FREEZE DRYER SOLUTIONS

LabTech

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ABOUT US

LabTech is a leading manufacturing company with skill and passion devoted to provide advanced laboratory solutions to the analytical community. We are located in Sorisole, northern Italy, with facilities in USA and China. Incorporated with global branches, LabTech is organized into R&D, production, marketing & sales and customer support. Major LabTech products include organic/inorganic sample preparation systems, laboratory cooling/heating/ temperature control equipments, analytical instruments, gas generators and laboratory centrifuges. With knowledgeable scientists and experienced engineers, our R&D team has developed and released a series of new lab equipments and instruments dedicated to the modern analytical laboratories. With all of these accomplishments and our endless research and development efforts, we are proud to be your professional partner.

QUALITY OF THE PRODUCTS

We are one of the few freeze dryer companies in the world that still fabricates all of its own components in-house, and this is how we can assure the same high quality result every time.

PRODUCTS WITH SOUL

All freeze dryer products are hand-made and assembled with passion and pride at the Gimpo facility, where the components are being cut and are being hand-wired.

Freeze Dryer

HyperCOOL™ Freeze Dryers

Features

- Provides wide solvent coverage by dropping temperature down to -55℃, -80℃, -110℃
- HyperCOOL by itself, when equipped with manifolds or chambers, becomes a versatile freeze dryer
- The compatible vacuum rotary vane pump generates vacuum down inside the chamber
- Defrost Function available (Hot-gas)
- Magnet embedded front cover of the condenser for very convenient cleaning
- Extended applications for concentrating wider range or larger volume of solvents
- Basic Model : 0~760 Torr (Vacuum value below "0" is not displayed)
- Optional Pirani Sensor to display precise vacuum value below 1Torr (0.001~760 Torr).

Applications

· Pharmaceutical study and production
· Research and production of vaccine and antidote
· Drying and preservation of plants, food and etc.
· Archaeological study

Freeze Drying

The freeze drying, also known as lyophilization is a dehydration technique through sublimation process, the shift from the solid directly into the gas without passing through liquid phase. The materials must be frozen completely to remain as solid state during sublimation process. Additionally, applying vacuum enables to lower the pressure below triple point, which to avoid the liquid phase. The freeze drying technique is used in various applications in food industry, pharmaceutical and biotechnology field and other industrial areas. HyperCOOL system allows complete removal of residual moisture.

Freezing Point Depression

$\Delta T = iK_f m$

ΔT = Decrease in solution freezing point

K_f = Freezing point depression constant for the solvent

m= Molality

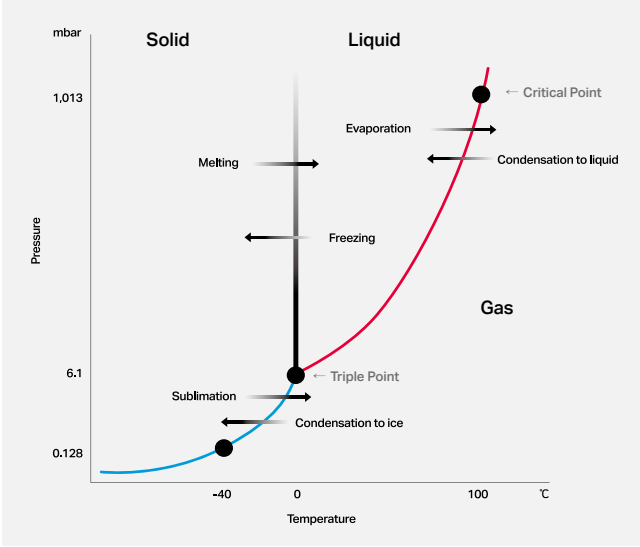
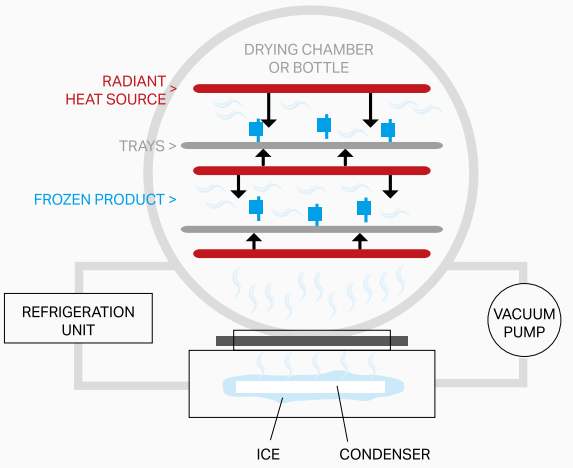


Figure 2. Typical Phase Diagram of Water

Technical Specifications

	HyperCOOL HC3055	HyperCOOL HC3110	HyperCOOL HC8080
Ultimate Chamber Temp (at RT) (°C)	-55	-110	-80
Chamber Volume (L)	4		25
Trap (Chamber) Size (Ø x L)	165 x 202		305 x 355
ICE Condensing Capacity (kg)	3		8
Ice condensing performance (kg/day)	2.5		3
Digital Readout	Time, Temperature,Vacuum Pressure		
Function	KEYLOCK, DEFROST, VACUUM, TIME		DEFROST, VACUUM, TIME
Built in Vacuum Pump	No		Yes
Power supply	AC 230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)		
Power Requirement (KVA)	2 KVA	2.5 KVA	5 KVA
Dimension (W x D x H, mm)	400 x 660 x 570		710 x 610 x 960
Weight (kg)	58	72	195
Cat. No.	Hyper-HC3055	Hyper-HC3110	Hyper-HC8080
CE Mark	Yes	Yes	Yes



Fully Teflon coated condenser chamber and top plate provides consistent resistance against aggressive solvents and acids.

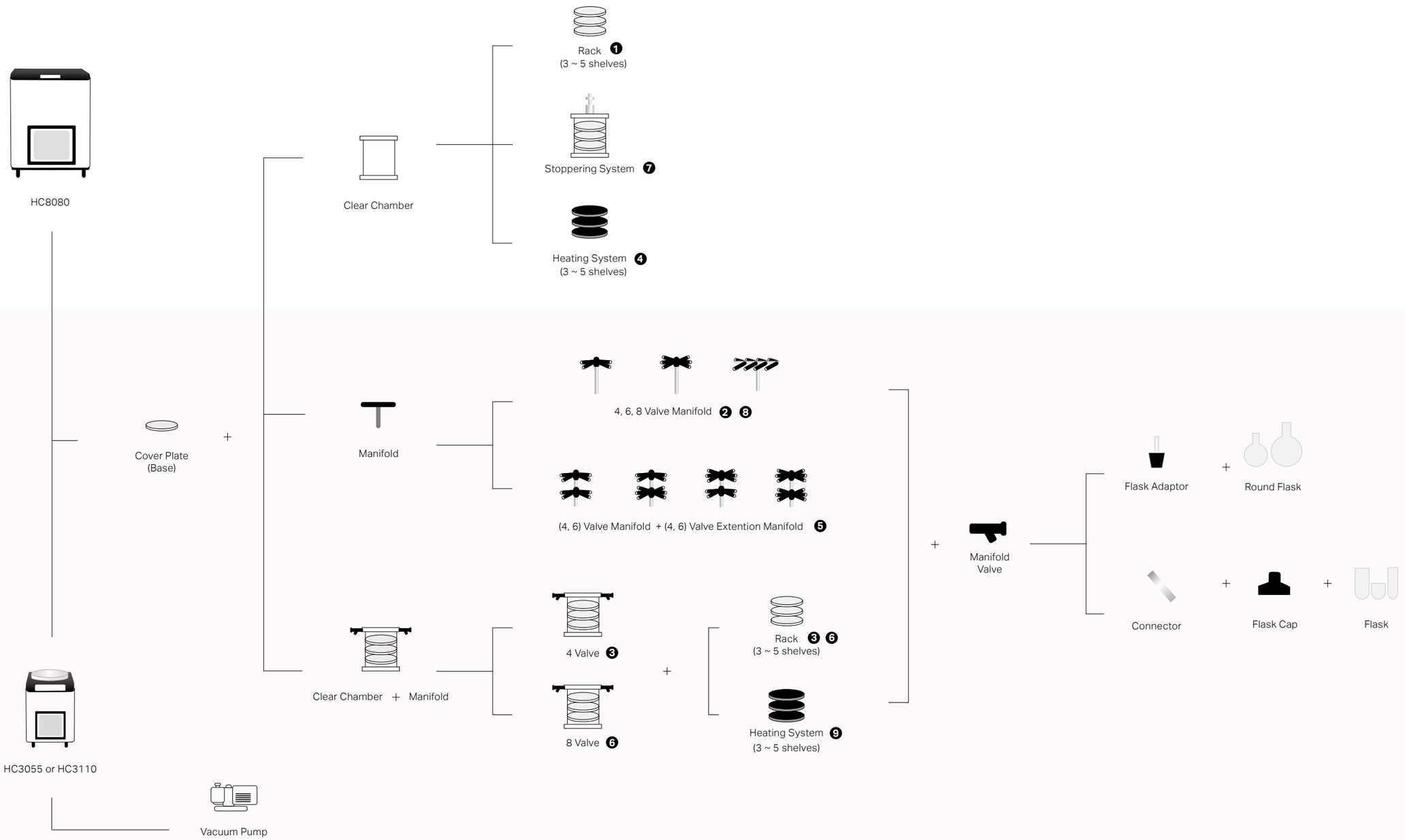
Hot-gas de-ice function of chamber heating makes fast ice removal.

Diverse sample containers can be used both in the chamber plate and flasks through manifold tree with 3/4 inch rubber valves.

Front installed condenser pins are easily de-dust-ed by detaching a magnet door.

A screw capped drainage in the front body for easy and quick cleaning.

HyperCool Freeze Dry System Configuration



HyperCool (Freeze Drying) Configuration

HyperCool (3055, 3110) needs to be configured with Rotary Vane Pump (GVP-W2V20)

❶ Basic Chamber

HyperCool (3055, 3110, 8080) + Acrylic Base + Stainless Steel Rack (3~5 shelves) + Acrylic Chamber

❷ Basic Manifold (4,6)

HyperCool (3055, 3110, 8080) + Acrylic Base + Basic Manifold (4,6)

❸ Acrylic Chamber with Rubber Valve (4)

HyperCool (3055, 3110, 8080) + Acrylic Base + Acrylic Chamber with Rubber Valve (4) + Stainless Steel Rack (3~5 shelves)

❹ Heating Chamber

HyperCool (3055, 3110, 8080) + Heating Rack (Base included) (3~5 shelves) + Acrylic Chamber

❺ 2 Step Manifold

HyperCool (3055, 3110, 8080) + Acrylic Base + Basic Manifold (4, 6) valve extendable with (4, 6) valve regardless of basic Manifold

❻ Acrylic Chamber with Rubber Valve (8)

HyperCool (3055, 3110, 8080) + Acrylic Base + Acrylic Chamber with Rubber Valve (8) + Stainless Steel Rack (3~5 shelves)

❼ Stoppering Chamber

HyperCool (3055, 3110, 8080) + Acrylic Base + Stoppering Rack + Stoppering Acrylic Chamber

❽ Basic Manifold (8)

HyperCool (3055, 3110, 8080) + Acrylic Base + Basic Manifold (8)

❾ Acrylic Chamber with Rubber Valve (4, 8) (Heating)

HyperCool (3055, 3110, 8080) + Acrylic Chamber with Rubber Valve (4, 8) + Heating Rack (3~5 shelves)

Rotary Vane Pump

Configured with Hyper Cool (3055, 3110), the ultimate pressure of the Rotary Vane Pump keeps the solvents frozen during lypholization (freeze drying) at 1.3 X 10-1 Pa. Low noise and low vibration offers a comfortable working environment. Simple structure, Easy to use and maintain.

CAT. NO.		GVP-W2V20
Pumping Speed		200 L/min
Ultimate Pressure (Torr)	Gas Ballast Close	≤ 1 x 10^{-3} (1.3 X 10^{-1} Pa)
	Gas Ballast Open	5 x 10^{-2} (6.7 Pa)
Motor Speed		1,700 rpm
Oil Capacity		600 cc (0.6 L)
Weight		23.3 kg
Overall Dimension (W x L x H)		150 mm X 423 mm X 250 mm
ACCESSORIES (not included)		
HC-VH		Vacuum Hose with 2 Clamps, 100cm
GVP-WOF150		Oil Mist Trap

Cover Plates for HyperCOOL

HC-CPP
HC3055, HC3110 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator

HC-CPB
HC3055, HC3110 Acrylic Base for Manifold or Chamber

HC-CPM
HC3055, HC3110 Acrylic Base for HHC-MFB-8V

HC-CPP(8)
HC8080 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator

HC-CPB(8)
HC8080 Acrylic Base for Manifold or Chamber

HC-CPM(8)
HC8080 Acrylic Base for HHC-MFB-8V

Manifolds for HyperCOOL

HC-MFB-4V
Incl. 4 rubber valves on a stainless steel bar, 30 cm

HC-MFB-6V
Incl. 6 rubber valves on a stainless steel bar, 30 cm

HC-MFE-4
for extension
Incl. 4 rubber valves on a stainless steel bar, 20 cm

HC-MFE-6V
for extension
Incl. 6 rubber valves on a stainless steel bar, 20 cm

HC-MFB-8V
Incl. 8 rubber valves on a stainless steel bar, 30 cm

Chambers for HyperCOOL

HC-CH30P
Acrylic Chamber Trunk and Plain Top, ø30 cm, height 40 cm

HC-CH30-4V
Acrylic Chamber Trunk and Top with 4 rubber valves, ø30 cm, height 40 cm

HC-CH30-8V
Acrylic Chamber Trunk and Top with 8 Rubber Valves, ø30 cm, height 40 cm

Stoppering Assembly

Racks For HyperCOOL

HC-CR25
Stainless Steel Rack with 3 sets of shelves and trays, ø25cm (Trays can be inserted up to 5)

HC-CR-TS
A Set of a Tray and a Shelve

HC-HP6003
Heating Plate (basic 3 shelves)

HC-HP6005
Heating Plate (5 shelves)

HC-HPS
Heating Plate (1 shelf for additional order)

Stoppering Assembly

HC-SP30M-TOP
Stoppering Plate (TOP)

HC-CH300-01
Chamber (Ø300) HyperCOOL

HC-CPB
Manifold Plate (Bottom)

HC-CR25-SP
Stainless Steel Rack -Stoppering

EX.

FD Glass Flasks

V07AC02520-01
Flask cap-Ø60, glass flask , 120 ~ 300 mL

V07FL00420-00
120 mL Flask, 60 x 85 mm

V07FL00320-00
150 mL Flask, 60 x 95 mm

V07FL00220-00
300 mL Flask, 60 x 165 mm

V07AC02620-01
Flask cap-Ø90, glass flask, 300 ~ 1,200 mL

V04FL00220-00
300 mL Flask, 90 x 93.5 mm

V04FL00320-00
600 mL Flask 90 x 149 mm

V04FL00420-00
900 mL Flask, 90 x 204.5 mm

V04FL80050-00
Flask Adapter Ø29 ~ 32 Cap + Flask Adapte Pipe

Tube Holder for 900, 1,200 mL Flasks

HC-TH-2
Tube Holder 2 mL x 20

HC-TH-15
Tube Holder 15 mL x 12

HC-TH-50
Tube Holder 5 mL x 4

Glass Flasks Ordering Infomation

HC-AGF120	120 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 60 mm)
HC-AGF150	150 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 60 mm)
HC-AGF300	300 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 60 mm)
HC-AGF300W	300 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 90 mm)
HC-AGF600	600 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 90 mm)
HC-AGF900	900 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 90 mm)
HC-AGF1200	1,200 mL Flask+ Rubber Lid + Stainless Adaptor (Diameter 90 mm)
V04FL80050-00	Flask Adapter Ø29 ~ 32 Cap + Flask Adapter Pipe

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RoHS compliant

CE

COOL GREEN

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