



## Contacting Conductivity Sensors

Contacting conductivity sensors measure conductivity of a solution via electrodes. They are ideal for use in cooling towers and boilers, reverse osmosis equipment, and other non-oily applications. A variety of cell constants are available to handle a range of conductivities. They are available in several different configurations:

### Cooling Tower Contacting Conductivity Sensors

These cell constant 1.0 sensors are designed for cooling towers with water up to 30,000  $\mu\text{S}/\text{cm}$  (range varies with solution temperature, see next page). Lower pressure (up to 150 PSI, 10 bar) polypropylene sensors are available with graphite or stainless steel electrodes, and may be installed inline or submersion. High pressure (up to 300 PSI, 20 bar) inline sensors are constructed from stainless steel and PEEK.



WebMaster controllers require active sensors. These sensors contain electronics to convert the sensor signal to a voltage that these controllers can read. W400 series controllers use passive sensors that have cables dressed specifically for them. W100, W900 and W600 series controller's passive sensors are dressed differently.

Performance specifications vary with the type of controller, refer to the controller brochure. Typical cooling tower temperatures are 0 to 70°C, 32 to 158°F.

### Boiler Contacting Conductivity Sensors

These cell constant 1.0 sensors are designed for boilers with water up to 30,000  $\mu\text{S}/\text{cm}$  (range varies with solution temperature, see next page) and pressures up to 250 PSI, 16.7 bar). These inline sensors are constructed from stainless steel and PEEK.



For the W100, W900 and W600 series controllers, a cell constant 10.0 sensor is available designed for boilers with water up to 300,000  $\mu\text{S}/\text{cm}$  (range varies with solution temperature, see below).

WebMaster controllers require active sensors. These sensors contain electronics to convert the sensor signal to a voltage that these controllers can read. W400, W600, W900 and W100 series controllers use passive sensors.

Performance specifications vary with the type of controller, refer to the controller brochure. Typical boiler temperatures are 0 to 205°C, 32 to 401°F.

# W100/W600/W900 Contacting Conductivity

## General Purpose Contacting Conductivity Sensors (for W100, W900 and W600 Series Controllers ONLY)

These passive sensors are available in a variety of cell constants for use in conductivities up to 300,000  $\mu\text{S}/\text{cm}$  (range varies with solution temperature, see below). Typical applications include RO systems and boiler condensate monitoring. They may be mounted inline or submersion, using either polypropylene (0-100 °C, 100 PSI/6.9 bar) or stainless steel (0-120 °C, 200 PSI/13.8 bar) 1/2" NPT mounting fittings. These inline sensors are constructed from stainless steel and PTFE with EPR o-rings.



Temperature °C	0	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Range Multiplier %	181.3	139.9	124.2	111.1	100.0	90.6	82.5	75.5	64.3	55.6	48.9	43.5	39.2	35.7	32.8	30.4	28.5	26.9	25.5	24.4	23.6	22.9

Note: Conductivity ranges above apply at 25°C. At higher temperatures, the range is reduced per the range multiplier chart.

## Specifications and Ordering Information

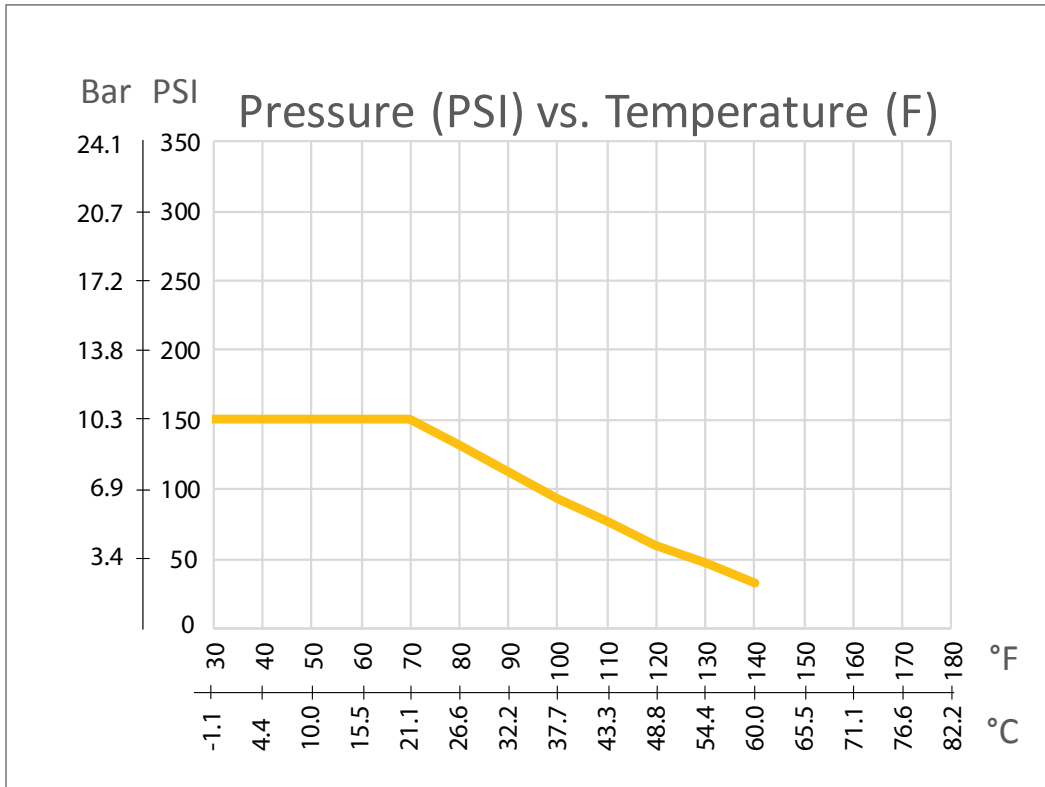
Applications:	Cooling Tower	Boiler	Condensate / General	General
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COMPATIBLE CONTROLLERS	P/N	Description	Cond Range <sup>1</sup>	Temp Range	Pressure Rating	Materials	Process Connections	Cable Length (Max 250 ft)	Cell Constant	Temp. Element	
W600 W900 WCTW1 and WCT6	191646-03	Sensor, Contacting Conductivity, Tower, Graphite	0-30 mS	32-140°F†	0-150 PSI†	PP, Graphite	1" NPTM submersion, 3/4" NPTF inline	3 ft	1.0	Thermistor, 10K	
	191646-20							20 ft			
	191693-10	Sensor, Contacting Conductivity, Tower, High Pressure	0-30 mS	32-140°F	0-300 PSI	316SS, PEEK	3/4" NPTM	10 ft	1.0	Thermistor, 10K	
	191647-03	Sensor, Contacting Conductivity, Tower, 316 SS Electrodes	0-30 mS	32-140°F†	0-150 PSI†	PP, 316SS	1" NPTM submersion, 3/4" NPTF inline	3 ft	1.0	Thermistor, 10K	
	191647-20							20 ft			
WCT4/WDT4	190986-05	Sensor, Contacting Conductivity, Tower, Graphite	0-30 mS	32-140°F†	0-150 PSI†	PP, Graphite	1" NPTM submersion, 3/4" NPTF inline	5 ft	1.0	Thermistor, 10K	
	190986							20 ft			
	191097-05	Sensor, Contacting Conductivity, Tower, 316 SS Electrodes	0-30 mS	32-140°F†	0-150 PSI†	PP, 316SS	1" NPTM submersion, 3/4" NPTF inline	5 ft	1.0	Thermistor, 10K	
	191097							20 ft			
	*	103061	Sensor, Contacting Conductivity, Tower, High Pressure	0-30 mS	32-140°F	0-300 PSI	316SS, PEEK	3/4" NPTM	6 ft	1.0	Thermistor, 10K
WEBMASTER	190984-05	Sensor, Contacting Conductivity, Tower, Graphite, Active	0-30 mS	32-140°F†	0-150 PSI†	PP, Graphite	1" NPTM submersion, 3/4" NPTF inline	5 ft	1.0	Thermistor, 10K	
	190984							20 ft			
	191091	Sensor, Contacting Conductivity, Tower, High Pressure, Active, w/J-Box	0-30 mS	32-140°F	0-300 PSI	316SS, PEEK	3/4" NPTM	N/A	1.0	Thermistor, 10K	
	191096-05	Sensor, Contacting Conductivity, Tower, 316SS Electrode, Active	0-30 mS	32-140°F†	0-150 PSI†	PP, 316SS	1" NPTM submersion, 3/4" NPTF inline	5 ft	1.0	Thermistor, 10K	
	191096							20 ft			
	191087	Sensor, Contacting Conductivity, Boiler, ATC, Active, w/J-Box	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	N/A	1.0	RTD, PT1000	
*	190768	Sensor, Contacting Conductivity, Boiler, ATC	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	6 inches	1.0	RTD, PT1000	
WBL4	190762	Sensor, Contacting Conductivity, Boiler, ATC, w/J-Box	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	N/A	1.0	RTD, PT1000	
	190762-NT	Sensor, Contacting Conductivity, Boiler, No ATC, w/J-Box	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	N/A	1.0	N/A	
	103262	Sensor, Contacting Conductivity, Boiler, No ATC	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	6 inches	1.0	N/A	
W900 W600 WBLW1	191694	Sensor, Contacting Conductivity, Boiler, ATC	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	6 inches	1.0	RTD, PT1000	
	191695	Sensor, Contacting Conductivity, Boiler, No ATC	0-30 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	6 inches	1.0	N/A	
	191696	Sensor, Contacting Conductivity, Boiler, ATC	0-300 mS	32-401°F	0-250 PSI	316SS, PEEK	3/4" NPTM	6 inches	10	RTD, PT1000	
W600 W900 WCNW1/WBLW1	103904-10	Sensor, Contacting Conductivity	PP Fitting	0-3 mS	32-212°F	0-100 PSI	316SS, PTFE	1/2" NPTM	10 ft	0.1	RTD, PT1000
			SS Fitting		32-248°F	0-200 PSI					
	103903-10	Sensor, Contacting Conductivity	PP Fitting	0-0.3 mS	32-212°F	0-100 PSI	316SS, PTFE	1/2" NPTM	10 ft	0.01	RTD, PT1000
			SS Fitting		32-248°F	0-200 PSI					
	103905-10	Sensor, Contacting Conductivity	PP Fitting	0-30 mS	32-212°F	0-100 PSI	316SS, PTFE	1/2" NPTM	10 ft	1.0	RTD, PT1000
SS Fitting			32-248°F		0-200 PSI						
103906-10	Sensor, Contacting Conductivity	PP Fitting	0-300 mS	32-212°F	0-100 PSI	316SS, PTFE	1/2" NPTM	10 ft	10.0	RTD, PT1000	
		SS Fitting		32-248°F	0-200 PSI						

\* Also compatible with WebMaster w/Preamp

Note 1: 1 mS = 1000 $\mu\text{S}$

† See graph on page 4



This chart applies to those parts in the charts on pages 2 & 3 that have '+' in the Temp Range and Pressure Rating columns.

## ABOUT US

Walchem integrates its advanced sensing, instrumentation, fluid pumping and communications technologies to deliver reliable and innovative solutions to the global water treatment market. Our in-house engineering is driven by quality, technology and innovation. For more information on the entire Walchem product line, visit: [www.walchem.com](http://www.walchem.com)

