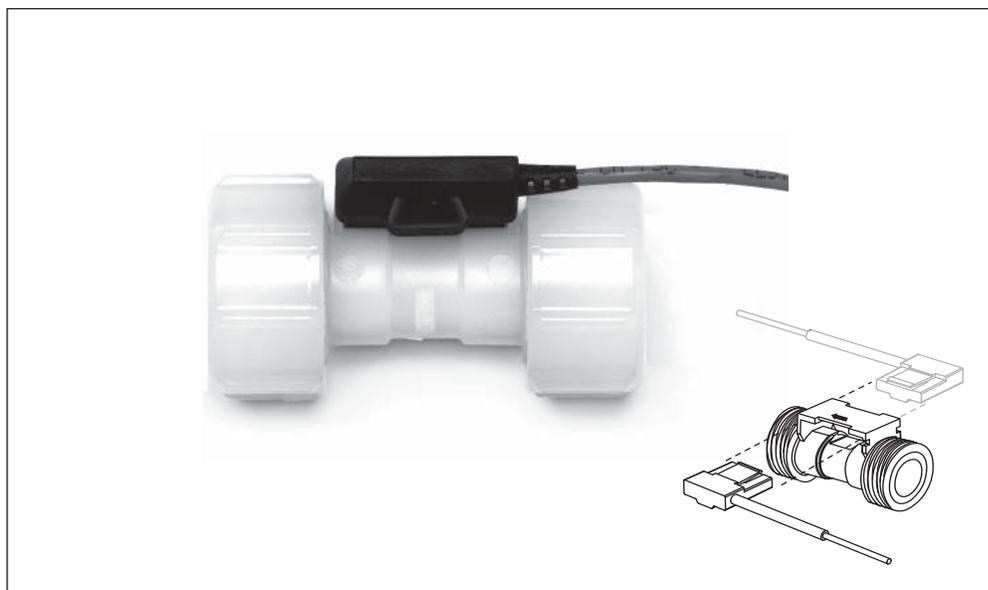


# Signet 2100 Turbine Flow Sensor



## 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 replaceability. The 2100 can be used with DN8 (1/4 in.), DN10 (3/8 in.), DN15 (1/2 in.) tubing, or DN15 (1/2 in.) piping for simple installation. End connections are available in PVDF for hose barbs, fusion socket or IR/butt fusion, and in PVC for socket or NPT thread.

## Features

- Operating range of 0.38 to 38 lpm (0.10 to 10 U.S. gpm)
- Non-magnetic turbine
- Union ends for various connector types
- End connector kits for rigid or flexible tubing or DN15 (1/2 in.) pipe
- PVDF & ceramic wetted parts provide superior chemical compatibility
- For use with both clear and opaque fluids
- Small and compact design
- 4.6 m (15 ft) cable
- Features removable electronics that installs from either side of the sensor
- Sensor mounts at any angle

## Applications

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

## System Overview

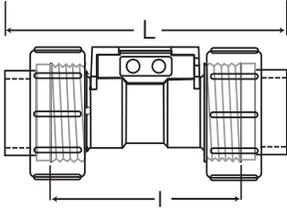
|   |   |
|---|---|
| <p><b>Panel Mount</b><br/>Signet Flow Instrument (sold separately)<br/>5075 8550<br/>5500 8900<br/>5600</p>    | <p><b>Pipe, Tank, Wall Mount</b><br/>Signet Flow Instrument (sold separately)<br/>8550</p>  <p>Signet Universal Adapter Kit (3-8050) (sold separately)</p>  |
| <p><b>Signet 2100 Flow Sensor</b></p>    |   |
| <p><b>End Connector options</b><br/>Fusion, threaded or solvent socket connectors for DN15 (1/2 in.) pipe</p>  | <p>Hose barb connectors for DN8, DN10, or DN15 (1/4 in., 3/8 in. or 1/2 in.) flexible tubing</p>   |



## Dimensions

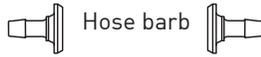
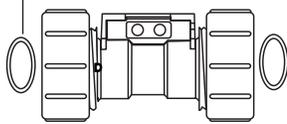
### L = overall length

All sockets: 102 mm (4 in.)  
 Butt fusion/IR: 170 mm (6.7 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 (2½ in.) Electronics module

### O-ring



Hose barb



Socket

### Application Tips

- All socket and hose barb connector kits are sold individually. Two kits are required for each sensor.
- Mount at any angle.
- Junction block, 3-8050-1 recommended if standard cable is extended to maximum 300 m (1000 ft)

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

3-2100.099 Rev A (01/10)  
 © Georg Fischer Signet LLC

3401 Aerojet Avenue, El Monte, CA 91731-2882 U.S.A. • Tel. (626) 571-2770 • Fax (626) 573-2057 • www.gfsignet.com • e-mail: signet.ps@georgfischer.com  
 Specifications subject to change without notice. All rights reserved. All corporate names and trademarks stated herein are the property of their respective companies.

## Specifications

### General

Operating 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)

Linearity: ±3% of reading  
 Repeatability: ±0.5% of reading  
 Pipe size range: DN15 (½ in.)  
 Hose size: DN8 (¾ in.), DN10 (3/8 in.), DN15 (½ in.)

### Wetted Materials

Sensor Body/Rotor: PVDF  
 Shaft/Bearings: Ceramic  
 O-rings: -1 = FPM, -2 = EPR (EPDM)  
 Electronics:  
 PBT (polybutylene terephthalate)  
 EVA (ethylene vinyl acetate)

### Electrical

Power: 5 to 24 VDC ±10%, regulated, 1.5 mA max.  
 Reverse polarity protected

### Electrical (continued)

Output:

Open collector, sinking, max 30 mA  
 Cable Length: 4.6 m (15 ft) can be extended up to 300 m (1000 ft)

Cable Type:

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

### Max. Temperature/Pressure Rating

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

Operating Temperature:

-20 °C to 70 °C (-4 °F to 158 °F)

Storage Temperature:

-15 °C to 80 °C (5 °F to 176 °F)

See Temperature and Pressure graphs

Shipping Weight 0.15 kg 0.33 lb

### Standards and Approvals

- CE
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

## 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                 | EPR (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)   |
| <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, ½ 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, ¼ inch (1-hose barb and 1-ring nut)              |
| -34                 | Fusion socket connector, PVDF, DN15 ½ inch (1-fusion socket and 1 ring nut)     |
| -35                 | Butt Fusion/IR connector kit, PVDF, DN15 ½ inch (1-IR socket and 1 ring nut)    |
| -36                 | Metric socket connector kit, PVC, ½ inch (1-solvent socket and 1 ring nut)      |
| -37                 | SCH 80 socket connector kit, PVC, ½ inch (1-solvent socket and 1 ring nut)      |
| -38                 | NPT thread socket connector kit, PVC, ½ inch (1-threaded socket and 1 ring nut) |
| <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> | 3-2100-34     | <b>159 000 008</b> |
| 3-2100-2L     | <b>159 000 003</b> | 3-2100-35     | <b>159 000 009</b> |
| 3-2100-1H     | <b>159 000 002</b> | 3-2100-36     | <b>159 000 010</b> |
| 3-2100-2H     | <b>159 000 004</b> | 3-2100-37     | <b>159 000 011</b> |
| 3-2100-31     | <b>159 000 005</b> | 3-2100-38     | <b>159 000 012</b> |
| 3-2100-32     | <b>159 000 006</b> |               |                    |
| 3-2100-33     | <b>159 000 007</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 EPR (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 EPR (EPDM) O-rings (replacement body) |
| 3-2100.390-2H | <b>159 000 018</b> | Turbine Hi Flow with EPR (EPDM) O-rings (replacement body) |
| 3-2100.390    | <b>159 000 014</b> | Electronics Module with 15 ft (4.6 m) cable                |
| 3-8050-1      | <b>159 000 753</b> | Universal junction box                                     |