

Signet 2000 Micro Flow Sensor



3-2000.090-1 Rev. D 7/05 English

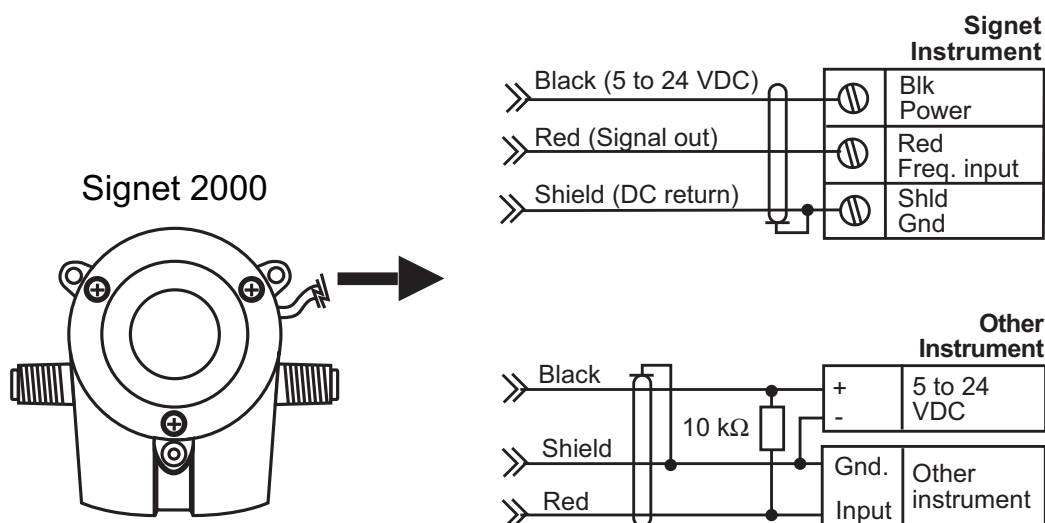


SAFETY INSTRUCTIONS

1. Depressurize and vent system prior to installation/removal.
2. Confirm chemical compatibility before use.
3. Do not exceed maximum temperature/pressure specifications.
4. Wear safety goggles or faceshield during installation/service.
5. Do not alter product construction.



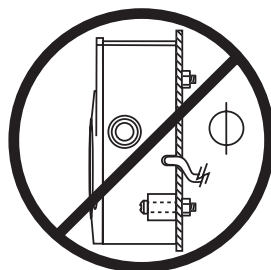
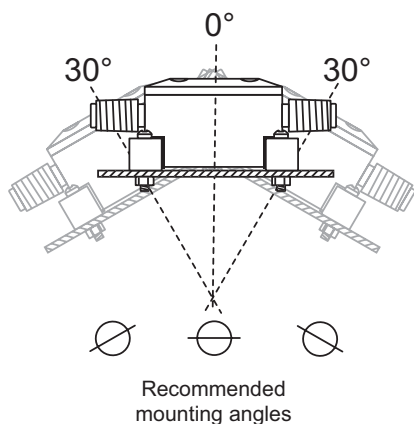
1. Compatible Instrument Wiring



Technical Notes:

- Use 2-conductor twisted-pair shielded cable for sensor cable splices up to 300 m (1000 ft) max.
- Maintain cable shield through cable splice.
- Route sensor cable away from AC power lines.
- AUX power required when used with any Signet 8550 Process Pro Flow Transmitter.

2. Recommended Sensor Position

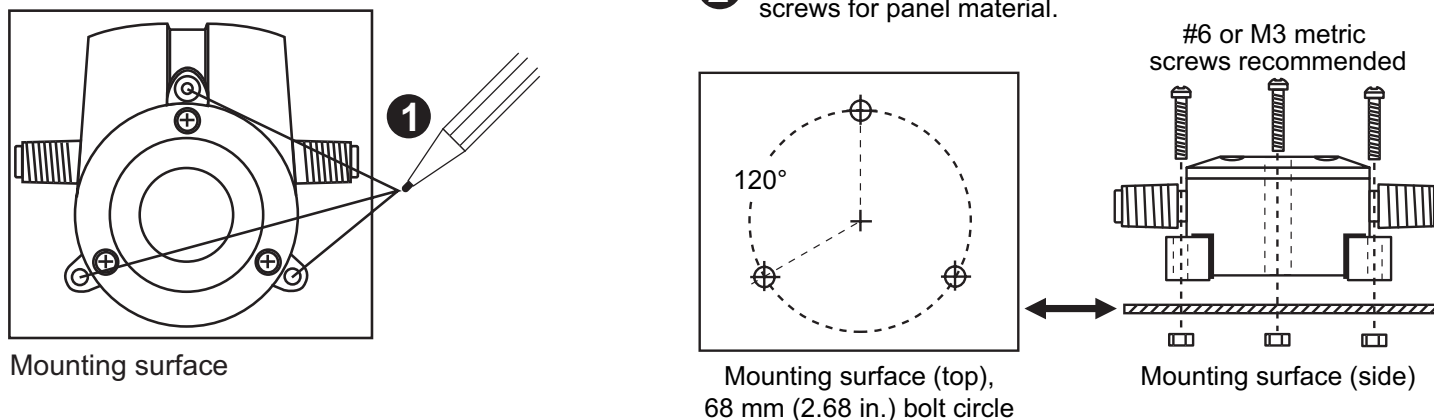


Vertical mounting not recommended

Technical Notes:

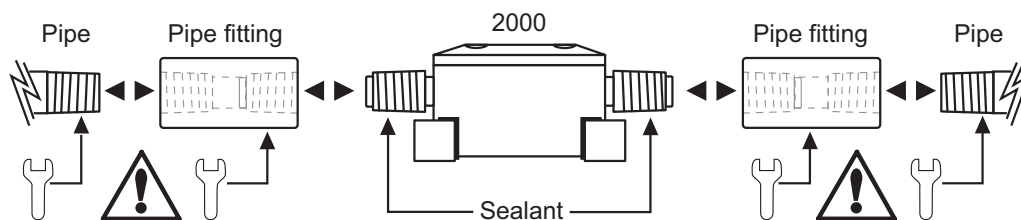
- Horizontal surface mount ($\pm 30^\circ$) recommended for optimum performance.
- Suitable for clean fluids only. Suspended solids will cause mechanical failure.
- 1/4 in. NPT or ISO 7/1 - R1/4 (male) port connections
- NEMA 4X/IP65 splashproof enclosure

3. Surface Mount Instructions



4. Fitting Installation

- CAUTION:**
- Maximum pipe fitting torque: 10 ft - lbs (13 N m).
 - DO NOT overtighten. Failure to observe torque specification may permanently damage sensor ports.



Technical Notes:

- Compatible fittings (customer supplied): Female union (shown), reducer, or hose barb type.
- Always apply thread sealant to sensor port threads to prevent leakage.

5. Calibration

The K-Factors listed below represent the number of pulses the sensor will generate for each engineering unit of fluid which passes. They are listed in U.S. gallons, liters and mL by sensor model:

K-FACTORS			
Sensor Model	Pulses per U.S. GAL	Pulses per Liter	Pulses per ml
3-2000-11	9950	2629	2.629
3-2000-12	9950	2629	2.629
3-2000-21	3160	834.9	0.835
3-2000-22	3160	834.9	0.835

Conversion Formulas:

1 U.S. gallon =
0.83267 Imperial gallon

6. Parts and Accessories

- Cover O-ring, #1220-0029 (code 198 820 049)
- Rotor kit, #3-2000.390 (code 198 820 050)
- Cover screw, #2450-0620 (code 198 820 051)
- Instruction sheet, #3-2000.090-1 (code 198 869 911)

7. Specifications

General

Flow 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: $\pm 1.2\%$ of full range

Repeatability: $\pm 0.5\%$ 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 (Belden 8451)

Weight: 250 g (9.6 oz.)

Max. pressure/temperature:

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

Wetted Materials

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

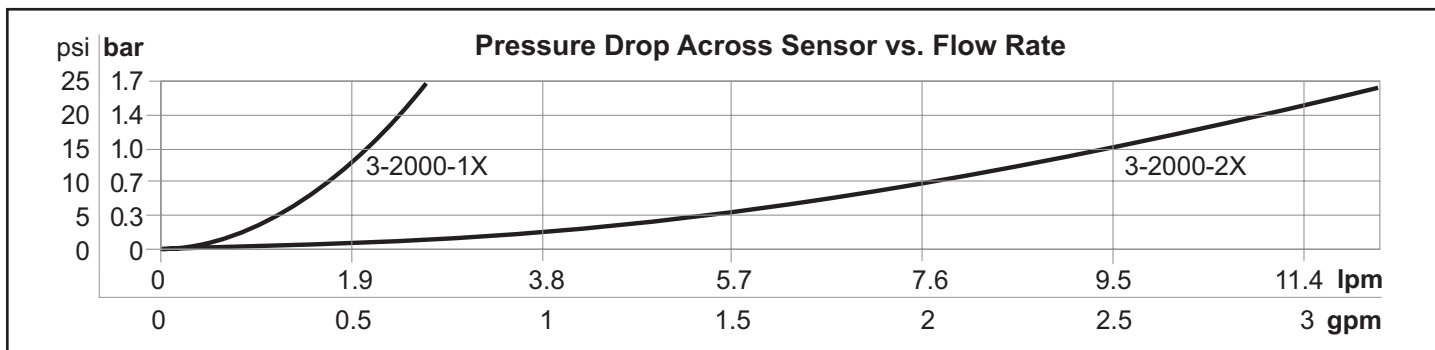
Quality Standard

- Manufactured under ISO 9001

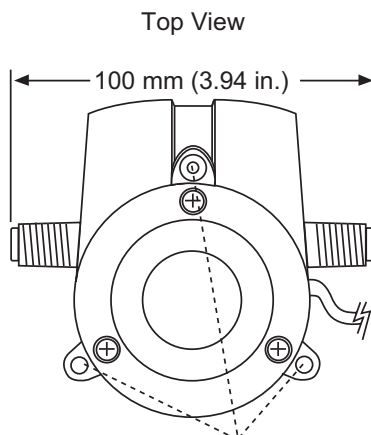
Electrical

Power: 5 to 24 VDC @ 10 mA max. from Signet instrument

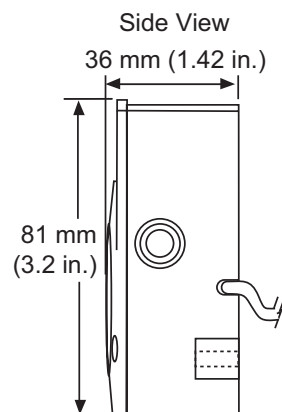
Output type: Open-collector NPN transistor, 10 mA max. sink



Dimensions



Mounting tabs for metric M3 or standard #6 screws on 68 mm (2.68 in.) bolt circle



Signet 2000 MICRO FLOW SENSOR

Ordering Information

Mfr. Part No.	Code	Description
3-2000-11	198 822 000	Micro Flow Sensor, low w/0.25 in. NPT
3-2000-12	198 822 001	Micro Flow Sensor, low w/ISO 7/1-R1/4
3-2000-21	198 822 002	Micro Flow Sensor, high w/0.25 in. NPT
3-2000-22	198 822 003	Micro Flow Sensor, high w/ISO 7/1-R1/4

Accessories

Mfr. Part No.	Code	Description
3-2000.090-1	198 869 911	Instruction manual
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), 2 cond. w/shield, 22 AWG

