



The Signet 525 Metalex Paddlewheel Flow Sensor combines stainless steel construction with insertion paddlewheel technology. The result is a highly reliable sensor suitable for operation at extreme pressures and temperatures. The Tungsten Carbide shaft and carbon fiber reinforced PTFE bearing provides excellent wear resistance for extended service.

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 output signal allows use with the battery operated flow totalizer 8150.

## Features

- For up to 103 bar (1500 psi @ safety factor 1.5) pressure
- For up to 149 °C (300 °F) temperature
- DN15 to DN300 (½ to 12 in.) pipe range
- Simple installation
- Self-powered/no external power required
- 316 SS body
- Tungsten Carbide or SS shaft
- 7.6 m (25 ft) cable included
- Operating range 0.5 to 6 m/s (1.6 to 20 ft/s)



## Applications

- Boiler Feedwater Monitoring
- HVAC
- Chemical Transport
- Heat Exchangers
- Reverse Osmosis
- Cooling Systems
- Not suitable for gases

# Specifications

## General

Operating Range	0.5 to 6 m/s	1.6 to 20 ft/s
Pipe Size Range	DN15 to DN300	½ to 12 in.
Linearity	±1% of max. range @ 25 °C (77 °F)	
Repeatability	±0.5% of max. range @ 25 °C (77 °F)	
Min. Reynolds Number Required	4500	

## Wetted Materials

Sensor Body	316 SS (ACI type CF-8M per ASTM A351), DIN 17440	
Rotor Material	17-4PH-1 Stainless Steel	
Rotor Pin	Tungsten Carbide GRP 1 or 316 stainless steel	
Retainers (2)	316 stainless steel (1.4401)	
Rotor Bearings (2)	Carbon fiber reinforced PTFE	
Gasket	KLINGER®sil C-4401 (supplied with fitting)	

## Electrical

Frequency	39 Hz per m/s nominal	12 Hz per ft/s nominal
Amplitude	5 to 8 mV p-p per Hz	
Source Impedance	11.6 KΩ	
Cable Length	7.6 m (25 ft), can be extended up to 61 m (200 ft)	
Cable Type	Cable (per foot) 2 cond. w/shield, 22 AWG	

## Max. Temperature/Pressure Rating

Socket Weld or Weld-on Mini-Tap Fittings	103 bar (1500 psi @ safety factor 1.5) @ 149 °C (300 °F)	
Strap-on Saddle Fitting	21 bar (305 psi) @ 66 °C (151 °F)	
Operating Temperature	-18 °C to 149 °C	0 °F to 300 °F

## Shipping Weight

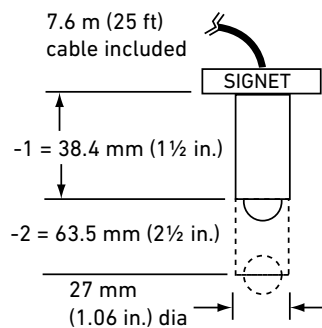
P525-1/-1S	0.723 kg	1.6 lb
P525-2/-2S	0.774 kg	1.7 lb

## Standards and Approvals

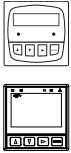
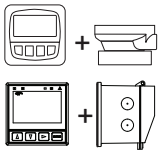
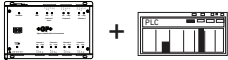
RoHS compliant, China RoHS
Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety

See Temperature and Pressure graphs for more information.

## Dimensions



# System Overview

Panel Mount	Pipe, Tank, Wall Mount	Automation System
Signet Instruments - 8150 - 8900 - 9900 - 9900-1BC - 9950	Signet Instruments - 8150 with 3-8050 Universal Mount Kit - 9900-1 - 9900-1BC with Rear Enclosure - 9950	- 0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or - Programmable Automation Controll
		

## Signet 525 Metalex Flow Sensor



### Signet Fittings



All sold separately

## Application Tips

- Use the Conduit Adapter Kit to protect the cable-to-sensor connection when used in outdoor environments. See Accessories section.
- Use the Socket Weld or Weld-on Mini-Tap fittings for sensor installation in pressures up to 1500 psi (103 bar).

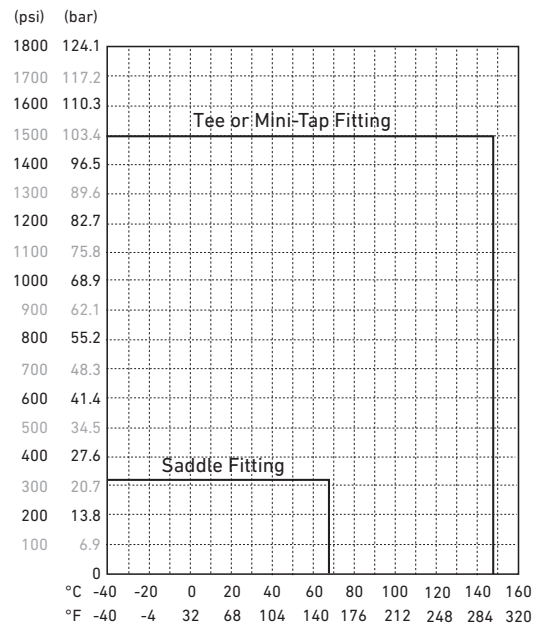
## Model 525 Ordering Notes

- 1) Each sensor option is used with a different fitting based on pipe size.
- 2) Fittings must be ordered separately.
- 3) See fittings section for more information.

# Temperature/Pressure Graphs

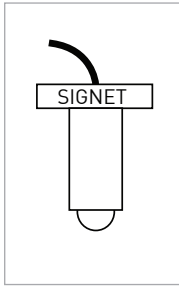
### Note:

The pressure/temperature graphs are specifically for the Signet 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.



Please refer to Wiring, Installation, and Accessories sections for more information.

## Ordering Information



Mfr. Part No.	Code	Sensor Style	Rotor Pin Material
Metalex Flow Sensor for High Pressures and Temperatures			
P525-1	<b>198 801 494</b>	Used with ½ to 1 inch Socket-weld Mini-Tap Fittings**	Tungsten Carbide
P525-2	<b>198 801 495</b>	Used with 1¼ to 12 inch Weld-on Mini-Tap Fittings**	Tungsten Carbide
P525-1S	<b>159 000 963</b>	Used with ½ to 1 inch Socket-weld Mini-Tap Fittings**	316 Stainless Steel
P525-2S	<b>159 000 964</b>	Used with 1¼ to 12 inch Weld-on Mini-Tap Fittings**	316 Stainless Steel

\*\*See Fittings section

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
P52509	<b>198 801 501</b>	Rotor Kit (rotors, stainless steel pin, bearings, retainers)
P52509-2	<b>159 000 480</b>	Rotor Kit (rotors, tungsten carbide pin, bearings, retainers)
P52504-1	<b>198 801 500</b>	Rotor Pin, Stainless Steel (1.4401)
P52504-2	<b>198 820 023</b>	Rotor Pin, Tungsten Carbide
P52618	<b>159 000 493</b>	Gasket
P52503	<b>198 820 013</b>	Bearing, carbon fiber reinforced PTFE
P52527	<b>159 000 481</b>	Retainers, Stainless Steel
P52628	<b>159 000 504</b>	Fitting Cap Kit (cap and gasket)
P51589	<b>159 000 476</b>	Conduit Adapter Kit
5523-3222	<b>159 000 393</b>	Cable (per foot) 2 cond. w/shield, 22 AWG