

- **Rugged Two Electrode Conductivity Sensors**
- **Unique Four Electrode Conductivity Sensors**
- **Versatile Installation Options (Threaded, Quick Change, Retractable)**
- **Specialized High Pressure / High Temperature Options**



Conductivity sensors measure the specific conductance of liquid processes. The specific conductance is directly related to the presence of ionic species and their concentration. Barben Analytical offers a full range of two electrode and four electrode contacting conductivity sensors for a variety of industrial measurement applications.

Two Electrode Conductivity Sensors

- Designed for pure water and other low to medium conductivity applications.
- Threaded in-line, submersible, and “Hot Tap” retractable product options
- Large range of cell constants to ensure the sensor range properly matches the application.

Four Electrode Conductivity Sensors

- Ideal for medium to high conductivity applications
- A great low cost alternative to toroidal sensor technology
- Additional electrode pair compensates for particulate and scale build-up.
- Threaded in-line, submersible, and “Hot Tap” retractable product options
- Sensor diagnostics (analyzer dependent)

Compatibility with All Major Vendor’s Electronics

- Proven with major vendors of conductivity analyzers (Rosemount, ABB, E&H, Mettler Toledo, Knick)
- Improve your measurement by replacing only the sensor
- Wiring information available

Industrial Mounting Options

- Mounting fittings for sample line installations
- Submersible cleaners and scrubbers
- Ball Valve “Hot Tap” retraction solutions
- Variety of materials for corrosive applications

Liquid Conductivity

Two & Four Electrode Sensors

Well known for industrial pH sensor technology; Barben Analytical also provides a full range of two and four electrode industrial conductivity sensors to support your applications.

Two Electrode Sensor Technology

Two electrode sensors provide a simple, time-proven method for conductivity measurement. Precision-machined electrodes of various sizes (cell constants) are matched to the process based on their measurement range. Two electrode sensors are recommended for use in clean (non-coating) applications such as the following:

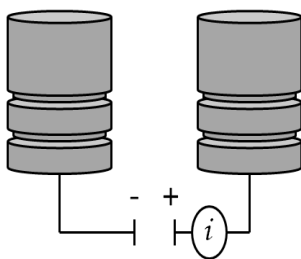
- **Ultrapure Water**
- **Demineralized / Deionized Water**
- **Reverse Osmosis**
- **Water for Injection**
- **Boiler Water**

Four Electrode Sensor Technology

As the name suggests, four electrode sensors add an additional pair of electrodes to the two electrode sensor design. This second pair of electrodes provides sensor diagnostics which can then be used to compensate the measurement if scale or particulate build-up occur on electrodes. Four electrode conductivity sensors can withstand coating and scale which might otherwise foul a traditional two electrode sensor. Typical applications include the following:

- **Leak Detection**
- **Condensate Return**
- **Salinity**
- **Chemical Concentration**
- **Clean-In-Place**

Sensor Technology (How it works)



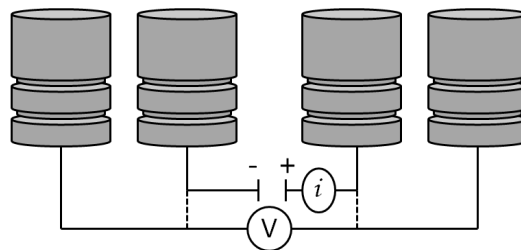
Two electrode conductivity measurement is based on the ability to conduct a current between two electrodes. The concentration of ions in the liquid are directly proportional to the conductance of the liquid.

Pros

- Simple, time-proven electrode design
- Industry standard cell constants determine measurement range.
- Works best for clean applications where electrodes do not get fouled.
- High accuracy and repeatability.

Cons

- Susceptible to coating and scale (no compensation)
- Susceptible to corrosion
- No diagnostics



Four electrode sensor designs keep a constant current through two of the electrodes and let the drive voltage change. If fouling occurs then the drive voltage can be increased to compensate the measurement.

Pros

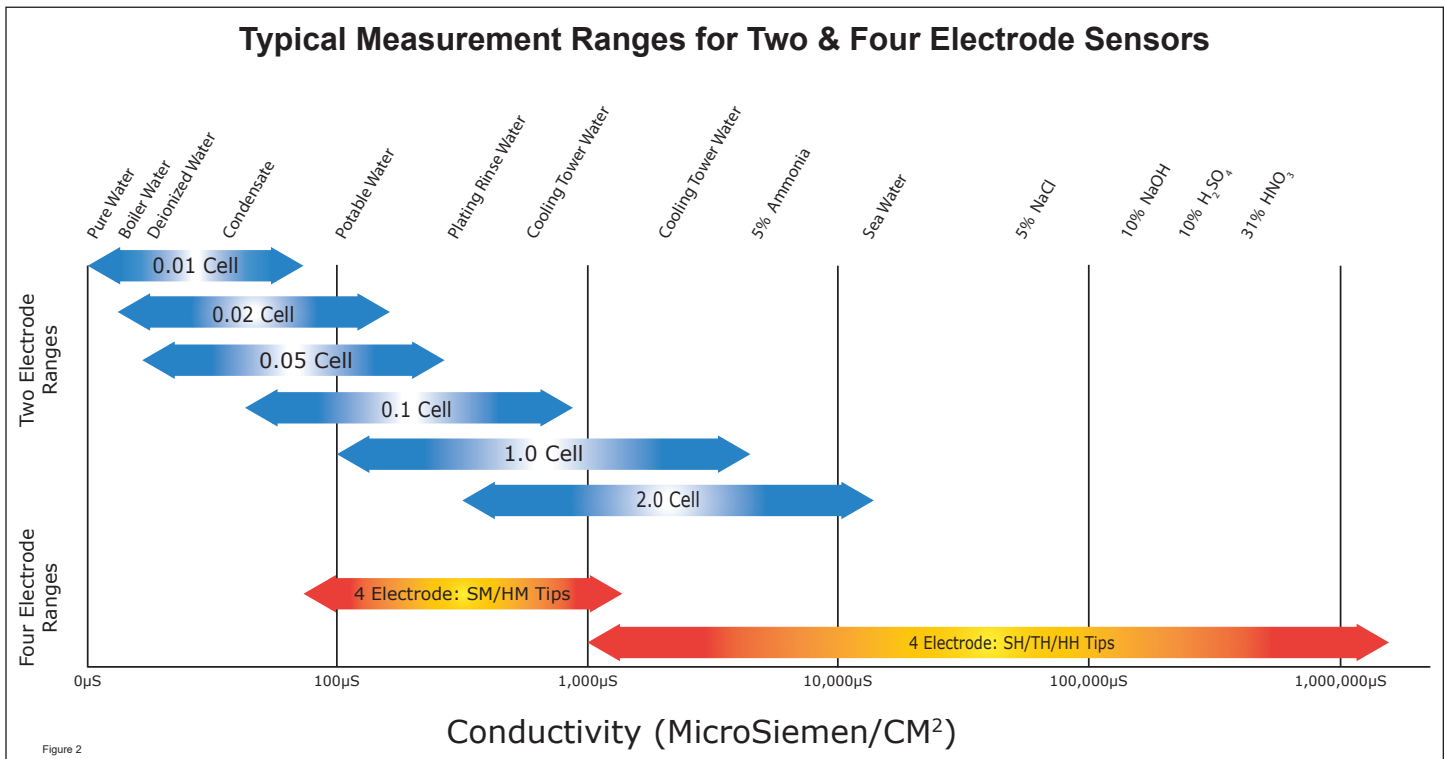
- Compensation for coating and build-up
- Wide measurement range
- Sensor diagnostics if fouling is too great (analyzer dependent)
- No polarization affect

Cons

- Not as accurate as two electrode sensors at low conductivity
- Susceptible to corrosion
- Limited availability of analyzers (ABB, Rosemount, Mettler Toledo, Knick)
- Conductive field can be distorted by pipe walls and flow cells

Figure 1

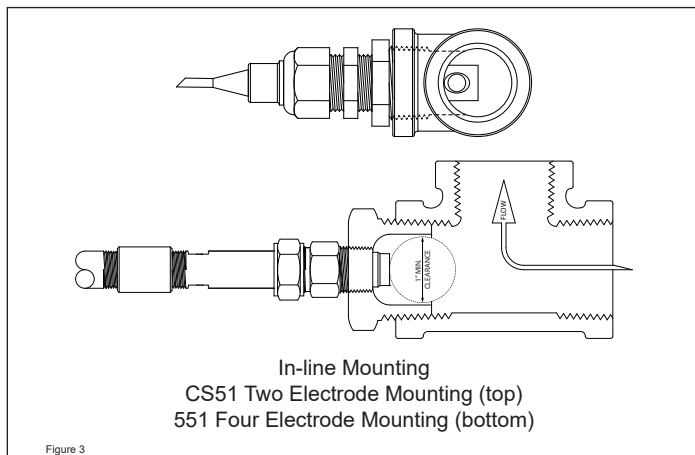
Liquid Conductivity Two & Four Electrode Sensors



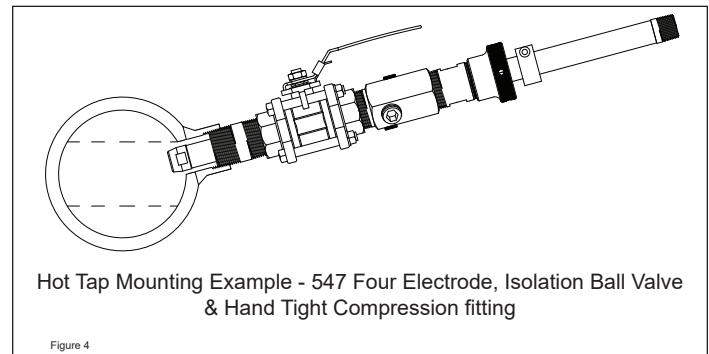
Sensor Selection: Mounting

Mounting should be considered as part of sensor selection. Examples of various process mounting configurations are provided below.

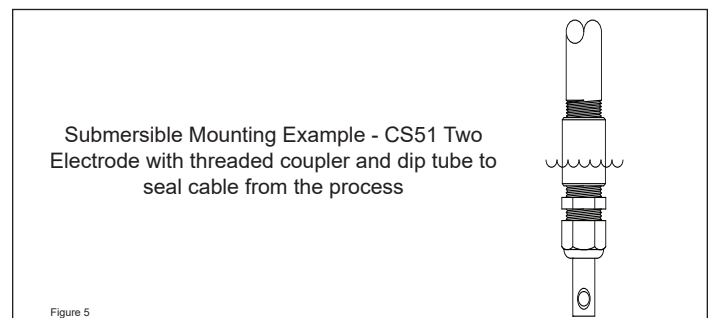
In-line Sensor Mounting: In-line installations are common on sample streams from the main process. The sensor may be mounted in a piping tee or a flow cell. The electrodes should be fully exposed to the process flow. Four Electrode Sensors require at least 1 inch of clearance from pipe walls to avoid any distortion of reading. Isolation valves should be upstream / downstream of sensor for removal.



Hot Tap Sensor Mounting: Hot Tap refers to the ability to remove the sensor from the process while under pressure. A ball valve is used to isolate the sensor for removal.



Submersible Mounting: This mounting style is used when the sensor is installed in a tank, or open channel. The sensor must be mounted on a "dip tube" which is the hardware to submerge the sensor in the application.



Liquid Conductivity

Two & Four Electrode Sensors

Model CS10 / CS51

Two Electrode Threaded In-line, Submersible

The threaded CS10 / CS51 products are ideal for clean water sample stream applications using the NPT process connection. The same NPT adapter fitting can be reversed to mount the sensor in submersible installations.

Wetted Material

- Electrodes 316 Stainless Steel
- Insulator Teflon
- Seals EPR
- Mounting Polypropylene or 316 Stainless



CS10 with 0.01 Electrode

Temperature Compensation

- PT100 RTD
- PT1000 RTD
- 8550 Ohm (Honeywell)

Pressure / Temperature Ratings

Sensor Design	Max. Pressure / Temperature
Polypropylene Adapter	100 PSIG (690 kPa) @ 212°F (100°C)
316 Stainless Adapter	200 PSIG (1380 kPa) @ 248°F (120°C)

CS10 / CS51 Dimensions

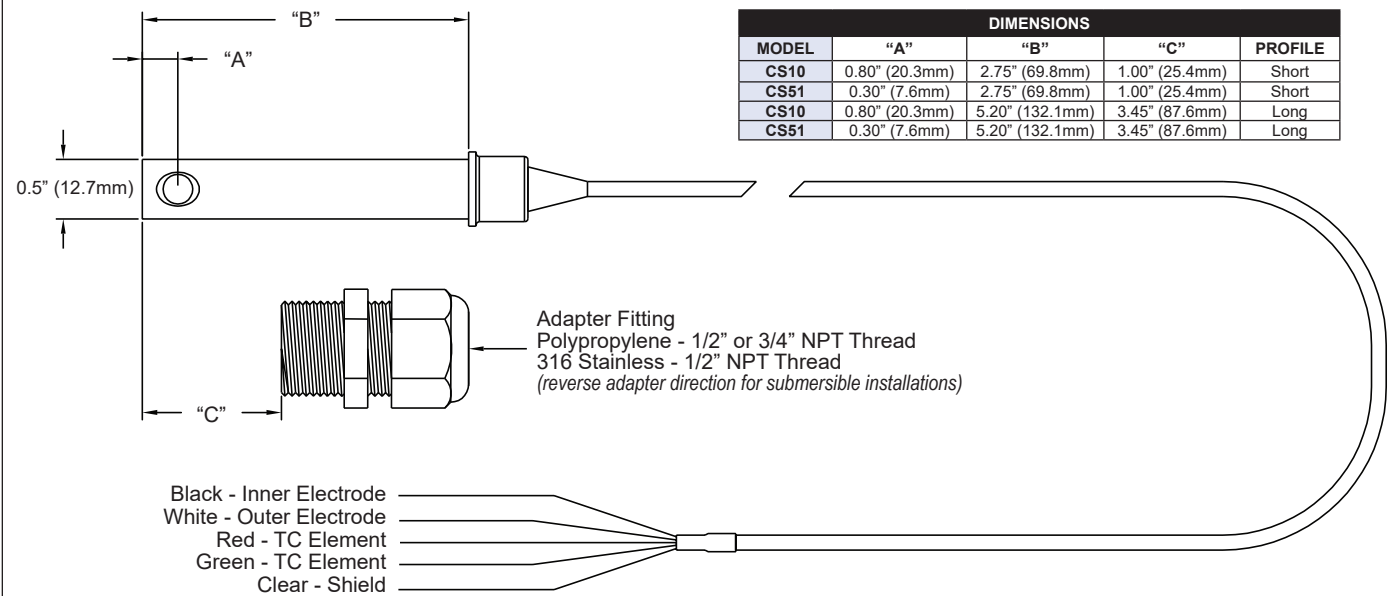


Figure 6

Liquid Conductivity Two & Four Electrode Sensors

CS10 / CS51 Two Electrode In-line / Submersible Conductivity Sensors

Body	Cell Constant	TC	Cable	Terminations	Mounting Hardware	Length				
CS10	SS316/Teflon/EPDM Inline or Submersible for Pure Waters (0.01 / 0.02 / 0.05 Cell Constant)									
CS51	SS316/Teflon/EPDM General Purpose (0.1 /1.0 Cell Constant)									
	Cell Constant (True range is analyzer/electrode size dependant)									
	1	1.0 CS51 Only (0-20,000 MicroSiemens)								
	0.1	0.1 CS51 Only (0-1000 MicroSiemens)								
	0.05	0.05 CS10 Only (0-500 MicroSiemens)								
	0.02	0.02 CS10 Only (0-250 Microsiemens)								
	0.01	0.01 CS10 Only (0-100 MicroSiemens)								
		Integral Temperature Compensation								
		PT100	100 Ohm RTD							
		PT1000	1000 Ohm RTD							
		HW	8550 Ohm							
		(Blank)	Other							
			Cable							
			10	1 - 10 ft (whole #'s)						
			20	11 - 20 ft						
			30	21 - 30 ft						
			40	31 - 40 ft						
			50	41 - 50 ft						
			(Blank)	Other						
				Lead Terminations						
				TL	All tinned leads					
				SL	All spade leads					
				(Blank)	Other					
					Hardware Options for Non-Sanitary Flange					
					PP.5	1/2" MNPT Polypro Fitting				
					PP.75	3/4" MNPT Polypro Fitting				
	SS.5	1/2" MNPT SS316 Fitting								
		(Blank)	Other							
Nominal Length (reduced by sanitary flange thickness if ordered)										
Long			5.2" (recommended)							
Short		2.75"								
Body	Cell	TC	Cable	Terminations	Hardware	Length				
CS10	0.1	PT1000	10	TL	SS.5	Long	Typical Sensor Configuration			

Liquid Conductivity

Two & Four Electrode Sensors

Model CS41

Two Electrode High Pressure Threaded In-line

The CS41 Two Electrode Conductivity Sensor is specifically designed to handle the high pressure requirements found in boiler water measurement. It uses a rugged, explosionproof junction box with a high temp terminal strip for internal wiring.

Wetted Material

- Electrodes 316 Stainless Steel
- Insulator PEEK
- Seals EPR (dual o-ring)
- Mounting 316 Stainless

Pressure / Temperature Ratings

Sensor Design	Max. Pressure / Temperature
316 Stainless	500 PSIG (3447 kPa) @ 212°F (100°C) 250 PSIG (1724 kPa) @ 401°F (205°C)

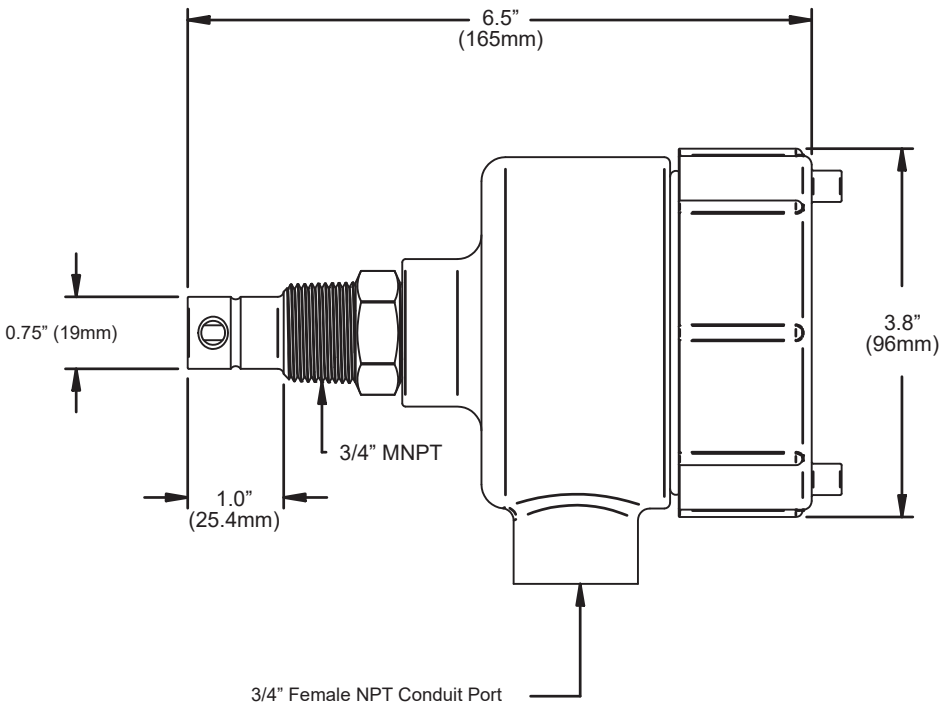
CS41 with 0.10 Electrode



Temperature Compensation

- PT100 RTD
- PT1000 RTD
- 8550 Ohm (Honeywell)

CS51 Dimensions



WIRING SCHEME	
COLOR	DESCRIPTION
BLACK	INNER ELECTRODE
WHITE	OUTER ELECTRODE
RED	TC ELEMENT
GREEN	TC ELEMENT

Figure 7

Liquid Conductivity Two & Four Electrode Sensors

CS41 Two Electrode High Temperature In-line Conductivity Sensors

Body	Cell Constant	Pressure / Temp	TC	Length	Cable		
CS41	SS 316 / PCTFE (Kel-F) ¾" MNPT Inline Sensor						
	Cell Constant (True range is analyzer/electrode size dependant)						
	2	2.00 (0-30,000 MicroSiemens)					
	1	1.00 (0-20,000 MicroSiemens)					
	0.1	0.10 (0-1000 MicroSiemens)					
	0.05	0.05 (0-500 Microsiemens)					
		Pressure / Temperature Option					
		HT	High Temp. 0°C to 205°C, PEEK Insulator				
		HV	High Temp, Press, 6.5" OAL for use in 546 Hi-pressure insertion system				
			Integral Temperature Compensation				
			HW	8550 Ohm @ 25°C (Honeywell)			
			Pt100	100 Ohm @ 0°C, PTC (BAT and Others)			
			Pt1000	1000 Ohm @ 0°C, PTC (BAT and Others)			
			(Blank)	Other			
			Insertion Depth				
			1	1.0" Insertion depth (standard)			
	2.6		2.6" Insertion depth for (HV) only				
			Cable				
JB			Junc Bx, Expl Proof, Inc 8" lds & Term Strip				
PT		8" Pig Tail, for Cust Supp Junc Bx Inc Term Strip					
	Coup	¾" coupling on rear of sensor					
	(Blank)	Other, (Call Factory For Price & Availability)					
Body	Cell	Press / Temp	TC	Length	Hardware		
CS41	0.1	HT	PT100	1	JB	Typical Sensor Configuration	

Liquid Conductivity

Two & Four Electrode Sensors

Model CS40

Two Electrode Hot Tap Retractable

For applications where a sample line is not present the CS40 Two Electrode Sensor provides an easy method to remove and isolate the sensor for cleaning and calibration.

Wetted Material

- Electrodes 316 Stainless Steel
- Insulator Kel-F PCTEF (std), PEEK (high temp)
- Seals EPDM / Viton / Buna-N
- Hardware 316 Stainless

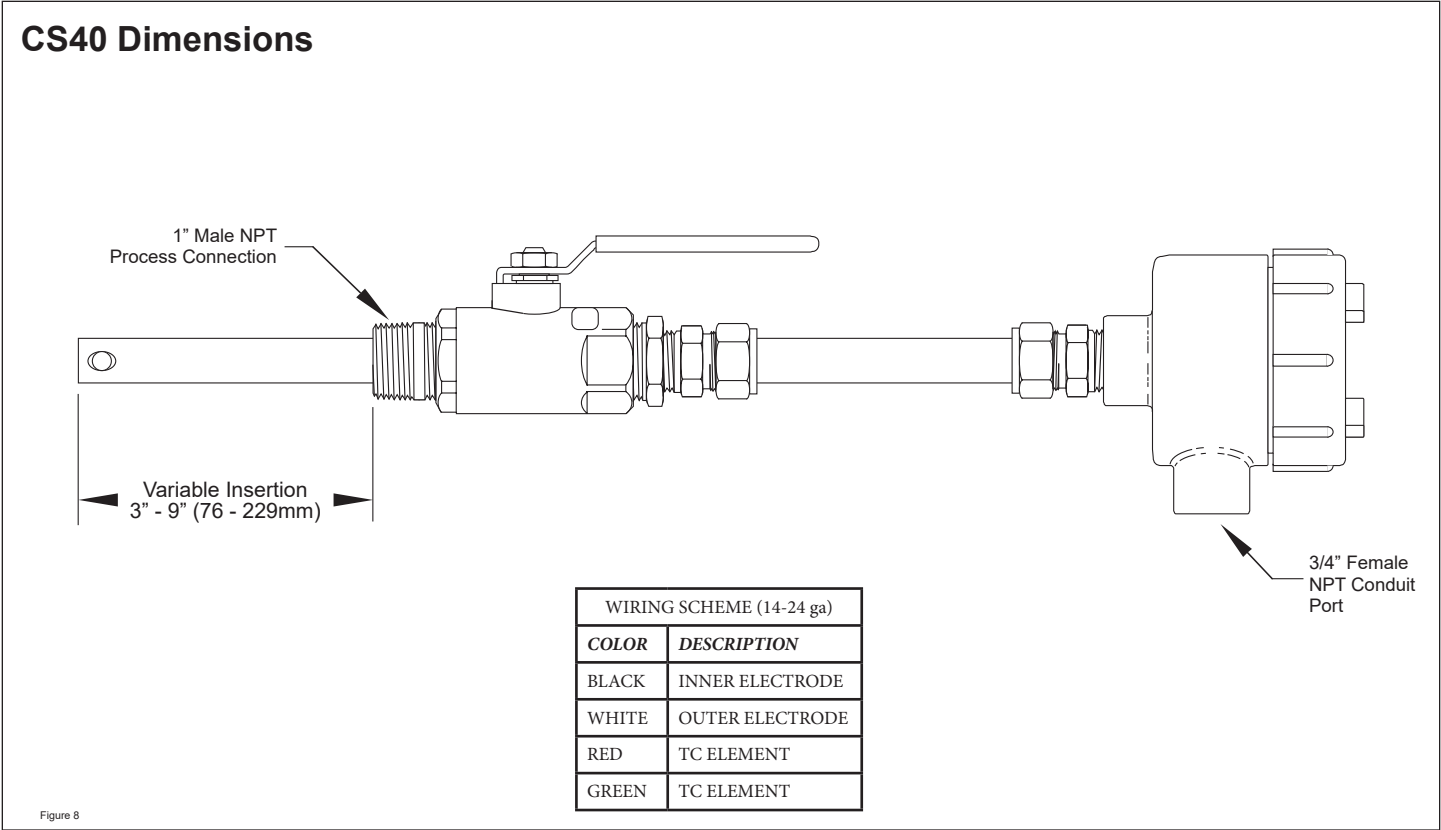
Pressure / Temperature Ratings

Sensor Design	Max. Pressure / Temperature
Standard Temp	100 PSIG (689 kPa) @ 248°F (120°C)
High Temp	125 PSIG (1724 kPa) @ 302°F (150°C)
Valve Assembly OPTION "SSV"	MAX 50 PSIG (at all temperatures)



- #### Temperature Compensation
- PT100 RTD
 - PT1000 RTD
 - 8550 Ohm (Honeywell)

CS40 Dimensions



Liquid Conductivity Two & Four Electrode Sensors

CS40 Two Electrode Hot Tap Retractable Conductivity Sensors

Body	Orings	Cell Constant	Temp Range	TC	Cable	Terminations	Hdw	
CS40	3/4" Diameter sensor for 1" valve							
	Orings							
	S	Standard - EPDM						
	V	Viton						
	B	Buna-N						
		Cell Constant (True range is analyzer/electrode size dependant)						
	2.00	2.00 (0-30,000 MicroSiemens)						
	1.00	1.00 (0-20,000 MicroSiemens)						
	0.20	0.20 (0-2000 MicroSiemens)						
	0.10	0.10 (0-1000 MicroSiemens)						
	0.02	0.02 (0-250 MicroSiemens)						
	0.01	0.01 (0-100 MicroSiemens)						
		High Range Cell Constants						
	20.00	20.0 (0-200 MilliSiemens)						
	10.00	10.0 (0-100 MilliSiemens)						
	5.00	5.0 (0-50 MilliSiemens)						
		Operational Temperature Range						
	(Blank)	Standard up to 150°C, PCTFE Insulator						
	HT	Hi-Temp. 205°C Max, PEEK Insulator (Not Avail for High Range Constants)						
		Integral Temperature Compensation						
	HW	8550 Ohm @25°C, (Honeywell)						
	Pt100	100 Ohm @0°C, PTC (BAT and Others)						
	Pt1000	1000 Ohm @0°C, PTC (BAT and Others)						
	(Blank)	Other						
		Cable						
	JB	Junc Box, Exp Proof, Inc 8" Leads & Term						
	PT	8" Pig Tail, Inc Term Strip						
	10	Footage 1-10Ft (Whole Numbers Only)						
	20	Footage 11-20Ft						
	30	Footage 21-30Ft						
	40	Footage 31-40Ft						
	50	Footage 41-50Ft						
	(Blank)	Other						
	Lead Terminations							
TL	All Tinned Leads							
SL	All Spade Lugs							
(Blank)	Other							
	Hardware							
SSV	1" SS Ball Vlv, Cmp Ftg & Nip							
N	None							
(Blank)	Other							
Body	Orings	Cell Constant	Temp Range	TC	Cable	Terminations	Hdw	
CS40	S	0.1		PT100	10	TL	SSV	Typical Sensor Configuration

Liquid Conductivity

Two & Four Electrode Sensors

Model 551 / 546 / 547

Four Electrode In-line, Hot Tap, and Submersible

Barben's four electrode conductivity sensors use the same housing and accessories as our pH products.

Wetted Material

- Electrodes 316 Stainless, Titanium Gr2, Hastelloy C
- Insulator PEEK
- Seals EPDM / Viton
- Hardware *(see accessories guide for hardware options)*

547 Cartridge style Four Electrode Sensor



Temperature Compensation

- PT100 RTD
- PT1000 RTD
- 3K Ohm RTD (Balco)

Pressure / Temperature Ratings

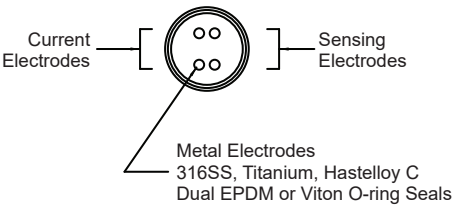
Sensor Type	Installation Type		
	Threaded Nut Lock (plastic / metal body with hand nut only)	Threaded Nut Lock (metal body & metal hex nut only)	Flanged / Threaded Nut Lock (plastic body & metal hex nut only)
551	100 PSIG @ 158°F (70°C) 40 PSIG @ 212°F (100°C)	300 PSIG @ 176°F (80°C) 40 PSIG @ 266°F (130°C)	150 PSIG @ 73°F (25°C) 25 PSIG @ 266°F (130°C)

Sensor Type	Installation Type	
	3/4" In-line or Submersible*	High Pressure Hot Tap
546	150 PSIG @ 158°F (70°C) 40 PSIG @ 266°F (130°C)	300 PSIG @ 176°F (80°C) 40 PSIG @ 266°F (130°C)

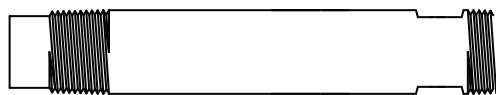
Sensor Type	Installation Type	
	Threaded In-line High Pressure	Retractable
547	2500 PSIG @ 122°F (50°C) 50 PSIG @ 266°F (130°C)	150 PSIG @ 158°F (70°C) 40 PSIG @ 266°F (130°C)

Four Electrode Tip Options

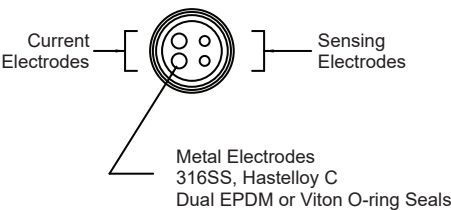
HIGH RANGE ELECTRODES (0 - 2 SIEMENS) SH, TH, HH SERIES



Flush High Range Electrodes



LOW RANGE ELECTRODES (0 - 1400 MICROSIEMENS) SM, HM SERIES



Extended Low Range Current Electrodes

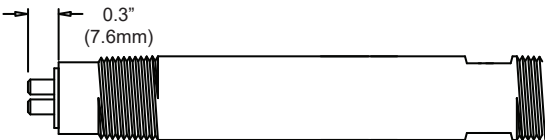
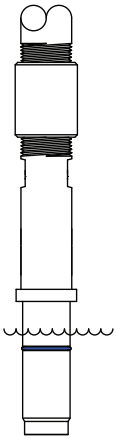


Figure 9

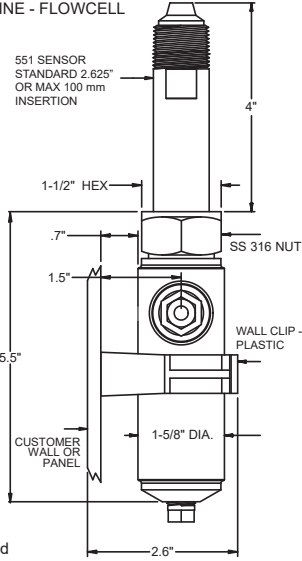
Liquid Conductivity Two & Four Electrode Sensors

551 Four Electrode Conductivity Sensor

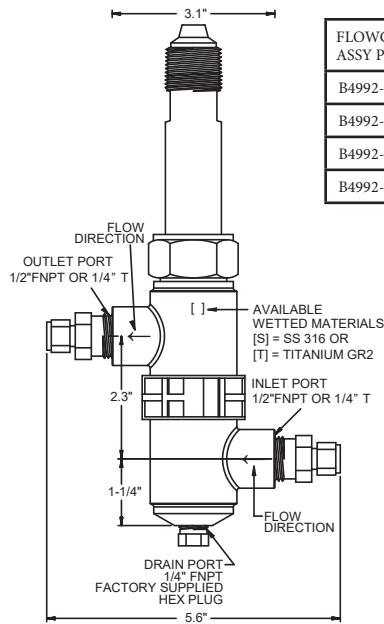
Example - 551 Sensor
Submersible installation



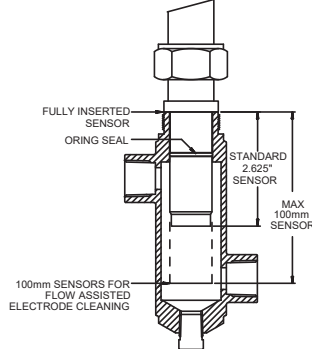
Example - 551 Sensor
INLINE - FLOWCELL



The full offering of mounting adapters and flowcells used with the 551 sensor can be found in the Barben Accessories Guide (Consult technical support for more information)

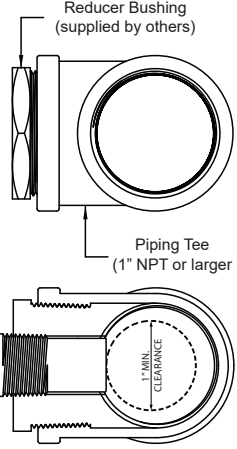
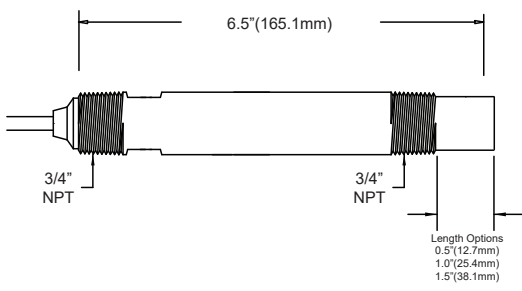
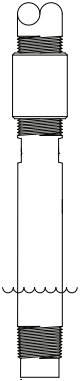


FLOWCELL ASSY P/N	WETTED MATERIAL	INLET OUTLET	MTRL
B4992-1009	SS 316	1/2" FNPT	S
B4992-0020	SS316	1/4" TUBE	S
B4992-1010	TI GR2	1/2" FNPT	T
B4992-1011	TI GR2	1/4" TUBE	T



546 Four Electrode Conductivity Sensor

Example - 546 Sensor
Submersible installation



Flow cells and other accessories used with the 546 sensor can be found in the Barben Accessories Guide (Consult Barben technical support for more information)

547 Four Electrode Conductivity Sensor

Bottom image show 547 sensor with hot tap retractable hardware Barben offers an extensive offering of compression fittings, valve assemblies and sheath kits. These can be found in the Barben Accessories Guide (Consult Barben technical support for more information)

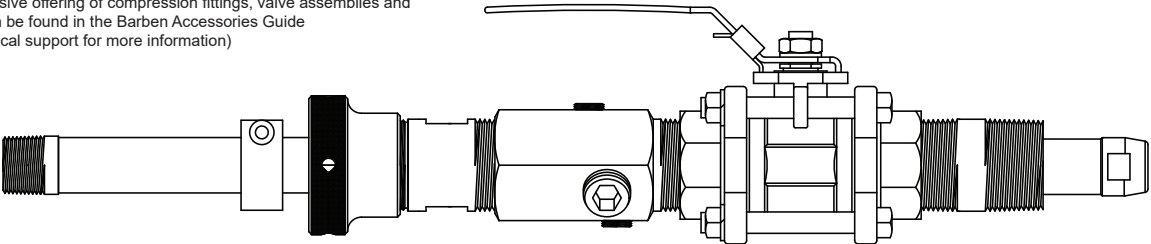
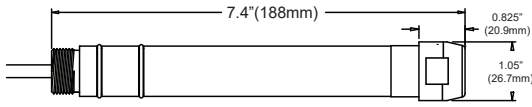


Figure 10

Liquid Conductivity

Two & Four Electrode Sensors

551 / 546 / 547 Four Electrode Conductivity Sensors

Material	Orings	Body Style	Electrodes	TC	Insertion Depth	Cable	Terminations	
B	Kynar body PEEK insulator							
	Seals							
	E	EPDM						
	V	Viton						
	Configuration							
	551	Quick-Change Inline (Drawing 2P0076)						
	546	Threaded In-line / Submersible 3/4" NPT (Drawing 2P0078)						
	547	Cartridge for Valve Insertion (Drawing 2P0079)						
	Electrode Range and Material (True range is analyzer dependant)							
	SM	0 - 1,400 MicroSiemens - SS 316, 0.0275 cell constant						
	SH	0 - 2 Siemens - SS 316, 0.3727 cell constant						
	TH	0 - 2 Siemens - Titanium Gr2, cell constant 0.3727						
	HM	0 - 1,400 MicroSiemens - Hastelloy C, 0.0275 cell constant						
	HH	0 - 2 Siemens - Hastelloy C, 0.3727 cell constant						
	Integral Temperature Compensation							
	K	PT1000						
	C	PT100						
	B	3K Ohm Balco (120 ⁰ C Max)						
	(Blank)	Other						
	Insertion Depth							
	S	551 / 547 Standard						
	0.5	546, 1/2"						
	1	546, 1"						
	1.5	546, 1-1/2"						
	(Blank)	Other 546 special order, (0.5" Increments), 5.0" Max						
	Cable							
	T	8" Pigtail for (Junction Box 546/551)						
	T1	8" Pigtail for (8" assy 547 or High Pressure 547)						
T2	8" Pigtail for (16" 547 assy)							
T3	8" Pigtail for (20" 547 assy or 546 Hot Tap)							
T4	8" Pigtail for (24" 547 assy)							
T5	8" Pigtail for (30" 547 assy)							
T6	8" Pigtail for (36" 547 assy)							
T7	8" Pigtail for (60" 547 assy)							
1 to 5	Footage 1 - 5'							
6 to 20	Footage 6 - 20'							
21 to 30	Footage 21 - 30'							
31 to 40	Footage 31 - 40'							
41 to 75	Footage 41 - 75'							
76 to 100	Footage 76 - 100'							
Lead Terminations								
T	All Tinned							
S	All Spades #6							
Material	Orings	Body Style	Electrodes	TC	Insertion Depth	Cable	Terminations	
B	E	547	SM	C	S	5	T	Typical Sensor Configuration

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- **Unique Four Electrode Conductivity Sensors for Wide Variety of Applications**
- **Versatile Installation Options (Threaded, Quick Change, Retractable)**
- **Specialized High Pressure / High Temperature Options**
- **Sensors are Compatible with Most Major Manufacturer's Analyzers**
- **CRN Registration for Canada**



Conductivity sensors measure the specific conductance of liquid processes. The specific conductance is directly related to the presence of ionic species and their concentration. Barben Analytical offers a full range of four electrode contacting conductivity sensors for a variety of industrial measurement applications.

Four Electrode Conductivity Sensors

- Ideal for medium to high conductivity applications such as condensate return monitoring
- A low volume, affordable alternative to toroidal sensor technology
- Additional electrode pair compensates for particulate and scale build-up.
- Threaded in-line, submersible, and "Hot Tap" retractable product options
- Sensor diagnostics (analyzer dependent)

Compatibility with All Major Vendor's Electronics

- Proven with major vendors of conductivity analyzers (Rosemount, ABB, Knick)
- Improve your measurement by replacing only the sensor
- Wiring information available

Industrial Mounting Options

- Mounting fittings for sample line installations
- Ball Valve "Hot Tap" retraction solutions
- Variety of materials for corrosive applications

Liquid Conductivity

Four Electrode with CRN Registration

Well known for industrial pH sensor technology; Barben Analytical also provides a full range of CRN registered four electrode industrial conductivity sensors to support your applications.

Four Electrode Sensor Technology

As the name suggests, four electrode sensors add an additional pair of electrodes to the conventional two electrode sensor design. This additional pair of electrodes provides sensor diagnostics which can then be used to compensate the measurement if scale or particulate build-up occur on electrodes.

Four electrode conductivity sensors can withstand coating and scale which might otherwise foul a traditional two electrode sensor. Typical applications include the following:

- **Leak Detection**
- **Condensate Return**
- **Pulp Stock Washer Vats**
- **Salinity**
- **Chemical Concentration**
- **Clean-In-Place**

Four Electrode Sensor Technology (How it works)

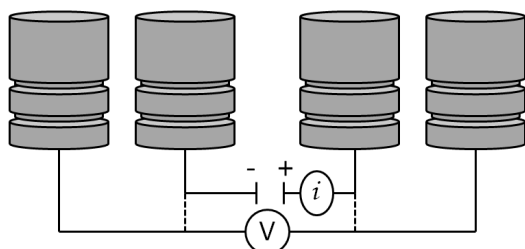


Figure 1

Four electrode sensor designs keep a constant current through two of the electrodes and let the drive voltage change. If fouling occurs then the drive voltage can be increased to compensate the measurement.

Pros

- Compensation for coating and build-up
- Wide measurement range
- Sensor diagnostics if fouling is too great (analyzer dependent)
- No polarization affect

Cons

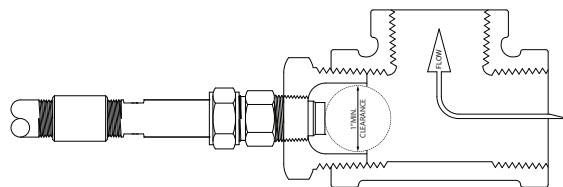
- Not as accurate as two electrode sensors at low conductivity
- Susceptible to corrosion
- Limited availability of analyzers (ABB, Rosemount, Mettler Toledo, Knick)
- Conductive field can be distorted by pipe walls and flow cells

Sensor Selection: Mounting

Mounting should be considered as part of sensor selection. Examples of various process mounting configurations are provided below.

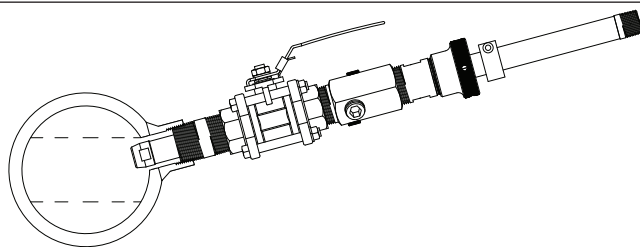
In-line Sensor Mounting: In-line installations are common on sample streams from the main process. The sensor may be mounted in a piping tee or a flow cell. The electrodes should be fully exposed to the process flow. Four Electrode Sensors require at least 1 inch of clearance from pipe walls to avoid any distortion of reading. Isolation valves should be upstream / downstream of sensor for removal. (fig. 2)

Hot Tap Sensor Mounting: Hot Tap refers to the ability to remove the sensor from the process while under pressure. A ball valve is used to isolate the sensor for removal. (fig. 3)



In-line Mounting Example - 551 Four Electrode Sensor
(note space in front of sensor to avoid measurement error)

Figure 2



Hot Tap Mounting Example - 547 Four Electrode, Isolation Ball Valve
& Hand Tight Compression fitting

Figure 3

Liquid Conductivity Four Electrode with CRN Registration

Submersible Mounting: This mounting style is used when the sensor is installed in a tank, or open channel. The 3/4" NPT threads on the rear of the sensor are used to mount the sensor on the end of a customer supplied "dip tube". The dip tube allows the sensor to be submerged in the application. This type of installation is best suited for either the 546 or 551 sensor. (fig. 4)

Sensor Selection: Electrodes

All Barben four electrode conductivity sensors have either low range or high range electrodes. Low range electrodes have one pair slightly longer to provide more surface area in low conductivity solutions. (figs. 5 & 6)

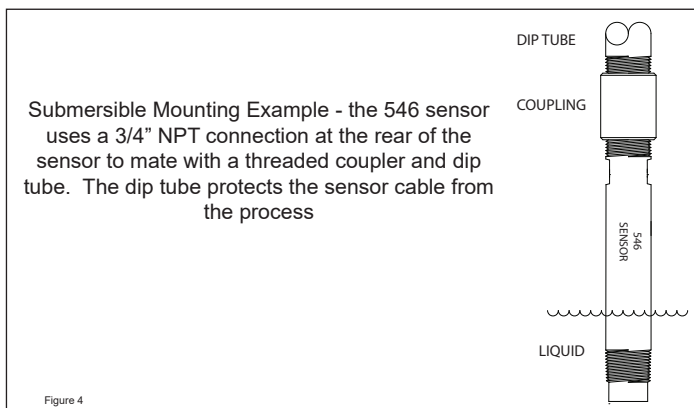
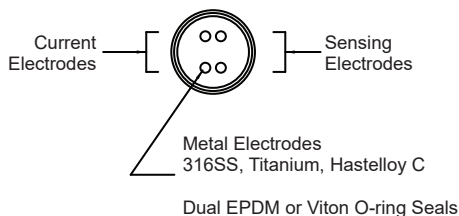


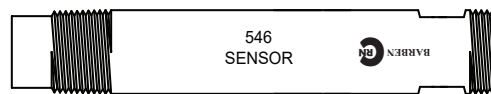
Figure 4

Four Electrode Tip Options

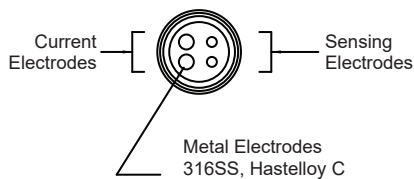
HIGH RANGE ELECTRODES
(0 - 2 SIEMENS)
SH, TH, HH SERIES



Flush High Range Electrodes



LOW RANGE ELECTRODES
(0 - 1400 MICROSIEMENS)
SM, HM SERIES



Extended Low Range Current Electrodes

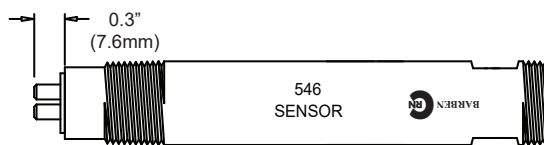


Figure 5

Typical Measurement Ranges for Four Electrode Sensors

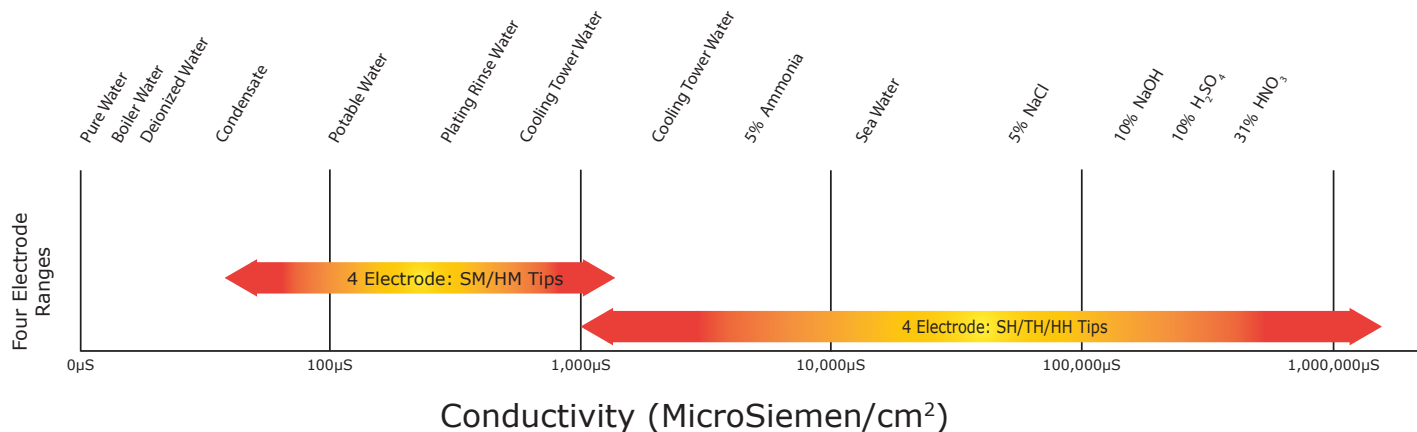


Figure 6

Liquid Conductivity Four Electrode with CRN Registration

Model 546

Threaded In-line, Submersible, High Pressure Hot Tap

The versatile Model 546 is suitable for in-line sample stream applications using the 3/4 inch NPT process connection. A similar connection on the rear of the sensor is used to mount the sensor in submersible and high pressure hot tap installations. With tip lengths from 0.5 to 3.5 inches the 546 sensor can fit through extended pipe nipples and flanges to reach into the process and provide optimum conductivity measurement.

CRN Registration Canada
0F16420.2C



Maximum Allowable Working Pressure / Temperature*

In-line: 150 PSIG @ -4 to 266°F (-20 to 130°C)

Hot Tap: 300 PSIG @ -4 to 131°F (-20 to 55°C)

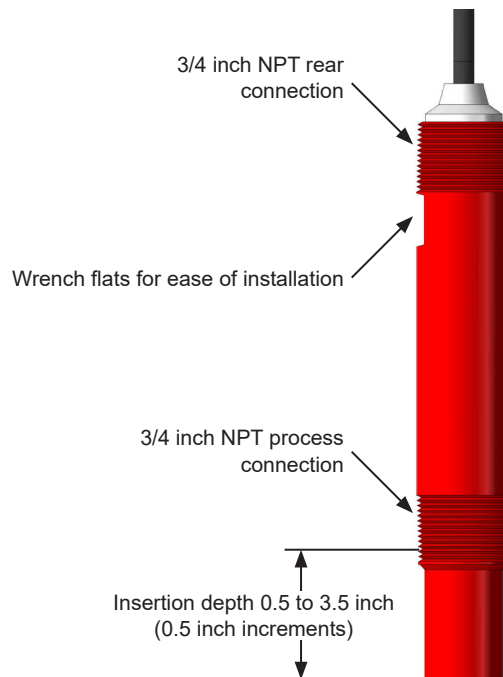
290 PSIG @ 131 to 194°F (55 to 90°C)

230 PSIG @ 194 to 266°F (90 to 130°C)

* MAWP based on min design temperature to max temperature listed.

Minimum Design Temperature

-4°F (-20°C)



546 In-line Installation

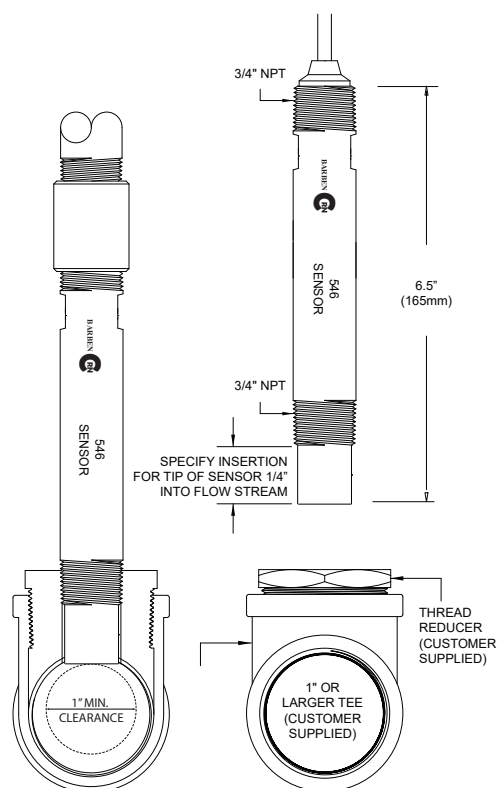


Figure 7

546 High Pressure Hot Tap Installation

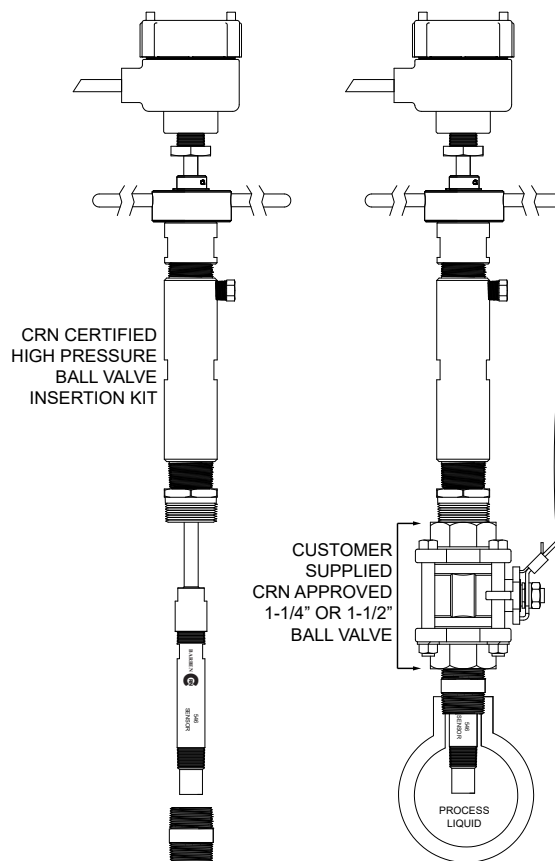


Figure 8

Liquid Conductivity Four Electrode with CRN Registration

Model 551 Quick Change In-line

In some in-line applications sensor removal for routine cleaning or calibration becomes difficult due to conduit or cabling. The 551 Quick Change Sensor offers a unique method to extract the sensor through a “Nut Lock” Adapter system. The Nut Lock Adapter threads directly into 1 inch NPT process connections. The 551 sensor also includes a 3/4 inch rear connection for use in submersible applications.

CRN Registration Canada
0F16420.2C



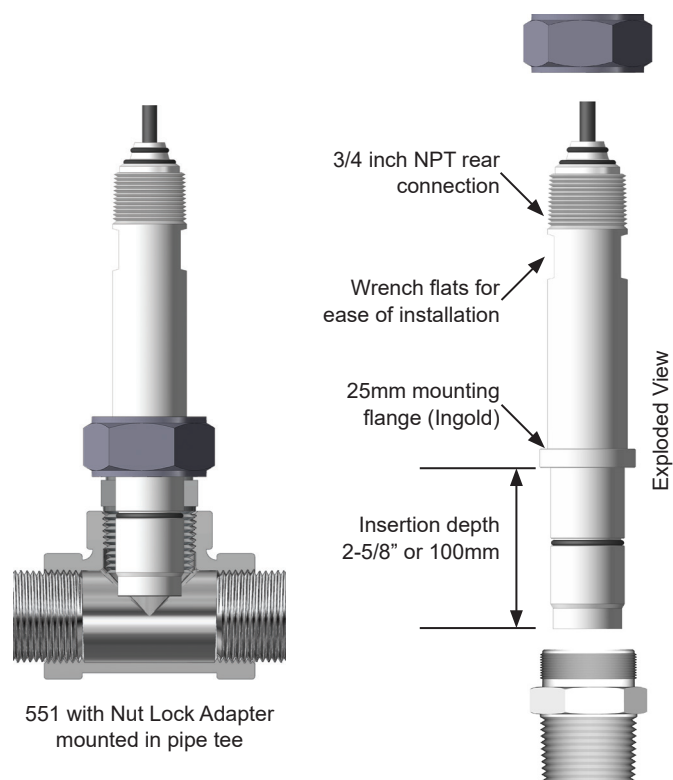
Maximum Allowable Working Pressure / Temperature*

286 PSIG @ -4°F (-20°C) to 131°F (55°C)
264 PSIG @ 131°F (55°C) to 194°F (90°C)
239 PSIG @ 194°F (90°C) to 266°F (130°C)

* MAWP based on min design temperature to max temperature listed.

Minimum Design Temperature

-4°F (-20°C)



551 In-line Installation

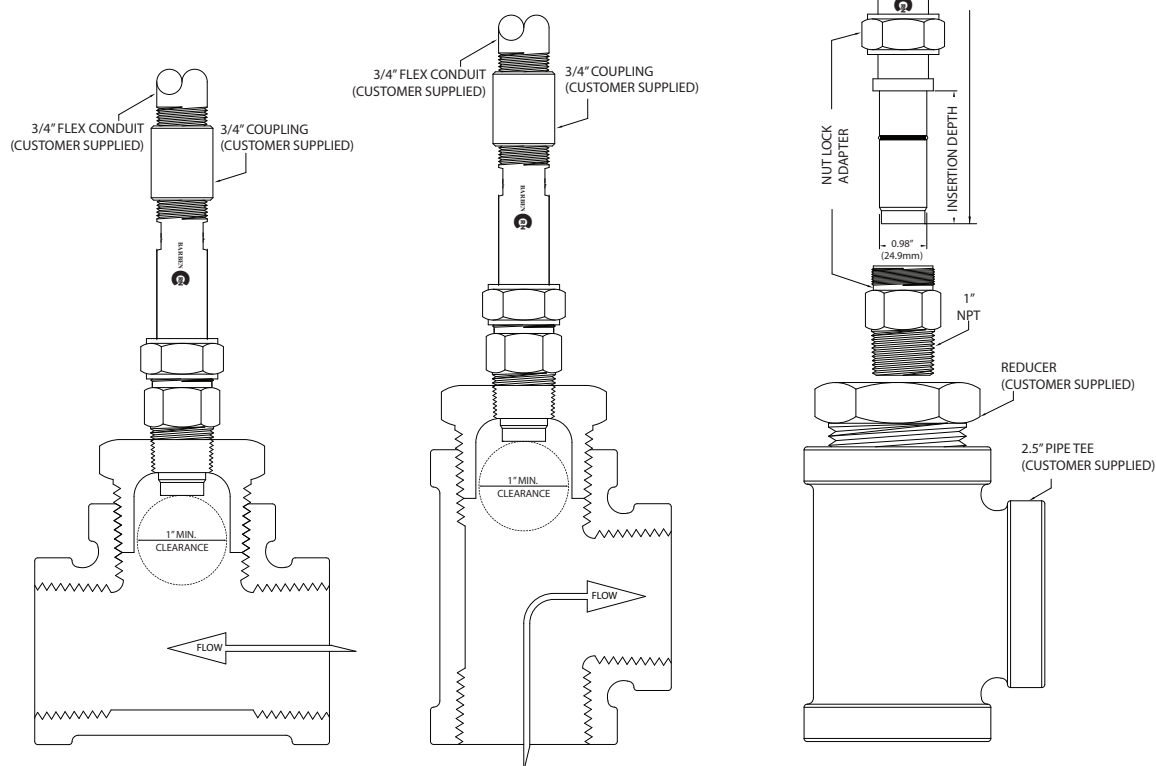


Figure 9

Liquid Conductivity

Four Electrode with CRN Registration

Model 547 Hot Tap Retractable

The Model 547 is a replaceable, cartridge style conductivity sensor. The sensor is fitted into a metallic sheath which is installed into an isolation valve assembly. This design is ideal for applications where measurement on a sample line is not desirable. When the sensor is removed for cleaning or calibration the valve can be used for isolation from the process. All metallic hardware is fully reusable thus saving money with on-going replacement expense.

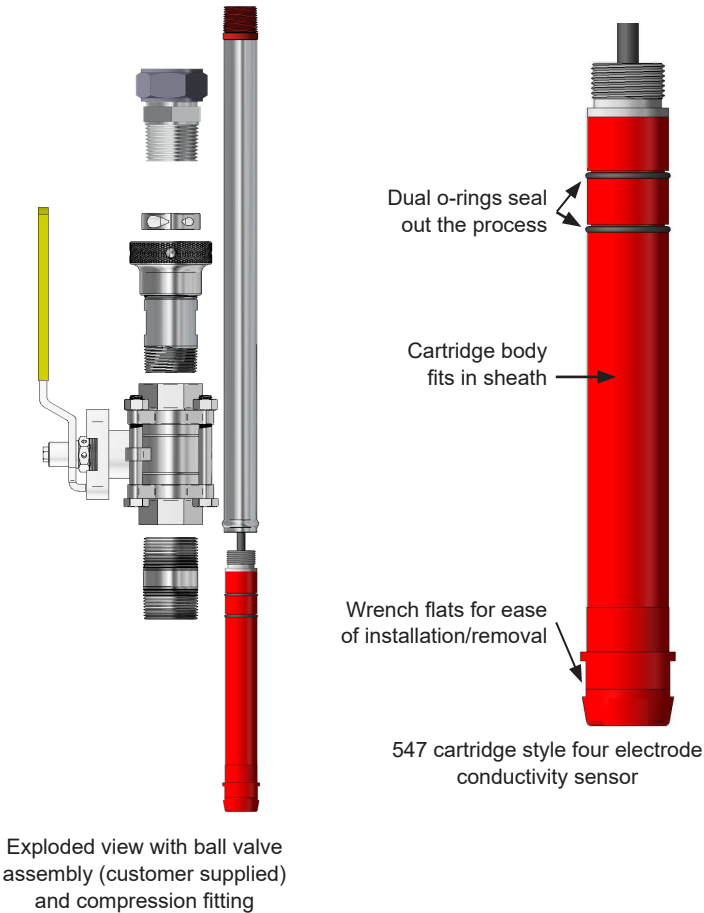
CRN Registration Canada
0F16420.2C



Maximum Allowable Working Pressure / Temperature*
Operating: 150 PSIG @ -4 to 266°F (-20 to 130°C)
Service: 65 PSIG recommended for retraction/insertion

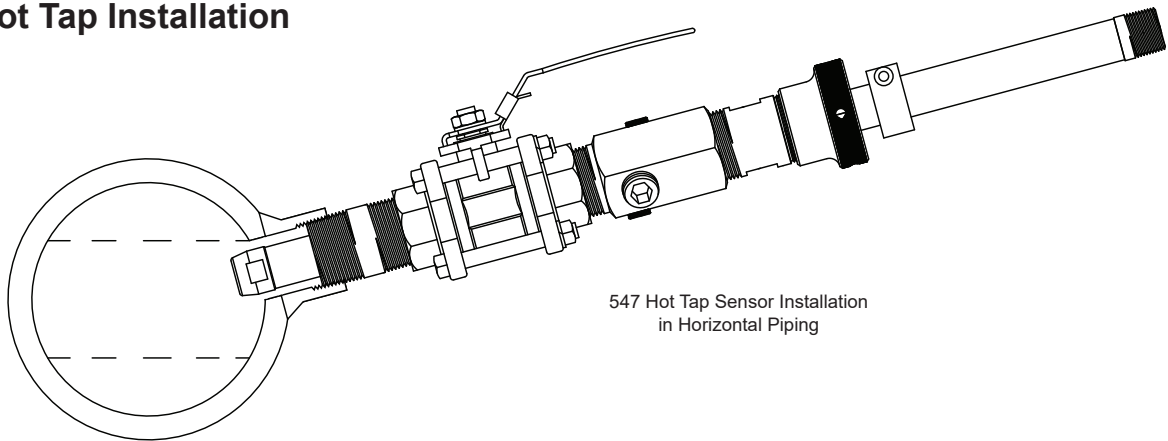
* MAWP based on min design temperature to max temperature listed.

Minimum Design Temperature
-4°F (-20°C)



547 Hot Tap Installation

Figure 10

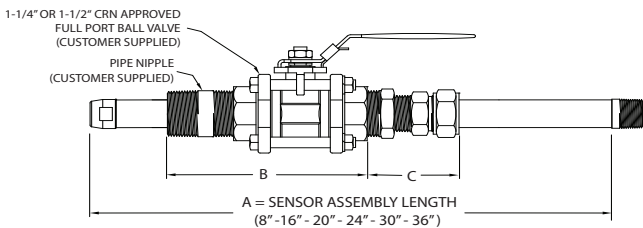


547 Hot Tap Sensor Installation
in Horizontal Piping

547 In-line Sizing Example

Insertion
Depth = (A) - (B) - (C)

The insertion depth should exceed any mounting hardware (flange, standoff or thread-o-let) plus the pipe wall thickness by at least 1/4" (6mm) to get the tip of the sensor into the process.



Valve & Nipple (Customer Supplied)	"B" Estimate	Compression Fitting	"C" Estimate
1-1/4" SS Valve	6.5"	Wrench Tight	3.0"
		Hand Tight	3.5"
1-1/2" SS Valve	7.1"	Wrench Tight	3.0"
		Hand Tight	4.5"
1-1/4" Kynar Valve	8.0"	Wrench Tight	3.0"
		Hand Tight	3.5"
1-1/2" Kynar Valve	8.6"	Wrench Tight	3.0"
		Hand Tight	4.5"

Liquid Conductivity Four Electrode with CRN Registration

551 / 546 / 547 Four Electrode Conductivity Sensors

Label	Seals	Body Style	Electrodes	TC	Insertion Depth	Cable	Terminations		
A	CRN Marked Product (Kynar body PEEK insulator)								
	Seals								
	E	EPDM							
	V	Viton							
		Configuration							
	551	Quick-Change Inline / Submersible Sensor							
	546	Threaded 3/4" NPT, In-line / Submersible / High Pressure Retractable Sensor							
	547	Cartridge Sensor for Valve Insertion							
		Electrode Range and Material (Actual range is subject to analyzer limits)							
		SM	0 - 1,400 MicroSiemen - 316 Stainless						
		HM	0 - 1,400 MicroSiemen - Hastelloy C-276						
		SH	0 - 2 Siemens - 316 Stainless						
		TH	0 - 2 Siemens - Titanium Grade 2						
		HH	0 - 2 Siemens - Hastelloy C-276						
			Integral Temperature Compensation						
			K	PT1000					
			C	PT100					
			B	3K Ohm Balco (120°C Max)					
			(Blank)	Other					
				Insertion Depth					
				S	Standard for 547 and 551 (2-5/8")				
				0.5	1/2" (546 Only, Recommended for High Pressure Hot Tap)				
				1.0	1" (546 Only)				
				1.5	1-1/2" (546 Only)				
				2.0	2" (546 Only)				
				2.5	2-1/2" (546 Only)				
				3.0	3" (546 Only)				
				3.5	3-1/2" (546 Only)				
				100	100mm (551 Only)				
					Cable				
					T	8" Pigtail for (Junction Box 546/551)			
					T1	8" Pigtail for (8" assy 547)			
					T2	8" Pigtail for (16" 547 assy)			
					T3	8" Pigtail for (20" 547 assy or 546 Hot Tap)			
					T4	8" Pigtail for (24" 547 assy)			
					T5	8" Pigtail for (30" 547 assy)			
					T6	8" Pigtail for (36" 547 assy)			
				1 to 100	1 - 100 foot cable				
					Lead Terminations				
					T	All Tinned			
					S	All Spades #6			
Label	Seals	Body Style	Electrodes	TC	Insertion Depth	Cable	Terminations		
A	E	547	SM	C	S	5	T	Typical Sensor Configuration	

Liquid Conductivity Four Electrode with CRN Registration

546 High Pressure Hot Tap Accessories

Part Number (use with 1-1/4" valves)	Part Number (use with 1-1/2" valves)	Accessory Description
AB5104K-S125V	AB5104K-S150V	316 Stainless Steel High Pressure Hot Tap Kit with Viton Seals
AB5104K-S125E	AB5104K-S150E	316 Stainless Steel High Pressure Hot Tap Kit with EPDM Seals
AB5104K-S125K	AB5104K-S150K	316 Stainless Steel High Pressure Hot Tap Kit with FFKM (Kalrez) Seals
AB5104K-T125V	AB5104K-T150V	Titanium Grade 2 High Pressure Hot Tap Kit with Viton Seals
AB5104K-T125E	AB5104K-T150E	Titanium Grade 2 High Pressure Hot Tap Kit with EPDM Seals
AB5104K-T125K	AB5104K-T150K	Titanium Grade 2 High Pressure Hot Tap Kit with FFKM (Kalrez) Seals

551 Nut Lock Adapter Accessories

Part Number	Accessory Description	Specification
AB4954-0022	Nut Lock Adapter, 316 Stainless Steel, 1" MNPT Mounting Thread	ASTM A276 316 (Body), ASTM A479 316 (Nut)
AB4954-0036	Nut Lock Adapter, Titanium Grade 2 (wetted), 1" MNPT Mounting Thread	UNS N10276 (Body), ASTM A479 316 (Nut)
AB4954-0040	Nut Lock Adapter, Hastelloy C-276 (wetted), 1" MNPT Mounting Thread	ASTM B348 (Body), ASTM A479 316 (Nut)

547 Hot Tap Accessories

CRN Sheath Kits for 547 Cartridge Style Sensors			
316SS Part #	Titanium Part #	Hastelloy C-276 Part #	Accessory Description
AB5104-0068V	AB5104-0058V	AB5104-0078V	8" Kit, Kynar Backpiece with Viton Seals (non-wetted)
AB5104-0216V	AB5104-0116V	AB5104-0316V	16" Kit, Kynar Backpiece with Viton Seals (non-wetted)
AB5104-0220V	AB5104-0120V	AB5104-0320V	20" Kit, Kynar Backpiece with Viton Seals (non-wetted)
AB5104-0224V	AB5104-0124V	AB5104-0324V	24" Kit, Kynar Backpiece with Viton Seals (non-wetted)
AB5104-0230V	AB5104-0130V	AB5104-0330V	30" Kit, Kynar Backpiece with Viton Seals (non-wetted)
AB5104-0236V	AB5104-0136V	AB5104-0336V	36" Kit, Kynar Backpiece with Viton Seals (non-wetted)

CRN Wrench Tight Compression Fittings for 547 Cartridge Style Sensors (Works with all sheath kits listed above)			
316SS Part #	Titanium Part #	Hastelloy C-276 Part #	Accessory Description
AB4954-0001V	AB4954-0009V	AB4954-0002V	Wrench Tight Compression Fitting with Viton Seal, 1" Male NPT
AB4954-0001E	AB4954-0009E	AB4954-0002E	Wrench Tight Compression Fitting with EPDM Seal, 1" Male NPT
AB4954-0001K	AB4954-0009K	AB4954-0002K	Wrench Tight Compression Fitting with FFKM (Kalrez) Seal, 1" Male NPT

CRN Hand Tight Compression Fittings for 547 Cartridge Style Sensors (Works with all sheath kits listed above)			
316SS Part #	Titanium Part #	Hastelloy C-276 Part #	Accessory Description
AB4954-0003V	AB4954-0005V	AB4954-0004V	Hand Tight Compression Fitting with Viton Seal, 1-1/4" Male NPT
AB4954-0003E	AB4954-0005E	AB4954-0004E	Hand Tight Compression Fitting with EPDM Seal, 1-1/4" Male NPT
AB4954-0003K	AB4954-0005K	AB4954-0004K	Hand Tight Compression Fitting with FFKM (Kalrez) Seal, 1-1/4" Male NPT

CRN Clean / Calibrate / Purge Fittings for 547 Cartridge Style Sensors (Install between customer supplied isolation valve and related CRN compression fitting)			
316SS Part #	Titanium Part #	Hastelloy C-276 Part #	Accessory Description
AB4954-0014	AB4954-0015		Clean / Calibrate / Purge Fitting with 3/8" ports, for Wrench Tight Compression fitting and 1-1/4" Female NPT isolation valve
AB4954-0023	AB4954-0024	AB4954-0018	Clean / Calibrate / Purge Fitting with 3/8" ports, for Wrench Tight Compression fitting and 1-1/2" Female NPT isolation valve
AB4954-0016	AB4954-0017	AB4954-0134	Clean / Calibrate / Purge Fitting with 3/8" ports, for Hand Tight Compression fitting and 1-1/4" Female NPT isolation valve
AB4954-0025	AB4954-0026	AB4954-0019	Clean / Calibrate / Purge Fitting with 3/8" ports, for Hand Tight Compression fitting and 1-1/2" Female NPT isolation valve

Contact Us

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Ametek has nearly 14,000 colleagues at over 120 manufacturing locations around the world. Supporting those operations are more than 80 sales and service locations across the United States and in more than 30 other countries around the world.



Sales@adaptiveind.com

www.adaptiveind.com

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Fittings and Accessories For Industrial Installations

- Jet Cleaners and Scrubber Accessories
- Isolation Ball Valves Assemblies
- Compression Fittings and Sheath Sets
- High Pressure (2500 PSIG) Sensor Housings
- In-line Flow Cells
- Nut Lock Union Style Adapters
- Sensor Extension Cables
- Junction Boxes



To get the most from your Performance Series Sensors use fittings and accessories direct from the manufacturer.

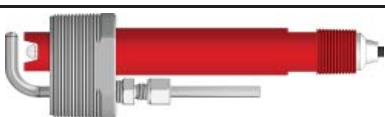
Barben Analytical offers a broad range of fittings and sensor cables to make sure your product will function properly in the application. Many process fittings are available in a variety of corrosion resistant metals as well as high performance plastics.

Accessories Guide

pH/ORP/Conductivity Sensors

Model 546

3/4 Inch NPT Threaded In-line, Submersible Accessories

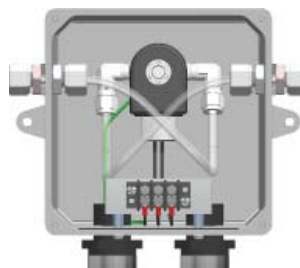
JET CLEANER PRODUCTS - AIR OR LIQUID (546 sensor with 1.5" insertion depth required)	
SUBMERSIBLE JET CLEANER 2" MNPT THREAD MOUNT (DRAWING 2P0183)	
Part #	Description
C37	CPVC / SS316
B37	Kynar / Titanium
	
SUBMERSIBLE JET CLEANER WITH LIQUID TRAP FOR BATCH APPLICATIONS (DRAWING 2P0182)	
C37CT	CPVC / SS316 with liquid trap
B37KT	Kynar / Titanium with liquid trap
	
INLINE JET CLEANER 2" MNPT THREAD MOUNT FOR TEE MOUNTING (DRAWING 2P0184)	
C36	CPVC / SS316
B36	KYNAR / Titanium
	
FLOW CELLS FOR INLINE (C36 / B36) JET CLEANERS ABOVE	
B4951-0050	CPVC 2" FNPT Threaded Pipe Tee for C36
B4951-0051	Polypropylene 2" FNPT Threaded Pipe Tee for C36 or B36
B4951-0052	SS316 2" FNPT Threaded Pipe Tee for C36 or B36
B4951-0053	Kynar 2" FNPT Threaded Pipe Tee for B36
BRUSH SCRUBBER SUBMERSIBLE - SS FRAME WITH PLASTIC BRUSHES - AIR OR LIQUID DRIVEN (546 pH sensors with Hemispherical glass, Flush Junction, and 0.5" Insertion Depth Required) 45 PSIG WATER / 20 PSIG AIR REQ'D WHEN SUBMERSED - 35 PSIG AIR REQ'D NON-SUBMERSED	
SUBMERSIBLE BRUSH SCRUBBERS (DRAWING 2P0042)	
B38-B-V-N	Scrubber with Viton brushes
B38-B-E-N	Scrubber with EPDM brushes
See Below for image	
SUBMERSIBLE BRUSH SCRUBBER MOUNTED IN PVC POT WITH NPT THREADED PORTS (DRAWING 2P0043)	
B38-B-V-P1	Viton brushes, 1" FNPT Threaded ports
B38-B-E-P1	EPDM brushes, 1" FNPT Threaded ports
B38-B-V-P2	Viton brushes, 2" FNPT Threaded ports
B38-B-E-P2	EPDM brushes, 2" FNPT Threaded ports
See Below for image	
DISTRIBUTION VALVE FOR JET CLEANERS AND BRUSH SCRUBBERS ABOVE PVC WEATHERPROOF ENCLOSED SOLENOID VALVE (DRAWING 2P0181)	
B41-P-C	115VAC
B42-P-C	230VAC
B43-P-C	24VDC
See Below for image	
TUBING FOR PLUMBING DISTRIBUTION VALVE TO JET CLEANERS/BRUSH SCRUBBERS	
B9213-0002	Polypropylene 1/4"OD X 1/8"ID



Brush Scrubber - Submersible



Brush Scrubber in Pot with NPT Ports



Distribution Valve

Images for reference only
Not to scale

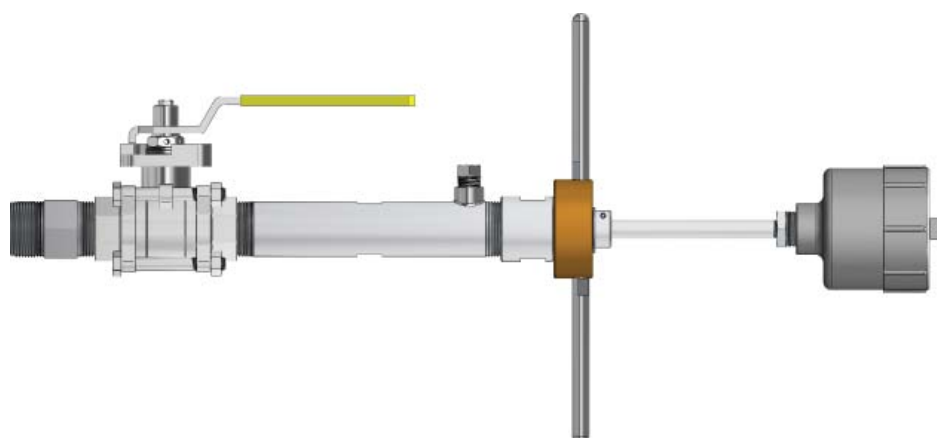
Accessories Guide

pH/ORP/Conductivity Sensors

Model 546

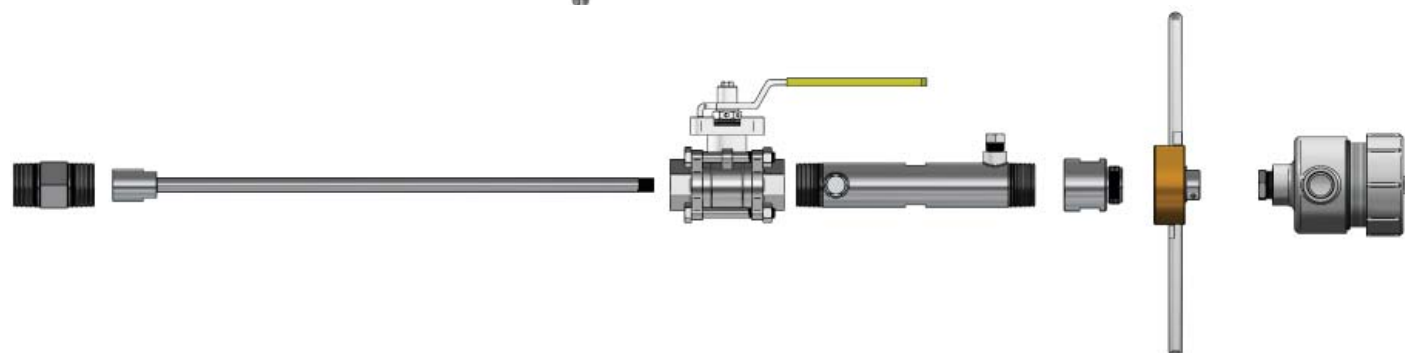
High Pressure Hot Tap Accessories

HIGH PRESSURE BALL-VALVE INSERTION SYSTEMS	
SS316 1-1/4" ASSEMBLIES WITH FACTORY SUPPLIED VALVE (DRAWING 2P0086)	
Part #	Description
B5104-S125V	With Viton ORings
B5104-S125E	With EPDM ORings
B5104-S125K	With Kalrez ORings
See Below for image	
KIT 1-1/4" (DRAWING 2P0087) (1-1/4" NPT FULL PORT BALL VALVE SUPPLIED BY END USER)	
B5104K-S125V	SS316 with Viton ORings, NO Valve
B5104K-S125E	SS316 with EPDM ORings, NO Valve
B5104K-S125K	SS316 with Kalrez ORings, NO Valve
B5104K-T125V	Titanium Gr. 2 with Viton ORings, NO Valve
B5104K-T125E	Titanium Gr. 2 with EPDM ORings, NO Valve
B5104K-T125K	Titanium Gr. 2 with Kalrez ORings, NO Valve
See Below for image	
KIT 1-1/2" (DRAWING 2P0088) (1-1/2" NPT FULL PORT BALL VALVE SUPPLIED BY END USER)	
B5104K-S150V	SS316 with Viton ORings, NO Valve
B5104K-S150E	SS316 with EPDM ORings, NO Valve
B5104K-S150K	SS316 with Kalrez ORings, NO Valve
B5104K-T150V	Titanium Gr. 2 with Viton ORings, NO Valve
B5104K-T150E	Titanium Gr. 2 with EPDM ORings, NO Valve
B5104K-T150K	Titanium Gr. 2 with Kalrez ORings, NO Valve
See Below for image	
REPLACEMENT O-RINGS FOR HIGH PRESSURE INSERTION SYSTEMS	
B4904K-1009	EPDM ORings
B4904K-1010	Kalrez ORings
B4904K-1011	Viton ORings



Complete assembly with factory supplied isolation ball valve (left)

Exploded View (below)



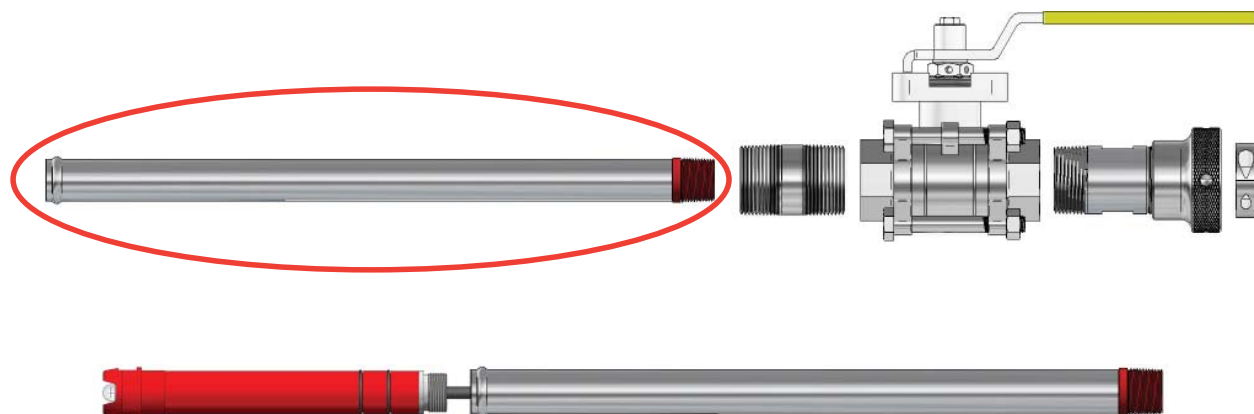
Accessories Guide

pH/ORP/Conductivity Sensors

Model 547

Hot Tap Retractable Accessories (Sheath Kits)

SHEATH SETS - INCLUDES OUTER SHEATH, KYNAR BACKPIECE, ORINGS (DRAWING 2A0160)							
Part #	Length		Part #	Length		Part #	Length
TITANIUM-KYNAR-VITON			SS316-KYNAR-VITON			HASTELLOY C-KYNAR-VITON	
B5104-0058V	8"		B5104-0068V	8"		B5104-0078V	8"
B5104-0116V	16"		B5104-0216V	16"		B5104-0316V	16"
B5104-0120V	20"		B5104-0220V	20"		B5104-0320V	20"
B5104-0124V	24"		B5104-0224V	24"		B5104-0324V	24"
B5104-0130V	30"		B5104-0230V	30"		B5104-0330V	30"
B5104-0136V	36"		B5104-0236V	36"		B5104-0336V	36"
B5104-0160V	60"		B5104-0260V	60"		B5104-0360V	60"
TITANIUM-KYNAR-EPDM			SS316-KYNAR-EPDM			HASTELLOY C-KYNAR-EPDM	
B5104-0058E	8"		B5104-0068E	8"		B5104-0078E	8"
B5104-0116E	16"		B5104-0216E	16"		B5104-0316E	16"
B5104-0120E	20"		B5104-0220E	20"		B5104-0320E	20"
B5104-0124E	24"		B5104-0224E	24"		B5104-0324E	24"
B5104-0130E	30"		B5104-0230E	30"		B5104-0330E	30"
B5104-0136E	36"		B5104-0236E	36"		B5104-0336E	36"
B5104-0160E	60"		B5104-0260E	60"		B5104-0360E	60"
TITANIUM-KYNAR-KALREZ			SS316-KYNAR-KALREZ			HASTELLOY C-KYNAR-KALREZ	
B5104-0058K	8"		B5104-0068K	8"		B5104-0078K	8"
B5104-0116K	16"		B5104-0216K	16"		B5104-0316K	16"
B5104-0120K	20"		B5104-0220K	20"		B5104-0320K	20"
B5104-0124K	24"		B5104-0224K	24"		B5104-0324K	24"
B5104-0130K	30"		B5104-0230K	30"		B5104-0330K	30"
B5104-0136K	36"		B5104-0236K	36"		B5104-0336K	36"
B5104-0160K	60"		B5104-0260K	60"		B5104-0360K	60"



Sheath kit circled above. Additional hot tap hardware on following pages.
Each kit includes metallic sheath, Kynar backpiece, and o-ring seals (Kalrez, Viton or EPDM)

Accessories Guide

pH/ORP/Conductivity Sensors

Model 547 / 567

Hot Tap Retractable Accessories (Valves Assemblies and Clean / Cal / Purge Fittings)

CLEAN-CALIBRATE-PURGE FITTING		
Includes two 3/8"FNPT Thread Ports for Fill and Drain (DRAWING 2P0071)		
SS316 Wrench Tight		
Part #	Description	
B4954-0014	1" FNPT X 1-1/4" MNPT Thread	See page 7 for image
B4954-0023	1" FNPT X 1-1/2" MNPT Thread	
SS316 Hand Tight		
B4954-0016	1-1/4" FNPT X 1 -1/4" MNPT Thread	See page 7 for image
B4954-0025	1-1/4" FNPT X 1- 1/2" MNPT Thread	
Titanium Gr. 2 Wrench Tight		
B4954-0015	1" FNPT X 1- 1/4" MNPT Thread	See page 7 for image
B4954-0024	1" FNPT X 1 -1/2" MNPT Thread	
Titanium Gr. 2 Hand Tight		
B4954-0017	1-1/4" FNPT X 1-1/4" MNPT Thread	See page 7 for image
B4954-0026	1-1/4" FNPT X 1-1/2" MNPT Thread	
Hastelloy C Wrench Tight		
B4954-0018	1" FNPT X 1-1/2" MNPT Thread	See page 7 for image
Hastelloy C Wrench Tight		
B4954-0019	1-1/4" FNPT X 1-1/2" MNPT Thread	See page 7 for image
COLLAR STOP ADJUSTABLE FOR INSERTION REPEATABILITY		
B5106-0033	SS 1" ID X 1-3/4" OD	See page 7 for image
STAINLESS STEEL BALL VALVE ASSEMBLIES		
SS316 FOR USE WITH HAND TIGHT FITTINGS (DRAWING 2P0016)		
B5205-0003	1-1/4" Valve With Nipple 1-1/4" NPT	See page 7 for image
B5205-0004	1-1/2" Valve With Reducer 1-1/2" X 1-1/4" NPT & Nipple 1-1/2" NPT	
SS316 FOR USE WITH WRENCH TIGHT FITTINGS (DRAWING 2P0016)		
B5205-0001	1-1/4" Valve With Reducer 1-1/4" X 1" NPT & Nipple 1-1/4" NPT	See page 7 for image
B5205-0002	1-1/2" Valve With Reducer 1 1/2" X 1" NPT & Nipple 1-1/2" NPT	
KYNAR BALL VALVE ASSEMBLIES		
KYNAR FOR USE WITH HAND TIGHT FITTINGS (DRAWING 2P0017)		
B5205-0008	1-1/4" Valve With Nipple 1-1/4" NPT	See page 7 for image
B5205-0006	1-1/2" Valve With Reducer 1-1/2" X 1-1/4" NPT & Nipple 1-1/2" NPT	
KYNAR FOR USE WITH WRENCH TIGHT OR PLASTIC HAND TIGHT FITTINGS (DRAWING 2P0017)		
B5205-0007	1-1/4" Valve With Reducer 1-1/4" X 1" NPT & Nipple 1-1/4" NPT	See page 7 for image
B5205-0005	1-1/2" Valve With Reducer 1-1/2" X 1" NPT & Nipple 1-1/2" NPT	
KYNAR FOR USE WITH STOP LOCK FITTINGS (DRAWING 2P0189)		
B5205-1000	1-1/2" Valve With Nipple 1-1/2" NPT	See page 7 for image

Accessories Guide

pH/ORP/Conductivity Sensors

Model 547 / 567

Hot Tap Retractable Accessories (Compression fittings)

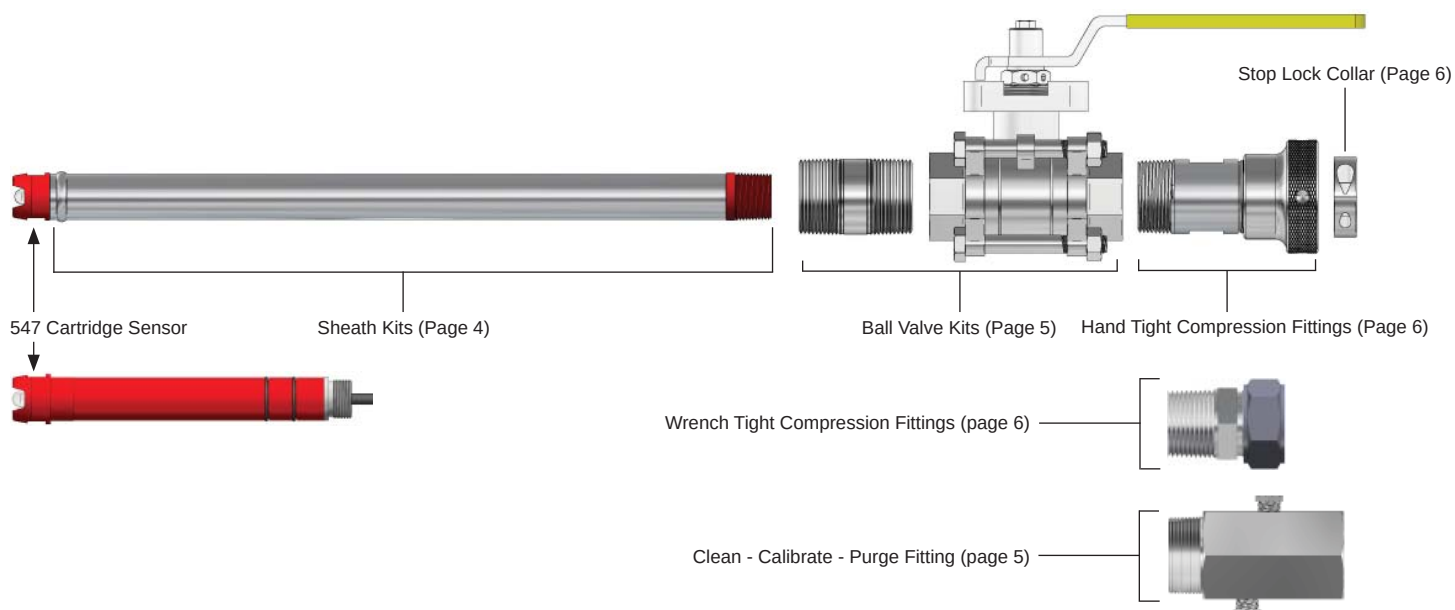
METAL COMPRESSION FITTINGS - HANDTIGHT - ORING SEALS - SS316 HAND NUT 1-1/4" MNPT THREAD (DRAWING 2P0010)		
HAND TIGHT COMPRESSION FITTING OPTIONS	SS316 WETTED COMPONENTS	
	Part #	Description
	B4954-0003V	VITON seals
	B4954-0003E	EPDM seals
	B4954-0003K	KALREZ seals
	HASTELLOY C WETTED COMPONENTS	
	B4954-0004V	VITON seals
	B4954-0004E	EPDM seals
	B4954-0004K	KALREZ seals
	TITANIUM GR. 2 WETTED COMPONENTS	
	B4954-0005V	VITON seals
	B4954-0005E	EPDM seals
	B4954-0005K	KALREZ seals
	REPLACEMENT O-RING KITS FOR HAND TIGHT COMPRESSION FITTINGS ABOVE (Set)	
	B4904K-1001	VITON
	B4904K-1002	EPDM
	B4904K-1000	KALREZ
PLASTIC COMPRESSION FITTINGS - HANDTIGHT - ORING SEALS (40 PSIG MAX) 1" MNPT THREAD (DRAWING 2P0164)		
WRENCH TIGHT COMPRESSION FITTING OPTIONS	KYNAR WETTED COMPONENT	
	B4953-0017V	VITON seal, KYNAR Hand Nut
	B4953-0017E	EPDM seal, KYNAR Hand Nut
	B4953-0017K	KALREZ seal, KYNAR Hand Nut
	METAL COMPRESSION FITTINGS - WRENCH TIGHT - ORING SEALS 1" MNPT THREAD (DRAWING 2P0011)	
	SS316 WETTED COMPONENT	
	B4954-0001V	VITON seal, SS Hex Nut
	B4954-0001E	EPDM seal, SS Hex Nut
	B4954-0001K	KALREZ seal, SS Hex Nut
	HASTELLOY C WETTED COMPONENT	
	B4954-0002V	VITON seal, SS Hex Nut
	B4954-0002E	EPDM seal, SS Hex Nut
	B4954-0002K	KALREZ seal, SS Hex Nut
	TITANIUM GR. 2 WETTED COMPONENT	
	B4954-0009V	VITON seal, SS Hex Nut
	B4954-0009E	EPDM seal, SS Hex Nut
	B4954-0009K	KALREZ seal, SS Hex Nut
STOP LOCK FITTINGS	TFE TEFLON WETTED COMPONENT (40PSIG MAX)	
	B4953-0014V	VITON seal, TFE TEFLON Hex Nut
	B4953-0014E	EPDM seal, TFE TEFLON Hex Nut
	B4953-0014K	KALREZ seal, TFE TEFLON Hex Nut
	REPLACEMENT ORING FOR WRENCH TIGHT AND PLASTIC HAND TIGHT FITTINGS ABOVE	
	B4904K-1003	VITON
	B4904K-1004	EPDM
	B4904K-1005	KALREZ
	REPLACEMENT FERRULES FOR METALLIC HAND AND WRENCH TIGHT FITTINGS ABOVE	
	B4952-0004	Teflon Front
	B4952-0005	SS Rear Split
	STOP LOCK FITTINGS - WRENCH TIGHT - ORING SEALS - 1-1/2"MNPT THREAD (DRAWING 2P0121)	
	PEEK WETTED COMPONENT	
	B4953-0019V	VITON seals, SS Hex Nut
	B4953-0019E	EPDM seals, SS Hex Nut
	B4953-0019K	KALREZ seals, SS Hex Nut
	REPLACEMENT ORING KIT FOR STOP LOCK FITTINGS ABOVE (SET)	
	B4904K-1006	VITON
	B4904K-1007	EPDM
	B4904K-1008	KALREZ

Accessories Guide

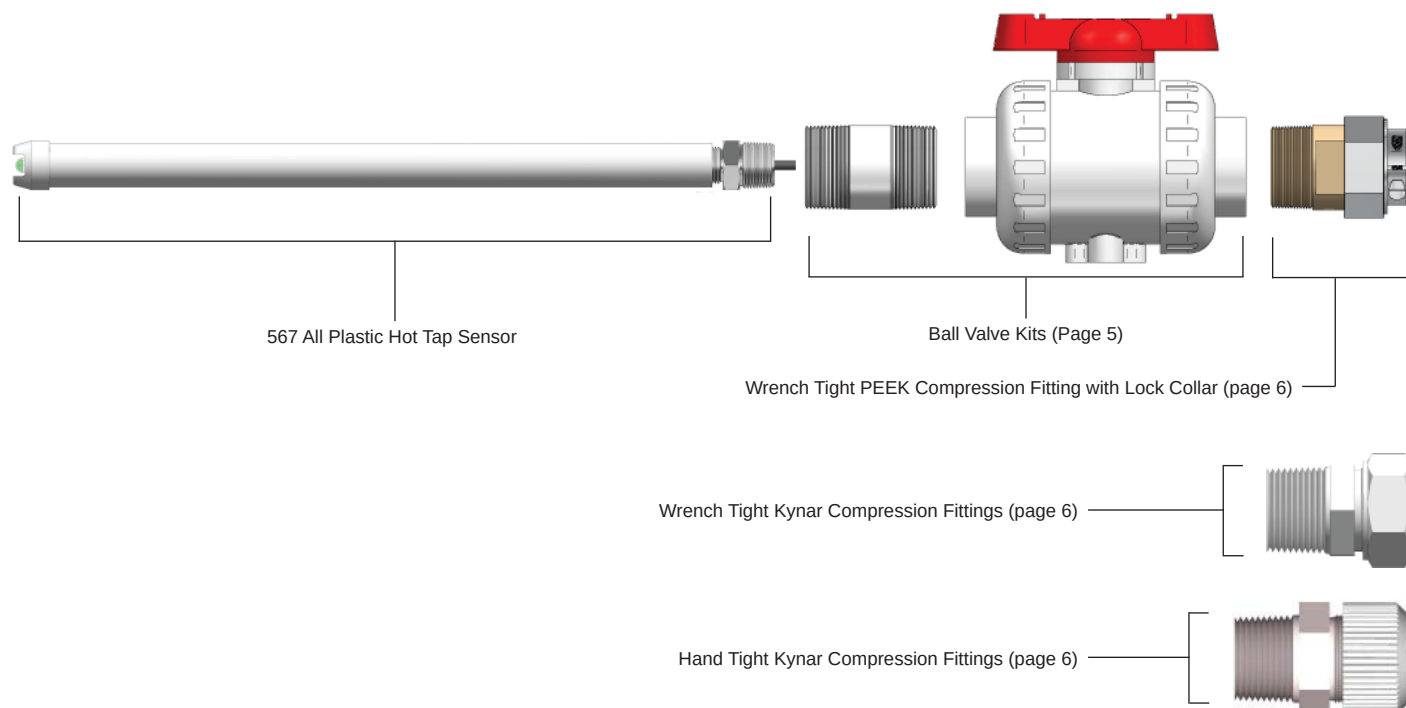
pH/ORP/Conductivity Sensors

Model 547 / 567

Hot Tap Retractable Accessories (Illustrations)



547 Metallic Hot Tap Assembly



567 All Plastic Hot Tap Assembly

Accessories Guide

pH/ORP/Conductivity Sensors

Model 547

In-line High Pressure Accessories

HIGH PRESSURE (2500 PSIG) INLINE HOUSINGS 1" MNPT THREAD MOUNTING (DRAWING 2P0044) (NOSE OF SENSOR CARTRIDGE ACCOUNTS FOR THE FIRST INCH OF INSERTION)

MATERIAL SS316

Part #	Description
B5106-0001	1.0" Insertion Depth
B5106-0002	1.5" Insertion Depth
B5106-0003	2.0" Insertion Depth
B5106-0004	2.5" Insertion Depth
B5106-0005	3.0" Insertion Depth
B5106-0006	3.5" Insertion Depth
B5106-0007	4.0" Insertion Depth
B5106-0008	4.5" Insertion Depth



MATERIAL TITANIUM GR2

B5106-0021	1.0" Insertion Depth
B5106-0022	1.5" Insertion Depth
B5106-0023	2.0" Insertion Depth
B5106-0024	2.5" Insertion Depth
B5106-0025	3.0" Insertion Depth
B5106-0026	3.5" Insertion Depth
B5106-0027	4.0" Insertion Depth
B5106-0028	4.5" Insertion Depth



MATERIAL HASTELLOY C-276

B5106-0040	1.0" Insertion Depth
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INLINE FLOW CELL PIPE TEE 1"FNPT THREADED 3,000PSIG RATED

B4951-0055	SS316
B4951-0095	Titanium Gr2

FLOW CELL ASSEMBLY - SS316 SENSOR HOUSING & MATING CELL WITH 1/4" PORTS (DRAWING 2P0073) (547 PH SENSOR WITH HEMISPHERICAL GLASS AND FLUSH JUNCTION REQUIRED, 547 SPECIFIC, NOT RECOMMENDED FOR 4 ELECTRODE CONDUCTIVITY)

WALL / SURFACE MOUNTED STANDARD

B57-S-V-N	Viton Oring
B57-S-E-N	EPDM Oring
B57-S-K-N	Kalrez Oring



PIPE MOUNTED

B57-S-V-P	Viton Oring
B57-S-E-P	EPDM Oring
B57-S-K-P	Kalrez Oring



Accessories Guide

pH/ORP/Conductivity Sensors

Model 551

Quick Change In-line Accessories

INLINE NUT-LOCK ADAPTER WITH 1" MNPT THREAD (DRAWING 2P0008)	
PLASTIC BODY 150 PSIG MAX (SENSOR DEPENDENT)	
Part #	Description
B4953-0001	CPVC Body Delrin Hand Nut
B4953-0002	KYNAR Body Delrin Hand Nut
B4953-0015	KYNAR Body SS316 Hex Nut
B4953-1010	CPVC Body KYNAR Hand Nut
B4953-1011	PEEK Body KYNAR Hand Nut
METALLIC BODY 150 PSIG MAX (SENSOR DEPENDENT)	
B4954-0006	SS316 Body Delrin Hand Nut
B4954-0008	Titanium Body Delrin Hand Nut
B4954-0007	Hastelloy C-276 Body Delrin Hand Nut
METALLIC BODY HIGH PRESSURE 300 PSIG MAX (SENSOR DEPENDENT)	
B4954-0022	SS316 Body SS316 Hex Nut
B4954-0036	Titanium Body SS316 Hex Nut
B4954-0040	Hastelloy C276 Body SS316 Hex Nut
INLINE FLOW CELL PIPE TEE 1"FNPT THREADED, FOR NUT-LOCK ADAPTERS (Drawing 2P0092)	
B4951-0036	SS316, 150 PSIG Max
B4951-0045	CPVC Schedule 80, 100 PSIG Max
B4951-0046	Kynar Schedule 80, 200 PSIG Max
B4951-0044	Polypro Schedule 80, 150 PSIG Max
FLOWCELL WITH MOUNTING CLAMP (Drawing 2P0312) 300 PSIG MAX (SENSOR DEPENDENT)	
B4992-1009	SS316 Wetted Parts, 1/2" FNPT Connections
B4992-0020	SS316 Wetted Parts, 1/4" Tubing Connections
B4992-1010	Titanium Gr. 2 Wetted Parts 1/2" FNPT Connections
B4992-1011	Titanium Gr. 2 Wetted Parts 1/4" Tubing Connections
INLINE NUTLOCK 150# SCH 80 ANSI B FLANGE ADAPTERS (Drawing 2P0083)	
CPVC FLANGE ADAPTER 150# ANSI WITH 316 SS HEX NUT 150 PSIG MAX (SENSOR DEPENDENT)	
B4951-0066	1"
B4951-0067	1-1/2"
B4951-0068	2"
KYNAR FLANGE ADAPTER 150# ANSI WITH 316 SS HEX NUT 150 PSIG MAX (SENSOR DEPENDENT)	
B4951-0118	1"
B4951-0119	1-1/2"
B4951-0120	2"
SERVICE PLUG - TO SEAL NUT-LOCK ADAPTER WHEN SENSOR IS REMOVED	
BV551PLUG	Kynar/Viton, 300PSIG Max



CPVC / Kynar Flanged Nut Lock Adapter

Images for reference only
Not to scale

Accessories Guide

pH/ORP/Conductivity Sensors

pH / ORP Sensor Extension Cable

pH / ORP SENSOR EXTENSION CABLES									
(FOR USE WITH SENSORS WITH INTEGRAL CABLE AND BNC TERMINATIONS)									
B39	Cable with Female BNC (Interfaces Male BNC Termination on Sensor Cable)								
	Cable Type								
	C-A	Coax Only 105°C (For pH/ORP sensors w/o Temp Comp or Solution Ground)							
	M-2	Multiconductor 130°C, Low Noise, TPE Jacket (Rqd for Temp Comp and/or Solution Ground)							
		Reference Conductor							
		S	Coax Shield						
		I	Independent Lead (Multiconductor Only)						
			Solution Ground						
			N	None					
			G	Independent Lead (Multiconductor Only)					
				Cable Length					
				#	Special length cut				
				5	5' Cable - standard				
				15	15' Cable				
				30	30' Cable				
				50	50' Cable				
				60	60' Cable				
				70	70' Cable				
				80	80' Cable				
				90	90' Cable				
				100	100' Cable				
					Lead Terminations (Transmitter End)				
					BN	BNC (Coax Only) NO TC			
					TN	Tinned Leads (Coax Only) NO TC			
					TT	All Tinned Leads			
					PP	All Wire Ferrules			
					BT	BNC & Tinned Leads for TC			
Series	Type	Ref	SG	Length	Term	Typical Model Number			
B39	M-2	S	N	15	TT	B39-M-2-S-N-15-TT			

ADAPTIVE MINI CABLES FOR pH or ORP SENSORS WITH BNC AND OR 2 PIN MOLEX TC	
B3907-0016	Female BNC / 2 Pin Molex X Tinned Leads 12" (Drawing 2P0153)
B3907-0001	Female BNC X Tinned Leads 6" (Drawing 2P0093)
B3907-0020	Female BNC X #6 Spade Lugs 6" (Drawing 2P0151)
B3907-0015	Female 2 Pin Molex X Tinned Leads 6" (Drawing 2P0152)

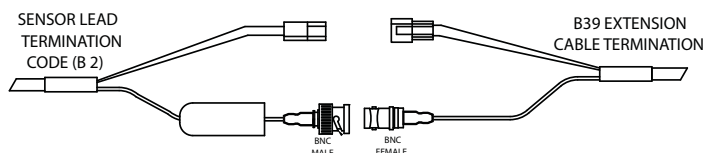
Accessories Guide

pH/ORP/Conductivity Sensors

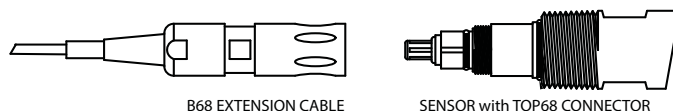
pH / ORP Sensor Extension Cable (Continued)

TOP68 COUPLED 6 POLE QUICK DISCONNECT CABLES FOR pH/ORP SENSORS (FOR pH OR ORP SENSORS WITH PLUG HEAD (PH) OR PLUG TAIL (PT) TERMINATIONS)				
B68 High Temperature, Low Noise, Flexible Extension Cable with Connector and Gold Contacts				
	Cable Type			
	M	Multiconductor 80°C Max. Temperature		
		Cable Length Footage 1 – 60Ft (Whole Numbers Only) Longer POR		
		#	Special length cut charge plus next longer selection below	
		5	5' Cable - standard	
		15	15' Cable	
		30	30' Cable	
		50	50' Cable	
		60	60' Cable	
		Lead Terminations (Preamp / Analyzer End)		
		TT	All Tinned	
		PP	All Wire Ferrules	
		BT	BNC & Tinned Leads for TC	
Series	Type	Length	Term	Typical Model Number
B68	M	10	BT	

STANDARD PRE-BUILT CABLES	
TOP68 COUPLED QUICK DISCONNECT FOR pH SENSORS WITH TC OR SOLUTION GND (6 POLE)	
B3907-0022	1.5M, Tinned Leads
B3907-0004	5M, Tinned Leads
B3907-0006	10M, Tinned Leads
B3907-0044	1.5M, BNC and Tinned TC Leads
B3907-0003	5M, BNC and Tinned TC Leads
B3907-0005	10M, BNC and Tinned TC Leads
TOP68 COUPLED QUICK DISCONNECT FOR pH SENSORS WITHOUT TC OR SOLUTION GROUND OR ORP SENSORS WITHOUT TC OR SOLUTION GROUND (2 POLE)	
B3907-0009	5M, Tinned Leads
B3907-0007	10M, Tinned Leads
B3907-0010	5M, BNC
B3907-0008	10M, BNC



Example of B39 pH Extension cable with BNC connector.
Find extension cable on page 10



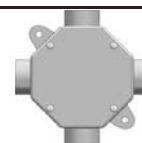
Example of TOP68 Coupled Quick Disconnect termination for a pH Sensor.
Find Extension cable above

Accessories Guide

pH/ORP/Conductivity Sensors

Common Accessories - Junction Boxes and Tags

JUNCTION BOXES FOR PH SENSORS	
Part #	Description
B5026-0001	Junction Box 4" x 4" CPVC 4 Port Included 2 SS Reinforced CPVC 3/4" FNPT Ports & 2 Slip Plugs (Drawing 2P0020)
B5026-0005V	Junction Box, powder coated aluminum, weatherproof (Drawing TBA)
IDENTIFICATION TAGS	
B5003-0001	Tag Polyester
B5003-0002	Tag Stainless Steel



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Sales@adaptiveind.com

www.adaptiveind.com

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