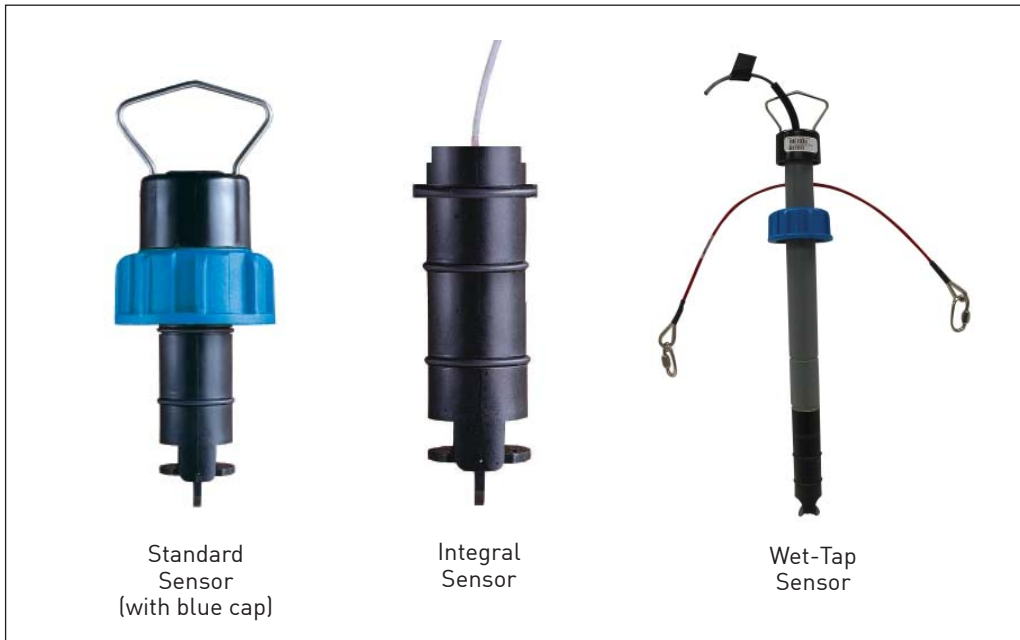


# Signet 2536 Rotor-X Paddlewheel Flow Sensors



Standard Sensor  
(with blue cap)

Integral Sensor

Wet-Tap Sensor








## Description

Simple to install with time-honored reliable performance, Signet 2536 Rotor-X Paddlewheel Flow Sensors are highly repeatable, rugged sensors that offer exceptional value with little or no maintenance. The Model 2536 has a process-ready open collector signal and has a wide dynamic flow range of 0.1 to 6 m/s (0.3 to 20 ft/s). The sensor measures liquid flow rates in full pipes and can be used in low pressure systems.

The Signet 2536 sensors are offered in a variety of materials for a wide range

of pipe sizes and insertion configurations. The many material choices including PP, PVDF, and Tefzel® make this model highly versatile and chemically compatible to many liquid process solutions. Sensors can be installed in DN 15 to DN 900 (0.5 to 36 in.) pipes using Signet's comprehensive line of custom fittings. These custom fittings, which include tees, saddles, and weldolets, seat the sensor to the proper insertion depth into the process flow. The sensors are also offered in configurations for wet-tap installation requirements.

## System Overview (For overview of Wet-Tap System see page 20.)

<p><b>Panel Mount</b> Signet Flow Instrument (sold separately) 8550 5075 8900 5500 5600</p> 	<p><b>Pipe, Tank, Wall Mount</b> Signet Flow Instrument (sold separately) 8550</p> 	<p><b>Integral Mount</b> Signet Flow Instrument (sold separately) 8550</p> 
<p><b>Signet Model 2536 Standard or Wet-Tap Flow Sensor (not shown)</b></p> 	<p><b>Signet Model 2536 Standard or Wet-Tap Flow Sensor (not shown)</b></p> 	<p><b>Signet Model 2536 Integral Flow Sensor</b></p> 
<p>Signet Fittings* (sold separately)</p> 		

\*See Fittings section for more information.

## Features

- Flow rate range 0.1 to 6 m/s (0.3 to 20ft/s)
- Wide Turndown Ratio of 66:1
- Open-collector output
- Simple , economical design
- Highly repeatable output
- Installs into pipe sizes DN 15 to DN 900 (0.5 to 36 in.)
- High resolution and noise immunity
- 7.6m (25 ft.) of cable for standard and Wet-tap sensors
- Chemically resistant materials
- Easy to replace rotor

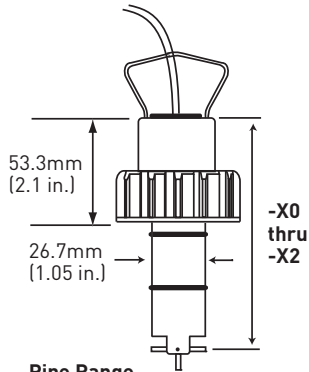
## Applications

- Pure Water Production
- Filtration Systems
- Chemical Production
- Liquid Delivery Systems
- Pump Protection
- Scrubbers/Gas stacks
- Gravity Feed Lines
- Not suitable for gases



## Dimensions

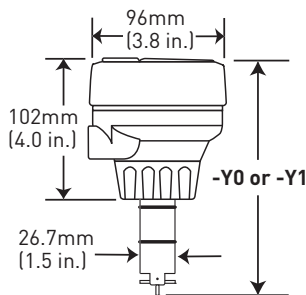
### 2536 Standard Mount Sensor



#### Pipe Range

0.5 to 4 in. -X0 = 104mm (4.1 in.)  
 5 to 8 in. -X1 = 137mm (5.4 in.)  
 10 in. and up -X2 = 213mm (8.4 in.)

### 2536 Integral Mount Sensor shown with Transmitter (sold separately)

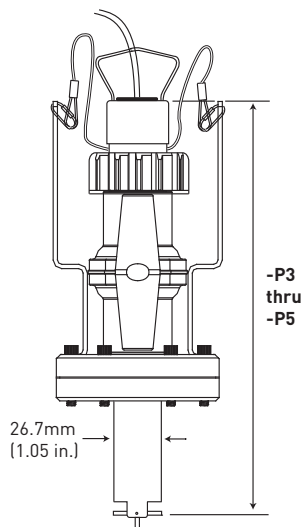


#### Pipe Range

0.5 to 4 in. -Y0 = 152mm (6.0 in.)  
 5 to 8 in. -Y1 = 185mm (7.3 in.)

### 2536 Wet-Tap Mount Sensor with 3519 Wet-Tap Valve

See 3519 product page for more information.



#### Pipe Range

0.5 to 4 in. -P3 = 297mm (11.7 in.)  
 5 to 8 in. -P4 = 333mm (13.1 in.)  
 10 in. and up -P5 = 409mm (16.1 in.)

## Specifications

### General

Flow Rate Range: 0.1 to 6 m/s (0.3 to 20 ft./s)  
 Pipe Size Range: DN 15 to DN 900 (0.5 to 36 in.)  
 Linearity:  $\pm 1\%$  of full range  
 Repeatability:  $\pm 0.5\%$  of full range  
 Min. Reynolds Number Required: 4500

### Wetted Materials

Sensor Body: Glass-filled Polypropylene (black) or PVDF (natural)  
 O-rings: FPM-Viton® (std) optional EPDM or FFPM-Kalrez®  
 Rotor Pin: Titanium, Hastelloy-C or PVDF; optional ceramic, Tantalum or stainless steel  
 Rotor: Black PVDF or Natural PVDF; optional Tefzel® with or w/o Fluoraloy B® sleeve

### Electrical

Frequency: 49Hz per m/s nominal (15 Hz per ft/s nominal)  
 Supply voltage: 3.3 to 24 VDC regulated  
 Supply current: <1.5 mA @ 3.3 to 6 VDC  
 <20 mA @ 6 to 24 VDC

### Output Type:

Open collector transistor, sinking  
 Output Current: 10 mA max.

### Cable Type:

2-conductor twisted pair with shield (22 AWG)

### Cable Length:

7.6 m (25 ft.) standard/305 m (1,000 ft.) maximum

### Max. Pressure/Temperature Rating

Standard and Integral Sensor

- PP: 12.5 bar @ 20°C, 1.7 bar @ 85°C (180 psi @ 68°F, 25 psi @ 185°F)
- PVDF: 14 bar @ 20°C, 1.7 bar @ 85°C (200 psi @ 68°F, 25 psi @ 185°F)

Operating Temperature:

- PP: -18°C to 85°C (0°F to 185°F)
- PVDF: -18°C to 85°C (0°F to 185°F)

Wet-Tap sensor

PP: 7 bar @ 20°C, 1.4 bar @ 66°C (100 psi @ 68°F, 20 psi @ 150°F)

Operating temperature:

-18°C to 66°C (0°F to 150°F)

Max. wet-tap sensor removal rating:

1.7 bar @ 22°C (25psi @ 72°F)

See Temperature and Pressure graphs for more information.

### Shipping Weight:

3-2536-X0	0.454 kg	1 lb.
3-2536-X1	0.476 kg	1.04 lbs.
3-2536-X2	0.680 kg	1.50 lbs.
3-2536-X3	0.794 kg	1.75 lbs.
3-2536-X4	0.850 kg	1.87 lbs.
3-2536-X5	1 kg	2.20 lbs.
3-8512-X0	0.35 kg	0.77 lb.
3-8512-X1	0.37 kg	0.81 lbs.

### Standards and Approvals

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

### Application Tips:

- Use PVDF Rotor Pin for use in Deionized Water.
- Use the Conduit Adapter Kit to protect the cable-to-sensor connection when used in outdoor environments. See Accessories section for more information.
- Use a sleeved rotor in abrasive liquids to reduce wear.
- Sensor plug is used to plug installation fitting after extraction of sensor from pipe.
- For liquids containing particles, use only the Signet Magmeter.
- 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.

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

## Ordering Information

### Model 2536 Standard Mount Paddlewheel

When choosing this style of sensor, the instrument can be mounted nearby on a pipe or wall or in a remote location up to 305 m/1000 ft (standard cable length is 7.6m/25 ft) by connecting the sensor through a standard junction box. Use Signet fittings for proper seating of the sensor into the process flow.

Sensor Part Number	
<b>3-2536</b>	Flow Sensor for use with remote mount instrument
	Body/Rotor/Pin material-Choose one*
<b>P</b>	Polypropylene/Black PVDF/Titanium
<b>T</b>	Natural PVDF/Natural PVDF/Natural PVDF <sup>1</sup>
<b>V</b>	Natural PVDF/Natural PVDF/Hastelloy C <sup>1</sup>
	Pipe size - Choose one
<b>0</b>	0.5 to 4 in.
<b>1</b>	5 to 8 in.
<b>2</b>	10 to 36 in.
<b>3-2536 - P 0</b>	<b>Example Part Number</b>

<sup>1</sup> PVDF available 0.5 in. to 4 in. only

Mfr. Part No.*	Code	Mfr. Part No.*	Code
3-2536-P0	<b>198 840 143</b>	3-2536-T0	<b>198 840 149</b>
3-2536-P1	<b>198 840 144</b>	3-2536-V0	<b>198 840 146</b>
3-2536-P2	<b>198 840 145</b>	3-2536-V1	<b>198 840 147</b>

### Model 2536 Integral Mount Paddlewheel

When choosing this style of sensor, the instrument is mounted directly onto the sensor for a local display. See Guidelines below for instructions.

Sensor Part Number	
<b>3-8512</b>	Flow Sensor for integral mounting on the 8150 or 8550 instrument using the 3-8051 adapter (instrument and adapter sold separately)
	Body/Rotor/Pin material-Choose one*
<b>P</b>	Polypropylene/Black PVDF/Titanium
<b>T</b>	Natural PVDF/Natural PVDF/Natural PVDF <sup>1</sup>
<b>V</b>	Natural PVDF/Natural PVDF/Hastelloy C <sup>1</sup>
	Pipe size - Choose one
<b>0</b>	0.5 to 4 in.
<b>1</b>	5 to 8 in.
<b>3-8512 - V 0</b>	<b>Example Part Number</b>

<sup>1</sup> PVDF available 0.5 in. to 4 in. only

Mfr. Part No.	Code	Mfr. Part No.	Code
3-8512-P0	<b>198 864 513</b>	3-8512-T0	<b>198 864 518</b>
3-8512-P1	<b>198 864 514</b>	3-8512-V0	<b>198 864 516</b>

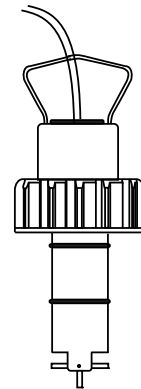
#### Guidelines: Combining a 2536 integral mount flow sensor with an integrally mounted instrument

Once an integral mount sensor is chosen, it can be mounted directly to an instrument by following these guidelines:

- Order the integral adapter kit 3-8051 (sold separately) to connect the sensor to an instrument.
- Order an instrument (sold separately). The following instrument part numbers are compatible: 3-8550-1, 3-8550-2, 3-8550-3.

- Assembling the sensor with the integral adapter and instrument is quick and simple. These parts can also be ordered as an assembled part. See "Integral Mount" data sheet for more information.

Model 2536 Standard Paddlewheel Flow Sensor



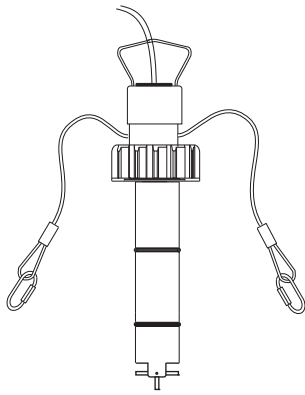
#### \*Model 2536 Ordering Notes:

- Most common part number combinations shown. For all combinations, refer to the Part Number Index.
- Other rotor and pin materials are available and can be easily replaced in the field. See accessories for parts listing.

Model 2536 Integral Mount Paddlewheel Flow Sensor



Model 2536 Wet-Tap sensor with the 3519 Wet-tap valve



**\*Model 2536 Ordering Notes:**

- 1) Most common part number combinations shown. For all combinations, refer to the Part Number Index.
- 2) Other rotor and pin materials are available and can be easily replaced in the field. See accessories for parts listing.

**Ordering Information (continued)**

**Model 2536 Wet-Tap Mount Paddlewheel Flow Sensor**

When choosing this style of sensor, the instrument can be mounted nearby on a pipe or wall or in a remote location up to 1000 ft (305 m) by connecting the sensor through a standard junction box. Standard cable length is 7.6m (25 ft). This style of sensor uses the 3519 Wet-Tap valve only (see individual product page for more information).

Sensor Part Number - Choose one	
<b>3-2536</b>	Flow Sensor for wet-tap mounting with the 3519 Wet-Tap Valve (sold separately)
	Body/Rotor/Pin material*
<b>P</b>	Polypropylene/Black PVDF/Titanium
	Pipe size - Choose one
<b>3</b>	0.5 to 4 in.
<b>4</b>	5 to 8 in.
<b>5</b>	10 to 36 in.
<b>3-2536</b>	<b>- P 3</b> Example Part Number

Mfr. Part No.*	Code
3-2536-P3	<b>159 000 758</b>
3-2536-P4	<b>159 000 759</b>
3-2536-P5	<b>159 000 760</b>

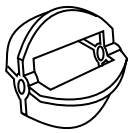
**Guideline: Combining a 2536 Wet-Tap Sensor with a 3519 Wet-Tap Valve**

- a) Once a sensor is chosen, it can be mounted in a 3519 Wet-Tap Valve (sold separately)
- b) Assembling a sensor with a 3519 Wet-Tap valve is quick and simple. These parts can also be ordered as complete assemblies. See 3519 product page.

**Accessories and Replacement Parts**

Mfr. Part No.	Code	Description
<b>Rotors</b>		
3-2536.320-1	<b>198 820 052</b>	Rotor, PVDF Black
3-2536.320-2	<b>159 000 272</b>	Rotor, PVDF Natural
3-2536.320-3	<b>159 000 273</b>	Rotor, Tefzel®
3-2536.321	<b>198 820 054</b>	Rotor and Pin (matched set), PVDF Natural
3-2536.322-1	<b>198 820 056</b>	Sleeved Rotor, PVDF Black
3-2536.322-2	<b>198 820 057</b>	Sleeved Rotor, PVDF Natural
3-2536.322-3	<b>198 820 058</b>	Sleeved Rotor, Tefzel®
<b>Rotor Pins</b>		
M1546-1	<b>198 801 182</b>	Pin, Titanium
M1546-2	<b>198 801 183</b>	Pin, Hastelloy-C
M1546-3	<b>198 820 014</b>	Pin, Tantalum
M1546-4	<b>198 820 015</b>	Pin, Stainless Steel
P51545	<b>198 820 016</b>	Pin, Ceramic
<b>O-Rings</b>		
1220-0021	<b>198 801 186</b>	O-Ring, FPM-Viton®
1224-0021	<b>198 820 006</b>	O-Ring, EPR
1224-0205	<b>159 000 869</b>	O-Ring, EPDM (Europe Only)
1228-0021	<b>198 820 007</b>	O-Ring, FFPM-Kalrez®
<b>Miscellaneous</b>		
P31536	<b>198 840 201</b>	Sensor Plug, Polypro
P31536-2	<b>159 000 649</b>	Sensor Plug, PVDF
P31542-3	<b>159 000 464</b>	Sensor Cap, Blue
P31934	<b>159 000 466</b>	Conduit Cap
P51589	<b>159 000 476</b>	Conduit Adapter Kit
5523-0222	<b>159 000 392</b>	Cable (per foot), 2 cond. w/shield, 22 AWG
3-8050	<b>159 000 184</b>	Universal Mount Kit
3-8051	<b>159 000 187</b>	Transmitter Integral Adapter

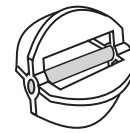
Rotor



Rotor Pin



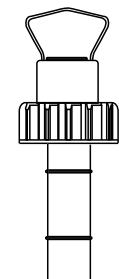
Sleeved Rotor (pin not included)



Sensor Cap



Sensor Plug



Conduit Adapter Kit

