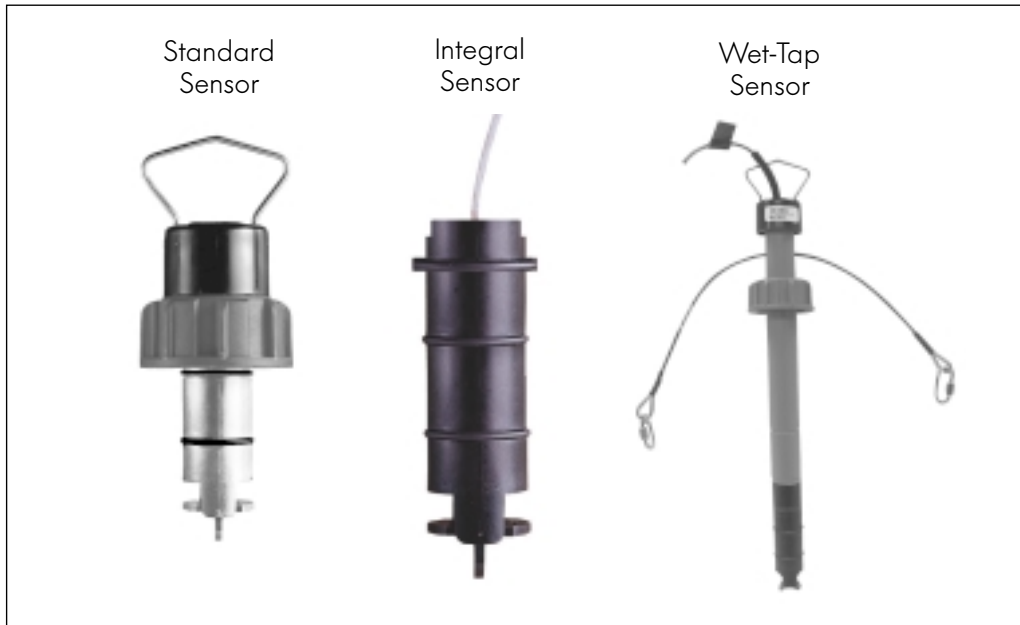


2536 Rotor-X Paddlewheel Flow Sensors



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
- CE Approved

Description

Simple to install with time-honored reliable performance, Model 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 Model 2536 sensors are offered in a variety of materials for a wide range of

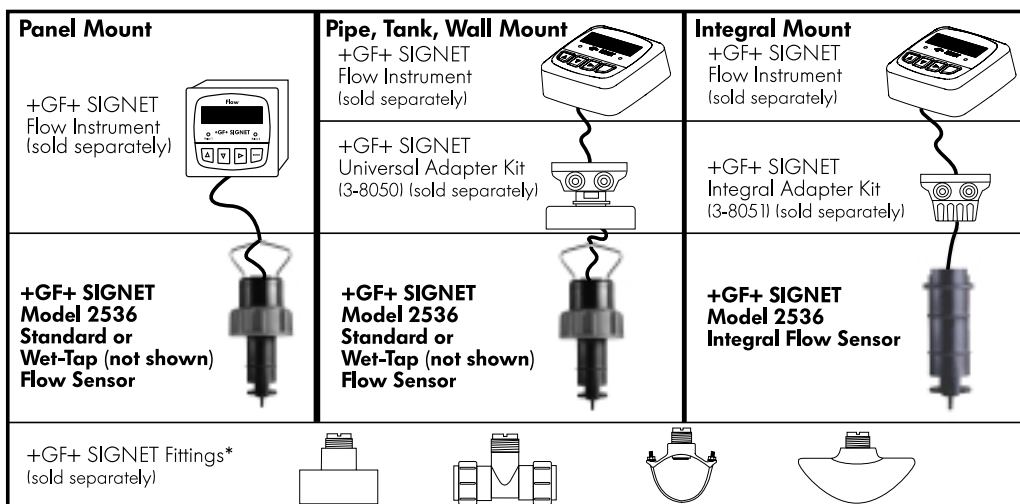
pipe sizes and insertion configurations. The many material choices including PP, PVDF, and Tefzel® makes this model highly versatile and chemically compatible to many liquid process solutions. Sensors can be installed in DN 15 to DN 900 (0.5 to 36 in.) pipes using +GF+ SIGNET's comprehensive line of 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.

Applications

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



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



* For information on pipe fittings specially designed for use with the Model 2536 Flow Sensor, see pages 180 thru 194 in the catalog.

Compatible Instruments

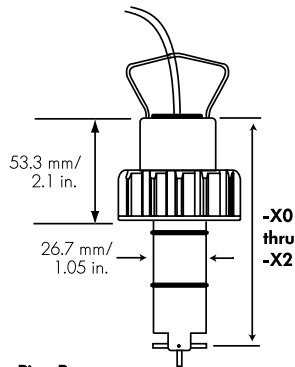
The 2536 Rotor-X Paddlewheel Flow Sensor is compatible with the following +GF+ SIGNET instruments:

8550	8900	5500
5075	5600	

See individual catalog pages for more information.

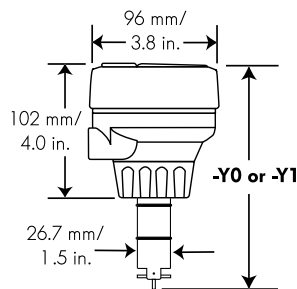
Dimensions

2536 Standard Mount Sensor



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.

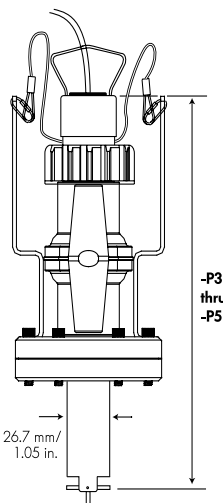
2536 Integral Mount Sensor shown with Transmitter (sold separately)



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 more information on the 3519 Wet-Tap Valve on page 20 of the catalog.



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.

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) or optional EPDM or FPM-Kalrez®
Rotor Pin:
Titanium or Hastelloy-C or PVDF; optional ceramic Tantalum or stainless steel
Rotor:
Black PVDF or Natural PVDF; optional Tefzel with or w/o Fluoroloy 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: 76 m (25 ft.) standard/305 m (1,000 ft.) maximum

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.

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 page 226 for Temperature and Pressure graphs

Standards and Approvals

- CE
- Manufactured under ISO 9001:2000 for Quality and ISO 14001:1996 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 wet environmental areas. See page 198 for more information.
- Use a sleeved rotor in liquids with particles to reduce wear.
- Sensor plug is used to plug installation fitting after extraction of sensor from pipe.
- For liquids containing ferrous particles use only metal paddlewheel sensors (Models 525, 2517 or 2540).
- 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.

For More Information:

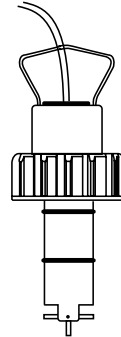
- For flow wiring information see page 173.
- For flow installation tips and information see page 156.
- To compare this Sensor with other +GF+ SIGNET Flow Sensors, see Flow Selection Guide on page 4.
- For flow sensor mounting position information see page 156.
- For rotor pin and rotor replacement information see page 197.

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 listed fittings (see page 180) for proper seating of the sensor into the process flow.

Model 2536 Standard Paddlewheel Flow Sensor



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

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

*Model 2536 Ordering Notes:

1) Most common part number combinations shown. For all combinations, refer to the Part Number index on page 242.

2) 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

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

Model 2536 Integral Mount Paddlewheel Flow Sensor



Sensor Part Number	
3-8512	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*
	P Polypropylene/Black PVDF/Titanium
	T Natural PVDF/Natural PVDF/Natural PVDF
	V Natural PVDF/Natural PVDF/Hastelloy C
↓	Pipe size - Choose one
	0 0.5 to 4 in.
	1 5 to 8 in.
3-8512	- V 0 Example Part Number

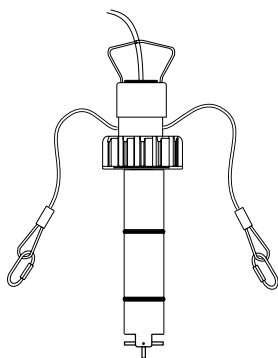
Mfr. Part No.	Code	Mfr. Part No.	Code
3-8512-P0	198 864 513	3-8512-T0	198 864 518
3-8512-P1	198 864 514	3-8512-V0	198 864 516

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, 3-8150-1, see pages 62-65.
- 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 (page 68).

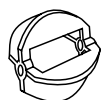
Model 2536 Wet-Tap sensor with the 3519 Wet-tap valve (see page 20)



*Model 2536 Ordering Notes:

- 1) Most common part number combinations shown. For all combinations, refer to the Part Number index on page 242.
- 2) Other rotor and pin materials are available and can be easily replaced in the field. See accessories for parts listing.

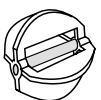
Rotor



Rotor Pin



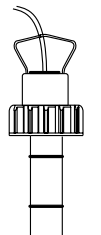
Sleeved Rotor



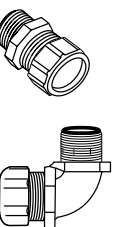
Sensor Cap



Sensor Plug



Conduit Adapter Kit



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) (standard cable length is 7.6m (25 ft.)) by connecting the sensor through a standard junction box. This style of sensor uses the 3519 Wet-Tap valve only. See page 20 for more information regarding Model 3519.

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

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

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 one part number. See Model 3519 Flow Wet-Tap Valve data sheet for more information.

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
Rotors		
3-2536.320-1	198 820 052	Rotor, PVDF Black
3-2536.320-2	159 000 272	Rotor, PVDF Natural
3-2536.320-3	159 000 273	Rotor, Tefzel®
3-2536.321	198 820 054	Rotor and Pin, PVDF Natural
3-2536.322-1	198 820 056	Sleeved Rotor, PVDF Black
3-2536.322-2	198 820 057	Sleeved Rotor, PVDF Natural
3-2536.322-3	198 820 058	Sleeved Rotor, Tefzel®
Rotor Pins		
M1546-1	198 801 182	Pin, Titanium
M1546-2	198 801 183	Pin, Hastelloy-C
M1546-3	198 820 014	Pin, Tantalum
M1546-4	198 820 015	Pin, Stainless Steel
P51545	198 820 016	Pin, Ceramic
O-Rings		
1220-0021	198 801 186	O-Ring, FPM-Viton®
1224-0021	198 820 006	O-Ring, EPDM
1228-0021	198 820 007	O-Ring, FPM-Kalrez®
Miscellaneous		
P31536	198 840 201	Sensor Plug, Polypro
P31536-1	198 840 202	Sensor Plug, PVDF Metric
P31536-2	159 000 649	Sensor Plug, PVDF
P31542-3	159 000 464	Sensor Cap, Blue
P31934	159 000 466	Conduit Cap
P51589	159 000 476	Conduit Adapter Kit
5523-0222	159 000 392	Cable (per foot), 2 cond. w/shield, 22 AWG
3-8051	159 000 187	Transmitter Integral Adapter (see System Overview for graphics)