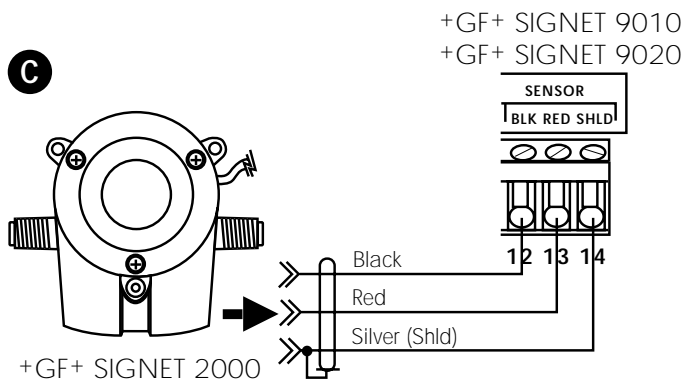
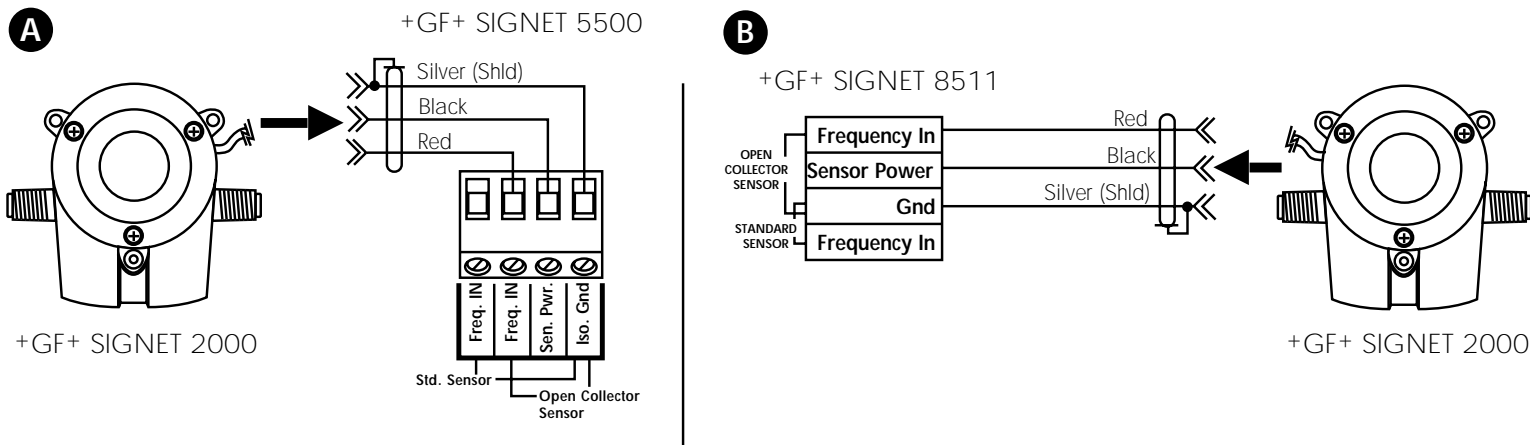


**WARNING!**  
Never remove the flow sensor from a pressurized pipe. Always wear protective clothing during sensor installation/service.



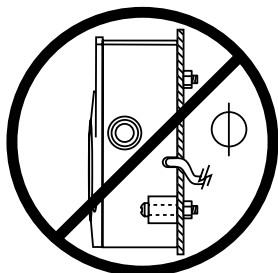
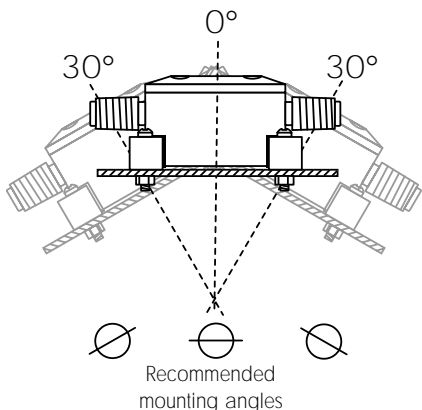
## 1. Compatible Instrument Wiring



### 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.
- +GF+ SIGNET 9010/9020 Inteltek-Pro, use 2000/2536 input card setting

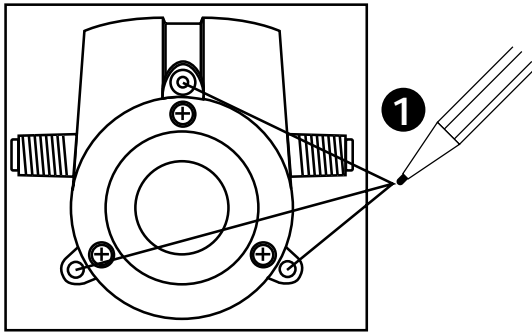
## 2. Recommended Sensor Position



### Technical Notes:

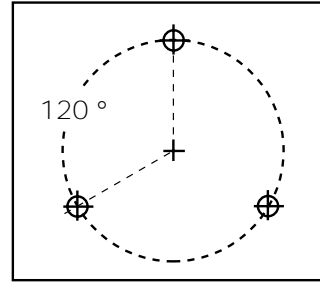
- Horizontal surface mount ( $\pm 30^\circ$ ) recommended for optimum performance.
- Suitable for clean fluids only. Suspended solids will cause mechanical failure.
- 1/4 in. NPT or ISO 7/1 - R1/4 (male) port connections
- NEMA 4X/IP65 splashproof enclosure

### 3. Surface Mount Instructions

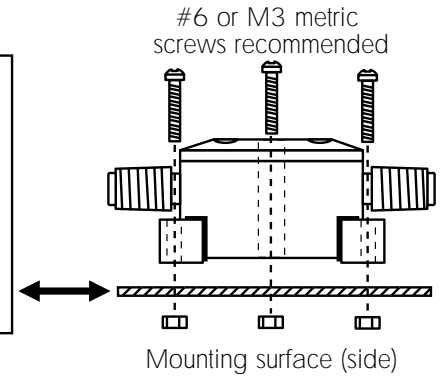


Mounting surface

- Remove sensor then use correct screws for panel material.



Mounting surface (top),  
68 mm (2.68 in.) bolt circle



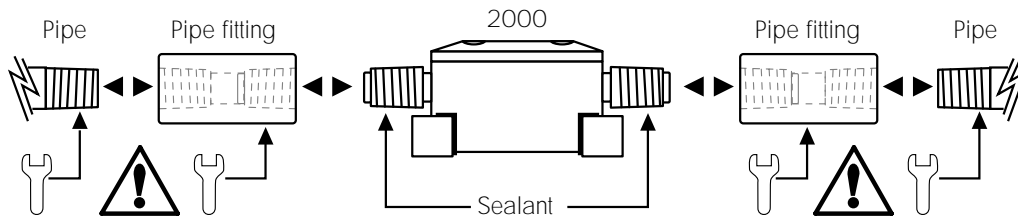
Mounting surface (side)

### 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 is 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:

Sensor Model	K-FACTORS		
	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: Viton®
- Cover O-ring: Viton®

### Quality Standard

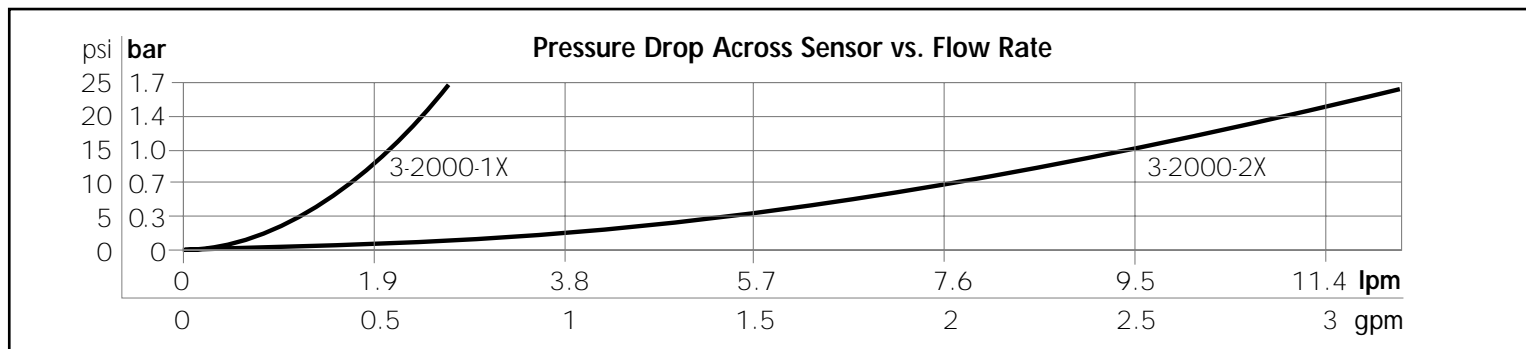
- CE
- Manufactured under ISO 9001

### Electrical

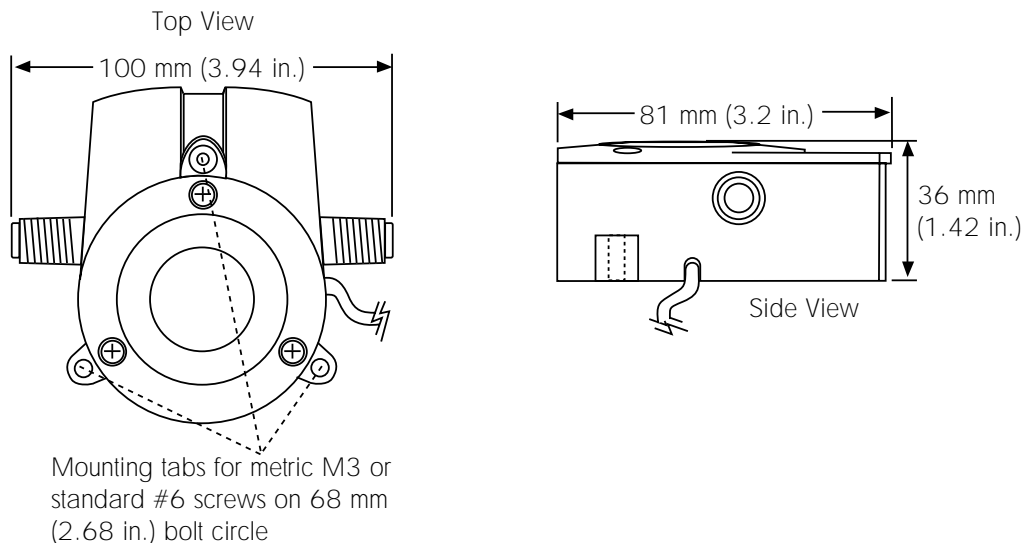
Power: 5 to 24 VDC @ 10 mA max. from +GF+ SIGNET

instrument

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



## Dimensions



## **+GF+ SIGNET**

### **Sales Offices:**

- USA** George Fischer, Inc., 2882 Dow Avenue, Tustin, CA 92780/USA, Tel. (714) 731-8800, Fax (714) 731-6201
- Switzerland** Georg Fischer Rohrleitungssysteme AG, P.O. Box 671, CH-8201 Schaffhausen/Switzerland, Tel. 052/631 1111, Fax 052/631 2830
- Singapore** George Fischer Pte. Ltd., 15 Kaki Bukit Road 2, KB Warehouse Complex, Singapore 1441, Tel. 65/747 0611, Fax 65/747 0577
- Japan** Kubota George Fischer, 2-47 Shikitsuhigashi, 1-Chome, Naniwa-Ku, Osaka, 556-91 Japan, Tel. 816/648 2545, Fax 816/648 2565
- China** Georg Fischer Ltd., Rm 1503, Business Residence Bldg. of Asia Plaza, 2-3 Bldg. No. 5th Qu Anzhenxili, Chaoyang Qu, Beijing 100029, P.R. China, Tel. 86/10 6443 0577, Fax 86/10 6443 0578
- Australia** George Fischer Pty. Ltd., Suite 3, 41 Stamford Road, Oakleigh, Victoria 3166, Australia, Tel. 61/3 9568 0966, Fax 61/3 9568 0988

**+GF+ SIGNET Scientific Company, 3401 Aerojet Avenue, El Monte, CA 91731-2882 U.S.A., Tel. (626) 571-2770, Fax (626) 573-2057**

**GEORGE FISCHER +GF+ Piping Systems**  
3-2000.090-1/(B-2/98), English

© Scientific Company 1995



PRINTED ON RECYCLED PAPER

Printed in U.S.A.