

FREEZE DRYER SOLUTIONS



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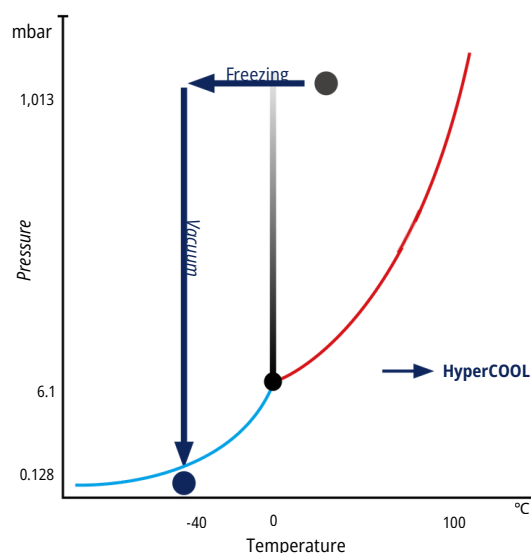
HYPERCOOL FREEZE DRYER

PRACTICAL SOLUTIONS FOR LONG-TERM STORAGE AND PRESERVATION

The **HyperCOOL, freeze dryer** (lyophilizer) is a dependable laboratory instrument designed for the effective removal of moisture from a pre-frozen samples by applying a deep vacuum to convert the frozen water molecules directly into vapor, bypassing the liquid phase. This process ensures complete drying while preserving the structure and quality of the drying sample.

The system operates at ultra-low temperatures, ranging **from -55°C or -110°C**, making it suitable for a wide variety of samples, including biological materials, aqueous products, and solvents with low freezing points.

The HyperCOOL is a practical solution for laboratories needing reliable sample preservation. It serves as a solution for applications in biotechnology, food preservation, environmental science, and research, ensuring samples remain stable and ready for long-term storage or further analysis.



APPLICATIONS

Biological Samples

Tissues, cells, enzymes and proteins for preservation and research.
Nucleotides and DNA/RNA for genomic studies.

Biotechnological Samples

Drug development materials and sensitive biological products requiring ultra-low temperatures.

Environmental Samples

Water and soil extracts for pollutant analysis.

Chemical and Organic Solvents

Volatile solvents such as acetonitrile, methanol, ethanol and other compounds used in chemical synthesis or chromatography preparation.

Specialized Research Samples

Delicate organic materials like flowers for display or research.
Reactive or unstable compounds requiring precise temperature control.

Food and Beverage Samples

Fruits, vegetables and flavor compounds for nutritional and sensory preservation.

TECHNICAL SPECIFICATIONS



	HC3055 / HC3110	HC9090PLUS
Ultimate Chamber Temp.*	-55 / -110 (°C)	-90 °C
Cold Trap Volume	4 L	12 L
Cold Trap Size	Ø 165 x H 202 mm	Ø 305 x H 355 mm
Ice Condensing Capacity	3 kg	9.8 kg
Display Type	4" LCD	7" touch LCD with graphic display
Display Parameters	Vacuum, Time, Temperature	Vacuum, Time, Temperature (tray, sample, chamber), Real Time Graph
Control	ON / OFF (Vacuum, Defrost)	ON / OFF (Vacuum, Defrost), Temperature
Ice Condensing Performance	2.5 kg / 24h	9 kg / 24h
Power Requirement (Resting)	642 / 819 (VA)	1,500 VA
Power Supply	AC 230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)	AC 220-230 V, 60 Hz (50 Hz, 110 V optional)
Dimension	W 400 x D 660 x H 570 mm	W 600 x D 708 x H 885 mm
Weight	58 / 72 (kg)	130 kg
Cat. No.	Hyper-HC3055 / Hyper-HC3110**	Hyper-HC9090P

*The ultimate chamber temperature should be 15~20 °C lower than the sample's freezing temperature.

**integrated Pirani gauge version is also available: Hyper-HC3055P and Hyper-HC3110P.



Durability

The whole top plate and internal chamber are Teflon-coated; providing excellent resistance against aggressive solvents.



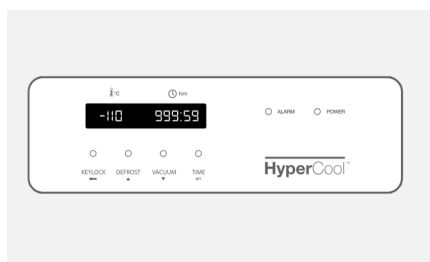
Shortened total cycle time

Hidden cooling coils allows condensed Ice to be pulled out after a quick de-ice function for quick repetitive run setting.

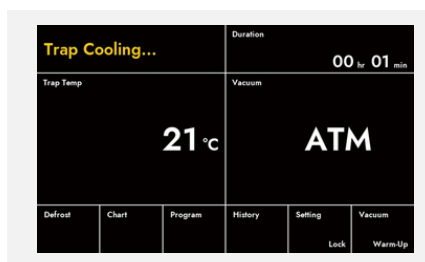


Easy maintenance

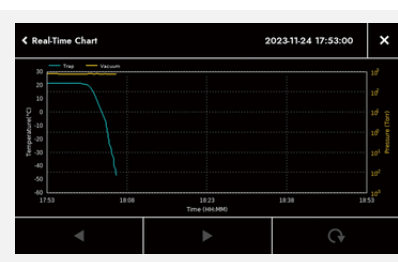
The condenser, a key freeze dryer component, is located at the front covered by a magnetic, detachable cover for easy maintenance.



HyperCOOL Basic Display



HyperCOOL Plus Display



CONFIGURATIONS

Manifold (4, 6, 8, 12)

Manifold type accessory designed for freeze drying samples in a Flask. Depending on the number of samples per run, (4, 6, 8 or 12) valve manifold can be selected. Configured with Glass base plate.

** Provides excellent chemical resistance for organic or rigorous samples.*

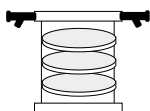


Description	No. of Valve	Cat. No.
Tree-type manifold	4	HC-MF-4V
	6	HC-MF-6V
T-type manifold	8	HC-MF-8V
Double (6+6) manifold	12	HC-MF-12V
Double T-type (8+8) manifold only for 9090P	16	HC-MF-16V
Glass Base plate for 3055/3110		HC-CPB-G
Glass Base plate for 9090P		HC-CPB(9)-G

Chamber + Manifold (4, 8)

Chamber type accessory designed for freeze drying samples in vials and also in flasks through the integrated manifold (4 or 8). Configured with Basic SUS Rack with 3 x ø25cm trays (HC-CR25) and Acrylic base plate,

** Cannot be used for organic samples or rigorous samples.*



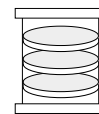
Description	Cat. No.
Acrylic chamber with 4 valve top	HC-CH30-4V
Acrylic chamber with 8 valve top	HC-CH30-8V
Acrylic Base plate for 3055/3110	HC-CPB
Acrylic Base plate for 9090P	HC-CPB(9)
SUS rack with 3 trays	HC-CR25
Additional tray (1EA)	HC-CR-TS

Essential Accessories for Full System Configuration

Description	Cat. No.
 Glass base plate for HyperCOOL to connect manifold accessories to the main body.	HC-CPB-G HC-CPB(9)-G (for HC-9090P)
 Acrylic base plate for HyperCOOL to connect chamber type accessories to the main body.	HC-CPB HC-CPB(9) (for HC-9090P)
 Rotary vane pump Pumping speed: 50Hz ~ 200 L/min Ultimate pressure: 1×10^{-3} torr	GVP-W2V20
 Oil mist trap for rotary vane pump	GVP-WOF150

Chamber

Chamber type accessory designed for freeze drying samples in vials. Configured Basic SUS Rack with 3 x ø25cm trays (HC-CR25) and Acrylic base plate.

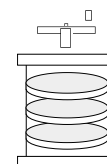


** Cannot be used for organic samples or rigorous samples.*

Description	Cat. No.
Acrylic chamber with top	HC-CH30P
Acrylic Base plate for 3055/3110	HC-CPB
Acrylic Base plate only for 9090P	HC-CPB(9)
SUS rack with 3 trays	HC-CR25
Additional tray (1EA)	HC-CR-TS

Stoppering Chamber

Stoppering Chamber type accessory designed for freeze drying samples in vials and to seal them under vacuum state.



** Cannot be used for organic samples or rigorous samples.*

Description	Cat. No.
Stoppering Acrylic chamber including rack & trays	HC-SP30M
Acrylic Base plate for 3055/3110	HC-CPB
Heating shelf stoppering chamber for secondary drying only for 9090P	HC-HSM6003

Compatible Accessories for Manifolds

Manifold Accessories	Cat. No.
 Freeze drying flask for manifold drying. ø60 (150 / 300 mL) ø90 (300W ~ 1,200 mL)	HC-AGF150 HC-AGF300 HC-AGF300W HC-AGF600 HC-AGF900 HC-AGF1200
 2 mL tube holder, 3 x 20 x 2 mL 900 mL flasks 1,200 mL flasks	HC-TR9-2 HC-TR12-2
 15 mL tube holder, 12 x 15 mL conical 900 mL flasks 1,200 mL flasks	HC-TR9-15 HC-TR12-15
 50 mL tube holder, 4 x 50 mL conical 900 mL flasks 1,200 mL flasks	HC-TR9-50 HC-TR12-50
 Ampoule pod for 16 x ø13.5 mm Ampoules, incl. 2 tubing clamps and 16 tube caps	HC-APC-16
 Vacuum Box for 6 x MTP or 3 x DWP (Max. height 25/51 mm)	HC-VBOX



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