

## MAINTENANCE/REPAIR

Regular maintenance of the total system is recommended to assure sustained optimum performance. These devices are not field repairable and should be returned to the factory if recalibration or other service is required. After first obtaining a Returned Goods Authorization (RGA) number, send the unit freight prepaid to the following. Please include a clear description of the problem plus any application information available.

Dwyer Instruments, Inc.  
Attn: Repair Department  
102 Highway 212  
Michigan City, IN 46360

### Important Points!

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

For hazardous area applications involving such things as (but not limited to) ignitable mixtures, combustible dust and flammable materials, use an appropriate explosion-proof enclosure or intrinsically safe interface device.

The pressure and temperature limitations shown on the 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 Dwyer flow switches. Take care in the proper selection of materials of construction, particularly wetted materials.

Life expectancy of switch contacts varies with applications. Contact Dwyer 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.

Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.

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

Flow switches must not be field-repaired.

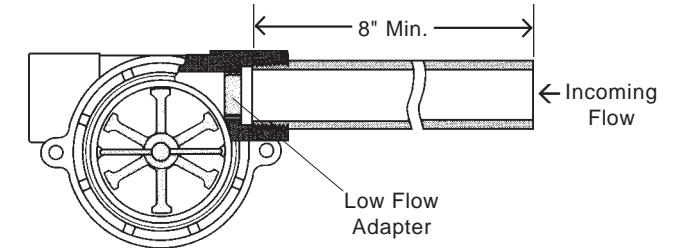
Physical damage sustained by the product may render it unserviceable.



## SF2 Series Continuous Output Brass Sight Flow Transmitter

Instruction Bulletin No. 201918

SF2 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 SF2 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. **Note: Frequency output is determined by the velocity of the monitored fluid acting on the sensor rotor. Input piping with an orifice smaller than that of the sensor input will affect sensor output.**



### Low Flow Applications

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

Port Size NPT	Model No.	Flow Range - GPM	
		Standard High Range	Low Flow Low Range
.25"	SF2-204	0.5 - 5.0	0.1 - 1.0
.50"	SF2-214	4.0 - 20.0	1.5 - 12.0
.75"	SF2-224	3.0 - 30.0	N/A
1.0"	SF2-234	5.0 - 60.0	N/A

### WARNING

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

### Installation

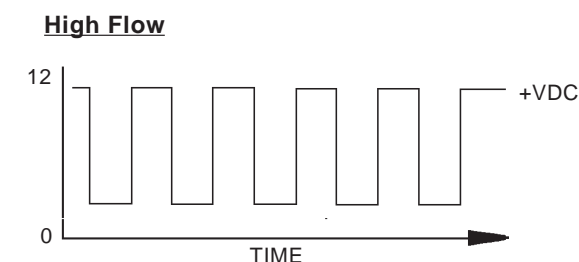
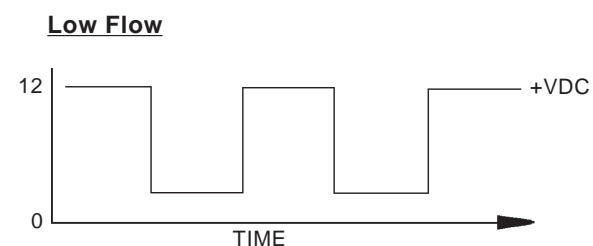
SF2 units connect to piping via NPT mating thread forms. The following guidelines are provided to assist with installation for a leak-free seal, without damage to the unit:

- 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 1-1/2 additional turns.
- 4) If improper seal results, continue turning pipe into unit in 1/4 turn increments.

**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.

**Signal Output:** Output signal is an on/off pulse of the DC voltage supplied to the unit. It is compatible with all digital logic families. Input voltage range is 4.5 to 24 VDC. Frequency of the output pulse is proportional to the flow rate and ranges from approximately 15 Hz at low flow to 225 Hz at high flow. See example below:



**Note:** Consult Factory for flow rate/frequency curves.

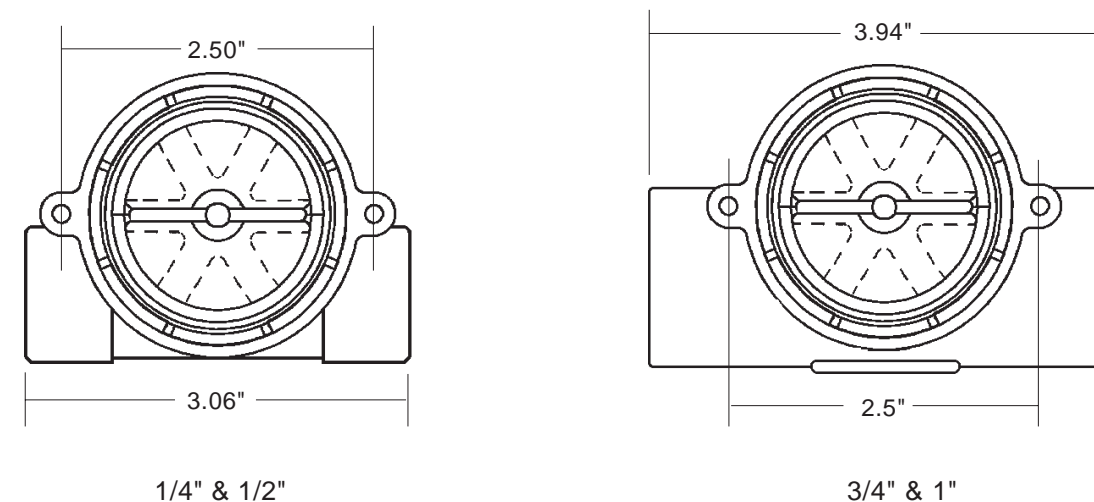
**Electrical Data:** Input power and output are connected via a multi-conductor, PVC-jacketed 24" cable. Color codes are shown below:

4.5 VDC to 24 VDC (Max)

+VDC	Red
Ground	Black
Signal Output	White

### Panel Mounting

Any RotorFlow sensor may be panel mounted using holes integrated into the bodies: Two (2) mounting holes are provided on the body centerline, as shown below. #8-32UNC-2B screws are required for mounting.



### Specifications

Wetted Materials	
Body	Brass
Rotor Pin	Ceramic
Rotor	PPS/Teflon Composite; Black
Lens	Polysulfone
O-Ring	Buna N or Viton
Operating Pressure, Max.	200 PSIG at 70°F/80 PSIG @ 212°F
Operating Temperature, Max.	
Brass Body	212°F (100°C)
Electronics	150°F (65.5°C) - Ambient
Viscosity, Max.	200 SSU
Input Power	4.5 to 24 VDC/12mA
Output Signal	Frequency Pulses -Proportional to Flow Rate
Current Source Output, Max.	70mA (Max)
Frequency Output Range	~15 Hz to 225 Hz
Electrical Termination	Red (+) VDC, Black (-) Ground, White - Signal Output