Small Karman Vortex Flow Meter for Liquids
FM0101/0102/0103/0105 SERIES

KOFLOC's Karman Vortex Flow Meter FM Series provides an ideal tool for measuring and monitoring liquid flows, including cooling water and cleaning water. Since PPS resin is used for body material, all models of the series offer superior reliability and durability.

Features

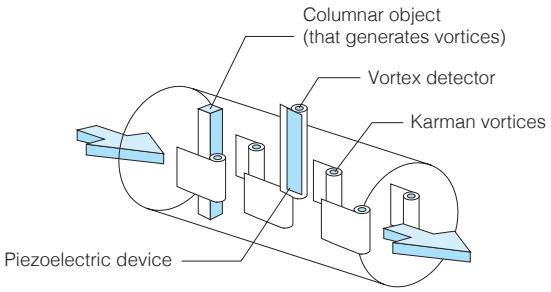
- Simple design that minimizes a dead space
- Measurements of very small flows available (up to 0.5 L/min)
- Use of PPS resin has achieved a small, lightweight and rigid.
- The sensor can be used for pure water or deionyzed water and chemicals (the sensor is acid-/alkali-resistant).
- These models are in the process of application for CE Marking.

Standard Specifications

Model	FM0101	FM0102	FM0103	FM0105
Dimension (a)	17.8	17.5	17.5	32.5
Dimension (L)	80.6	80.0	80.0	110.0
Connection (X)	R3/8	R1/2	R1/2	25A
Flow range	0.5-4 L/min	2-16 L/min	4-40 L/min	10-150 L/min
Fluids for measurement	Cooling water, cleaning water, etc.			
Measuring accuracy	Within ±3.0% F.S			
Repeatability	Within ±0.5% F.S			
Outputs	S Type: 4-20mA			
	P Type: Pulse (Open collector) (For w/o indicator only)			
	D Type: With indicator			
Supply voltage	12-24VDC			
Liquid temperature range	0-70°C			
Proof pressure	1MPa			
Amb. temperature range	0-50°C			
Amb. humidity range	5-90%RH			
Applicable cleanliness/ waterproofing standards	IP64 (Splashproof construction per JIS C 0920)			
Material for wetted part	PPS with 30% glass mixture		PPS w/o glass mixture	
Cable length	W/o indicator: 2 meters long; terminated/pretinned (presoldered)			
	With indicator: 3 meters long; terminated/pretinned (presoldered)			
Weight	W/o indicator: 85 g (Sensor unit)		165 g (Sensor unit)	
	With indicator: 100 g (Sensor unit)		205 g (Sensor unit)	

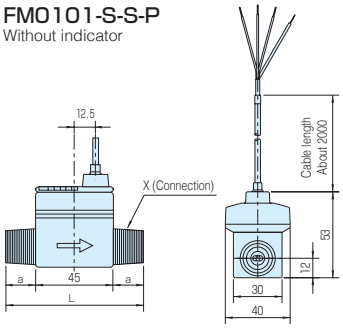
Principle of Measurement

When a columnar object (object that generates vortices) is placed in the flow path of a fluid, regular channels of vortices, called Karman vortex channels, are generated at the back of the object. Since the frequency of a vortex generated is linearly proportional to the flow velocity within a given range, the flow amount can be measured by counting the number of vortices.
These series models make use of this principle. When the frequency of each vortex generated is detected by the incorporated vortex detector (piezoelectric device), the signal processing circuit outputs a signal which is linearly proportional to volume flow.

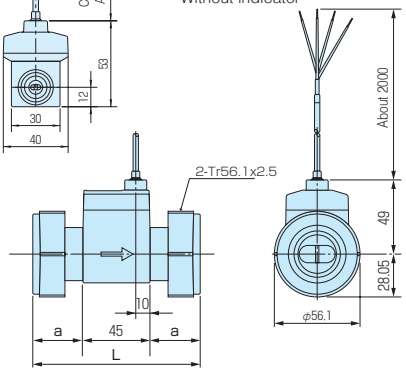


Dimensions

FM0101-S-S-P
Without indicator



FM0105-S-S-P
Without indicator



CAUTION:
DO NOT load excessive clamping torque on the sensor unit and setscrews as they are made of plastics.

Note:
Tolerances for unspecified outside dimensions: ±0.8
Tolerances for other unspecified dimensions: ±0.4

Ordering

MODEL 01 (PPS)	Flow range	S	Output	P	N	/K
	01	S=4−20mADC				
	02	P = Pulse				
	03	D = 4-20 mADC + Indicator				
MODEL 01 (PPS)	05	C	Output	A	C	/K
		S=4−20mADC				
		D=4−20mADC+ Indicator				

* Refer to “Ordering” when placing an order or requesting a quotation. Fill in the blanks in the “Order/Quotation Request Card” at the end of the catalog, and send the card by fax.