

Signet Submersion Kit

Hydrostatic Level

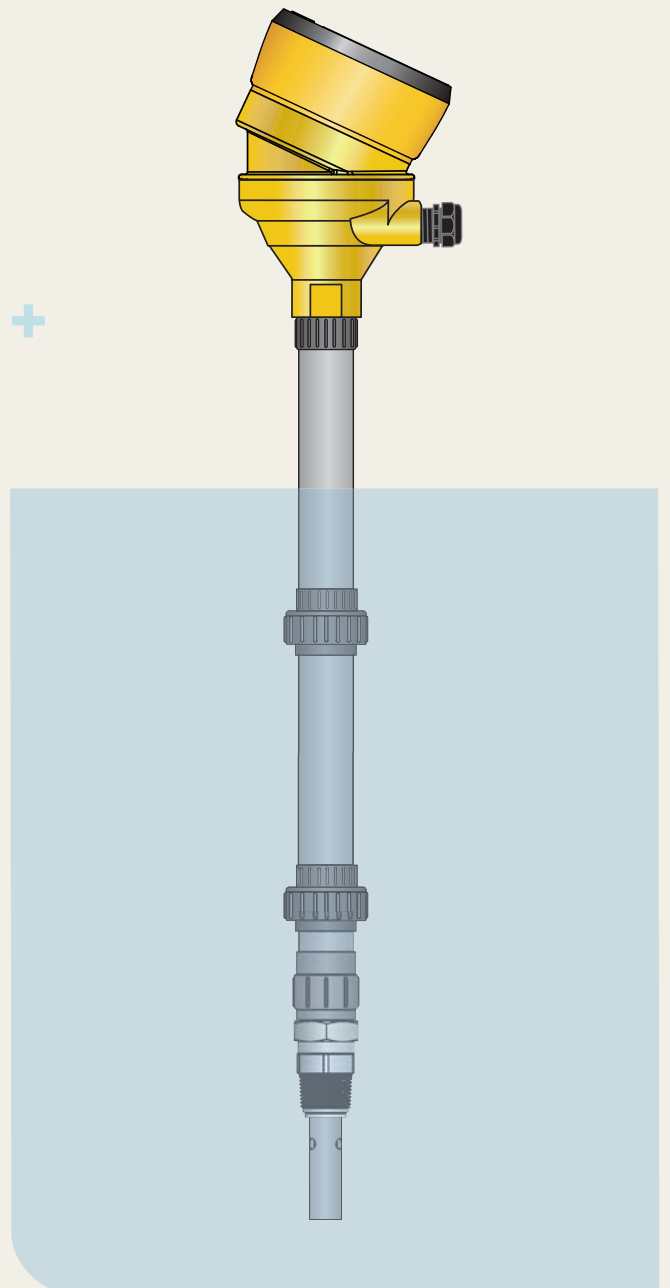
Temperature

pH

ORP

Conductivity

Resistivity



A solution for many applications

How to use this brochure

Use this [step-by-step ordering guide](#) to assemble your Signet Submersion Kit.

The cost effective Submersion Kits are easily built by selecting a Signet instrument/junction box, pipe segments, adapter and sensor. Various pipe sizes and materials (PVC-U, PVC-C, PP and PVDF) are also available to suit your needs.

Customer Benefits

- Professional, liquid tight, cost effective solution
- Easy to build using standard Georg Fischer accessories
- Modular design for easy shipping
- Easy installation
- Easy maintenance
- Chemical resistance

Installation Tips

- Use the universal mount junction box to adapt any mounting bracket.
- Standpipe must be filled with water proof epoxy resin to seal against condensation build-up.



Market Segments

Water Treatment

Chemical Processing

Aquatic Animal Life Support Systems



pH/ORP

- Water/Wastewater Treatment
- Neutralization Systems
- Effluent Monitoring
- Surface Finishing
- Heavy Metal Removal and Recovery
- Sanitization Systems
- Aquatic Animal Life Support Systems

Temperature

- Plating Bath
- Temperature Control
- Heat Exchange Monitoring
- Hot/Cold Mixing System Monitoring
- Data Acquisition
- Chemical Processing

Hydrostatic Level

- Inventory Management
- Storage Tank Monitoring
- Neutralization Tanks
- Plating Lines
- Waste Sumps
- Clarifiers
- Overflow Protection

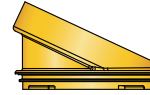
Conductivity/Resistivity

- Water Treatment and Water Quality Monitoring
- Aquatic Animal Life Support Systems
- Deionization
- Plating Bath

1

Choose a transmitter

3-9900-1

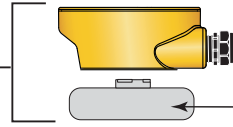


3-9900-396
Angle Adapter kit
required for
Conductivity/Resistivity

2

Choose a wiring
junction box

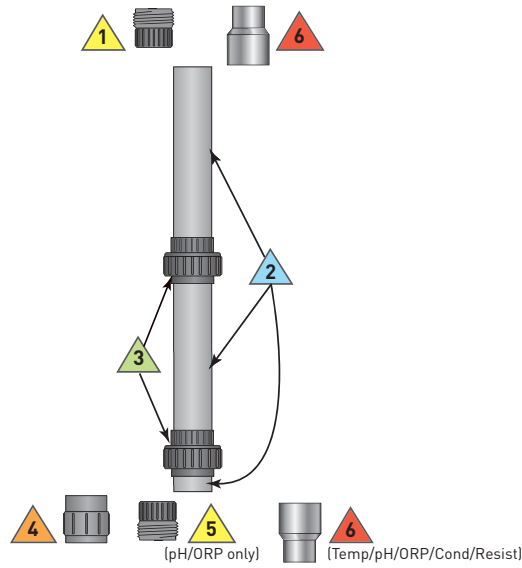
3-8050



Universal Mount Junction Box:
Customer required to drill a
19 mm (¾ in.) clearance hole
in the base.

3

Choose the pipe material



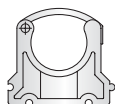
4

Choose a sensor

	Hydrostatic Pressure	Temperature	pH/ORP				Conductivity/Resistivity		
Pre-assembled from factory using PVC components - verify chemical compatibility									
	3-2250-XXX	3-2350-X	3-2725-61 3-2726-01 3-2726-11	3-2766-1 3-2766-2 3-2767-1	3-2776 3-2776-1 3-2777	3-2750-4	3-2839-1V 3-2840-1V 3-2841-1V 3-2842-1V	3-2819-X 3-2820-X 3-2821-X 3-2822-X 3-2823-X	

5

Optional Accessories



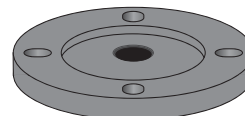
5.1



5.2



5.3



5.4

Select based on your application needs.

1

Choose a transmitter

- if required

SmartPro® Transmitter

Mfr. Part No.	Code	Component	Description
3-9900-1	159 001 696	Single channel transmitter	<ul style="list-style-type: none">• 10.8 to 35.2 VDC• 4 to 20 mA output• Open collector output• 9900 Accessories (Optional)<ul style="list-style-type: none">- HART Module- Conductivity Module with angle adapter- 4 to 20 mA Output Module

If no transmitter required

Go to number 2

2

Choose a wiring junction box

- More than one item can be used

Transmitter

Mfr. Part No.	Code	Component	Description
3-8050	159 000 184	The Universal Mount Kit mounts a 9900 field mount instrument onto a wall, pipe, or tank. Includes: transmitter base, universal mounting plate and bracket.	<ul style="list-style-type: none"> • Use to mount transmitter, 3-9900-1
3-8050-1	159 000 753	The Universal Mount Junction Box contains two terminal blocks that enable cable extensions for pH, ORP, flow, temperature, pressure, and conductivity sensors/ electrodes. This kit mounts on a wall, pipe, or tank. Includes: top cover, transmitter base, universal mounting plate and bracket, liquid tight connector kit.	<ul style="list-style-type: none"> • Use if sensor wiring needs to be extended. Cable for sensor should never exceed 30 m (100 ft)
3-9900.396	159 001 701	Angle Adjustment Adapter Kit	<ul style="list-style-type: none"> • Adjusts the mounting angle of the 3-9900 Transmitter and adds additional wiring clearance

pH/ORP

Mfr. Part No.	Code	Component	Description
3-8050-2 (pH/ORP)	159 000 754	The pH/ORP Universal Mount Junction Box contains two terminal blocks that enable cable extension of pH or ORP sensors. It features an EasyCal board for simple, push-button pH or ORP calibration. This kit mounts on a wall, pipe, or tank. Includes: top cover, transmitter base, universal mounting plate and bracket, liquid tight connector kit.	<ul style="list-style-type: none"> • Built-in EasyCal electronics • Digital (S³L) signal output to remote 3-8900 Multi-Parameter Controller or 3-9900 Transmitter • 4 to 20 mA signal output to PLC • Used with the 3-2750-4 cable assembly submersed with the sensor

Conductivity/Resistivity

Mfr. Part No.	Code	Component	Description
3-2850-61 (Conductivity/ Resistivity)	159 001 400	Universal mount junction box with sensor electronics, (S ³ L)	<ul style="list-style-type: none"> • Digital (S³L) signal output to remote 3-8900 Multi-Parameter Controller or 3-9900 Transmitter • Built-in EasyCal electronics
3-2850-62 (Conductivity/ Resistivity)	159 001 401	Universal mount junction box with sensor electronics, 4 to 20 mA	<ul style="list-style-type: none"> • 4 to 20 mA signal output to PLC • Built-in EasyCal electronics
NONE	Go to Step 5.3 - Cable Gland + Reducer + Elbow		

3

Choose the correct pipe material based on Chemical Compatibility

- Verify the length of the assembly and add a union adapter (3) every 2 meters
- Recommended pipe size $d25 \leq 2m/d50 > 2m$
- If union/FPM component is not suitable, contact factory

Hydrostatic Level

Pipe Material	Adapter Nipple NPT Male 3/4" (+Reductions)	Pipe PN16	Union/ FPM	Reduction to d25
	1 Item 6*	Item 2	Item 3	Item 4
PVC-U				
d25DN20	721 910 557	161 017 107	721 510 132	
d50DN40	721 910 557 721 900 354	* 161 017 110	721 510 135	721 900 354
PVC-C				
d25DN20	723 910 557	163 017 132	723 510 132	
d50DN40	723 910 557 723 900 354	* 163 017 135	723 510 135	723 900 354
PP				
d25DN20	727 914 557	167 480 712	727 520 157	
d50DN40	727 914 557 727 910 354	* 167 480 715	727 520 160	727 910 354
PVDF				
d25DN20	735 914 557	175 480 204	735 528 607	
d50DN40	735 914 557 735 908 654	* 175 480 207	735 528 610	735 908 654

Temperature

Pipe Material	Adapter Nipple NPT Male 3/4" (+Reductions)	Pipe PN16	Union/ FPM	Adapter Nipple NPT Female 3/4" (+Reductions)
	1 Item 6*	Item 2	Item 3	4 Item 6*
PVC-U				
d25DN20	721 910 557	161 017 107	721 510 132	721 914 207
d50DN40	721 910 557 721 900 354	* 161 017 110	721 510 135	721 910 441 721 900 354 *
PVC-C				
d25DN20	723 910 557	163 017 132	723 510 132	723 910 207
d50DN40	723 910 557 723 900 354	* 163 017 135	723 510 135	723 910 441 723 900 354 *
PP				
d25DN20	727 914 557	167 480 712	727 520 157	727 914 267
d50DN40	727 914 557 727 910 354	* 167 480 715	727 520 160	727 914 267 727 910 354 *
PVDF				
d25DN20	735 914 557	175 480 204	735 528 607	735 914 267
d50DN40	735 914 557 735 908 654	* 175 480 207	735 528 610	735 914 267 735 908 654 *



* Reducer required for d50/DN40 pipes to 3/4 inch nipple

3

Choose the correct pipe material continued...

- Verify the length of the assembly and add a union adapter (3) every 2 meters
- Recommended pipe size $d25 \leq 2m/d50 > 2m$
- If union/FPM component is not suitable, contact factory

pH/ORP

Pipe Material	Adapter Nipple NPT Male 3/4" (+Reductions)		Pipe PN16		Union/ FPM		Adapter Nipple NPT Male 3/4" (+Reductions)	
	1	Item 6*	Item 2	Item 3	Item 5	Item 6*		
PVC-U								
d25DN20	721 910 557		161 017 107		721 510 132		721 910 557	
d50DN40	721 910 557 721 900 354	*	161 017 110		721 510 135		721 910 557 721 900 354	*
PVC-C								
d25DN20	723 910 557		163 017 132		723 510 132		723 910 557	
d50DN40	723 910 557 723 900 354	*	163 017 135		723 510 135		723 910 557 723 900 354	*
PP								
d25DN20	727 914 557		167 480 712		727 520 157		727 910 507	
d50DN40	727 914 557 727 910 354	*	167 480 715		727 520 160		727 910 507 737 910 354	*
PVDF								
d25DN20	735 914 557		175 480 204		735 528 607		735 910 557	
d50DN40	735 914 557 735 908 654	*	175 480 207		735 528 610		735 910 557 735 908 654	*

Conductivity/Resistivity

Pipe Material	Adapter Nipple NPT Male 3/4" (+Reductions)		Pipe PN16		Union/ FPM		Adapter Nipple NPT Female 3/4" (+Reductions)	
	1	Item 6*	Item 2	Item 3	Item 4	Item 6*		
PVC-U								
d25DN20	721 910 557		161 017 107		721 510 132		721 914 207	
d50DN40	721 910 557 721 900 354	*	161 017 110		721 510 135		721 910 441 721 900 354	*
PVC-C								
d25DN20	723 910 557		163 017 132		723 510 132		723 910 207	
d50DN40	723 910 557 723 900 354	*	163 017 135		723 510 135		723 910 441 723 900 354	*
PP								
d25DN20	727 914 557		167 480 712		727 520 157		727 914 267	
d50DN40	727 914 557 727 910 354	*	167 480 715		727 520 160		727 914 267 727 910 354	*
PVDF								
d25DN20	735 914 557		175 480 204		735 528 607		735 914 267	
d50DN40	735 914 557 735 908 654	*	175 480 207		735 528 610		735 914 267 735 908 654	*



* Reducer required for d50/DN40 pipes to 3/4 inch nipple

4

Choose the correct sensor or electrode

Hydrostatic Level

Choose the correct sensor by verifying the correct chemical compatibility, temperature, fluid density and requested output sign

Mfr. Part No.	Code	Component	Description
3-2250-11U-1	159 001 478	Hydrostatic level 0-700 mbar	Digital (S ³ L) output signal. Use with the 3-9900-1 Transmitter or 3-8900 Multi-Parameter Controller
3-2250-21U-1	159 001 482	Hydrostatic level 0-700 mbar	4 to 20 mA output (Blind)

Temperature - Choose the correct sensor by verifying the correct application temperature and requested output signal.

Mfr. Part No.	Code	Component	Description
3-2350-1	159 000 021	Temperature sensor	Digital (S ³ L) output signal. Use with the 3-9900-1 Transmitter or 3-8900 Multi-Parameter Controller
3-2350-3	159 000 920	Temperature sensor	4 to 20 mA output (Blind)

pH/ORP - Choose the correct preamplifier based on sensor selection and the use of a transmitter. Bulb type electrodes are recommended for submersible application

Mfr. Part No.	Code	Component	Description
3-2750-4	159 000 842	Sensor Electronics for 3-8900 Multi-Parameter Controller and 3-9900 Transmitter	Sensor Electronics ¾ inch ISO
3-2760-2	159 000 940	Metric Preamplifier for 3-8750-X instrument and older GF Signet instruments	Preamp ¾ inch ISO

Choose the correct sensor by verifying the correct chemical compatibility, conductivity level, temperature and sensor glass (bulb or flat)

3-2724-01	159 001 546	pH Electrode, flat, PT1000	Use with the 3-2750 electronics
3-2724-11	159 001 548	pH Electrode, flat, 3K	Use with the 3-2760 preamplifier
3-2725-61	159 001 562	ORP electrode, flat	Use with all preamplifiers and electronics
3-2726-01	159 001 554	pH electrode, bulb, PT1000	Use with the 3-2750 electronics
3-2726-11	159 001 556	pH electrode, bulb, 3 KΩ	Use with the 3-2760 preamplifier
3-2734-00	159 001 774	pH Electrode, flat, PT1000	Use with the 3-2750 electronics
3-2734-01	159 001 775	pH Electrode, flat, PT1000	Use with the 3-2750 electronics
3-2734-HF-00	159 001 776	pH Electrode, flat, HF resistant	Use with the 3-2750 electronics
3-2734-HF-01	159 001 777	pH Electrode, flat, HF resistant	Use with the 3-2750 electronics
3-2736-00	159 001 778	pH electrode, bulb, PT1000	Use with the 3-2750 electronics
3-2736-01	159 001 779	pH electrode, bulb, PT1000	Use with the 3-2750 electronics

4

Choose the correct sensor or electrode continued...

Mfr. Part No.	Code	Component	Description
3-2736-HF-00	159 001 780	pH Electrode, bulb, HF resistant	Use with the 3-2750 electronics
3-2736-HF-01	159 001 781	pH Electrode, bulb, HF resistant	Use with the 3-2750 electronics
3-2735-60	159 001 782	ORP electrode, flat, 10K	Use with all preamplifiers and electronics
3-2735-61	159 001 783	ORP electrode, flat, 10K	Use with all preamplifiers and electronics
3-2766-1	159 000 949	pH electrode, bulb, 3 K Ω	Use with the 3-2760 preamplifier
3-2766-2	159 000 950	pH electrode, bulb, PT1000	Use with the 3-2750 electronics
3-2767-1	159 000 952	ORP electrode, bulb	Use with all preamplifiers and electronics
3-2776	159 000 959	pH electrode, bulb, 3 K Ω	Use with the 3-2760 preamplifier
3-2776-1	159 000 960	pH electrode, bulb, PT1000	Use with the 3-2750 electronics
3-2777	159 000 961	ORP electrode, bulb	Use with all preamplifiers and electronics

Applications requiring high temperature, low conductivity and hydrofluoric sensors must be ordered directly from signet-specialproducts@georgfischer.com

Conductivity/Resistivity

Choose the correct preamplifier based on sensor selection and the use of a transmitter.

Mfr. Part No.	Code	Component	Description
* 3-2850-61	159 001 400	Sensor Electronics	Sends a digital (S ³ L) signal to 3-9900-1 Transmitter or 3-8900 Multi-Parameter Controller
* 3-2850-62	159 001 401	Sensor Electronics	4 to 20 mA output (Blind)
None			Connect directly to 8850-3 or 8860

Choose the correct sensor by verifying the correct chemical compatibility (if SS is not suitable, Hastelloy-C, Titanium, Monel - Contact factory or email signet-specialproducts@georgfischer.com), conductivity level and temperature

3-2839-1V	159 001 810	Conductivity sensor, 0.01 cell	Application with conductivity levels 18.2 M Ω to 100 μ S
3-2840-1V	159 001 812	Conductivity sensor, 0.1 cell	Application with conductivity levels 1.0 μ S to 1000 μ S
3-2841-1V	159 001 814	Conductivity sensor, 1.0 cell	Application with conductivity levels 10 μ S to 10,000 μ S
3-2842-1V	159 001 816	Conductivity sensor, 10 cell	Application with conductivity levels 100 μ S to 200 mS
3-2823-1	198 844 003	Conductivity sensor, 20 cell	Application with conductivity levels 200 μ S to 400 mS

* Maximum sensor cable length 4.6 m (15 ft) when using the 3-2850-XX electronics

5

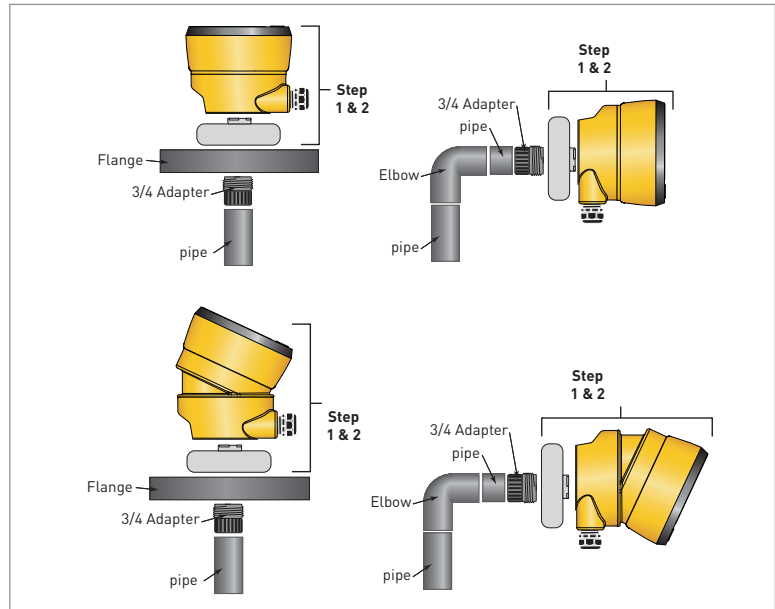
Optional accessories

5.1 Pipe Clips

5.2 Elbow

5.3 Gland + Elbow (+Reductions)

5.4 Flange



Examples of mounting options. Customise to your specific needs.

Item 5.1

Pipe Clips	Code
d25DN20	167 061 037
d50DN40	167 061 040

Item 5.2

Elbow	PVC-U	PVC-C	PP	PVDF
d25DN20	721 100 107	723 100 107	727 100 107	735 018 707
d50DN40	721 100 110	723 100 110	727 100 110	735 018 710

Item 5.3

Cable Gland + Elbow + Reductions	PVC-U	PVC-C	PP	PVDF
d25DN20	721 914 206	723 910 437	727 914 266	735 914 266
	159 000 618	159 000 618	159 000 618	159 000 618
	721 100 107	723 100 107	727 100 107	735 018 707
	721 910 911	—	727 910 337	735 908 637
d50DN40	721 914 206	723 910 437	727 914 266	735 914 266
	159 000 618	159 000 618	159 000 618	159 000 618
	721 910 915	723 900 354	727 100 110	735 908 654
	721 900 352	723 100 110	727 910 355	735 908 637
	721 100 110	—	727 910 906	735 018 710

Item 5.4

Modified Flanges	PVC-U	PVC-C	PP	PE
d63DN50	150 301 700	150 301 704	150 301 708	150 301 712
d65DN75	150 301 701	150 301 705	150 301 709	150 301 713
d80DN90	150 301 702	150 301 706	150 301 710	150 301 714
d110DN100	150 301 703	150 301 707	150 301 711	150 301 715

Modified flanges must be ordered directly from signet-specialproducts@georgfischer.com

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