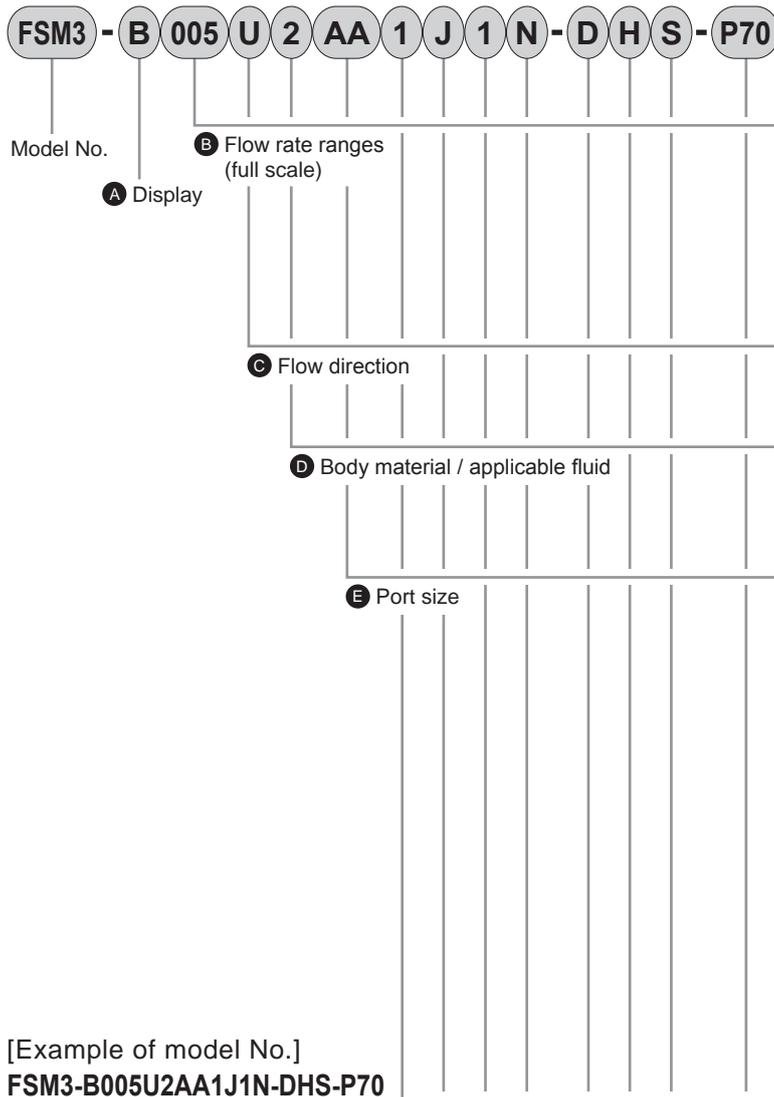
Bar display specifications

Item			FSM3-[A][B][C][D][E][F][G][H][I]-[]										
			[B]										
			005	010	020	050	100	200	500	101	201	501	102
Flow direction	[C]	U	Uni-direction										
		B	Bi-direction										
Measurement flow rate range (□/min) *1	[B]	U	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.15 to 5.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L	15 to 500 L	30 to 1000 L
		B	-500 to -15, 15 to 500 mL	-1000 to -30, 30 to 1000 mL	-2.00 to -0.06, 0.06 to 2.00 L	-5.00 to -0.15, 0.15 to 5.00 L	-10.00 to -0.30, 0.30 to 10.00 L	-20.0 to -0.6, 0.6 to 20.0 L	-50.0 to -1.5, 1.5 to 50.0 L	-100.0 to -3.0, 3.0 to 100.0 L	-200 to -6, 6 to 200 L	-500 to -15, 15 to 500 L	-1000 to -30, 30 to 1000 L
Display			LED bar display										
Working conditions	Applicable fluid *2	Clean air (JIS B 8392-1:2012 1.1.1 to 5.6.2), compressed air (JIS B 8392-1:2012 1.1.1 to 1.6.2), nitrogen gas											
		Oxygen (When oxygen specifications are selected, the clean-room specifications of (M) cannot be selected. Specifications automatically become oil-prohibited specifications.)											
		Temperature range	0 to 50°C (no condensation)										
			Pressure range	-0.09 to 1.00 MPa									-0.09 to 0.75 MPa
Proof pressure		1.5 MPa											
Operating ambient temperature/humidity			0 to 50°C, 90% RH or less										
Storage temperature			-10 to 60°C										
Accuracy	Accuracy *3	Within ±3% F.S. (Secondary side released to atmosphere) (The scope of warranty is in accordance with the "measurement flow rate range.")											
		Repeatability *4	Within ±1% F.S. (Secondary side released to atmosphere)										
			Temperature characteristics	Within ±0.2% F.S./°C (15 to 35°C, base temperature 25°C)									
		Pressure characteristics		Within ±5% F.S. (where secondary side is released to atmosphere)									Within ±5% F.S. (0.35 MPa standard)
Response time *5			50 msec or less										
Analog output *6	[G]	J	1 to 5 V voltage output (connecting load impedance 50 kΩ or more)										
		K	4 to 20 mA current output (connecting load impedance 0 to 300 Ω)										
Power supply voltage *7	[G]	J	12 to 24 VDC (10.8 to 26.4 V) ripple rate 1% or less										
		K	24 VDC (21.6 to 26.4 V) ripple rate 1% or less										
Current consumption *8			45 mA or less										
Lead wire			ø3.7, AWG26 or equivalent × 4-conductor (connector), insulator O.D. ø1.0										
Degree of protection			IP40 or equivalent (IEC standard)										
Protection circuit *9			Power supply reverse connection protection										
Vibration resistance			10 to 150 Hz, 100 m/s ² , 2 hours each in X, Y, Z directions										
EMC Directive			EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8										
Mounting	Mounting orientation *10	Unrestricted in vertical/horizontal direction											
		Straight piping section *11	Not required										

- *1: The value converted to volumetric flow rate at standard condition (20°C 1 barometric pressure (101 kPa) 65%RH).
(20°C, 1 atmospheric pressure (101kPa), relative humidity 0%RH with a gas other than air.)
- *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 that complies with JIS B 8392-1:2012 Class 1.1.1 to 1.6.2. Compressed air from the compressor contains drainage (water, oil oxides, foreign matter, 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. (Refer to page 1118 for details on recommended circuit.)
The sensor for oxygen gas is a custom model. To prevent ignition accidents, do not allow oxygen to flow again when a fluid other than oxygen has flown even once.
- *3: Accuracy is based on a CKD standard flow rate meter. It does not indicate absolute accuracy.
Repeatability, temperature characteristics, and pressure characteristics are not included for an accuracy of ±3% F.S.
Consider separately according to the working environment and working conditions.
- *4: Repeatability calculated during a short time. Change over time is not included. (Refer to the product specifications for details.)
- *5: The actual response time changes depending on the piping conditions.
- *6: The output impedance of the output impedance of the analog output voltage output is approximately 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.
- *7: The power supply voltage specifications differ for the voltage output and current output types.
- *8: Current for when 24 VDC is connected, and no load is applied. The current consumption will vary depending on how the load is connected.
- *9: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.
- *10: This product measures changes in heat distribution that are caused by flow.
When this product is mounted in a vertical orientation, convective flow may affect heat distribution or cause the zero point to deviate.
- *11: Accuracy may be affected by the piping conditions. To perform measurement with greater accuracy, install a straight pipe with a piping I.D. ten times larger. With the 500 L/min and 1,000 L/min models, use piping with an internal diameter of 9 mm or more. If it is less than 9 mm, accuracy may be negatively affected.
- *12: Refer to page 1106 for weight.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

How to order



[Example of model No.]

FSM3-B005U2AA1J1N-DHS-P70

Model: RAPIFLOW FSM3 Series

- A** Display B : Bar display
- B** Flow rate 005 : 500 mL/min
- C** Flow direction U : Uni-direction
- D** Body material / applicable fluid 2 : SUS/air
- E** Port size AA : Rc1/8
- F** Piping direction 1 : Straight
- G** Output specifications J : Analog voltage output × 1
- H** Unit specifications 1 : SI units only
- I** Valve option N : None
- J** Lead wire D : 4-conductor 3 m
- K** Mounting attachment H : Bracket
- L** Attached documents S : Company certification + Traceability certification
- M** Clean-room specifications P70 : Anti-dust generation

⚠ Precautions for model No. selection

- *1: Refer to the correspondence table on the following page when selecting the model.
- *2: When using in combination with a separated display (FSM2-D), select "J".
- *3: "3: Oxygen" cannot be selected with 500 L/min and 1000 L/min models.
- *4: The G thread connection shape is compliant with ISO16030 standards.
- *5: Please refer to the external dimension diagram (Page 1084) for the G thread connection shape when making a selection. (The G thread connection shape is compliant with JIS B 2351-1, O types.)
- *6: Optional parts are provided with the product. They are not assembled with the product.
- *7: The product surface is degreased and cleaned before packaging, and heat-sealed into an antistatic bag on a clean bench (Class 1000 or more).
- *8: In addition to P70 specifications, wetted section materials are degreased and cleaned.
- *9: This cannot be selected on an oxygen type (blank only).

Code	Description
A	Display
B	Bar display

B Flow rate ranges (full scale)			
005	500 mL/min	500	50 L/min
010	1000 mL/min	101	100 L/min
020	2 L/min	201	200 L/min
050	5 L/min	501	500 L/min
100	10 L/min	102	1000 L/min
200	20 L/min		

C Flow direction	
U	Uni-direction
B	Bi-direction

D Body material / applicable fluid		
	Body material	Applicable fluid
2	SUS	Air
3	SUS	Oxygen (oil-prohibited specifications) *3

E Port size		
AA	Rc1/8	
BA	Rc1/4	
CA	Rc1/2	
AF	G1/8	*4
BF	G1/4	*4
CF	G1/2	*4
AB	G1/8	*5
BB	G1/4	*5
CB	G1/2	*5
AC	NPT1/8	
BC	NPT1/4	
CC	NPT1/2	
AD	1/4" double barbed fitting (50 L/min or less)	
BD	1/4" double barbed fitting (50 to 200 L/min)	
AE	1/4" JXR male fitting (50 L/min or less)	
BE	1/4" JXR male fitting (50 to 200 L/min)	

F Piping direction	
1	Straight

G Output specifications	
J	Analog voltage output × 1 point
K	Analog current output × 1 point

H Unit specifications	
1	SI units only

I Valve option	
N	None

J Lead wire	
Blank	None
C	4-conductor 1 m
D	4-conductor 3 m

K Mounting (not assembled)	
Blank	None
H	Bracket 1 (for models 200 L or less)
J	Bracket 2 (for 500 or 1000 L models)
M	DIN rail mounting (for models 200 L or less)

L Attached documents	
Blank	None
R	Company certification
S	Company certification + Traceability certification

M Clean-room specifications		
P70	Anti-dust generation	*7
P80	Oil free	*8

Flow rate ranges and port sizes

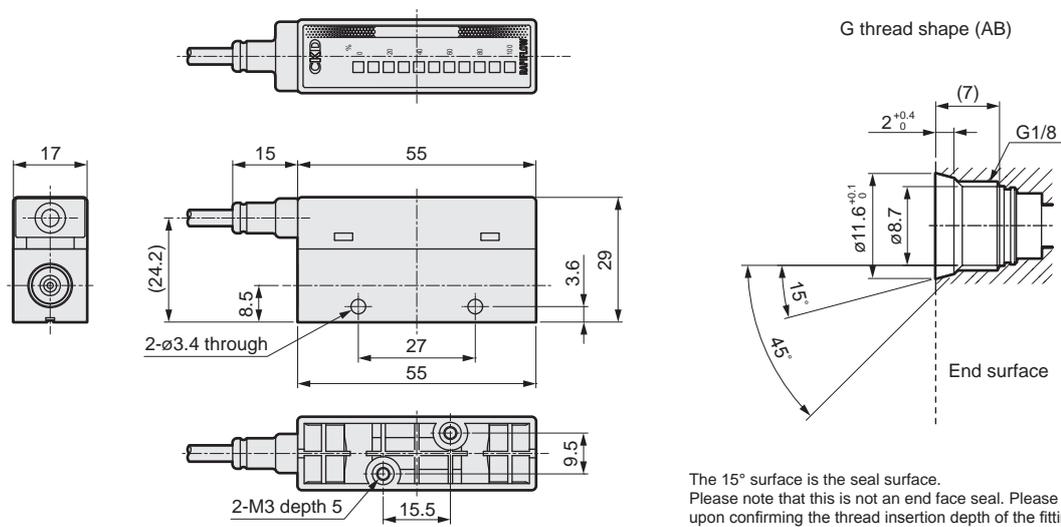
		E Port sizes															
		AA	BA	CA	AF	BF	CF	AB	BB	CB	AC	BC	CC	AD	BD	AE	BE
		Rc1/8	Rc1/4	Rc1/2	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2	NPT1/8	NPT1/4	NPT1/2	1/4" Double barbed fitting		1/4" JXR Male fitting	
B Flow rate codes	005	●			●			●			●			●		●	
	010	●			●			●			●			●		●	
	020	●			●			●			●			●		●	
	050	●			●			●			●			●		●	
	100	●			●			●			●			●		●	
	200	●			●			●			●			●		●	
	500	●	●		●	●		●	●		●	●		●	●	●	●
	101		●			●			●			●			●		●
	201		●			●			●			●			●		●
	501			●			●			●			●				
	102			●			●			●			●				

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

SCPD3 Dimensions (bar display) (flow rate range: 500 mL/min to 50 L/min)

SCM Port sizes: Straight Rc1/8, G1/8, NPT1/8
 ● FSM3-B \square \square \square \square /AA1/AB1/AC1-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)

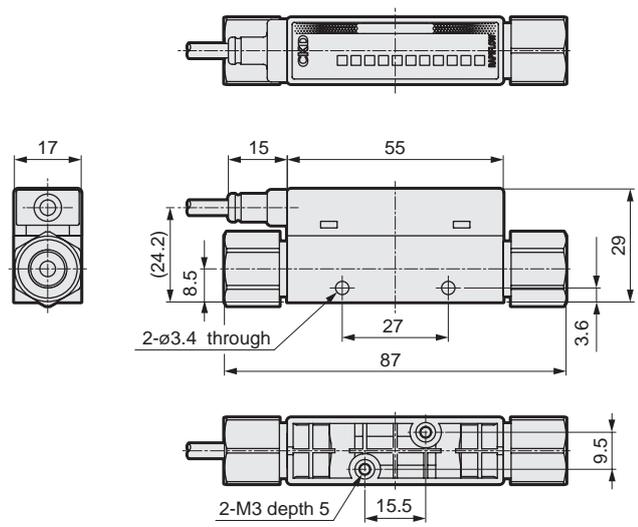
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG



The 15° surface is the seal surface.
 Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

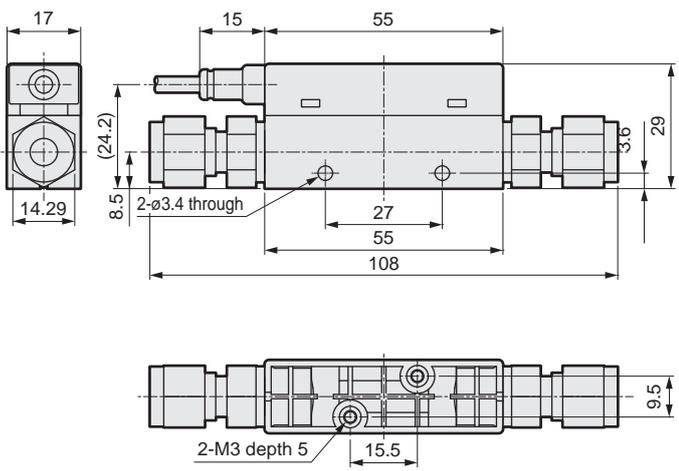
STR2 Port size: Straight G1/8
 ● FSM3-B \square \square \square \square /AF1-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)

- MRL2
- GRC
- Cylinder switch
- MN3E MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge Diff. press gauge

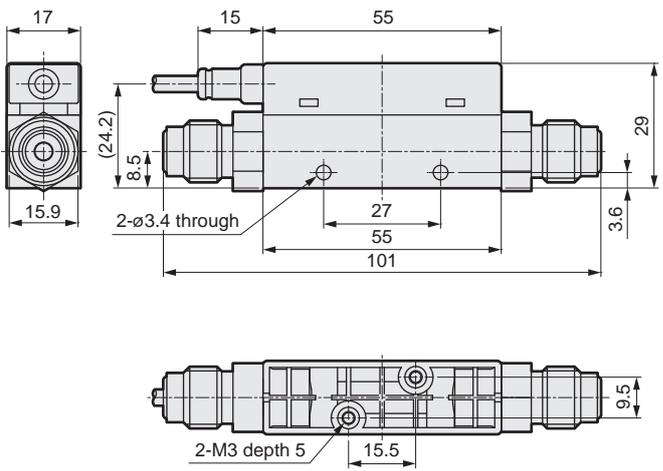


Auxiliary valve Port size: Straight 1/4" double barbed fitting
 ● FSM3-B \square \square \square \square /AD1-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)

- Electro-pneumatic R
- Speed controller
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow



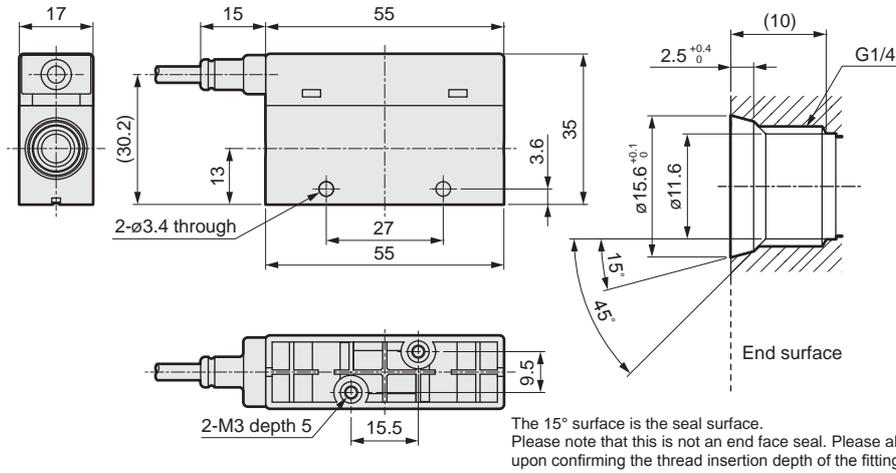
Ending Port size: Straight 1/4" JXR male fitting
 ● FSM3-B \square \square \square \square /AE1-P70/P80 (Full scale flow rates: 500 mL/min, 1, 2, 5, 10, 20, 50 L/min)



Dimensions (bar display) (flow rate range: 50 L/min to 1000 L/min)

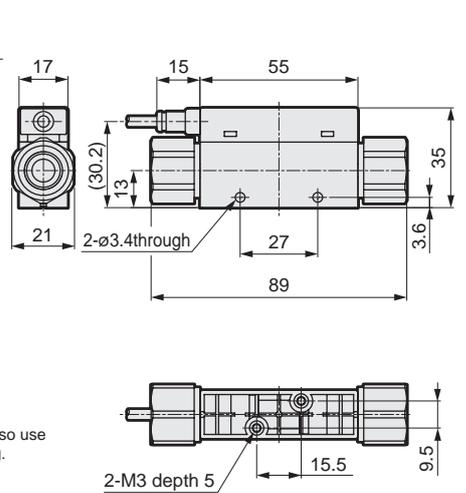
Port sizes: Straight Rc1/4, G1/4, NPT1/4

- FSM3-B□□□₃/BA1/BB1/BC1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)
G thread shape (BB)



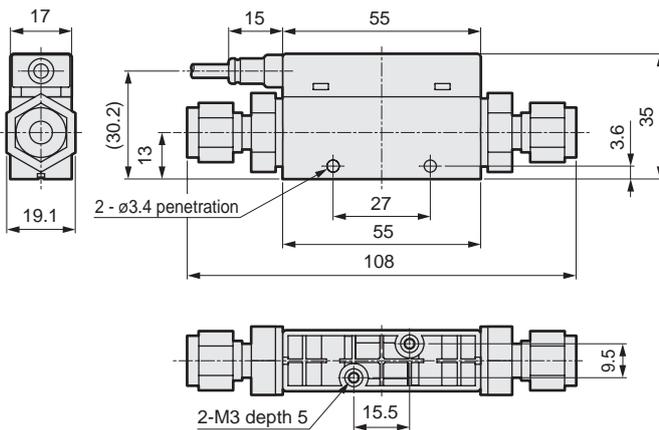
Port size: Straight G1/4

- FSM3-B□□□₃/BF1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



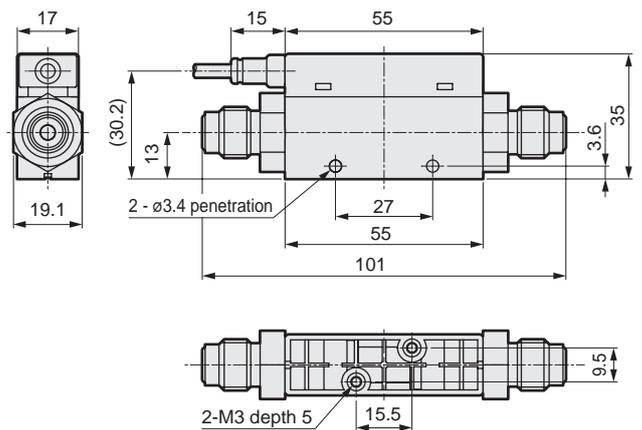
Port size: Straight 1/4" double barbed fitting

- FSM3-B□□□₃/BD1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



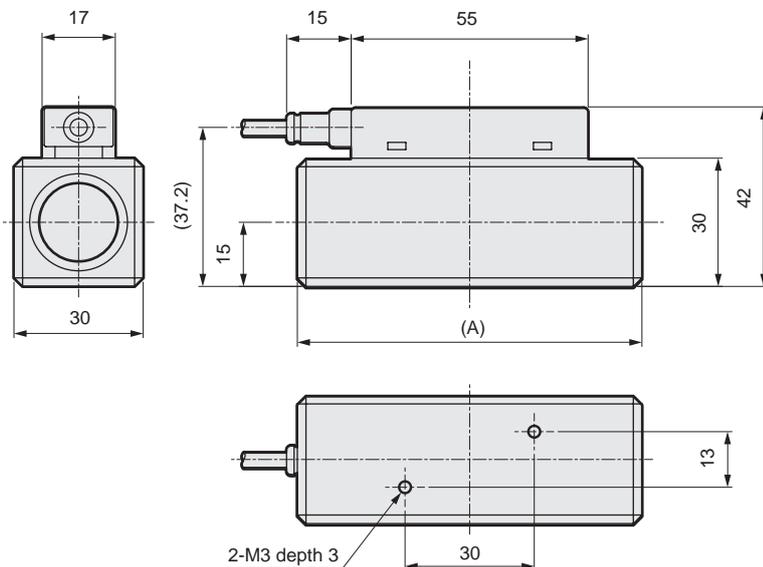
Port size: Straight 1/4" JXR male fitting

- FSM3-B□□□₃/BE1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)

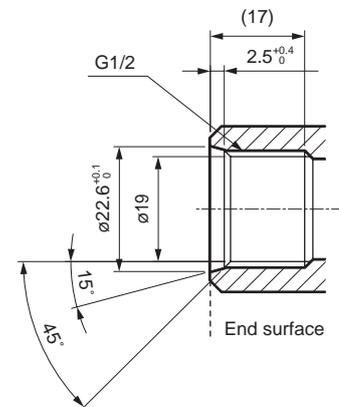


Port sizes: Straight Rc1/2, G1/2, NPT1/2

- FSM3-B□□□₂/CA1/CF1/CB1/CC1-P70/P80 (Full scale flow rates: 500, 1000 L/min)



G thread shape (CB)



The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

Model No.	Port size	Dimension (A)
FSM3-B□□□ ₂ CA1	Rc1/2	(80)
FSM3-B□□□ ₂ CF1	G1/2	(80)
FSM3-B□□□ ₂ CB1	G1/2	(95.4)
FSM3-B□□□ ₂ CC1	NPT1/2	(80)

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending



Compact flow rate sensor RAPIFLOW

FSM3 Series

IO-Link

● Stainless steel body (flow rate range: 500 mL/min to 1000 L/min)



IO-Link specifications

Item		FSM3-[A][B][C][D][E][F][G][H][I]-[]												
		[B]												
		005	010	020	050	100	200	500	101	201	501	102		
Flow direction	[C]	U	Uni-direction											
		B	Bi-direction											
Measurement flow rate range (□/min) *1	[B]	U	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.15 to 5.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L	15 to 500 L	30 to 1000 L	
		B	-500 to -15, 15 to 500 mL	-1000 to -30, 30 to 1000 mL	-2.00 to -0.06, 0.06 to 2.00 L	-5.00 to -0.15, 0.15 to 5.00 L	-10.00 to -0.30, 0.30 to 10.00 L	-20.0 to -0.6, 0.6 to 20.0 L	-50.0 to -1.5, 1.5 to 50.0 L	-100.0 to -3.0, 3.0 to 100.0 L	-200 to -6, 6 to 200 L	-500 to -15, 15 to 500 L	-1000 to -30, 30 to 1000 L	
Display		LED display (power and status indicators)												
Working conditions	Applicable fluid *2	Clean air (JIS B 8392-1:2012 1.1.1 to 5.6.2), compressed air (JIS B 8392-1:2012 1.1.1 to 1.6.2), nitrogen gas										Argon, carbon dioxide, and gas mixture (argon + carbon dioxide)		-
		Oxygen (When oxygen specifications are selected, the clean-room specifications of ㉓ cannot be selected. Specifications automatically become oil-prohibited specifications.)												-
	Temperature range	0 to 50°C (no condensation)												
	Pressure range	-0.09 to 1.00 MPa										-0.09 to 0.75 MPa		
	Proof pressure	1.5 MPa												
Operating ambient temperature/humidity		0 to 50°C, 90% RH or less												
Storage temperature		-10 to 60°C												
Accuracy *3	Accuracy *4	Within ±3% F.S. (Secondary side released to atmosphere) (The scope of warranty is in accordance with the "measurement flow rate range.")												
	Repeatability *5	Within ±1% F.S. (Secondary side released to atmosphere)												
	Temperature characteristics	Within ±0.2% F.S./°C (15 to 35°C, base temperature 25°C)												
	Pressure characteristics	Within ±5% F.S. (where secondary side is released to atmosphere)										Within ±5% F.S. (0 to 0.75 MPa, 0.35 MPa standard)		
Response time *6		50 msec or less												
Power supply voltage		18 to 30 VDC (ripple rate 1% or less)												
Current consumption *7		45 mA or less												
Lead wire *8		M12 both-end connector lead wire (3 m), AWG#23 or equivalent, 4-conductor												
Functions *9, *10		① Gas type selection, ② Flow rate integration, ③ Peak hold, etc.												
Degree of protection		IP40 or equivalent (IEC standard)												
Protection circuit *11		Power supply reverse connection protection												
Vibration resistance *12		10 to 150 Hz, 100 m/s ² , 2 hours each in X, Y, Z directions												
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8												
Mounting	Mounting orientation *13	Unrestricted in vertical/horizontal direction												
	Straight piping section *14	Not required												

* Refer to page 1112 for communication specifications.

- *1: The value converted to volumetric flow rate at standard condition (20°C 1 barometric pressure (101 kPa) 65%RH). (20°C, 1 atmospheric pressure (101kPa), 0%RH with a gas other than air.)
- *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 that complies with JIS B 8392-1:2012 Class 1.1.1 to 1.6.2. Compressed air from the compressor contains drainage (water, oil oxides, foreign matter, 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. (Refer to page 1118 for details on recommended circuit.)
The sensor for oxygen gas is a custom model. To prevent ignition accidents, do not allow oxygen to flow again when a fluid other than oxygen has flown even once.
- *3: Compressed air is used for adjusting and inspecting this product. Accuracy for gas types other than air is a guideline.
- *4: Accuracy is based on a CKD standard flow rate meter. It does not indicate absolute accuracy.
Repeatability, temperature characteristics, and pressure characteristics are not included for an accuracy of ±3% F.S.
Consider separately according to the working environment and working conditions.
- *5: Repeatability calculated during a short time. Change over time is not included. (Refer to the product specifications for details.)
- *6: The actual response time changes depending on the piping conditions.
- *7: Current for when 24 VDC is connected, and no load is applied. The current consumption will vary depending on how the load is connected.
- *8: The male end is straight, and the female end is angled. (Refer to page 1114.)
Tighten the M12 connector at a torque of 0.5 N·m or less.
Note, however, that using excessive force to tighten the connector can cause it to break.
- *9: The gas type switching function enables switching to argon, carbon dioxide and a gas mixture of argon 80% + carbon dioxide 20%.
The measurement flow rate ranges after switching are as follows. (Note that the gas change function cannot be set with the 500 L/min, and 1000 L/min oxygen models.)

Gas type	Flow direction	Measurement flow rate range (□/min)							
		005	010	020	100	200	500	101	201
• Air • Nitrogen • Argon • Argon 80% + carbon dioxide 20%	Uni-direction	15 to 500 mL	30 to 1000 mL	0.06 to 2.00 L	0.30 to 10.00 L	0.6 to 20.0 L	1.5 to 50.0 L	3.0 to 100.0 L	6 to 200 L
	Bi-direction	-500 to -15 mL	-1000 to -30 mL	-2.00 to -0.06 L	-10.00 to -0.30 L	-20.0 to -0.6 L	-50.0 to -1.5 L	-100.0 to -3.0 L	-200 to -6 L
• Carbon dioxide	Uni-direction	15 to 250 mL	30 to 500 mL	0.06 to 1.00 L	0.30 to 5.00 L	0.6 to 10.0 L	1.5 to 25.0 L	3.0 to 50.0 L	6 to 100 L
	Bi-direction	-250 to -15 mL	-500 to -30 mL	-1.00 to -0.06 L	-5.00 to -0.30 L	-10.0 to -0.6 L	-25.0 to -1.5 L	-50.0 to -3.0 L	-100 to -6 L
		15 to 250 mL	30 to 500 mL	0.06 to 1.00 L	0.30 to 5.00 L	0.6 to 10.0 L	1.5 to 25.0 L	3.0 to 50.0 L	6 to 100 L

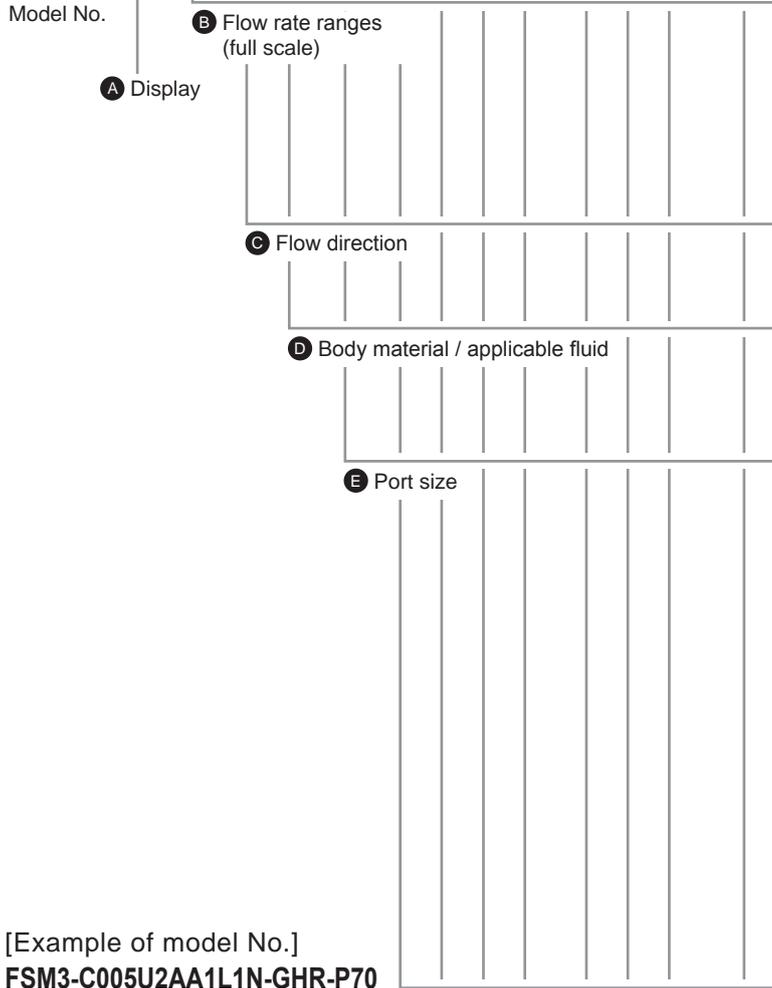
- *10: The integrated flow is a calculated (reference) value. When using the integrated save function, take care to prevent the number of saves from exceeding the access count limit of the storage device (1 million times). (Changes to various settings also are counted in the access count.)
$$\text{Number of saves} = \frac{\text{Usage time}}{5 \text{ mins}} < 1 \text{ million times}$$

When the instantaneous flow rate is 1% or less, the flow rate is counted as integrated flow rate.
- *11: This product's protection circuit is effective only for specific misconnections and load short-circuits. It does not provide protection for all misconnections.
- *12: A communication error might occur depending on the vibration conditions. Install this product as far as possible in a place not subject to vibration.
- *13: This product measures changes in heat distribution that are caused by flow.
When this product is mounted in a vertical orientation, convective flow may affect heat distribution or cause the zero point to deviate.
- *14: Accuracy may be affected by the piping conditions. To perform measurement with greater accuracy, install a straight pipe with a piping I.D. ten times larger. With the 500 L/min and 1,000 L/min models, use piping with an internal diameter of 9 mm or more. If it is less than 9 mm, accuracy may be negatively affected.
- *15: Refer to page 1106 for weight.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

How to order

FSM3 - C 005 U 2 AA 1 L 1 N - G H R - P70



[Example of model No.]

FSM3-C005U2AA1L1N-GHR-P70

Model: RAPIFLOW FSM3 Series

- A** Display C : IO-Link
- B** Flow rate 005 : 500 mL/min
- C** Flow direction U : Uni-direction
- D** Body material / applicable fluid 2 : SUS/air
- E** Port size AA : Rc1/8
- F** Piping direction 1 : Straight
- G** Output specifications L : IO-Link
- H** Unit specifications 1 : SI units only
- I** Valve option N : None
- J** Lead wire G : M12 both-end lead wire with connector (3 m)
- K** Mounting attachment H : Bracket
- L** Attached documents R : Company certification
- M** Clean-room specifications P70 : Anti-dust generation

⚠ Precautions for model No. selection

- *1: Refer to the correspondence table on the following page when selecting the model.
- *2: "3: Oxygen" cannot be selected with 500 L/min and 1000 L/min models.
- *3: The G thread connection shape is compliant with ISO16030 standards.
- *4: Please refer to the external dimension diagram (Page 1090) for the G thread connection shape when making a selection. (The G thread connection shape is compliant with JIS B 2351-1, O types.)
- *5: Optional parts are provided with the product. They are not assembled with the product.
- *6: The product surface is degreased and cleaned before packaging, and heat-sealed into an antistatic bag on a clean bench (Class 1000 or more).
- *7: In addition to P70 specifications, wetted section materials are degreased and cleaned.
- *8: This cannot be selected on an oxygen type (blank only).

Code	Description
------	-------------

A Display	
C	IO-Link

B Flow rate ranges (full scale)			
005	500 mL/min	500	50 L/min
010	1000 mL/min	101	100 L/min
020	2 L/min	201	200 L/min
050	5 L/min	501	500 L/min
100	10 L/min	102	1000 L/min
200	20 L/min		

C Flow direction	
U	Uni-direction
B	Bi-direction

D Body material / applicable fluid		
	Body material	Applicable fluid
2	SUS	Air (gas switchable)
3	SUS	Oxygen (oil-prohibited specifications) *2

E Port size		
AA	Rc1/8	
BA	Rc1/4	
CA	Rc1/2	
AF	G1/8	*3
BF	G1/4	*3
CF	G1/2	*3
AB	G1/8	*4
BB	G1/4	*4
CB	G1/2	*4
AC	NPT1/8	
BC	NPT1/4	
CC	NPT1/2	
AD	1/4" double barbed fitting (50 L/min or less)	
BD	1/4" double barbed fitting (50 to 200 L/min)	
AE	1/4" JXR male fitting (50 L/min or less)	
BE	1/4" JXR male fitting (50 to 200 L/min)	

F Piping direction	
1	Straight

G Output specifications	
L	IO-Link communication

H Unit specifications	
1	SI units only

I Valve option	
N	None

J Lead wire	
Blank	None
G	M12 both-end lead wire with connector (3 m)

K Mounting (not assembled) *5	
Blank	None
H	Bracket 1 (for models 200 L or less)
J	Bracket 2 (for 500 or 1000 L models)
M	DIN rail mounting (for models 200 L or less)

L Attached documents	
Blank	None
R	Company certification
S	Company certification + Traceability certification

M Clean-room specifications *8	
P70	Anti-dust generation *6
P80	Oil free *7

Flow rate ranges and port sizes

		E Port sizes															
		AA	BA	CA	AF	BF	CF	AB	BB	CB	AC	BC	CC	AD	BD	AE	BE
		Rc1/8	Rc1/4	Rc1/2	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2	NPT1/8	NPT1/4	NPT1/2	1/4" Double barbed fitting		1/4" JXR Male fitting	
B Flow rate codes	005	●			●			●			●			●		●	
	010	●			●			●			●			●		●	
	020	●			●			●			●			●		●	
	050	●			●			●			●			●		●	
	100	●			●			●			●			●		●	
	200	●			●			●			●			●		●	
	500	●	●		●	●		●	●		●	●		●	●	●	●
	101		●			●			●			●			●		●
	201		●			●			●			●			●		●
	501			●			●			●			●				
	102			●			●			●			●				

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder
Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

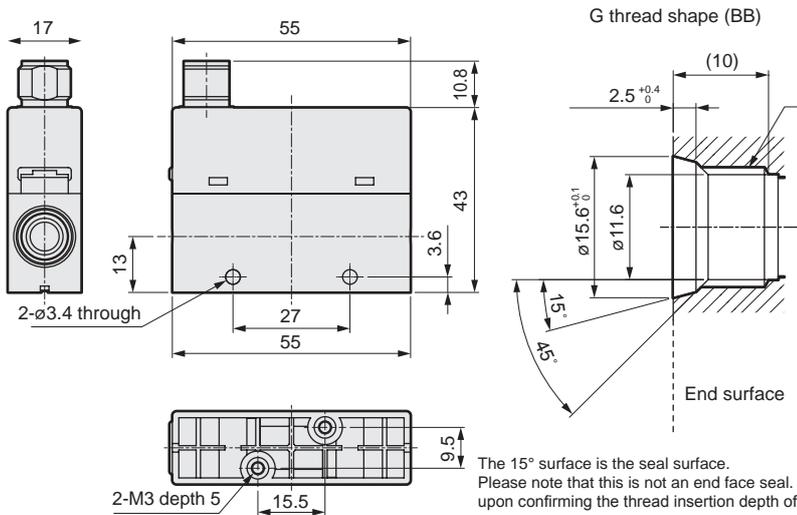
F.R.(module
unit)Clean
F.RPrecision
RPress gauge
Diff. press gaugeElectro-
pneumatic RSpeed
controllerAuxiliary
valveFitting/
tubeClean
air unitPressure
sensorFlow rate
sensorValve for
air blow

Ending

Dimensions (IO-Link) (flow rate range: 50 L/min to 1000 L/min)

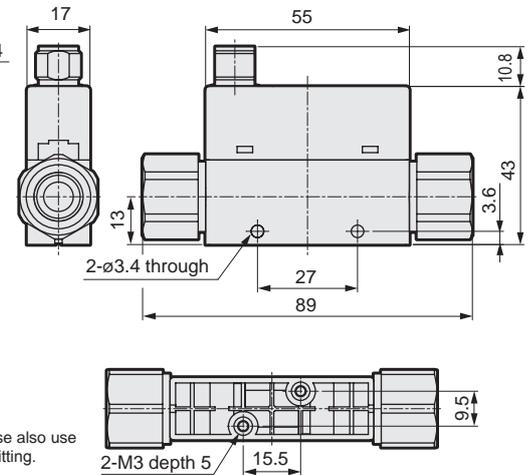
Port sizes: Straight Rc1/4, G1/4, NPT1/4

● FSM3-C□□□₂/BA1/BB1/BC1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



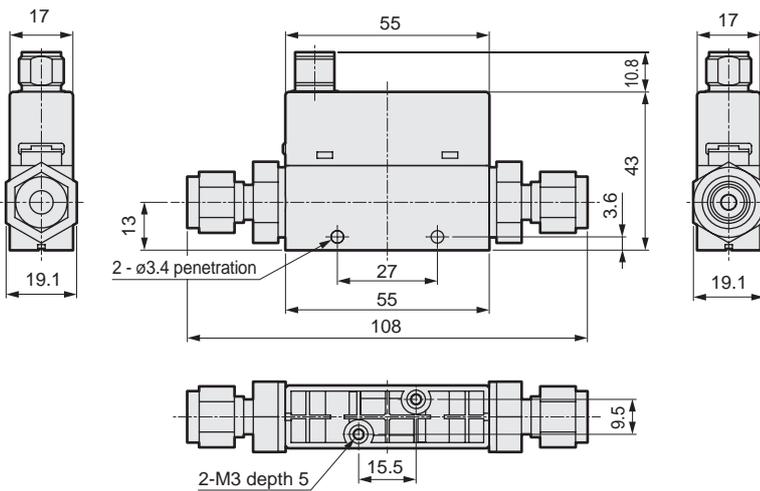
Port sizes: Straight G1/4

● FSM3-C□□□₂/BF1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



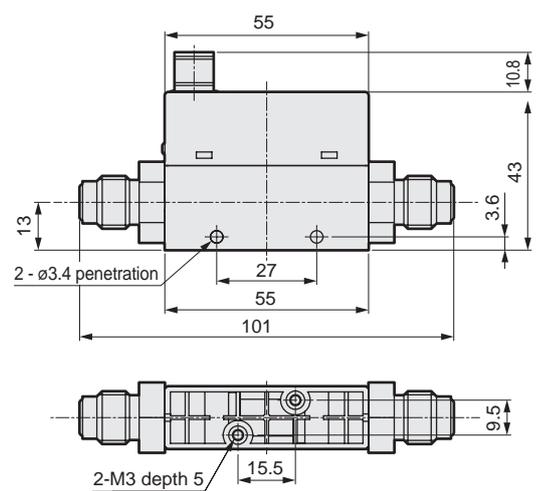
Port sizes: Straight 1/4" double barbed fitting

● FSM3-C□□□₂/BD1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)



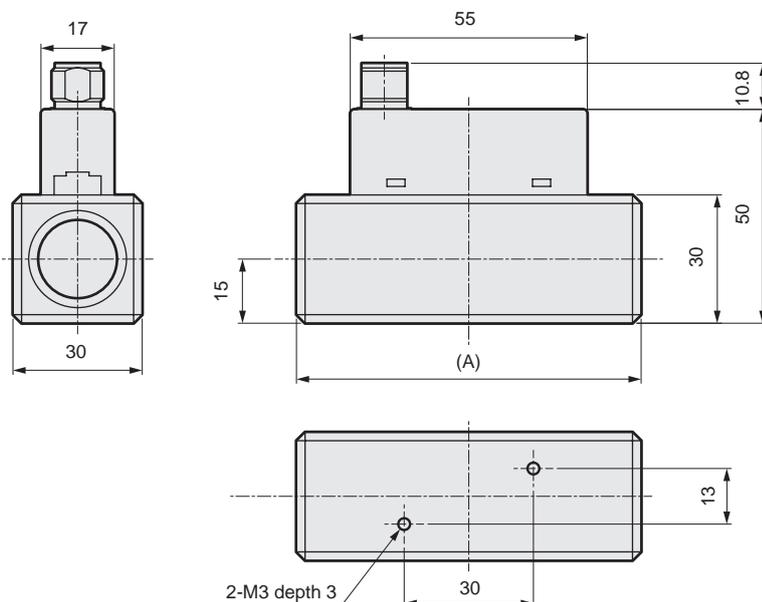
Port size: Straight 1/4" JXR male fitting

● FSM3-C□□□₂/BE1-P70/P80 (Full scale flow rates: 50, 100, 200 L/min)

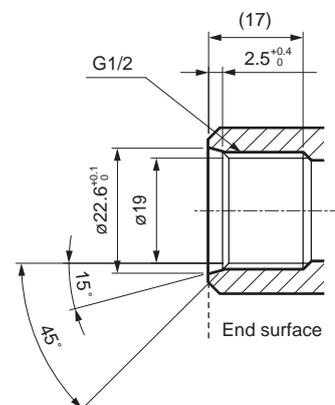


Port sizes: Straight Rc1/2, G1/2, NPT1/2

● FSM3-C□□□₂/CA1/CF1/CB1/CC1-P70/P80 (Full scale flow rates: 500, 1000 L/min)



G thread shape (CB)



The 15° surface is the seal surface. Please note that this is not an end face seal. Please also use upon confirming the thread insertion depth of the fitting.

Model No.	Port size	Dimension (A)
FSM3-C□□□ ₂ CA1	Rc1/2	(80)
FSM3-C□□□ ₂ CF1	G1/2	(80)
FSM3-C□□□ ₂ CB1	G1/2	(95.4)
FSM3-C□□□ ₂ CC1	NPT1/2	(80)

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R. (module unit)

Clean F.R

Precision R

Press gauge
Diff. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

Valve for air blow

Ending



Compact flow rate sensor RAPIFLOW

FSM2 Series

Separated display



Separated display specifications

Item				Separated display FSM2-D-[*1][*2]-□-[*3]	
Settable flow rate range	*1	mL	5, 10, 50, 100, 500, 1000		
		L	2, 4, 5, 10, 12, 20, 25, 32, 50, 100, 200, 500, 1000		
		m ³	1.5		
Operating ambient temperature/humidity		0 to 50°C			
Display		4 digit + 4 digit 2 color LCD			
Input voltage		1 to 5 V			
Output	Switch output	*1	N	Output 2 points (NPN open collector output, 50 mA or less, voltage drop 2.4 V or less)	
			P	Output 2 points (PNP open collector output, 50 mA or less, voltage drop 2.4 V or less)	
Analog output	*2	V	1 to 5 V voltage output 1 point (connecting load impedance 50 kΩ or more) *6		
		A	4 to 20 mA current output 1 point (connecting load impedance 0 to 300 Ω)		
Power supply voltage	*2	V	12 to 24 VDC (10.8 to 26.4 V)		
		A	24 VDC (21.6 to 26.4 V)		
Current consumption		*2	40 mA or less (when 24 VDC is connected, and no load is connected)		
Lead wire		ø3.7, AWG26 or equivalent × 5-conductor (connector), insulator O.D. ø1.0			
Functions		Flow rate display, flow rate display peak hold, switch output, analog output			
Degree of protection		IEC standards IP40 or equivalent			
Protection circuit		*3	Power supply reverse connection protection		
EMC Directive		EN55011, EN61000-6-2, EN61000-4-2/3/4/6/8			
Accessory		1 sensor connection connector (e-con), conforming cable AWG24 to 26, insulator O.D. ø1.0 to 1.2			
Weight (main body only)		Approx. 40 g			
Clean-room specifications		*4 *3	P70	Anti-dust generation	

- *1: The flow rate range, flow direction, and gas type are automatically recognized only when the FSM3 bar display type and FSM2 separated display type are connected. (Default state)
 The FSM-H Series, FSM-V Series and WFK3000 Series flow rate ranges are supported in addition, but automatic recognition is not. Always set the product's flow rate range, flow direction and gas type before use.
 The connectable flow rate ranges are shown in "Display for each flow rate range" below.
 The "Gas Type Setting" function of this product is not a "Gas Type Switching" function that switches the sensor characteristics to match the gas type. If a "Gas Type Switching" function is required, use the LCD display type.
 When the sensor section is changed, the previous flow rate range settings, etc., will still be recorded. Always reset the settings before using.
- *2: Current for when 24 VDC is connected, and no load is connected. The current consumption varies depending on how the load is connected.
- *3: This product's protection circuit is effective only for specific mis-connections and a load short-circuit. It does not provide protection against various mis-connections.
- *4: [P70] Anti-dust generation (product surface is degreased and cleaned before packing. Heat sealed into antistatic bag in clean bench (Class 1000 or higher).)
- *5: When connecting to the FSM-V Series or WFK3000 Series, the lead wire size is different so a separate compatible sensor connection connector (e-con) will be required. Contact your nearest CKD sales office or dealer.
 The attached sensor connection connector (e-con) can be used with the FSM2 Series, FSM3 Series and FSM-H Series.
- *6: The output impedance of the analog output 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.
- *7: The gas type display shows "Ai" (air, N2) when a connection is made with FSM3 bar display type oxygen specifications, but it can still be used without any problems.

Display for each flow rate range

Flow rate display	Display range	One way	0 to 500 mL/min	0 to 1000 mL/min	0 to 2.00 L/min	0 to 4.00 L/min	0 to 5.00 L/min	0 to 10.00 L/min	0 to 12.0 L/min	0 to 20.0 L/min	0 to 25.0 L/min	0 to 32.0 L/min	0 to 50.0 L/min	0 to 100.0 L/min	0 to 200 L/min	0 to 500 L/min	0 to 1000 L/min	0 to 1.50 m ³ /min	0 to 5.00 mL/min	0 to 10.00 mL/min	0 to 50.0 mL/min	0 to 100.0 mL/min
		Bi-direction	-500 to 500 mL/min	-1000 to 1000 mL/min	-2.00 to 2.00 L/min	-	-5.00 to 5.00 L/min	-10.00 to 10.00 L/min	-	-20.0 to 20.0 L/min	-	-	-50.0 to 50.0 L/min	-100.0 to 100.0 L/min	-200 to 200 L/min	-500 to 500 L/min	-1000 to 1000 L/min	-1.50 to 1.50 m ³ /min	-5.00 to 5.00 mL/min	-10.00 to 10.00 mL/min	-50.0 to 50.0 mL/min	-100.0 to 100.0 mL/min
Display resolution			1 mL/min		0.01 L/min				0.1 L/min				1 L/min				0.01 m ³ /min	0.01 mL/min	0.1 mL/min			
Display range			9999999 mL			99999.99 L				999999.9 L				9999999 L				99999.99 m ³	99999.99 mL	999999.9 mL		
Display resolution			1 mL		0.01 L				0.1 L				1 L				0.01 m ³	0.01 mL	0.1 mL			
Integrated pulse output rate			5 mL 10 mL	0.02 L 0.04 L	0.05 L 0.1 L	0.12 L 0.2 L	0.25 L 0.32 L	0.5 L 1 L	2 L 5 L	10 L 15 L	0.05 mL 0.1 mL	0.5 mL 1 mL										

* The corresponding sensor is the voltage (1 to 5 V) type. If the current output or other voltage output is connected, it will not operate properly.

- *1: The flow rate display is rounded off at approximately ±1% or less (forced zero).
 *2: The accumulated flow is a calculated (reference) value. It is reset when the power is turned OFF.

How to order

FSM2 - D - N V - 3 P - P70

A Output

B Analog output

C Lead wire

D Bracket

E Clean-room specifications

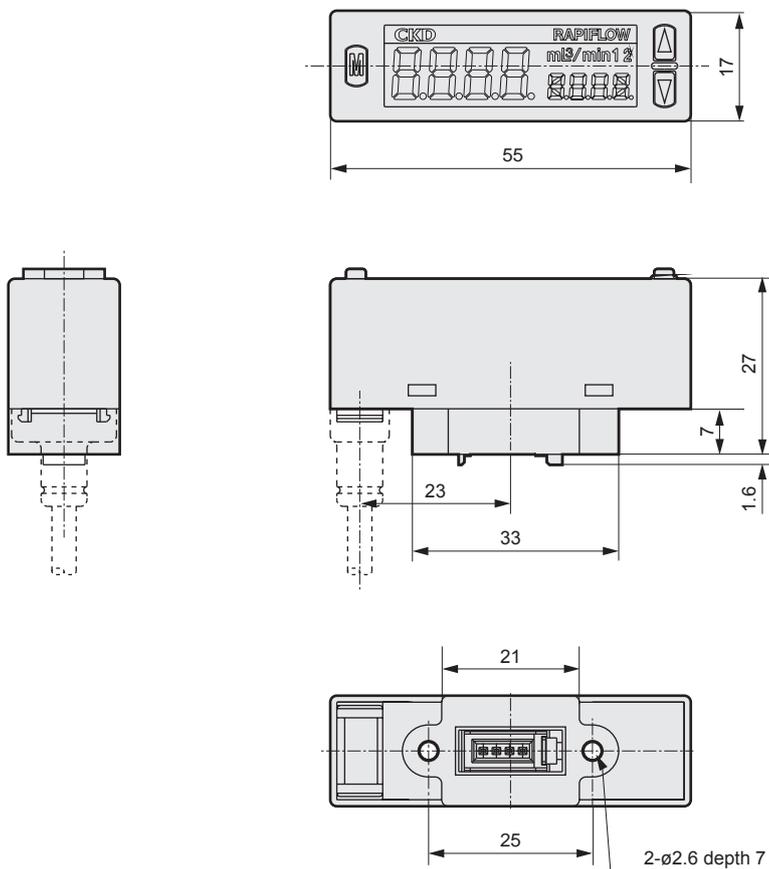
Code	Description
A Output	
N	Switch output (NPN) 2 points, analog output 1 point
P	Switch output (PNP) 2 points, analog output 1 point
B Analog output	
V	Voltage output (1-5 V)
A	Current output (4 to 20 mA)
C Lead wire	
Blank	None
1	1 m
3	3 m
D Bracket	
Blank	None
P	Panel mounting kit
E Clean-room specifications	
P70	Anti-dust generation



CAUTION

The corresponding sensor is the voltage (1 to 5 V). If the current output type or other voltage output type is connected, it doesn't operate properly. When using the FSM3, use the bar display type voltage output type.

Dimensions



SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder
Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module
unit)

Clean
F.R.

Precision
R

Press gauge
Diff. press gauge

Electro-
pneumatic R

Speed
controller

Auxiliary
valve

Fitting/
tube

Clean
air unit

Pressure
sensor

Flow rate
sensor

Valve for
air blow

Ending