

Concentrators

HyperVAC™	92
HyperCOOL™	100
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HyperVAC™
Centrifugal Vacuum Concentrator



HyperCOOL™
Freeze Dryer & Cooling Trap



HyperVAP™
Gas Purging Evaporation Concentrator

HyperVAC™

Centrifugal Vacuum Concentrator



HyperVAC is a centrifugal vacuum concentrator as general-purpose laboratory benchtop equipment. HyperVAC offers rapid, environmental friendly and efficient vacuum concentration or drying of samples like DNA/RNA, nucleotides, proteins and other liquid or wet samples with ease and reproducibility that maintain sample integrity. HyperVAC is ideal for routine work with your samples.

HyperVAC consists of two kinds of models depending on max. capacity - HyperVAC-LITE and HyperVAC-MAX. HyperVAC-LITE can accommodate from 48 x 2.0 ml & 76 x 0.5 ml microtubes to 6 x 50 ml tubes and microplates. HyperVAC-MAX can be used with 200 x 2.0 ml microtubes to 12 x 50 ml, microplates and deepwell plates. HyperVAC evaporates solvents at RT~80°C and low pressure without freezing. Easy to use automatic system includes timer, start/stop function, vacuum control, adjustable chamber temperature to 80°C, digital readout of vacuum and programming facility. Also, it has a modular design for easy upgrade. HyperVAC is used with a drip catcher and & an ice cube container unit, connectors including hoses and clips. The evaporation rate can be increased by employing ice cubes around the drip catcher. HyperVAC system also requires a diaphragm vacuum pump to generate 7 mbar (36 liter/minute), which is perfect for chemical solvent evaporation. Also, HyperVAC can be connected with HyperCOOL as a cold trap for more evaporation capacity.

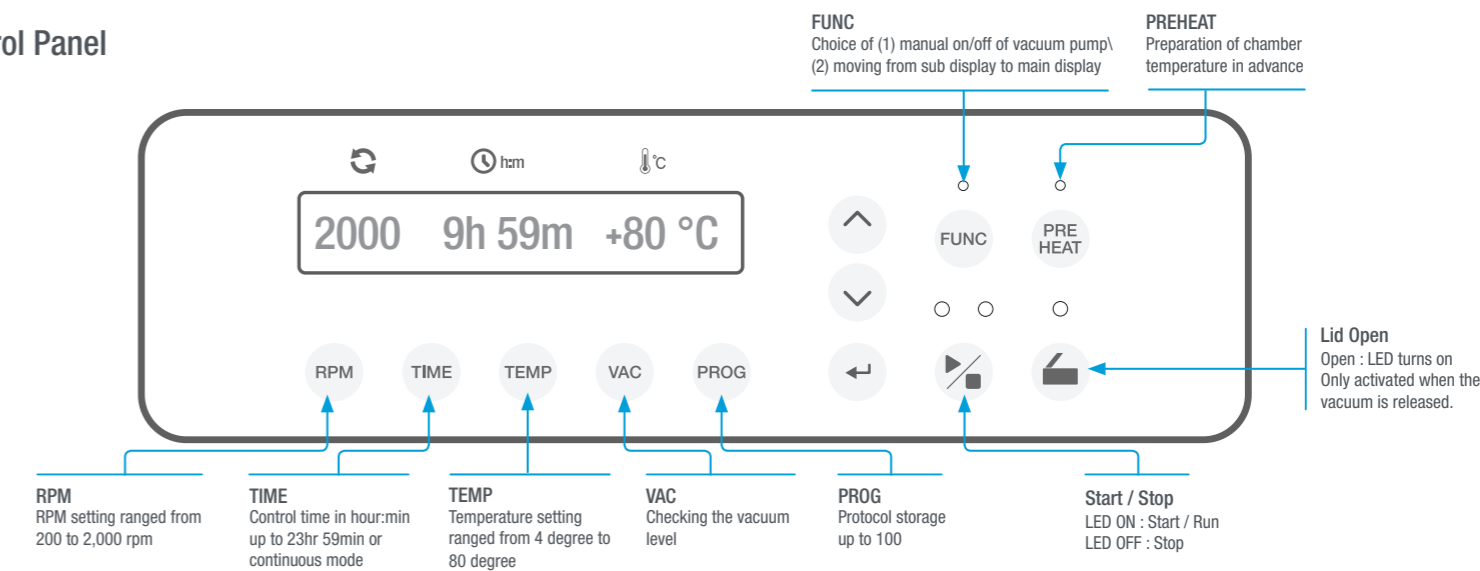
► Features

- Tabletop centrifugal concentrators with high space efficiency
- Equipped with a diaphragm pump (7 mbar) optimal for volatile chemical solvents
- Accommodates a wide range of sample containers: 0.5, 2.0, 15, 50-ml tubes and microplates
- Automatic control and digital readout of TIME, TEMP and VAC
- Efficient cold trapping by employing drip catcher kit with ice cold trap
- Effective concentration of nucleic acids or small volume of organic solvents

► Technical Specifications

Model Name	HyperVAC-LITE	HyperVAC-MAX
Max. RPM	2,000	
Max. capacity	Fixed angle	200 x 1.5 / 2.0 ml microtubes
	Swing - out	48 x 1.5 / 2.0 ml + 76 x 0.5 ml microtubes 2 loadings of MTP
Auto Start / Stop of Vacuum	Yes	
Chamber Heating Temperature Range	R.T ~ 80 °C	
Vacuum Pressure (mbar)	1 ~ 1,013	
Operating Time	< 23 hr 59 min or continuous	
	Default value: 0 h 0 m (continuous)	
Weight (kg)	22.5 (without Rotor)	37 (without Rotor)
Power Requirement (Centrifuge, VA)	350	700
Power supply(V/Hz)	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)	
Centrifuge Dimension (W x D x H, mm)	375 x 445 x 252	475 x 560 x 350
Cat. No.	Hyper-VC2124 (Hyper-VC2124-110)	Hyper-VC2200 (Hyper-VC2200-110)

► Control Panel



► Applications

- Concentration for nucleic acids (DNA/RNA)
- Concentration for small and large volume of solvents



HyperVAC™

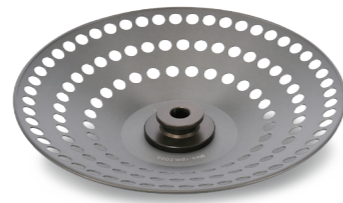
Centrifugal Vacuum Concentrator




Rotors & Sleeves for HyperVAC-LITE






Cat. No.	GRV-m0.5/2.0-124	
Tube/Plate Type		
	1.5/2.0 ml	0.5 ml
Max. tube capacity in mL	48 x 1.5/2.0 ml + 76 x 0.5 ml	
Hole diameter (mm)	11.1 (1.5/2.0 ml), 8 (0.5 ml)	




Cat. No.	GRV-m2.0-120
Tube/Plate Type	
	1.5/2.0 ml
Max. tube capacity in mL	120 x 1.5/2.0 ml
Hole diameter (mm)	11.1







Cat. No.	GRV-15-12	
Tube/Plate Type		
	15 ml	15 ml conical
Sleeve		
	GLV-15	
Max. tube capacity in mL	12 x 15 ml/15 ml conical	
Hole diameter (mm)	18 x 93	



Cat. No.	GRV-mw-2
Tube/Plate Type	
	microplate
Max. tube capacity in mL	2 loadings of microplate
Hole diameter (mm)	130.3 x 88.5




Cat. No.	GRV-50-6	
Tube/Plate Type		
	50 ml	50 ml conical
Sleeve		
	GLV-50	GLV-c50
Max. tube capacity in mL	6 x 50 ml	6 x 50 ml conical
Hole diameter (mm)	30.4 x 101	30.4 x 101

HyperVAC™




Centrifugal Vacuum Concentrator

Rotors & Sleeves for HyperVAC-MAX







Cat. No.	GRV-m2.0-200	
Tube/Plate Type		
	1.5/2.0 ml	
Max. tube capacity in mL	200 x 1.5/2.0 ml	
Hole diameter (mm)	11.1	





Cat. No.	GRV-15-48	
Tube/Plate Type		
	15 ml	15 ml conical
Sleeve		
	GLV-15	
Max. tube capacity in mL	48 x 15 ml/15 ml conical	
Hole diameter (mm)	18 x 93	



Cat. No.	GRV-50-12	
Tube/Plate Type		
	50 ml	50 ml conical
Sleeve		
	GLV-50	GLV-c50
Max. tube capacity in mL	12 x 50 ml	12 x 50 ml conical
Hole diameter (mm)	30.4 x 101	30.4 x 101



Cat. No.	GRV-mw-4	
Tube/Plate Type		
	MTP	DWP
Max. tube capacity in mL	4 loadings of MTP or DWP	
Hole diameter (mm)	86.3 x 128.3	

Drip Catcher, Pump, Table and Cooling Trap

Cat. No.	Description
GV-DC20a	Drip Catcher Kit a, Acrylic, ø20 cm, Height 16 cm incl. 500 ml Glass Bottle and Connections to Water Pump (a 50 cm Soft Hose/10 cm Vac Hose (ø12/25 mm) with 2 clamps to connect to HyperVAC centrifuge and a Y-Shape Soft Hose to Water Pump)
GV-DC20b	Drip Catcher Kit b, Acrylic, ø20 cm, Height 16 cm incl. 500 ml Glass Bottle and Connections to Diaphragm Pump (two 50 cm Soft Hose/10 cm Vac Hose (ø12/25 mm) with 2 clamps each to connect to HyperVAC centrifuge and Diaphragm Pump)
GVP-VE11	Water Pump, 18 L/min X 2, 0.0998 Mpa (998 mbar)
GVP-W2V20	High Vacuum Rotary Vane Pump, 0.4 kW (0.5 HP), 200 L/min, 1X10 ⁻³ torr (12 m ³ /h, 0.0013 mbar)
GVP-WOF150	Oil Mist Trap
GVCT-MA	Table A Type for HyperVAC-MAX with HyperCOOL Underneath and a Pump Back-sided
GVCT-MB	Table B Type for HyperVAC-MAX with a Pump Underneath
Hyper-HC3055	HyperCOOL -55 °C Cooling Trap 3 kg, Teflon Coated, w/ Digital Display and Time Control incl. a Vacuum Hose and Clamps (220 V, 50/60 Hz)
Hyper-HC3055-110	HyperCOOL -55 °C Cooling Trap 3 kg, Teflon Coated, w/ Digital Display and Time Control incl. a Vacuum Hose and Clamps (110 V, 50/60 Hz)
Hyper-HC3110	HyperCOOL -110 °C Cooling Trap 3 kg, Teflon Coated, w/ Digital Display and Time Control incl. a Vacuum Hose and Clamps (220 V, 50/60 Hz)
Hyper-HC3110-110	HyperCOOL -110 °C Cooling Trap 3 kg, Teflon Coated, w/ Digital Display and Time Control incl. a Vacuum Hose and Clamps (110 V, 50/60 Hz)
HC-CPP	HyperCOOL HC3055, HC3110 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator
HC-CPP-A	HyperCOOL HC3055, HC3110 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator with Table A (GVCT-MA)



GV-DC20a



GV-DC20b



GVP-VE11



GVP-W2V20



GVP-WOF150



GVCT-MA



GVCT-MB

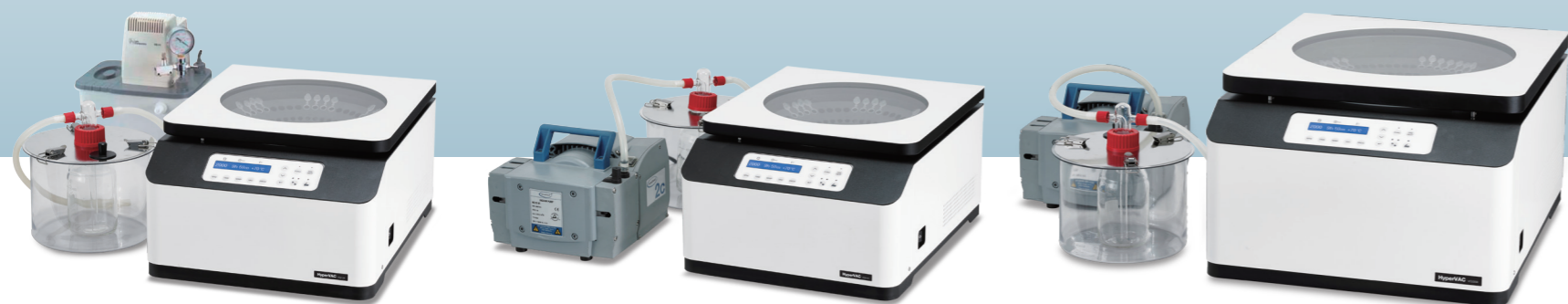


Hyper-HC3055 / Hyper-HC3110

HyperVAC™

Centrifugal Vacuum Concentrator

HyperVAC Package Information



Cat. No.	Details
GZ-HVL-AWP	HyperVAC-LITE System Incl. a Drip Cather Kit a and a Water Pump (Hyper-VC2124 + GRV-m0.5/2.0-124 + GV-DC20a + GVP-VE11 Water Pump) Vacuum range: 998 mbar

Cat. No.	Details
GZ-HVL-BDP	HyperVAC-LITE System Incl. a Drip Cather Kit b (Hyper-VC2124 + GRV-m0.5/2.0-124 + GV-DC20b)

* Please use a diaphragm pump after purchasing locally.

Cat. No.	Details
GZ-HVM-BDP	HyperVAC-MAX System Incl. a Drip Cather Kit b (Hyper-VC2200 + GRV-m2.0-200 + GV-DC20b)

* Please use a diaphragm pump after purchasing locally.



Cat. No.	Details
GZ-HVM-HCA	HyperVAC-MAX System Incl. a HyperCOOL -55 °C/3 kg, a HC Trap Plate, a Vacuum Hose, Rotary Vane Pump, Oil Mist Trap, All Connections & a Table A (Hyper-VC2200 + GRV-m2.0-200 + Hyper-HC3055 + HC-CPP-A + two HC-VH + GV-W2V20 + GVP-WOF150 + GVCT-MA) Vacuum range: 0.0013 mbar

Cat. No.	Details
GZ-HVM-HCB	HyperVAC-MAX System Incl. a HyperCOOL -110 °C/3 kg, a HC Trap Plate, a Vacuum Hose, Rotary Vane Pump, Oil Mist Trap, All Connections & a Table B (Hyper-VC2200 + GRV-m2.0-200 + Hyper-HC3110 + HC-CPP + two HC-VH + GV-W2V20 + GVP-WOF150 + GVCT-MB) Vacuum range: 0.0013 mbar

HyperCOOL™

Freeze Dryer & Cooling Trap



HyperCOOL is a lab scale freeze dryer using the lyophilization phenomena. HyperCOOL is designed for safety, robustness and convenience for the successful freeze drying and cold trap. It is suitable for drying of aqueous products, various solvents and products with a low freezing point. HyperCOOL with stylish, modern and unique design will help you enjoy your daily laboratory work to the fullest!

Two models of 3 kg HyperCOOL, HC3055 and HC3110 can be selected depending on the ice condensing temperature, -55 °C and -110 °C. HyperCOOL empowers HyperVAC-LITE and HyperVAC-MAX to guarantee high-performance and capacity as a cooling trap as well as the freeze dryer. The digital screen indicated with actual temperature and operating time is simple and intuitive for user-friendly control. Also, AWB (Alarm-Wait-OK), keylock, vacuum, defrost, power indicators of the display provide useful information. HC3055, HC3110 basically has the condenser chamber with Teflon coating. It provides the chemical resistance against aggressive solvents and acids such as HCl, TFA, DMSO, etc. and ensures longevity, easy cleaning and decontamination.

HyperCOOL with 8 kg ice capacity, HC8080 has a very large size cold trap that it can be used for prefreezer and it does not need the exclusive prefreezer system. In addition, HC8080 includes a high vacuum rotary vane pump in the body case without necessarily purchasing separate pump. It has the intuitive and easy control as a dial type to turn on cooling and vacuum and adjust the time. LCD display shows the vacuum pressure, trap temperatures and the other processing parameters.

► Features

- HyperVAC-MAX empowered by HyperCOOL guarantees capacity and performance at higher level.
- Extended applications for concentrating wider range or larger volume of solvents
- 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.
- Effective for evaporating organic solvents as well as concentrating dissolved nucleic acids
- Up to 12 external bottles can be accommodated by the manifolds of HyperCOOL.
- Automatic De-Vac and De-Ice functions installed

HyperCOOL™

Freeze Dryer & Cooling Trap

► Technical Specifications

Model Name	HC3055	HC3110	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		
Compressor	1/2 HP	1/2 HP x 2	1 HP x 2
Refrigerant	R507	R507/R1150	R507/R1150
Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)		
Power Requirement (Resting, VA)	642	819	1500
Dimension (W x D x H, mm)	400 x 660 x 570		710 x 610 x 960
Weight (kg)	58	72	195
Digital Readout	Temperature, Time		Time, Program, Temperature, Vacuum Pressure
Function	KEYLOCK, DEFROST, VACUUM, TIME		COOLING, VACUUM
Cat. No.	Hyper-HC3055 (Hyper-HC3055-110)	Hyper-HC3110 (Hyper-HC3110-110)	Hyper-HC8080 (Hyper-HC8080-110)

► Applications

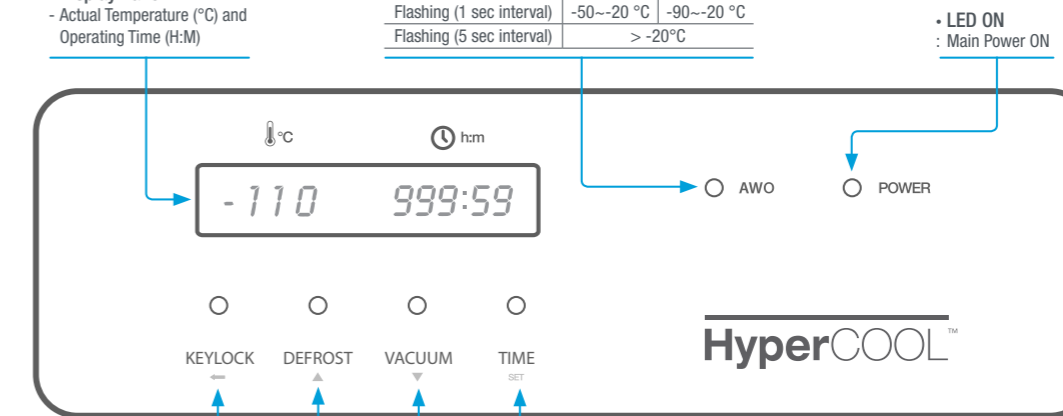
- Study and QC of dried foods like dried fruits, meats, etc.
- Stock of bacteria, virus, fungi, etc.
- Seed preservation of plants or mushrooms
- Improved preservation of flowers and dry display study
- Pharmaceutical study and production
- Research and production of vaccine and antidote
- Tissue or cell preparation for EM analysis
- Medical research
- Archaeological finds like books, textiles, leather
- Restoration of wet documents

► Control Panel

[HC3055, HC3110]

- Display Panel
- Actual Temperature (°C) and Operating Time (H:M)

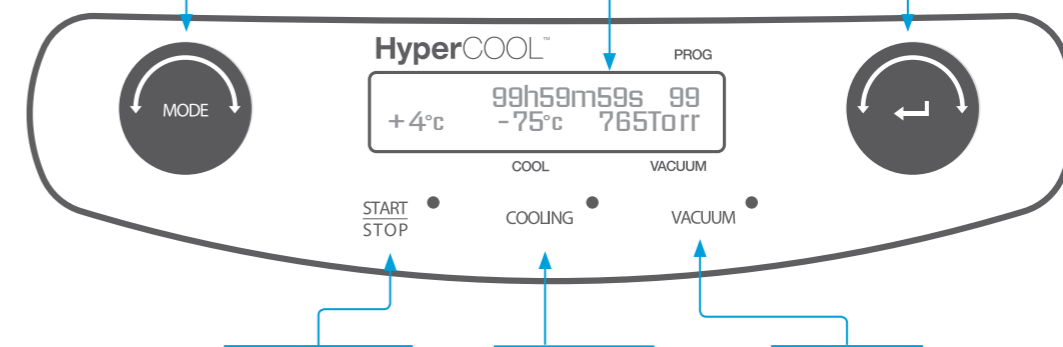
LED	HC3055	HC3110
ON	< -50 °C	< -90 °C
Flashing (1 sec interval)	-50~-20 °C	-90~-20 °C
Flashing (5 sec interval)	> -20°C	



- DEFROST, VACUUM or TIME function can be locked during operation.
- Locked : LED ON
- Chamber defrosting by hot gas injection
- Turning on/off the vacuum pump
- 30 °C~RT : VACUUM inactive (LED flashing)
- <-30 °C : VACUUM activated (LED flashing)
- VACUUM ON (LED ON)
- <-50 °C : automatic pump on (LED ON)
- LED ON : TIME setting mode
- Set H:M using the control buttons (◀, ▲, ▼, SET)

[HC8080]

- MODE Dial: Choose the setting menu by turning the dial to the right or left.
- Display Panel: Display operation condition (Time, Program, Temperature (RT~-80 °C), Vacuum (763 Torr~0.1 Torr))
- Enter Dial: adjusts values of each data by turning the dial to the right or left.



- START/STOP: Start and stop cold trap and vacuum pump
- COOLING: Turn on/off cold trap
- VACUUM: Turn on/off vacuum pump

HyperCOOL™

Freeze Dryer & Cooling Trap



HyperCOOL Cover Plate



Cat. No.	HC-CPP
Details	HyperCOOL HC3055, HC3110 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator



Cat. No.	HC-CPP-A
Details	HyperCOOL HC3055, HC3110 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator with Table A (GVCT-MA)



Cat. No.	HC-CPB
Details	HyperCOOL HC3055, HC3110 Acrylic Base for Manifold or Chamber



Cat. No.	HC-CPB(8)
Details	HyperCOOL HC8080 Acrylic Base for Manifold or Chamber



Cat. No.	HC-CPP(8)
Details	HyperCOOL HC8080 Trap Plate for Connection Vacuum Hose to Vacuum Concentrator

Manifold



Cat. No.	HC-MFB-4V
Details	4-Valve Manifold Basic with four rubber valves on a stainless steel bar, 30 cm



Cat. No.	HC-MFB-6V
Details	6-Valve Manifold Basic with six rubber valves on a stainless steel bar, 30 cm



Cat. No.	HC-MFE-4V
Details	4-Valve Manifold Extension with four rubber valves on a stainless steel bar, 20 cm



Cat. No.	HC-MFE-6V
Details	6-Valve Manifold Extension with six rubber valves on a stainless steel bar, 20 cm



Cat. No.	HC-MFB-8V
Details	8-Valve Manifold Basic with 8 rubber valves on a stainless steel bar, 30 cm

Chamber and Rack



Cat. No.	HC-CH30P
Details	Acrylic Chamber Trunk and Plain Top, ø30 cm, height 40 cm



Cat. No.	HC-CH30-4V
Details	Acrylic Chamber Trunk and Top with 4 Rubber Valves, ø30 cm, height 40 cm



Cat. No.	HC-CR25
Details	Stainless Steel Rack with 3 Sets of SS Shelves and Trays, ø25cm (Trays can be inserted up to 5)



Cat. No.	HC-CH30-8V
Details	Acrylic Chamber Trunk and Top with 8 Rubber Valves, ø30 cm, height 40 cm

Cat. No.	HC-CR-TS
Details	A Set of a Tray and a Shelf

Flask and others

Cat. No.	Details
HC-GF40	Freeze Drying Glass Flask 40 ml with rubber lid and stainless steel connector
HC-GF80	Freeze Drying Glass Flask 80 ml with rubber lid and stainless steel connector
HC-GF120	Freeze Drying Glass Flask 120 ml with rubber lid and stainless steel connector
HC-GF150	Freeze Drying Glass Flask 150 ml with rubber lid and stainless steel connector
HC-GF300	Freeze Drying Glass Flask 300 ml with rubber lid and stainless steel connector
HC-GF600	Freeze Drying Glass Flask 600 ml with rubber lid and stainless steel connector
HC-GF900	Freeze Drying Glass Flask 900 ml with rubber lid and stainless steel connector
HC-GF1200	Freeze Drying Glass Flask 1200 ml with rubber lid and stainless steel connector
HC-GFT34	Rubber lid for 34 mm diameter Flask (Glass Flask 40 ~ 80 ml)
HC-GFT60	Rubber lid for 60 mm diameter Flask (Glass Flask 120 ~ 300 ml)
HC-GFT90	Rubber lid for 90 mm diameter Flask (Glass Flask 600 ~ 1200 ml)
V04CS12250-00	Stainless Steel connector
HC-AA	Acetal Adaptor for the connection Vacuum Hose to Rubber Valve
HC-VH	Vacuum Hose with 2 Clamps, 100 cm
GVP-W2V20	High Vacuum Rotary Vane Pump, 0.4 kW(0.5 HP), 200 L/min, 1X10-3 torr
GVP-WOF150	Oil Mist Trap

HyperCOOL™

Freeze Dryer & Cooling Trap

HyperCOOL Package Information



Cat. No.	Details
GZ-HC3055-M4B	Manifold Type Freeze Drying System -55 °C with 4 Valves Basic incl. a Rotary Vane Pump, Oil Mist Trap & Connections (Hyper-HC3055 + HC-CPB + HC-MFB-4V + HC-VH + GVP-W2V20 + GVP-WOF150)
GZ-HC3110-M4B	Manifold Type Freeze Drying System -110 °C with 4 Valves Basic incl. a Rotary Vane Pump, Oil Mist Trap & Connections (Hyper-HC3110 + HC-CPB + HC-MFB-4V + HC-VH + GVP-W2V20 + GVP-WOF150)

Cat. No.	Details
GZ-HC3110-CHR	Chamber Type Freeze Drying System -110 °C with 3 Shelves Rack incl. a Rotary Vane Pump, Oil Mist Trap & Connections (Hyper-HC3110 + HC-CPB + HC-CH30P + HC-CR25 + HC-VH + GVP-W2V20 + GVP-WOF150)

Cat. No.	Details
GZ-HC3110-CH4VR	Multi-Type Freeze Drying System -110 °C with 3 Shelves Rack & 4 Valves Chamber incl. a Rotary Vane Pump, Oil Mist Trap & Connections (Hyper-HC3110 + HC-CPB + HC-CH30-4V + HC-CR25 + HC-VH + GVP-W2V20 + GVP-WOF150)

Cat. No.	Details
GZ-HC3110-CH8VR	Multi-Type Freeze Drying System -110 °C with 3 Shelves Rack & 8 Valves Chamber incl. a Rotary Vane Pump, Oil Mist Trap & Connections (Hyper-HC3110 + HC-CPB + HC-CH30-8V + HC-CR25 + HC-VH + GVP-W2V20 + GVP-WOF150)

Cat. No.	Details
GZ-MHC3110-M4EC	Multi-Purpose, Vacuum Concentration and Freeze Drying System -110 °C with 8 Valves Manifold incl. a Rotary Vane Pump, Oil Mist Trap, Connections & a Table B (Hyper-VC2200 + GVCT-MB + Hyper-HC3110 + HC-CPB + HC-MFB-4V + HC-MFE-4V + two HC-VH + GVP-W2V20 + GVP-WOF150)

Cat. No.	Details
GZ-MHC3110-CH8VRC	Multi-Purpose, Vacuum Concentration and Freeze Drying System -110 °C with 3 Shelves Rack & 8 Valves Chamber incl. a Rotary Vane Pump, Oil Mist Trap, Connections & a Table B (Hyper-VC2200 + GVCT-MB + Hyper-HC3110 + HC-CPB + HC-CH30-8V + HC-CR25 + two HC-VH + GVP-W2V20 + GVP-WOF150)

HyperCOOL™

Freeze Dryer & Cooling Trap

HyperCOOL Package Information



Cat. No.	Details
GZ-HC8080-M4B	Manifold Type Freeze Drying System -80 °C with 4 Valves Basic (Hyper-HC8080 + HC-CPB(8) + HC-MFB-4V)

Cat. No.	Details
GZ-HC8080-M6B	Manifold Type Freeze Drying System -80 °C with 6 Valves Basic (Hyper-HC8080 + HC-CPB(8) + HC-MFB-6V)

Cat. No.	Details
GZ-HC8080-M8B	Manifold Type Freeze Drying System -80 °C with 8 Valves Basic (Hyper-HC8080 + HC-CPM(8) + HC-MFB-8V)

Cat. No.	Details
GZ-HC8080-CHR	Chamber Type Freeze Drying System -80 °C with 3 Shelves Rack (Hyper-HC8080 + HC-CPB(8) + HC-CH30P + HC-CR25)

Cat. No.	Details
GZ-HC8080-CH4VR	Multi-Type Freeze Drying System -80 °C with 3 Shelves Rack & 4 Valves Chamber (Hyper-HC8080 + HC-CPB(8) + HC-CH30-4V + HC-CR25)

Cat. No.	Details
GZ-HC8080-CH8VR	Multi-Type Freeze Drying System -80 °C with 3 Shelves Rack & 8 Valves Chamber (Hyper-HC8080 + HC-CPB(8) + HC-CH30-8V + HC-CR25)