

# Freeze Dryer VD-250R/550R/800R

**Suitable to use at Laboratories for R&D. Wide variety options are available to correspond various vessels. Cold trapped water can be easily removed by rapid thawing.**

Vacuum Pumps for Freeze Dryers (Lyophilizers) --> P.151



Above combinations are examples. Each Chamber and Multiple tube sold separately.

## Ultimate vacuum range display function

Displays Atmospheric pressure range/Vacuum drying range/Lyophilization range in order with LED when decompression is started to notify the progress of decompression. When pump is changed, the setting can be changed according to the pump capacity.

## Features

- Traps coldly the water sublimated into the cooling coil part
- Trapped water = Easy to remove Ice by rapid thawing
- Ultimate Vacuum range display [VD-250R/550R]

## Applications

- Drying of samples such as Proteins etc.
- Drying of Testing samples such as Foods etc.

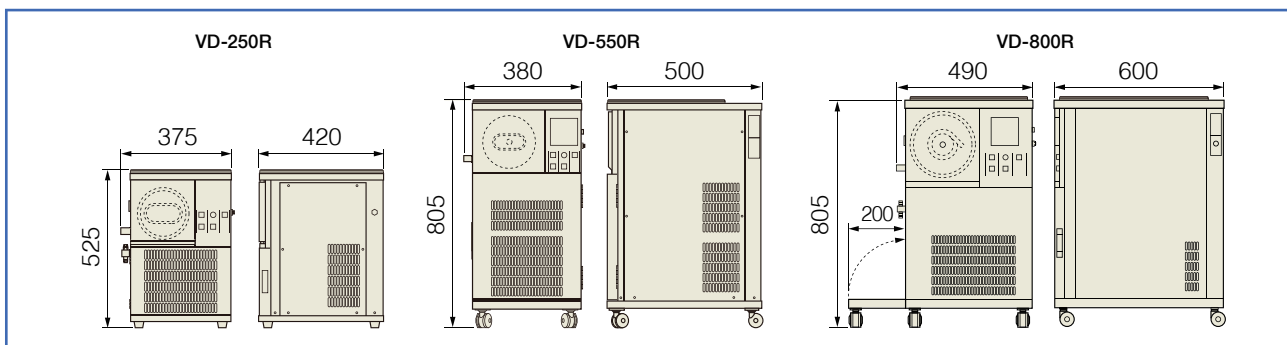
## System example

Model	combined with	Features
<b>VD-250R</b>	2-Port multiple tube MP-020, Drying Chamber DC-280, Vacuum pump GCD-051XA, System stand C-type.	Enables to Vacuum/Lyophilize sample slices with multiple dishes by connecting Drying Chamber to Multiple tube. Eggplant-shaped flasks etc. can be connected to Multiple tube. -45°C, approx. 500mL/time.
<b>VD-550R</b>	Sealed Chamber SC-180, Vacuum pump GCD-051XA	Enables to seal without opening the chamber after drying vials with samples. -75°C, approx. 1000mL/time.
<b>VD-800R</b>	8-Port multiple tube MP-080, Vacuum pump GCD-136XA	Large capacity enables Mass processing with Eggplant-shaped flasks. -75°C, approx. 2000 mL/time.

Model	VD-250R	VD-550R	VD-800R
Cooling temperature	-45°C (at no load) (*)	-75°C (at no load) (*)	
Trapping volume	Approx. 500mL/time	Approx. 1000mL/time	Approx. 2000mL/time
Volume inside chamber	Approx. 4L (Inner dia. 160 x 205mm)	Approx. 4L (Inner dia. 160 x 205mm)	Approx. 11.7L (Inner dia. 210 x 345mm)
Vacuum gauge	-	Pirani gauge	
Compressor	250W	2 x 250W (Cascade refrigerating system)	2 x 400W (Cascade refrigerating system)
Recommended vacuum pump	Oil-sealed Rotary Vacuum pump (Ultimate pressure below 50Pa, Displacement above 100L/min)		
Vacuum hose connection port	Outer dia. φ22mm (Rc 3/8 Thread on inner surface, Convertible to different dia.)		
Vacuum release	Leakage port with filter on the side of body (N2 Gas purge combined use, Hose attachment port, Pisco φ6mm), automatically released by halting vacuum pump.		
Other functions	Hot gas defrosting (thawing in approx. 30 minutes, outlet for vacuum pump interlocking (Max. 3 sockets, 9A, with operation switch), outlet for chamber interlocking (up to 2 sockets, 3A) Ultimate pressure display function (VD-550R/800R), Recorder output for degree of vacuum pressure (0 to 5V, VD-550R/800R)		
Dimensions/Weight	375(W) x 420(D) x 525(H)mm, Approx. 34kg	380(W) x 500(D) x 805(H)mm, Approx. 75kg	490(W) x 600(D) x 805(H)mm, Approx. 97kg
Power supply	AC100V/6A (Main unit only) AC100V/15A (at Max. use of outlet for interlocking)	AC100V/9A (Main unit only) AC100V/19A (at Max. use of outlet for interlocking)	AC100V/13A (Main unit only) AC100V/30A (at Max. use of outlet for interlocking)
Standard accessories	1 x Table mat	1 x Power plug (20A), 1 x Table mat	1 x Power plug (30A), 1 x Table mat

(\*) The value under ambient temperature 5°C to 35°C? Vacuum gauge and Solenoid valve not operated unless the operation switch of service outlet for pump turned on. The power supply from the switchboard recommended at the interlocking.  
•See right page for optional accessories such as various chambers, multiple tubes, vessel adaptors etc. See page 151 for vacuum pumps.

## Dimensions



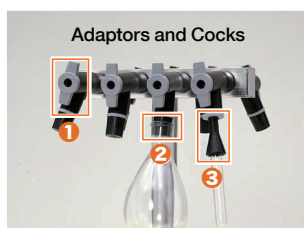
## Optional accessories ● Vacuum pumps for Freeze dryers--> P.151

### Multiple tubes (for Egg-plant shaped flasks/Test tubes/Drying vials)

Model	MP-020	MP-060	MP-080
Number of ports	2	6	8
Applicable vessels(*)	Egg-plant shaped flasks(Optional AD-0181 required in \$29 and \$24), Test tubes, Drying vials		
Mounting cock interval	—	75mm	
Dimensions	300×50×250Hmm	300×230×310Hmm	300×305×310Hmm
Standard accessories	Adaptor for Egg-plant shaped flasks (AD-0180, \$29)		

(\*)Test tubes require Optional adapter (below).Ask us when using for Ampoule filling etc.

### Adaptors / Cocks For Multiple tubes MP-020/060/08



**AD-0550**

For exchange when breakage etc. Lure lock filter (φ 13 mm type) can be attached to leak port.



**AD-0180 (\$29)**

**AD-0181 (\$24)**

AD-0180 included in Multiple tubes is compatible with 500 mL to 1 L eggplant type flasks. Use AD-0181 for 300 ml.



**AD-0401**

Rimmed test tube (φ12 to φ21mm) can be used. The buccinal part can be removed and attached vacuum hose.

### Drying Chamber

Dries samples in various small vessels as they are. Built-in Silicone rubber heater on each shelf promotes drying samples.



Model	DC-120	DC-260	DC-280
Applicable models	VD-250R/550R/800R		
Temperature range	30°C Only		
Number of Shelves	1 level	3 levels	
Heater	70W×1	100W×3	
Shelf size	φ180mm	φ185mm	258×250mm
Dimensions	φ225×200Hmm	φ225×380Hmm	430×400×615Hmm
Power supply	AC100V·0.7A	AC100V·3A	



**MP-010(for DC-280)**



In Box shaped DC-280 that can be used singly, easy to remove even large vessels that can easily obtain sublimation areas such as petri dishes and plates and can be done while adjusting the speed of vacuum release by oneself. When connecting to the VD series, enables to put it on VD unit and use it by using Optional MP-010 (see page 158 for details on DC-280).

● Protuberances not included in Dimensions. ● Vessels of photo not included.

Enables drying processing for plural Egg-plant shaped flasks/Test tubes (Adaptor required)/Drying vials.



**MP-020**  
with Freeze-dried  
Bottle (sold separately)



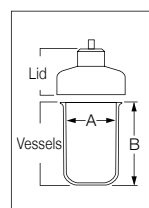
**MP-060**  
with Egg-plant shaped  
flasks



**MP-080**  
with Egg-plant  
shaped flasks

### Freeze-dried Bottle

● Put vessels into bottle and use it. Be careful as frozen samples thawed when the amount of evaporation is large.  
● When Microtubes used secure the sublimation drying path using vessel holder (commercial item).



Model	Dimensions		Volume
	A	B	
<b>FB-4007</b>	40mm	80mm	75mL
<b>FB-4010</b>		100mm	100mL
<b>FB-4015</b>		140mm	150mL
<b>FB-6020</b>	60mm	100mm	200mL
<b>FB-6030</b>		130mm	300mL
<b>FB-6050</b>		200mm	500mL
<b>FB-9075</b>	90mm	140mm	750mL
<b>FB-9100</b>		180mm	1000mL
<b>FB-9120(*)</b>		220mm	1200mL

(\*)Enables 2pcs in MP-020, 4pcs in MP-060 and 4pcs in MP-080 mounted.

### Sealed Chamber

Enables to dry samples and seal the vessel caps of samples by making vacuum state. Built-in Silicone rubber heater promotes drying samples.



Model	SC-180	SC-305
Applicable models	VD-250R/550R	VD-800R
Temperature range	Fixed at 30°C	
Number of Shelves	1 level	2 levels (Sealed is only the upper level)
Heater	70W×1	100W×2
Cap pushing distance	25mm	
Dimensions	φ225×300Hmm	φ225×450Hmm
Power supply	AC100V·0.7A	AC100V·2A

- When frozen sample (beforehand) thawed using dry chamber, it can be considered that the sample volume (sublimation amount) might be large to the displacement of vacuum pump or sublimation does not progress well as resistance might be occurred due to chemical filter placed before pump. Put small amount samples that can obtain the surface area but not large amount samples in one time to solve the problem. In case even not improved review the pump displacement.
- Ask us when lyophilizing ampule tubes with our/TAITEC equipment.