

-80°C METROLOGY BATH**Model 7380**

When you need an ultra-cold temperature source for your laboratory, you don't have to choose between expensive and poor performing. The company that delivers the world's finest baths to the world's leading metrology labs has developed an ultra-cold bath that fits in your budget and delivers the performance you need.

Hart's model 7380 Ultra-Cold Metrology Bath is not a chiller and it's not a cheap utility bath. It's a metrology bath—designed, manufactured, and used by the largest temperature calibration company in the world. We absolutely understand what it takes to keep your temperature sensors and probes accurate.

The 7380 covers temperatures from -80°C to 100°C (-112°F to 212°F) and does so quickly. Cooling time from room

temperature to -80°C is only 90 minutes and stabilization time is just 6 minutes. Heating time is even faster, reaching 100°C in just 45 minutes. Whether you calibrate PRTs and thermocouples over a broad range or thermistors over a narrow range, this bath gets you to the temperatures you need as quickly as possible.

Peak-to-peak stability over the 7380's entire range (over 30 consecutive minutes) is better than $\pm 0.03^{\circ}\text{C}$. Each unit ships with a test report showing actual stability data and the set-point accuracy, which is better than $\pm 0.5^{\circ}\text{C}$. Uniformity, measured as the difference between the warmest and coldest locations in the bath tank, is also within $\pm 0.03^{\circ}\text{C}$ across the entire tank area. Actual performance is even better if calibrations are performed inside the normal working area.

The productivity of your ultra-cold source is enhanced by the large capacity of this bath. Its one-gallon tank helps the 7380 achieve temperatures quickly while saving on bath fluid costs. Its large work area (3.25" x 4.5" access opening with a 7" immersion depth) lets you calibrate many sensors at once for maximum efficiency.

A variety of bath fluids may be used with the 7380, depending on the temperature range over which you use the bath. Halocarbon 0.8 Cold Bath Fluid covers the range from -80°C to 70°C and is available from Hart in single gallon quantities. Ethanol may be used from -80°C to 5°C , water from 5°C to 70°C , and silicone oils such as type 200.05 are available from Hart for working at higher temperatures.

With sturdy casters and a footprint only one foot by two feet, the 7380 fits anywhere in your lab. Its two 1/4-HP compressors are so quiet that you may not realize the bath is running.

Hart's reputation is 20 years old and based on the performance of our products, not our promises. If you need an ultra-cold bath, don't settle for a chiller. Look to the company whose baths support leading metrologists all over the world.

Features Summary

- Reaches -80°C in less than 90 minutes
- Stability and uniformity better than $\pm 0.03^{\circ}\text{C}$
- Large access opening with 7" of immersion depth
- Convenient size fits easily in any lab
- RS-232 interface and Windows-based control software included
- First compact -80° bath to deliver true metrology-level performance

Specifications

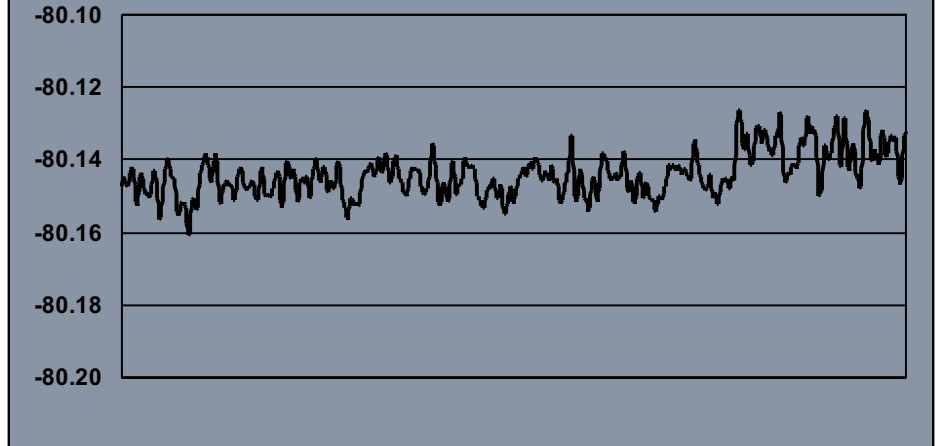
Range	-80 to 100°C (-112 to 212°F)
Ambient Operating Range	15 to 25°C (59 to 77°F)
Stability	±0.03°C
Uniformity	±0.03°C
Set-Point Accuracy	±0.5°C
Set-Point Repeatability	±0.01°C
Resolution	0.01
Access Opening	3.25" x 4.5" (83 x 114 mm)
Immersion Depth	7 inches (20 cm) max
Tank Capacity	1 gallon (4 liters)
Cooling Time	From 25°C to -80°C, 90 minutes
Refrigeration Cascade	Two ¼-HP compressors; 1st stage, propylene; 2nd stage, ethane and propane mix
Heater Power	500 W
Communications	RS-232 included
Power	115 VAC (±10%), 60 Hz, 16A (230 VAC (±10%), 50 Hz, 8A, optional)
Size	12" W x 30" H x 24" F-B (30 x 76 x 61 cm)
Weight	115 lb. (52 kg)

Ordering Information

7380	-80°C Metrology Bath
5019	Halocarbon 0.8 Fluid, 1 Gallon
2020-7380	Spare Access Cover

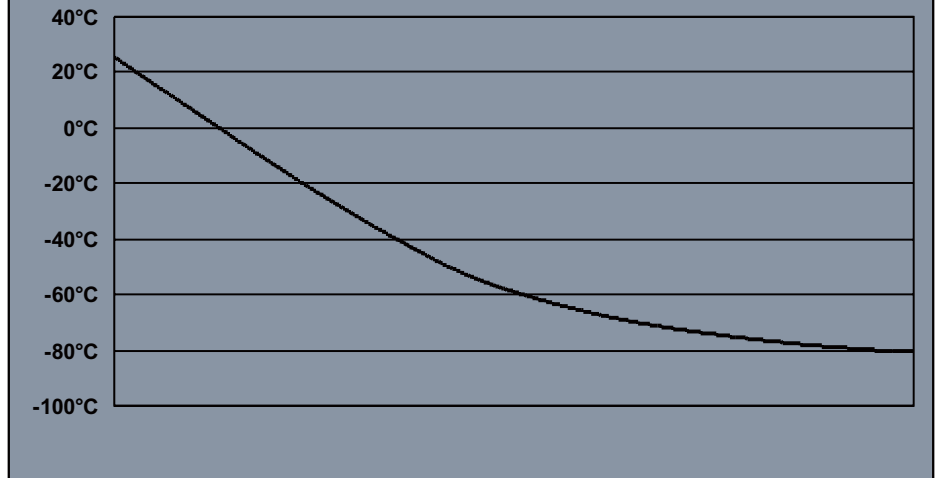
Call for other fluid options.

7380 Stability (90 Minutes at -80°C)



With stability better than $\pm 0.03^\circ\text{C}$ (even at extreme temperatures), the 7380 provides true metrology-level performance.

7380 Cooling Scan (90 Minutes)



The 7380 cools to -80°C in less than 90 minutes so your work gets done faster.