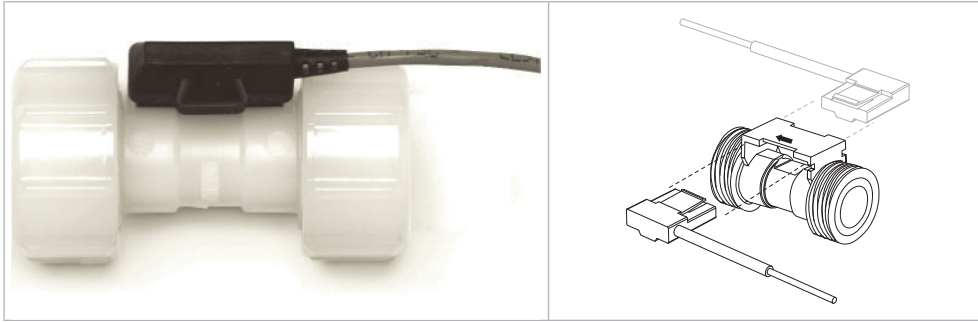


Type 2100 Turbine Flow Sensor



Product description

Engineered specifically for small pipe diameter applications, the type 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



Applications

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

Technical Details

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, sinkin, max 30 mA, (S ³ L)	
Cable Length	4.6 m (15 ft) can be extended up to 300 m (1'000 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
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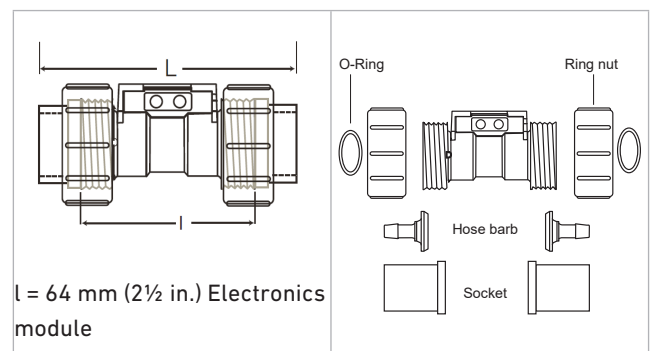
Standards and Approvals

CE, UKCA, FCC
RoHS compliant, China RoHS
Manufactured under ISO 9001, ISO 14001 and ISO 45001

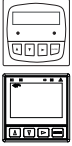
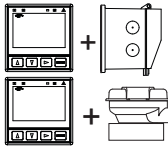

Dimensions

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
GF Instruments - 9900-1P - 9900-1BC - 9950	GF 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
		

Type 2100 Sensor

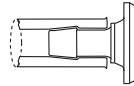
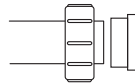


All sold separately

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



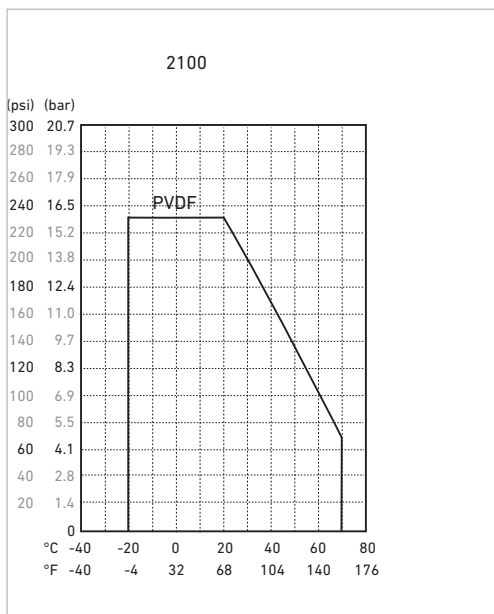
Application Tips

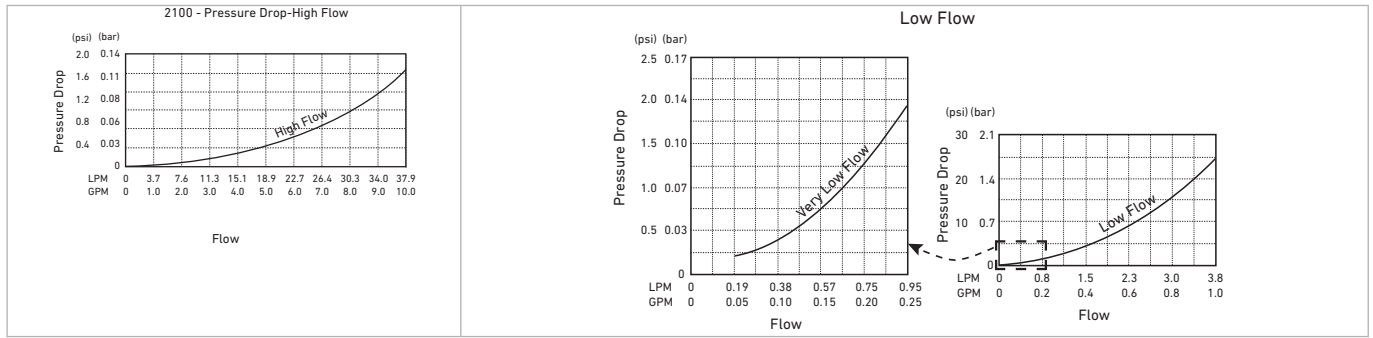
- All socket and hose barb connector kits are sold individually. Two kits are required for each sensor.

Pressure-temperature diagram

Note

The pressure-temperature diagrams are specifically for the GF 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.

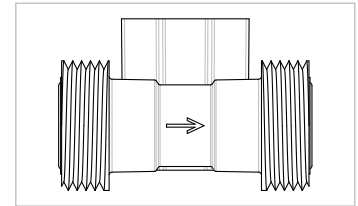




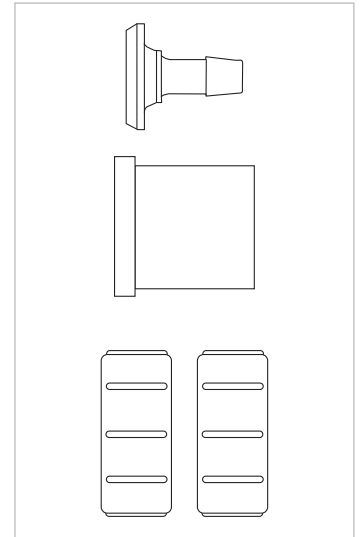
Ordering Information

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	159 000 001	FKM	Low, 0.38 to 3.8 lpm (0.10 to 1 gpm)
3-2100-2L	159 000 003	EPR (EPDM)	Low, 0.38 to 3.8 lpm (0.10 to 1 gpm)
3-2100-1H	159 000 002	FKM	High, 3 to 38 lpm (0.8 to 10 gpm)
3-2100-2H	159 000 004	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



Mfr. Part No.	Code	Type of End Fitting
End fitting for type 2100 sensor		
3-2100-31	159 000 005	Hose barb connector kit, PVDF, 1/2 inch (1-hose barb and 1-ring nut)
3-2100-32	159 000 006	Hose barb connector kit, PVDF, 3/8 inch (1-hose barb and 1-ring nut)
3-2100-33	159 000 007	Hose barb connector kit, PVDF, 1/4 inch (1-hose barb and 1-ring nut)
3-2100-34	159 000 008	Fusion socket connector, PVDF, d20 (1-fusion socket and 1 ring nut)
3-2100-35	159 000 009	Butt Fusion/IR connector kit, PVDF, d20, DN15 (1-IR socket and 1 ring nut)
3-2100-36	159 000 010	Metric socket connector kit, PVC, d20 (1-solvent socket and 1 ring nut)
3-2100-37	159 000 011	SCH 80 socket connector kit, PVC, 1/2 inch (1-solvent socket and 1 ring nut)
3-2100-38	159 000 012	NPT thread socket connector kit, PVC, 1/2 inch (1-threaded socket and 1 ring nut)



Accessoires

Mfr. Part	Code	Description
1220-0018	159 000 019	O-rings FKM (2 required per sensor)
1224-0018	159 000 020	O-rings EPR (EPDM) (2 required per sensor)
3-8050-1	159 000 753	Universal Junction Box with terminal blocks for cable extension

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