

Type F3.80 Oval Gear Flow Sensors



The Type F3.80 Oval Gear Flow Sensors are positive displacement flow meters suitable for high viscosity fluids up to 1,000 cP. Accuracy and repeatability is high.

Inside is a transducer and two oval gears oriented at 90 degrees to each other with embedded permanent magnets. A square wave output signal is generated with frequency proportional to rate of rotor rotation and flow velocity. This pulse output is normally fed to a FlowX3 flow monitor/transmitter or batch controller. It can also be fed to other brand instruments or PLC's.

	PP Version	ECTFE Version	SS Version
Sensor Body:	PP	ECTFE	316L SS
Oval Gears:	ECTFE	ECTFE	ECTFE
Shaft:	Zirconium	Zirconium	316L SS
O-Ring:	Viton®	Viton®	Viton®
Connections:	Inline 1/4" BSP female threaded		

Flow Ranges:

F3.81.H Model: 10 to 100 l/h (0.044 to 0.44 gpm)

F3.82.H Model: 25 to 150 l/h (0.11 to 0.66 gpm)

■ Features

- High Accuracy and Repeatability
- Excellent choice for low flows of high viscosity fluids
- Suitable for pulsating flows

■ Connectable FlowX3 Instruments

Instrument Mounting	FlowX3 Instruments*
Panel or Wall	F9.02, F9.03, F9.50, F9.51

* Supply voltage is normally fed from FlowX3 instruments.

Special versions with 4 to 20 mA output or alarm output available on request.

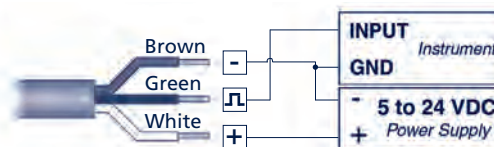


■ Wiring

F3.80 Sensor Connection to FlowX3 Instruments



F3.80 Sensor Connection to Other Brand Instruments



Type F3.80

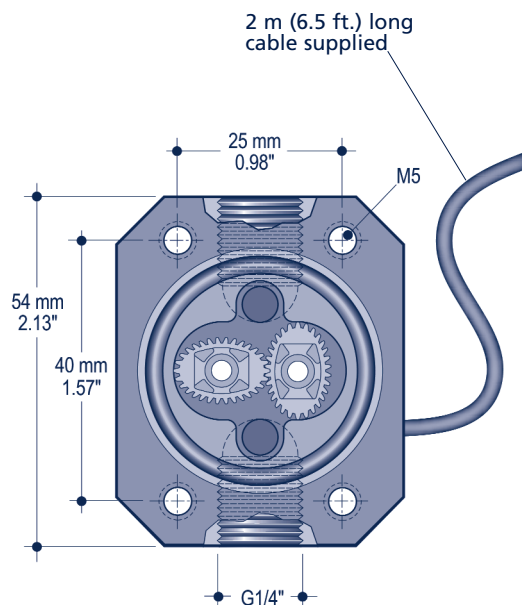
Oval Gear Flow Sensors



■ Technical

Supply Voltage*:	5 to 24 VDC regulated
Supply Current:	< 15 mA @ 24 VDC
Output Signal:	Square wave (pulse)
Electrical Class:	NEMA 4, 4X (IP65)
Accuracy:	± 1% of reading value
Repeatability:	< ± 0.3% of reading value
Max. Fluid Viscosity:	1,000 centipoise
Maximum % Solids:	Clean services only, no solids recommended
Working Temperature:	-10 to 60°C (14 to 140°F)
Maximum Working Pressure:	
PP Body:	6 bar (87 psi) @ 25°C (77°F) 3 bar (43 psi) @ 60°C (140°F)
ECTFE Body:	8 bar (116 psi) @ 25°C (77°F) 5 bar (72 psi) @ 60°C (140°F)
SS Body:	8 bar (116 psi) @ 60°C (140°F)
Cable:	22 AWG, 3 conductors
Max. Cable Length:	Max. 300 m (984 ft.) recommended without signal conditioning

* Supply voltage is normally fed from FlowX3 instruments.



■ Installation Guidelines

- The sensor can be installed in any position, horizontally or vertically, although horizontal is preferred. A non horizontal installation may cause a greater error in the lower flow measurement range.
- Install the sensor with the arrow pointing in the flow direction.
- Maximize the distance between sensor and pump. Do not install the sensor immediately downstream of valves, elbows or any obstacles. 15 cm (6") of straight pipe is suggested before and after the sensor.

■ Item Numbers

Electrical Class	Materials			Flow Rate		Item No.
	Body	Gears	O-Ring	l/hr	USGPM	
NEMA 4, 4X (IP65)	PP	ECTFE	Viton®	10 – 100	0.044 – 0.44	F3.81.H.01
				25 – 150	0.11 – 0.66	F3.82.H.01
	ECTFE	ECTFE	Viton®	10 – 100	0.044 – 0.44	F3.81.H.02
				25 – 150	0.11 – 0.66	F3.82.H.02
	316L SS	ECTFE	Viton®	10 – 100	0.044 – 0.44	F3.81.H.03
				25 – 150	0.11 – 0.66	F3.82.H.03