



PRODUCT DATA SHEET

HBC144



SMALL PRECISION HYBRID BENCHTOP TEMPERATURE CHAMBER

DESCRIPTION

The HBC144 is a small footprint, wide range conduction & convection all in one system that is designed for convenient benchtop testing. The floor of the Chamber is a full range Hot/Cold Plate. The system has dual fan motors and ample heating / cooling capacity making this an effective tool for your thermal testing requirements.

PRODUCT INFORMATION

Workspace Dimensions	8.5" high x 13" x 13"	
Material / Finish	304 Stainless Steel	Brushed Stainless Steel
External Dimensions	17.5 "H x 15.5"W x 20"D	
Platform Surface Dimensions:	12" W x 12" D	Qty (5) 10-32 Threaded Holes
Approximate Weight	74 lbs plus controller 10 lbs	Ships on small pallet
Temperature Range	-75 to +175°C using Liquid Nitrogen	-60°C using L-CO ₂
Heating Rate	8-12°C/Minute or as specified	Heaters and coolant can be specified
Cooling Rate Pressure	12.5°C/Minute Coolant Liquid Nitrogen 75 psi.	
Temperature Controller	Synergy Nano Color Touchscreen	Configured for Dual Zone Control

FACILITY REQUIREMENT

Power requirements may vary. Most common heater arrangement requires a dedicated 120 Volt 20 Amp circuit.

Coolant: High Pressure L-N₂ 75-125 psi is the standard coolant supplied using Dewars. Low Pressure L-N₂ is available upon request
L-CO₂ 300 psi or 900 psi is available upon request. Recommended for infrequent cooling requirements.

For information on models that are cooled using mechanical refrigeration please consult the factory

Versions of this product available without Hot/Cold Plate floor, convection only. Benchtop Temperature Chamber BC144

<https://www.totaltemptech.com/custom-temperature-chambers-total-temp-technologies/>

[New Leaders in Thermal Test Products. We offers many ways to improve your testing and help choose the best equipment](#)

TotalTempTech.com
Sales@TotalTempTech.com
Phone: 888.712.2228



TotalTemp Technologies, Inc.
3630 Hancock Ste. A
San Diego, CA 92110

Revision 0, May 20th, 2025

OPTIONS AND ACCESSORIES: <https://www.totaltemptech.com/thermal-platforms-coldplates-options-and-accessories/>



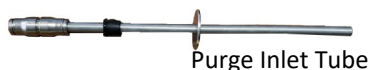
Controller Options and Accessories

The Synergy Nano temperature controller has a Color LCD touch screen Easy to use, with on-screen graphing capability, logging, multi-sensor, multi-conditional outputs, very descriptive menus, GPIB optional and free drivers. [More on the Synergy Nano.](#)



Dry Nitrogen Purge

Purge systems keeps condensation and frost from accumulating on the surfaces of the DUT (Device Under Test) at cold temperatures. Purging is also used to prevent oxidation of metals surfaces at high temperatures.



Purge Inlet Tube

Simple needle valve flowmeter



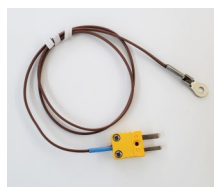
**Dry Nitrogen
Purge Regulator
with Flowmeter**

Device Under Test Temperature Sensors

Preferred 3 wire RTD or thermocouple sensor to read device temperature or deploy two probe advanced temperature control algorithm. Convenient terminal block or in-line connector to attach second probe.



**Device sensors &
connectors**



Coolant Delivery Hoses & Exhaust

Liquid Nitrogen and Liquid Carbon Dioxide require different hose configurations. We offer many options for L-N₂ & L-CO₂ applications. Exhaust options the SQM and flexible hoses for venting are also available.



14-0010 Super Quiet Muffler (SQM)

Greatly reduces the noise level of coolant being spent by a Thermal Platform

Temperature Logger

Multiple Thermocouple Sensors are available for extended datapoint monitoring using a Synergy Nano Controller see above.



28-00101 Data logger

16-Channel Temperature Monitor can daisy chain up to four of these data loggers for up to 64 Thermocouples

[New Leaders in Thermal Test Products. We offers many ways to improve your testing and help choose the best equipment](#)

TotalTempTech.com
Sales@TotalTempTech.com
Phone: 888.712.2228



TotalTemp Technologies, Inc.
3630 Hancock Ste. A
San Diego, CA 92110
Revision 2 May 28th, 2025