

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 ( $\frac{1}{4}$  in.), DN10 ( $\frac{3}{8}$  in.), DN15 ( $\frac{1}{2}$  in.) tubing, or DN15 ( $\frac{1}{2}$  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 ( $\frac{1}{2}$  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



## Applications

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

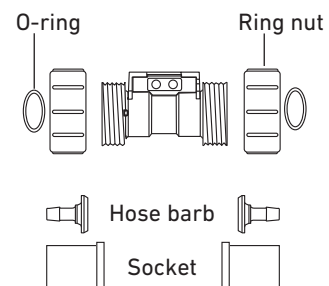
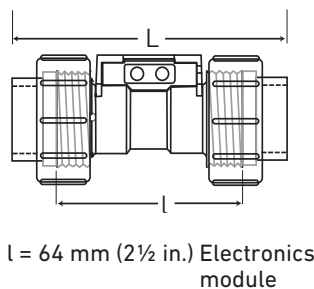
# Specifications

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
Accuracy	±3% of reading	
Repeatability	±0.5% of reading	
Pipe Size Range	DN15 (½ in.)	
Tubing Size	DN8 (¼ in.), DN10 (⅜ in.), DN15 (½ in.)	
Wetted Materials		
Sensor Body/Rotor	PVDF	
Shaft/Bearings	Ceramic	
O-rings	-1 = FKM, -2 = EPR (EPDM)	
Electronics Housing	PBT (polybutylene terephthalate)	
	EVA (ethylene vinyl acetate)	
Electrical		
Power	5 to 24 VDC ±10%, regulated, 1.5 mA max.	
	Reverse polarity protected	
Output	Open collector, sinking, max 30 mA	
Cable Length	4.6 m (15 ft) can be extended up to 305 m (1000 ft)	
Cable Type	PVC jacketed, 2 conductor twisted pair with shield (22 AWG)	
Max. Temperature/Pressure Rating		
	16 bar @ 20 °C	232 psi @ 68 °F
	9.3 bar @ 70 °C	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
Shipping Weight		
	0.15 kg	0.33 lb
Standards and Approvals		
	CE, FCC	
	RoHS compliant, China RoHS	
	Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety	


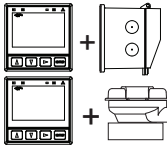
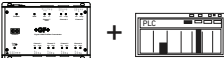
See Temperature and Pressure graphs for more information.

## Dimensions

L = overall length		
All sockets	102 mm	4 in.
Butt fusion/IR	170 mm	6.7 in.
¼ in. Barb	124 mm	4.9 in.
⅜ in. Barb	127 mm	5 in.
½ in. Barb	132 mm	5.2 in.



# System Overview

Panel Mount	Pipe, Tank, Wall	Automation System
Signet Instruments - 8900 - 9900-1P - 9900-1BC - 9950	Signet Instruments - 9900-1P with Rear Enclosure - 9900-1 with 3-8050 Universal Mount Kit*	- 0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or - Programmable Automation Controller
		

## Application Tips

- All socket and hose barb connector kits are sold individually. Two kits are required for each sensor.
- Junction block, 3-8050-1 recommended if standard cable is extended to maximum 305 m (1000 ft).

### Signet Model 2100 Sensor

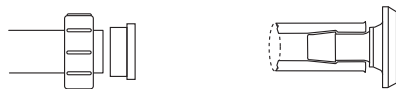


All sold separately

### End Connector options

Fusion, threaded or solvent socket connectors for DN15 (1/2 in.) pipe

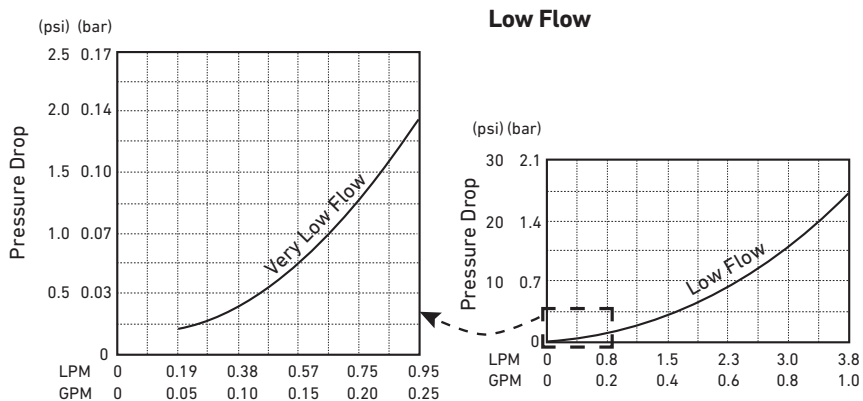
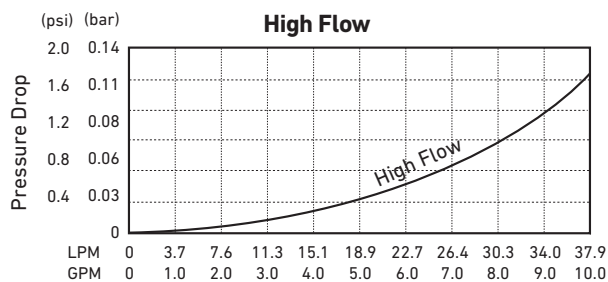
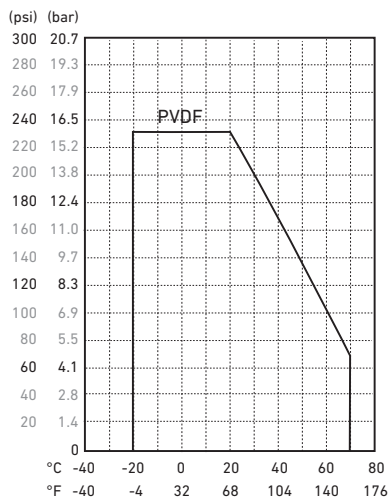
Hose barb connectors for DN8, DN10, or DN15 (1/4 in., 3/8 in. or 1/2 in.) flexible tubing



## Temperature/Pressure Graphs

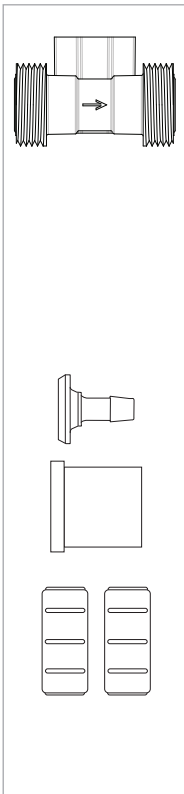
### Note:

The pressure/temperature graphs are specifically for the Signet sensor. During system design the specifications of all components must be considered. In the case of a metal piping system, a plastic sensor will reduce the system specification. When using a PVDF sensor in a PVC piping system, the fitting will reduce the system specification.



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

## Ordering Information



Mfr. Part No.	Code	O-ring Material	Flow Range
Turbine Flow Sensor, PVDF Body and Rotor (for use with various end-connectors)			
3-2100-1L	<b>159 000 001</b>	FKM	low, 0.38 to 3.8 lpm (0.10 to 1 gpm)
3-2100-2L	<b>159 000 003</b>	EPR (EPDM)	low, 0.38 to 3.8 lpm (0.10 to 1 gpm)
3-2100-1H	<b>159 000 002</b>	FKM	high, 3 to 38 lpm (0.8 to 10 gpm)
3-2100-2H	<b>159 000 004</b>	EPR (EPDM)	high, 3 to 38 lpm (0.8 to 10 gpm)

\*Note: To install this flow sensor, end fittings must be installed on both ends of the sensor. See selection below

Mfr. Part No.	Code	Type of End Fitting	
End Fitting for Model 2100 Sensor			
3-2100-31	<b>159 000 005</b>	Hose Barb Connector Kit, PVDF, ½ in. (1-hose barb and 1-ring nut)	
3-2100-32	<b>159 000 006</b>	Hose Barb Connector Kit, PVDF, ¾ in. (1-hose barb and 1-ring nut)	
3-2100-33	<b>159 000 007</b>	Hose Barb Connector Kit, PVDF, ¼ in. (1-hose barb and 1-ring nut)	
3-2100-34	<b>159 000 008</b>	Fusion Socket Connector, PVDF, DN15 ½ in. (1-fusion socket and 1 ring nut)	
3-2100-35	<b>159 000 009</b>	Butt Fusion/IR Connector Kit, PVDF, DN15 ½ in. (1-IR socket and 1 ring nut)	
3-2100-36	<b>159 000 010</b>	Metric Socket Connector Kit, PVC, ½ in. (1-solvent socket and 1 ring nut)	
3-2100-37	<b>159 000 011</b>	SCH 80 Socket Connector Kit, PVC, ½ in. (1-solvent socket and 1 ring nut)	
3-2100-38	<b>159 000 012</b>	NPT Thread Socket Connector Kit, PVC, ½ in. (1-threaded socket and 1 ring nut)	

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
1220-0018	<b>159 000 019</b>	O-rings FKM (2 required per sensor)
1224-0018	<b>159 000 020</b>	O-rings EPR (EPDM) (2 required per sensor)
3-8050-1	<b>159 000 753</b>	Universal Junction Box

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