

## TECHNICAL DATA

# 9210 Mini Triple Point of Water Maintenance Apparatus



## Key features

- Best value triple point of water solution.
- Easy preprogrammed settings for TPW realization (5901B).
- uncertainty of only  $\pm 0.0005$  °C.
- Dual function drywell capabilities.

## Product overview: 9210 Mini Triple Point of Water Maintenance Apparatus

The triple point of water (0.01 °C) is one of the most important temperatures on the ITS-90. Unfortunately, realizing and maintaining triple point of water cells hasn't always been convenient or cost-effective.

Because ITS-90 calibrations require frequent measurements at the triple point of water, and because the triple point of water is often used as a statistical check against the drift of a temperature standard, it is important to be able to realize and maintain well-constructed triple point of water cells easily.

The Fluke Calibration 9210 TPW Maintenance Apparatus provides built-in programming for the simple supercool-and-shake realization and maintenance of our 5901B Mini TPW Cell. Simply insert the cell, enter the "freeze" mode through the front-panel buttons, have your morning cup of coffee, and when the 9210 audibly alerts you, remove the Mini TPW

Cell and give it a shake to initiate freezing a portion of the water. Re-insert the cell, change the program mode to "maintain," and you've got 0.01 °C for the rest of the day with uncertainty of only  $\pm 0.0005$  °C.

Precision-machined thermal blocks can also be used to take advantage of the excellent stability and uniformity of the 9210 for performing comparison calibrations. Multi-hole and custom blocks are available with 178 mm (7 in) depths.

## Specifications: 9210 Mini Triple Point of Water Maintenance Apparatus

Specifications	
Temperature Range	-10 °C to 125 °C
Ambient Operating Range	5 °C to 45 °C
Stability	$\pm 0.02$ °C
Vertical Gradient	$\pm 0.05$ °C over 100 mm at 0 °C
Plateau Duration	6-10 hours, typical
Resolution	0.01 ° (0.001 ° in program mode)
Display Scale	°C or °F, switchable
Immersion Depth	171 mm (6.75 in) in optional comparison block
Stabilization Time	15 minutes nominal
Preheat Wells	3 wells (for 3.18, 6.35, or 7.01 mm probes [0.125, 0.25, 0.276 in])
Fault Protection	Adjustable software cutout using cool probe; separate circuit thermocouple cutout for maximum instrument temperature
Display Accuracy	$\pm 0.25$ °C
Comparison Block	Three multi-hole blocks, blanks, and custom blocks available
Well-to-Well Gradient (in comparison block)	$\pm 0.02$ °C
Heating Time	Ambient to 100 °C: 45 min.
Cooling Time	Ambient to -5 °C: 25 min.
Comm.	RS-232 included
Power Requirements	115 VAC ( $\pm 10$ %), 60 Hz, 1.5 A, or 230 VAC ( $\pm 10$ %), 50 Hz, 0.75 A, 170 W
Exterior Dimensions (HxWxD)	489 x 222 x 260 mm (19.25 x 8.75 x 10.25 in)
Weight	7 kg (15.5 lb.) with block

## Ordering information



### **9210**

TPW (5901B-G) Maintenance Apparatus

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### **1904-TPW**

Accredited Cell Intercomparison

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