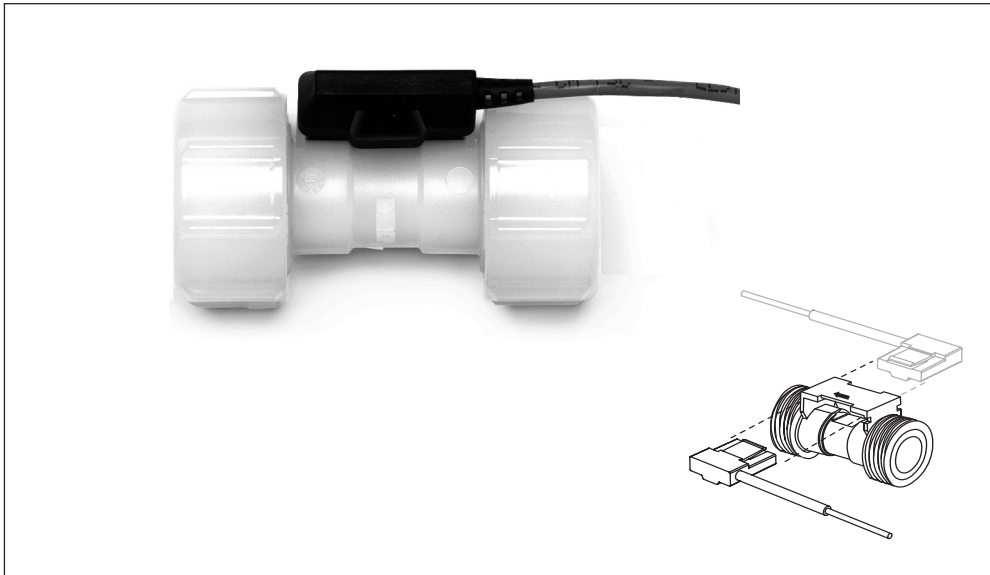


# 2100 Turbine Flow Sensor



## Description

Engineered specifically for small pipe diameter applications, the Signet 2100 Turbine Flow Sensor provides accurate readings in two flow ranges: 0.3 to 3.8 lpm and 3 to 38 lpm (0.1 to 1 gpm and 0.8 to 10 gpm).

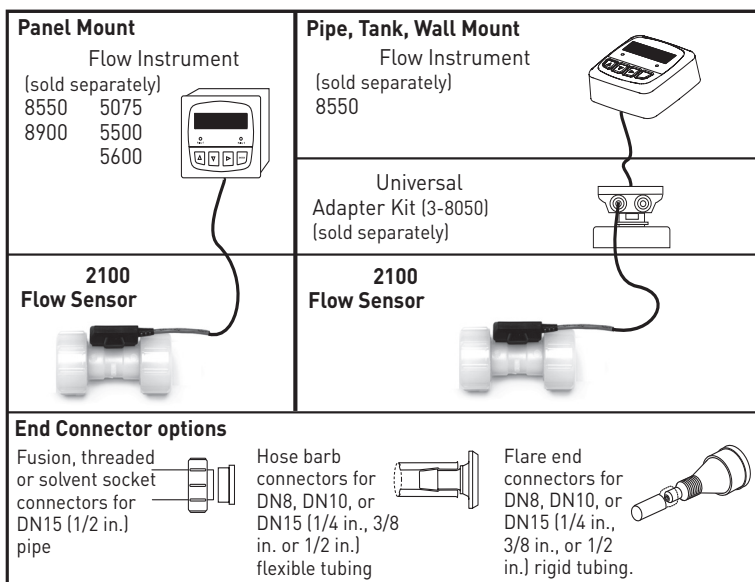
The injection-molded PVDF body and ceramic bearings provide excellent chemical compatibility and long service in dosing and batching applications. Union piping and tubing

connections along with removable NEMA 4X electronics allow for easy assembly and field replacement. The 2100 can be used with DN8 (1/4 in.), DN10 (3/8 in.), DN15 (0.5 in.) tubing, or DN15 (0.5 in.) piping for simple installation. End connections are available in PVDF for hose barbs, flare ends, fusion socket or IR/butt fusion, and in PVC for socket or NPT thread.

## Features

- Flow rate range of 0.38 to 38 lpm (0.10 to 10 U.S. gpm)
- Unaffected by mounting angles
- Non-magnetic turbine
- Union ends for various connector types
- End connector kits for rigid or flexible tubing or DN15 (0.5 in.) pipe
- PVDF & ceramic wetted parts provide superior chemical compatibility
- For use with both clear and opaque fluids
- Small and compact design
- 4.6m (15 ft.) cable
- Features removable electronics that installs from either side of the sensor
- Sensor mounts at any angle

## System Overview



## Application

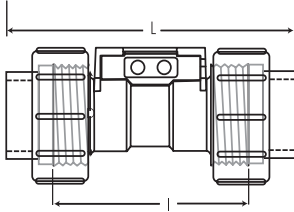
- Chemical Addition
- Textile dyeing
- High-purity Chemical Dispensing
- Water Addition
- Fertigation
- Dosing
- Pump Protection
- Not suitable for gases



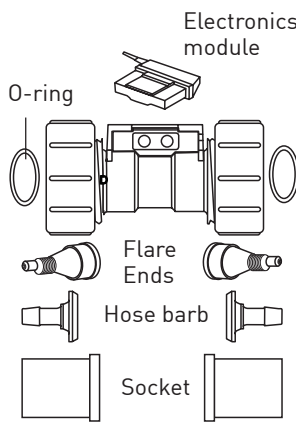
## Dimensions

### L = overall length

All sockets: 102 mm (4 in.)  
 Butt fusion/IR: 170 mm (6.7 in.)  
 All flare ends: 47 mm (1.85 in.)  
 1/4 in. Barb: 124 mm (4.9 in.)  
 3/8 in. Barb: 127 mm (5 in.)  
 1/2 in. Barb: 132 mm (5.2 in.)



l = 64 mm (2.5 in.)



### Application Tips:

- All socket and hose barb connector kits are sold individually. Two kits are required for each sensor.
- Flare end connector kits are sold in package of two.
- Mount at any angle.
- Terminal block recommended if standard cable is extended to maximum 300 m (1000 ft.)

Please refer to **Wiring, Installation, and Accessories** sections for more information.

## Specifications

### General

Flow range:

- -L = 0.38 to 3.8 lpm (0.10 to 1 U.S. gpm)
- -H = 3 to 38 lpm (0.8 to 10 U.S. gpm)
- -H (w/flare) = 3 to 27 lpm (0.8 to 7 U.S. gpm)

Linearity: ±3% of reading

Repeatability: ±0.5% of reading

Pipe size range: DN15 (1/2 in.)

Hose size: DN8 (1/4 in.), DN10 (3/8 in.), DN15 (1/2 in.)

### Wetted Materials

Sensor body/rotor: PVDF

Shaft/bearings: Ceramic

O-rings: -1 = FPM, -2 = EPDM

Electronics:

PBT (polybutylene terephthalate)

EVA (ethylene vinyl acetate)

### Electrical

Power:

5 to 24 VDC @ 1.5 mA max.

Reverse polarity protected

### Electrical (continued)

Output:

Open collector, sinking, max 30 mA

Cable type:

PVC jacketed, 2 conductor twisted pair with shield (22 AWG)

Cable length: 4.6 m (15 ft.)

### Max. Pressure/Temperature Rating

16 bar @ 20°C, 9.3 bar @ 70 °C  
 (232 psi @ 68°F, 130 psi @ 158°F)

Operating temperature:

-20° to 70°C (-4° to 158°F)

Storage temperature:

-15° to 80°C (5° to 176°F)

Relative humidity:

0 to 95%, non-condensing

See Temperature and Pressure graphs

**Shipping Weight:** 0.15 kg (0.33 lbs)

### Standards and Approvals

- CE
- Manufactured under ISO 9001:2000 for Quality and ISO 14001:2004 for Environmental Management

Flow

## Ordering Information

Sensor Part Number	
<b>3-2100</b>	Turbine flow sensor, PVDF body and rotor, for use with various end-connectors
	O-ring material - Choose one
-1	FPM
-2	EPDM
	Flow range
L	low, 0.38 to 3.8 lpm (0.10 to 1 gpm)
H	high, 3 to 38 lpm (0.8 to 10 gpm) except if used with flare fitting
H	high, 3 to 27 lpm (0.8 to 7 gpm) when used with flare fitting
<b>3-2100</b>	<b>-1 L Example Part Number</b>
*Note: To install this flow sensor, end fittings must be installed on both ends of the sensor. See selection below	
Fitting Part Number	
<b>3-2100</b>	End fitting for Model 2100 sensor
	Type of end fitting
-31	Hose barb connector kit, PVDF, 1/2 inch (1-hose barb and 1-ring nut)
-32	Hose barb connector kit, PVDF, 3/8 inch (1-hose barb and 1-ring nut)
-33	Hose barb connector kit, PVDF, 1/4 inch (1-hose barb and 1-ring nut)
-34	Fusion socket connector, PVDF, DN 15 1/2 inch (1-fusion socket and 1 ring nut)
-35	Butt Fusion/IR connector kit, PVDF, DN 15 1/2inch (1-IR socket and 1 ring nut)
-36	Metric socket connector kit, PVC, 1/2 inch (1-solvent socket and 1 ring nut)
-37	SCH 80 socket connector kit, PVC, 1/2 inch (1-solvent socket and 1 ring nut)
-38	NPT thread socket connector kit, PVC, 1/2 inch (1-threaded socket and 1 ring nut)
-40	Flare end, 1/2 inch (2 flare ends, 2 flare nuts, and 2 ring nuts)
-41	Flare end, 3/8 inch (2 flare ends, 2 flare nuts, and 2 ring nuts)
-42	Flare end, 1/4 inch (2 flare ends, 2 flare nuts, and 2 ring nuts)
<b>3-2100</b>	<b>-33 Example Part Number</b>

Mfr. Part No.	Code	Mfr. Part No.	Code
3-2100-1L	<b>159 000 001</b>	3-2100-35	<b>159 000 009</b>
3-2100-2L	<b>159 000 003</b>	3-2100-36	<b>159 000 010</b>
3-2100-1H	<b>159 000 002</b>	3-2100-37	<b>159 000 011</b>
3-2100-2H	<b>159 000 004</b>	3-2100-38	<b>159 000 012</b>
3-2100-31	<b>159 000 005</b>	3-2100-40	<b>159 000 633</b>
3-2100-32	<b>159 000 006</b>	3-2100-41	<b>159 000 634</b>
3-2100-33	<b>159 000 007</b>	3-2100-42	<b>159 000 635</b>
3-2100-34	<b>159 000 008</b>		

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
1220-0018	<b>159 000 019</b>	O-rings FPM (2 required per sensor)
1224-0018	<b>159 000 020</b>	O-rings EPDM (2 required per sensor)
3-2100.390-1L	<b>159 000 015</b>	Turbine Lo Flow with FPM O-rings (replacement body)
3-2100.390-1H	<b>159 000 016</b>	Turbine Hi Flow with FPM O-rings (replacement body)
3-2100.390-2L	<b>159 000 017</b>	Turbine Lo Flow with EPDM O-rings (replacement body)
3-2100.390-2H	<b>159 000 018</b>	Turbine Hi Flow with EPDM O-rings (replacement body)
3-2100.390	<b>159 000 014</b>	Electronics Module with 15 ft. (4.6 m) cable