

Small Karman Vortex Flow Meter for Liquids MODEL31 (TEFLON®/PFA) SERIES

The Model31 Karman Vortex Flow Meter employs the following principle for measurement of flows:

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.

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.

Features

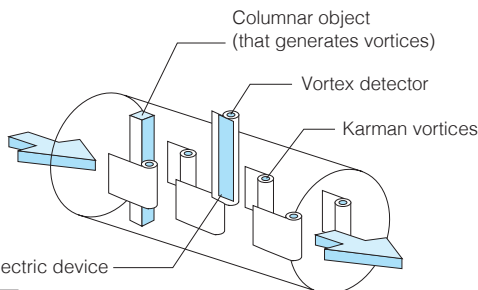
- Because of no moving part, the meter has superior reliability and durability and no error in mounting position is produced.
- Simple construction (its flow path of fluid contains a columnar object and a vortex detector only) ensures low pressure loss and low liquid leak. In addition, the detector does not get into contact with the fluid running through the path, therefore, it is ideal for process monitoring of various liquids.
- Two types of particle-free body materials (PPS and PFA) are available for choice according to your needs.
- Global specifications (Certification for CE Marking already acquired)
- Since Teflon is the material for the entire wetted part and no O-ring is in use, the Model31 Series Karman Vortex Flow Meter is optimum for monitoring liquid flows in the manufacturing process of semiconductors.

Standard Specifications

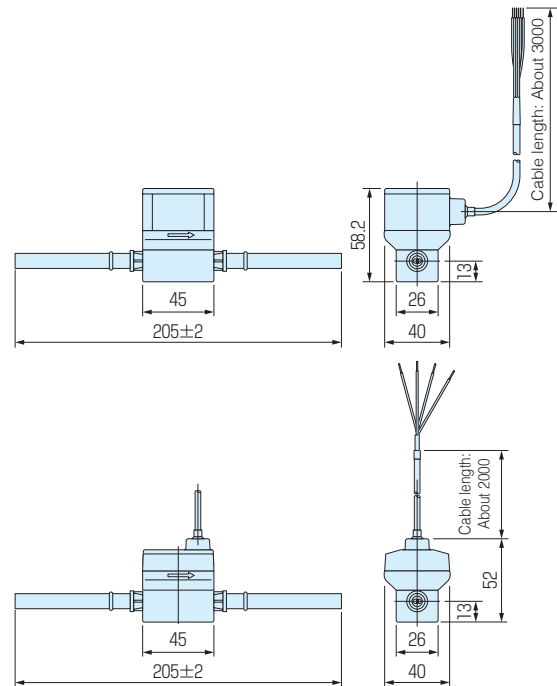
Item	FM3101	FM3102	FM3103	FM3104
Flow range (L/min)	0.4-4	2-20	5-50	10-100
Connection	3/8" Pipe end	1/2" Pipe end	3/4" Pipe end	1" Pipe end
Fluids for measurement	Ultrapure water, chemicals, and other liquids			
Measuring accuracy	±3.0%+ 1 digit			
Repeatability	Within ±0.5% F.S.			
Liquid temperature range	0-90°C (No bedewing, no boiling)			
Amb. temperature range	0-50°C			
Outputs	With indicator	LED display in 3 digits		
		Current output: 4-20 mA (linear)		
Outputs	W/o indicator	Alarm output: Open collector (2 LEDs; 80 mA, 30 VDC max.)		
		Current output: 4-20 mA (linear)		
Outputs	W/o indicator	Pulse output: Open collector (10 mA, 30 VDC max.)		
Supply voltage	12-24VDC			
Materials	Body	All Teflon® (PFA), without O-rings		
	Cover	Polybutylene terephthalate (PBT) resin		
	Cable	2 meters long; Conductor: Tinned bare annealed copper wire; Sheath: Heat-/cold-resistant polyvinyl chloride (POC)		

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. The Model31 Series Karman Vortex Flow Meter makes 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



Ordering

The ModelFM31 (PFA)	Flow range	P	Output	X	P	/K
	01 02 03 04		S=4-20mADC P = Pulse D = 4-20 mADC + 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.