

+GF+ SIGNET 525 Metalex Flow Sensor



Features

- Withstands high pressures and temperatures
- FM & CSA approved
- 0.5 to 12" pipe range
- Simple Installation
- Tungsten Carbide rotorshaft

Application

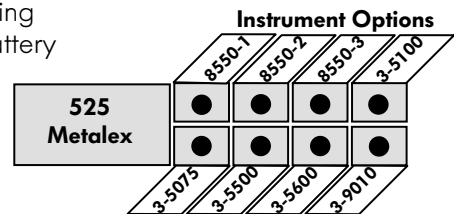
- Boiler Feedwater monitoring
- HVAC systems
- Chemical transport
- Heat exchangers
- Reverse Osmosis
- Boiler Condensate

Description

The +GF+ SIGNET 525 Metalex Flow Sensor offers the added strength of an all stainless steel construction with insertion paddlewheel technology. The result is a highly reliable sensor resistant to extreme pressures and temperatures. The Tungsten Carbide shaft with Fluoroloy B® bearing provide an in-

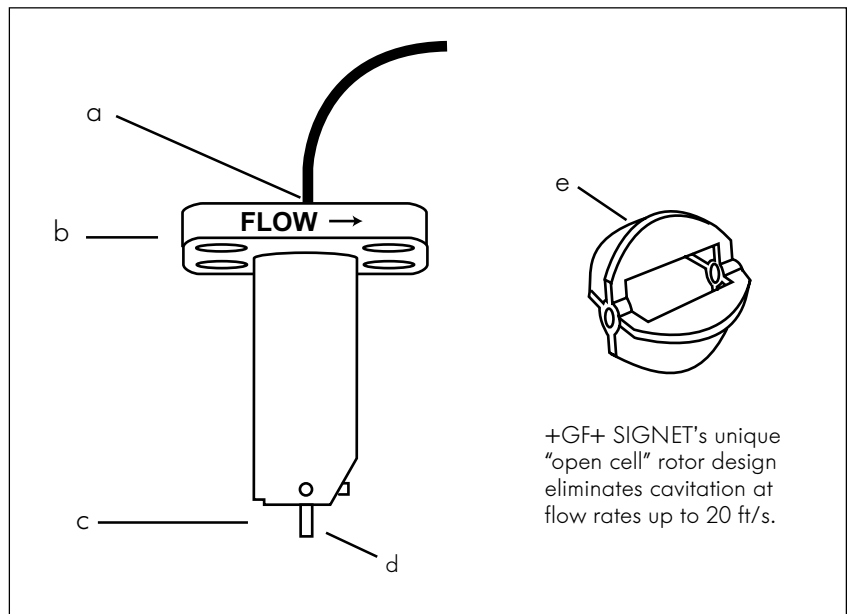
creased length between maintenance. A comprehensive fitting program allows installation in steel lines with the mini-block for small diameters, and either the mini-tap or saddle for pipes up to DN300 (12 in.). The self-generating signal output allows use with battery operated flow monitor (3-5100).

Options



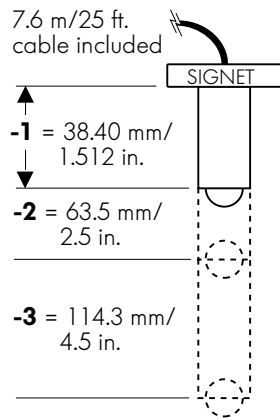
Technical Features

- 1/2 in. NPT Conduit Connection
- Cast and machined stainless steel body
- Tungsten carbide shaft with Fluoroloy B® bearing for extended service
- CD4MCu stainless rotor
- Open-cell rotor



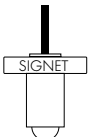
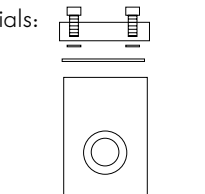
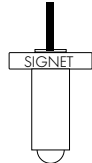
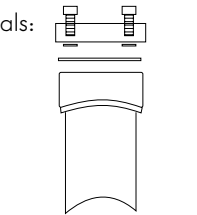
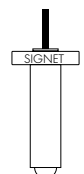
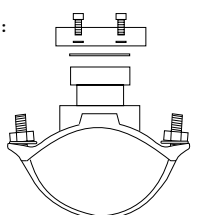
+GF+ SIGNET's unique "open cell" rotor design eliminates cavitation at flow rates up to 20 ft/s.

Dimensions

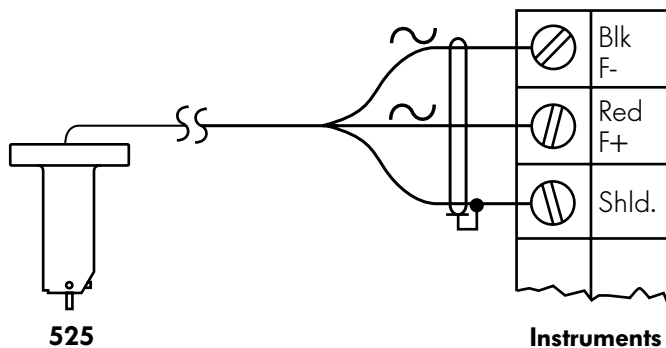


Fitting Types

(Refer to Fittings Section for ordering information)

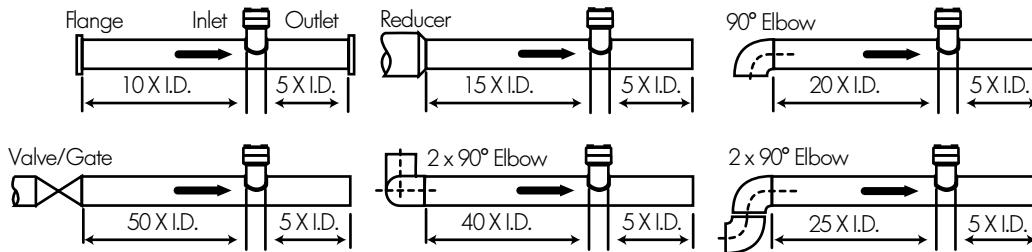
 <p>P525-1 Sensor</p>	<p>Wetted fitting materials: 316 SS</p> <ul style="list-style-type: none"> • Socket weld • 0.5 in. • 0.75 in. • 1.00 in. • cap included 	 <p>Tee Fitting, hardware included</p>	 <p>P525-2 Sensor</p>	<p>Wetted fitting materials: 316 SS & 347 SS</p> <ul style="list-style-type: none"> • 1.25 in. to 12 in. • cap included 	 <p>Mini-Tap Fitting, hardware included</p>
 <p>P525-3 Sensor</p>	<p>Wetted fitting materials: Ductile Iron, 347 SS, Carbon steel, Buna-N/Neoprene</p> <ul style="list-style-type: none"> • 2 in. to 12 in. • cap included 	 <p>Saddle Fitting, hardware included</p>			

Wiring

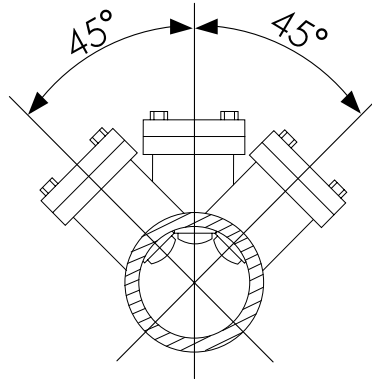


Installation

Six common installation configurations are shown here as guidelines to help you select the best location in your system for a paddlewheel flow sensor. Always maximize distance between sensor and pump sources.



Sensor Mounting Position



Technical Data

General

Flow Rate Range:	0.5 to 6 m/s (1.6 to 20 ft/s)
Linearity:	± 1% of full range
Repeatability:	± 0.5% of full range
Minimum Reynolds # required:	4500
Pressure/Temperature:	103 bar (1500 psi) @ 149°C (300°F) for Series Tee or Mini-Tap fitting 24 bar (350 psi) @ 66°C (150°F) for Saddle fitting
Pipe size range:	DN15 to DN300 (0.5 to 12 in.)
Cable length:	7.6 m (25 ft), can splice to 60m (200 ft) with no significant degradation of signal strength
Cable type:	150°C 22 AWG, 2-conductor w/shield

Wetted Materials

Sensor body:	ACI type CF-8M (316 cast stainless steel) per ASTM A351
Rotor material:	CD4MCu Alloy
Rotor pin:	Tungsten Carbide GRP 1
Retainers (2):	316 stainless steel
Rotor bearings (2):	Fluoroloy B®

Weight:

P525-1	723 grams
P525-2	774 grams
P525-3	923 grams

Signal

Frequency:	12 Hz per ft/s nominal, 5 to 8 mV p-p per Hz
Source Impedance:	11.6 KΩ

Standards and Approvals

- Manufactured under ISO 9001
- CE
- FM Class I, II, III, Division 1/Groups A-G
- CSA

Ordering Information

Mfr. Part No.	Code	Description
P525-1	198 801 494	Sensor for Tee, 0.5 to 1 in.
P525-2	198 801 495	Sensor for Mini-Tap, 1.25 to 12 in.
P525-3	198 801 496	Sensor for Saddle, 2 to 12 in.

+GF+ SIGNET Metalex Tee, Mini-Tap and Saddle fittings purchased separately, see Fittings section.

Accessories

Mfr. Part No.	Code	Description
P31934	159 000 466	Conduit Cap
P51589	159 000 476	Conduit Adapter Kit
P52618	159 000 493	Gasket
P52628	159 000 504	Fitting cap kit (cap and gasket)
P52509	198 801 501	Rotor kit (rotors, stainless steel pin, bearings, retainers)
P52509-2	159 000 480	Rotor kit (rotors, tungsten carbide pin, bearings, retainers)
P52504-1	198 801 500	Rotor Shaft, Stainless steel (optional)
P52504-2	198 820 023	Rotor Shaft, Tungsten Carbide (standard)
P52503	198 820 013	Bearing, Fluoroloy B
P52527	159 000 481	Retainers, Stainless steel
5523-3222	159 000 393	Cable, per foot

Engineering Specifications

- The flow sensor shall use a four-blade, open-cell rotor design using insertion paddlewheel technology.
- The sensor shall be available in models usable in pipe sizes from 0.5 to 12 in. when combined with appropriate installation fittings.
- The sensor shall require no electrical power.
- The sensor shall provide an output signal of 80 mV p-p per ft/s nominal at a frequency of 12 Hz per ft/s nominal from 1.6 to 2.0 ft/s.
- Output shall be via a twisted pair, foil-shielded cable with drain wire. Supplied cable shall be at least 7.6m (25 ft) long, with a maximum allowable length of 61 m (200 ft).
- Linearity of the output signal with respect to flow rate shall be $\pm 1\%$ of full scale.
- Measurement repeatability shall be $\pm 0.5\%$ of full scale.
- The operating range of the sensor shall accommodate nominal flow rates from 0.5 to 6 m/s (1.6 to 20 ft/s).
- The sensor body shall be made of ACI type CF-8M (316 SS) per ASTM A 351 that shall accommodate up to 103 bar (1500) psi @ 149°C (300°F) with appropriate installation fitting.
- Shaft shall be Tungsten Carbide. Retainers shall be made of 316SS. Rotor shall be made of CD4MCu alloy.
- The sensor shall attach to a pipe via a variety of insertion-style installation fittings supplied by the flow sensor manufacturer.
- The sensor shall be equipped with 0.5 in. NPT female threaded conduit connection.
- The sensor shall meet appropriate CE, FM standards for Classes I, II and III, Division 1/Groups A-G and CSA.
- The flow sensor shall be +GF+ SIGNET, Model 525 Metalex.