



PVC  
Sensor  
(gray body  
and cap)

Standard  
Sensor  
(blue cap)

Integral  
Sensor

Wet-Tap  
Sensor

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 with 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 and PVDF make this model highly versatile and chemically compatible to many liquid process solutions.

Sensors can be installed in DN15 to DN900 (½ to 36 in.) pipes (except the 2536 PVC versions, which can be installed in DN15 to DN100 (½ to 4 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.

## Features

- Operating range 0.1 to 6 m/s (0.3 to 20 ft/s)
- Wide turndown ratio of 66:1
- Open-collector output
- Highly repeatable output
- Simple, economical design
- Installs into pipe sizes DN15 to DN900 (½ to 36 in.)
- PVC 2536 version DN15 to DN100 (½ to 4 in.) for concentrated Sodium Hypochlorite 12.5% applications
- High resolution and noise immunity
- Test certificate included for -X0, -X1
- Chemically resistant materials



Certified to  
NSF/ANSI 61 & 372

(3-2536-PX  
version only)

## Applications

- Pure Water Production
- Filtration Systems
- Chemical Production
- Liquid Delivery Systems
- Pump Protection
- Scrubber/Gas Stacks
- Gravity Feed Lines
- Not suitable for gas
- Sodium Hypochlorite transfer/  
injection/batching (3-2536-U0)

## Specifications

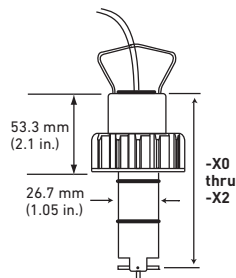
| General                                                                                                                               |           |                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------|
| Operating Range                                                                                                                       |           | 0.1 to 6 m/s0.3 to 20 ft/s                                                                               |
| Pipe Size Range                                                                                                                       |           | DN15 to DN900½ to 36 in.                                                                                 |
|                                                                                                                                       | PVC       | DN15 to DN100½ to 4 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                                                                                                                           |           | Glass-filled PP (black), PVDF (natural) or PVC (gray)                                                    |
| O-rings                                                                                                                               |           | FPM (std) optional EPR (EPDM) or FFPM                                                                    |
| Rotor Pin                                                                                                                             |           | Titanium, Hastelloy-C or PVDF; optional Ceramic, Tantalum or Stainless Steel                             |
| Rotor                                                                                                                                 |           | Black PVDF or Natural PVDF; optional ETFE, with or w/o carbon fiber reinforced PTFE sleeve for rotor pin |
| Electrical                                                                                                                            |           |                                                                                                          |
| Frequency                                                                                                                             |           | 49 Hz per m/s nominal15 Hz per ft/s nominal                                                              |
| Supply Voltage                                                                                                                        |           | 5 to 24 VDC ±10%, regulated                                                                              |
| Supply Current                                                                                                                        |           | <1.5 mA @ 3.3 to 6 VDC<20 mA @ 6 to 24 VDC                                                               |
| Output Type                                                                                                                           |           | Open collector, sinking 10 mA max.                                                                       |
| Cable Type                                                                                                                            |           | 2-conductor twisted pair with shield, 22 AWG                                                             |
| Cable Length                                                                                                                          |           | 7.6 m (25 ft) can be extended up to 305 m (1000 ft) maximum                                              |
| Max. Temperature/Pressure Rating - Standard and Integral Sensor                                                                       |           |                                                                                                          |
|                                                                                                                                       | PP        | 12.5 bar @ 20 °C180 psi @ 68 °F                                                                          |
|                                                                                                                                       |           | 1.7 bar @ 85 °C25 psi @185°F                                                                             |
|                                                                                                                                       | PVDF      | 14 bar @ 20 °C200 psi @ 68 °F                                                                            |
|                                                                                                                                       |           | 1.7 bar @ 85 °C25 psi @ 185 °F                                                                           |
|                                                                                                                                       | PVC       | 12.5 bar @ 20 °C180 psi @ 68 °F                                                                          |
|                                                                                                                                       |           | 6.9 bar @ 60 °C100 psi @ 140 °F                                                                          |
| Operating Temperature                                                                                                                 |           |                                                                                                          |
|                                                                                                                                       | PP        | -18 °C to 85 °C0 °F to 185 °F                                                                            |
|                                                                                                                                       | PVDF      | -18 °C to 85 °C0 °F to 185 °F                                                                            |
|                                                                                                                                       | PVC       | 0 °C to 50 °C32 °F to 122 °F                                                                             |
| Max. Temperature/Pressure Rating - Wet-Tap Sensor                                                                                     |           |                                                                                                          |
|                                                                                                                                       | PP        | 7 bar @ 20 °C100 psi @ 68 °F                                                                             |
|                                                                                                                                       |           | 1.4 bar @ 60 °C20 psi @ 140 °F                                                                           |
| Operating Temperature                                                                                                                 |           | -18 °C to 60 °C0 °F to 140 °F                                                                            |
| Max. Wet-Tap Sensor Removal Rating                                                                                                    |           | 1.7 bar @ 22 °C25 psi @ 72 °F                                                                            |
| Shipping Weight                                                                                                                       |           |                                                                                                          |
|                                                                                                                                       | 3-2536-X0 | 0.454 kg1.00 lb                                                                                          |
|                                                                                                                                       | 3-2536-X1 | 0.476 kg1.05 lb                                                                                          |
|                                                                                                                                       | 3-2536-X2 | 0.680 kg1.50 lb                                                                                          |
|                                                                                                                                       | 3-2536-X3 | 0.780 kg1.72 lb                                                                                          |
|                                                                                                                                       | 3-2536-X4 | 0.800 kg1.76 lb                                                                                          |
|                                                                                                                                       | 3-2536-X5 | 0.880 kg1.94 lb                                                                                          |
|                                                                                                                                       | 3-8512-X0 | 0.35 kg0.77 lb                                                                                           |
|                                                                                                                                       | 3-8512-X1 | 0.37 kg0.81 lb                                                                                           |
| Standards and Approvals                                                                                                               |           |                                                                                                          |
| CE, FCC, NSF (3-2536-PX only)                                                                                                         |           |                                                                                                          |
| 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

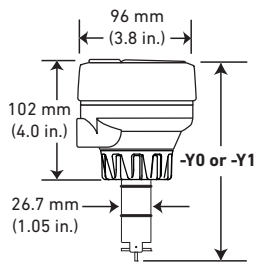
Standard Mount

PVC Mount  
(0.5 to 4 in. pipe range only)

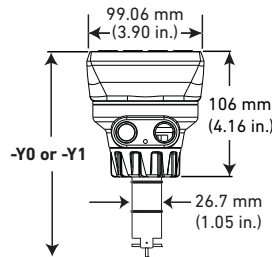


| Pipe range    |                        |
|---------------|------------------------|
| 0.5 to 4 in.  | -X0 = 104 mm (4.1 in.) |
| 5 to 8 in.    | -X1 = 137 mm (5.4 in.) |
| 10 in. and up | -X2 = 213 mm (8.4 in.) |

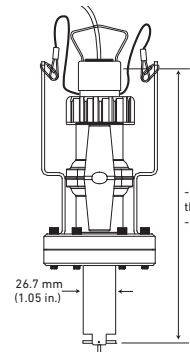
Integral Mount  
(shown with Transmitter  
sold separately)



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

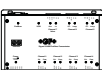


Wet-Tap Mount Sensor  
with 3519 Wet-Tap Valve  
(See 3519 product page for  
more information).



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

## System Overview

| Panel Mount                                                                                                                                                                                                                                                                                                                                       | Pipe, Tank, Wall Mount                                                                                                                                                                                                                                                                                                                                 | Field (Integral) Mount                                                                                                                                                                                                                                              | Automation System                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signet Instruments<br>8550 8900<br>9900 9900-1BC                                                                                                                                                                                                                                                                                                  | Signet Instruments<br>8550 with 3-8050 Universal Mount Kit<br>9900-1P 9900-1BC with Rear Enclosure                                                                                                                                                                                                                                                     | Signet Instruments<br>8550 9900<br>with 3-8051-X Integral Mount Kit                                                                                                                                                                                                 | 0486 Profibus Concentrator<br>and Customer Supplied<br>Programmable Logic Controller or<br>Programmable Automation Controller                                                 |
|  OR                                                                                                                                                                         |  +  OR  +  |  OR  +  |  +  |
| Signet 2536<br>PVC, Standard, Wet-Tap or<br>8512 Integral Mount<br>Flow Sensors                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
|       |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
| Signet Fittings                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
|     |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
| All sold separately                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |

For overview of Wet-Tap System, see 3519 product page

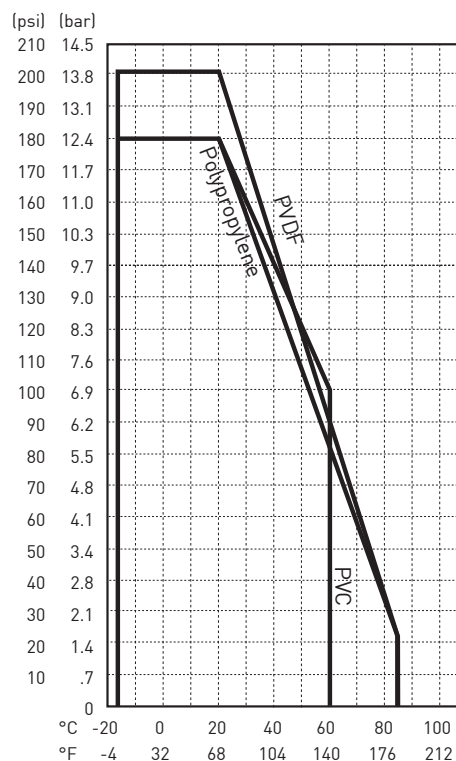
## Application Tips

- 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 can be used to plug installation fitting after extraction of sensor from pipe.
- For liquids containing ferrous particles, use Signet Magmeters.
- 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.

## 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.



### Ordering Notes

- 1) Most common part number combinations shown. For all other combinations contact factory.
- 2) Other rotor and pin materials are available for purchase from the factory and can be easily replaced in the field. See Accessories section.

## 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) by connecting the sensor through a standard 3-8050-1 universal junction box. Standard cable length is 7.6 m (25 ft). Use Signet fittings for proper seating of the sensor into the process flow.

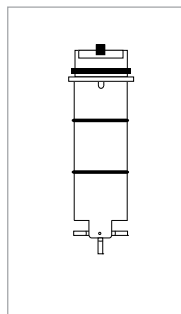


| Mfr. Part No.                                    | Code               | Body          | Rotor        | Pin Material |
|--------------------------------------------------|--------------------|---------------|--------------|--------------|
| Flow Sensor for use with remote mount instrument |                    |               |              |              |
| DN15 to DN100 - ½ to 4 in.                       |                    |               |              |              |
| 3-2536-P0                                        | <b>198 840 143</b> | Polypropylene | Black PVDF   | Titanium     |
| 3-2536-T0                                        | <b>198 840 149</b> | Natural PVDF  | Natural PVDF | Natural PVDF |
| 3-2536-U0                                        | <b>159 001 843</b> | PVC           | Sleeved ETFE | Titanium     |
| 3-2536-V0                                        | <b>198 840 146</b> | Natural PVDF  | Natural PVDF | Hastelloy-C  |
| DN125 to DN 200 - 5 to 8 in                      |                    |               |              |              |
| 3-2536-P1                                        | <b>198 840 144</b> | Polypropylene | Black PVDF   | Titanium     |
| 3-2536-V1                                        | <b>198 840 147</b> | Natural PVDF  | Natural PVDF | Hastelloy-C  |
| DN250 - DN900 - 10 to 36 in.                     |                    |               |              |              |
| 3-2536-P2                                        | <b>198 840 145</b> | Polypropylene | Black PVDF   | Titanium     |

## Ordering Information (continued)

### 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.



| Mfr. Part No.                                                                                                                        | Code               | Body           | Rotor        | Pin Material |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|--------------|--------------|
| Flow sensor for integral mounting on the 8150 or 8550 instrument using the 3-8051-X Flow Sensor Integral Mount Kit (sold separately) |                    |                |              |              |
| DN15 to DN100 - ½ to 4 in.                                                                                                           |                    |                |              |              |
| 3-8512-P0                                                                                                                            | <b>198 864 513</b> | Polypropylene  | Black PVDF   | Titanium     |
| 3-8512-T0                                                                                                                            | <b>198 864 518</b> | Natural PVDF** | Natural PVDF | Natural PVDF |
| 3-8512-V0                                                                                                                            | <b>198 864 516</b> | Natural PVDF** | Natural PVDF | Hastelloy-C  |
| DN125 to DN200 - 5 to 8 in. (PP only)                                                                                                |                    |                |              |              |
| 3-8512-P1                                                                                                                            | <b>198 864 514</b> | Polypropylene  | Black PVDF   | Titanium     |

\*\*Natural PVDF available ½ in. to 4 in. only

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

#### Option 1

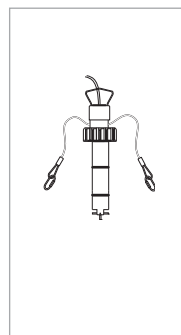
Once an integral mount sensor is chosen, it can be mounted directly to a field mount transmitter by following these guidelines:

c) Assembling the sensor with the integral adapter and instrument is quick and simple.

- Order the 3-8051-X flow sensor integral mounting kit (sold separately) to connect the sensor to an instrument.
- Order a field mount transmitter (sold separately). The following part numbers are compatible:  
3-8550-3, 3-9900-1.

### 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 305 m (1000 ft) by connecting the sensor through a standard 3-8050-1 universal junction box. Standard cable length is 7.6 m (25 ft). This style of sensor uses the 3519 Wet-Tap valve only (see individual product page for more information).



| Mfr. Part No.                                                                  | Code               | Body          | Rotor      | Pin Material |
|--------------------------------------------------------------------------------|--------------------|---------------|------------|--------------|
| Flow Sensor for wet-tap mounting with the 3519 Wet-Tap Valve (sold separately) |                    |               |            |              |
| DN15 to DN100 - ½ to 4 in.                                                     |                    |               |            |              |
| 3-2536-P3                                                                      | <b>159 000 758</b> | Polypropylene | Black PVDF | Titanium     |
| DN125 to DN200 - 5 to 8 in.                                                    |                    |               |            |              |
| 3-2536-P4                                                                      | <b>159 000 759</b> | Polypropylene | Black PVDF | Titanium     |
| DN250 to DN900 - 10 to 36 in.                                                  |                    |               |            |              |
| 3-2536-P5                                                                      | <b>159 000 760</b> | Polypropylene | Black PVDF | Titanium     |

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

- Once a sensor is chosen, it can be mounted in a 3519 Wet-Tap Valve (sold separately)
- 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.

### Model 2536 Ordering Notes

- Other rotor and pin materials are available for purchase from the factory and can be easily replaced in the field. See Accessories section.

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

## 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, ETFE                                                               |
| 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, ETFE                                                       |
| <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>198 801 000</b> | O-ring, FPM (2 required per sensor)                                       |
| 1224-0021            | <b>198 820 006</b> | O-ring, EPR (EPDM) (2 required per sensor)                                |
| 1228-0021            | <b>198 820 007</b> | O-ring, FFPM (2 required per sensor)                                      |
| <b>Miscellaneous</b> |                    |                                                                           |
| P31536               | <b>198 840 201</b> | Sensor plug, Polypropylene                                                |
| P31542-3             | <b>159 000 464</b> | Sensor cap, Blue                                                          |
| 3-2536.555           | <b>159 500 532</b> | Sensor cap, Gray                                                          |
| 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                                |
| 3-2536.321           | <b>198 820 054</b> | PVDF Natural, Rotor kit (rotor and pin)                                   |
| 3-8050               | <b>159 000 184</b> | Universal mount kit                                                       |
| 3-8050-1             | <b>159 000 753</b> | Universal junction box                                                    |
| 3-8050.390-1         | <b>159 001 702</b> | Retaining nut replacement kit, NPT, Valox (for use with 8510 and 8512)    |
| 3-8050.390-3         | <b>159 310 116</b> | Retaining nut replacement kit, NPT, PP (for use with 8510 and 8512)       |
| 3-8050.390-4         | <b>159 310 117</b> | Retaining nut replacement kit, NPT, PVDF (for use with 8510 and 8512)     |
| 3-8051               | <b>159 000 187</b> | Transmitter integral adapter (for use with 8510 and 8512)                 |
| 3-8051-1             | <b>159 001 755</b> | Transmitter integral mounting kit, NPT, PP (for use with 8510 and 8512)   |
| 3-8051-2             | <b>159 001 756</b> | Transmitter integral mounting kit, NPT, PVDF (for use with 8510 and 8512) |