

# +GF+ SIGNET 2000 MicroFlow Sensor



## Features

- Two flow ranges available
- 0.11 to 2.6 lpm (0.03 to 0.7 gpm)
- 1.13 to 12.11 lpm (0.3 to 3.2 gpm)
- Simple Mounting
- 1/4 in. NPT or ISO threads for simple pipe or tubing connection
- Measures clear and dark liquids
- Low pressure drop

## Applications

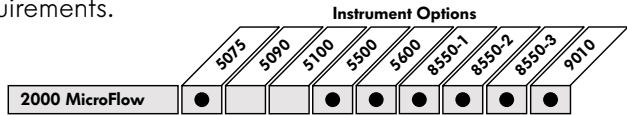
- Coolant Flow
- Dosing
- Batch dispensing
- Not recommended for strong oxidizers

## Description

The +GF+ SIGNET 2000 MicroFlow Sensor is constructed of Polyphenylene Sulfide (PPS) which provides high material strength. The 2000 offers two flow ranges starting at 0.03 or 0.3 gpm, for clean process liquids, regardless of fluid color or opacity.

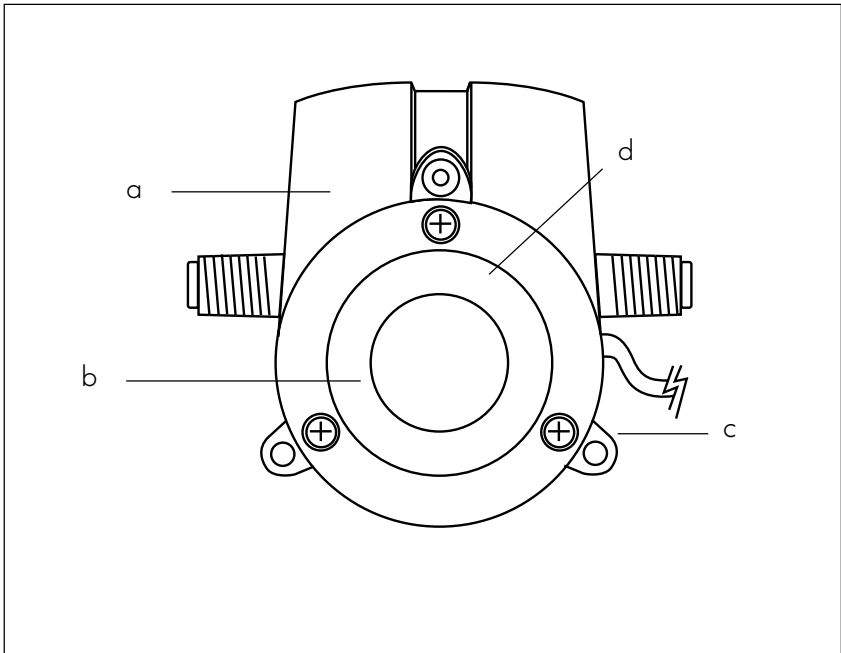
This sensor can be connected to flexible tubing or rigid pipe, and uses standard hardware for mounting. Only one moving part and a low pressure drop across the sensor reduces operating costs and maintenance requirements.

## Options

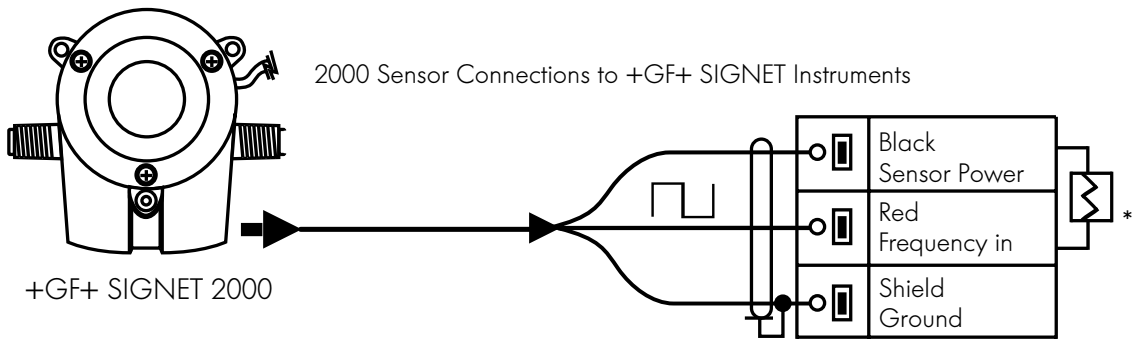


## Technical Features

- Strong, compact PPS body.
- Fully-encapsulated electronics.
- Simple mount with three #6 or M3 screws.
- Simple access to rotor for service.



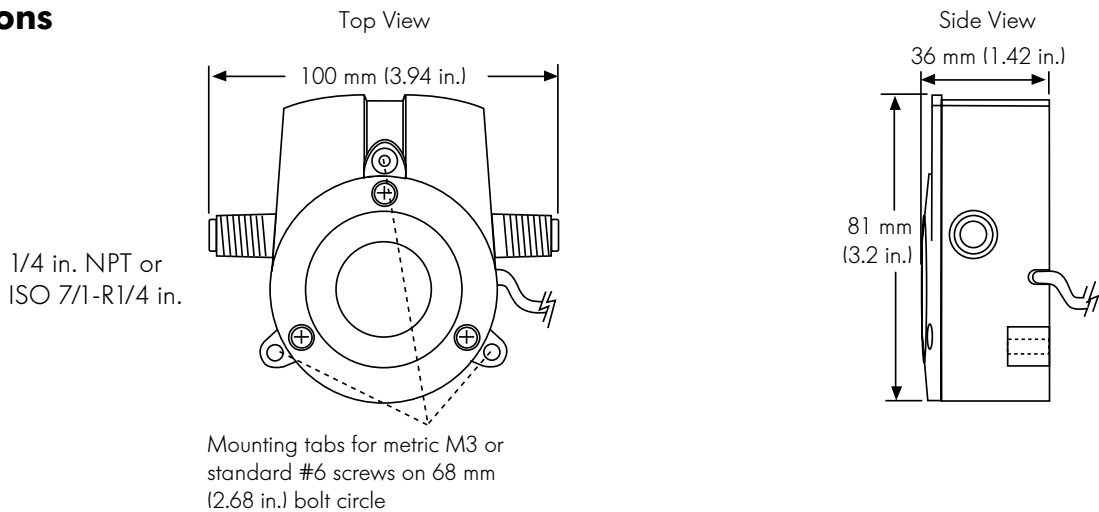
# Wiring



● DC sensor power supplied from +GF+ SIGNET instrument.

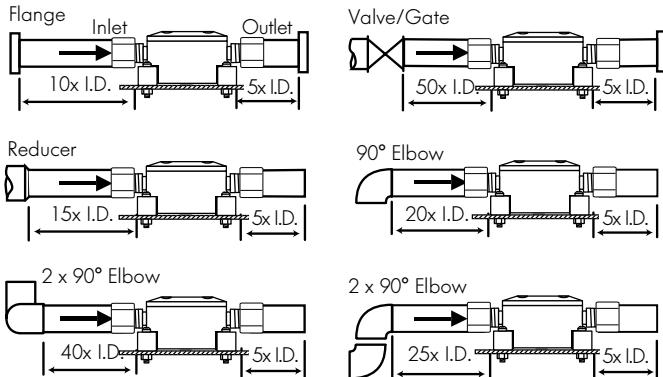
\* 10K $\Omega$  Pull-up resistor may be required for non SIGNET brand instrument

# Dimensions



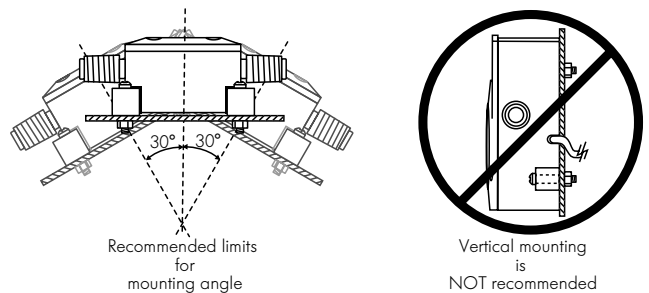
# Installation

- Six common installation configurations are shown here as guidelines to help you select the best location for your sensor.
- Always maximize distance between sensors and pump sources.



# Sensor Mounting Position

- Mount the sensor horizontally flat on a surface for best overall performance. Installations in excess of 30° will affect the accuracy of the sensor.
- Do not mount the 3-2000 in a vertical position. The rotor will not turn freely.



## Technical Data

### General

Flow rate range:	
-11 & -12 version:	0.11 to 2.6 lpm (0.03 to 0.7 gpm)
-21 & -22 version:	1.13 to 12.11 lpm (0.3 to 3.2 gpm)
Linearity:	±1.2% of full range
Repeatability:	± 0.5% of full range
Connections:	1/4 in. NPT (male) or ISO 7/1 - R1/4 (male)
Cable length:	8 m (25 ft.), can splice up to 300 m (1000 ft.) max.
Cable type:	2-conductor twisted pair w/shield, 22AWG
Shipping Weight:	0.3 kg (0.7 lbs.)

### Wetted Materials

Sensor body and cover:	40% glass filled Polyphenylene Sulfide
Rotor:	PEEK™, natural, unfilled
Rotor O-ring:	Viton®
Cover O-ring:	Viton®

### Max. pressure/temperature:

0° to 80°C (32° to 176°F) @ 5.5 bar (80 psi) max.

### Electrical

Power:	5 to 24 VDC @ 10 mA max. from +GF+ SIGNET instrument
Output type:	Open-collector NPN transistor, 10 mA max. sink

### Standards and Approvals

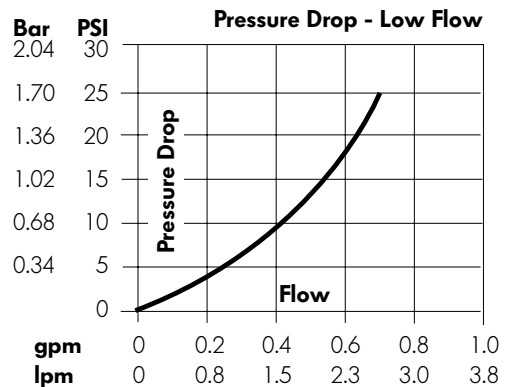
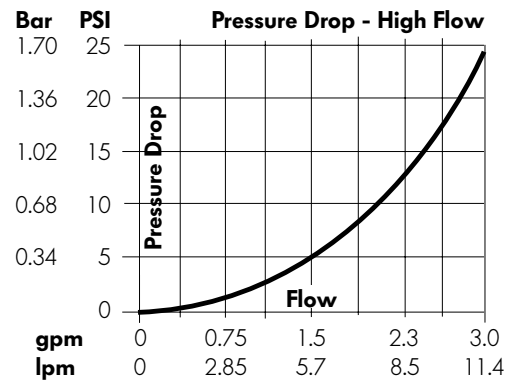
- CE
- Manufactured under ISO 9001 and ISO 14001

### Calibration Data

#### Sensor Model

3-2000-21, 3-2000-22  
3-2000-11, 3-2000-12

-----K-Factors-----		
Pulses/U.S. Gallon	Pulses/Liter	Pulses/mL
3160	834.9	0.835
9950	2629	2.629



## Ordering Information

Mfr. Part No.	Code	Description	Flow Rate Range
3-2000-11	198 822 000	Micro Flow Sensor, low w/0.25 in. NPT	0.11 to 2.61 lpm (0.03 to 0.7 gpm)
3-2000-12	198 822 001	Micro Flow Sensor, low w/ISO 7/1-R1/4	0.11 to 2.61 lpm (0.03 to 0.7 gpm)
3-2000-21	198 822 002	Micro Flow Sensor, high w/0.25 in. NPT	1.13 to 12.11 lpm (0.3 to 3.2 gpm)
3-2000-22	198 822 003	Micro Flow Sensor, high w/ISO 7/1-R1/4	1.13 to 12.11 lpm (0.3 to 3.2 gpm)

## Accessories

Mfr. Part No.	Code	Description
3-2000.390	159 000 248	Replacement rotor kit
1220-0029	198 820 049	Cover O-ring
2450-0620	198 820 051	Cover screw
5523-0222	159 000 392	Cable, per foot

## Engineering Specifications

- The sensor shall be compatible with clean process liquids regardless of fluid color.
- The sensor shall operate with a power input of 5 to 24 VDC @ 10 mA maximum from the indicating instrument.
- Output shall be via a twisted pair, foil-shielded cable with drain wire. Supplied cable shall be at least 7.6 m (25 ft) long, with a maximum allowable length of 300 m (1000 ft).
- Linearity of the output signal with respect to flow rate shall be  $\pm 1.2\%$  of full range.
- Measurement repeatability shall be  $\pm 0.5\%$  of full range.
- The sensor shall be available in versions that accommodate nominal flow rates from 0.03 to 0.7 gpm or from 0.3 to 3.2 gpm.
- The sensor body shall be made of 40% glass-filled polyphenylene sulfide that shall accommodate up to 80 psi @ 0 to 80°C (32 to 176°F).
- The sensor body shall be constructed to allow easy access for inspecting and cleaning internal mechanical parts without exposing electronic components.
- Sensor rotor shall be made of PEEK.
- The sensor shall provide 0.25 in. NPT male fittings or ISO 7/1 R male fittings for attachment to flexible tubing or rigid pipe.
- The sensor shall meet appropriate CE standards.
- The flow sensor shall be +GF+ SIGNET 2000 MicroFlow.