

# Constant temperature ice bath



- Lower uncertainty zero-point (to  $\pm 0.002$  °C uniformity)
- Affordable—amazing price for this uniformity and stability
- Many probes can be checked/calibrated at once

Take a look at this easy and affordable zero-point source for calibrating temperature sensors—the Hart Scientific 7911A2 Constant Temperature Ice Bath.

Now you can attain lower uncertainties from a simple ice bath. Most people don't realize just how much uncertainty a stationary ice mixture in a typical ice bath can have. Pockets of non-uniform temperature will wreak havoc on your calibration uncertainties. With a stirred ice bath, the uniformity and stability can easily drop to  $\pm 0.002$  °C. Now that's more like it!

The 7911A2 has a 5-liter tank with a depth of 12 inches. This gives you an optimal calibration zone of 2.5" diameter by 8" deep—enough space to calibrate several probes at once, including odd-shaped or short probes. Think how many thermocouple cold junctions you could put in this bath!

As with all Hart products, the model 7911A2 Constant Temperature Ice Bath is manufactured according to a proven design using the best components.

The vacuum-insulated stainless steel dewar is used to give your ice-point realization longevity (a well-prepared ice bath can be used for several hours without attention).

We use a Rosemount-designed "flow chute" stirring mechanism to saturate the bath water with air as it stirs. Having the same concentration of air in the mixture each time increases the repeatability of the ice point.

Using pure distilled or demineralized water for bath fluid and ice, you'll consistently produce a 0 °C calibration environment with up to  $\pm 0.002$  °C accuracy.

For thermometer calibrations or for a thermocouple cold junction temperature source, if you want the best ice bath results, use the best equipment available—get the Hart 7911A2.

## Specifications

<b>Uniformity</b>	$\pm 0.002$ °C†
<b>Stability</b>	$\pm 0.002$ °C†
<b>Optimal Temp. Zone</b>	64 mm dia. x 203 mm D (2.5 x 8 in)
<b>Size</b>	185 mm dia. x 490 mm D (7 x 19 in)
<b>Tank Capacity</b>	5 Liters, 150 mm dia. x 300 mm D (6 x 12 in)
<b>Weight</b>	13.5 lb (6.1 kg)
<b>Power</b>	115 V ac ( $\pm 10$ %), 60 Hz, 1 A or 230 V ac ( $\pm 10$ %), 50 Hz, 0.5 A

†based on a properly made ice bath mixture

## Ordering Information

**7911A2** Constant Temperature Ice Bath

## Preparing an ice bath

You wouldn't think that making a good, repeatable ice bath would be a difficult thing. Well, it's not if you follow some simple procedures, which you can find in the ASTM Standard Practice E563. Those are too detailed to cite here, but here are some quick thoughts:

- By always following the same procedure and using the same source for both water and ice, you'll improve the repeatability of the temperature you achieve.
- Remember that any impurities in the ice and water you use will affect the ice bath temperature. Pure distilled, demineralized, or deionized water is recommended for realizing the true ice point temperature, 0 °C.
- Be sure to keep your bath container clean by rinsing it with pure water.