

GYROZEN

2021/22 PRODUCT CATALOG

**Experts in Laboratory
Equipment**

Concentrator

GYROZEN

ABOUT US

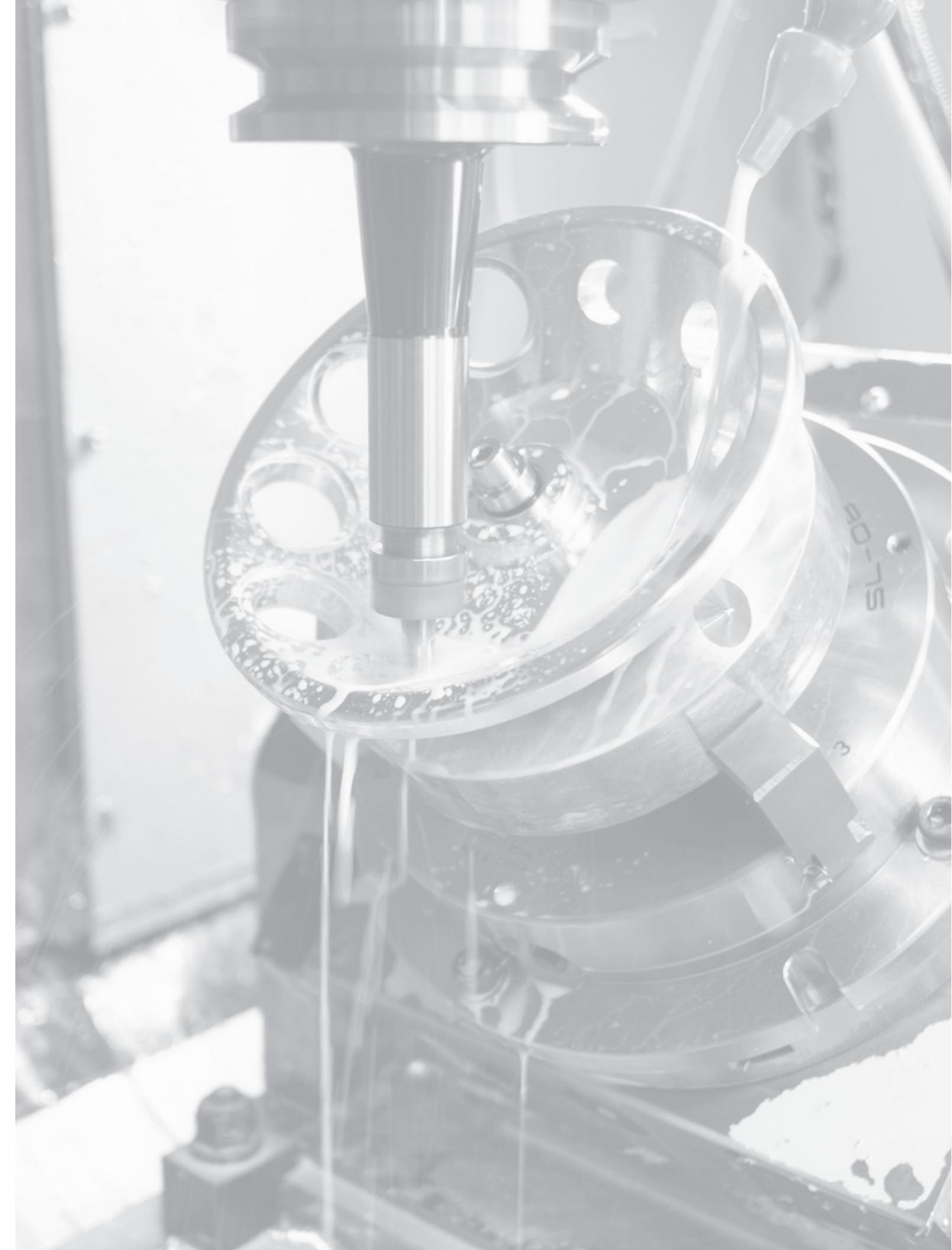
Since its founding year in 2007, GYROZEN has been the leading supplier of centrifuges and other laboratory equipment based in South Korean

QUALITY OF THE PRODUCTS

Gyrozen is one of the few centrifuge companies in the world that still fabricates all of its own rotors in-house, and this is how we can assure the same high quality result every time.

PRODUCTS WITH SOUL

All of the Gyrozen products are hand made and assembled at the Gimpo facility with passion and pride, where the rotors are being cut, and the motors are being hand wired.



KEY POINTS FOR USER'S SATISFACTION

STABLE QUALITY



- Manufactured and tested to IEC standards
 - Steady and soft deceleration with dynamic brake technology
 - Anti-vibration and air-cooling system to minimize noise and heat dissipation
 - Eco-friendly Compressor-off function to minimize unnecessary cooling and frosting when lid is open
 - Fast cooling function allowing a temperature drop to 4°C within 5 minutes for quick start of cooled samples
 - Fine control of time counting by a selection of At Set Speed or From Starting"
 - CE IVD-certified centrifuge versions for medical purpose
-

SAFETY AND ROBUSTNESS



- Sturdy structured, two to three layered lid for noise reduction and safe operation
 - Lid drop protection for easiness and safety for loading or unloading sample
 - Emergency lid-lock release for power blackout or sudden stoppage
 - Key lock function to prevent unintentional parameter modification during operation
 - Automatic rotor detection and warning for imbalance, excess speed and over-heating
 - Autoclavable and corrosion-free rotors
 - Imbalance detection and counting of imbalance error
-

EASY CUSTOMIZATION



- In house customization upon specific requirement for rotors, sample containers and adaptors
 - High flexibility of structural & functional modifications
-

CONVENIENCE IN OPERATION



- Windows CE based 7" LCD Touch Screen and simultaneous display of all parameters
- Intuitive control interface with numeric input buttons displaying graphic pictograms for the setting and editing of running conditions
- Reversible parameters during operation
- Program memory up to 100 (or 10) programs
- Time control functions of pulse for quick spin
- Automatic RPM/RCF conversion
- "Easy-Lock" lid allowing easy and convenient lid opening and closure (Micro rotors)
- Automatic lid release and vivid end alarm at spinning completion
- Easy observation of actual rotation through the viewing window on the lid
- Large assortment of rotors, buckets and adaptors for diverse applications
- Floor standing centrifuges equipped with 4 casters allowing easy movement and user's convenience
- Multipurpose centrifuge with high capacity buckets up to 1,000mL

CERTIFICATE AND REGISTRATIONS



- Accredited with ISO 9001, ISO 13485, and KGMP
- Comply with CE conformity
- Approved as Class IIa medical devices (IVD)

02. Concentrator

HyperVAC™ Centrifugal Vacuum Concentrator



Features

- Modular configurations of centrifugal part, cold trapping, and vacuum pump for versatile applications
- Available for volatile chemical solvents by accomodating with water pump, diaphragm pump or oil pump
- Accommodate a wide range of sample containers : 0.5, 2.0, 15, 50 mL tubes and microplates
- Automatic control and digital reading of TIME, TEMP and VAC
- Efficient Concentration of diverse samples through selectable system combination of Drip Catcher (Ice temperature) or Hyper Cool Cold trap (-55°C, -110°C)

Applications

- Nucleic acids (DNA/RNA) concentration
- HPLC, PCR, gel extraction, isolation, purification and concentration from solid phase extraction to solvent removal
- Combinatorial chemistry

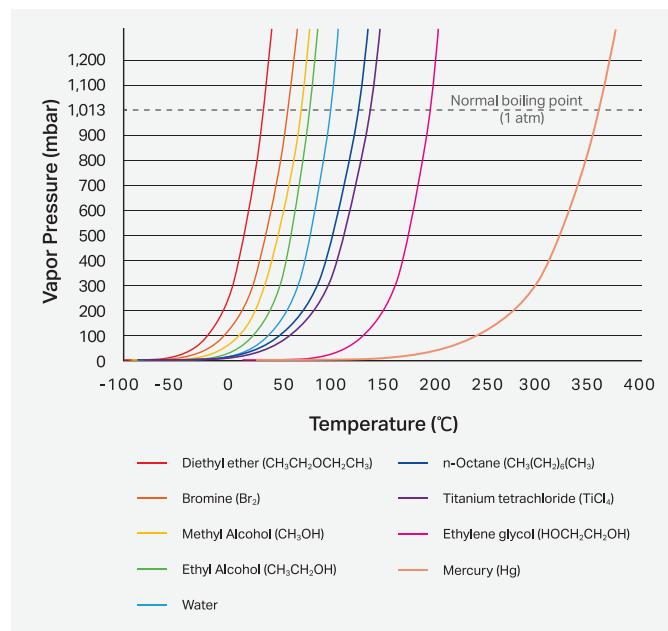
Centrifugal Vacuum Concentration

The solvent removal is an essential process for the wide range of applications in genomics, proteomics, biochemistry, pharmaceutical study and analytical chemistry.

The energy, as heat is applied during solvent removal process, so that the liquid is evaporated to gas.

The boiling point of solvent can be decreased by applying vacuum pressure, which enables liquid vaporization at lower temperature than its boiling temperature. Also decreased boiling points and centrifugal force give benefit to minimize boiling and bumping of solvents, and prevent cross contamination and sample loss.

HyperVac generates heat up to 80°C, accommodating with vacuum pump and cold traps provides enhanced evaporation of solvent and improved sample purity.



Vapor Pressure Lowering

$$P = X P^0$$

P = Vapor pressure of the solution

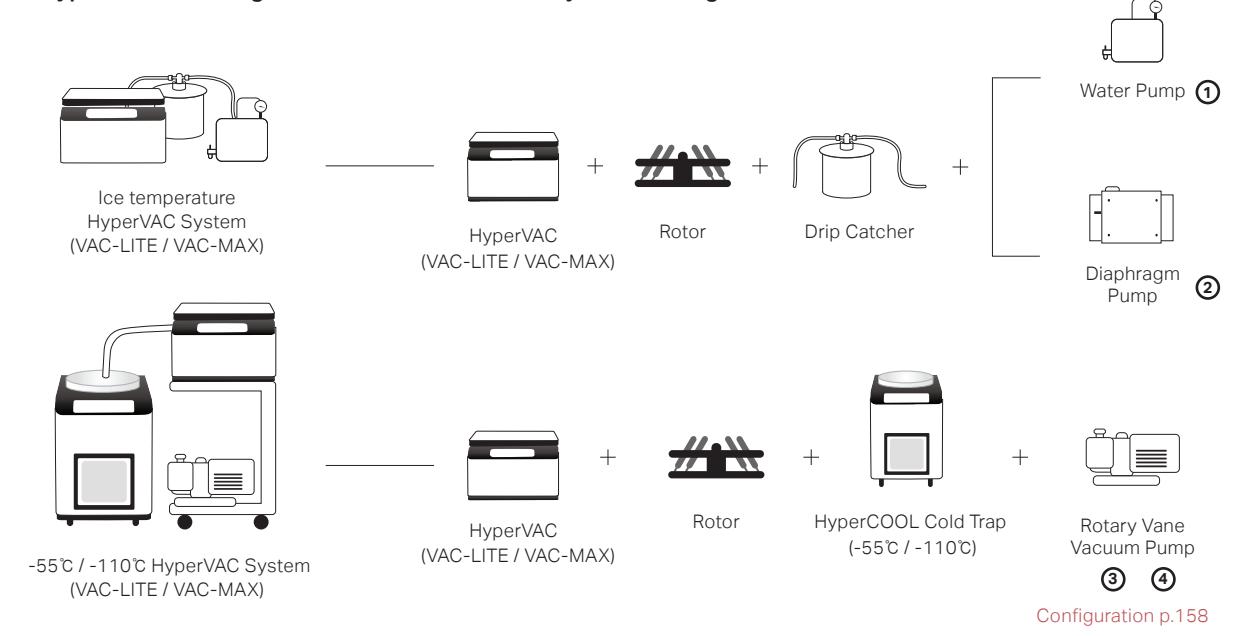
X = Mole fraction of the solvent

P^0 = Vapor pressure of the pure solvent

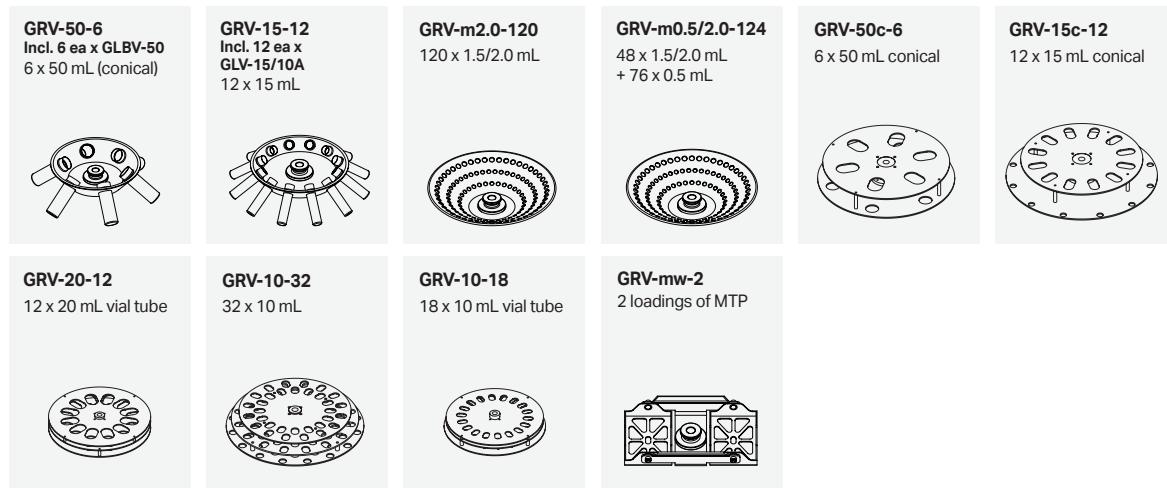
Technical Specifications

	HyperVAC-LITE	HyperVAC-MAX
Max. RPM		2,000
Max. Capacity		
Fixed Angle	120 x 1.5/2.0 mL microtubes or 48 x 1.5/2.0 mL + 76 x 0.5 mL microtubes, 6 x 50 mL	200 x 1.5/2.0 mL microtubes 12 x 50 mL
Swing-out	2 loadings of MTP	4 loadings of MTP or DWP
Auto Start / Stop of Vacuum	Yes	
Chamber Heating Temp. 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	700 VA(W/O pump 350 VA)	1,000 VA(W/O pump 700VA)
Power supply	AC 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-VC2200

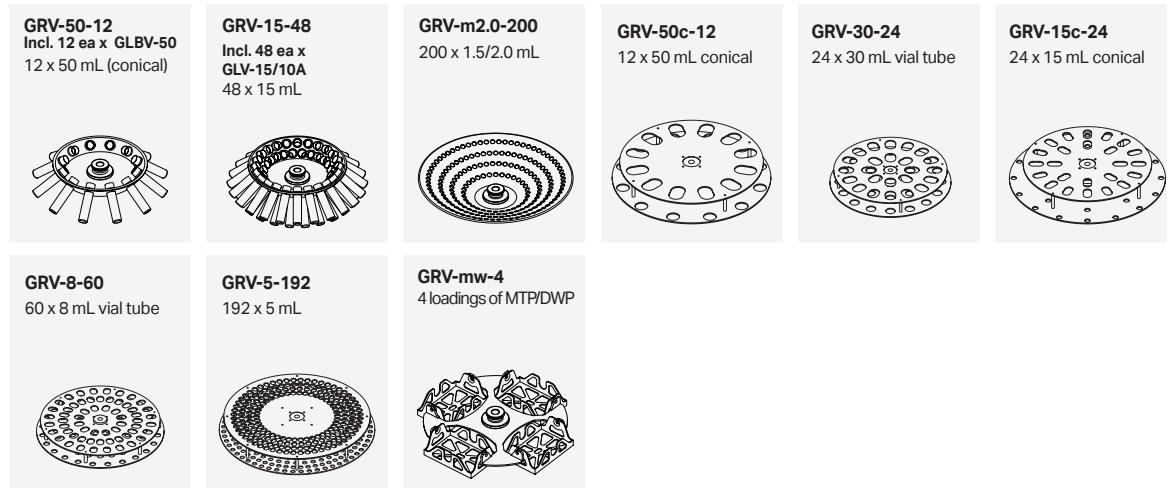


HyperVAC Centrifugal Vacuum Concentration System Configuration

Rotors for HyperVAC-LITE p.143 ~



Rotors for HyperVAC-MAX p.148 ~



Rotors for HyperVAC-LITE

Angle Rotor, GRV-50-6 / GRV-c50-6

- Capacity : 12 x 50 mL or 50 mL Conical
- Max. RPM : 2,000
- Hole angle rotation : $\angle 45^\circ$
- Hole dimension ($\varnothing \times L, mm$) : 32 x 6



	50 mL Sleeve GLBV-50	Max. RPM : 2,000 Hole dimension ($\varnothing \times L, mm$) : 30 x 99 Hole bottom type : Flat bottom with rubber pad Max. height for tube fit (mm) : 130
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Tube									
Tube capacity (mL)	8 ~ 10 mL VT	15	15 mL conical	25mL conical	25mL conical	30	50	50 mL conical (Skirt)	50
Tube Dimension ($\varnothing \times L, mm$)	16 x 100	16 x 120	17 x 120	28.8 x 83	28.8 x 78.5	25.7 x 101.4	29 x 108	29.5 x 118	29.5 x 118
Adapter									None
Cat No.	GAS-10(f50)	GAS-15(f50)	GAS-c15(f50)	GAS-c25(f50)	GAS-c25(f50)	GAS-30(f50)	GAS-50(f50)	GAS-c50(f50)	-
Adaptor hole dimension ($\varnothing \times L, mm$)	17.1 x 83	17.1 x 99.5	17.2 x 103	27.1 x 14.1	27.1 x 14.1	26 x 86.5	29.5 x 14	29.5 x 17.5	-
Adaptor hole bottom type	Round	Round	Conical	Conical	Conical	Round	Round	Conical	-
Max. RPM	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000

	50 mL Conical Sleeve GLBV-c50	Max. RPM : 2,000 Hole dimension ($\varnothing \times L, mm$) : 30.4 x 101 Hole bottom type : Conical Max. height for tube fit (mm) : 130
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Tube						
Tube capacity (mL)	15 mL conical	25 mL conical	25 mL conical	30	50	50 mL conical
Tube Dimension ($\varnothing \times L, mm$)	17 x 120	28.8 x 83	28.8 x 78.5	25.7 x 101.4	29 x 108	29.5 x 118
Adapter						None
Cat No.	GAS-c15(c50)	GAS-c25(c50)	GAS-c25(c50)	GAS-30(c50)	GAS-50(c50)	-
Adaptor hole dimension ($\varnothing \times L, mm$)	17 x 105	27.1x14.1	27.1x14.1	26x83.8	27.9 x 11	-
Adaptor hole bottom type	Conical	Conical	Conical	Round	Round	-
Max. RPM	2,000	2,000	2,000	2,000	2,000	2,000

Angle Rotor, GRV-15-12

- Capacity : 12 x 15 mL
- Max. RPM : 2,000
- Hole angle rotation : $\angle 45^\circ$
- Hole dimension ($\varnothing \times L, mm$) : 20.4 x 6



 15 mL Sleeve GLB-15/10A	Max. RPM : 2,000 Hole dimension ($\varnothing \times L, mm$) : 18 x 87 Hole bottom type : Flat bottom with rubber pad Max. height for tube fit (mm) : 125(120 for conical / wider cap) Sleeve dimension / weight (net, $\varnothing \times L, mm / g$) : 22.6 x 88.5 / 15Slee
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Tube						
Tube capacity (mL)	1.6 ~ 5	5 mL conical	5 mL conical	8 ~ 10 mL VT	15	15 mL conical
Tube Dimension ($\varnothing \times L, mm$)	13 x 75	16 x 59	16 x 67	16 x 100	16 x 120	17 x 120
Adapter				None	None	None
Cat No.	GAS-3(f15)	GAS-c5(f15)	GAS-c5(f15)	-	-	-
Adaptor hole dimension ($\varnothing \times L, mm$)	13.5 x 61	14 x 20	14 x 20	-	-	-
Adaptor hole bottom type	Round	Conical	Conical	-	-	-
Max. RPM	2,000	2,000	2,000	2,000	2,000	2,000

Angle Rotor, GRV-m2.0-120

- Capacity : 120 x 1.5 / 2.0 mL
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 30^\circ$
- Hole dimension ($\varnothing \times L, mm$) : 11.1 x 2
- Hole bottom type : Open
- Max. height for tube fit (mm) : 60



Tube				2.0 mL screw cap
Tube capacity (mL)	0.2	0.5	1.5/2.0	2.0 mL screw cap
Tube Dimension ($\varnothing \times L, mm$)	6 x 8	8 x 30	11 x 38	10.1 x 46
Adapter			None	None
Cat No.	GAS-m0.2(2)	GAS-m0.5(2)	-	-
Adaptor hole dimension ($\varnothing \times L, mm$)	6.5 x 23	8 x 31	-	-
Adaptor hole bottom type	Open	Open	-	-

Angle Rotor, GRV-m0.5/2.0-124

- Capacity : 48 x 1.5 / 2.0 mL + 76 x 0.5 mL
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 30^\circ$
- Hole dimension ($\emptyset \times L$,mm) : 11.1 x 2
- Hole bottom type : Open
- Max. height for tube fit (mm) : 60



Tube				
Tube capacity (mL)	0.2	0.5	1.5/2.0	2.0 mL screw cap
Tube Dimension ($\emptyset \times L$, mm)	6 x 8	8 x 30	11 x 38	10.1 x 46

Adapter			None	None
Cat No.	GAS-m0.2(2)	GAS-m0.5(2)	-	-
Adaptor hole dimension ($\emptyset \times L$,mm)	6.5 x 23	8 x 31	-	-
Adaptor hole bottom type	Open	Open	-	-

Angle Rotor, GRV-c50-6

- Capacity : 6 x 50 mL conical
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 40^\circ$
- Hole dimension (W x D x L,mm) : 30 x 49.5 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 125
- Min. height for tube fit (mm) : 91



Tube/Plate type	
Tube capacity (mL)	50 mL conical
Tube dimension ($\emptyset \times L$,mm)	29.5 x 118

Angle Rotor, GRV-20-12

- Capacity : 12 x 20 mL vial
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 45^\circ$
- Hole dimension (W x D x L,mm) : 29 x 42.5 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 70
- Min. height for tube fit (mm) : 40



Tube/Plate type	
Tube capacity (mL)	20 mL vial
Tube Dimension ($\Phi \times L$,mm)	27.5 x 58

Angle Rotor, GRV-c15-12

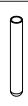
- Capacity : 12 x 15 mL conical
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 40^\circ$
- Hole dimension (W x D x L,mm) : 15 x 22 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 125
- Min. height for tube fit (mm) : 84



Tube/Plate type	
Tube capacity (mL)	15 mL conical
Tube Dimension ($\Phi \times L$,mm)	17 x 120

Angle Rotor, GRV-10-32

- Capacity : 32 x 10 mL
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 45^\circ$
- Hole dimension (W x D x L,mm) : 18 x 30 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 105
- Min. height for tube fit (mm) : 71



Tube/Plate type	
Tube capacity (mL)	10 mL
Tube Dimension ($\Phi \times L$,mm)	13 x 99

Angle Rotor, GRV-10-18

- Capacity : 18 x 10 mL vial
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 45^\circ$
- Hole dimension (W x D x L,mm) : 15.5 x 25 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 60
- Min. height for tube fit (mm) : 37



Tube/Plate type	
Tube capacity (mL)	10 vial
Tube Dimension ($\Phi \times L$,mm)	15 x 45

Angle Rotor, GRV-mw-2

- 2 loadings
- Max. RPM : 2,000
- Angle from axis during rotation : $\angle 90^\circ$
- Rotor dimension / weight (W x D x L, mm / g) : 188 x 156.5 x 67.4 / 735



	Microplate Bucket GLP-mw	Max. RPM : 2,000 Hole dimension (w x d ,mm) : 88.5 x 130.3 Max. height for tube fit (mm) : 35 Hole bottom type : Flat bottom
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Tube/Plate type	
Tube capacity (mL)	MTP
Tube Dimension ($\Phi \times L$,mm)	88 x 130x15
Bucket capacity(ea / 2)	2/4

Rotors for HyperVAC-MAX

Angle Rotor, GRV-50-12 / GRV-c50-12



- Capacity : 12 x 50 mL or 50 mL Conical
- Max. RPM : 2,000
- Hole angle rotation : < 45°
- Hole dimension (Ø x L,mm) : 32 x 6
- Rotor dimension / weight (net, Ø x L, mm / g) : 259 x 78 / 995

50 mL Sleeve
GLBV-50

Max. RPM : 2,000
Hole dimension (Ø x L,mm) : 30 x 99
Hole bottom type : Flat bottom with rubber pad
Max. height for tube fit (mm) : 130

Tube									
Tube capacity (mL)	8 ~ 10 mL VT	15	15 mL conical	25mL conical	25mL conical	30	50	50 mL conical (Skirt)	50
Tube Dimension (Φ x L, mm)	16 x 100	16 x 120	17 x 120	28.8 x 83	28.8 x 78.5	25.7 x 101.4	29 x 108	29.5 x 118	29.5 x 118
Adapter									None
Cat No.	GAS-10(f50)	GAS-15(f50)	GAS-c15(f50)	GAS-c25(f50)	GAS-c25(f50)	GAS-30(f50)	GAS-50(f50)	GAS-c50(f50)	-
Adaptor hole dimension (Φ x L,mm)	17.1 x 83	17.1 x 99.5	17.2 x 103	27.1 x 14.1	27.1 x 14.1	26 x 86.5	29.5 x 14	29.5 x 17.5	-
Adaptor hole bottom type	Round	Round	Conical	Conical	Conical	Round	Round	Conical	-
Max. RPM	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000

50 mL Conical Sleeve
GLBV-c50

Max. RPM : 2,000
Hole dimension (Ø x L,mm) : 30.4 x 101
Hole bottom type : Conical
Max. height for tube fit (mm) : 130

Tube						
Tube capacity (mL)	15 mL conical	25 mL conical	25 mL conical	30	50	50 mL conical
Tube Dimension (Φ x L, mm)	17 x 120	28.8 x 83	28.8 x 78.5	25.7 x 101.4	29 x 108	29.5 x 118
Adapter						None
Cat No.	GAS-c15(c50)	GAS-c25(c50)	GAS-c25(c50)	GAS-30(c50)	GAS-50(c50)	-
Adaptor hole dimension (Φ x L,mm)	17 x 105	27.1x14.1	27.1x14.1	26x83.8	27.9 x 11	-
Adaptor hole bottom type	Conical	Conical	Conical	Round	Round	-
Max. RPM	2,000	2,000	2,000	2,000	2,000	2,000

Angle Rotor, GRV-15-48

- Capacity : 48 x 15 mL
- Max. RPM : 2,000
- Hole angle rotation : $\angle 45^\circ$
- Hole dimension ($\varnothing \times L, mm$) : 20.4 x 6
- Rotor dimension / weight (net, $\varnothing \times L, mm / g$) : 266 x 80 / 975



15 mL Sleeve
GLB-15/10A

Capacity : 15 mL
Max. RPM : 2,000
Hole dimension ($\varnothing \times L, mm$) : 18 x 87
Hole bottom type : Flat bottom with rubber pad
Max. height for tube fit (mm) : 125(120 for conical / wider cap)

Tube



Tube capacity (mL)	1.6 ~ 5	5 mL conical	5 mL conical	8 ~ 10 mL VT	15	15 mL conical
Tube Dimension ($\varnothing \times L, mm$)	13 x 75	16 x 59	16 x 67	16 x 100	16 x 120	17 x 120

Adapter



Cat No.	GAS-3(f15)	GAS-c5(f15)	GAS-c5(f15)	-	-	-
Adaptor hole dimension ($\varnothing \times L, mm$)	13.5 x 61	14 x 20	14 x 20	-	-	-
Adaptor hole bottom type	Round	Conical	Conical	-	-	-
Max. RPM	2,000	2,000	2,000	2,000	2,000	2,000

Angle Rotor, GRV-m2.0-200

- Capacity : 200 x 1.5 / 2.0 mL
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 23.5^\circ$
- Hole dimension ($\varnothing \times L, mm$) : 11.1 x 2
- Hole bottom type : Open
- Max. height for tube fit (mm) : 60
- Rotor dimension / weight (net, $\varnothing \times L, mm / g$) : 362 x 84 / 640



Tube



Tube capacity (mL)	0.2	0.5	1.5/2.0	2.0 mL screw cap
Tube Dimension ($\varnothing \times L, mm$)	6 x 8	8 x 30	11 x 38	10.1 x 46

Adapter



Cat No.	GAS-m0.2(2)	GAS-m0.5(2)	-	-
Adaptor hole dimension ($\varnothing \times L, mm$)	6.5 x 23	8 x 31	-	-
Adaptor hole bottom type	Open	Open	-	-

Angle Rotor, GRV-c50-12

- Capacity : 12 x 50 mL conical
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 45^\circ$
- Hole dimension (W x D x L,mm) : 30 x 45 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 125
- Min. height for tube fit (mm) : 83



Tube/Plate type

Tube capacity (mL) 50 mL conical

Tube Dimension ($\Phi \times L$,mm) 29.5 x 118

Angle Rotor, GRV-30-24

- Capacity : 24 x 30 mL vial
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 50^\circ$
- Hole dimension (W x D x L,mm) : 28 x 40 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 90
- Min. height for tube fit (mm) : 61



Tube/Plate type

Tube capacity (mL) 30 mL vial

Tube Dimension ($\Phi \times L$,mm) 27 x 72

Angle Rotor, GRV-c15-24

- Capacity : 12 x 24 mL conical
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 45^\circ$
- Hole dimension (W x D x L,mm) : 18 x 27 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 125
- Min. height for tube fit (mm) : 77



Tube/Plate type

Tube capacity (mL) 15 mL conical

Tube Dimension ($\Phi \times L$,mm) 17 x 120

Angle Rotor, GRV-8-60

- Capacity : 60 x 8 mL vial
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 50^\circ$
- Hole dimension (W x D x L,mm) : 18 x 25.5 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 70
- Min. height for tube fit (mm) : 52



Tube/Plate type



Tube capacity (mL)

8 mL vial

Tube Dimension (Φ x L,mm)

16.5 x 60.5

Angle Rotor, GRV-5-192

- Capacity : 192 x 5 mL
- Max. RPM : 2,000
- Hole angle from axis during rotation : $\angle 55^\circ$
- Hole dimension (W x D x L,mm) : 15.5 x 25 x 2.5
- Hole bottom type : Open
- Max. height for tube fit (mm) : 75
- Min. height for tube fit (mm) : 55



Tube/Plate type



Tube capacity (mL)

5 mL

Tube Dimension (Φ x L,mm)

11 x 66

Angle Rotor, GRV-mw-4

- 4 loadings
- Max. RPM : 2,000
- Angle from axis during rotation: $\angle 90^\circ$
- Rotor dimension / weight(\emptyset x L,mm / g) : 315 x63.5 / 96.8



Microplate Bucket,
GLP-mw

Max. RPM : 2,000
Hole dimension (w x d ,mm) : 88.5 x 130.3
Max. height for tube fit (mm) : 35
Hole bottom type : Flat bottom

Tube/Plate type



Tube capacity (mL)

MTP

Tube Dimension (Φ x L,mm)

DWP

Bucket capacity(ea / 2)

88 x 130x15

87 x 128 x 60

2/4

1 / 4

HyperCOOL™ Freeze Dryer



Features

- Provides wide solvent coverage by dropping temperature down to -55°C, 80°C, -110°C
- 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.

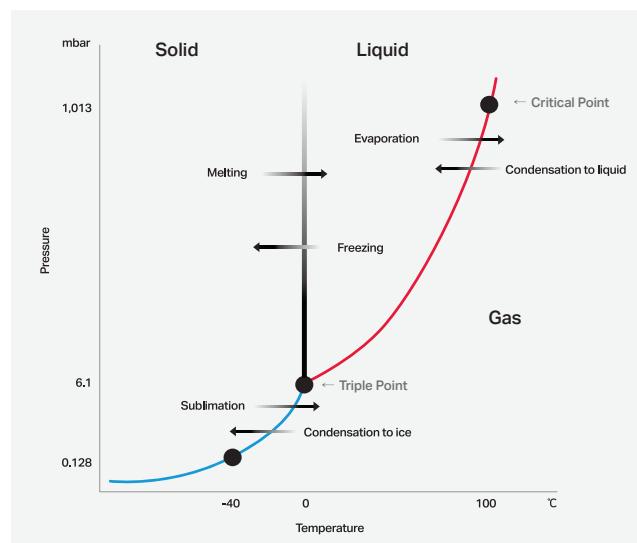
Freezing Point Depression

$$\Delta T = i K_f m$$

ΔT = Decrease in solution freezing point

K_f = Freezing point depression constant for the solvent

m= Molality

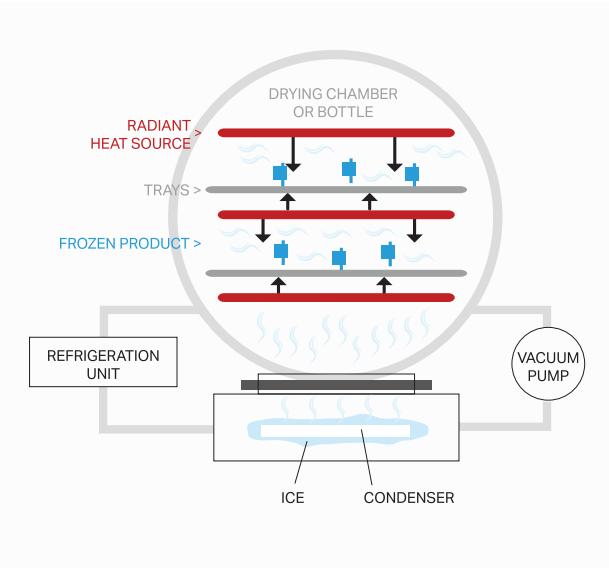


Typical Phase Diagram of Water

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.

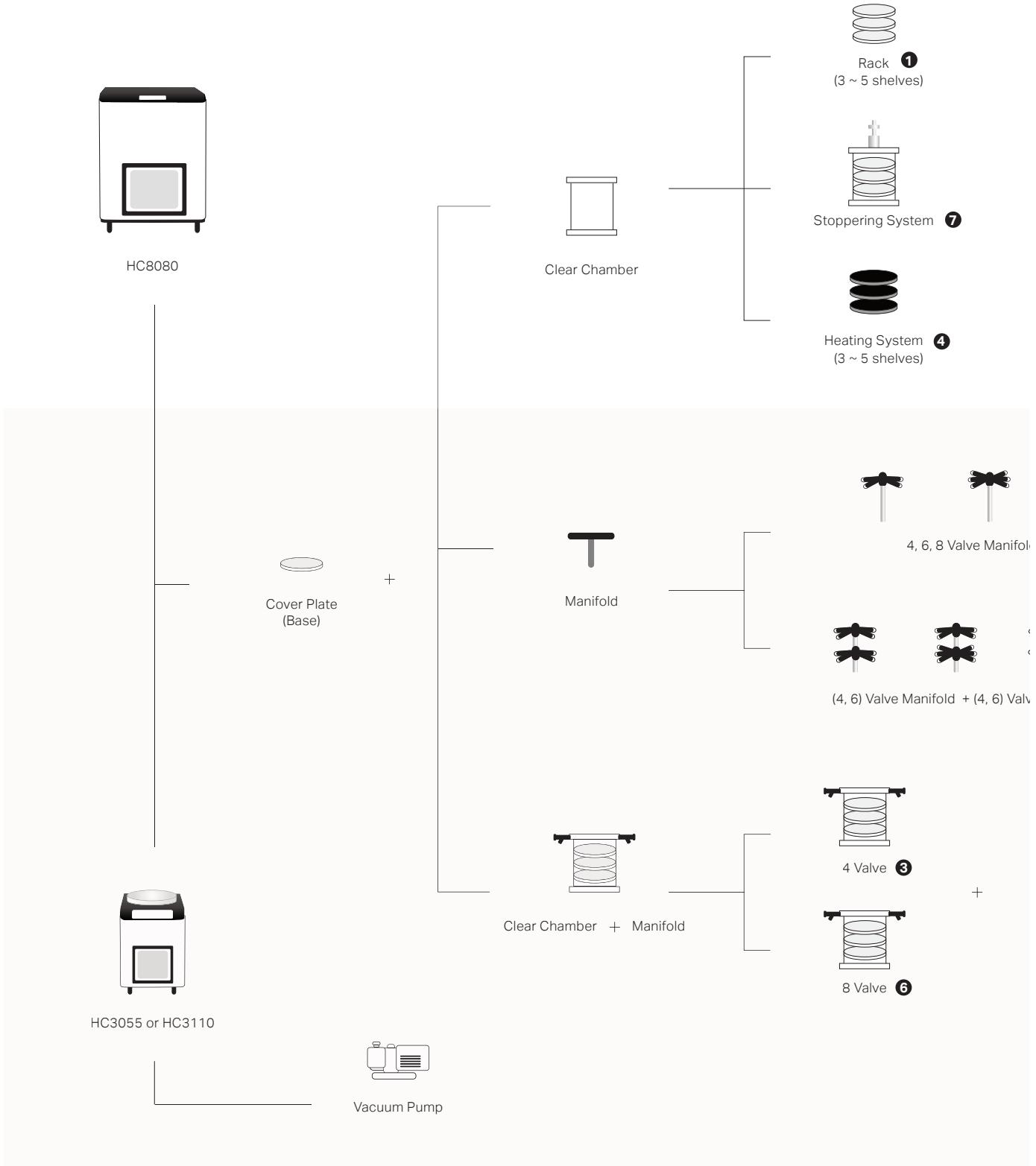


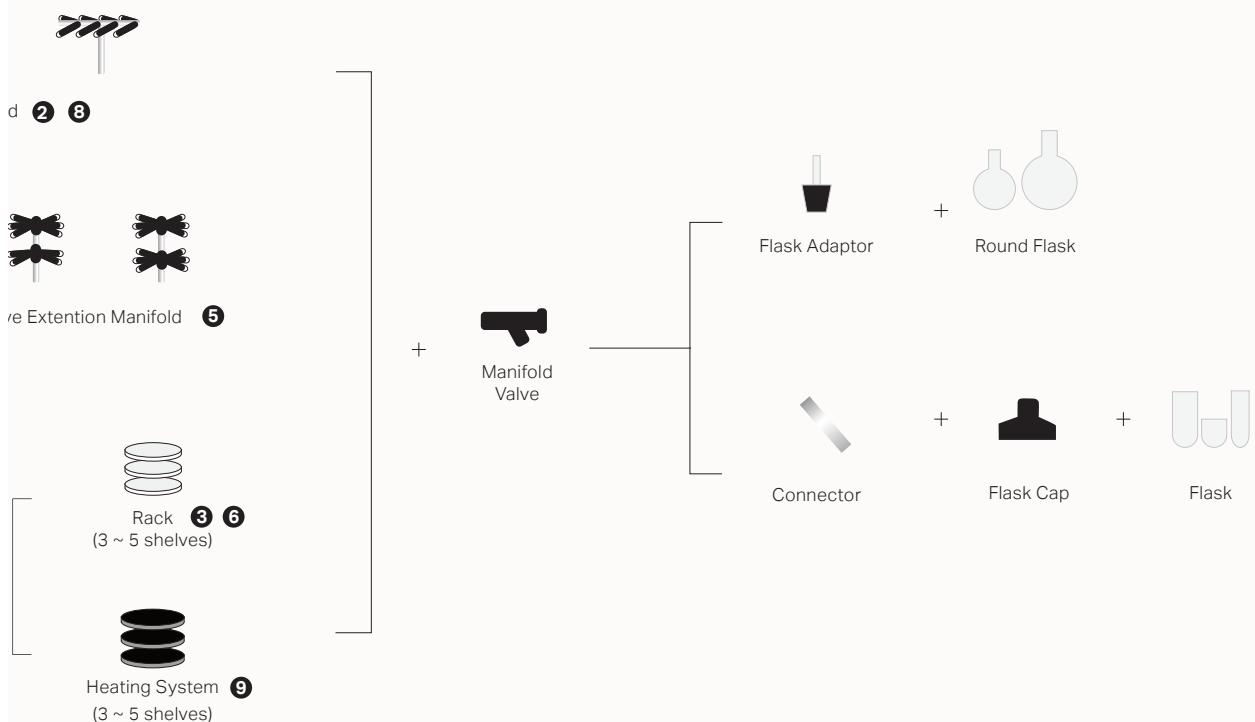
Front installed condenser pins are easily de-dusted by detaching a magnet door.



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

HyperCool Freeze Dry System Configuration





Can be configured with HyperVAc (Lite / Max) for multi-purpose (Cold trap freeze drying)

[Configuration p.157](#)

HyperCool (Freeze Drying) Configuration

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

**① Basic Chamber**HyperCool (3055, 3110, 8080) + Acrylic Base +
Stainless Steel Rack (3~5 shelves) + Acrylic Chamber**② Basic Manifold (4,6)**HyperCool (3055, 3110, 8080) + Acrylic Base +
Basic Manifold (4,6)**③ Acrylic Chamber with Rubber Valve (4)**HyperCool (3055, 3110, 8080) + Acrylic Base +
Acrylic Chamber with Rubber Valve (4) + Stainless
Steel Rack (3~5 shelves)**④ Heating Chamber**HyperCool (3055, 3110, 8080) + Heating Rack (Base
included) (3~5 shelves) + Acrylic Chamber**⑤ 2 Step Manifold**HyperCool (3055, 3110, 8080) + Acrylic Base +
Basic Manifold (4, 6) valve extendable with (4, 6) valve
regardless of basic Manifold**⑥ Acrylic Chamber with Rubber Valve (8)**HyperCool (3055, 3110, 8080) + Acrylic Base +
Acrylic Chamber with Rubber Valve (8) + Stainless
Steel Rack (3~5 shelves)**⑦ Stoppering Chamber**HyperCool (3055, 3110, 8080) + Acrylic Base + Stop-
pering Rack + Stoppering Acrylic Chamber**⑧ Basic Manifold (8)**HyperCool (3055, 3110, 8080) + Acrylic
Base + Basic Manifold (8)**⑨ Acrylic Chamber with Rubber Valve (4, 8)
(Heating)**HyperCool (3055, 3110, 8080) + Acrylic Chamber
with Rubber Valve (4, 8) + Heating Rack (3~5 shelves)

HyperVAC (Centrifugal Concentration) Configuration



① Drip Catcher (Ice Temperature), Water Pump

HyperVAC (LITE, MAX) + Drip Catcher + Water Pump



② Drip Catcher (Ice Temperature), Diaphragm pump

HyperVAC (LITE, MAX) + Drip Catcher + Diaphragm Pump



③ Cold Trap (-55°C, -110°C), Rotary Vane Pump, Table A

HyperVAC (LITE, MAX) + HyperCool (-55°C, -110°C) + Acrylic Base
Rotary Vane Pump. Table A (HyperCool underneath, Vacuum pump in the back)



④ Cold Trap (-55°C, -110°C), Rotary Vane Pump, Table B

HyperVAC (LITE, MAX) + HyperCool (-55°C, -110°C) + Acrylic Base
Rotary Vane Pump. Table B (HyperCool side, Vacuum Pump underneath)

Multi-Purpose Configuration (Centrifugal Concentration + Freeze Drying)

Only HyperCool (3055, 3110) applicable to Multi-Purpose Configuration*



Centrifugal Concentration + Freeze Drying (Manifold)

HyperVAC (LITE, MAX) + configuration (p.157 2, 5, 8) + Table B



Centrifugal Concentration + Freeze Drying (Acrylic Chamber + Rubber Valve + Stainless Steel Rack / Heating Rack)

HyperVAC (LITE, MAX) + configuration (p.157 3, 6, 9) + Table B



Rotary Vane Pump

Configured with Hyper Cool (3055, 3110), the ultimate pressure of the Rotary Vane Pump keeps the solvents frozen during lyophilization (freeze drying) at 1.3×10^{-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 Gas Ballast Open	$\leq 1 \times 10^{-3}$ (1.3×10^{-1} Pa)
		5×10^{-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	



Diaphragm Pump

Configured with Hyper VAC (Max, LITE) All parts in contact with the sample are made of aluminum and selected plastics allowing a wide range of applications for non-corrosive gases. The highly flexible fabric-reinforced double diaphragm made of FKM extends the lifespan of the pump.

CAT. NO.	GVP-MP001
Pumping Speed	40 L/min
Ultimate Pressure (Torr)	5.2
Motor Speed (min-1)	1800
Weight	11 kg
Overall Dimension (W x L x H)	243 mm x 239 mm x 198 mm



Water Pump

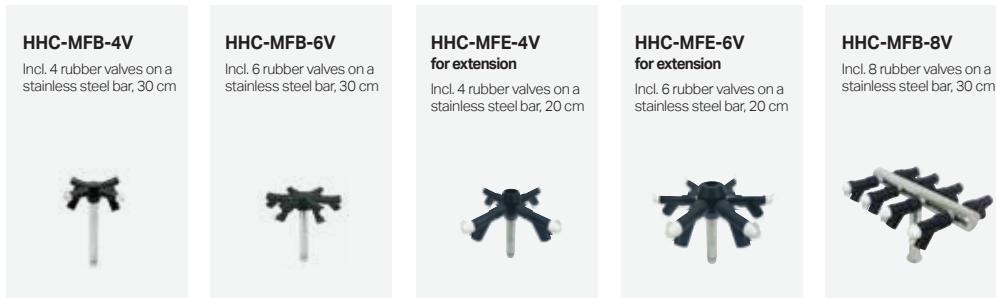
Configured with Hyper VAC (MAX, LITE). The parts in contact with the sample solvent during concentration are made of polypropylene with excellent chemical resistance. Ideal for chemical concentration.

CAT. NO.	GVP-VE11
Pumping Speed	18L / min x 2EA
Ultimate Pressure (Torr)	748.56
Motor Speed	150W
Weight	5.7 kg
Overall Dimension (W x L x H)	330 mm x 265 mm x 390 mm

Cover Plates for HyperCOOL



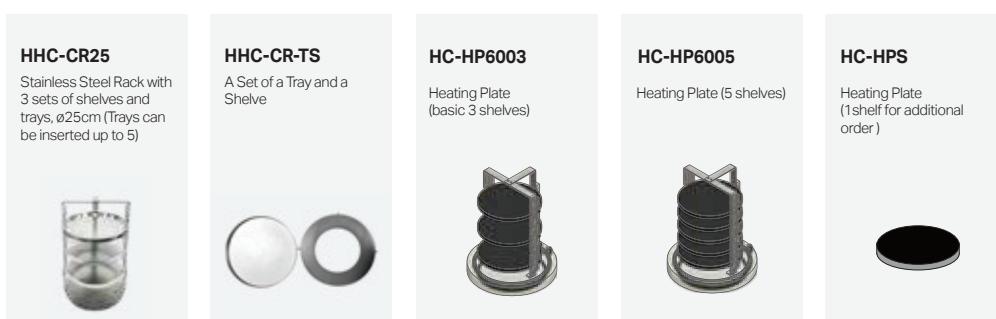
Manifolds for HyperCOOL

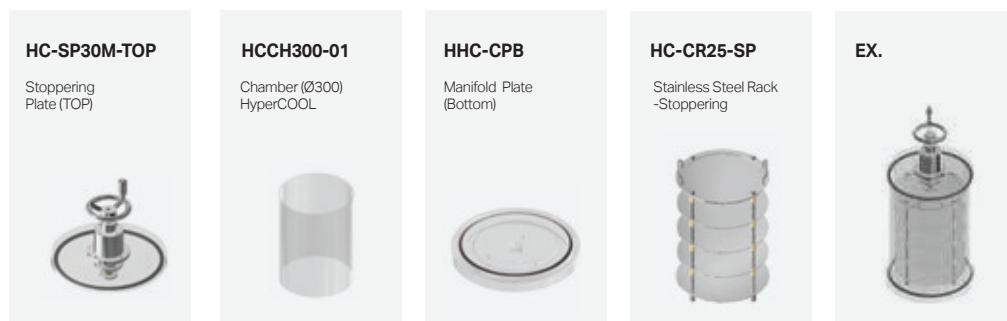
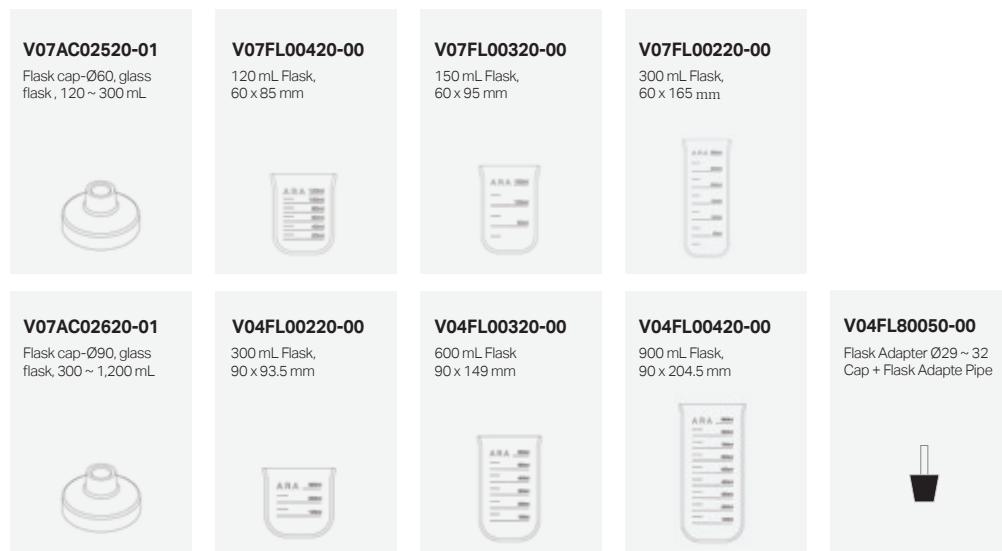
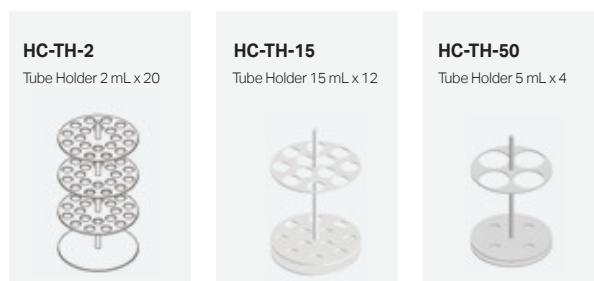


Chambers for HyperCOOL



Racks For HyperCOOL



Stopping Assembly**FD Glass Flasks****Tube Holder for 900, 1,200 mL Flasks****Ordering Information of ARA Glass Flasks**

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

HyperVAP™

Gas Purging Evaporation Concentrator



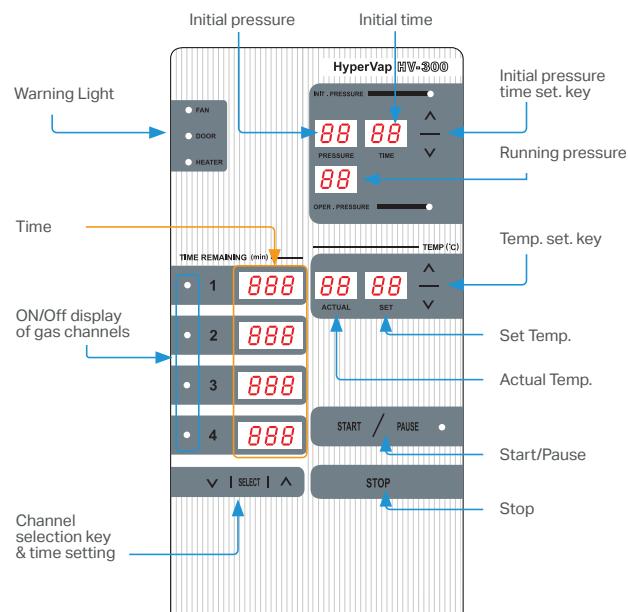
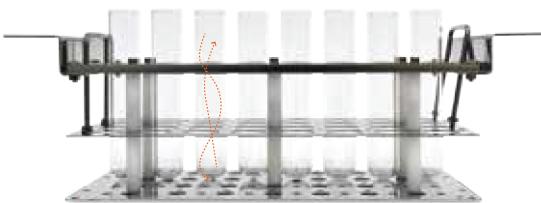
Features

- Accelerated evaporation performance by gas purging mechanism
- Automated, programmable and reproducible
- Proprietary semi-helical gas flow mechanism to achieve the highest evaporation rate
- Diverse dimensions of nozzles and tube racks can be tailored upon customer needs
- Four independent timer settings for different solvents
- Dual-step control of gas pressure and time to prevent "bumping" of the sample on startup
- Differentiated monitoring functions: 3-side transparent glass panels, blue backlight (on/off switchable) and traffic lights
- Optimized for evaporating organic solvents including sample preparations for chromatography
- Safety features: tempered glass panels, automatic gas shutoff function, traffic lights (fan, door, heater)

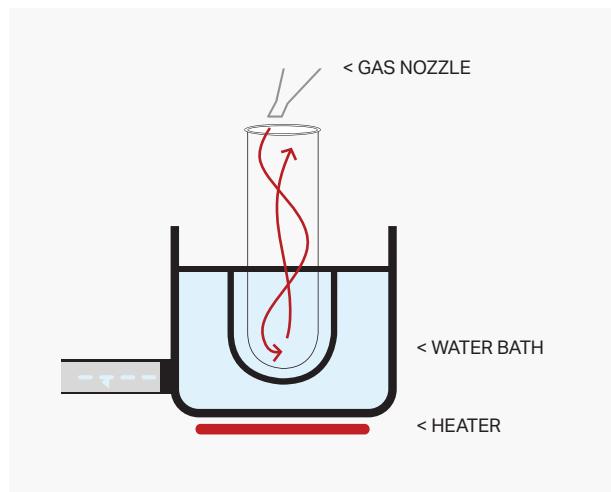
Applications

- Evaporation of solvents after solid phase extraction clean-up for;
- Pharmaceutical biotech compounds
- Clinical samples
- Environmental samples

- Forensic and crime samples
- Drugs of abuse samples
- Food and beverage analysis
- Agrochemical samples

Control Panel**Maximizing Efficiency**

Proprietary semi-helical gas flow mechanism to achieve the highest evaporation rate.

System Diagram

Gas purging accelerates the evaporation of a liquid by decreasing the partial vapor pressure of the solvent just above the liquid interface. Proprietary semi-helical gas flow mechanism to achieve the highest evaporation rate.

	40 psi	30 psi	20 psi
Hexane	1:50	2:10	3:20
Methanol	5:50	6:30	9:50
Acetonitrile	5:45	7:10	11:40
Ethanol	6:10	8:30	15:30

*** Experimental Conditions**

(min:sec)

- Sample volume : 5 mL in 20 mL tube
- Temperature : 40°C
- Gas : nitrogen gas

Technical Specifications

Number of Samples	6 ~ 32
Sample Volume (mL)	5 ~ 300 mL
Gas	Compressed air, Nitrogen, etc.
Operating Gas Pressure (psi)	Max 50 psi
Pressure Control	Automated dual-step control (initial & running pressure)
Max Time for Initial Pressure	~ 999 min
Max Time Control	~ 999 min (4 independent channels)
Individual Time Setting for Each Channel	Yes

Light On/Off	Yes
Water Bath Temperature	~ 99°C
Forced Vapor Evacuation	Yes (by fan)
Power Supply	AC 230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
Power Requirement	800 VA
Dimension (w x d x h)	594 x 340 x 320 mm
Weight	26.5 kg
Cat No.	Hyper-HV300 (Hyper-HV300-110)

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