Visual Indicators – RFI Types

This is RotorFlow in its most basic form — a bright orange rotor turning with fluid flow. Simple, direct and reliable. Flow rate is estimated, or simply confirmed, by viewing the speed of the turning rotor. Either port may be used for incoming flow, and bayonet mounting lens is easily removed for quick cleanout. RFI Type RotorFlow sensors are easy to see, easy to install and easy to afford.

Typical Applications

• Visual flow confirmation on heat exchangers • Plastic injection molding equipment

Specifications

Wetted Materials	
Body	Brass, 316 Stainless Steel or Polypropylene (Hydrolyti callyStable, Glass Rei nforced)
Rotor Pin	Cerami c
Rotor	Hi ghVisibili tyOrange, Molded Nylon
Lens	Polysulfone
O-Ring	Vi ton® (Brass Body); Buna N (Polypropylene Body)
Low Flow Adaptor	Glass Reinforced Polypropylene
Operating Pressure, Brass or Stainless Steel Body	100 PSIG (7 bar) @212°F (100°C) 200 PSIG (13.8 bar) Max. @ 70°F (21°C)
Polypropylene Body	100 PSIG (6.9 bar) at 70°F (21°C), 40 PSI (2.8 bar) Max. @ 180°F (82°C)
Operating Temperature, Brass or Stainless Steel Body	-20°F to 212°F (-29°C to 100°C)
Polypropylene Body	-20°F to 180°F (-29°C to 82°C)

Operating Principle

1. As liquid passes through the RotorFlow body, the rotor spins at a rate proportional to flow.
2. RotorFlow Indicators may be mounted with flow entering either port. At low flow rates, performance is optimized by positioning ports at the top of the unit, in a horizontal plane.

How To Order

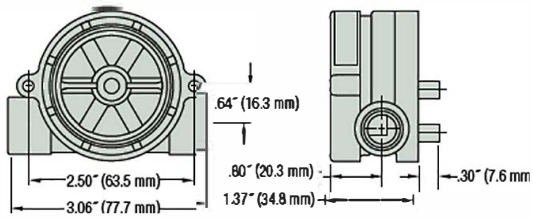
Specify Part Number based on desired body material and port size.

Body Material	Port Size NPT	Flow Ranges – GPM		Part Number
		Low* Range	Standard Range	
Polypropylene	.25˝	0.1 to 1.0	0.5 to 5.0	155420 ⚡
	.50˝	1.5 to 12.0	4.0 to 20.0	155480 ⚡
Brass	.25˝	0.1 to 1.0	0.5 to 5.0	142541 ⚡
	.50˝	1.5 to 12.0	4.0 to 20.0	142542 ⚡
	.75˝	—	5.0 to 30.0	180392 ⚡
	1.00˝	—	8.0 to 60.0	181681 ⚡
Stai nless Steel	9/16˝- 18**	0.1 to 1.0	0.5 to 5.0	174596
	.50˝	1.5 to 12.0	4.0 to 20.0	173138 ⚡
	.75˝	—	5.0 to 30.0	181682
	1.00˝	—	8.0 to 60.0	181683

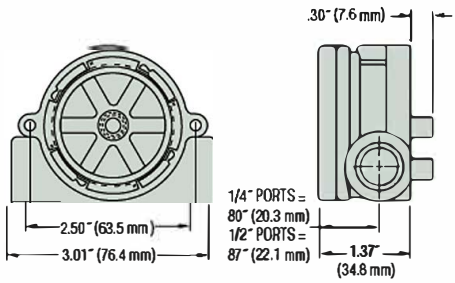
* With use of Low Flow Adapter supplied. See Page F-8 for more information.
** Straight thread with O-ring seal.
⚡ – Stock Items.

Dimensions

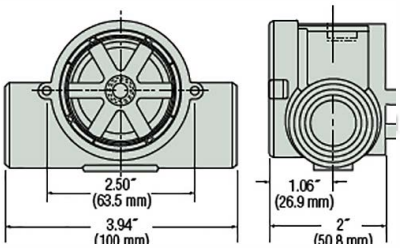
Polypropylene Bodies



Brass and Stainless Steel Bodies - .25˝ and .50˝ Ports



Brass Body – .75˝ and 1.00˝ Ports

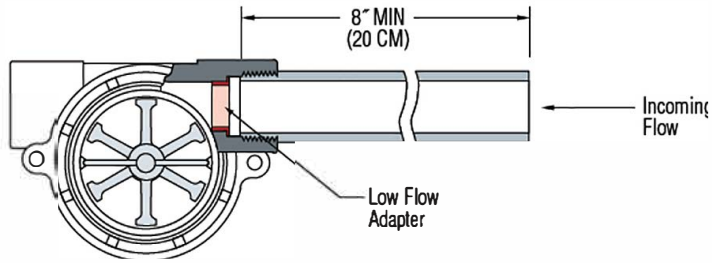


High Visibility Orange Rotor
Constructed of Molded Nylon for good general purpose compatibility with a wide range of fluids. Offers high visibility.

Easy Installation and Maintenance

A proper installation will enhance RotorFlow sensor performance. Install using standard pipe fitting tools; horizontal fluid lines are recommended. For further installation and maintenance recommendations, refer to one of the following instruction bulletins: RFO Types–Part Number 157258; RFI Types–Part Number 157259; RFS Types–Part Number 157261.

Since their function is to monitor dynamic fluid flow, naturally the rotor will react to turbulence, pulsation, entrained air, and other flow anomalies induced in the flow stream by other process hardware. For optimum performance, install RotorFlow units where nominal flow conditions exist with ports located at the top. Incoming flow may be placed to either port; a minimum of 8 inches (20 cm) of straight pipe on the inlet side is required. When operating in the low flow range, the supplied Low Flow Adapter must be installed in the incoming port.



Except for straight-thread versions, RotorFlow sensors connect to piping via NPT mating thread forms. The use of an appropriate thread sealant is necessary to assure a leak-tight connection. Permatex "No More Leaks®" or 2 wraps of Teflon® tape are the only sealants recommended for GEMS flow sensors. Straight-thread versions require an O-ring for sealing.

150 micron filtration is recommended. However, should foreign particles enter the RotorFlow sensor, accumulation is easily cleared by removing the lens from the body. The lens is removed by turning its 7/16˝ hex center hub 45° counter-clockwise with a standard socket wrench. To reinstall the lens, simply reverse the process. Pressure must be relieved from the system prior to sensor clean-out. O-rings should be lubricated prior to re-assembly.

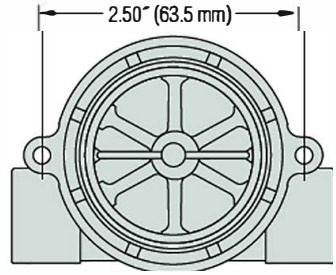
Low Flow Applications

A low flow adapter is supplied with all Rotorflow units. It is used to produce accurate response at low flow rates. Install the adapter, as shown above, in the port selected for incoming flow.

Panel Mounting

Plastic Bodies. Two (2) mounting ears are provided at the body center line to receive #8 self-tapping screws to accommodate panel mounting of the plastic RotorFlow units. Note: ANSI T type 23 self-tapping screws are recommended. They may be replaced with standard machine screws if re-installation should be required.

Brass and Stainless Steel Bodies. Two (2) mounting holes are provided on the body centerline, as shown below. #8-32UNC-2B screws are required for mounting.



RotorFlow® Maintenance Kits

Rebuild your RotorFlow® Sensors and Switches in less than 5 minutes with one of these kits.

Includes:

- Ceramic Rotor Pin
- 6-Pole Magnetic Rotor with PPS/PTFE Bushing
- Buna N or Viton® O-Ring
- Polysulfone Lens

Rotorflow® Type		O-Ring Material in Kit	Part Numbers	
Line Size	Body Material		RFA/RFO/ RFS	RFI
1/4˝ & 1/2˝	Plastic	Buna-N	155870 ⚡	155872
	Brass/SS	Viton®	167364 ⚡	166267 ⚡
3/4˝ & 1˝	Brass/SS	Viton®	157186	157187

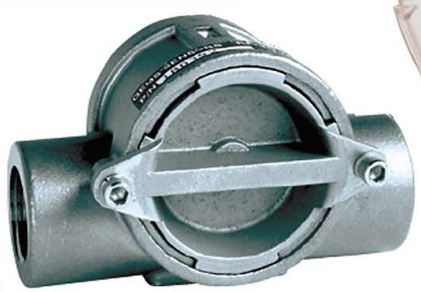
⚡ – Stock Items.

RotorFlow® Sensor Special Capabilities are Yours for the Asking.

Gems caters to OEM needs with special configurations that go beyond the standards in this catalog. We can provide RotorFlow sensors with enhanced chemical compatibility, higher temperature and pressure capabilities, and alternate electrical terminations.

Other Capabilities Available to OEMs:

- Electrical outputs: Combined switch and frequency; transistor switching; 0-10 VDC analog.
- Custom face plate (cast stainless steel face plate pictured)



RF-2500 Sensors