



RFI-2500

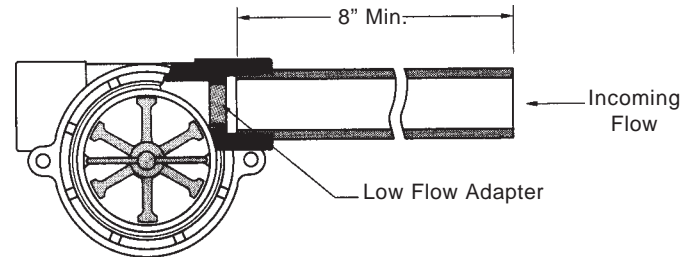
RotorFlow Sensors

Instruction Bulletin No. 157259

Installation and Maintenance

(For additional information, see Gems' "Level, Flow & Pressure" Catalog)

RotorFlow units monitor dynamic fluid flow. The rotor reacts 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" of straight pipe on the inlet side is recommended.



Low Flow Applications

A low flow adapter is supplied with all RotorFlow units. It is used to produce accurate response at low flow rates. Press-fit the adapter as shown above, in the port selected for incoming flow. **(See Flow Range chart below.)**

			Flow Range - GPM		
			Standard	Low Flow	
Body Material	Port Size NPT	Part Number	Range	Range	Adapter Part Number
Polypropylene	.25"	155420	0.5 - 5.0	0.1 - 1.0	152147
	.50"	155480	4.0 - 20.0	1.5 - 12.0	151832
Brass	.25"	142541	0.5 - 5.0	0.1 - 1.0	152147
	.50"	142542	4.0 - 20.0	1.5 - 12.0	133743
	.75"	180392	5.0 - 30.0	N/A	N/A
	1.0"	181681	8.0 - 60.0	N/A	N/A
Stainless Steel	9/16"	174596	0.5 - 5.0	0.1 - 10.0	152147
	1/2"	173138	4.0 - 20.0	1.5 - 12.0	151832
	3/4"	181682	5.0 - 30.0	N/A	N/A
	1.0"	181683	8.0 - 60.0	N/A	N/A

Warning

When determining chemical compatibility of materials of construction, the flow media and application-associated environmental conditions should be carefully considered.

Installation

RotorFlow sensors connect to piping via NPT mating thread forms. The following guidelines are provided to assist with installation for a leak-free seal, without damage to the unit:

1. Apply pipe thread sealant to male pipe threads
2. Thread RotorFlow unit onto male pipe thread until hand-tight
3. Tighten pipe 1 to 1-1/1 additional turns
4. If improper seal results, continue turning pipe into unit in 1/4 turn increments

Do not exceed one additional turn.

Recommended Pipe Sealants

- a) Permatex® "No More Leaks"
- b) Teflon® Thread Tape

Filtration and Cleaning

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 center rib 45° counter-clockwise and then pulling it out. To reinstall the lens, simply reverse the process. Pressure must be relieved from the system prior to sensor clean-out.

Specifications

Wetted Materials

Body	Stainless Steel, Brass or Polypropylene (Hydrolytically Stable, Glass-Reinforced*)
Rotor Pin	Ceramic
Rotor	High Visibility Orange, Molded Nylon or Teflon/PPS
Lens	Polysulfone
O-Ring	Buna N or Viton
Operating Pressure, Max.	
Brass/SS Body	200 psig @ 70°F/80 psig @ 212°F
Polypropylene Body	100 psig @ 70°F/40 psig @ 212°F
Operating Temperature, Max.	
Brass/SS Body	212°F (100.0°C)
Polypropylene Body	212°F (100.0°C)

*Hydrolytically stable, glass-reinforced polypropylene is UL-recognized to UL746B at a relative temperature index of 65°C.

Panel Mounting

Any RotorFlow sensor may be panel mounted using holes integrated into the bodies:

Plastic Bodies

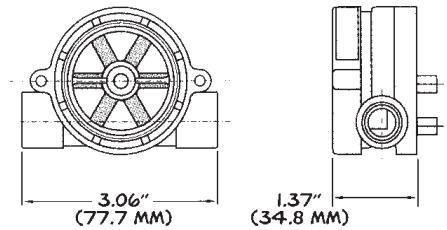
Two mounting ears are provided at the body center line to receive #8 self-tapping screws. **Note:** ANSI Type 23 self-tapping screws are recommended. They may be replaced with standard machine screws if re-installation should be required.

Brass and Stainless Steel Bodies

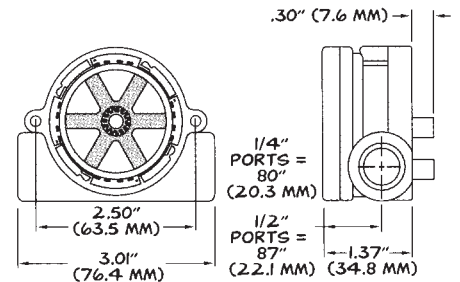
Two mounting holes are provided on the body center line, as shown. #8 32UNC-2B screws are required for mounting.

A RotorFlow Repair Kit is available, including the following replacement parts: Lens, O-ring, Shaft, and Rotor. Consult Factory to order.

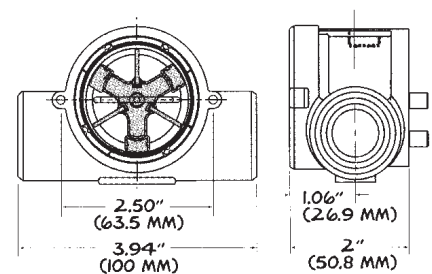
Polypropylene Body



Brass or Stainless Steel Body .25" or .50" Ports



Brass or Stainless Steel Body .75" or 1.0" Ports



Important Points!

Product must be maintained and installed in strict accordance with the National Electrical Code and GEMS product catalog and instruction bulletin. Failure to observe this warning could result in serious injuries or damages.

An appropriate explosion-proof enclosure or intrinsically safe interface device must be used for hazardous area applications involving such things as (*but not limited to*) ignitable mixtures, combustible dust and flammable materials.

Pressure and temperature limitations shown on individual catalog pages and drawings for the specified flow switches must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/temperatures and their frequencies.

Selection of materials for compatibility with the media is critical to the life and operation of GEMS flow switches. Take care in the proper selection of materials of construction; particularly wetted materials.

Life expectancy of switch contacts varies with applications. Contact GEMS if life cycle testing is required.

Ambient temperature changes do affect switch set points, since the specific gravity of a liquid can vary with temperature.

Flow switches have been designed to resist shock and vibration; however, shock and vibration should be minimized.

Liquid media containing particulate and/or debris should be filtered to ensure proper operation of GEMS products.

Electrical entries and mounting points may require liquid/vapor sealing if located in an enclosed tank.

Flow switches must not be field repaired.

Physical damaged sustained by the product may render it unserviceable.



Gems Sensors Inc.
One Cowles Road
Plainville, CT
06062.1198

tel 860.747.3000
fax 860.747.4244