

Digital Flow Sensor

FME SERIES

Model Number Representation



1 Series	2 Categories	3 Rated Flow	4 Pipe Diameter	5 Flow Regulation	6 Unit Specification	7 bracket	8 Output Mode	
							OUT1	OUT2
FME	00: Low-Flow Type	01:0.01 ~ 1L/min	01: Rc1/8 N1:NPT1/8 F1:G1/8 C4:ø4 C6:ø6	Blank: Without Flow Control Valve	M: Instantaneous Flow Rate, Totalized Flow	Blank: without bracket R: without Flow Control Valve Bracket S: with Flow Control Valve Bracket T:Panel Mounting Kit (for Systems Without Flow Control Valve) V:Panel Mounting Kit (for Systems With Flow Control Valve)	A:NPN/NPN B:PNP/PNP C:NPN/Analog1 ~ 5V D:NPN/Analog4 ~ 20mA E:PNP/Analog1 ~ 5V F:PNP/Analog4 ~ 20mA 485:RS485	
		02:0.02 ~ 2L/min						
		05:0.05 ~ 5L/min						
		10:0.1 ~ 10L/min						
		25:0.2 ~ 25L/min						
		50:0.5 ~ 50L/min						
	01: Standard Type	11:1 ~ 100L/min	02:Rc1/4 N2:NPT1/4 F2:G1/4 C8:ø8	Blank: Without Flow Control Valve S: with Flow control valve				
		21:2 ~ 200L/min						
		02: High-Flow Type	501:5 ~ 500L/min			04:Rc1/2 N4:NPT1/2 F4:G1/2	Blank: Without Flow Control Valve	
			102:10 ~ 1000L/min					
			202:20 ~ 2000L/min			06:Rc3/4 N6:NPT3/4 F6:G3/4		

[Note]C4 Connector Requires Customization; Incompatible with 25 and 50 Models

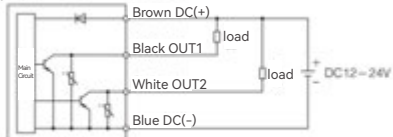


Cable Material Specifications

Conductor	Nominal Cross-Sectional Area	AWG26
	Outer Diameter	About 0.5mm
Insulator	Outer Diameter	About 1.00 mm
	Color	Brown, White, Black, Blue
Outer Sheath	Material	Oil-Resistant PVC
Finished Outer Diameter		ø3.5

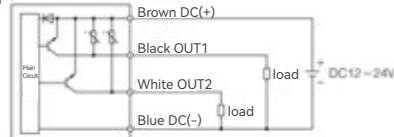
Internal Circuit and Wiring Examples

► NPN + NPN Output Type



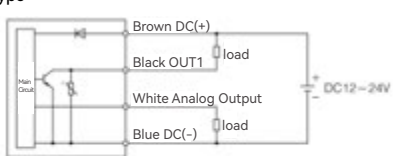
Maximum Applied Voltage: 28V, Maximum Load Current : 80mA, Internal Voltage Drop:≤1V

► PNP + PNP Output Type



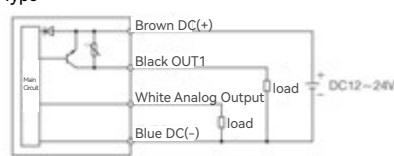
Maximum Load Current : 80mA, Internal Voltage Drop:≤1.5V

► NPN + Analog Output Type



Maximum Applied Voltage: 28V, Maximum Load Current : 80mA, Internal Voltage Drop:≤1V
C: Analog Output (Selectable 1-5V or 0-10V), Output Impedance: 1kΩ
D: Analog Output (4-20mA), Load Resistance: 50-800Ω

► PNP + Analog Output Type



Maximum Load Current : 80mA, Internal Voltage Drop:≤1.5V
E:Analog Output (Selectable 1-5V or 0-10V), Output Impedance: 1kΩ
F: Analog Output (4-20mA), Load Resistance: 50-600Ω

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Specifications

Model		FME0001	FME0002	FME0105	FME0110	FME0125	FME0150	FME0111	FME0121	FME02501	FME02102	FME02202	
Fluid	Suitable fluid	Dry Air, N ₂ , CO ₂ , Ar									Dry Air, N ₂		
	Fluid Temperature Range	0~50°C											
Flow Specification	Testing Method	Thermal(Bypass)									Thermal		
	Rated Flow Range	Dry Air,N ₂ ,Ar	0.01~1	0.02~2	0.05~5	0.1~10	0.3~25	0.5~50	1~100	2~200	5~500	10~1000	20~2000
		CO ₂	0.01~0.5	0.02~1	0.05~2.5	0.1~5	0.3~12.5	0.5~25	1~50	2~100	-	-	-
	Set Flow Range	Instantaneous Flow Rate	-0.05~1.05	-0.1~2.1	-0.25~5.25	-0.5~10.5	-1.3~26.3	-25~52.5	-5~105	-10~210	5~525	10~1050	20~2100
		Cumulative Flow	0.00~9999999.99			0.0~99999999.9			0~999999999				
	Minimum setting unit	Instantaneous Flow Rate	0.001		0.01			0.1			1		
		Cumulative Flow	0.01		0.1			1			10		
Cumulative Pulse Conversion Value		0.01			0.1			1			10		
Cumulative Hold Function		Selectable Intervals: 2-minute / 5-minute											
Pressure Specifications	Operating Pressure Range	-0.1~0.75MPa									0~0.8Mpa		
	Rated Pressure Range	-0.07~0.75MPa									0~0.8Mpa		
	Pressure Resistance	1.0MPa											
	Pressure Loss	Refer to the Pressure Loss Table											
	Pressure Characteristics	±5%F.S.±1digit(based on 0.35MPa)						±5% F.S.(0~0.8MPa range, referenced at 0.6 MPa)					
Electrical Specifications	Supply Voltage	DC12~24V±10%											
	Current Consumption	Below 35mA						Below 55mA					
	Protect	Reverse Connection Protection											
Accuracy	Display Accuracy	±3%F.S.±1 digit											
	Analog Output Accuracy	±3%F.S.											
	Repeatability	±1%F.S.±1digit(with 0.05s digital filter selected: ±2% F.S. ±1 digit)											
	Temperature Characteristics	±5%F.S.±1digit (0~50C:referenced at 25°C)											
Switch Output	Output Type	NPN/PNP Open Collector											
	Output Mode	Select from the following output modes: Hysteresis Mode, High/Low Limit Compare Mode, Total Pulse Output Mode, Error Output Mode, or Switch Output OFF Mode											
	Switch Action	NPN/PNP Open Collector											
	Maximum Load Current	100mA											
	Maximum Applied Voltage	DC30V											
	Internal Voltage Drop	The voltage drop is ≤1V for NPN (at 80mA load current) and ≤1.5V for PNP (at 80mA load current)											
	Response Time	50ms or less											
	Delay Time	0~0.10s (in 0.01s steps) / 0.1~1.0s (in 0.1s steps) / 1~10s (in 1s steps) / Select from: 20s, 30s, 40s, 50s, 60s									Selectable: 0.05s, 0.1s, 0.5s, 1s, 2s		
Hysteresis	Adjustable from 0												
Protect	Short-Circuit Protection												
Analog output	Output Type	Voltage output: 1~5V, 0~10V Current output: 4~20mA											
	Impedance	Voltage output	Output impedance is approximately 1kΩ										
		Current output	When the power supply voltage is 24V, the maximum load impedance is 600Ω; when the power supply voltage is 12V, the maximum load impedance is 300Ω										
	Response Time	50ms±40%											
Display	Display unit reference	Selectable for Standard State (STD) and Reference State (NOR)											
	Display mode	Selectable for instantaneous flow display and cumulative flow display											
	Unit	Instantaneous Flow Rate	L/min, cfm										
		Cumulative Flow	L, ft ³										
	Displayable range	Instantaneous Flow Rate	-0.05~1.05	-0.1~2.1	-0.25~5.25	0.5~10.5	-1.3~26.3	-2.5~52.5	-5~105	-10~210	-25~525	-50~1050	-100~2100
		Forced Zeroing Range	0~±10%F.S.(selectable in 1% F.S. increments for the maximum rated flow rate)										
	Cumulative Flow	0.00~99999999.99			0~99999999.9			0~999999999					
Display	Display method: LCD Display color: Red, Green Display digits: 4-digit 7-segment												
Action indicator light	Switch ON status indicated by orange illumination (OUT1/2)												
Digital Filter	Select from 0.05s, 0.1s, 0.5s, 1s, 2s, 5s												
Environmental Resistance	Ingress Protection (IP) Rating	IP40											
	Voltage Withstand	AC1000V(1 minute between charging part and housing)											
	Insulation Resistance	Insulation resistance: ≥50 MΩ (DC 500V applied between charging unit and enclosure)											
	Operating Temperature Range	Operating conditions: 0 to 50°C; Storage conditions: -10 to 60°C (non-condensing, non-freezing)											
Operating humidity range	Operating/Storage Conditions: 35-85% RH (Non-Condensing, Non-Freezing)												
Certifications & Specifications	CE Certification (EMC Directive, RoHS Directive)												

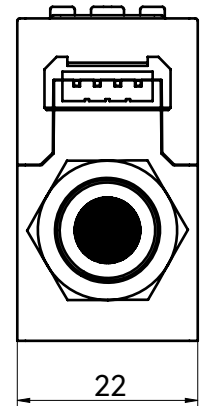
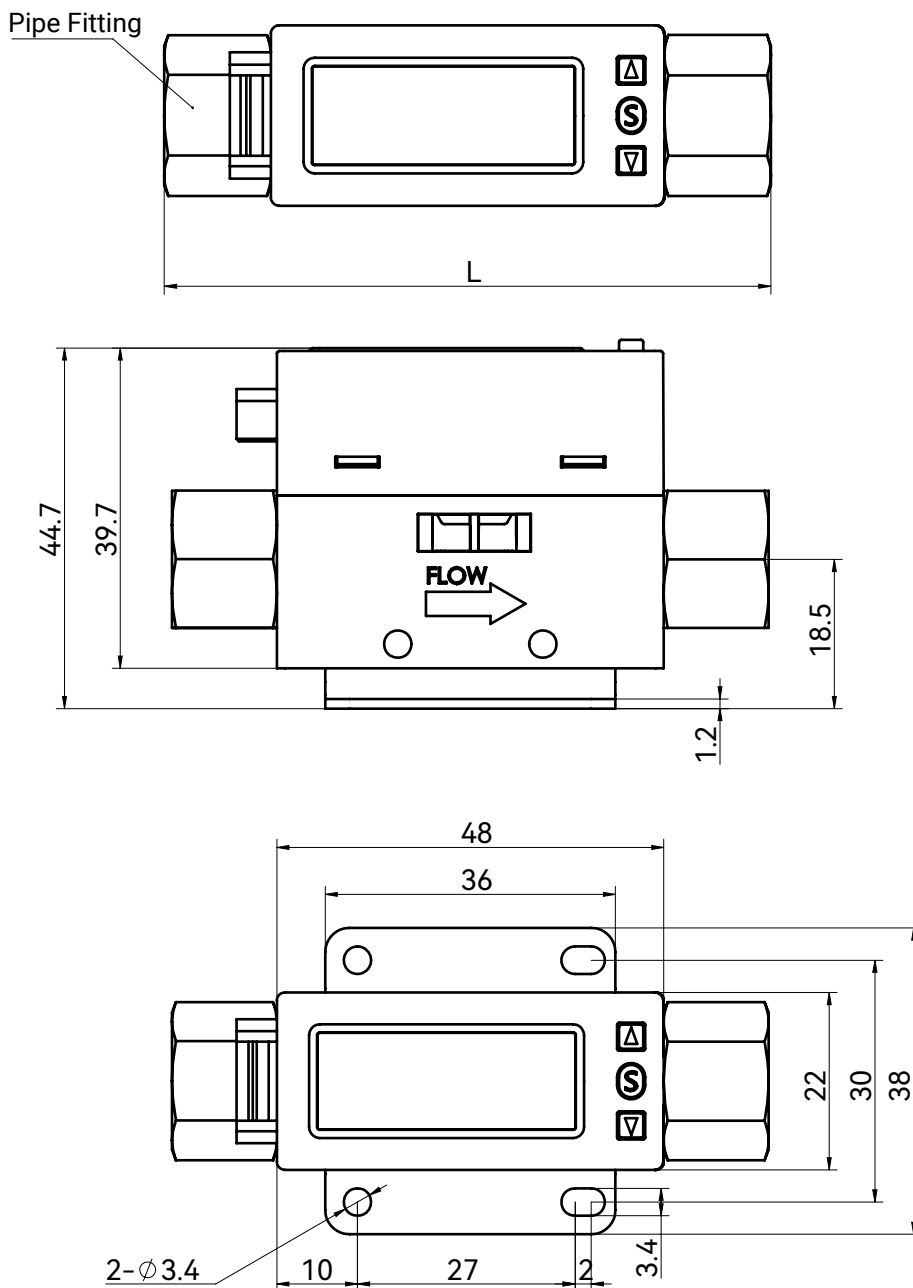
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Outline Dimension Drawing

Model	L	Pipe Fitting
FME01□□-01	66	RC1/8
FME01□□-N1	66	NPT1/8
FME01□□-F1	66	G1/8
FME01□□-02	74	RC1/4
FME01□□-N2	74	NPT1/4
FME01□□-F2	74	G1/4

Note:
 In the specification table, □□ represents the measuring range code.
 05: 0.05~5L/min
 10: 0.1~10L/min
 25: 0.2~25L/min
 50: 0.5~50L/min
 11: 1~100L/min
 21: 2~200L/min



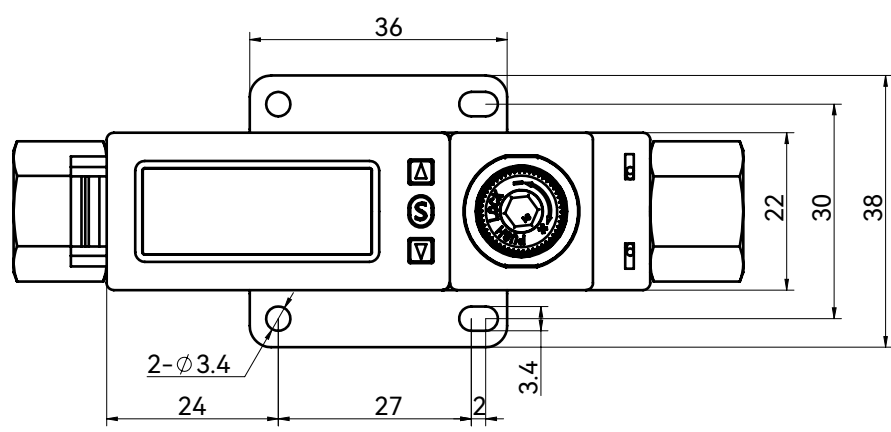
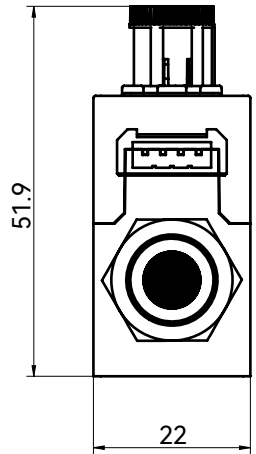
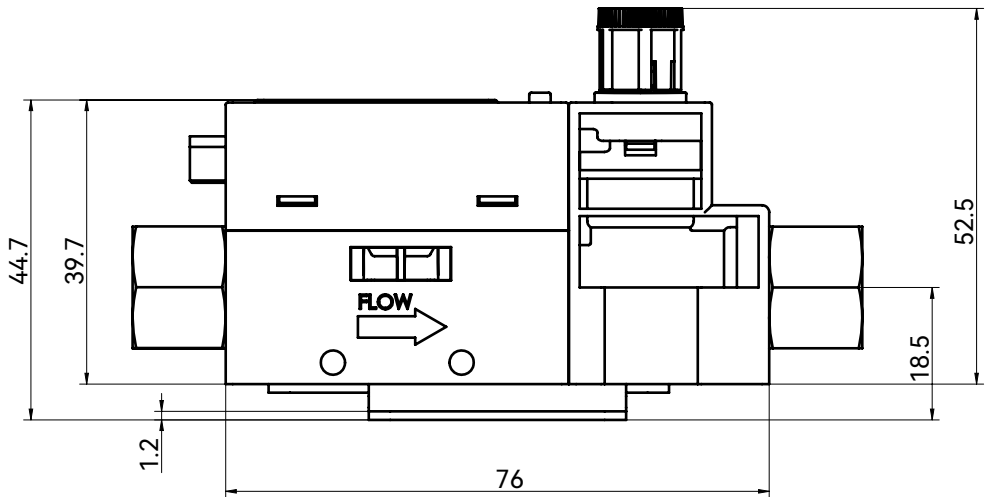
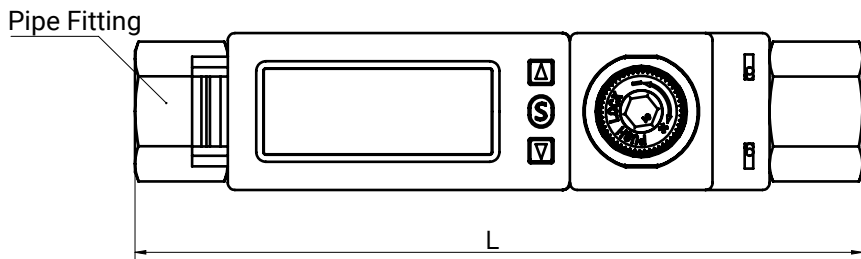
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FME SERIES

Outline Dimension Drawing

Model	L	Pipe Fitting
FME01□□-01S	94	RC1/8
FME01□□-N1S	94	NPT1/8
FME01□□-F1S	94	G1/8
FME01□□-02S	102	RC1/4
FME01□□-N2S	102	NPT1/4
FME01□□-F2S	102	G1/4

Note:
 In the specification table, □□ represents the measuring range code.
 05: 0.05~5L/min
 10: 0.1~10L/min
 25: 0.2~25L/min
 50: 0.5~50L/min
 11: 1~100L/min
 21: 2~200L/min



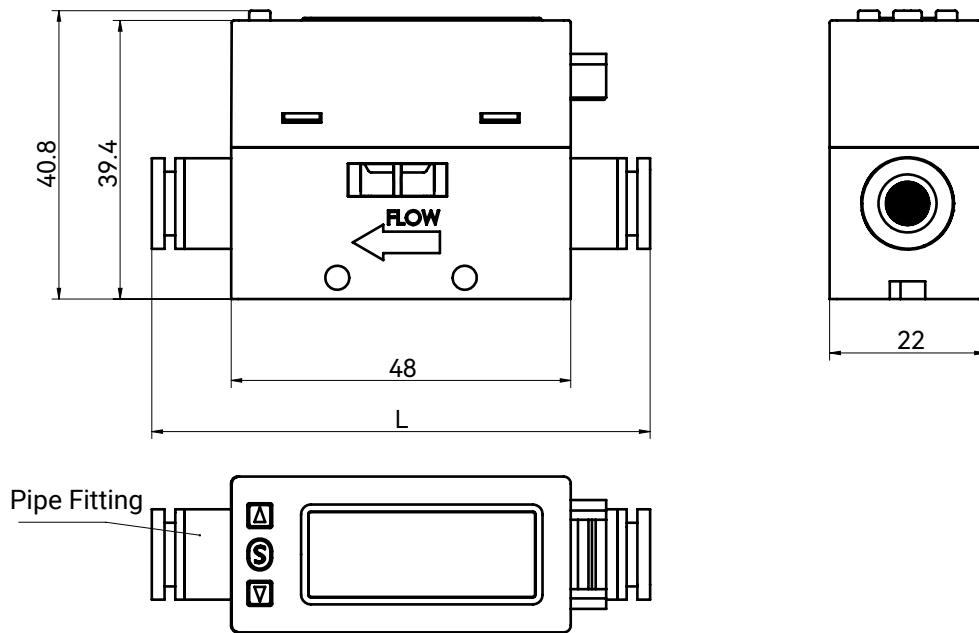
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FME SERIES

Outline Dimension Drawing

Model	L	Pipe Fitting
FME01□□-C8	70.4	φ8

Note:
 In the specification table, □□ represents
 the measuring range code.
 11: 1~100L/min
 21: 2~200L/min



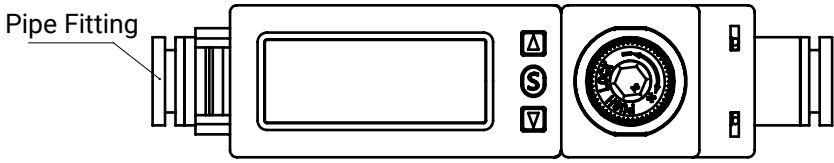
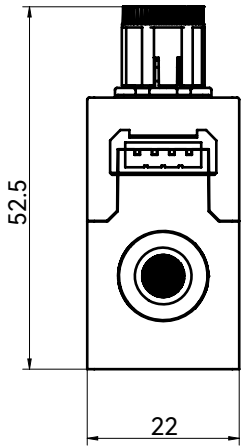
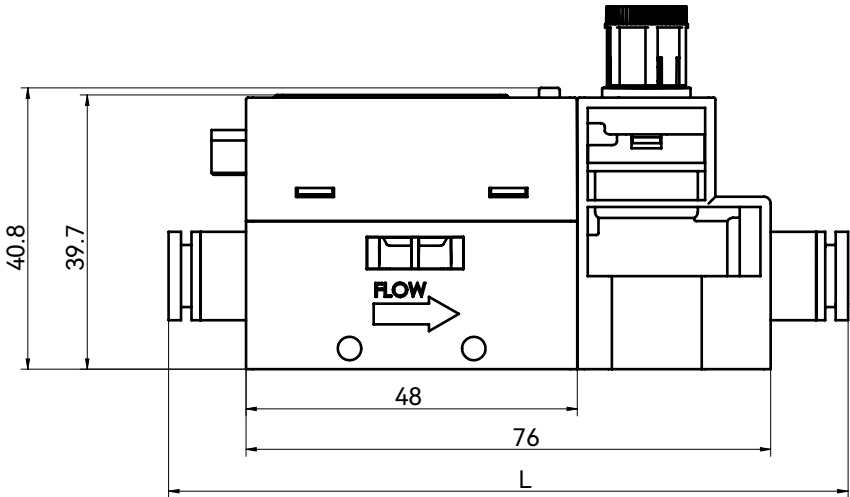
Digital Flow Sensor

FME SERIES

Outline Dimension Drawing

Model	L	Pipe Fitting
FME01□□-C8S	98.4	φ8

Note:
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 the measuring range code.
 11: 1~100L/min
 21: 2~200L/min

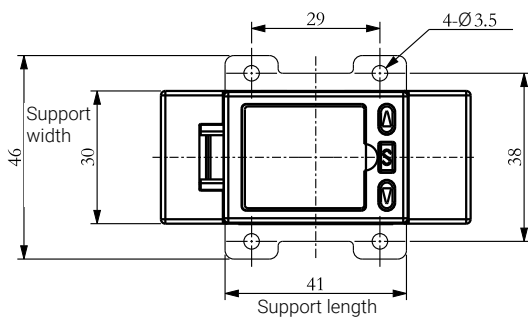
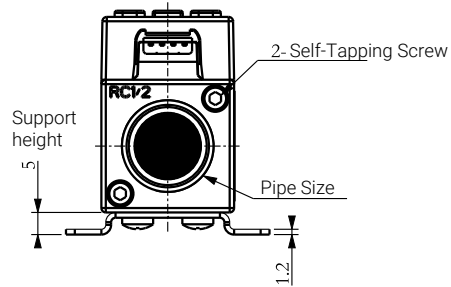
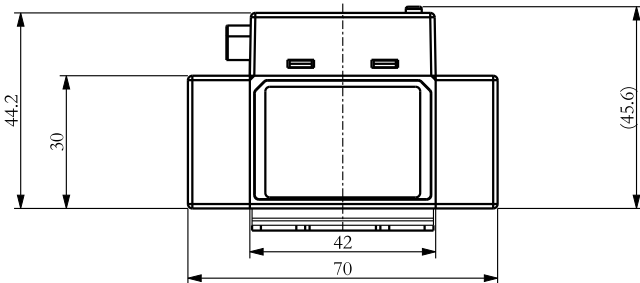


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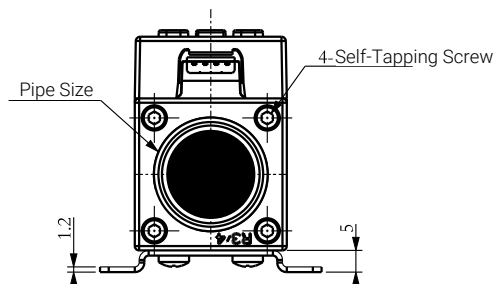
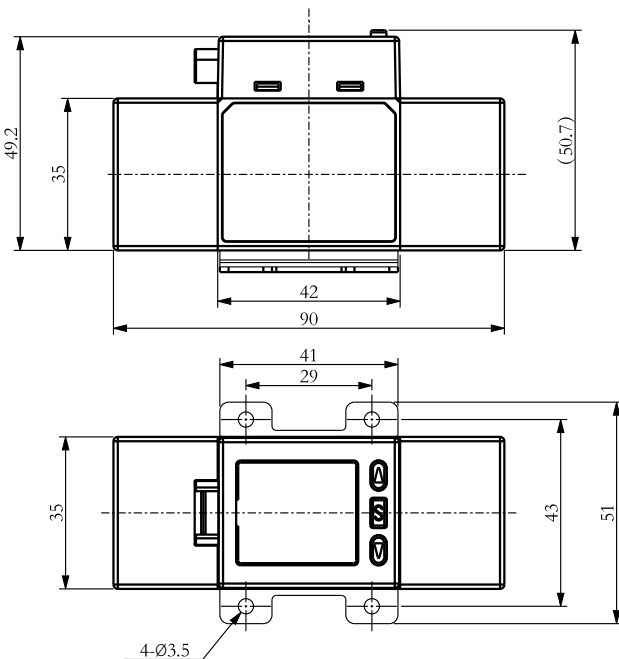
FME SERIES

Outline Dimension Drawing

Model	Pipe Fitting
FME02102-04/FME02501-04	Rc1/2
FME02102-N04/FME02501-N04	NPT1/2
FME02102-F04/FME02501-F04	G1/2



Model	Pipe Fitting
FME02202-06	Rc3/4
FME02202-N06	NPT3/4
FME02202-F06	G3/4

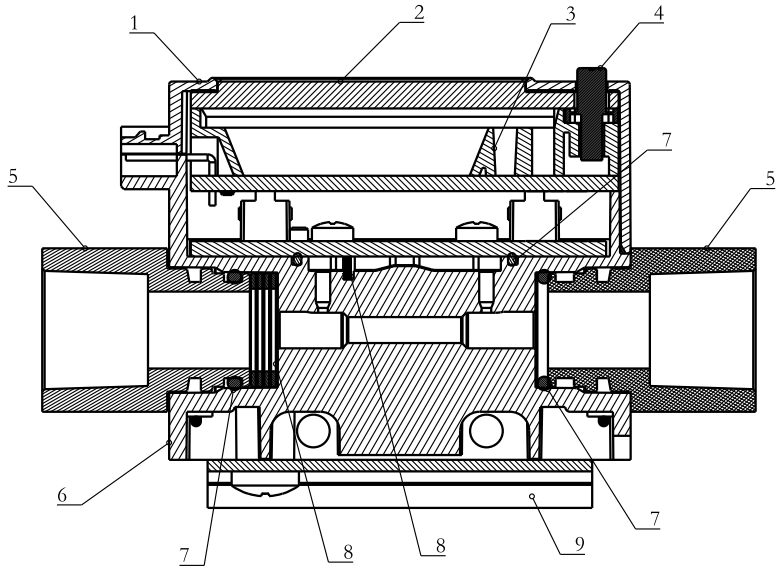


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Flow Meter Structure Diagram (Without Control Valve)

No.	Name	Material
1	Housing	PBT+30%GF
2	Panel	PMMA
3	Panel Bracket	PC Black
4	Button	Silicone Rubber
5	Connector	SUS304
6	Meter Body	PPS+30%GF
7	Sealing Ring	FKM
8	Filter Screen	SUS304
9	Bracket	SUS304



Structure Diagram of Flow Meter with Control Valve

No.	Name	Material
1	Housing	PBT+30%GF
2	Panel	PMMA
3	Panel Bracket	PC Black
4	Button	Silicone Rubber
5	Connector	SUS304
6	Meter Body	PPS+30%GF
7	Sealing Ring	FKM
8	Filter Screen	SUS304
9	Bracket	SUS304
10	Control Valve Knob	PBT+30%GF
11	Screw	PMMA
12	Control Valve Screw Rod	PC Black
13	Control Valve Lock Nut	Silicone Rubber
14	Control Valve Bush	SUS304
15	Control Valve Copper Bush	PPS+30%GF
16	Control Valve Core	FKM
17	Control Valve Body	SUS304
18	Control Valve Needle	SUS304

