

# Freeze Trap VA-250F/500R/800R

*This device efficiently collects water sublimated by centrifugal concentration, assists the displacement volume of the pump, and directly contributes to the concentration speed. It reduces cross-contamination by agglomerating the vapor phase of the concentrated and sublimating sample.*

•Centrifugal Concentrator "Spin Dryer VC-36R/96R" --> P.162



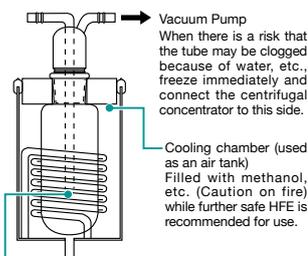
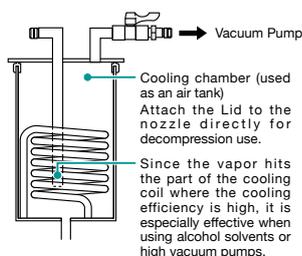
VA-250F

VA-500R

VA-800R

## Direct collecting into a Cooling chamber or trapping into a Glass condenser

Use the Lid with nozzle (sold separately) when trapping vapors directly to the Cooling chamber (See left figure below). The advantage of directly trapping is that the collection efficiency is very high. This is because it is directly cooled by a cooling pipe while maintaining capacity. The solvents are limited to water and non-corrosive alcohol as the solvent is directly in contact with the unit. For other solvents, trap by using the Glass condenser (sold separately) (See right figure below).



Cooling chamber inside (VA-800R)

Model	VA-250F	VA-500R	VA-800R
Cooling temp./range	-45°C	-75°C	-70°C
Trapping volume (*)	Approx. 200 mL/time		Approx. 1000 mL/time
Cooling chamber inside dimensions	Inner $\phi 135 \times H215$ mm (Volume: Approx. 3 L)		Inner $\phi 210 \times H250$ mm (Volume: Approx. 8.6 L)
Cooling coil inner dia.	$\phi 90$ mm		$\phi 160$ mm
Compressor	250 W	250 W $\times$ 2	400 W $\times$ 2
Dimensions (WxDxH)	325 $\times$ 435 $\times$ 540 mm	330 $\times$ 470 $\times$ 835 mm	420 $\times$ 490 $\times$ 810 mm
Weight	Approx. 35 kg	Approx. 75 kg	Approx. 82 kg
Power supply	AC100V/6A (Need a step-down transformer)	AC100V/10A (Need a step-down transformer)	AC100V/13A (Need a step-down transformer)

(\*)The value when the Glass condenser (sold separately) is used.

•Ask us when used as a preliminary freezing tank or a cool circulating water bath.

## Features

- Traps vapor into Cooling chamber directly (Direct cooling in the chamber for high efficiency) or Glass condenser (sold separately) (For corrosive solvents)
- Equipped with a temp. Monitor inside the Cooling chamber [VA-800R]

## Applications

- As a Cold Trap for the Centrifugal Concentrator
- As a preliminary freezing tank for Lyophilization
- As a freezing tank during freeze-fracturing

## Digital Temperature Monitor [VA-800R]



The temp. inside the Cooling chamber can be checked in the VA-800R (Slight deviations may occur in the displayed temp. depending on the usage conditions.).

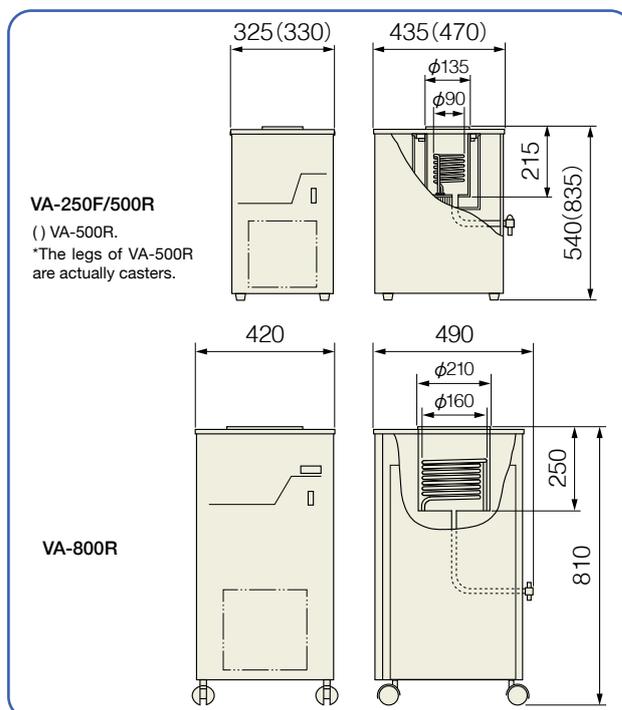
## For simple Lyophilization



FK-2100

Simple Lyophilization can be performed in a cold trap by combining the VA series Multiple tubes (page 173) and the FK-2100 freezing option (VA-250F/500R). Ask us for details.

## Dimensions (Common in all models)



# Introduction on Options/Optional parts

•Centrifugal Concentrator "Spin Dryer VC-36R/96R" --> P.162

## Lid with nozzles / Glass condenser



NF-025/040  
(mounted on VA series)

GC-035

GC-070

Model	Applicable models and Trapping volume etc.
<b>NF-025</b>	<b>Lid with nozzles for VA-250F/500R (*)</b> Made of stainless steel, Nozzle outer dia. $\phi$ 13.8 mm, Trapping volume Approx. 300 mL
<b>NF-040</b>	<b>Lid with nozzles for VA-800R (*)</b> Made of stainless steel, Nozzle outer dia. $\phi$ 13.8 mm, Trapping volume Approx. 1000 mL
<b>GC-035</b>	<b>Glass condenser for VA-250F/500R</b> Nozzle outer dia. $\phi$ 13.8 mm, Trapping volume Approx. 200 mL
<b>GC-070</b>	<b>Glass condenser for VA-800R</b> Nozzle outer dia. $\phi$ 13.8 mm, Trapping volume Approx. 1000 mL

(\*)NF is recommended for large temperature differences.

## System Stand



System Stand D-type



System Stand G-type  
Examples of Use

Product/Model	Remarks	Applicable models
<b>System Stand C-type</b>	405 x 500 x 655H mm	VA-500R/800R
<b>System Stand D-type</b>	800 x 580 x 600H mm, with Outlet	VA-250F
<b>System Stand E-type</b>	450 x 580 x 600H mm, with Outlet	VA-500R/800R
<b>System Stand G-type</b>	750 x 500 x 623H mm	VA-250F

•Select it according to the applicable model. Each comes with castors.

## Vacuum pump

•Centrifugal Concentrator "Spin Dryer VC-36R/96R" --> P.162

### Diaphragm/Dry scroll type Vacuum pumps

(Accessories: Vacuum hose and nozzle port)

Model	Chemical resistance (*)	Displacement	Ultimate pressure
<b>DTU-20</b>	Water, Weak acid, Organic solvent, etc.	20 L/min	up to 200 Pa (Adjustable by valve)
<b>DTC-60</b>	Water, Weak acid, Organic solvent, etc.	60 L/min	up to 1000 Pa (Adjustable by valve)
<b>VU-100HC</b>	Water, Weak acid, Organic solvent, etc.	100 L/min	up to 70 Pa (Adjustable by valve)

(\*)Pump resistance and Solvent release to the environment are irrelevant. In particular, it is recommended to use the Cold Trap or Chemical filter in order to avoid emissions.

•Vacuum hose as consumable (for connection to VC-36R/96R, inner dia.  $\phi$ 12 mm) is sold per metric units. Ask us if necessary.



DTU-20  
(Diaphragm type)

DTC-60  
(Diaphragm type)

VU-100HC  
(Dry scroll type)

Select the DTU-20 when combined with VC-15 and VC-36R (for small volume processing), and DTC-60 for Test tubes. Select the VU-100HC when processing large volumes of water or alcohol.

### Oil-sealed Rotary Vacuum pumps

(Comes with Vacuum hose, Nozzle port and Oil mist trap)

Model	Chemical resistance (*)	Displacement	Ultimate pressure (*)
<b>GLD-051</b>	Water	50 L/min	0.67 Pa
<b>GLD-137CC</b>	Water	135 L/min	
<b>GCD-051XA</b>	Water, Organic solvent	50 L/min	
<b>GCD-136XA</b>	Water, Organic solvent	135 L/min	

(\*)Pump resistance and either Solvent release to the environment and Oil deterioration are irrelevant. It is recommended to use the Cold Trap or Chemical filter in order to avoid emissions. Oil change is required if the solvent is inhaled. (2)The value when the pump with no load. Decreases due to the piping resistance when in use.

•Vacuum hose as consumable (for connection to VC-36R/96R/96W, inner dia.  $\phi$ 12 mm) is sold per metric unit. Ask us if necessary.

\*Oil-sealed Rotary types are required when Lyophilization with VC-36R/96R.



GLD-051  
(Oil-sealed Rotary)

GCD-136XA  
(Oil-sealed Rotary)

### Changing the oil in the Oil-sealed Rotary pumps

When adding new oil, fill the pump with oil between MIN and MAX.

If too much oil is added, the vacuum may not be fully raised.

If the oil becomes cloudy, change the oil immediately.

If the oil becomes opaque, change the oil.

### Disposable Chemical filters

Ask us for details about this filter.

Model	Adsorbent	Main Adsorbable substances	Remarks
<b>CT-301SE</b>	Activated carbon	Ketones, Alcohol, Esters, Organic solvent vapor, Organic acids, Aromatic, Oxides of Hydrocarbons, Chlorinated organic substances, and Organochloride	Comes with the Connection hose and Fixture for Oil-sealed Rotary vacuum pump
<b>CT-302SE</b>	Anhydrous calcium sulfate	Water, Acids in Aeration	

•The lead time may take long depending on the timing of receipt of order. •Filters (model: CT-301, CT-302) are sold separately.

•Replace every 1 to 2 months when used frequently. Replace CT-302 when its color changes from Blue to Pink. The appearance of CT-301 does not change.

NEW

Constant temperature incubator/shaker  
OD Monitor

For cell culture related products

Shaker

Mixer  
Rotator  
StirrerBead beater  
homogenizer  
Ultrasonic  
homogenizerAluminum  
block Bath  
Mini-size BathWater bath  
Sparking Water bath  
Immersion coolerHybridization  
Incubator  
Constant temperature  
ChambersCentrifugal  
Concentrators  
Cold Trap

Freeze dryers

Substrate  
Electroporation apparatus  
Blotting device for  
hybridizationConstant-temperature  
water circulating  
system [Chilled]

Appendix