Georg Fischer Signet, the 2005 recipient of the Georg Fischer Piping Systems Manufacturer of the Year Award, was founded as Signet Scientific in the early 1960s. The company changed its name in 2003 to reinforce its value as a “systems solution” in combination with Georg Fischer valves and pipes. Trusted worldwide for its fluid measurement instruments and sensors, Georg Fischer Signet is a leader in flow sensor insertion technology. We patented the world’s first paddlewheel sensor 40 years ago, and have sold well over 1 million units since.

We put our customers first from our focused pursuit of quality through innovative, leading-edge technology in flow control and measurement. Award winning design, ISO 9001 certification and comprehensive technical and customer support are just a few reasons why Signet products are leading the industry well into the new millennium. We pride ourselves on our Six Sigma manufacturing practices and our continuous process improvements.

Georg Fischer Signet delivers sophisticated, advanced flow and analytical technology, which offer accuracy, dependability, ease-of-use and minimal maintenance. Every sensor, transmitter, controller and monitor manufactured meets the highest of standards. Engineered for performance, our products are ideally suited for Chemical Processing, Food and Beverage, Life Sciences, Shipbuilding, Semiconductor, Water and Wastewater Treatment, and Agriculture.

Individualised solutions for a diversity of applications

Microelectronics • Life Sciences • Shipbuilding • Chemical Processing • Water Treatment • Cooling

Adding quality to people’s lives
We are dedicated to designing, manufacturing and marketing piping systems for the safe and secure conveyance of liquids.

**We put customers first**
- Customer needs guide our product development
- We offer customer support and training worldwide
- We measure your satisfaction

**We act fast**
- Local presence worldwide
- Superior logistics
- Speed in all details

**We do what we say**
- Tested quality
- Always trustworthy

**Customer Support**

In choosing Georg Fischer, you can be assured of excellent customer service through our extensive network of distributors located throughout the world. Our staff are well qualified to assist you in every aspect of product selection thus assuring you of the right solution for your fluid control needs.

**GF Quality by design**

Quality Management: Our systems and products undergo rigorous testing in accredited test laboratories, and our management and production procedures are certified to ISO 9001 and ISO 14001 through ensuring that the systems and products we provide are fit for the purpose, and may be used reliably throughout the world.
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The contents in this publication are based on information available at the time of publication. In view of the possibility of human error, we accept no responsibility for any errors or omissions in this publication. The technical data is not binding and may be subject to modification. It neither provides a guarantee of product performance and durability nor constitutes coverage under warranty. In case of doubt or uncertainty, we strongly recommend consultation with the factory or your local GF Sales office. For the most up-to-date information please refer to our website at www.gfsignet.com.
New Products and Product Upgrades

The following is a brief overview of the new products and product upgrades you will find in this catalogue. For more details, please refer to the individual product pages.

**2552 Magmeter Flow Sensor**

Top Features:
- Hot-tap version for installation and service without system shutdown
- No moving parts
- Bi-directional flow
- Empty pipe detection
- Adjustable insertion for large pipe sizes up to DN2550 (102 in.)
- Blind 4 to 20 mA, digital (5°/L)/frequency

Ideal for:
- Municipal water distribution
- Water inlets to process plants
- Surface, ground and ocean water
- Chemical processing
- Water and wastewater monitoring

**2724–2726 pH and ORP Electrodes**

Top features:
- Compatible with ALL Signet pH/ORP instruments
- Integrated temperature sensor in pH electrodes
- Chemically resistant Ryton® body with ¾ in. threads
- Gold-plated corrosion resistant DryLoc® connector system
- Now mounts at any angle, even upside-down

Ideal for:
- Water & wastewater treatment
- Neutralisation systems
- Sanitisation systems
- Effluent monitoring
- Cooling towers
- Boiler protection
- Process control

**4150 Turbidimeter**

Top features:
- Simple and easy single unit installation with built-in regulator
- Compliant to U.S. EPA 180.1 and ISO 7027 for service in Europe
- Analogue signal or serial communications and two alarm relay outputs
- Inexpensive standards allow for multiple system calibration

Ideal for:
- Monitoring the performance of any type of water filtration process or system
- Raw or filtered water
- Municipal water distribution
- Wastewater reclamation and tertiary effluent
- Aquatic life support

**0250 Configuration/Diagnostic Tool**

Top features:
- User-friendly interface
- Configure blind sensors
- Monitor sensor data or log sensor’s data to a file
- Monitor mV and temperature reading in pH/ORP sensors
- Multi-language software

Ideal for:
- Configuring sensors
- Logging data
- Diagnostics (sensor)
- Graph sensor data
New Products and Product Upgrades
The following is a brief overview of the new products and product upgrades you will find in this catalogue. For more details, please refer to the individual product pages.

Calibration Solutions
Top Features
- Available for pH, ORP, conductivity/resistivity or turbidity
- Kit with liquid pH buffer solutions and reusable polypropylene cups
- pH/ORP electronic system tester to verify preamplifier and instrument operation
- Conductivity simulation tools for conductivity/resistivity values
- Turbidity reusable glass cuvette and EPA approved solutions

New Fittings for Flow and pH
Top features:
- Metric Wafers with one-piece moulded design
  - PP and PVDF wetted materials
  - Use with plastic paddlewheel and magmeter flow sensors
- Electrofusion transition saddles with metal outlets
  - Sizes up to 6 inches
  - Use with metal paddlewheel and magmeter flow sensors
- Strap-on metal saddles
  - Various adjustable strap sizes to fit up to 14 inches
  - Spatula insertion tool for quick and simple process isolation
  - Use with metal paddlewheel and magmeter flow sensors
Product Retirements
Below is a list of retired products as well as their suitable replacement. Please contact your local Georg Fischer sales office for more information.

### Retired Products

- **0232 Setup Tool** (not shown)
- 2517 Brass Paddlewheel Flow Sensor [Retired by September 2009]
- 2754-2757 Series pH/ORP DryLoc® Electrodes
- 2720 Twist-Lock Preamplifier [Retired on or before March 2010]
- 3300/3500 Ultrasonic Flow Monitor System
- 7000/7001 Vortex Flow Sensors [Retired by September 2009]
- Select 2250 Level Sensors
- Select 2450 Pressure Sensors

### Replacement Products

- **0250 USB to Digital [S'L] Configuration/Diagnostic Tool**
- 2540 Stainless Steel Paddlewheel Flow Sensor
- 2724-2726 Series pH/ORP DryLoc® Electrodes

### Mfr. Part No. and Code

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<td>3-2450-5U</td>
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</tbody>
</table>
System Selection Guide

This section provides tips and suggestions on how to choose just the right measurement system for your specific liquid application needs. For specific product information, refer to the individual catalogue pages.

Step 1: Determine Application Requirements
Defining the following variables before building your system will ensure peak performance from your Signet sensors and instruments.

- Measurement range
- Installation requirements
- Pipe size and material
- Chemical compatibility of all wetted parts to process chemicals
- System specifications (such as temperature and pressure)
- Performance requirements of sensor
- Fluid particulates
- Viscosity of Fluids
- Hazardous location requirements

Note: Please contact your local Georg Fischer sales and support office if you need assistance in choosing any one of these products.

Step 2: Select Sensor Technology
Based on the application requirements determined in Step 1, choose a sensor. (See pages 14 - 17).

Determine your signal output requirement to allow you to match just the right instrument (see Step 3). If you’re not purchasing an instrument, select the sensor electronics package that best suits your needs.

Step 3: Choose Instrument
Choose an instrument (see pages 18 - 19). Instruments are available in 1/4 DIN size and offered in panel mount configurations. Field mount versions are also offered for certain models. Instruments are available with either digital, analogue, or analogue/digital display. Various retrofit adapters and mounting accessories are also available (see Accessories section). In cases where the sensor feeds directly to a PLC or PC system, Signet offers a wide range of instruments and sensors with 4 to 20 mA outputs.

Step 4: Determine Installation Requirements
Signet offers a wide selection of installation fittings for flow sensors and in-line pH/ORP electrodes. These fittings are specifically designed to ensure the proper placement of the flow sensor in the piping system to achieve optimum performance. Other pH/ORP electrodes as well as all temperature, pressure and conductivity/resistivity electrodes use NPT or ISO standard fittings (See pages 12 - 13). All submersion electrodes require conduit piping and fixtures not supplied by Signet.
Flow Sensors: Features and Benefits

Insertion Paddlewheel Sensors:
- Four-bladed paddle design ensures optimal performance and lower flow rates than five or six-bladed rotors that have a higher weight/bearing inertia.
- The open-cell design and the controlled insertion depth work together to deliver a linear and repeatable output over a wide dynamic range, with virtually no pressure drop in the process pipe.
- Choice of corrosive resistant plastics and rugged metals enable use in many aggressive fluids.
- The widest choice of installation fitting materials, sizes and connections on the market that meet endless application needs.

- Insertion design lowers installation and maintenance costs.
- Self-powered sensors are well suited for remote locations and are FM approved which enable installation in hazardous locations.
- Paddlewheel design has no pressure drop, making it ideal for gravity flows.
- NIST traceable test certification with all plastic sensors provides superior price-to-performance.
- Hot-Tap designs are available to allow service and maintenance without shutting-down the process; saves costly downtime.

Flow-Through Rotor Sensors:
- Operating flow ranges from 110 mL/min to 12110 mL/min (0.03 US gpm to 3.2 US gpm) in clean opaque or clear liquids ideal for precise low flow applications such as dosing.
- Hall-effect devices provide excellent noise immunity output signals.

- Sensor body design allows easy access for cleaning, inspection and rotor replacement without the need for powering down.
- Flexibility with end connections allow flexible tubing or rigid pipe installations.
- Four fully encapsulated magnets provide high resolution signal output.

In-line Turbine Sensors:
- Small compact design for tightly spaced installations.
- Superior ceramic bearing provides long life without the need for maintenance.
- Radio Frequency (RF) pick-up provides added advantage without rotor drag or contamination from ferrous particles.
- Detachable electronics means sensor maintenance is possible without the need to cut power to unit.

- Composed of highly chemical resistant materials.
- Mounting at any angle offers total installation flexibility.
- Wide choice of end connections in hose barb or union ends.
- Three flow ranges available for optimum measurement resolution.
Flow Sensors: Features and Benefits

Insertion Magmeter Sensors:
- No moving parts.
- Insertion design provides easier installation and removal than full line magmeters.
- Model 2551 fits pipe sizes ranging from DN15 to DN900 (½ to 36 in.).
- Fluid diagnostics via LED indicators.
- Bi-directional flow and empty pipe detection.
- Rugged design with good chemical resistance suitable for tough applications.
- Analogue 4 to 20 mA and frequency outputs provide signals to remote flowmeters and data acquisition. Also available with digital (S³L) output for compatibility with the 8900 Multi-Parameter Controller.
- High input impedance provides low sensitivity to coating which makes it ideal for dirty liquids.
- Isolated outputs provide barrier to “ground loops.”

Hot-Tap Magmeter Sensors:
- No moving parts.
- Insertion design provides easier installation and removal than full line magmeters.
- Model 2552 Metal Magmeter available for pipe sizes up to DN2550 (102 in.).
- Hot-Tap design allows for installation into full, pressurised pipes.
- Fluid diagnostics via LED indicators.
- Bi-directional flow and empty pipe detection.
- Analogue 4 to 20 mA and frequency outputs provide signals to remote flowmeters and data acquisition. Also available with digital (S³L) output for compatibility with the 8900 Multi-Parameter Controller.
- High input impedance provides low sensitivity to coating which makes it ideal for dirty liquids.
- Isolated outputs provide barrier to “ground loops.”

Turbidity: Features and Benefits

Turbidimeter:
- Simple to install with mounting holes pre-drilled on a common pattern.
- Easy and fast to calibrate.
- Programmable analogue output signal.
- Two adjustable alarm relays.
- Easy access for wiring and maintenance.
- Ultrasonic cleaning option ensures long and steady on-line measurement.
- Simple desiccant pouch keeps the measuring chamber dry.
- Easy access for replacing desiccant.
- Standard EPA 180.1 for USA and Asia. ISO 7027 for Europe.
- Quick and easy installation, calibration and maintenance.
Analytical Sensors:
Features and Benefits

**Temperature Sensors:**
- Unibody PVDF construction for use in either high purity or aggressive fluid conditions.
- Choice of output 4 to 20 mA or digital (S'L) signal for long cable runs.
- Dual threaded ¾ in. NPT for easy installation.
- Options for integral mounting of instrument directly onto sensor.
- Cable and thread permits conduit for full tank submersion.

**Pressure/Level Sensors:**
- ¾ in. NPT or ½ in. male union process connection to suit installation needs.
- Three pressure ranges to meet specific requirements and provide optimal resolution.
- Choice of output 4 to 20 mA or digital (S'L) signal for long cable runs.
- Option for integral mounting of instrument directly onto sensor.
- Configure with 8250 or 8450 Transmitter to provide full level measuring system (hydrostatic pressure).
- Cable end threads permit conduit for full tank submersion.

**Conductivity/Resistivity Electrodes:**
- Flow-through design ensures continuous measurement without air entrapment.
- Reversible threaded connections for in-line integral mount or tank submersion.
- Standard parts offer application flexibility for the user.
- Short length electrodes available to prevent “dead-legs”.
- Every sensor uses standard electrical cable. No need to incur additional costs for “patch” type cable connections.
- NIST calibration certificate available upon request.

**Conductivity/Resistivity Sensor Electronics:**
- Blind 4 to 20 mA output or digital output for long cable runs beyond 30 m (100 ft) ensures a steady process signal resistant to electrical noise.
- EasyCal calibration available for automatic calibration solution recognition
- Integral sensor mount versions for in-line mounting.
- Remote mount with two sensor inputs for reduced cost of ownership.
- Designed to be used with all Signet conductivity/resistivity electrodes.
Analytical Electrodes: Features and Benefits

**Standard pH/ORP Electrodes:**
- Longer reference path and larger reference volume means extended service life.
- Flat glass surface sensor design. Resistant to fouling and abrasion in dirty applications, and prevents accidental damage to extend electrode life.
- Unique DryLoc® design is robust and watertight, ensuring rugged installation.
- Designed to mount in standard Signet fittings or ¼ in. standard fittings.

**Differential pH/ORP Electrodes:**
- pH and reference signals are measured against third electrode, a solution ground, to ensure a stable reading even when the smallest of unknown stray currents are in the process liquids.
- The differential reference is designed to protect the reference element from Bromide (Br⁻), Iodide (I⁻), Cyanide (CN⁻), Sulfides (S₂⁻) and other harsh compounds that react with Silver (Ag). Also protects the reference electrolyte from Mercury (Hg²⁺), Copper (Cu²⁺), lead (Pb²⁺), Perchlorate (ClO₄⁻), or other compounds that dilute KCl.
- Unique DryLoc® design is robust and watertight, ensuring rugged installation.
- Designed to mount in 1 in. standard pipe fittings for easy installation.
- Flat glass surface sensor design that is resistant to fouling and abrasion in dirty applications.
- Large reference volume and replaceable salt bridge allows the user to rebuild the reference and extend the service life of the electrode.

**pH/ORP Sensor Electronics:**
- Blind 4 to 20 mA output or digital output with an amplified output ensures the process signal resists electrical noise.
- EasyCal calibration available for automatic buffer recognition.
- The sensor electronics and cable does not need to be replaced each time a sensor is removed, significantly reducing service costs.
- Unique DryLoc® design enables pH and ORP connections instantly.
- Gold plated DryLoc® connector pins are corrosion resistant for long service life.

**pH/ORP Preamplifiers:**
- The amplified output ensures the process signal is resistant to electrical noise and allows up to 120 m (400 ft) before connection to the instrument.
- The preamplifier and cable does not need to be replaced each time a sensor is removed, significantly reducing service costs.
- Unique DryLoc® design enables pH and ORP connections instantly.
- Gold plated DryLoc® connector pins are corrosion resistant for long service life.
- Designed for use with Signet 5700 and 8750 pH/ORP instruments.
# Signet Flow System Compatibility - Table 1

The chart below outlines the compatibility between Signet Flow sensors, instruments and sensor fittings. Refer to individual product pages and fittings section of the catalogue for more information.

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<tr>
<td>FPT0XX Fibreglass Glue-On Tee</td>
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<tr>
<td>IR4T0XX Iron Threaded Tee (NPT)</td>
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<td>IR8SXXX Iron Strap-On Saddle</td>
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<tr>
<td>CUKT0XX Copper Sweat-On Tee</td>
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<tr>
<td>BR4BXX Brass Brazolet</td>
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<tr>
<td>CS4T0XX Carbon Steel Tee (NPT)</td>
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<td>CS4WXX Carbon Steel Weldolet</td>
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<tr>
<td>CR4T0XX 316 SS Threaded Tee (NPT)</td>
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<tr>
<td>CR4WXXX 316 SS Weldolet</td>
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<tr>
<td>PS26-1XXX Metalax Strap-On Saddle</td>
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<td>PS26-20XX Metalax Socket Weld</td>
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<td>PS26-25XX Metalax Weld-On Mini-Tap</td>
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<td>PPS1XX PP Clamp-On Large Saddle</td>
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<tr>
<td>PV851XX PVC Glue-On Large Saddle</td>
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<tr>
<td>BR4T0XX Brass Threaded Tee (NPT)</td>
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<tr>
<td>PVMT0XX/PVAT0XX Metric/BSP PVC Union Tee*</td>
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<tr>
<td>PVMS0XX/PVAS0XX Metric/BSP PVC Saddle*</td>
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<tr>
<td>Plastic Weld-On Fittings (PP)</td>
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<tr>
<td>Plastic Weld-On Fittings (PE)</td>
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<td>Steel Weld-On Fittings (SS 1.4435)</td>
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<tr>
<td>Electrofusion Transition Saddles</td>
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<tr>
<td>Strap-on Saddles, Threaded</td>
<td></td>
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</tr>
</tbody>
</table>

*Available only through your local Georg Fischer sales office.
Signet pH, ORP, Conductivity, Resistivity System Compatibility - Table 2

The chart below outlines the compatibility between Signet pH/ORP and conductivity/resistivity electrodes, instruments and sensor fittings. Refer to individual product pages and fittings section of the catalogue for more information.

<table>
<thead>
<tr>
<th>Electrodes</th>
<th>pH/ORP</th>
<th>Conductivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruments, Sensor Electronics, and Preamplifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2750 pH/ORP Sensor Electronics</td>
<td>• • •</td>
<td></td>
</tr>
<tr>
<td>2760 pH/ORP Preamplifier</td>
<td>• • •</td>
<td></td>
</tr>
<tr>
<td>2850 Conductivity Sensor Electronics</td>
<td>• • • •</td>
<td></td>
</tr>
<tr>
<td>5700 ProPoint® pH/ORP Monitor</td>
<td>• • •</td>
<td></td>
</tr>
<tr>
<td>5800CR ProPoint® Conductivity Monitor</td>
<td>• • • •</td>
<td></td>
</tr>
<tr>
<td>5900 ProPoint® Salinity Monitor</td>
<td>• • •</td>
<td></td>
</tr>
<tr>
<td>8750 ProcessPro® pH/ORP Transmitter</td>
<td>• • •</td>
<td></td>
</tr>
<tr>
<td>8850 ProcessPro® Conductivity Transmitter</td>
<td>• • • •</td>
<td></td>
</tr>
<tr>
<td>8860 ProcessPro® Dual Channel Cond Controller</td>
<td>• • • •</td>
<td></td>
</tr>
<tr>
<td>8900 Multi-Parameter Controller</td>
<td>• • • • • • •</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fittings*</th>
<th></th>
<th>Uses 1 in. process connections (customer supplied)</th>
<th>Uses ¾ in. process connections or tri-clamp fittings (customer supplied)</th>
<th>Uses ¾ in. process connections (customer supplied)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPSXXX Fibreglass Glue-On Saddle</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPMT0XX Metric PP Union Tee</td>
<td>•</td>
<td></td>
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<tr>
<td>SFMT0XX - 20 Metric PVDF Union Tee</td>
<td>•</td>
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<tr>
<td>PV8T0XXF PVC SCH 80 Tee</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PV8T0XX PVC SCH 80 Tee w/pipe</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPV8T0XXF CPVC SCH 80 Tee</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPV8T0XX CPVC SCH 80 Tee w/pipe</td>
<td>•</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>PV850XX PVC Clamp-on Saddle</td>
<td>•</td>
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<tr>
<td>FPT0XX Fibreglass Glue-On Tee</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>IR4T0XX Iron Threaded Tee (NPT)</td>
<td>•</td>
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<tr>
<td>IR85XXX Iron Strap-On Saddle</td>
<td>•</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CUKT0XX Copper Sweat-On Tee</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>BR4BXX Brass Brazolet</td>
<td>•</td>
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<td></td>
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<tr>
<td>CS4T0XX Carbon Steel Tee (NPT)</td>
<td>•</td>
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<td></td>
<td></td>
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<tr>
<td>CS4WXXX Carbon Steel Weldolet</td>
<td>•</td>
<td></td>
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<tr>
<td>CR4T0XX 316 SS Threaded Tee (NPT)</td>
<td>•</td>
<td></td>
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<tr>
<td>CR4WXXX 316 SS Weldolet</td>
<td>•</td>
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<tr>
<td>BR4T0XX Brass Threaded Tee (NPT)</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVMT0XX/PVAT0XX Metric/BSP PVC Union Tee**</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVMS0XX/PVAS0XX Metric/BSP PVC Saddle**</td>
<td>•</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Use ¾ in. process connector (customer supplied)</td>
<td>•</td>
<td></td>
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</tr>
</tbody>
</table>

*For use with fittings up to DN100 (4 in.) only

**Available only through your local Georg Fischer sales office.
## Signet Flow Sensor Specification Matrix - Table 3

This section provides the reader with an easy to read overview of the various products that make up our flow measurement product family. For further details, see the individual catalogue pages for each product.

<table>
<thead>
<tr>
<th>Sensor Style</th>
<th>Operating range m/s</th>
<th>Installation Mounting Styles</th>
<th>Pipe Size Range</th>
<th>Wetted Materials</th>
<th>Fluid Temperature (°C)</th>
<th>Fluid Temperature (°F)</th>
<th>Max. Operating Pressure</th>
<th>Approvals</th>
<th>Power Requirements</th>
<th>Output</th>
<th>Compatible Signet Flow Instruments</th>
<th>Comments</th>
<th>Moving Parts</th>
<th>Suitable for High Purity Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>515</td>
<td>Insertion Paddlewheel</td>
<td>Signet fittings offered in various plastic and metal for sizes 1/2 - 12 inches. Above 12 inches special order.</td>
<td>DN15 to DN900</td>
<td>Sensor body</td>
<td>PTFE or PVDF</td>
<td>-18 °C to 100 °C</td>
<td>14 bar (200 psi)</td>
<td>FM</td>
<td>5 to 24 VDC, ±10%, regulated</td>
<td>AC frequency</td>
<td>All</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2536</td>
<td>Insertion Paddlewheel</td>
<td></td>
<td>DN50 to DN200</td>
<td>Rotor</td>
<td>PP or PVDF</td>
<td>-18 °C to 85 °C</td>
<td>12.5 bar (180 psi)</td>
<td>CE, UL</td>
<td>5 to 24 VDC, ±10%, regulated</td>
<td>Open collector</td>
<td>All except 5090</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2537</td>
<td>Insertion Paddlewheel</td>
<td></td>
<td>DN15 to DN900</td>
<td>Rotor Pin (choice of)</td>
<td>Titanium, Tantalum, Stainless Steel, Ceramic, Hastelloy-C, or PVDF</td>
<td>-18 °C to 85 °C</td>
<td>10.3 bar (150 psi)</td>
<td>CE, UL (display version only)</td>
<td>5 to 24 VDC, ±10%, regulated</td>
<td>Open collector, 4 to 20mA, Digital 5V (4-20 mA output or relay)</td>
<td>All except 5090</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2551</td>
<td>Insertion Magnometer</td>
<td></td>
<td>DN15 to DN300</td>
<td>O-ring</td>
<td>FPM or EPR (EPDM)</td>
<td>0 °C to 85 °C</td>
<td>103 bar (1500 psi)</td>
<td>FM</td>
<td>5 to 24 VDC, ±10%, regulated</td>
<td>Frequency, digital, Open Collector</td>
<td>All except 5090 &amp; 8150</td>
<td>No</td>
<td></td>
<td></td>
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<tr>
<td>525</td>
<td>Insertion Paddlewheel</td>
<td></td>
<td>DN40 to DN900</td>
<td>Other</td>
<td>316L SS, Hastelloy-C, or Titanium</td>
<td>0 °C to 85 °C</td>
<td>17 bar (250 psi)</td>
<td>CE</td>
<td>5 to 24 VDC, ±10%, regulated</td>
<td>Open Collector</td>
<td>All except 5090</td>
<td>No</td>
<td></td>
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<tr>
<td>2540</td>
<td>Insertion Paddlewheel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>66 °C to 149 °C</td>
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</tr>
</tbody>
</table>

* Derated by Pressure
** Derated by Temperature

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**Notes:**
- Operating range in m/s (ft/s) is shown.
- Fluid temperature in °C (°F) is shown.
- Max. Operating Pressure is shown in bar (psi).
- Approvals include FM, CE, UL, CE, UL (display version only), FM, and CE.
- Power Requirements include 5 to 24 VDC, ±10%, regulated.
- Output includes AC frequency, Open collector, 4 to 20mA, Digital 5V (4-20 mA output or relay).
- Compatible Signet Flow Instruments include All, All except 5090, and All except 5090 & 8150.
- Comments include General Purpose Sensor with installation fittings for many materials, Various output versions available to suit application needs, Features enables pipe detection, bi-directional flow, optional multi-language display, and For high pressure, high temperature applications.
- Moving Parts include Yes and No.
- Suitable for High Purity Applications include Yes and for >20 μS.

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*www.gfsignet.com*
### Signet Flow Sensor and Turbidity Specification Matrix - Table 4

This section provides the reader with an easy to read overview of the various products that make up our flow measurement product family. For further details, see the individual catalogue pages for each product.

<table>
<thead>
<tr>
<th>Sensor Style</th>
<th>2000</th>
<th>2507</th>
<th>2100</th>
<th>2552</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating range lpm</td>
<td>0.11 to 12.11</td>
<td>0.4 to 12</td>
<td>0.38 to 38</td>
<td>0.05 to 10 m/s</td>
</tr>
<tr>
<td>(US gpm)</td>
<td>(0.03 to 3.2)</td>
<td>(0.10 to 3.17)</td>
<td>(0.10 to 10)</td>
<td>(0.15 to 33 ft/s)</td>
</tr>
<tr>
<td>Installation</td>
<td>In-line Rotor</td>
<td>In-line Turbine</td>
<td>Insertion Metal Magmeter</td>
<td></td>
</tr>
<tr>
<td>Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting Options</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Display</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pipe Size Range DN</td>
<td>¼ in. tubing</td>
<td>DN8, DN10, DN15</td>
<td>DN50 to DN2550</td>
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<tr>
<td>(inch)</td>
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<td>[1/4 in., 3/8 in., 1/2 in.]</td>
<td>[2 to 102 in.]</td>
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</tr>
<tr>
<td>Wetted Materials</td>
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</tr>
<tr>
<td>Sensor body</td>
<td>PPS</td>
<td>PVDF</td>
<td>316L SS</td>
<td></td>
</tr>
<tr>
<td>Rotor</td>
<td>PEEK™</td>
<td>PVDF</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>O-ring</td>
<td>FPM</td>
<td>FPM or EPR (EPDM)</td>
<td>FPM</td>
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</tr>
<tr>
<td>Other</td>
<td>N/A</td>
<td>PTFE</td>
<td>Ceramic</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>PVDF insulator</td>
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<td>Fluid Temperature (°C)</td>
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<tr>
<td>Fluid Temperature (°F)</td>
<td></td>
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</tr>
<tr>
<td>Max. Operating Pressure</td>
<td>5.5 bar [80 psi]</td>
<td>9.3 bar [130 psi]</td>
<td>20.7 bar [300 psi] @ 25°C [77°F]</td>
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</tr>
<tr>
<td>Approvals</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Power Requirements</td>
<td>5 to 24 VDC, ±10%, regulated</td>
<td>5 to 24, 24 VDC, ±10%, regulated</td>
<td></td>
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</tr>
<tr>
<td>Output</td>
<td>Open collector output</td>
<td>Frequency, digital, or 4 to 20 mA output</td>
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</tr>
<tr>
<td>Compatible Signet Flow Instruments</td>
<td>All except 5090, 8150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td>Lowest flow range: 110 mL/min. PPS body for tough service, good chemical resistance</td>
<td>Excellent chemical resistance, note significant pressure drop.</td>
<td>Excellent chemical resistance, replaceable electronics, affordable package</td>
<td>Features empty pipe detection, hot-tap version available, bi-directional flow</td>
</tr>
<tr>
<td>Moving Parts</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Used in High Purity Applications</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* Derated by pressure.
** Derated by temperature.
### Signet pH/ORP Electrode Specification Matrix - Table 5

This section provides the reader with an easy to read overview of the various products that make up our analytical measurement family. For further details, see the individual catalogue pages for each product.

<table>
<thead>
<tr>
<th>Operation Range</th>
<th>2756 Wet-Tap</th>
<th>2757 Wet-Tap</th>
<th>2724 2726</th>
<th>2725</th>
<th>2764 2766</th>
<th>2765 2767</th>
<th>2774 2776</th>
<th>2775 2777</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Style</td>
<td>DryLoc®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatible Preamps/Sensor Electronics</td>
<td>2750 Sensor Electronics and 2760 Sensor Preamplifiers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Range</td>
<td>0 °C to 85 °C [32 °F to 185 °F]</td>
<td>-10 °C to 85 °C [14 °F to 185 °F]</td>
<td>0 °C to 95 °C [23 °F to 203 °F]</td>
<td>0 °C to 110 °C [32 °F to 230 °F]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure Range</td>
<td>6.89 bar (100 psi)</td>
<td>6.89 bar @ 10°C (100 psi @ 32°F to 149°F)</td>
<td>4.0 bar @ 85°C (58 psi @ 150°F to 185°F)</td>
<td>6.89 bar @ 95 °C (100 psi @ 203 °F)</td>
<td>10.3 bar (149 psi) maximum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe Size Range for In-line</td>
<td>2½ in. to 12 in.</td>
<td>2724-2727 pipe size range ½ in. to 4 in. Signet fittings or use ¼ in. to 4 in. threaded fittings</td>
<td>1 in. and up</td>
<td>¾ in. and up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process Connection for Submersible</td>
<td>N/A</td>
<td>¼ in. NPT threads or ISO 7-1/R 3/4 in. (using threads from 2750, or 2760)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>Glass or Plastic</td>
<td>Ryton® (PPS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference Junction Material</td>
<td>PTFE</td>
<td>Porous UHMW Polyethylene</td>
<td>PTFE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Rings</td>
<td>FPM</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensing Element</td>
<td>Glass (pH) or Platinum (ORP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting Position</td>
<td>Any angle, even upside down (except 2764-2767 series)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensor Technology</td>
<td>Standard</td>
<td>Differential</td>
<td>Standard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatible Signet Instruments</td>
<td>8750, 5700, 8900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Usage</td>
<td>General purpose; sensor accessible without process shutdown</td>
<td>General purpose; also options available for use in HF (≤2%) and low conductivity liquids (&lt;100 μS), such as reverse osmosis.</td>
<td>Harsh Chemicals (heavy metals, Hg++, Cu+, Pb++, ClO₄, Br⁻, I⁻, CN⁻, S₂⁻ and other chemicals that react with Ag⁺ or KCl)</td>
<td>General purpose; options for higher temperatures are available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards and Approvals</td>
<td>Manufactured under ISO 9001 and ISO 14001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Signet Conductivity/Resistivity Electrode Specification Matrix - Table 6**

This section provides the reader with an easy to read overview of the various products that make up our analytical measurement family. For further details, see the individual catalogue pages for each product.

<table>
<thead>
<tr>
<th>Cell constant</th>
<th>0.01</th>
<th>0.1</th>
<th>1.0</th>
<th>10.0</th>
<th>20.0</th>
<th>0.01</th>
<th>0.1</th>
<th>1.0</th>
<th>10.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating range</td>
<td>0.055 (\mu)S to 10 (\mu)S</td>
<td>(\mu)S to 100 (\mu)S</td>
<td>(1) (\mu)S to 10,000 (\mu)S</td>
<td>(10) (\mu)S to 200,000 (\mu)S</td>
<td>(200) (\mu)S to 400,000 (\mu)S</td>
<td>(0.055) (\mu)S to 100 (\mu)S</td>
<td>(\mu)S to 10,000 (\mu)S</td>
<td>(10) (\mu)S to 200,000 (\mu)S</td>
<td></td>
</tr>
<tr>
<td>Compatible Sensor Electronics</td>
<td>2850</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Element</td>
<td>PT1000</td>
<td>PT1000</td>
<td>PT1000</td>
<td>PT1000</td>
<td>PT1000</td>
<td>PT1000</td>
<td>PT1000</td>
<td>PT1000</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature/Pressure</td>
<td>13.8 bar (200 psi) max., 120 °C (248 °F) max.</td>
<td>6.9 bar (100 psi) 95 °C (203 °F)</td>
<td>6.9 bar (100 psi) 150 °C (302 °F)</td>
<td>-10 °C to 85 °C @ 6.9 bar</td>
<td>14 °F to 185 °F @ 100 psi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process Connection</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td>% in. NPT</td>
<td></td>
</tr>
<tr>
<td>Wetted Materials</td>
<td>316 SS or Titanium, PP</td>
<td>CPVC</td>
<td>316 SS</td>
<td>316 SS</td>
<td>EPR (EPDM)</td>
<td>316 SS</td>
<td>PTFE</td>
<td>PEEK™</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>PTFE</td>
<td>316 SS</td>
<td>PTFE</td>
<td>316 SS</td>
<td>316 SS</td>
<td>PTFE</td>
<td>316 SS</td>
<td>PTFE</td>
<td></td>
</tr>
<tr>
<td>Compatible Signet Instruments</td>
<td>8850, 8860, 5800, 8900, 5900 (for 10 and 20 cell)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards and Approvals</td>
<td>Manufactured under ISO 9001 and ISO 14001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Signet Flow Instrument Specification Matrix - Table 7

This section provides the reader with an easy to read overview of the various products that make up our flow measurement product family. For further details, see the individual catalogue pages for each product.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>5075</th>
<th>5090</th>
<th>5500</th>
<th>5600</th>
<th>8150</th>
<th>8550</th>
<th>8900</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Flow Monitor</td>
<td>Sensor Powered Flow Monitor</td>
<td>Flow Monitor with Outputs and Relays</td>
<td>Batch Controller with Outputs and Relays</td>
<td>Battery Powered Flow Totalizer</td>
<td>Single or Dual Input Flow Transmitter</td>
<td>Multi-Channel, Multi-Parameter Controller</td>
</tr>
<tr>
<td><strong>Modular Components</strong></td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Totalizers</strong></td>
<td>1 Permanent</td>
<td>1 Resettable</td>
<td>None</td>
<td>1 Permanent</td>
<td>1 Resettable</td>
<td>2 Permanent</td>
<td>2 Resettable</td>
</tr>
<tr>
<td><strong>Max. Sensor Inputs</strong></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(up to 2 frequency)</td>
</tr>
<tr>
<td><strong>Mounting Options</strong></td>
<td>Panel</td>
<td>Panel, Wall, Pipe, Tank, Integral</td>
<td>Panel</td>
<td></td>
<td></td>
<td></td>
<td>Panel</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>Analogue dial and LCD</td>
<td>Analogue dial</td>
<td>Analogue dial and LCD</td>
<td>LCD</td>
<td>LCD or Vacuum Fluorescent</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analogue Output Types</strong></td>
<td>None</td>
<td>None</td>
<td>(1) Active 4 to 20 mA, (1) Active 4 to 20 mA,</td>
<td>None</td>
<td>(2) Passive 4 to 20 mA,</td>
<td>(4) Passive/Active 4 to 20 mA or voltage</td>
<td></td>
</tr>
<tr>
<td><strong>Max. Relays / O.C.</strong></td>
<td>OC pulse at input freq., OC pulse at total freq.</td>
<td>OC pulse at input freq., OC pulse at total freq.</td>
<td>2 SPDT Relays</td>
<td>2 SPDT Relays Programmable OC pulse</td>
<td>2 SPDT Relays (8550-2) up to 8 relays (via 8059)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Derived Measurements</strong></td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sum, Difference, % Recovery, % Reject, % Passage, Ratio, Power (BTU)</td>
</tr>
<tr>
<td><strong>Languages</strong></td>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>English, French, German, Spanish, Italian, and Portuguese</td>
</tr>
<tr>
<td><strong>Operating Temperature (°C)</strong></td>
<td>-10 °C to 55 °C (14 °F to 131 °F)</td>
<td>-10 °C to 65 °C (14 °F to 149 °F)</td>
<td>-10 °C to 65 °C (14 °F to 149 °F)</td>
<td>-10 °C to 65 °C (14 °F to 158 °F)</td>
<td>-10 °C to 70 °C (14 °F to 158 °F)</td>
<td>LCD: -10 °C to 55 °C (14 °F to 131 °F)</td>
<td></td>
</tr>
<tr>
<td><strong>Operating Temperature (°F)</strong></td>
<td>-10 °C to 55 °C (14 °F to 131 °F)</td>
<td>-10 °C to 65 °C (14 °F to 149 °F)</td>
<td>-10 °C to 65 °C (14 °F to 149 °F)</td>
<td>-10 °C to 65 °C (14 °F to 158 °F)</td>
<td>-10 °C to 70 °C (14 °F to 158 °F)</td>
<td>LCD: -10 °C to 55 °C (14 °F to 131 °F)</td>
<td></td>
</tr>
<tr>
<td><strong>Power Requirements</strong></td>
<td>12 to 24 VDC or 12 to 24 VAC, ±10%, reg. recommended</td>
<td>None</td>
<td>12 to 24 VDC or 12 to 24 VAC, ±10%, reg. recommended</td>
<td>3.6V Lithium Battery</td>
<td>12 to 24 VDC, ±10%, regulated</td>
<td>12 to 24 VDC ±10%, regulated or 100 to 240 VAC ±10%, reg. recommended, 50/60 Hz</td>
<td></td>
</tr>
<tr>
<td><strong>Standards and Approvals</strong></td>
<td>CE, UL, NEMA 4X/IP65</td>
<td>FM, UL, NEMA 4X/IP65</td>
<td>CE, UL, NEMA 4X/IP65</td>
<td>CE, UL, CUL, NEMA 4X/IP65</td>
<td>CE, UL, NEMA 4X/IP65</td>
<td>CE, UL, NEMA 4X/IP65</td>
<td></td>
</tr>
</tbody>
</table>
Signet Analytical Instrument Specification Matrix - Table 8

This section provides the reader with an easy to read overview of the various products that make up our Analytical Product family. For further details, see the individual catalogue pages for each product.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>5700</th>
<th>8750</th>
<th>5800CR</th>
<th>5900</th>
<th>8850</th>
<th>8860</th>
<th>8250</th>
<th>8350</th>
<th>8450</th>
<th>8900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>pH/ORP Monitor</td>
<td>pH/ORP Transmitter</td>
<td>Cond./Resist. Monitor</td>
<td>Salinity Monitor</td>
<td>Cond./Resist. Transmitter</td>
<td>Dual-channel Cond./Resist. Controller</td>
<td>Level Transmitter</td>
<td>Temperature Transmitter</td>
<td>Pressure Transmitter</td>
<td>Multi-Channel, Multi-Parameter Controller</td>
</tr>
<tr>
<td>Modular Components</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Max. Sensor Inputs</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting Options</td>
<td>Panel</td>
<td>Panel, Wall, Pipe, Tank, Integral</td>
<td>Panel</td>
<td>Panel, Wall, Pipe, Tank, Integral</td>
<td>Panel</td>
<td>Panel, Wall, Pipe, Tank, Integral</td>
<td>Panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>Analogue dial and LCD</td>
<td>LCD</td>
<td>Analogue dial and LCD</td>
<td>LCD</td>
<td></td>
<td></td>
<td>LCD or Vacuum Fluorescent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analogue Output Types</td>
<td>(1) 4 to 20 mA, Active, non-isolated</td>
<td>(2) 4 to 20 mA, Passive, isolated</td>
<td>(1) 4 to 20 mA, Active, non-isolated</td>
<td>(2) 4 to 20 mA, Passive, isolated</td>
<td>(3) 4 to 20 mA, Passive, isolated</td>
<td>(2) 4 to 20 mA, Passive, isolated</td>
<td>(2) 4 to 20 mA, Passive, isolated</td>
<td>(4) Active/Passive 4 to 20 mA or voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Relays / O.C.</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Derived Measurements</td>
<td>None</td>
<td>% Rejection, Difference, Ratio</td>
<td>None</td>
<td>Delta T</td>
<td>Delta P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Languages</td>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>English, French, German, Spanish, Italian, and Portuguese</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature (°C)</td>
<td>-10 °C to 55 °C (14 °F to 131 °F)</td>
<td>-10 °C to 70 °C (14 °F to 158 °F)</td>
<td>-10 °C to 55 °C (14 °F to 131 °F)</td>
<td>-10 °C to 70 °C (14 °F to 158 °F)</td>
<td>-10 °C to 55 °C (14 °F to 131 °F)</td>
<td>-10 °C to 70 °C (14 °F to 158 °F)</td>
<td>-10 °C to 70 °C (14 °F to 158 °F)</td>
<td>LCD: -10 °C to 55 °C (14 °F to 131 °F) VFD: -10 °C to 50 °C (14 °F to 122 °F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature (°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Requirements</td>
<td>12 to 24 VDC or 12 to 24 VAC, ±10%, reg. recommended</td>
<td>12 to 24 VDC, ±10%, regulated</td>
<td>12 to 24 VDC or 12 to 24 VAC, ±10%, reg. recommended</td>
<td>12 to 24 VDC, ±10%, regulated</td>
<td>100 to 240 VAC 12 to 24 VDC, ±10%, regulated</td>
<td>12 to 24 VDC, ±10%, regulated</td>
<td>12 to 24 VDC, ±10%, regulated</td>
<td>12 to 24 VDC ±10%, regulated or 100 to 240 VAC ±10%, reg. recommended, 50/60 Hz,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards and Approvals</td>
<td>CE, UL, NEMA 4X/IP65 (front)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Signet 8900 Multi-Parameter Compatibility Overview

Below is an overview of the Signet sensor offering that is compatible with the 8900 Multi-Parameter Controller. For more details, please see the individual catalogue pages for each product.
Signet 8900 Multi-Parameter Input Capability

### 1 or 2 Channel

**Input Type**
- Frequency
- Digital \( [S^3L] \)
- 4-20 mA

**No. of Inputs**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Input</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital ( [S^3L] )</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>+</td>
</tr>
</tbody>
</table>

**8058 Signal Converter**

### 3 or 4 Channel

**Input Type**
- Frequency
- Digital \( [S^3L] \)
- 4-20 mA

**No. of Inputs**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Input</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital ( [S^3L] )</td>
<td>2</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>+</td>
</tr>
</tbody>
</table>

**8058 Signal Converter**

**Note:** The digital \( [S^3L] \) inputs can come directly from digital \( [S^3L] \) sensors or 4-20 mA sensors whose signal has been converted to digital \( [S^3L] \) via the 8058 Signal Converter.

This chart is for reference only. Please contact your local Georg Fischer Sales Office for more information.
**Signet 8900 Multi-Parameter Input Capability**

<table>
<thead>
<tr>
<th>Flow</th>
<th>pH</th>
<th>ORP</th>
<th>Conductivity</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity</td>
<td>Temperature</td>
<td>Pressure</td>
<td>Turbidity</td>
<td>Other (4-20 mA)</td>
</tr>
</tbody>
</table>

### Inputs to 8900

- **5 or 6 Channel**
- **Input Type**
  - Frequency
  - Digital [S^3L]
  - 4-20 mA

#### No. of Inputs

<table>
<thead>
<tr>
<th>Digital [S^3L]</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>+</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>+</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>+</td>
</tr>
</tbody>
</table>

**Note:** The digital [S^3L] inputs can come directly from digital [S^3L] sensors or 4-20 mA sensors whose signal has been converted to digital [S^3L] via the 8058 Signal Converter.

*This chart is for reference only. Please contact your local Georg Fischer Sales Office for more information.*
Signet 8900 Multi-Parameter Output Capability

8900 I/O Module with 2 Analog Outputs

3-8900.401-X

Choose from:
- Passive Current
- Active Current
- 0 to 5/10 VDC

8900 Analog Output Module with 2 Outputs

3-8900.405-X

Choose from:
- Passive Current
- Active Current
- 0 to 5/10 VDC

8900 Relay Module with up to 4 Internal Relay Outputs

3-8900.403-1
3-8900.403-2

Choose from:
- Dry Contact
- Solid State

2 OR 4

8900 Module with External Relay Outputs

2 OR 4

3-8059-2
3-8059-2AC
3-8059-4
3-8059-4AC

Available option:
- Dry Contact Only

This chart is for reference only. Please contact your local Georg Fischer Sales Office for more information.
8900 Multi-Parameter Controller

Description
The Signet 8900 Multi-Parameter Controller takes the concept of modularity to the extreme. Each 8900 is field commissioned with the users specified combination of inputs, outputs, and relays using simple-to-install modular boards into the base unit. To assemble a controller, there is a choice of two base units offered with a choice of back-lit LCD or vacuum fluorescent display. Then, continue building with a selection of plug-in modules for either two, four, or six input channels which accepts any of the Signet sensors listed below, and/or other manufacturer’s sensors via a 4 to 20 mA signal converter (Signet Model 8058). To complete your unit, choose a power module with universal AC line voltage or 12 to 24 VDC ±10%, regulated. If more features are needed, analogue output and relay modules are available and easily installed. Plus, the 8900 will support up to four additional relays via an external relay module.

There are other notable features that the 8900 offers. For instance, digital input to the 8900 enables longer cable runs and simplified wiring with minimal noise interference. Advanced relay logic allows users to select up to 3 measurement sources to trigger 1 relay. Derived measurements include difference, sum, ratio, percent recovery, percent rejection, percent passage and BTU. The menu system can be programmed to display in multi-languages including English, German, French, Spanish, Italian, and Portuguese.

System Overview

Select from a choice of boards

Signet Sensors (sold separately)
Use up to 6 inputs with one instrument from a choice of sensors

Signet Fittings (sold separately) See individual sensor data sheets

Features
- Measures Flow, pH, ORP, Conductivity, Pressure, Level and Temperature
- Multi-language display
- ¾ DIN enclosure
- Up to 4 analogue outputs
- Up to 8 relays
- 12 to 24 VDC or 100 to 240 VAC ±10%, regulated power
- Digital communication allows for extended cable lengths and easy wiring
- Accepts 3rd party 4 to 20 mA output devices when used with 8058 signal converter
- Available with 1 to 6 channels
- Two BTU calculations

Applications
- RO/DI System Control
- Media Filtration
- Pure Water Production
- Demineralisers
- Chemical Processing
- Metal & Plastics Finishing
- Fume Scrubbers
- Proportional Chemical Addition
- Cooling Tower & Boiler Protection
- Wastewater Treatment
- Aquatic Animal Life Support Systems
- Rinse Tank
System Overview (continued)

There are hundreds of system types that can be set up with the 8900. The examples below illustrate various sensors in different installation schemes. Wiring topology for point-to-point, daisy-chain, multi-drop, or a combination of these are listed in each example. Digital sensor outputs allow for long cable runs with high noise immunity. See Wiring section for allowable cable lengths.

Example 1
- 8900 input module: Two inputs
- Sensors connected: Signet 2750 with 2724 pH sensors and 2540 flow [frequency]
- Wiring configuration: Point-to-point

Example 2
- 8900 input module: Four inputs
- Sensors connected: Signet 2350 temperature sensor, 2850 with 2841 conductivity, and two 2450 pressure sensors
- Wiring configuration: Daisy-chain

Example 3
- 8900 input module: Four inputs
- Sensors connected: Signet 2507 flow [frequency] and 2750 with 2724 pH sensors; Other manufacturers dissolved oxygen and level sensors with 4 to 20 mA output
- External Devices: Signet 8058 signal converter - 4 to 20 mA output sensor (example of other brand)
- Wiring configuration: Combination of point-to-point and daisy-chain

Example 4
- 8900 input module: Six inputs
- Sensors connected: Signet 2350 temperature sensor, 2850 with 2840 conductivity, 2450 pressure, 2750 with 2724 pH, and 515 and 2536 flow [frequency] sensors
- External Devices: Signet 8059 external relay module
- Wiring configuration: Combination of Point-to-point and Multi-drop

Notes
1. External relays can be used with any input module and does not consume a sensor input channel (Model 8059)
2. Model 8058 Signal Converter can be used with any input module.

Wiring Options
- **Point-to-point** wiring is direct wiring of individual devices into the controller. This wiring topology is applicable for all inputs.
- **Daisy-chain** wiring allows sequential connection from one device to the next by using junction boxes. This wiring topology is applicable for digital [S'IL] inputs only.
- **Multi-drop** wiring allows drops from a single bus cable. Junction boxes can be used for the 3-way junctions that are formed with this wiring scheme. This wiring topology is applicable for digital [S'IL] inputs only.
Specifications

General
Configurability: Modular (completely field-commissionable)
No. of Input Channels: 2, 4, or 6
Compatible Sensors: See System Overview
Input Signal Types:
• Digital [S/L]: Serial ASCII, TTL level 9600 bps
• Frequency: 0 to 1500 Hz
Accuracy: 0.5% of reading
Measurement Types:
Flow, pH, ORP, Conductivity/Resistivity, Temperature, Level, or 3rd party devices with a 4 to 20 mA output
Derived Measurements:
Sum, difference, ratio, % recovery, % reject, % passage, power (BTU)
No. of Relays Supported:
Available: 2, 4, 6 or 8 (8 dry-contact or 4 solid state and 4 dry-contact)
No. of analogue Outputs:
Available in pairs: 2 or 4 (active and/or passive 4 to 20 mA; and/or 0 to 5/10 VDC)

Enclosure and Display
• Enclosure Rating: NEMA 4X/IP65 (front face only)
• Case Material: PBT
• Panel Gasket: Silicone Sponge
• Window: Self-healing polyurethane-coated polycarbonate
• Keypad: 4-buttons, highly tactile and audible injection-moulded silicone rubber seal
Display:
• Alphanumeric 2 x 16 back-lit LCD or Vacuum Fluorescent (VF) versions
• Update Rate: 1 second
• Accuracy: Sensor dependent
• VF Brightness: 4 intensity levels
• LCD Contrast: 4 settings
• Languages Available:
  English, French, Spanish, German Italian and Portuguese

Display Ranges (see sensor specifications for actual measurement limits):
• pH: -2.00 to 15.00 pH
• pH Temp.: -40 °C to 150 °C (-40 °F to 302 °F)
• ORP: -9999 to +9999 mV
• Flow Rate: 0.0000 to 999999 units per second, minute, hour or day
• Totaliser: 0.00 to 99999999 units
• Conductivity: 0.0000 to 999999 µS, mS, PPM & PPB (TDS), kΩ, MΩ
• Conductivity Temperature: -99.9 °C to 250 °C (-148 °F to 482 °F)
• Temperature: -99.9 °C to 999.9 °C (-148 °F to 999.9 °F)
• Pressure: -99.99 to 9999 psi, kPa, bar

Environmental
Ambient Operating Temperature:
• Back-lit LCD: -10 °C to 55 °C (14 °F to 131 °F)
• VF Display: -10 °C to 50 °C (14 °F to 122 °F)
Storage Temp.: -15 °C to 80 °C (5 °F to 176 °F)
Relative Humidity: 0 to 95%, non-condensing
Maximum Altitude:
• 2,000 m (6,560 ft)
• 4,000 m (13,123 ft); use only DC power supply and, if applicable, solid state relays to maintain UL safety standard up to this altitude.

Electrical
Power Requirements (AC or DC via Power Modules)
• Universal AC: 100 to 240 VAC ±10%, regulated 50-60 Hz, 24 VA max.
• DC: 12 to 24 VDC, ±10%, regulated recommended, 7 Watts max.
Output Power to Sensors:
5 VDC up to 40 mA total
Terminal type:
Screw-clamp, removable via plug-in modules.

Analogue Outputs (via I/O Modules and Output Modules)
All analogue outputs are freely assignable to any channel.
4 to 20 mA Output:
Endpoints are adjustable and reversible:
• Minimum default 4.0 mA; user adjustable from 3.8 to 5.0 mA
• Maximum default 20.00 mA; user adjustable from 19.0 to 21.0 mA
Test Mode:
Produces an adjustable 4 to 20 mA signal for functional verification of each output circuit
Isolation: Up to 48 VAC/DC
Error Condition:
22.1 mA (default state when output source not configured)
Update Rate: 100 ms
Accuracy:
±32 µA over entire operating temperature range

Dimensions

[Diagram showing dimensions]
Specifications (continued)
Analogue Outputs (continued)

Passive 4 to 20 mA
- Voltage: 12 to 24 VDC, ±10%, regulated
- Max. Impedance:
  - 250 Ω @ 12 VDC
  - 500 Ω @ 18 VDC
  - 750 Ω @ 24 VDC
- Active 4 to 20 mA
- Max. Impedance: 650 Ω

0 to 5/10 VDC Output:
Output Range:
- 0 to 5 VDC or 0 to 10 VDC, software selectable
Endpoints are adjustable and reversible:
- Minimum default: 0 VDC; user programmable from 0 to 0.5 VDC
- Maximum default: 5 VDC; user programmable from 4.5 to 5.5 VDC, or 9.5 to 10.5 VDC

Output Load: 10 kΩ minimum
Test Mode:
- Produces an adjustable signal for functional verification of each output circuit
Isolation: Up to 48 VAC/DC
Error Condition:
- 0 VDC (default state when output source not configured)
Update Rate: 100 mS
Accuracy:
- ±20 mV over entire operating temperature range
Resolution: 5 mV
Power Supply Rejection: 0.5 mV/V

Relay Modules
All relays are freely assignable to any channel.
- Internal relay modes of operation:
  - Off, Low, High, Window, Proportional Pulse, Pulse Width Modulation, USP, Volumetric, Pulse, Totaliser Volume, Advanced, % Rejection, % Recovery, % Passage
- External relay modes of operation:
  - Off, Low, High, Window, USP, Totaliser Volume, Advanced, % Rejection, % Recovery, % Passage
Hysteresis: User adjustable
Time Delay: 0 to 6400 seconds

- Advanced Relay:
  - Use “AND/OR” logic along with relay sources to trigger a relay.
  - High/Low modes available for each of the 3 sources.

- Solid State Relays: (non-mechanical switches)
  - Normally Open/Closed Operation: Software selectable
  - Maximum Voltage Rating: 30 VDC or 42 VAC p-p
  - Current Rating: 50 mA DC or 50 mA AC RMS
  - On-state Impedance: 50 Ω or less
  - Off-state Leakage: 400 nA or less, AC or DC
  - Isolation: Up to 48 VAC/DC
  - Transient Protection:
    - Embedded, up to 48 V over-voltage

- Dry-contact Relays: (mechanical contacts)
  - Type: SPDT
  - Form: C
  - Maximum Pulse Rate:
    - 600 pulses/min. (volumetric pulse & PWM modes)
    - 400 pulses/min. (prop. pulse mode)
  - Maximum Voltage Rating:
    - 30 VDC or 250 VAC
  - Current Rating: 5 A

Shipping Weight
- Base Unit: 1.00 kg 2.25 lb
- Power Module: 0.12 kg 0.25 lb
- I/O Module: 0.12 kg 0.25 lb
- Output Module: 0.12 kg 0.25 lb
- Relay Module: 0.12 kg 0.25 lb

Standards and Approvals
- CE, UL
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management
**Installation of Modules with the base unit**

**3-8900/3-8900-VF**

One base unit is required to build a functional 8900. It is offered with a backlit LCD or a Vacuum Fluorescent Display. Programming the unit is done simply via the push-button keypad. The unit can be tailored to display in English, German, French, Spanish, Italian, and Portuguese. The two line display allows for easy programming, navigation, and viewing of each channel.

---

1. **I/O module**

   One I/O module is required to build a functional 8900. I/O modules are offered for 2, 4, or 6 sensor inputs with or without 2 mA or voltage outputs. Users can select two additional outputs via the output module.

2. **Power module**

   One power module is required to build a functional 8900. The power module is offered for universal 100/240 VAC or 12 to 24 VDC [This module can be powered by optional external relays (see ordering information for more details).]

3. **Output module**

   Output modules are optional when building an 8900. This module can be used in addition to other outputs that are available in the I/O modules. Active current and voltage outputs are powered by the 8900. Passive outputs require an outside 12 to 24 VDC power supply. All outputs are assignable to any input channel.

4 & 5 **Relay modules**

   Relay modules are optional when building an 8900. Relay modes of operation include off, low, high, window, USP, totaliser volume, advanced, proportional pulse, pulse width modulation, volumetric pulse, % reject, % recovery and % passage. The advanced relay option for “AND/OR” logic is used for up to 3 conditions. For instance, a relay will go to high/low if “a” is true and “b” or “c” is false. One or two relay modules can be installed into the 8900. One additional external relay module can also be used at the same time (See optional external relay ordering information.) All relays are assignable to any input channel.

---

Installation of Modules: Modules simply plug in by sliding into the base unit on rails. They are held securely in place by the rear cover. Changes and upgrades can be made in the field at any time.
Ordering Information
To build a functional 8900 controller, choose a base unit, power module, and input/output (I/O) module. Additional outputs and relays are available, if needed.

Base Units, Required; Choose One

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8900</td>
<td>Base unit with back-lit LCD</td>
</tr>
<tr>
<td>3-8900-VF</td>
<td>Base unit with Vacuum Fluorescent display</td>
</tr>
</tbody>
</table>

I/O (input/output) Modules, Required; Choose One

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8900.401-1</td>
<td>Dual (2) Input (no outputs)</td>
</tr>
<tr>
<td>3-8900.401-2</td>
<td>Dual (2) Input with Two Passive* Loop Outputs</td>
</tr>
<tr>
<td>3-8900.401-3</td>
<td>Dual (2) Input with Two Active Loop Outputs</td>
</tr>
<tr>
<td>3-8900.401-4</td>
<td>Dual (2) Input with Voltage Outputs</td>
</tr>
<tr>
<td>3-8900.401-5</td>
<td>Quad (4) Input (no outputs)</td>
</tr>
<tr>
<td>3-8900.401-6</td>
<td>Quad (4) Input with Two Passive* Loop Outputs</td>
</tr>
<tr>
<td>3-8900.401-7</td>
<td>Quad (4) Input with Two Active Loop Outputs</td>
</tr>
<tr>
<td>3-8900.401-8</td>
<td>Quad (4) Input with Two Voltage Outputs</td>
</tr>
<tr>
<td>3-8900.401-9</td>
<td>Six Inputs (no outputs)</td>
</tr>
<tr>
<td>3-8900.401-10</td>
<td>Six Inputs with Two Passive* Loop Outputs</td>
</tr>
<tr>
<td>3-8900.401-11</td>
<td>Six Inputs with Two Active Loop Outputs</td>
</tr>
<tr>
<td>3-8900.401-12</td>
<td>Six Inputs with Two Voltage Outputs</td>
</tr>
</tbody>
</table>

Power Modules, Required; Choose One

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8900.402-1</td>
<td>110/220 VAC Power Module, ±10%, regulated</td>
</tr>
<tr>
<td>3-8900.402-2</td>
<td>12 to 24 VDC Power Module, ±10%, regulated</td>
</tr>
</tbody>
</table>

Optional Output Modules - Choose One

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8900.405-1</td>
<td>Two Passive* Current Loop Outputs</td>
</tr>
<tr>
<td>3-8900.405-2</td>
<td>Two Active Current Loop Outputs</td>
</tr>
<tr>
<td>3-8900.405-3</td>
<td>Two 0 to 5 and/or 0 to 10 VDC Outputs</td>
</tr>
</tbody>
</table>

Optional Relay Modules - Choose One or Two

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8900.403-1</td>
<td>Two Dry Contact Relays</td>
</tr>
<tr>
<td>3-8900.403-2</td>
<td>Two Solid State Relays</td>
</tr>
</tbody>
</table>

Optional External Relays - Choose One**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8059-2</td>
<td>Two dry-contact relays; requires 12 to 24 VDC ±10%, regulated</td>
</tr>
<tr>
<td>3-8059-2AC</td>
<td>Two dry-contact relays; requires 100 to 240 VAC ±10%, regulated; supplies power to the 12 to 24 VDC power module, ±10%, regulated</td>
</tr>
<tr>
<td>3-8059-4</td>
<td>Four dry-contact relays; requires 12 to 24 VDC ±10%, regulated</td>
</tr>
<tr>
<td>3-8059-4AC</td>
<td>Four dry-contact relays; requires 100 to 240 VAC ±10%, regulated; supplies power to the 12 to 24VDC ±10%, regulated power host device</td>
</tr>
</tbody>
</table>

* Passive outputs require an external power source
** See individual product page for the 8059 External Relay Modules.

Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-8050.392</td>
<td>159 000 640</td>
<td>¼ DIN retrofit adapter</td>
</tr>
<tr>
<td>3-8050.395</td>
<td>159 000 186</td>
<td>Splashproof rear cover</td>
</tr>
<tr>
<td>3-0000.596-1</td>
<td>159 000 892</td>
<td>¼ DIN wall mount bracket, 6½ in. (use if no rear cover is installed)</td>
</tr>
<tr>
<td>3-0000.596-2</td>
<td>159 000 893</td>
<td>¼ DIN wall mount bracket, 9 in. (use if rear cover is installed)</td>
</tr>
<tr>
<td>3-5000.399</td>
<td>198 840 224</td>
<td>Panel adapter, 5 x 5 in. to ¼ DIN</td>
</tr>
<tr>
<td>3-5000.598</td>
<td>198 840 225</td>
<td>Surface mount bracket</td>
</tr>
<tr>
<td>Power Supplies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7300-7524</td>
<td>159 000 687</td>
<td>24 VDC power supply 7.5W, 300 mA</td>
</tr>
<tr>
<td>7300-1524</td>
<td>159 000 688</td>
<td>24 VDC power supply 15W, 600 mA</td>
</tr>
<tr>
<td>7300-3024</td>
<td>159 000 689</td>
<td>24 VDC power supply 30W, 1.3 A</td>
</tr>
<tr>
<td>7300-5024</td>
<td>159 000 690</td>
<td>24 VDC power supply 50W, 2.1 A</td>
</tr>
<tr>
<td>7300-1024</td>
<td>159 000 691</td>
<td>24 VDC power supply 100W, 4.2 A</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-8050.396</td>
<td>159 000 617</td>
<td>RC filter kit [for relay use], 2 per kit</td>
</tr>
</tbody>
</table>

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

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Signet 515 Rotor-X Paddlewheel Flow Sensors

Features
- Operating range 0.3 to 6 m/s (1 to 20 ft/s)
- Wide turndown ratio of 20:1
- Highly repeatable output
- Simple, economical design
- Installs into pipe sizes DN15 to DN900 (½ to 36 in.)
- Self-powered/no external power required
- Test certificate included for -X0, -X1
- Chemically resistant materials

Applications
- Pure Water Production
- Filtration Systems
- Chemical Production
- Liquid Delivery Systems
- Pump Protection
- Scrubber Systems
- Water Monitoring
- Not suitable for gases

Description
Simple to install with time-honoured reliable performance, Signet 515 Rotor-X Paddlewheel Flow Sensors are highly repeatable, rugged sensors that offer exceptional value with little or no maintenance. The output signal of the Model 515 is a sinusoidal frequency capable of driving a self-powered flowmeter (Model 3-5090). The wide dynamic flow range of 0.3 to 6 m/s (1 to 20 ft/s) allows the sensor to measure liquid flow rates in full pipes and can be used in low pressure systems.

The Model 515 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 up to DN900 (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 and intrinsically safe installation requirements.

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

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
<th>Integral Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument (sold separately) 5075 8150 5090 8550 5500 8900 5600</td>
<td>Signet Flow Instrument (sold separately) 8150 8550</td>
<td>Signet Flow Instrument (sold separately) 8150 8550</td>
</tr>
<tr>
<td>Signet Universal Adapter Kit [3-8050] (sold separately)</td>
<td></td>
<td>Signet Integral Adapter Kit [3-8051] (sold separately)</td>
</tr>
<tr>
<td>Signet Model 515 Standard or Wet-Tap (not shown) Flow Sensor</td>
<td>Signet Model 515 Standard or Wet-Tap (not shown) Flow Sensor</td>
<td>Signet Model 515 Integral Mount Flow Sensor</td>
</tr>
</tbody>
</table>

* See Fittings section for more information.
Specifications

General
Operating Range:
- 0.3 to 6 m/s (1 to 20 ft/s)
Pipe Size Range:
- DN15 to DN900 (½ to 36 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) or PVDF (natural)
- 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 Tefzel® with or without Fluoroloy G® sleeve for rotor pin

Electrical
Frequency:
- 19.7 Hz per m/s nominal (6 Hz per ft/s); sinusoidal
Amplitude:
- 3.3 V p/p per m/s nominal (1 V p/p per ft/s)
Source Impedance: 8 KΩ
Cable Type:
- 2-conductor twisted pair with shield, 22 AWG
Cable Length:
- 7.6 m (25 ft) can be extended up to 60 m (200 ft) maximum

Max. Temperature/Pressure Rating
Standard and Integral Sensor
- PP: 12.5 bar @ 20 °C, 1.7 bar @ 90 °C
- PP: 180 psi @ 68 °F, 25 psi @ 194 °F
- PVDF: 14 bar @ 20 °C, 1.4 bar @ 100 °C
- 200 psi @ 68 °F, 20 psi @ 212 °F
Operating Temperature:
- PP: -18 °C to 90 °C (0°F to 194 °F)
- PVDF: -18 °C to 100 °C (0°F to 212 °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 (25 psi @ 72 °F)

See Temperature & Pressure Graphs for more information.

Shipping Weight
- P51530-X0 0.454 kg 1.00 lb
- P51530-X1 0.476 kg 1.04 lb
- P51530-X2 0.680 kg 1.50 lb
- P51530-X3 0.794 kg 1.75 lb
- P51530-X4 0.850 kg 1.87 lb
- P51530-X5 1 kg 2.20 lb
- 3-8510-X0 0.23 kg .50 lb
- 3-8510-X1 0.23 kg .50 lb

Standards and Approvals
- FM Class I, II, III/Div. 1/groups A-G
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

Application Tips:
- 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.

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

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Ordering Information

Model 515 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 60 m/200 ft (standard cable length is 7.6 m/25 ft) by connecting the sensor through a standard 3-8050-1 universal junction box. Use Signet fittings for proper seating of the sensor into the process flow.

Sensor Part Number

<table>
<thead>
<tr>
<th>P51530</th>
<th>Flow Sensor for use with remote mount instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Body/Rotor/Pin Material: Choose One*</td>
</tr>
<tr>
<td></td>
<td>- H Polypropylene/Black PVDF/Hastelloy-C</td>
</tr>
<tr>
<td></td>
<td>- P Polypropylene/Black PVDF/Titanium</td>
</tr>
<tr>
<td></td>
<td>- S Polypropylene/Black PVDF/Natural PVDF</td>
</tr>
<tr>
<td></td>
<td>- T Natural PVDF/Natural PVDF/Natural PVDF</td>
</tr>
<tr>
<td></td>
<td>- V Natural PVDF/Natural PVDF/Hastelloy-C</td>
</tr>
</tbody>
</table>

Pipe Size - Choose One

0 ½ to 4 in.
1 5 to 8 in.
2 10 to 36 in.

P51530 - P 0 Example Part Number

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P51530-H0</td>
<td>198 801 659</td>
<td>P51530-T0</td>
<td>198 801 663</td>
</tr>
<tr>
<td>P51530-P0</td>
<td>198 801 620</td>
<td>P51530-T1</td>
<td>198 801 664</td>
</tr>
<tr>
<td>P51530-P1</td>
<td>198 801 621</td>
<td>P51530-V0</td>
<td>198 801 623</td>
</tr>
<tr>
<td>P51530-P2</td>
<td>198 801 622</td>
<td>P51530-V1</td>
<td>198 801 624</td>
</tr>
<tr>
<td>P51530-S0</td>
<td>198 801 661</td>
<td>P51530-V2</td>
<td>198 801 625</td>
</tr>
</tbody>
</table>

Model 515 Integral Mount Paddlewheel

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

Sensor Part Number

<table>
<thead>
<tr>
<th>3-8510</th>
<th>Flow Sensor for integral mounting on the 8150 or 8550 instrument using the 3-8051 adapter (instrument and adapter sold separately)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Body/Rotor/Pin Material: Choose One*</td>
</tr>
<tr>
<td></td>
<td>- P Polypropylene/Black PVDF/Titanium</td>
</tr>
<tr>
<td></td>
<td>- T Natural PVDF/Natural PVDF/Natural PVDF**</td>
</tr>
<tr>
<td></td>
<td>- V Natural PVDF/Natural PVDF/Hastelloy-C**</td>
</tr>
</tbody>
</table>

Pipe Size - Choose One

0 ½ to 4 in.
1 5 to 8 in.

3-8510 - P 0 Example Part Number

<table>
<thead>
<tr>
<th>Mfr. Part No.*</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8510-P0</td>
<td>198 864 504</td>
</tr>
<tr>
<td>3-8510-P1</td>
<td>198 864 505</td>
</tr>
</tbody>
</table>

Guideline: Combining a 515 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:

a) Order the integral adapter kit 3-8051 (sold separately) to connect the sensor to an instrument.
b) Order a field mount transmitter (sold separately). The following part numbers are compatible: 3-8550-1, 3-8550-2, 3-8550-3, 3-8150-1.
c) Assembling the sensor with the integral adapter and instrument is quick and simple.

Option 2
These parts can also be ordered as an assembled part. See page 74 “Integral Mount” for more information.
Signet 515 Wet-Tap Sensor with the 3519 Wet-Tap Valve

Ordering Information (continued)
Model 515 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 60 m (200 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).

### Ordering Notes

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

### Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.*</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1538-2</td>
<td>198 801 181</td>
<td>Rotor, PVDF Black</td>
</tr>
<tr>
<td>M1547-3</td>
<td>159 000 474</td>
<td>Rotor, PVDF Natural</td>
</tr>
<tr>
<td>M1538-4</td>
<td>198 820 018</td>
<td>Rotor, Tefzel®</td>
</tr>
<tr>
<td>M1550-3</td>
<td>198 820 043</td>
<td>Rotor and pin (matched set), PVDF Natural</td>
</tr>
<tr>
<td>3-0515.322-1</td>
<td>198 820 059</td>
<td>Sleeved rotor, PVDF Black</td>
</tr>
<tr>
<td>3-0515.322-2</td>
<td>198 820 060</td>
<td>Sleeved rotor, PVDF Natural</td>
</tr>
<tr>
<td>3-0515.322-3</td>
<td>198 820 017</td>
<td>Sleeved rotor, Tefzel®</td>
</tr>
<tr>
<td>M1546-1</td>
<td>198 801 182</td>
<td>Pin, Titanium</td>
</tr>
<tr>
<td>M1546-2</td>
<td>198 801 183</td>
<td>Pin, Hastelloy-C</td>
</tr>
<tr>
<td>M1546-3</td>
<td>198 820 014</td>
<td>Pin, Tantalum</td>
</tr>
<tr>
<td>M1546-4</td>
<td>198 820 015</td>
<td>Pin, stainless steel</td>
</tr>
<tr>
<td>P51550-3</td>
<td>198 820 043</td>
<td>Rotor and pin, PVDF Natural</td>
</tr>
<tr>
<td>P51545</td>
<td>198 820 016</td>
<td>Pin, Ceramic</td>
</tr>
<tr>
<td>O-Rings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1220-0021</td>
<td>198 801 186</td>
<td>O-ring, FPM (2 required per sensor)</td>
</tr>
<tr>
<td>1224-0021</td>
<td>198 820 006</td>
<td>O-ring, EPR (EPDM) (2 required per sensor)</td>
</tr>
<tr>
<td>1228-0021</td>
<td>198 820 007</td>
<td>O-ring, FFPM (2 required per sensor)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P31536</td>
<td>198 840 201</td>
<td>Sensor plug, Polypropylene</td>
</tr>
<tr>
<td>P31542</td>
<td>198 801 630</td>
<td>Sensor cap, Red</td>
</tr>
<tr>
<td>P31934</td>
<td>159 000 466</td>
<td>Conduit cap</td>
</tr>
<tr>
<td>P51589</td>
<td>159 000 476</td>
<td>Conduit adapter kit</td>
</tr>
<tr>
<td>5523-0222</td>
<td>159 000 392</td>
<td>Cable (per foot), 2 cond. w/shield, 22 AWG</td>
</tr>
<tr>
<td>3-8051</td>
<td>159 000 187</td>
<td>Transmitter integral adapter [for use with 8510 and 8512] [see system overview for graphics]</td>
</tr>
<tr>
<td>6400-9001</td>
<td>159 001 666</td>
<td>Intrinsic safety barriers (2 required)</td>
</tr>
<tr>
<td>3-8051-1</td>
<td>159 000 753</td>
<td>Universal junction box</td>
</tr>
</tbody>
</table>
Signet 525 Metalex Paddlewheel Flow Sensor

Features
- For up to 103 bar (1500 psi @ safety factor 1.5) pressure
- For up to 149 °C (300 °F) temperatures
- DN15 to DN300 (½ to 12 in.) pipe range
- Simple installation
- Self-powered/no external power required
- 316 SS body (1.4401)
- Tungsten Carbide or SS shaft
- 7.6 m (25 ft) cable included
- FM approved
- Operating range 0.5 to 6m/s (1.6 to 20 ft/s)

Applications
- Boiler Feedwater Monitoring
- HVAC Systems
- Chemical Transport
- Heat Exchangers
- Reverse Osmosis
- Cooling systems
- Not Suitable for Gases

Description
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 Rulon® B (Fluoroloy B/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 totaliser 8150.

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument (sold separately)</td>
<td>Signet Flow Instrument (sold separately)</td>
</tr>
<tr>
<td>5075 8150</td>
<td>8150 8550</td>
</tr>
<tr>
<td>5500 8550</td>
<td></td>
</tr>
<tr>
<td>5600 8900</td>
<td>Signet Universal Adapter Kit [3-8050] (sold separately)</td>
</tr>
</tbody>
</table>

*See Fittings section for more information.*
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: CB7Cu-1 Alloy
- Rotor Pin: Tungsten Carbide or 316 stainless steel
- Retainers (2): 316 stainless steel (1.4401)
- Rotor Bearings (2): Rulon® B (Fluoroloy/PTFE)
- Gasket: KLINGER®sil C-4401 (supplied with fitting)

Electrical
- Frequency: 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 60 m (200 ft)

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).
- The 525 can be used in intrinsically safe areas using an approved barrier between the sensor and instrument.

*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.

Rotor Kit
- Retainer
- Rotor Pin
- Rotor Retainer
- Bearing

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

Ordering Information

Sensor Part Number
P525 - Metalex Flow sensor for high pressures and temperatures

Sensor Style
- P525-1 used with ½ to 1 inch socket-weld mini-tap fittings**
- P525-2 used with 1¼ to 12 inch weld-on mini-tap fittings**
- P525-3 used with 2 to 12 inch strap-on saddle fittings**

Rotor Pin Material
- S 316 Stainless Steel
- **See Fittings section.

P525-1 198 801 494 P525-1S 159 000 963
P525-2 198 801 495 P525-2S 159 000 964
P525-3 198 801 496 P525-3S 159 000 965

Accessories and Replacements Parts

Mfr. Part No. Code Description
P52509 198 801 501 Rotor Kit (rotors, stainless steel pin, bearings, retainers)
P52509-2 159 000 480 Rotor Kit (rotors, tungsten carbide pin, bearings, retainers)
P52504-1 198 801 500 Rotor Pin, Stainless Steel (1.4401)
P52504-2 198 820 023 Rotor Pin, Tungsten Carbide
P52618 159 000 493 Gasket
P52603 198 820 013 Bearing, Rulon® B (Fluoroloy B/PTFE)
P52527 159 000 481 Retainers, Stainless Steel
P52628 159 000 504 Fitting Cap Kit (Cap and Gasket)
P51589 159 000 476 Conduit Adapter Kit
5523-3222 159 000 393 Cable (per foot) 2 cond. w/shield, 22 AWG
6402-9001 159 001 486 Intrinsically Safe Barrier (2 required)

Electrical (continued)
- 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 (300 psi) @ 66 °C (150 °F)

Operating Temperature:
- -18 °C to 149 °C (0 °F to 300 °F)

See Temperature and Pressure graphs for more information.

Shipping Weight
- P525-1/-1S 0.723 kg 1.6 lb
- P525-2/-2S 0.774 kg 1.7 lb
- P525-3/-3S 0.923 kg 2.0 lb

Standards and Approvals
- FM Class I (Group A, B, C, D), II (Group E, F, G), III, Division 1 (Groups A-G)
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management
Signet 2536 Rotor-X Paddlewheel Flow Sensors

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

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

Description
Simple to install with time-honoured 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 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 3519 product page)

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
<th>Integral Mount</th>
<th>Signet Model 2536 Standard or Wet-Tap Flow Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>5075 8550 5900 8900 5600</td>
<td>8550</td>
<td>8550</td>
<td>Signet Universal Adapter Kit (3-8050) (sold separately)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Signet Integral Adapter Kit (3-8051) (sold separately)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Signet Model 2536 Standard or Wet-Tap Flow Sensor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Signet Model 2536 Integral Flow Sensor</td>
</tr>
</tbody>
</table>

*See Fittings section for more information.
Specifications

General
Operating Range:
- 0.1 to 6 m/s (0.3 to 20 ft/s)
Pipe Size Range:
- DN15 to DN900 (½ to 36 in.)

Pipe Range
- ½ to 4 in. = 104 mm (4.1 in.)
- 5 to 8 in. = 137 mm (5.4 in.)
- 10 in. and up = 213 mm (8.4 in.)

- X0 = 104 mm (4.1 in.)
- X1 = 137 mm (5.4 in.)
- X2 = 213 mm (8.4 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) or PVDF (natural)
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 Tefzel®, with or without Fluoroloy G® sleeve for rotor pin

Electrical
Frequency:
49 Hz per m/s nominal (15 Hz per ft/s nominal)
Supply Voltage: 5 to 24 VDC
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 (1,000 ft) maximum

Max. Temperature/Pressure 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 (25 psi @ 72 °F)

See Temperature and Pressure graphs for more information.

Shipping Weight
- 3-2536-X0: 0.454 kg (1.00 lb)
- 3-2536-X1: 0.476 kg (1.04 lb)
- 3-2536-X2: 0.680 kg (1.50 lb)
- 3-2536-X3: 0.794 kg (1.75 lb)
- 3-2536-X4: 0.850 kg (1.87 lb)
- 3-2536-X5: 1 kg (2.20 lb)
- 3-8512-X0: 0.35 kg (0.77 lb)
- 3-8512-X1: 0.37 kg (0.81 lb)
- 3-8512-X2: 0.680 kg (1.50 lb)
- 3-8512-X3: 0.794 kg (1.75 lb)
- 3-8512-X4: 0.850 kg (1.87 lb)
- 3-8512-X5: 1 kg (2.20 lb)

Standards and Approvals
- CE
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

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 is 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.

Please refer to Wiring, Installation, Accessories and Fittings sections for more 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 7.6 m/25 ft) by connecting the sensor through a standard 3-8050-1 universal junction box. Use Signet fittings for proper seating of the sensor into the process flow.

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 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.

<table>
<thead>
<tr>
<th>Sensor Part Number</th>
<th>3-2536</th>
<th>Flow Sensor for use with remote mount instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body/Rotor/Pin material - Choose One*</td>
<td>P Polypropylene/Black PVDF/Titanium</td>
<td></td>
</tr>
<tr>
<td>T Natural PVDF/Natural PVDF/Natural PVDF**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V Natural PVDF/Natural PVDF/Hastelloy-C**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe size - Choose One</td>
<td>0 0.5 to 4 in.</td>
<td></td>
</tr>
<tr>
<td>1 5 to 8 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 10 to 36 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example Part Number</td>
<td>3-2536-P0 198 840 143</td>
<td></td>
</tr>
<tr>
<td>3-2536-P1 198 840 144</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-2536-P2 198 840 145</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PVDF available ½ in. to 4 in. only

<table>
<thead>
<tr>
<th>Sensor Part Number</th>
<th>3-8512</th>
<th>Flow Sensor for integral mounting on the 8150 or 8550 instrument using the 3-8051 adapter (instrument and adapter sold separately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body/Rotor/Pin material - Choose One*</td>
<td>P Polypropylene/Black PVDF/Titanium</td>
<td></td>
</tr>
<tr>
<td>T Natural PVDF/Natural PVDF/Natural PVDF**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V Natural PVDF/Natural PVDF/Hastelloy-C**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe size - Choose One</td>
<td>0 ½ to 4 in.</td>
<td></td>
</tr>
<tr>
<td>1 5 to 8 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example Part Number</td>
<td>3-8512-P0 198 864 513</td>
<td></td>
</tr>
<tr>
<td>3-8512-P1 198 864 514</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PVDF available ½ in. to 4 in. only

<table>
<thead>
<tr>
<th>Mfr. Part No.*</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2536-P0</td>
<td>198 840 143</td>
</tr>
<tr>
<td>3-2536-P1</td>
<td>198 840 144</td>
</tr>
<tr>
<td>3-2536-P2</td>
<td>198 840 145</td>
</tr>
<tr>
<td>3-2536-T0</td>
<td>198 840 149</td>
</tr>
<tr>
<td>3-2536-V0</td>
<td>198 840 146</td>
</tr>
<tr>
<td>3-2536-V1</td>
<td>198 840 147</td>
</tr>
<tr>
<td>3-8512-P0</td>
<td>198 864 513</td>
</tr>
<tr>
<td>3-8512-P1</td>
<td>198 864 514</td>
</tr>
<tr>
<td>3-8512-T0</td>
<td>198 864 518</td>
</tr>
<tr>
<td>3-8512-V0</td>
<td>198 864 516</td>
</tr>
</tbody>
</table>

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:

a) Order the integral adapter kit 3-8051 (sold separately) to connect the sensor to an instrument.

b) Order a field mount transmitter (sold separately). The following part numbers are compatible: 3-8550-1, 3-8550-2, 3-8550-3.

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

**Option 2**

These parts can also be ordered as an assembled part. See page 74 “Integral Mount” for more information.
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 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).

### Sensor Part Number - Choose One

<table>
<thead>
<tr>
<th>Mfr. Part No.*</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Flow Sensor for wet-tap mounting with the 3519 Wet-Tap Valve (sold separately)</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
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</tr>
<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td></td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Mfr. Part No.*</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Rotor, PVDF Black</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Rotor, PVDF Natural</td>
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<tr>
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<td>159 000 760</td>
<td>Rotor, Tefzel®</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Rotor and pin (matched set), PVDF Natural</td>
</tr>
<tr>
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<td>159 000 759</td>
<td>Rotor, PVDF Natural</td>
</tr>
<tr>
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<td>159 000 760</td>
<td>Rotor, Tefzel®</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Sleeved rotor, PVDF Black</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Sleeved rotor, PVDF Natural</td>
</tr>
<tr>
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<td>159 000 760</td>
<td>Sleeved rotor, Tefzel®</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Rotor and pin (matched set), PVDF Natural</td>
</tr>
<tr>
<td>3-2536-P4</td>
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<td>Rotor, PVDF Natural</td>
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<tr>
<td>3-2536-P5</td>
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<td>Rotor, Tefzel®</td>
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<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Rotor and pin (matched set), PVDF Natural</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Rotor, PVDF Natural</td>
</tr>
<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td>Rotor, Tefzel®</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Sleeved rotor, PVDF Black</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Sleeved rotor, PVDF Natural</td>
</tr>
<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td>Sleeved rotor, Tefzel®</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Pin, Titanium</td>
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<tr>
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<td>159 000 759</td>
<td>Pin, Hastelloy-C</td>
</tr>
<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td>Pin, Tantalum</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Pin, Stainless Steel</td>
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</tr>
<tr>
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<td>159 000 760</td>
<td>Pin, Ceramic</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>0-ring, FPM [2 required per sensor]</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>0-ring, EPR [EPDM] [2 required per sensor]</td>
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<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td>0-ring, FPFM [2 required per sensor]</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Sensor plug, Polypropylene</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Sensor cap, Blue</td>
</tr>
<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td>Conduit cap</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Conduit adapter kit</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Cable [per foot], 2 cond. w/shield, 22 AWG</td>
</tr>
<tr>
<td>3-2536-P5</td>
<td>159 000 760</td>
<td>Universal mount kit</td>
</tr>
<tr>
<td>3-2536-P3</td>
<td>159 000 758</td>
<td>Transmitter integral adapter [for use with 8510 and 8512]</td>
</tr>
<tr>
<td>3-2536-P4</td>
<td>159 000 759</td>
<td>Universal junction box</td>
</tr>
</tbody>
</table>
Signet 2537 Paddlewheel Flow Sensor

Description
The Signet 2537 Flow Sensor is the next generation in fluid measurement technology from the inventor of the original paddlewheel flowmeter. This sensor is an improvement on what’s already an industry standard. It has the added functionality of various output options including flow switch, multi-functional pulse, digital (S3L) or 4 to 20 mA. Additionally, it offers low flow, low power and high resolution and can be configured on-site directly through the built-in user interface. Installation is simple because the

Signet 2537 utilises the same fittings as the popular Signet 515 and 2536 Paddlewheel Sensors and fits into pipe sizes ranging from DN15 to DN200 (½ to 8 inches). Available in Polypropylene and PVDF, it is ideal for a variety of applications including chemical processing, water and wastewater monitoring and scrubber control.

Features
- Digital (S3L), or 4 to 20 mA outputs, or Flow Switch, or Pulse output (multi-function)
- Allows for up to six sensors to Signet 8900 Controller
- Low flow capabilities down to 0.1 m/s (0.3 ft/s)
- Polypropylene or PVDF sensor bodies
- Installs into pipe sizes DN15 to DN200 (½ to 8 in.)
- Test certificate included for -X0, -X1
- Low power and high resolution

Applications
- Process Flow Monitoring
- Pump Protection
- Pure Water Production
- Filtration Systems
- Chemical Production
- Reverse Osmosis
- Demineralisation/Regeneration
- Fume Scrubbers
- Cooling Towers
- Proportional Metering Pump

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>In-Line Sensor Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument (sold separately) 8900</td>
<td>4 to 20 mA Input Chart Recorder (sold separately) OR Programmable Logic Controller 4 to 20 mA Dry Contact, Solid State Metering Pump (customer supplied)</td>
</tr>
<tr>
<td>Signet 2537 Paddlewheel Flow Sensor</td>
<td></td>
</tr>
<tr>
<td>Signet Fittings (sold separately)</td>
<td></td>
</tr>
</tbody>
</table>

www.gfsignet.com
### Specifications

#### General
- **Operating Range:**
  - 0.1 m/s to 6 m/s (0.3 ft/s to 20 ft/s)
- **Linearity:**
  - ±1% of max. range @ 25 °C [77 °F]
- **Repeatability:**
  - ±0.5% of max. range @ 25 °C [77 °F]
- **System Response:**
  - 100 ms update rate nominal

#### Wetted Materials
- **Sensor Body:** Glass-filled PP (black) or PVDF (natural)
- **0-rings:** FPM (std) or EPR (EPDM) or FFPM
- **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 Fluoroloy G® sleeve for rotor pin

#### Electrical
- **Pulse Version:**
  - With dry-contact relay:
    - 24 VDC regulated, ±10%, regulated 30 mA max current
  - With solid-state relay:
    - 5 to 24 VDC nominal, ±10%, regulated 30 mA max current
  - **Maximum Pulse Rate:** 300 Hz
  - **Maximum Pulse Width:** 50 ms
  - **Compatible with PLC, PC or similar equipment**
  - **Flow Switch Version:**
    - With dry-contact relay:
      - 24 VDC regulated, ±10%, regulated 30 mA max current
    - With solid-state relay:
      - 5 to 24 VDC nominal, ±10%, regulated 30 mA max current
  - **Compatible with customer supplied metering pump**
  - **Digital (S/L) Version:**
    - 5 VDC nominal, ±10%, regulated 3 mA max current
    - **Type:** Serial ASCII, TTL level 9600 bps
    - **Max. Cable Length:** Refer to Signet 8900 wiring specifications.
    - **Compatible with Model Signet 8900 controller**

#### Electrical (continued)
- **4 to 20 mA Version:**
  - 12 VDC to 32 VDC nominal, ±10%, regulated 21 mA max current
  - **Loop Accuracy:**
    - ±32 µA @ 25 °C @ 24 VDC
  - **Loop Resolution:** 5 µA
  - **Temp. Drift:** ±1 µA per °C max.
  - **Power Supply Rejection:** ±1 µA per V
  - **Max. Cable:** 300 m (1000 ft)
  - **Maximum Loop Resistance:** 600 Ω @ 24 VDC
  - 1 kΩ @ 32 VDC
  - **Load impedance:** 375 Ω
  - **Over-voltage protection:**
    - Up to 40 V, 1 hour
  - **Reverse Polarity and short circuit protected:**
    - 4 to 20 VDC over 1 hour
  - **Compatibility:**
    - With PLC, PC or similar equipment

#### Relay Specifications
- **Mechanical SPDT:**
  - 5 A @ 30 VDC, 5 A @ 250 VAC
- **Solid-State Relay:**
  - 100 mA @ 40 VDC, 70 mA @ 33 VAC
  - **Relay Modes:** Low, High
  - **Time Delay:** 0.0 to 6400.0 seconds

#### Max. Temperature/Pressure Rating
- **Storage Temperature:**
  - -10 °C to 75 °C [14 °F to 167 °F]
- **Operating Temperature:**
  - 0 °C to 65 °C [32 °F to 149 °F]
- **Relative Humidity:**
  - 0 to 90%, non-condensing

#### Flow 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)

#### Environmental
- **Enclosure:** NEMA 4X/IP65

#### Standards & Approvals
- **CE**
- **Enclosure rating:** NEMA 4X/IP65
- **UL, CUL**
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management
Ordering Information

<table>
<thead>
<tr>
<th>Sensor Part Number - Choose One</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2537 Paddlewheel Flow Sensor</td>
</tr>
</tbody>
</table>

**Sensor Output Type**
-1 Pulse Divider via Dry Contact Relay
-2 Pulse Divider via Solid-State Relay
-3 Flow Switch via Dry-Contact Relay
-4 Flow Switch via Solid-State Relay
-5 Digital (S,L) output
-6 4 to 20 mA output

**Material Options**
- Polypropylene body, black PVDF rotor, Titanium pin, FPM O-rings
- Natural PVDF body, rotor and pin, FPM O-rings

**Pipe Size**
- DN15 to DN100 (½ to 4 inch)
- DN125 to DN200 (5 to 8 inch pipes)*

**Example Part Number**
3-2537 -1 C -P 0

*PVDF available ½ in. to 4 in. only

**Application Tips**
- Select PVDF Rotor Pin for use in Deionized Water.
- 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 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.

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>3-2537-1C-P0</td>
<td>159 001 291</td>
<td>3-2537-4C-P1</td>
<td>159 001 306</td>
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<tr>
<td>3-2537-2C-P0</td>
<td>159 001 292</td>
<td>3-2537-5C-P1</td>
<td>159 001 307</td>
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<tr>
<td>3-2537-3C-P0</td>
<td>159 001 293</td>
<td>3-2537-6C-P1</td>
<td>159 001 308</td>
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<td>3-2537-4C-P0</td>
<td>159 001 294</td>
<td>3-2537-1C-T0</td>
<td>159 001 315</td>
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<td>3-2537-2C-T0</td>
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<td>159 001 317</td>
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<tr>
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<td>3-2537-4C-T0</td>
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<td>159 001 304</td>
<td>3-2537-5C-T0</td>
<td>159 001 319</td>
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<td>159 001 305</td>
<td>3-2537-6C-T0</td>
<td>159 001 320</td>
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</table>
## Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Rotors</strong></td>
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<tr>
<td>3-2536.320-1</td>
<td>198 820 052</td>
<td>Rotor, PVDF Black</td>
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<tr>
<td>3-2536.320-2</td>
<td>159 000 272</td>
<td>Rotor, PVDF Natural</td>
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<tr>
<td>3-2536.320-3</td>
<td>159 000 273</td>
<td>Rotor, Tefzel®</td>
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<tr>
<td>3-2536.321</td>
<td>198 820 054</td>
<td>Rotor and pin [matched set], PVDF Natural</td>
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<tr>
<td>3-2536.322-1</td>
<td>198 820 056</td>
<td>Sleeved rotor, PVDF Black</td>
</tr>
<tr>
<td>3-2536.322-2</td>
<td>198 820 057</td>
<td>Sleeved rotor, PVDF Natural</td>
</tr>
<tr>
<td>3-2536.322-3</td>
<td>198 820 058</td>
<td>Sleeved rotor, Tefzel®</td>
</tr>
<tr>
<td><strong>Rotor Pins</strong></td>
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<tr>
<td>M1546-1</td>
<td>198 801 182</td>
<td>Pin, Titanium</td>
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<tr>
<td>M1546-2</td>
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<td>Pin, Hastelloy-C</td>
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<td>M1546-3</td>
<td>198 820 014</td>
<td>Pin, Tantalum</td>
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<td>M1546-4</td>
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<td>198 820 016</td>
<td>Pin, Ceramic</td>
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<tr>
<td>1220-0021</td>
<td>198 801 186</td>
<td>O-ring, FPM (2 required per sensor)</td>
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<tr>
<td>1224-0021</td>
<td>198 820 006</td>
<td>O-ring, EPR (EPDM) (2 required per sensor)</td>
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<tr>
<td>1228-0021</td>
<td>198 820 007</td>
<td>O-ring, FFPM (2 required per sensor)</td>
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<tr>
<td><strong>Miscellaneous</strong></td>
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<tr>
<td>P31536</td>
<td>198 840 201</td>
<td>Sensor plug, Polypropylene</td>
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<tr>
<td>3-8050.396</td>
<td>159 000 617</td>
<td>RC Filter kit [for relay use]</td>
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<tr>
<td>3-9000.392-1</td>
<td>159 000 839</td>
<td>Liquid tight connector kit, NPT (1 piece)</td>
</tr>
<tr>
<td>3-9000.392-2</td>
<td>159 000 841</td>
<td>Liquid tight connector kit, PG13.5 [1 piece]</td>
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<tr>
<td>7300-7524</td>
<td>159 000 687</td>
<td>24 VDC power supply 7.5W, 300 mA</td>
</tr>
<tr>
<td>7300-1524</td>
<td>159 000 688</td>
<td>24 VDC power supply 15W, 600 mA</td>
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<tr>
<td>7300-3024</td>
<td>159 000 689</td>
<td>24 VDC power supply 30W, 1.3 A</td>
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<tr>
<td>7300-5024</td>
<td>159 000 690</td>
<td>24 VDC power supply 50W, 2.1 A</td>
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<tr>
<td>7300-1024</td>
<td>159 000 691</td>
<td>24 VDC power supply 100W, 4.2 A</td>
</tr>
</tbody>
</table>

Please refer to Wiring, Installation, and Accessories sections for more information.
Signet 2540 Stainless Steel High Performance Paddlewheel Flow Sensor

**Description**
The Signet 2540 Paddlewheel Flow Sensor offers the strength and corrosion resistance of stainless steel for liquid applications with low velocity measurements. Unique internal circuitry eliminates the need for magnets in the process fluid, enabling flow measurement of 0.1 to 6 m/s (0.3 to 20 ft/s) while maintaining the advantages of insertion sensor design. Rulon® B (Fluoroloy B®/PTFE) bearings and Tungsten Carbide pin provide exceptional wear resistance. The Signet 2540 offers field replaceable electronics and transient voltage suppression (TVS) to provide greater immunity to large voltage disturbances (i.e. lightning) sometimes encountered in field wiring. Sensors can be installed in DN40 to DN600 (1½ to 24 inch) pipes using the 1½ 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 service without process shutdown in pipes up to DN900 (36 in.). Both styles of sensors must be used in full pipes and can be used in low pressure systems.

**Features**
- Operating range 0.1 to 6 m/s (0.3 to 20 ft/s)
- Field replaceable electronics
- Non-magnetic RF detection
- Standard NPT or ISO process connections
- Hot-tap versions for installation/service without system shutdown
- For pipe sizes up to DN900 (36 in.)
- Adjustable sensor - one size for entire pipe range
- 7.6 m (25 ft) cable

**Applications**
- HVAC
- Turf Irrigation
- Cooling Systems
- Filtration Systems
- Water Distribution
- Leak Detection
- Pump Protection
- Clarified Effluent Totalisation
- Ground Water Remediation
- Gravity Feed Line

**System Overview**

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument (sold separately)</td>
<td>Signet Flow Instrument (sold separately)</td>
</tr>
<tr>
<td>5075</td>
<td>8550</td>
</tr>
<tr>
<td>5500</td>
<td>8900</td>
</tr>
<tr>
<td>5600</td>
<td></td>
</tr>
<tr>
<td>Signet Universal Adapter Kit (3-8050) (sold separately)</td>
<td></td>
</tr>
</tbody>
</table>

- Customer Supplied Fittings

[Image of Signet 2540 Standard or Hot-tap (not shown) Flow Sensor]
Model 2540

Ordering Notes
Installation fittings and Hot-Tap valves are customer supplied.

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 to protect the cable-to-sensor connection when used in outdoor environments.
- Sensor electronics can be easily replaced by 3-2541.260-1 or 3-2541.260-2.

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

3-2540 High Performance Flow Sensor for 1½ to 24 in. pipes

Specifications

General
Operating Range: 0.1 to 6 m/s (0.3 to 20 ft/s)
Pipe size range:
- Standard Version:
  - DN40 to DN600 (1½ to 24 in.)
- Hot-Tap Version:
  - DN40 to DN900 (1½ to 36 in.)

Sensor Fitting Options:
- 1½ in. NPT threads
- ISO 7/1-R 1.5 threads

Wetted Materials:
- Body: 316 stainless steel (1.4401)
- Fitting: 316 stainless steel (1.4401)
- Fitting O-rings: FPM, optional EPDM
- Rotor Pin: Tungsten Carbide GRP 1 (standard) stainless steel (optional)
- Retainers (2): 316 stainless steel (1.4401)
- Rotor Bearings (2): Rulon® B (Fluoroloy B/PTFE)

Electrical
Frequency: 15 Hz per ft/s nominal

Ordering Information

Sensor Part Number
3-2540 Stainless Steel High Performance flow sensor with removable electronics

Mounting Option - Choose One
-1 1½ inch NPT thread
-2 1½ inch ISO thread
-3 1½ inch NPT thread, Hot-Tap design*
-4 1½ inch ISO thread, Hot-Tap design*

Rotor Pin Material
- S Stainless Steel

3-2540-1 Example Part Number

3-2540-1 Example Part Number

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

Accessories and Replacement Parts

Mfr. Part No. Code
3-1500.663 198 840 035
1220-0021 198 801 016
1224-0021 198 820 006
1228-0021 198 820 007
3-2540.320 198 820 040
3-2540.321 159 000 623
3-2540.322 159 000 864
P52504-3 159 000 866
P52504-4 159 000 867
P52505 198 820 013
P52527 159 000 481
3-2541.260-1 159 000 849
3-2541.260-2 159 000 850
5523-0222 159 000 392
P51589 159 000 476
P31934 159 000 466

Mfr. Part No. Code
1220-0021 198 801 186
1224-0021 198 820 006
1228-0021 198 820 007
3-2540.320 198 820 040
3-2540.321 159 000 623
3-2540.322 159 000 864
P52504-3 159 000 866
P52504-4 159 000 867
P52505 198 820 013
P52527 159 000 481
3-2541.260-1 159 000 849
3-2541.260-2 159 000 850
5523-0222 159 000 392
P51589 159 000 476
P31934 159 000 466

Mfr. Part No. Code
198 840 035 3-3540-1S
198 840 036 3-3540-2S
198 840 037 3-3540-3S
198 840 038 3-3540-4S

Mfr. Part No. Code
198 840 008
1220-0021 198 801 186
1224-0021 198 820 006
1228-0021 198 820 007
3-2540.320 198 820 040
3-2540.321 159 000 623
3-2540.322 159 000 864
P52504-3 159 000 866
P52504-4 159 000 867
P52505 198 820 013
P52527 159 000 481
3-2541.260-1 159 000 849
3-2541.260-2 159 000 850
5523-0222 159 000 392
P51589 159 000 476
P31934 159 000 466

Mfr. Part No. Code
198 840 035 3-3540-1S
198 840 036 3-3540-2S
198 840 037 3-3540-3S
198 840 038 3-3540-4S

Power: 5 to 24 VDC ±10%, regulated, 1.5 mA max.
Output Type: Open collector, sinking, max 10.0 mA
Cable Length: 7.6 m (25 ft), can be extended up to 300 m (1,000 ft)
Cable Type: 2-conductor twisted-pair with shield, 22AWG

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

See Temperature and Pressure graphs for more information.

Operating Temperature:
-18 °C to 100 °C (0 °F to 212 °F)

Shipping Weight
3-2540-1/2/-1S/-2S: 1.79 kg 3.9 lb
3-2540-3/4/-3S/-4S: 2.15 kg 4.7 lb

Standards and Approvals
- CE
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

www.gfsignet.com
Signet 3519 Flow Wet-Tap Valve

Description
The Signet 3519 Flow Wet-Tap Valve serves as a unique interface between the installation fitting and the wet-tap style Signet 515 or 2536 Rotor-X flow sensor. It provides a fast method of removing the sensor from the pipe under specified operating pressures. The PVC and stainless steel design of the Wet-Tap makes it resistant to corrosion and chemical attack by acids, alkalies, salt, and a number of other harsh chemicals.

Features
- Allows sensor removal without process shutdown
- Pressure release valve for safe sensor removal
- Dual safety lanyards
- Rugged corrosion-resistant PVC construction and stainless steel hardware
- Compatible with Signet 515 or 2536 Rotor-X Wet-Tap Flow Sensors
- Eliminates process downtime

Applications
- Filtration Systems
- Chemical Production
- Pump Protection
- Scrubbers
- Water Distribution
- Effluent Totalisation
- Process Cooling Loops

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument (sold separately)</td>
<td>Signet Flow Instrument (sold separately)</td>
</tr>
<tr>
<td>Signet Universal Adapter Kit (3-8050) (sold separately)</td>
<td></td>
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<tr>
<td>Signet Wet-Tap Mount Flow Sensor (sold separately) 515 2536</td>
<td></td>
</tr>
<tr>
<td>Signet 3519 Flow Wet-Tap Valve</td>
<td></td>
</tr>
<tr>
<td>Signet Fittings* (sold separately)</td>
<td></td>
</tr>
</tbody>
</table>

*See Fittings section for more information.
Specifications

General
Body: PVC
Ball Seat: PTFE
Seals: FPM (std) or EPR (EPDM) also available, contact factory
Hardware: 302/304SS (brackets), 18/8SS (nuts & bolts)

Max. Pressure/Temperature Rating
- 7 bar max. @ 20 °C (100 psi max. @ 68 °F)
- 1.4 bar max. @ 66 °C (20 psi max. @ 150 °F)

Wet-Tap Maximum Installation/Removal Rating:
1.7 bar @ 22 °C (25 psi @ 72 °F)

Application Tips
- Once installed, sensor insertion and removal can be performed without process shutdown; see installation/removal pressure specifications page.
- Use the Conduit Adapter Kit when used in outdoor environments. See Accessories section.
- For liquids containing ferrous particles, use Signet Magmeters.
- Use sensors with sleeved rotors in abrasive liquids to reduce wear.
- For systems with components of more than one material, maximum temperature and pressure specifications must always be referenced to the component with the lowest rating.

Ordering Information

Part Number | Description |
---|---|
3-3519 | Wet-Tap Valve for 515 and 2536 Wet-Tap flow sensors |
N/C | Valve only |
515-P3* | Valve with Model 515 sensor for ½ to 4 inch pipes |
515-P4* | Valve with Model 515 sensor for 5 to 8 inch pipes |
515-P5* | Valve with Model 515 sensor for 10 to 36 inch pipes |
2536-P3** | Valve with Model 2536 sensor for ½ to 4 inch pipes |
2536-P4** | Valve with Model 2536 sensor for 5 to 8 inch pipes |
2536-P5** | Valve with Model 2536 sensor for 10 to 36 inch pipes |

Example Part Number - Valve Only
3-3519
3-3519 /515-P3 Example Part Number - Valve with Sensor

Components | Mfr. Part No./Code |
---|---|
3-3519 | 159 000 757 |
3519/515-P3 | 159 000 819 |
3519/515-P4 | 159 000 820 |
3519/515-P5 | 159 000 821 |

Model 3519 Ordering Notes
1) N/C = no code needed.
2) *See model 515 data sheet for sensor specifications.
3) **See model 2536 data sheet for sensor specifications.
4) Models 515 and 2536 Wet-Tap sensors can be ordered separately.

*www.gfsignet.com*
Signet 2551 Magmeter Flow Sensor

Available in a variety of wetted materials and ideal for pipe sizes up to DN900 [36 in.]

Features
- Test certificate included for -X0, -X1
- Patented Magmeter technology
- No moving parts
- Bi-directional flow
- Empty pipe detection
- Installs into pipe sizes DN15 to DN900 (0.5 to 36 in.)
- Operating range 0.05 to 10 m/s (0.15 to 33 ft/s)
- Accurate measurement even in dirty liquids
- Blind 4 to 20 mA, digital/frequency, relay output
- No pressure drop
- Corrosion resistant materials; PP or PVDF with SS, Hastelloy-C, or Titanium
- Multi-language display menu available

Description
The Signet 2551 Magmeter is an insertion style magnetic flow sensor that features no moving parts. The patented* sensor design is available in corrosion-resistant materials to provide long-term reliability with minimal maintenance costs. Material options include PP with stainless steel, PVDF with stainless steel, PVDF with Hastelloy-C, or PVDF with Titanium. Utilizing the comprehensive line of Signet installation fittings, sensor alignment and insertion depth is automatic. These versatile, simple-to-install sensors deliver accurate flow measurement over a wide dynamic range in pipe sizes ranging from DN15 to DN900 (½ to 36 inches), satisfying the requirements of many diverse applications.

Signet 2551 Magmeters offer many output options of frequency/digital [S/L] or 4 to 20 mA which are available on both the blind and display versions.

The frequency or digital [S/L] sensor output can be used with Signet’s extensive line of flow instruments while the 4 to 20 mA output can be used for a direct input to PLCs, chart recorders, etc. Both the 4 to 20 mA output and digital [S/L] sensor interface is available for long distance signal transmission. An additional benefit is the empty pipe detection which features a zero flow output when the sensors are not completely wetted. Also, the frequency output is bi-directional while the 4 to 20 mA output can be set for uni- or bi-directional flow using the display or the 3-0250 USB to Digital [S/L] Configuration/Diagnostic setup tool which connects to PCs for programming capabilities.

In addition the display version of the 2551 Magmeter is available with relays and features permanent and resettable totaliser values which can be stored and seen on the display. Also, the display contains multi-languages with English, Spanish, German, French, Italian and Portuguese menu options.

System Overview

Applications
- Chemical Processing
- Water and Waste Water Monitoring
- Metal Recovery and Landfill Leachate
- Commercial Pools, Spas, and Aquariums
- HVAC
- Irrigation
- Scrubber Control
- Neutralisation Systems
- Industrial Water Distribution

* U.S. Patent No: 7,055,396 B1
Specifications

General
Operating Range:
0.05 to 10 m/s [0.15 to 33 ft/s]
Pipe Size Range: DN15 to DN900 [½ in. to 36 in.]
Linearity: ±1% reading plus 0.01 m/s [0.033 ft/s]
Repeatability: ±0.5% of reading @ 25 °C [77 °F]
Minimum Conductivity: 20 μS/cm

Wetted Materials
Sensor body/Electrodes and Grounding ring:
• -P0, -P1, -P2: PP/316L SS
• -T0, -T1, -T2: PVDF/Titanium
• -V0, -V1, -V2: PVDF/Hastelloy-C
• -W0, -W1, -W2: PVDF/316L SS
O-rings:
• FPM (standard)
• EPR (EPDM), FFPM (optional)
Case: PBT
Display Window: Polyamide
Protection Rating: NEMA 4X/IP65

Power Requirements
• 4 to 20 mA: 24 VDC ±10%, regulated, 22.1 mA max.
• Frequency: 5 to 24 VDC ±10%, regulated, 15 mA max.
• Digital (S3L): 5 to 6.5 VDC, 15 mA max.
• Auxiliary (only required for units with relays): 9 to 24 VDC, 0.4 A max
Reverse polarity and short circuit protected

Current output (4 to 20 mA):
• Loop Accuracy: 32 μA max. error (25 °C @ 24 VDC)
• Isolation: Low voltage < 48 VAC/DC from electrodes and auxiliary power
• Maximum Cable: 300 m [1000 ft]
• Error condition: 22.1 mA
• Max. Loop Resistance: 300 Ω
• Compatible with PLC, PC or similar equipment
• 4 to 20 mA load needed

Frequency Output:
• Output Modes: Freq., or Mirror Relay (display version only)
• Max. Pull-up Voltage: 30 VDC
• Max. Current Sink: 50 mA, current limited
• Maximum Cable: 300 m [1000 ft]
• Compatible with Signet Model 5075, 5500, 5600, 8575, 8900

Digital (S3L) Output:
• Serial ASCII, TTL level 9600 bps
• Compatible with Model Signet 8900 instrument

Display
Characters: 2 x 16
Contrast: User-set in four levels
Backlighting (only on relay versions):
• Requires external 9-24 VDC, 0.4 mA max.

Max. Temperature/Pressure Rating
Storage Temperature:
-20 °C to 70 °C [-4 °F to 158 °F]
Relative Humidity:
0 to 95% (non-condensing)
Operating Temperature:
• Ambient: -10 °C to 70 °C [14 °F to 158 °F]
• Media: 0 °C to 85 °C [32 °F to 185 °F]
Maximum Operating Pressure:
10.3 bar @ 25 °C [150 psi @ 77 °F]
1.4 bar @ 85 °C [20 psi @ 185 °F]

See Temperature and Pressure Graphs for more information

Standards and Approvals
• CE
• UL, CUL (for display versions with relays)
• NEMA 4X / IP65 Enclosure (with cap installed)
• U.S. Patent No. 7,055,396 B1

Dimensions

Blind Version

Display Version

Pipe Range
1/2 to 4 in. -X0 = 58 mm [2.3 in.]
5 to 8 in. -X1 = 91 mm [3.6 in.]
10 to 12 in. -X2 = 147 mm [6.6 in.]
X = Sensor Body P, T, V, or W
### Application Tips

- Note minimum process liquid conductivity requirement is 20 μS/cm
- Install sensor using standard Signet installation fittings for best results
- Sensor is capable of retrofitting into existing 515 and 2536 fittings.

### Ordering Information

<table>
<thead>
<tr>
<th>Sensor Part No.</th>
<th>Sensor Body (Transducer) and Electrodes/Grounding Ring Materials - Choose One</th>
<th>Pipe Size - Choose One</th>
<th>Display Options - Choose One</th>
<th>Output Options - Choose One</th>
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</thead>
<tbody>
<tr>
<td>3-2551</td>
<td>-P Polypropylene and 316L SS</td>
<td>0 DN15 to DN100 (½ to 4 in.)</td>
<td>-1 No Display</td>
<td>1 Frequency, Digital (S-3L), programmable open collector; for use with any Signet Flow Instrument or the 8900 Multi-Parameter Controller</td>
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<td></td>
<td>-T PVDF and Titanium</td>
<td>1 DN125 to DN200 (5 to 8 in.)</td>
<td>-2 With Display, two SPDT relays, one solid state relay</td>
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<td></td>
<td>-V PVDF and Hastelloy-C</td>
<td>2 DN250 to DN900 (10 to 36 in.)</td>
<td>-4 With Display</td>
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<td>-W PVDF and 316L SS</td>
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<td>2 4 to 20 mA output; for use with PLC, PC or similar equipment</td>
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</table>

**This option is a programmable open collector output that is available with display versions only.**

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</table>
## Accessories and Replacement Parts

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<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
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<td><strong>O-Rings</strong></td>
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<tr>
<td>1220-0021</td>
<td>198 801 186</td>
<td>O-ring, FPM [2 required per sensor]</td>
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<td>1224-0021</td>
<td>198 820 006</td>
<td>O-ring, EPDM [2 required per sensor]</td>
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<td>1228-0021</td>
<td>198 820 007</td>
<td>O-ring, FFPM [2 required per sensor]</td>
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<td><strong>Replacement Transducers</strong></td>
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<tr>
<td>3-2551-P0</td>
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<td>PP/316L SS, DN15 to DN100 ½ to 4 in. pipe</td>
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<tr>
<td>3-2551-P1</td>
<td>159 001 212</td>
<td>PP/316L SS, DN125 to DN200 5 to 8 in. pipe</td>
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<td>PP/316L SS, DN250 to DN900 10 to 36 in. pipe</td>
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<td>PVDF/Titanium, DN15 to DN100 ½ to 4 in. pipe</td>
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<td>Magmeter electronics, 4 to 20 mA output</td>
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<td>Magmeter display electronics, frequency or digital [S’L] output, with relays</td>
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<td>3-2551-22</td>
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<td>Magmeter display electronics, 4 to 20 mA output w/relays</td>
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<td>198 840 201</td>
<td>Sensor plug, Polypropylene</td>
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<td>159 000 687</td>
<td>24 VDC power supply 7.5W, 300 mA</td>
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<td>159 000 688</td>
<td>24 VDC power supply 15W, 600 mA</td>
</tr>
<tr>
<td>7300-3024</td>
<td>159 000 689</td>
<td>24 VDC power supply 30W, 1.3 A</td>
</tr>
<tr>
<td>7300-5024</td>
<td>159 000 690</td>
<td>24 VDC power supply 50W, 2.1 A</td>
</tr>
<tr>
<td>7300-1024</td>
<td>159 000 691</td>
<td>24 VDC power supply 100W, 4.2 A</td>
</tr>
<tr>
<td>3-8551.521</td>
<td>159 001 378</td>
<td>Clear plastic cap for display</td>
</tr>
<tr>
<td>1222-0042</td>
<td>159 001 379</td>
<td>O-ring for clear plastic cap, EPDM</td>
</tr>
<tr>
<td>3-0250</td>
<td>159 001 538</td>
<td>USB to digital [S’L] Configuration/Diagnostic tool</td>
</tr>
</tbody>
</table>

Please refer to Wiring, Installation, and Accessories sections for more information.
Signet 2552 Metal Magmeter Flow Sensor

The Signet 2552 Metal Magmeter from Georg Fischer features all-stainless steel construction. The PVDF nosepiece and FPM O-rings are the only other wetted materials. The 2552 installs quickly into standard 1¼ in. or 1½ in. pipe outlets, and is adjustable to fit pipes from DN50 to DN2550 (2 to 102 inches). Three sensor lengths allow maximum flexibility to accommodate a variety of hardware configurations, including ball valves for hot-tap installations.

When equipped with the frequency output, the 2552 is compatible with any externally powered Signet flow instrument, while the S3L Digital output enables multi-channel compatibility with the Signet 8900 Multi-Parameter Controller. Select the blind 4 to 20 mA current output to interface directly with dataloggers, PLCs or telemetry systems. Key features include Empty Pipe Detection, LED-assisted troubleshooting, and bi-directional span capability (in 4 to 20 mA models).

The Signet 3-0250 USB to Digital (S3L) Configuration/Diagnostic Tool is available to customise every performance feature in the 2552 so it can be adapted to the user’s application requirements.

Features
- Test certificate included for -X0, -X1
- Award winning hot-tap magnetic flow sensor up to DN2550 (102 in.)
- Patented Magmeter technology*
- Operating range 0.05 to 10 m/s (0.15 to 33 ft/s)
- Reliable operation in harsh environments
- Repeatable: ±0.5% of reading @ 25°C
- Three output options: 4 to 20 mA, Frequency, Digital (S3L)
- ISO or NPT Threads

Applications
- Municipal Water Distribution
- Process and Coolant Flow
- Chemical Processing
- Waste Water
- Mining Applications
- Water Process Flow

*U.S. Patent No.: 7,055,396 BI
### Specifications

#### General

**Operating Range:**
- **Minimum:** 0.05 m/s (0.15 ft/s)
- **Maximum:** 10 m/s (33 ft/s) for pipes to DN1200 (48 in.)
- 3 m/s (10 ft/s) for pipes over DN1200 (48 in.)

**Pipe Size Range:**
- DN50 to DN2550 (2 in. to 102 in.)

**Linearity:** ±(1% reading + 0.01 m/s)

**Repeatability:** ±0.5% of reading @ 25°C

**Accuracy:** ±2% of measured value* *(in reference conditions where the fluid is water at ambient temperature, the sensor is inserted at the correct depth and there is a fully developed flow profile which is in compliance with ISO 7145-1982 (BS 1042 section 2.2))

**Minimum Conductivity:** 20 μS/cm

#### Wetted Materials

- 316L stainless steel body and electrodes
- PVDF Insulator
- O-rings: FPM (standard)
- Cable: 4-cond + shield, PVC jacket (Fixed cable models) or Water-resistant rubber cable assembly with Turck® NEMA 6P connector

#### Power Requirements

- **4 to 20 mA:**
  - 24 VDC ±10%, regulated, 22.1 mA maximum
  - Frequency:
    - 5 to 24 VDC ±10%, regulated, 15 mA maximum
  - **Digital (S3L):**
    - 5 to 6.5 VDC 15 mA maximum
    - Reverse polarity and short circuit protected

#### Cable Options

- Fixed 7.6 m (25 ft) cable
- Detachable water tight sensor cable with Turck® connector sold separately, two lengths: 4 m (13 ft) or 6 m (19.5 ft)

#### Electrical (continued)

**Frequency Output:**
- Compatible with Signet 5075, 5500, 5600, 8550 and 8900
- **Max. Pull-up Voltage:** 30 VDC
- **Short Circuit Protected:** ≤ 30 V @ 0 Ω pull-up for one hour
- **Reverse Polarity Protected:** to -40 V for 1 hour
- **Over-voltage Protected:** to +40 V for 1 hour
- **Max. Current Sink:** 50 mA, current limited
- **Maximum cable:** 300 m [1000 ft]

**Digital (S3L) Output:**
- **Compatible with Signet 8900**
- **Serial ASCII, TTL level 9600 bps**
- **Maximum Cable:** Application dependent (See 8900 manual)

### Electrical

- **Current Output (4 to 20 mA)**
  - Programmable and reversible
  - **Loop Accuracy:**
    - 32 μA max. error @ 25°C @ 24 VDC
    - Temp. Drift: ±1 μA per °C max.
    - Power Supply Rejection: ±1 μA per V
  - **Isolation:** Low voltage < 48 VAC/DC from electrodes and auxiliary power
  - **Maximum Cable:** 300 m (1000 ft)
  - **Max. Loop Resistance:** 300 Ω
  - **Error Condition:** 22.1 mA

#### Max. Temperature/Pressure Rating

- **Storage Temperature:**
  - -15 °C to 70 °C [5 °F to 158 °F] in non-icing conditions

- **Operating Temperature**
  - **Ambient:**
    - -15 °C to 70 °C [5 °F to 158 °F] in non-icing conditions
  - **Media:**
    - -15 °C to 85 °C [5 °F to 185 °F]

- **Maximum Operating Pressure**
  - 20.7 bar @ 25 °C (300 psi @ 77 °F)

#### Hot-Tap Installation Requirements

- **Maximum Installation Pressure:** 20.7 bar (300 psi)
- **Maximum Installation Temp (Insertion/Removal):**
  - 40 °C (104 °F)

Do not use hot-tap installation where temperatures will exceed 40 °C or if hazardous liquids are present.

#### Standards and Approvals

- **CE**
- **U.S. Patent No.:** 7,055,396 BI
- **NEMA 4 (IP65) (fixed cable models)**
- **NEMA 6P (IP68) (Submersible cable models only)**
  - Signet recommends maximum 3 m (10 ft) submersion depth for maximum 10 days continuous submersion.
  - Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management
Sensor Selection Guide

The 2552 Magmeter can be installed into a variety of pipe sizes. Follow the steps below to ensure that you choose the right sensor for your application.

**Step 1: Determine how the sensor will be installed**

A. **For standard (non Hot-Tap) installations:**
   - The height of the weldolet (threadolet) and pipe adapter should be determined before the sensor is purchased.
   - For retrofit installations, the stack height, or “A” dimension (see Fig. 1), is the overall height from the top of the pipe to the highest point of the stack.
   - Sensor tip must be positioned at 10% of pipe ID

B. **For Hot-Tap installations:**
   - The stack height of the ball valve, nipple weldolet (threadolet) and pipe adapters should be determined before the sensor is purchased.
   - For new installations, Signet recommends a 1¼ in. or 1½ in. full port ball valve, a short nipple and a weldolet (threadolet). The stack height, or “A” dimension (see Fig. 2), is the overall height from the top of the pipe to the highest point of the stack before the sensor is connected.
   - Sensor tip must be positioned at 10% of pipe ID

**Step 2: Determine how the sensor will be installed**

Once the “A” dimension is determined, go to the sensor selection table and find your “A” dimension on the left column. Next, find the appropriate pipe size at the top of the chart. To determine the correct sensor size locate where the pipe size column meets the max “A” dimension row.

**Legend:**

1. Use 3-2552-1, max. insertion = 185 mm (7.3 in.)
2. Use 3-2552-2, max. insertion = 236 mm (9.3 in.)
3. Use 3-2552-3, max. insertion = 368 mm (14.8 in.)

This chart is based on the thickest commonly available pipe.

**Step 3: Refer to Ordering Information to select corresponding part numbers**
## Model 2552

### Ordering Notes

1. Sensor insertion depth is the distance from the bottom of the sensor housing to the tip of the sensor.
2. Hot-Tap installations require a 1¾ in. or 1½ in. ball valve.
3. See Sensor Selection Guide on previous page to determine the sensor length required.

### Application Tips

- Minimum process liquid conductivity requirement is 20 μS/cm.
- 1½ x 1¼ inch and 2 x 1¼ inch (2552-1 and 2552-2 only) retrofit adapters are available for replacement installations of Signet 2550 and 2540 sensors.

### Ordering Information

#### Model 2552 Metal Magmeter Ordering Matrix

<table>
<thead>
<tr>
<th>Model 2552</th>
<th>Mounting Depth Options - Choose One*</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2552</td>
<td>-1 Sensor insertion depth = 7.3 inches*</td>
</tr>
<tr>
<td></td>
<td>-2 Sensor insertion depth = 9.3 inches*</td>
</tr>
<tr>
<td></td>
<td>-3 Sensor insertion depth = 14.8 inches*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process Connection Options - Choose One</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1½ inch NPT process connection threads**</td>
</tr>
<tr>
<td>2 1½ inch ISO process connection threads**</td>
</tr>
<tr>
<td>3 1½ inch [2552-3 only] NPT process connection threads**</td>
</tr>
<tr>
<td>4 1½ inch [2552-3 only] ISO process connection threads**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cable and Connector Options - Choose One</th>
</tr>
</thead>
<tbody>
<tr>
<td>-A Fixed Cable, 7.6 m (25 ft); no connector</td>
</tr>
<tr>
<td>-B Watertight sensor connector; cable sold separately</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Options - Choose One</th>
</tr>
</thead>
<tbody>
<tr>
<td>-11 Frequency or Digital (S3L); for use with any Signet Flow Instrument or the 8900 Multi-Parameter Controller</td>
</tr>
<tr>
<td>-12 4 to 20 mA output; for use with PLC, PC or similar equipment</td>
</tr>
</tbody>
</table>

#### Example Part Number

3-2552 -1 1 -A -12

* Customer must determine stack height (ball valve, nipple, weldolet, etc.). Refer to Sensor Selection on previous page to determine “A” dimension. Sensor tip must be positioned at 10% of pipe ID.

** 1¼ inch process connection is the standard thread size on the 2552-1 and -2: For the 2552-3 the 1½ inch process connection is standard and the 1¼ inch is available as a special order.

### Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2120-1512</td>
<td>159 001 425</td>
<td>1½ x 1¼ inch NPT adapter for retrofitting 2540 installation to 2552 - 316 SS</td>
</tr>
<tr>
<td>2120-2012</td>
<td>159 001 426</td>
<td>2 x 1¼ inch NPT adapter for retrofitting 2550 installation to 2552 - 316 SS</td>
</tr>
<tr>
<td>2552-392</td>
<td>159 001 530</td>
<td>1¼ inch NPT full port stainless steel ball valve and nipple kit</td>
</tr>
<tr>
<td>2552-393</td>
<td>159 001 531</td>
<td>1½ inch NPT full port brass ball valve &amp; nipple kit</td>
</tr>
<tr>
<td>2552-394</td>
<td>159 001 532</td>
<td>1½ inch NPT conduit adapter, aluminum for -1 and -2 units</td>
</tr>
<tr>
<td>4301-2125</td>
<td>159 001 533</td>
<td>1¼ inch NPT full port ball valve - brass</td>
</tr>
<tr>
<td>4301-3125</td>
<td>159 001 387</td>
<td>1¼ inch NPT full port ball valve - stainless steel</td>
</tr>
<tr>
<td>5541-4184</td>
<td>159 001 388</td>
<td>4-conductor, 22 AWG, water-tight connector, 4 m [13 ft]</td>
</tr>
<tr>
<td>5541-4186</td>
<td>159 001 389</td>
<td>4-conductor, 22 AWG, water-tight connector, 6 m [19.5 ft]</td>
</tr>
<tr>
<td>special order</td>
<td>special order</td>
<td>1¼ in. NPT or ISO process connection threads to replace 1½ in. NPT or ISO threads</td>
</tr>
<tr>
<td>special order</td>
<td>special order</td>
<td>USB to digital (S3L) Configuration/Diagnostic tool</td>
</tr>
</tbody>
</table>

www.gfsignet.com
Signet 2100 Turbine Flow Sensor

Features
• Operating range of 0.38 to 3.8 lpm (0.10 to 10 U.S. gpm)
• Non-magnetic turbine
• Union ends for various connector types
• End connector kits for rigid or flexible tubing or DN15 (½ in.) pipe
• PVDF & ceramic wetted parts provide superior chemical compatibility
• For use with both clear and opaque fluids
• Small and compact design
• 4.6 m (15 ft) cable
• Features removable electronics that installs from either side of the sensor
• Sensor mounts at any angle

Applications
• Chemical Addition
• Textile dyeing
• High-purity Chemical Dispensing
• Water Addition
• Fertigation
• Dosing
• Pump Protection
• Not suitable for gases

Description
Engineered specifically for small pipe diameter applications, the Signet 2100 Turbine Flow Sensor provides accurate readings in two flow ranges: 0.3 to 3.8 lpm and 3 to 38 lpm (0.1 to 1 gpm and 0.8 to 10 gpm).

The injection-moulded PVDF body and ceramic bearings provide excellent chemical compatibility and long service in dosing and batching applications. Union piping and tubing connections along with removable NEMA 4X electronics allow for easy assembly and field replaceability. The 2100 can be used with DN8 (¼ in.), DN10 (⅛ in.), DN15 (½ in.) tubing, or DN15 (½ in.) piping for simple installation. End connections are available in PVDF for hose barbs, fusion socket or IR/butt fusion, and in PVC for socket or NPT thread.

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument</td>
<td>Signet Flow Instrument</td>
</tr>
<tr>
<td>(sold separately)</td>
<td>(sold separately)</td>
</tr>
<tr>
<td>5075 8550</td>
<td>8550</td>
</tr>
<tr>
<td>5500 8900</td>
<td></td>
</tr>
<tr>
<td>5600</td>
<td></td>
</tr>
</tbody>
</table>

End Connector options
- Fusion, threaded or solvent socket connectors for DN15 (½ in.) pipe
- Hose barb connectors for DN8, DN10, or DN15 (⅛ in., ⅜ in. or ½ in.) flexible tubing
Specifications

General
- Operating Range:
  - \( L = 0.38 \) to 3.8 lpm (0.10 to 1 U.S. gpm)
  - \( H = 3 \) to 38 lpm (0.8 to 10 U.S. gpm)
- Linearity: ±3% of reading
- Repeatability: ±0.5% of reading
- Pipe size range: DN15 (½ in.)
- Hose size:
  - DN8 (¼ in.), DN10 (3/8 in.), DN15 (½ in.)

Wetted Materials
- Sensor Body/Rotor: PVDF
- Shaft/Bearings: Ceramic
- O-rings: -1 = FPM, -2 = EPR (EPDM)
- Electronics:
  - PBT (polybutylene terephthalate)
  - EVA (ethylene vinyl acetate)

Electrical
- Power:
  - 5 to 24 VDC ±10%, regulated, 1.5 mA max.
  - Reverse polarity protected
- Output:
  - Open collector, sinking, max 30 mA
- Cable Length: 4.6 m (15 ft) can be extended up to 300 m (1000 ft)
- Cable Type:
  - PVC jacketed, 2 conductor twisted pair with shield [22 AWG]

Max. Temperature/Pressure Rating
- 16 bar @ 20 °C, 9.3 bar @ 70 °C
- (232 psi @ 68 °F, 130 psi @ 158 °F)

Ordering Information

<table>
<thead>
<tr>
<th>Sensor Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2100</td>
<td>Turbine flow sensor, PVDF body and rotor, for use with various end-connectors</td>
</tr>
<tr>
<td>-1</td>
<td>FPM O-ring Material - Choose One</td>
</tr>
<tr>
<td>-2</td>
<td>EPR (EPDM)</td>
</tr>
<tr>
<td>L</td>
<td>Flow Range: ( L ) low, 0.38 to 3.8 lpm (0.10 to 1 gpm)</td>
</tr>
<tr>
<td>H</td>
<td>( H ) high, 3 to 38 lpm (0.8 to 10 gpm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fitting Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2100</td>
<td>End fitting for Model 2100 sensor</td>
</tr>
<tr>
<td>-31</td>
<td>Type of End Fitting</td>
</tr>
<tr>
<td>-32</td>
<td>Hose barb connector kit, PVDF, ⅝ inch (1-hose barb and 1-ring nut)</td>
</tr>
<tr>
<td>-33</td>
<td>Hose barb connector kit, PVDF, ⅜ inch (1-hose barb and 1-ring nut)</td>
</tr>
<tr>
<td>-34</td>
<td>Fusion socket connector, PVDF, DN15 ⅝ inch (1-fusion socket and 1 ring nut)</td>
</tr>
<tr>
<td>-35</td>
<td>Butt Fusion/IR connector kit, PVDF, DN15 ⅝ inch (1-IR socket and 1 ring nut)</td>
</tr>
<tr>
<td>-36</td>
<td>Metric socket connector kit, PVC, ⅝ inch (1-solvent socket and 1 ring nut)</td>
</tr>
<tr>
<td>-37</td>
<td>SCH 80 socket connector kit, PVC, ⅝ inch (1-solvent socket and 1 ring nut)</td>
</tr>
<tr>
<td>-38</td>
<td>NPT thread socket connector kit, PVC, ⅝ inch (1-threaded socket and 1 ring nut)</td>
</tr>
</tbody>
</table>

Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1220-0018</td>
<td>159 000 019</td>
<td>0-rings FPM [2 required per sensor]</td>
</tr>
<tr>
<td>1224-0018</td>
<td>159 000 020</td>
<td>0-rings EPR (EPDM) [2 required per sensor]</td>
</tr>
<tr>
<td>3-2100.390-1L</td>
<td>159 000 015</td>
<td>Turbine Lo Flow with FPM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100.390-1H</td>
<td>159 000 016</td>
<td>Turbine Hi Flow with FPM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100.390-2L</td>
<td>159 000 017</td>
<td>Turbine Lo Flow with EPR (EPDM) 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100.390-2H</td>
<td>159 000 018</td>
<td>Turbine Hi Flow with EPR (EPDM) 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100.390</td>
<td>159 000 014</td>
<td>Electronics Module with 15 ft (4.6 m) cable</td>
</tr>
<tr>
<td>3-8050-1</td>
<td>159 000 753</td>
<td>Universal junction box</td>
</tr>
</tbody>
</table>

Application Tips
- All socket and hose barb connector kits are sold individually. Two kits are required for each sensor.
- Mount at any angle.
- Junction block, 3-8050-1 recommended if standard cable is extended to maximum 300 m (1000 ft)

Ordering Information

<table>
<thead>
<tr>
<th>Sensor Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2100-1L</td>
<td>Turbine Low Flow with FPM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-2L</td>
<td>Turbine High Flow with FPM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-1H</td>
<td>Turbine Low Flow with EPR (EPDM) 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-2H</td>
<td>Turbine High Flow with EPR (EPDM) 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-31</td>
<td>Turbine Low Flow with EPDM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-32</td>
<td>Turbine High Flow with EPDM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-33</td>
<td>Turbine Lo Flow with EPDM 0-rings (replacement body)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fitting Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2100-31</td>
<td>Turbine Low Flow with EPDM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-32</td>
<td>Turbine High Flow with EPDM 0-rings (replacement body)</td>
</tr>
<tr>
<td>3-2100-33</td>
<td>Turbine Lo Flow with EPDM 0-rings (replacement body)</td>
</tr>
</tbody>
</table>

Please refer to Wiring, Installation, and Accessories sections for more information.
Signet 2000 MicroFlow Rotor Sensor

Features
- Operating range
  0.11 to 12.11 lpm
  (0.03 to 3.2 U.S. gpm)
- Simple mounting
- ¼ in. NPT or ISO threads for simple pipe or tubing connection
- Measures opaque and transparent liquids
- Low pressure drop
- Standard cable
  7.6 m (25 ft)

Applications
- Coolant Flow
- Dosing
- Batch Dispensing
- Not recommended for Strong Oxidisers

Description
The Signet 2000 MicroFlow Rotor Sensor is constructed of Polyphenylene Sulfide (PPS) which provides high material strength. The 2000 offers two flow ranges starting at 0.11 or 1.13 lpm (0.03 or 0.3 gpm), for clean process liquids, regardless of fluid colour or opacity.

This sensor can be connected to flexible tubing or rigid pipe, and uses standard hardware for mounting. Only one moving part and a low pressure drop across the sensor reduces operating costs and maintenance requirements.

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument (sold separately)</td>
<td>Signet Flow Instrument (sold separately)</td>
</tr>
<tr>
<td>5075 8550</td>
<td>8900</td>
</tr>
<tr>
<td>5500 5600</td>
<td>8550</td>
</tr>
<tr>
<td>Signet Universal Adapter Kit [3-8050] (sold separately)</td>
<td></td>
</tr>
</tbody>
</table>

Signet 2000 Flow Sensor

Flexible tubing or rigid pipe (customer supplied)
### Specifications

**General**
- **Operating Range:**
  - -11 & -12 version: 0.11 to 2.6 lpm (0.03 to 0.7 U.S. gpm)
  - -21 & -22 version: 1.13 to 12.11 lpm (0.3 to 3.2 U.S. gpm)
- **Linearity:** ±1.2% of full range
- **Repeatability:** ± 0.5% of full range
- **Connections:** ¼ in. NPT (male) or ISO 7/1 - R1/4 (male)

**Wetted Materials**
- Sensor body and cover: 40% glass filled Polyphenylene Sulfide (PPS)
- Rotor: PEEK™, natural, unfilled
- Cover O-ring: FPM

**Electrical**
- **Power:** 5 to 24 VDC ±10%, regulated, 10 mA max.
- **Output Type:** Open-collector, sinking, 10 mA max.
- **Cable Length:** 7.6 m (25 ft), can be extended up to 300 m (1000 ft)
- **Cable Type:** 2-conductor twisted pair w/shield, 22 AWG

### Ordering Information

<table>
<thead>
<tr>
<th>Sensor Part Number</th>
<th>Flow Range</th>
<th>End Fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2000</td>
<td>Low flow, 0.11 to 2.61 lpm (0.03 to 0.7 gpm)</td>
<td>¼ NPT threads</td>
</tr>
<tr>
<td></td>
<td>High flow, 1.13 to 12.11 lpm (0.3 to 3.2 gpm)</td>
<td>ISO 7/1-R1/4 threads</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2000-11</td>
<td>198 822 000</td>
<td>3-2000-21</td>
<td>198 822 002</td>
</tr>
<tr>
<td>3-2000-12</td>
<td>198 822 001</td>
<td>3-2000-22</td>
<td>198 822 003</td>
</tr>
</tbody>
</table>

### Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2000-390</td>
<td>159 000 248</td>
<td>Replacement rotor kit</td>
</tr>
<tr>
<td>1220-0029</td>
<td>198 820 049</td>
<td>Cover O-ring</td>
</tr>
<tr>
<td>2450-0620</td>
<td>198 820 051</td>
<td>Cover screw</td>
</tr>
<tr>
<td>5523-0222</td>
<td>159 000 392</td>
<td>Cable [per foot], 2 cond. w/shield, 22 AWG</td>
</tr>
<tr>
<td>3-8050-1</td>
<td>159 000 753</td>
<td>Universal junction box</td>
</tr>
</tbody>
</table>

### Application Tips
- For use in clean fluids - no suspended solids.
- Use the mounting tabs to secure the sensor to a flat surface, ±30°.
- Verify chemical compatibility before installation.

### Max. Temperature/Pressure Rating
0 °C to 80 °C @ 5.5 bar max. (32 °F to 176 °F @ 80 psi max.)

### Standards and Approvals
- CE
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

### Shipping Weight
0.3 kg 0.7 lb
Signet 2507 Mini Flow Rotor Sensor

Features
- Operating range 400 to 12,000 ml/m (0.1 to 3.2 U.S. gpm)
- Detachable signal connector for easy servicing
- Simple installation with a G 1/4 in. (¼ in. NPT) threaded connection
- Standard 7.6 m (25 ft) cable
- PVDF construction
- Compact assembly

Applications
- Fluid Dispensing
- Laboratory and Clinical Wet Benches
- Chemical Dosing
- Batch Processes

Description
The Signet 2507 Mini Flow Rotor Sensor contains a free-running rotor that is driven by the fluid flow. Within the given measurement range, the rotational speed of the rotor is proportional to the fluid flow rate. Magnets built into the rotor trigger an electronic switch in the top of the sensor creating a square-wave output. Both opaque and transparent fluids can be measured with kinematic viscosities between 0.2 to 20.0 centistokes.

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet Flow Instrument</td>
<td>Signet Flow Instrument</td>
</tr>
<tr>
<td>(sold separately)</td>
<td>(sold separately)</td>
</tr>
<tr>
<td>5075 8550</td>
<td>8550</td>
</tr>
<tr>
<td>5500 8900</td>
<td></td>
</tr>
<tr>
<td>5600</td>
<td></td>
</tr>
</tbody>
</table>

Signet 2507 Mini Flow Sensor

Signet Pipe Fitting Adapters (two included)
Used to convert the sensor’s G 1/4 in. straight threads into 1/4 in. NPT threads
**Specifications**

**General**

**Operating Range:**
- **-2V sensor:** 400 to 2800 mL/m (0.105 to 0.740 U.S. gpm)
- **-3V sensor:** 700 to 4200 mL/m (0.185 to 1.123 U.S. gpm)
- **-4V sensor:** 1300 to 6000 mL/m (0.343 to 1.585 U.S. gpm)
- **-6V sensor:** 3200 to 12000 mL/m (0.845 to 3.170 U.S. gpm)

**Linearity:** ±0.25% of full range

**Repeatability:** ±0.25% of full range

**Viscosity range:** 0.2 to 20.0 centistokes

**Connections:**
- G 1/4 in. ports, ¼ in. NPT pipe adapters (2 included)

**Wetted Materials**

- **Housing:** PVDF
- **Flow insert:** PTFE
- **Quad ring seal:** FPM
- **Rotor:** PVDF
- **Pipe thread adapters:** PVDF

**Electrical**

- **Power:** 5 to 24 VDC ±10%, regulated, 10 mA max
- **Output Type:** Open-collector, sinking, 10 mA max
- **Cable Length:** 7.6 m (25 ft), can be extended up to 300 m (1000 ft)
- **Cable Type:** 2-conductor twisted pair w/shield, 22 AWG

**Max. Temperature/Pressure Rating**

- 5.5 bar @ -18 °C (80 psi @ 0 °F)
- 5.5 bar @ 24 °C (80 psi @ 75 °F)
- 3 bar @ 120 °C (45 psi @ 248 °F)

See Temperature and Pressure graphs for more information

**Shipping Weight** 0.115 kg 0.25 lb

**Standards and Approvals**

- CE
- RoHS compliant
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

---

**Ordering Information**

<table>
<thead>
<tr>
<th>Sensor Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2507.100</td>
<td>Mini-flow low flow sensor with free-running rotor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insert Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2V</td>
<td>- With 2 mm insert; for 0.15 to 0.740 gpm [400 to 2800 mL/m]</td>
</tr>
<tr>
<td>-3V</td>
<td>- With 3 mm insert, for 0.185 to 1.123 gpm [700 to 4200 mL/m]</td>
</tr>
<tr>
<td>-4V</td>
<td>- With 4 mm insert, for 0.343 to 1.585 gpm [1300 to 6000 mL/m]</td>
</tr>
<tr>
<td>-6V</td>
<td>- With 6 mm inlet, no insert, for 0.845 to 3.170 gpm [3200 to 12000 mL/m]</td>
</tr>
</tbody>
</table>

**3-2507.100 -2V Example Part Number**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2507.100-2V</td>
<td>198 801 732</td>
</tr>
<tr>
<td>3-2507.100-3V</td>
<td>198 801 733</td>
</tr>
</tbody>
</table>

**Accessories and Replacement Parts**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2507.080-2</td>
<td>198 801 550</td>
<td>Rotor, 2507</td>
</tr>
<tr>
<td>3-2507.080-3</td>
<td>198 801 547</td>
<td>Quad ring, 2507</td>
</tr>
<tr>
<td>3-2507.080-5</td>
<td>198 801 508</td>
<td>DIN connector, 2507</td>
</tr>
<tr>
<td>3-2507.081-2</td>
<td>198 801 502</td>
<td>2 mm insert</td>
</tr>
<tr>
<td>3-2507.081-3</td>
<td>198 801 503</td>
<td>3 mm insert</td>
</tr>
<tr>
<td>3-2507.081-4</td>
<td>198 801 558</td>
<td>4 mm insert</td>
</tr>
<tr>
<td>5523-0222</td>
<td>159 000 392</td>
<td>Cable (per foot), 2 cond. w/shield, 22 AWG</td>
</tr>
</tbody>
</table>

---

**Application Tips**

- Use the threaded ports on bottom of sensor to secure the sensor to any flat surface.
- The range of any sensor can be changed by replacing the flow insert.
- Suitable only for clean fluids without particles.

---

Please refer to Wiring, Installation, and Accessories sections for more information.
Signet 5075 Totalising Flow Monitor

Description
The Signet 5075 Totalising Flow Monitor features a traditional analogue dial for flow rate at a glance while the backlit LCD provides precision flow rate, total volume and programming information.

Significant features of this 5075 include user selectable analogue dials, permanent and resettable totalisers and pulse outputs at sensor frequency and at totaliser scale. The 5075 is powered by virtually any 12 to 24 VDC or VAC ±10%, regulated power source. Connect to any of Signet’s flow sensors for a classic flow meter system.

System Overview

Features
- Permanent and resettable totalisers
- Tamper proof security code
- Non-volatile memory
- Simple push-button operation
- Pulse outputs at sensor frequency and at total volume
- 1/4 DIN, NEMA 4X/IP65
- Remote totaliser reset

Applications
- Waste Water Flow Accumulation
- Water Treatment Systems
- Filtration Systems
- Feed Pump Pulsing
- Fertigation
- Irrigation
- Commercial Pools & Spas
- Groundwater Remediation
- HVAC
- Process Flow Monitoring
- UPW Distribution
- Demineraliser Regeneration
- Process Cooling Water
- Neutralisation Systems

Panel Mount
Signet 5075 Flow Instrument includes mounting bracket and panel gasket

Signet Flow Sensor (sold separately)

Signet Fittings or end connectors as required (sold separately)

See individual sensor catalog pages for required sensor mounting accessories.
### Dimensions

**Front View**

**Side View**

### Specifications

#### General
- **Operating Range:** 0.5 Hz to 10 kHz
- **Accuracy:** ± 0.5% of reading
- **Display:**
  - Analogue:
    - Six slide-in dial ranges - 0 to 2, 4, 6, 8, 10 & 100 w/multipliers
  - Digital:
    - Backlit LCD, 2x16 alphanumeric character
- **Additional Functions:**
  - Sensor pulse output, volumetric pulse output, Remote totaliser reset

#### Materials
- **Enclosure:** ABS Plastic
- **Keypad:** Silicone Rubber
- **Panel and case gasket:** Neoprene
- **Window:** Hard-coated polycarbonate

#### Electrical
- **Power Requirements:**
  - 12 to 24 VAC or VDC ±10%, regulated recommended, 50 to 60 Hz, 10W max.

#### Environmental
- **Operating Temperature:** -10 °C to 55 °C (14 °F to 131 °F)
- **Relative Humidity:** 0 to 95%, non-condensing
- **Enclosure:** NEMA 4X/IP65 front

#### Shipping Weight
- 0.8 kg 1.8 lb

### Standards and Approvals
- UL, CE, CUL
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

### Ordering Information

**Model 5075**

**Ordering Notes**
1. Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2. Reversible dials are included and are scaled from 0 to 2, 0 to 4, 0 to 6, 0 to 8, 0 to 10, and 0 to 100.
3. Optional splash proof rear cover can be ordered separately.
4. Flow rate unit tags are provided for labelling dials appropriately in units of gpm, lpm, etc.

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5075</td>
<td>198 825 007</td>
<td>5075 Totalising Flow Monitor</td>
</tr>
</tbody>
</table>

### Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5000.395</td>
<td>198 860 227</td>
<td>Splashproof rear cover kit</td>
</tr>
<tr>
<td>3-5000.598</td>
<td>198 860 225</td>
<td>Surface mount bracket (panel mount only)</td>
</tr>
<tr>
<td>3-0000.596</td>
<td>159 000 641</td>
<td>Heavy duty wall mount bracket (panel mount only)</td>
</tr>
<tr>
<td>3-5000.399</td>
<td>198 840 224</td>
<td>5 x 5 inch adapter plate to retrofit older Signet installations</td>
</tr>
<tr>
<td>3-9000.392</td>
<td>159 000 368</td>
<td>Liquid tight connector kit (includes 3 connectors)</td>
</tr>
<tr>
<td>3-9000.392-1</td>
<td>159 000 839</td>
<td>Liquid tight connector kit, NPT (1 connector)</td>
</tr>
<tr>
<td>3-9000.392-2</td>
<td>159 000 841</td>
<td>Liquid tight connector kit, PG 13.5 (1 connector)</td>
</tr>
<tr>
<td>3-5000.390</td>
<td>159 000 323</td>
<td>Installation kit (ProPoint® screws, clamps, mounting brackets)</td>
</tr>
<tr>
<td>3-5000.525-1</td>
<td>198 840 226</td>
<td>Bezel, 5000 series</td>
</tr>
<tr>
<td>3-5500.390</td>
<td>159 000 347</td>
<td>Dial kit</td>
</tr>
<tr>
<td>3-5500.611</td>
<td>159 000 348</td>
<td>Unit tags</td>
</tr>
<tr>
<td>3-5000.397</td>
<td>159 000 326</td>
<td>5000 series window (window, keypad, &amp; screw)</td>
</tr>
<tr>
<td>3-5000.398</td>
<td>159 000 646</td>
<td>Protective overlay kit (10 pcs.)</td>
</tr>
<tr>
<td>3-5000.075</td>
<td>159 000 321</td>
<td>110V/24 VAC transformer</td>
</tr>
<tr>
<td>6400-9001</td>
<td>159 001 466</td>
<td>Intrinsic safety barrier (2 required)</td>
</tr>
</tbody>
</table>

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

www.gfsignet.com
Signet 5090 Sensor-Powered Flow Monitor

Features
- High visibility analogue display
- Sensor-powered flow rate indication up to 60 m (200 ft) from sensor installation
- Wide flow range: 1 to 20 ft/s in pipe sizes DN15 to D900 (½ to 36 in.)
- Single-point calibration from front panel
- Factory Mutual (FM) approved for intrinsic safety in Classes I, II and III, Division I

Description
The Signet 5090 Sensor Powered Flow Monitor is the simplest and most economical instrument in the Signet offering. It features a balanced-spring meter movement that is powered by the AC output of the Signet 515 Paddlewheel Flow Sensor. No additional power source is required. This unique system is suitable for a wide range of flow rates, and is Factory Mutual (FM) approved for intrinsic safety without the need for barriers. Packaged in a ¼ DIN housing with a NEMA 4X/IP65 front panel, the 5090 is the first choice for simple flow monitoring, even in the most demanding industrial environments.

Applications
- Filtration Systems
- Hazardous Locations
- Remote Flow Monitoring
- Process Cooling Water
- Distribution Systems
- HVAC
- Process Flow Monitoring

System Overview
Panel Mount
Signet Flow Instrument (includes mounting bracket and panel gasket)
Signet 515 Flow Sensor only (sold separately)
Signet Fittings (sold separately)
**Dimensions**

- **Front View**
  - 96 mm (3.8 in.)
  - Panel Gasket
  - Optional Splashproof Rear Cover

- **Side View**
  - 96 mm (3.8 in.)
  - Mounting Panel

**Model 5090 Ordering Notes**

1. Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2. Reversible dials are included and are scaled from 0 to 2, 0 to 4, 0 to 6, 0 to 8, 0 to 10, and 0 to 100.
3. An optional splash proof rear cover can be ordered separately if needed for most environments.
4. Flow rate unit tags are provided for labelling dials appropriately in units of gpm, lpm, etc.

**Specifications**

**General**

- **Operating Range:**
  - 0.3 to 6 m/s (1 to 20 ft/s) in pipes DN15 to DN900 (½ to 36 in.)
  - 7 ft/s (min. full scale range)

- Reversible dial face kit includes ranges 0 to 2, 4, 6, 8 and 100.

- **Display:**
  - Taut-band suspension meter movement, 250° deflection (not suitable for prolonged exposure to vibration)
  - Repeatability: ±1% of full scale

**Materials**

- Enclosure: ABS Plastic
- Panel and case gasket: Neoprene
- Window: Hard-coated polycarbonate

**Electrical**

- Power Requirements: None

**Environmental**

- Operating Temperature: -10 °C to 65 °C (14 °F to 149 °F)
- Relative Humidity: 0 to 95%, non-condensing
- Enclosure: NEMA 4X/IP65 front

**Shipping Weight**: 0.45 kg  1 lb

**Standards and Approvals**

- FM, UL, CUL
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

**Ordering Information**

<table>
<thead>
<tr>
<th>Mfr. Part No</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5090</td>
<td>198 825 000</td>
<td>5090 Sensor-Powered Flow Monitor</td>
</tr>
</tbody>
</table>

**Accessories and Replacement Parts**

<table>
<thead>
<tr>
<th>Mfr. Part No</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5000.395</td>
<td>198 840 227</td>
<td>Splashproof rear cover kit</td>
</tr>
<tr>
<td>3-5000.399</td>
<td>198 840 224</td>
<td>5 x 5 inch adapter plate to retrofit older Signet installations</td>
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<tr>
<td>3-5000.598</td>
<td>198 840 225</td>
<td>Surface mount bracket (panel mount only)</td>
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<td>3-0000.596</td>
<td>198 000 641</td>
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<td>3-9000.392</td>
<td>159 000 368</td>
<td>Liquid tight connector kit (includes 3 connectors)</td>
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<tr>
<td>3-9000.392-1</td>
<td>159 000 839</td>
<td>Liquid tight connector kit, NPT (1 connector)</td>
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<td>3-9000.392-2</td>
<td>159 000 841</td>
<td>Liquid tight connector kit, PG 13.5 (1 connector)</td>
</tr>
<tr>
<td>3-5000.390</td>
<td>159 000 323</td>
<td>Installation kit (ProPoint® screws, clamps, and mounting brackets)</td>
</tr>
<tr>
<td>3-5000.396</td>
<td>159 000 325</td>
<td>5090 window kit</td>
</tr>
<tr>
<td>3-5000.525-1</td>
<td>198 840 226</td>
<td>Bezel, 5000 series</td>
</tr>
<tr>
<td>3-5090.390</td>
<td>159 000 334</td>
<td>Dial kit</td>
</tr>
<tr>
<td>3-5090.611</td>
<td>198 840 228</td>
<td>Unit tags</td>
</tr>
<tr>
<td>3-5000.396</td>
<td>159 000 325</td>
<td>5090, 5091 window Kit</td>
</tr>
</tbody>
</table>

Please refer to Wiring, Installation, and Accessories sections for more information.
Signet 5500 Flow Monitor

Member of the ProPoint® Family of Monitors

Featuring Analogue and digital displays and a remote resettable totaliser.

Description

The Signet 5500 Flow Monitor is an instrument that comes fully equipped with all of the basic tools needed for monitoring and controlling a flow system. The analogue dial enables the user to easily read instantaneous flow rate, while the backlit LCD is useful for calibration, setup, and displaying totalised flow volume. The 5500 features a standard ¼ DIN package and removable wiring terminals. Power the instrument with virtually any standard 24-volt power supply (AC or DC).

Connect any one of Signet’s wide array of flow sensors, then consider which output features are best for your application.

Two dry-contact relays can be configured for High or Low alarm operation, or they can be set to pulse operation for chemical dosing applications.

Use the internally powered 4 to 20 mA output, programmable from the front keypad, to send the flow information to any PLC or data logger.

If you use all of these output features, you still have two more output pulse terminals, one at sensor frequency, the other triggered by the totaliser. And just for added convenience, the resettable totaliser can be reset by a remote hard-wired switch, up to 30 m (100 ft), or from the front keypad.

Features

- Permanent and resettable totalisers
- Two programmable relays
- Fully scaleable active (internally powered) 4 to 20 mA output
- Tamper proof security code
- Non-volatile memory
- Intuitive software design
- Programmable pulse outputs

Applications

- Waste Water Flow Accumulation
- Water Treatment Systems
- Filtration Systems
- Feed Pump Pulsing
- Fertigation
- Irrigation
- Commercial Pools & Spas
- Groundwater Remediation
- HVAC
- Process Flow Monitoring
- UPW Distribution
- Demineraliser Regeneration
- Process Cooling Water
- Neutralisation Systems

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Signet 5500 Flow Instrument (includes mounting bracket and panel gasket)</th>
</tr>
</thead>
</table>

- Signet Flow Sensor (sold separately)
  - 57/5
  - 529
  - 2540
  - 2100
  - 2000
  - 2067
  - 2561
  - 2562

- Signet Fittings or end connectors as required (sold separately)
Dimensions

Ordering Information

Model 5500
Ordering Notes

1) Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2) Reversible dials are included and are scaled from 0 to 2, 0 to 4, 0 to 6, 0 to 8, 0 to 10, and 0 to 100.
3) An optional splash proof rear cover can be ordered separately if needed.
4) Flow rate unit tags are provided for labelling dials appropriately in units of gpm, lpm, etc.

Specifications

General
Operating Range: 0.5 Hz to 10kHz
Accuracy: ± 0.5% of reading
Display:
• Analogue: Six slide-in dial ranges - 0 to 2, 4, 6, 8, 10 & 100 w/multipliers
• Digital: Backlight LCD, 2x16 alphanumeric character
• Additional Functions: Sensor pulse output, volumetric auxiliary pulse output, remote totaliser reset

Materials
• Enclosure: ABS Plastic
• Keypad: Silicone Rubber
• Panel and case gasket: Neoprene
• Window: Hard-coated polycarbonate

Electrical
Power Requirements:
12 to 24 VAC or DC ±10%, regulated recommended, 50 to 60 Hz, 10W max.
Current Output:
• 4 to 20 mA, non-isolated, active, internally powered
• Loop Impedance: 350 Ω max. @ 12 V
950 Ω max. @ 24 V
• Accuracy: ± 0.1%
• Update Rate: 100 msec
Alarm Contacts:
• Two SPDT relays: High/Low/Pulse programmable with adj. hysteresis for exiting alarm condition
  5 A @ 30 VDC
  5 A @ 125 VAC
  3 A @ 250 VAC max.

Environmental
Operating Temperature:
-10 °C to 55 °C (14 °F to 131 °F)
Relative Humidity:
0 to 95%, non-condensing
Enclosure: NEMA 4X/IP65 front

Shipping Weight
0.8 kg  1.8 lb

Standards and Approvals
• UL, CE, CUL
• Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

Flow

Ordering Notes

1) Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2) Reversible dials are included and are scaled from 0 to 2, 0 to 4, 0 to 6, 0 to 8, 0 to 10, and 0 to 100.
3) An optional splash proof rear cover can be ordered separately if needed.
4) Flow rate unit tags are provided for labelling dials appropriately in units of gpm, lpm, etc.

Model 5500
Ordering Notes

1) Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2) Reversible dials are included and are scaled from 0 to 2, 0 to 4, 0 to 6, 0 to 8, 0 to 10, and 0 to 100.
3) An optional splash proof rear cover can be ordered separately if needed.
4) Flow rate unit tags are provided for labelling dials appropriately in units of gpm, lpm, etc.

Specifications

General
Operating Range: 0.5 Hz to 10kHz
Accuracy: ± 0.5% of reading
Display:
• Analogue: Six slide-in dial ranges - 0 to 2, 4, 6, 8, 10 & 100 w/multipliers
• Digital: Backlight LCD, 2x16 alphanumeric character
• Additional Functions: Sensor pulse output, volumetric auxiliary pulse output, remote totaliser reset

Materials
• Enclosure: ABS Plastic
• Keypad: Silicone Rubber
• Panel and case gasket: Neoprene
• Window: Hard-coated polycarbonate

Electrical
Power Requirements:
12 to 24 VAC or DC ±10%, regulated recommended, 50 to 60 Hz, 10W max.
Current Output:
• 4 to 20 mA, non-isolated, active, internally powered
• Loop Impedance: 350 Ω max. @ 12 V
950 Ω max. @ 24 V
• Accuracy: ± 0.1%
• Update Rate: 100 msec
Alarm Contacts:
• Two SPDT relays: High/Low/Pulse programmable with adj. hysteresis for exiting alarm condition
  5 A @ 30 VDC
  5 A @ 125 VAC
  3 A @ 250 VAC max.

Environmental
Operating Temperature:
-10 °C to 55 °C (14 °F to 131 °F)
Relative Humidity:
0 to 95%, non-condensing
Enclosure: NEMA 4X/IP65 front

Shipping Weight
0.8 kg  1.8 lb

Standards and Approvals
• UL, CE, CUL
• Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

Accessories and Replacement Parts

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

www.gfsignet.com
Signet 5600 Batch Controller

Member of the ProPoint® Family of Monitors

Analogue dial displays batch process; Digital LCD Displays Totaliser

Description
The Signet 5600 Batch Controller provides control capability and process fine-tuning in a familiar package. The programming interface uses a four-button keypad and an intuitive procedure for adjusting a batching system to the best performance possible.

The standard ¾ DIN package houses an analogue display panel that features a batch status indicator with count-up or count-down dials. The backlit LCD displays flow rate and volume information and batch status, as well as calibration and setup instructions. The front of the unit is NEMA 4X/IP65 and is hard-coated, high-impact and UV resistant polycarbonate.

The 5600 operates on 12 to 24 volts ±10%, regulated, either AC or DC. Removable terminal connections make wiring the 5600 easy. Connect any Signet flow sensor with a frequency output, then add connections to two relays for two-stage shutdown or overrun alarm functions, connect a remote start-stop switch and use the end-of-batch pulse to trigger the next step in the process. A 4 to 20 mA output is also available. Advanced features include a user-set security code, an automatic calibration option, and overrun compensation.

Features
- Permanent and resettable totalisers
- Non-volatile memory
- Easy batch volume entry
- Remote start, stop & resume
- Two-stage shutdown control
- Manual or automatic overrun compensation
- Estimates time to batch completion
- Overrun alarm and missing signal alarm
- Advanced valve control
- End-of-batch trigger
- Count-up or count-down to batch completion

Applications
- Batch Processes
- Filter Backwash Initiation
- Chemical Addition
- Canning & Bottling

System Overview
Dimensions

General
Operating Range:
0.5 Hz to 10 kHz, optically isolated
Accuracy: ± 0.5% of reading
Display:
• Analogue: Reversible dial - 0 to 100% or 100 to 0%
• Digital: Backlit LCD, 2 x 16 alphanumeric character
• Batch Size: 0 to 999,999 engineering units
• Dual Totaliser: 8-digit resettable and non-resettable
• Additional Functions: End of batch pulse, remote start, stop & resume. Batch in progress. Batch completion, valve control or end of batch
• Option: Two-stage shutdown, overrun alarm, end of batch, or missing signal alarm

Materials
• Enclosure: ABS Plastic
• Keypad: Silicone Rubber
• Panel and case gasket: Neoprene
• Window: Hard-coated polycarbonate

Specifications
Electrical
Power Requirements:
12 to 24 VAC or DC ±10%, regulated recommended, 50 to 60 Hz, 10W max.
Current Output
• 4 to 20 mA, non-isolated, active, internally powered
• Loop Impedance:
  - 350 Ω max. @ 12 V
  - 950 Ω max. @ 24 V
• Accuracy: ± 0.1%
Alarm Contacts
• Two SPDT relays:
  - 5 A @ 30 VDC
  - 5 A @ 125 VAC
  - 3 A @ 250 VAC max.
Environmental
Operating Temperature:
-10 °C to 55 °C (14 °F to 131 °F)
Relative Humidity:
0 to 95%, non-condensing
Enclosure: NEMA 4X/IP65
Shipping Weight: 0.8 kg 1.8 lb

Standards and Approvals
• CE, UL, CUL
• Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

Model 5600
Ordering Notes
1) Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2) A reversible dial is included and is scaled from 0 to 100 and 100 to 0.
3) An optional splash proof rear cover can be ordered separately if needed.

Ordering Information

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5600</td>
<td>198 825 006</td>
<td>Batch Controller</td>
</tr>
</tbody>
</table>

Accessories and Replacement Parts

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5000.395</td>
<td>198 840 227</td>
<td>Splashproof rear cover kit</td>
</tr>
<tr>
<td>3-5000.399</td>
<td>198 840 224</td>
<td>5 x 5 inch adapter plate to retrofit older Signet installations</td>
</tr>
<tr>
<td>3-5000.598</td>
<td>198 840 225</td>
<td>Surface mount bracket (panel mount only)</td>
</tr>
<tr>
<td>3-0000.596</td>
<td>159 000 641</td>
<td>Heavy duty wall mount bracket (panel mount only)</td>
</tr>
<tr>
<td>3-9000.392</td>
<td>159 000 368</td>
<td>Liquid tight connector kit for rear cover (includes 3 connectors)</td>
</tr>
<tr>
<td>3-9000.392-1</td>
<td>159 000 839</td>
<td>Liquid tight connector kit, NPT (1 connector)</td>
</tr>
<tr>
<td>3-9000.392-2</td>
<td>159 000 841</td>
<td>Liquid tight connector kit, PG 13.5 (1 connector)</td>
</tr>
<tr>
<td>3-5000.390</td>
<td>159 000 323</td>
<td>Installation kit [ProPoint® screws, clamps and mounting brackets]</td>
</tr>
<tr>
<td>3-5000.397</td>
<td>159 000 326</td>
<td>5000 series window kit (window, keypad and screw)</td>
</tr>
<tr>
<td>3-5000.525-1</td>
<td>198 840 226</td>
<td>Bezels, 5000 series</td>
</tr>
<tr>
<td>3-5600.360</td>
<td>159 000 887</td>
<td>Replacement dial</td>
</tr>
<tr>
<td>3-5500.611</td>
<td>198 840 230</td>
<td>Unit tags</td>
</tr>
<tr>
<td>3-5000.398</td>
<td>159 000 646</td>
<td>Protective overlay kit (10 pcs.)</td>
</tr>
<tr>
<td>3-5000.075</td>
<td>159 000 321</td>
<td>110V/24 VAC transformer</td>
</tr>
<tr>
<td>3-8050.396</td>
<td>159 000 617</td>
<td>RC filter kit (for relay use)</td>
</tr>
</tbody>
</table>

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

Ordering Notes
1) Panel cutout should be 92 x 92 mm (3.62 x 3.62 in.)
2) A reversible dial is included and is scaled from 0 to 100 and 100 to 0.
3) An optional splash proof rear cover can be ordered separately if needed.

www.gfsignet.com
Signet 8150 Battery Powered Flow Totaliser

Features
- Three totalisers: 2 resettable and 1 permanent, user selectable
- Long-lasting lithium batteries
- Mounting versatility
- No-flow indicator
- Large digital display with averaging
- Simple push-button operation
- User selectable access code prevents unwanted changes
- Auto-calibration

Applications
- Wastewater Flow Accumulation
- Water Treatment Systems
- Remote or Mobile Treatment/Distribution Systems
- Irrigation Systems
- Filtration Systems
- Commercial Pools & Spas
- Groundwater Remediation
- RO Concentrate
- Process Flow Monitoring
- UPW Distribution
- Demineraliser Regeneration
- Process Cooling Water

Description
The Signet 8150 Battery Operated Flow Totaliser is compatible with the Signet 515 and 525 flow sensors, and will provide years of dependable operation. The large digital display indicates flow rate and totalised flow volume simultaneously. One of the three totalisers is resettable from the front panel or a remote location, while the second resettable totaliser can only be reset by entering a user-selectable security code. The third is a permanent non-resettable totaliser.

Our intuitive software design and four-button keypad provide for simple operation while setting screen displays and programming the system. Calibration can be easily performed by entering the Auto-Cal feature and entering a value to match an external reference. Screen displays can be modified to suit the user’s needs; along with the flow rate, any of the three totalisers can be selected as the displayed totaliser. Customers can quickly scroll through the totalisers simply by pressing any key on the keypad. A display averaging feature is included for applications where the flow in the pipe fluctuates. For applications where flow stops and starts due to production needs, a no-flow indicator will display the hours of non-flow.

System Overview

<table>
<thead>
<tr>
<th>Panel Mount</th>
<th>Pipe, Tank, Wall Mount</th>
<th>Integral Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signet 8150 Flow Totalizer (includes mounting bracket and panel gasket)</td>
<td>Signet 8150 Flow Totalizer</td>
<td>Signet 8150 Flow Totalizer (includes adapter and sensor)</td>
</tr>
<tr>
<td>Signet Flow Sensor (sold separately) 515 525</td>
<td>Signet Flow Sensor (sold separately) 515 525</td>
<td>Signet Flow Sensor (sold separately) 515 525</td>
</tr>
<tr>
<td>Signet Fittings (sold separately)</td>
<td>Signet Fittings (sold separately)</td>
<td>Signet Fittings (sold separately)</td>
</tr>
</tbody>
</table>
### Specifications

**General**

- **Compatibility:** Signet 515 and 525 flow sensors
- **Input Freq. Range:** 0 to 400Hz
- **Accuracy:** ±0.5% of reading
- **Display:** LCD type
  - 4-digit upper line - flow rate
  - 8-digit lower line - volume totalizer
- **Averaging:** 0 to 120 secs.
- **Contrast:** Automatic
- **Low Battery Indication:** Battery symbol appears on LCD display
- **8-digit resettable totalisers:** Stored until user resets; continues to be stored even after batteries are removed
- **8-digit permanent:** Kept permanently, even when batteries are removed

**Materials**

- **Enclosure:** PBT resin
- **Keypad Material:** Sealed 4-key silicon rubber
- **Panel Case Gasket:** Neoprene rubber
- **Window:** Polyurethane coated rubber
- **Rear Cover:** Splashproof

**Ordering Information**

**Instrument Part Number**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8150-1</td>
<td>159 000 929</td>
<td>Field, Panel, or Integral Sensor mount - Choose One</td>
</tr>
<tr>
<td>3-8150-1P</td>
<td>159 000 930</td>
<td>Field, Panel, or Integral Sensor mount - Choose One</td>
</tr>
<tr>
<td>3-8150-P0</td>
<td>159 000 931</td>
<td>Field, Panel, or Integral Sensor mount - Choose One</td>
</tr>
</tbody>
</table>

**Ordering Notes**

1. For panel version, cutout must be 92 x 92 mm (3.62 x 3.62 in.)
2. To mount the panel version on a wall, use the heavy duty wall mount bracket.
3. Use the Universal mounting kit with the Field mount instrument to mount to a pipe, tank or wall.
4. An optional splash proof rear cover can be ordered separately if needed.

**Environmental**

- **Operating Temperature:**
  - -10 °C to 65 °C (14 °F to 149 °F)
- **Storage Temperature:**
  - -40 °C to 100 °C (-40 °F to 212 °F)
- **Relative Humidity:**
  - 0 to 95% Non-condensing
- **Enclosure:** NEMA 4X/IP65 front

**Shipping Weight**

0.5 kg 1.1 lb

**Standards and Approvals**

- **CE**
- **CUL, UL**
- **RoHS compliant**
- **Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management**

**Battery**

- **Two 3.6V Lithium thionyl chloride, A-size**
- **Battery life:** 4 years nominal @ 50 °C (122 °F)

**Accessories and Replacement Parts**

**Mounting**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8050</td>
<td>159 000 184</td>
<td>Universal mounting kit</td>
</tr>
<tr>
<td>3-0000.596</td>
<td>159 000 641</td>
<td>Heavy duty wall mount bracket (panel mount only)</td>
</tr>
<tr>
<td>3-5000.596</td>
<td>198 840 225</td>
<td>Surface mount bracket (panel mount only)</td>
</tr>
<tr>
<td>3-8050.395</td>
<td>159 000 186</td>
<td>Splashproof rear cover (panel mount only)</td>
</tr>
</tbody>
</table>

**Liquid Tight Connectors**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-9000.392</td>
<td>159 000 368</td>
<td>Liquid tight connector kit (includes 3 connectors)</td>
</tr>
<tr>
<td>3-9000.392-1</td>
<td>159 000 639</td>
<td>Liquid tight connector, NPT (1 connector)</td>
</tr>
<tr>
<td>3-9000.392-2</td>
<td>159 000 841</td>
<td>Liquid tight connector, PG 13.5 (1 connector)</td>
</tr>
</tbody>
</table>

**Other**

- **Lithium battery, 3.6 V, size AA (2 required):** 159 000 935
- **Cable (per foot), 2 cond. w/shield, 22 AWG:** 159 000 392

**Replacement Parts for Integral Mount Units - see Model 515 catalogue pages for information**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8051</td>
<td>159 000 187</td>
<td>Flow integral mounting kit, NPT (replacement)</td>
</tr>
<tr>
<td>3-8510-P0</td>
<td>198 864 504</td>
<td>Sensor for ¼ to 4 in. pipes, Polypropylene body</td>
</tr>
<tr>
<td>3-8510-P1</td>
<td>198 864 505</td>
<td>Sensor for 5 to 8 in. pipes, Polypropylene body</td>
</tr>
<tr>
<td>3-8510-T0</td>
<td>159 000 622</td>
<td>Sensor for ¼ to 4 in. pipes, all natural PVDF</td>
</tr>
<tr>
<td>3-8510-V0</td>
<td>198 864 506</td>
<td>Sensor for ¼ to 4 in. pipes, PVDF body</td>
</tr>
</tbody>
</table>
Signet 8550 Flow Transmitters

Description
Signet 8550 Flow Transmitters are advanced instruments that convert the signal from all Signet flow sensors into a 4 to 20 mA signal for long distance transmission. Configuration flexibility is maximized with single or dual input/output, two optional relays for process control, two packaging options for integral/pipe mount or panel installation, and scalability for virtually any flow range or engineering unit. State-of-the-art electronic design ensures long-term reliability, signal stability, and simple user setup and operation.

Features
- 2 or 4 wire power
- Available with single or dual input/output
- 4 to 20 mA scaleable outputs
- Permanent & resettable totalisers
- Relay options available
- NEMA 4X enclosure with self-healing window
- Output simulation for complete system testing

Applications
- Flow control and monitoring
- Filtration or softener regeneration
- Effluent totalisation
- Pump protection
- Feed pump pulsing
- Ratio control
- Water distribution
- Leak detection

System Overview
### Dimensions

**3-8550-XP**

- **96 mm (3.8 in.)**
- **41 mm (1.6 in.)**
- **56 mm (2.2 in.)**
- **42 mm (1.7 in.)**

*Optional Splashproof Rear Cover*

- **82mm (3.23 in.)**
- **64mm (2.5 in.)**
- **41mm (1.7 in.)**
- **106mm (4.2 in.)**

*Field version with universal mount*

- **92 mm (3.6 in.)**
- **56 mm (2.2 in.)**
- **77mm (3.8 in.)**
- **97mm (3.8 in.)**

### Specifications

#### General
- **Compatibility:** Signet Flow Sensors with frequency outputs
- **Accuracy:** ± 0.5% of reading
- **Display:** Alphanumeric 2 x 16 LCD
- **Update Rate:** 1 second
- **Contrast:** User selectable, 5 levels

#### Materials
- **Enclosure:** PBT
- **Panel Case Gasket:** Neoprene
- **Window:** Polyurethane coated polycarbonate
- **Keypad:** Sealed 4-key silicone rubber

#### Electrical (continued)
- **Power:** 12 to 24 VDC ±10%, regulated
  - (-1) 90 mA max.
  - (-2) 220 mA max.
  - (-3) 100 mA max.
- **Sensor Input Range:** 0.5 to 1500 Hz
- **Sensor Power:**
  - 2-wire: 5 VDC ± 1% @ 1.5 mA
  - 3 or 4 wire: 5 VDC ± 1% @ 20 mA
- **Optically isolated from current loop**
- **Short circuit protected**
- **Current Output**
  - 4 to 20 mA, isolated, passive, fully adjustable and reversible
  - **Max. Loop Impedance:**
    - 50 Ω max. @ 12 V
    - 325 Ω max. @ 18 V
    - 600 Ω max. @ 24 V
  - **Update Rate:** 100 ms
- **Accuracy:** ± 0.03 mA

#### Relay Output
- **Mechanical SPDT contacts:**
  - High, Low, Pulse, Off
- **Maximum Voltage Rating:**
  - 30 VDC @ 5 A, 250 VAC @ 5 A resistive load
- **Hysteresis:** User selectable
- **Maximum 400 pulses/min.**

#### Open-Collector Output:
- **High, Low, Pulse, Off**
- **Optically isolated,** 50 mA max. sink, 30 VDC max. pull-up voltage.
- **Hysteresis:** User selectable for exiting alarm condition
- **Maximum 400 pulses/min.**

#### Environmental
- **Operating Temperature:**
  - -10 °C to 70 °C (14 °F to 158 °F)
- **Storage Temperature:**
  - -15 °C to 80 °C (5 °F to 176 °F)
- **Relative Humidity:**
  - 0 to 95%, non-condensing
- **Enclosure:** NEMA 4X/IP65 (front)

#### Shipping Weight
- 0.325 kg 0.8 lb

### Ordering Information

**Model 8550 Ordering Notes**

1. Use the field mount version to directly mount the instrument to the Model 515 or 2536 integral mount sensor. See sensor data sheet for more information.
2. Field mount and sensor can be ordered in a package. See Integral Mount for more information.
3. Panel Cutout should be 92 mm X 92 mm [3.62 in X 3.62 in.].
4. An optional splash proof rear cover for the panel mount version can be ordered separately if needed.

**Instrument Part Number:**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8550-1P</td>
<td>159 000 048</td>
<td>ProcessPro® Flow Transmitter</td>
</tr>
<tr>
<td>3-8550-2P</td>
<td>159 000 050</td>
<td>Field or Panel Mount - Choose One</td>
</tr>
<tr>
<td>3-8550-2P</td>
<td>159 000 051</td>
<td>- Field mount</td>
</tr>
<tr>
<td>3-8550-2P</td>
<td>159 000 052</td>
<td>P  Panel mount; includes mounting bracket and panel gasket</td>
</tr>
</tbody>
</table>

**Mfr. Part No.**

| 3-8550-1 | 159 000 047 |
| 3-8550-1P | 159 000 048 |
| 3-8550-2 | 159 000 049 |
| 3-8550-2P | 159 000 050 |
| 3-8550-3 | 159 000 051 |
| 3-8550-3P | 159 000 052 |

### Accessories and Replacement Parts

**Mounting Accessories**

- **3-8050**
  - 159 000 184 Universal mounting kit
- **3-8051**
  - 159 000 187 Flow integral mount NPT
- **3-0000.596**
  - 159 000 641 Heavy duty wall mount bracket [panel mount only]
- **3-5000.598**
  - 198 840 225 Surface mount bracket [panel mount only]
- **3-8050.395**
  - 159 000 186 Splashproof rear cover [panel mount only]

**Liquid Tight Connectors and Other**

- **3-9000.392**
  - 159 000 368 Liquid tight connector kit for rear cover (includes 3 connectors)
- **3-9000.392-1**
  - 159 000 839 Liquid tight connector kit, NPT (1 connector)
- **3-9000.392-2**
  - 159 000 841 Liquid tight connector kit, PG 13.5 (1 connector)
- **3-8050.396**
  - 159 000 617 RC filter kit [for relay use]

Please refer to Wiring, Installation, and Accessories sections for more information.
Flow Integral Systems with ProcessPro® Instruments

Description
Signet has combined ProcessPro® instruments with Models 515 and 2536 paddlewheel flow sensors to create integral systems that are easy to order and simple to install. Also available in conductivity, level, temperature, and pressure configurations, each integral system features a local and easy to read LCD display. The push button keypad makes it easy to navigate through the instrument’s menu for performing calibrations and setting outputs and relays. The 24 VDC powered Model 8550 flow instruments offer a scalable 4 to 20 mA output and optional relays for process control.

Battery powered Model 8150 instruments are also available for use in locations where line power is unavailable.

The integral 8550 systems are combined with Signet’s field-proven Models 515 and 2536. These sensors reliably perform in flow ranges from 0.3 to 6 m/s (1 to 20 ft/s) and 0.1 to 6 m/s (0.3 to 20 ft/s) respectively for pipe sizes from ½ to 8 inches. They are available in a variety of materials including polypropylene and PVDF and are easily mounted in the pipe using Signet’s comprehensive line of standard fittings.

Features
- Battery or 24 VDC Powered
- Local display for sensor mounted instruments
- Provides 4 to 20 mA output (8550 model)
- Relay options available
- NEMA 4X/IP65

Applications
- RO/DI System Control
- Cooling Tower Control
- Environmental Monitoring
- Water Quality Monitoring
- Filtration Systems
- Chemical Production
- Liquid Delivery Systems
- Pump Protection
- Scrubber Systems
- Semiconductor Water Production
- Chemical Concentration Monitoring

System Overview

Refer to Models 515, 2536, 8150, or 8550 technical specifications for more details on these products.
Ordering Information

Integral Instruments

Ordering Notes

1) Model 8150 is available with all parts conveniently assembled.

2) Model 8550 systems are broken down in three parts: instrument, sensor, and mounting kit. Order systems by selecting the Mfr. Part Number/Code.

3) See individual instrument and sensor pages for more information.

Specifications

See individual instrument and sensor catalogue pages for more information.

Flow Instrument, Battery Operated

<table>
<thead>
<tr>
<th>Model 8150</th>
<th>Battery Operated Flow Totaliser</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Model 515 integral paddlewheel sensor with pipe size, body material, rotor/pin material listed - Choose one</td>
<td></td>
</tr>
<tr>
<td>- P0 ½ to 4 in. polypropylene/Black PVDF/Titanium</td>
<td></td>
</tr>
<tr>
<td>- P1 5 to 8 in. polypropylene/Black PVDF/Titanium</td>
<td></td>
</tr>
<tr>
<td>- T0 ½ to 4 in. natural PVDF/natural PVDF/natural PVDF</td>
<td></td>
</tr>
<tr>
<td>- V0 ½ to 4 in. natural PVDF/natural PVDF/Hastelloy-C</td>
<td></td>
</tr>
</tbody>
</table>

3-8150-P0 Example Part Number

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8150-P0</td>
<td>159 000 931</td>
<td>3-8150-T0</td>
<td>159 001 011</td>
</tr>
<tr>
<td>3-8150-P1</td>
<td>159 000 932</td>
<td>3-8150-V0</td>
<td>159 001 012</td>
</tr>
</tbody>
</table>

Flow Instrument, Line Powered - Choose One

| 3-8550-1 | Flow instrument, 4 to 20 mA and open collector for high, low, pulse, or frequency output |
| 3-8550-2 | Flow instrument 4 to 20 mA and 2 relays for high, low, pulse, or frequency output |

Paddlewheel Flow Sensors with Pipe Size, Body Material, and Rotor/Pin Material Listed - Choose One from the Models 515 or 2536 Listed

Model 515 Integral Paddlewheel Sensors - Choose One

| 3-8510-P0 | ½ to 4 in., Polypropylene, Black PVDF/Titanium |
| 3-8510-H0 | ½ to 4 in., Polypropylene, Black PVDF/Hastelloy-C |
| 3-8510-S0 | ½ to 4 in., Polypropylene, Black PVDF/Natural PVDF |
| 3-8510-P1 | 5 to 8 in., Polypropylene, Black PVDF/Titanium |
| 3-8510-T0 | ½ to 4 in., Natural PVDF, Natural PVDF/Natural PVDF |
| 3-8510-V0 | ½ to 4 in., Natural PVDF, Natural PVDF/Hastelloy-C |

Model 2536 Integral Paddlewheel Sensors - Choose One

| 3-8512-P0 | ½ to 4 in., Polypropylene, Black PVDF/Titanium |
| 3-8512-H0 | ½ to 4 in., Polypropylene, Black PVDF/Hastelloy-C |
| 3-8512-S0 | ½ to 4 in., Polypropylene, Black PVDF/Natural PVDF |
| 3-8512-P1 | 5 to 8 in., Polypropylene, Black PVDF/Titanium |
| 3-8512-T0 | ½ to 4 in., Natural PVDF, Natural PVDF/Natural PVDF |
| 3-8512-V0 | ½ to 4 in., Natural PVDF, Natural PVDF/Hastelloy-C |

Mounting Kit - Mounts the Instrument to the Sensor

| 3-8051 | Integral mounting kit |

3-8550-1 3-8510-P0 3-8051 Example of Three Part Numbers Required to Assemble Integral Unit if Parts Purchased Separately

<table>
<thead>
<tr>
<th>Code</th>
<th>Components*</th>
<th>Code</th>
<th>Components*</th>
</tr>
</thead>
<tbody>
<tr>
<td>198 864 800</td>
<td>3-8550-1 + 3-8510-P0</td>
<td>198 864 830</td>
<td>3-8550-1 + 3-8512-P0</td>
</tr>
<tr>
<td>198 864 801</td>
<td>3-8550-1 + 3-8510-H0</td>
<td>198 864 831</td>
<td>3-8550-1 + 3-8512-H0</td>
</tr>
<tr>
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*8051 Integral Mount Kit Included

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