

# Signet 2517 Brass Paddlewheel Flow Sensor



Standard Sensor

Hot-Tap Sensor

## Features

- Flow rate range  
0.5 to 6 m/s  
(1.6 to 20 ft/s)
- Standard NPT or ISO  
process connections
- Usable in pipe sizes  
up to DN 900 (36 in.)
- Hot-tap versions  
for installation/ser-  
vice without system  
shutdown
- No external power  
required
- Adjustable sensor  
- one size for entire  
pipe range
- 7.6m (25ft.) cable

## Description

The Signet 2517 Paddlewheel Flow Sensors offer added strength and durability of brass construction for a variety of applications. The wide flow range of 0.5 to 6 m/s (1.6 to 20 ft/s) allows the sensor to measure liquid flow rates in full pipes and can be used in low pressure systems. Fluoroloy B®/PTFE bearings and a Tungsten Carbide pin provide exceptional wear resistance. The 2517 brass

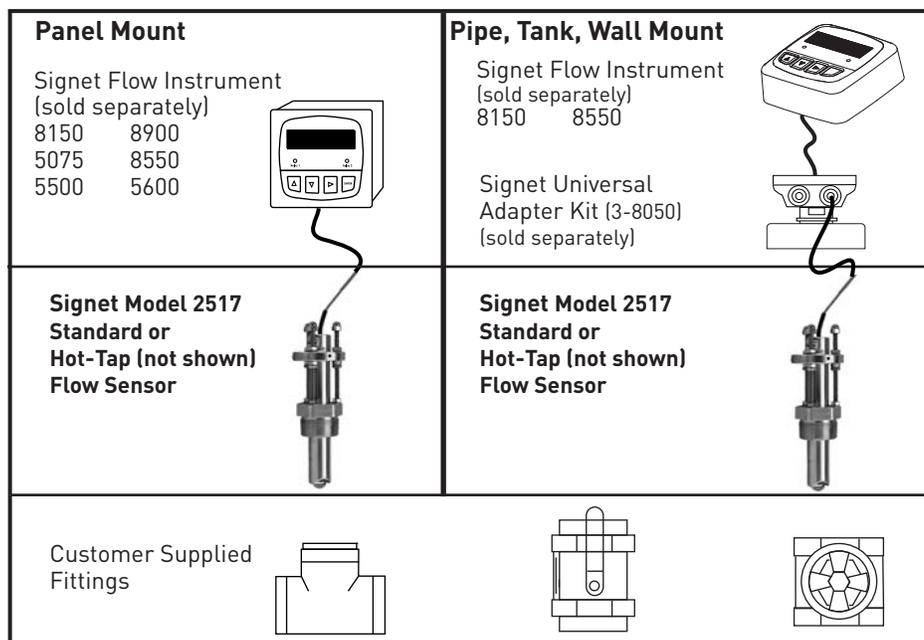
sensor signal allows for remote totalization when coupled with the 8150 battery operated Flow Totalizer. Sensors can be installed in DN 40 to DN 600 (1.5 to 24 in.) pipes using the 1.5 inch (or ISO 7/1-R 1.5) threaded process connection. The sensors are also offered in a hot-tap configuration with a bleed valve for installation in pipes up to DN 900 (36 in.) and allows for servicing without process shutdown.

## Application

- HVAC
- Turf Irrigation
- Cooling Systems
- Filtration Systems
- Water Distribution
- Leak Detection
- Pump Protection
- Clarified Effluent  
Totalization
- Ground Water  
Remediation



## System Overview

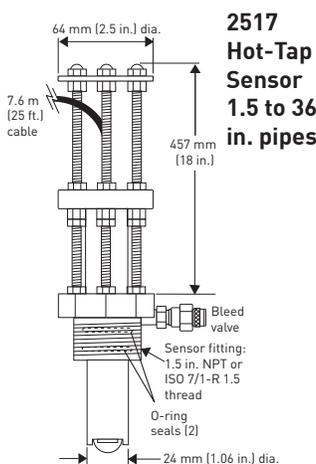
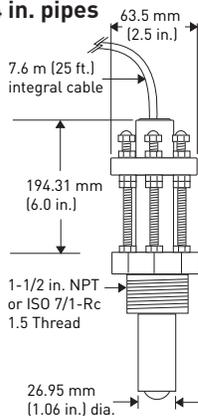


## Dimensions

### 2517

#### Standard Sensor

#### 1.5 to 24 in. pipes



#### Application Tips:

- For systems with components of more than one material, the maximum temperature/pressure specification must always be referenced to the component with the lowest rating.
- Use the Conduit Adapter Kit when used in outdoor environments.
- The 2517 can be used in intrinsically safe areas using an approved barrier between the sensor and instrument.

## Specifications

### General

Flow Rate Range: 0.5 to 6 m/s (1.6 to 20 ft/s)  
 Linearity:  $\pm 1\%$  of full range  
 Repeatability:  $\pm 0.5\%$  of full range  
 Min. Reynolds Number Required: 4500

#### Pipe size range:

- Standard version: DN40 to DN600 (1.5 to 24 in.)
- Hot-Tap version: DN40 to DN900 (1.5 to 36 in.)

#### Sensor fitting options:

- 1.5 in NPT threads
- ISO 7/1-R 1.5 threads

### Wetted materials

- Sensor body: C36000 Free cutting brass
- Sensor fitting: C36000 Free cutting brass
- Sensor fitting O-rings: Standard Viton®, optional EPR
- Rotor: CB7Cu-1 Alloy
- Rotor pin: Tungsten Carbide GRP 1
- Retainers (2): 316 stainless steel (1.4401)
- Rotor bearings (2): Fluoroloy B®

### Electrical

Frequency: 20 Hz per ft/s nominal,  
 5 to 8 mV p-p per Hz  
 Source Impedance: 11.6 K $\Omega$   
 Cable length: 7.6 m (25 ft.), can be extended up to 60m (200 ft.)  
 Cable type: 2-conductor twisted-pair with shield, 22AWG

### Max. Pressure/Temperature Rating

- Sensor with optional EPDM sensor fitting O-rings: 17 bar @ 100°C (250 psi @ 212°F)
- Sensor with standard FPM sensor fitting O-rings: 17 bar @ 82°C (250 psi @ 180°F)

See Temperature and Pressure graphs for more information.

### Shipping Weight:

- 3-2517.100, .101: 2.04 kg (4.5 lbs.)
- 3-2517.102, .103: 2.63 kg (5.8 lbs.)

### Standards and Approvals

- Manufactured under ISO 9001:2000 for Quality and ISO 14001:2004 for Environmental Management
- FM approved, CE

## Ordering Information

Sensor Part Number	
<b>3-2517.10</b>	Brass High Performance flow sensor
↓	Mounting option - choose one
	<b>0</b> 1.5 inch NPT thread
	<b>1</b> 1.5 inch ISO thread
	<b>2</b> 1.5 inch NPT thread, hot tap design*
	<b>3</b> 1.5 inch ISO thread, hot tap design*
<b>3-2517.10</b>	<b>1</b> Example Part Number

\*Must use 3-1500.663 Hot-Tap installation tool (sold separately)

Mfr. Part No.	Code	Mfr. Part No.	Code
3-2517.100	<b>198 840 003</b>	3-2517.102	<b>159 000 267</b>
3-2517.101	<b>198 840 007</b>	3-2517.103	<b>159 000 268</b>

### Model 2517 Ordering Notes:

Installation fitting, Wet-Tap valves and accessories are customer supplied

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
3-1500.663	<b>198 820 008</b>	Hot-Tap Installation Tool
1220-0121	<b>159 000 852</b>	O-ring, FPM
1224-0021	<b>198 820 006</b>	O-ring, EPDM
P52509-1	<b>159 000 479</b>	Rotor Kit, 316SS Pin (1.4401)
P52509-3	<b>159 001 068</b>	Rotor Kit, Tungsten Carbide Pin
P52504-1	<b>198 801 500</b>	Pin, 316SS (1.4401)
P52504-2	<b>198 820 023</b>	Pin, Tungsten Carbide
P52503	<b>198 820 013</b>	Bearing, Fluoroloy B®/PTFE
3-2517.567	<b>159 000 269</b>	Shaft Retainer
P51589	<b>159 000 476</b>	Conduit Adapter Kit
P31934	<b>159 000 466</b>	Conduit Cap
6400-9001	<b>159 001 466</b>	Intrinsic Safety Barrier (2 required)