Signet 3519 Flow Wet-Tap Valve

3-3519.090 Rev. 8 08/18 English

Operating Instructions

Description

The Signet 3519 Flow Wet-Tap Valve 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.

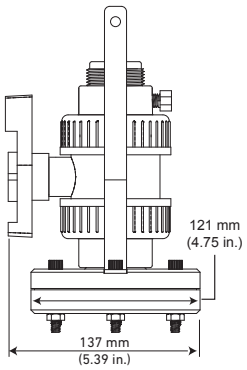
The Signet 3519 Wet-Tap Valve mounts directly onto standard Signet installation fittings. The 3519 Wet-Tap consists of a flange and support plate that threads onto the pipe fitting insert, and a PVC ball valve through which an extended length sensor is inserted into the pipe.

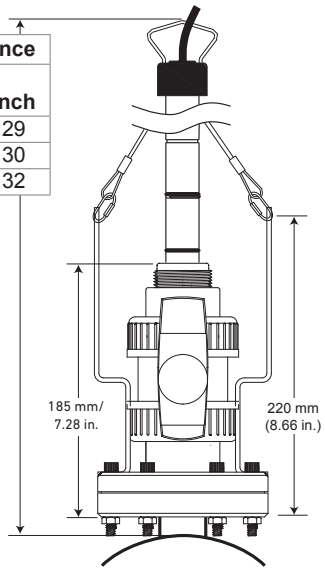
NOTE: The ball valve union ends are glued and not accessible for servicing

Dimensions

Total minimum clearance for sensor insertion and removal:

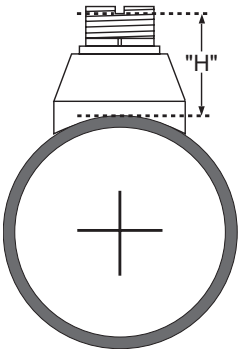
Pipe Size		Clearance	
Inch	Metric DN (mm)	mm	Inch
1/2 to 4	15 to 100	737	29
5 to 8	125 to 200	762	30
10 and up	250 and up	813	32





H-Dimensions

The plastic sensor insert in the Weldolet fitting MUST be removed before the welding process. When reinstalled, it is important that the insert be threaded to the proper height ("H" dimension).



Carbon Steel			Stainless Steel		
Part Number	"H" dimensions		Part Number	"H" dimensions	
	Inches	mm		inches	mm
CS4W020	2.38	60.45	CR4W020	2.38	60.45
CS4W025	2.33	59.18	CR4W025	2.33	59.18
CS4W030	2.32	58.92	CR4W030	2.32	58.92
CS4W040	2.30	58.42	CR4W040	2.30	58.42
CS4W050	3.09	78.48	CR4W050	3.09	78.48
CS4W060	2.96	75.18	CR4W060	2.96	75.18
CS4W080	2.73	69.34	CR4W080	2.73	69.34
CS4W100	5.48	139.19	CR4W100	5.48	139.19
CS4W120	5.25	133.35	CR4W120	5.25	133.35
CS4W140	5.10	129.54			
CS4W160	4.85	123.19			
CS4W180	4.60	116.84			
CS4W200	4.38	111.25			
CS4W240	4.16	105.66			
CS4W360	4.10	104.14			

- English
- Deutsch
- Français
- Español

Warranty Information

Refer to your local Georg Fischer Sales office for the most current warranty statement.

All warranty and non-warranty repairs being returned must include a fully completed Service Form and goods must be returned to your local GF Sales office or distributor. Product returned without a Service Form may not be warranty replaced or repaired.

Signet products with limited shelf-life (e.g. pH, ORP, chlorine electrodes, calibration solutions; e.g. pH buffers, turbidity standards or other solutions) are warranted out of box but not warranted against any damage, due to process or application failures (e.g. high temperature, chemical poisoning, dry-out) or mishandling (e.g. broken glass, damaged membrane, freezing and/or extreme temperatures).

Product Registration

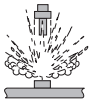
Thank you for purchasing the Signet line of Georg Fischer measurement products.
If you would like to register your product(s), you can now register online in one of the following ways:

- Visit our website **www.gfsignet.com.** Under **Service and Support** click on **Product Registration Form**
- If this is a pdf manual (digital copy), **click here**

Safety Information

1. The 3519 Flow Wet-Tap Valve may only be installed into, and removed from, non-pressurized systems (0 psig).
2. The pressure must be reduced to 172.37 kPa (25 psi) when removing or installing the sensor and must maintain 172.37 kPa (25 psi) or lower while the sensor is removed.
3. Stay clear of sensor stroke area and safety cable during sensor removal.
4. Confirm chemical compatibility before use.
5. Do not exceed maximum temperature/pressure specifications.
6. Wear safety goggles or faceshield during installation/service.
7. Do not alter product construction.

Failure to follow safety precautions may result in severe personal injury!

	Caution / Warning / Danger Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, injury, or death
	Personal Protective Equipment (PPE) Always utilize the most appropriate PPE during installation and service of Signet products.
	**Pressurized System Warning** Sensor may be under pressure, take caution to vent system prior to installation or removal. Failure to do so may result in equipment damage and/or serious injury.
	Hand Tighten Only Overtightening may permanently damage product threads and lead to failure of the retaining nut.
	Do Not Use Tools Use of tool(s) may damage product beyond repair and potentially void product warranty.

Specifications

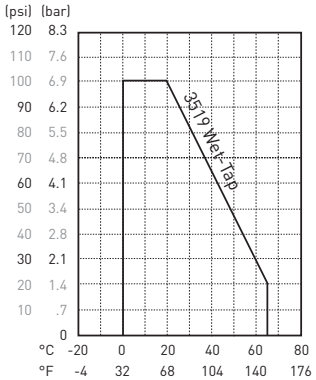
Compatibility
Signet 515 or 2536 Rotor-X Wet-Tap Flow Sensors

Materials
Body..... PVC
Ball seat ..... PTFE
O-rings ..... FKM (std); EPR (EPDM) available, contact factory

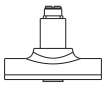
Standards and Approvals
Manufactured under ISO 9001 for Quality, ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety.
CE
RoHS Compliant
China RoHS(Go to www.gfsignet.com for details)

Fluid Conditions
Pressure/Temperature Ratings:

- 7 bar max. @ 20 °C (100 psi max. @ 68 °F)
- 1.4 bar max. @ 66 °C (20 psi max. @ 150 °F)



Signet Fittings

Type	Description
Plastic tees	• 0.5 in. to 4 in. versions • PVC or CPVC
PVC Glue-on Saddles 	• 10 in. and 12 in. only • Cut 2.5 in. hole in pipe • Weld in place using solvent cement
PVC Clamp-on Saddles	• 2 in. to 4 in., cut 1.5 inch hole in pipe • 6 in. to 8 in., cut 2.25 in. hole in pipe
Iron Strap-on saddles	• 2 in. to 4 in., cut 1.5 inch hole in pipe • Over 4 inch, cut 2.25 inch hole in pipe • Special order 14 in. to 36 in.
Carbon Steel & Stainless Steel Threaded Tees	• 0.5 in. to 2 in. versions
Carbon steel & Stainless Steel Weld-on Weldolets	• 2 in. to 4 in., cut 1.5 inch hole in pipe • Over 4 inch, cut 2.25 inch hole in pipe • See installation section for details
Metric PVC-U Saddle	• For pipes DN 65mm to 200 mm • Requires a 38 mm diam. hole in the pipe
Metric Union Fitting	• For pipes from DN 15 mm to 50 mm PP or PVDF

Consult the Signet Measurement and instrumentation Catalog for a complete listing of installation fittings.

Wet-Tap Valve Installation

The Signet 3519 Flow Wet-Tap Assembly attaches directly to Signet installation fittings to enable flow sensor removal without system shutdown. It consists of a flange and support plate which thread onto the pipe fitting insert, and a PVC ball valve through which an extended length flow sensor is inserted into the pipe.

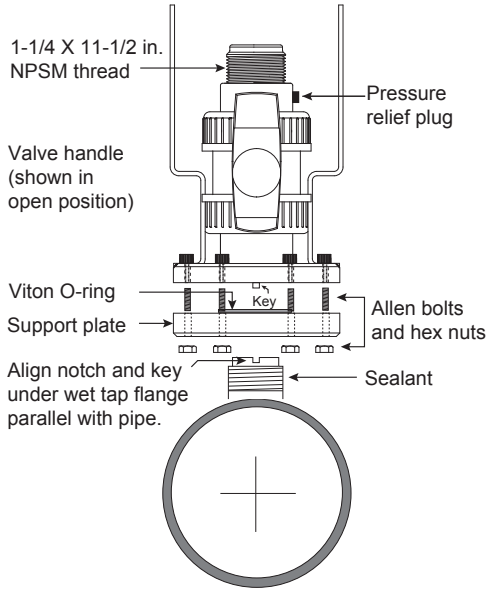
CAUTION: The 3519 Flow Wet-Tap Valve may only be installed into, and removed from, non-pressurized systems -0.22 bar (0 psig).

Procedure

1. Remove six hex nuts and bolts from the Wet-Tap flange. Separate the support plate from the main assembly. Be sure that the Viton O-ring is properly seated in the support plate groove.
2. Apply sealant to the pipe fitting insert threads to prevent leaks.To eliminate any leakage, the valve can be sealed to the fitting using one of these two methods:
   1. Use a silicone RTV such as “GE Sealants and Adhesives Silicone II”.
   2. Use a PVC cement such as Christy’s “Red Hot Blue Glue” (for PVC fittings) or a similar PVC pipe cement.

   NOTE: This will permanently bond the valve to the installation fitting and the fast drying period will not allow for errors in the installation process.

3. Screw support plate onto pipe fitting insert (O-ring side facing up). It must be threaded completely down until the notches at the top of the pipe fitting insert are exposed.
4. Mount the main Wet-Tap Assembly on the support plate. Make certain the alignment keys on the flange mate with the notches on the pipe fitting insert.
5. Loosen support plate (holding the main Wet-Tap Assembly in place) until it resists slightly. Loosen an additional ¼-turn to seat O-ring.
6. Replace the six hex nuts and bolts to secure the Wet-Tap Assembly in place. Adjust the support plate position as necessary to align screws.
7. Check the pressure relief plug on Wet-Tap Assembly. It must be closed finger tight to prevent leaks.
8. Close ball valve by turning the handle to the fully closed position (parallel with pipe).



Flow Sensor Insertion

1. Lubricate O-rings with a non-petroleum based, viscous lubricant (grease) compatible with the system.

2. Carefully insert the sensor into the 3519 valve assembly until the first two O-rings seat inside the bore (Figure 1).
   - **Do not damage the rotor on closed ball valve.**

3. Using the clamps, attach the sensor safety cable to the 3519 assembly brackets (hand tighten only).

4. Pull the flow sensor upward to remove slack in the safety cables (Figure 2).

WARNING: Safety cables are factory installed at precise length. **DO NOT** attempt to service or replace safety cables.
System pressure must be 172.37 kPa (25 psi) or less prior to sensor insertion or removal.

5. Open the ball valve (Figure 2).

6. Using a twisting motion, push the flow sensor into the 3519 assembly.
   - Turn the sensor so the arrows on the black conduit cap point in the direction of flow.
   - When properly aligned, the sensor bale will be parallel with the pipe (Figure 3).

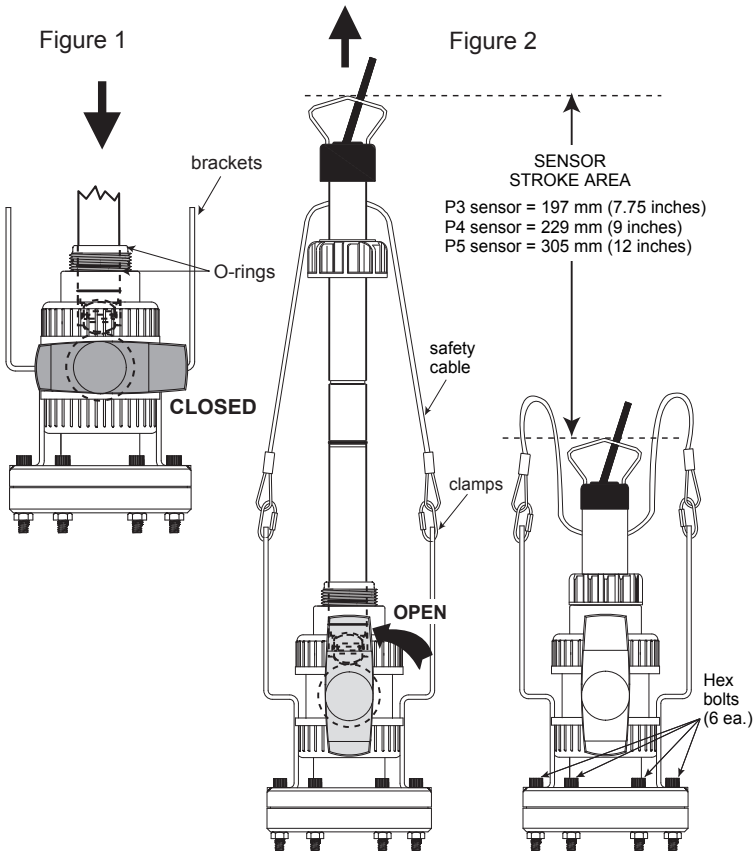
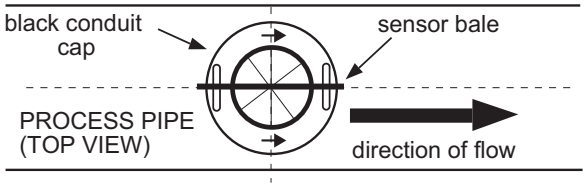


Figure 3

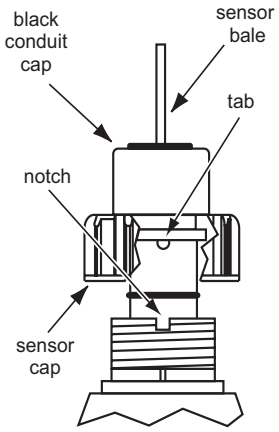


Flow Sensor Insertion continued

7. Align the tabs under the sensor cap with the notches on the fitting insert and tighten the sensor cap (Figure 4).

HAND TIGHTEN ONLY.
DO NOT use any tools that may damage plastic parts.

Figure 4



Flow Sensor Removal

WARNING: System pressure must be 172.37 kPa (25 psi) or less prior to flow sensor insertion or removal. Stay clear of sensor stroke area and safety cable during sensor removal.
Check the six (6) Hex bolts (Figure 2) prior to unscrewing the sensor cap.
If bolts are loose, tighten securely before proceeding.

1. Unscrew the sensor cap. (**DO NOT** use any tools that may damage plastic parts.)
2. Carefully pull the flow sensor upward with a twisting motion until the safety lanyards are fully extended (Figure 2).
3. Close the ball valve (Figure 1).
4. Loosen the relief plug to depressurize the sensor area.
5. Disconnect the sensor safety cable clamps from the 3519 assembly brackets.
6. The sensor can now be safely removed.

Ordering Information

Part Number	Code	Description
3-3519	**159 000 757**	PVC Wet-Tap valve (sensor not included)
P51530-P3	**198 840 310**	Polypro extended length paddlewheel sensor (0.5 in. to 4 in.)
P51530-P4	**198 840 311**	Polypro extended length paddlewheel sensor (5 in. to 8 in.)
P51530-P5	**198 840 312**	Polypro extended length paddlewheel sensor (10 in. to 36 in.)
3-2536-P3	**159 000 758**	Polypro extended length low flow paddlewheel sensor (0.5 in. to 4 in.)
3-2536-P4	**159 000 759**	Polypro extended length low flow paddlewheel sensor (5 in. to 8 in.)
3-2536-P5	**159 000 760**	Polypro extended length low flow paddlewheel sensor (10 in. to 36 in.)

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