

## Rotary Evaporator



### Rotary Evaporator

Rotary evaporators (also known as "Rotovaps") are mainly used for distillations/separation applications often used for medicinal chemistry, pharmaceutical, chromatography, and petrochemical fields. In summary the system works by increasing the rate of evaporation of the solvent by

- (1) Reducing the pressure to lower the solvent boiling point
- (2) Rotating the sample to increase the effective surface area
- (3) Heating the solution
- (4) Then the evaporated solvent then condenses in a cooled glass condenser.

### BEING Rotary Evaporator Features

- Simple design for one handed operation manually or automatically.
- A unique PTFE sealing system provides exceptional thermostability, minimizes corrosion, and helps to ensure day in day out headache free operation.
- Our Bath offers a dual heating mode for water and oil with overheat protection.
- PID controller offers easy input of parameters and large LCD display for easy viewing.
- Vacuum regulator available.



PTFE dual seal



Clamp

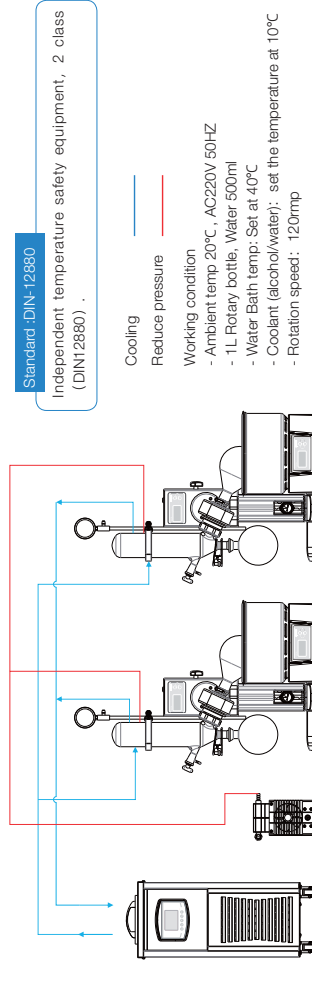


M1.4 threaded fittings for chiller



Independent temperature limit controller

### High efficiency can be cycle used for two Rotary Evaporators

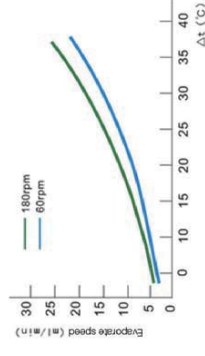


Standard DIN-12880  
Independent temperature safety equipment, 2 class  
(DIN12880)

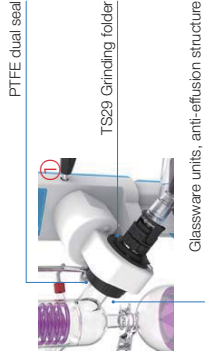
Cooling —  
Reduce pressure —

Working condition

- Ambient temp 20°C , AC220V 50HZ
- 1L Rotary bottle, Water 500ml
- Water Bath temp: Set at 40°C
- Coolant (alcohol/water): set the temperature at 10°C
- Rotation speed: 120rpm



Evaporate ability curve (water)



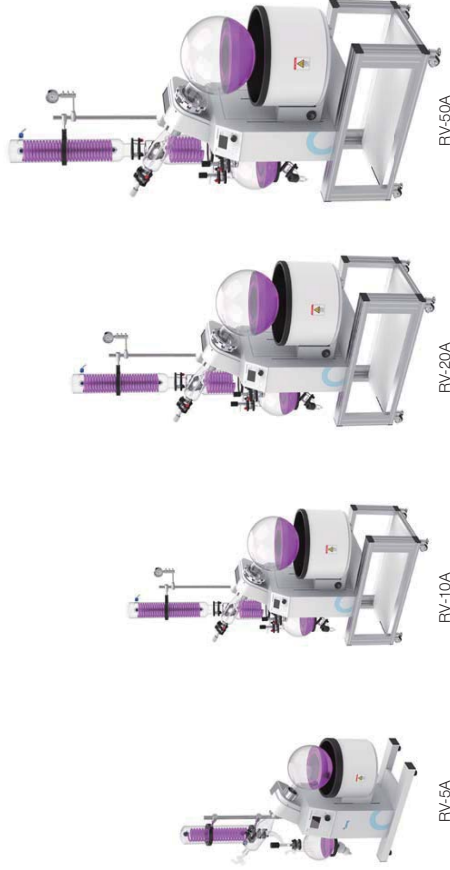
### Technical parameters

Model	RV-21M	RV-21A	RV-31A
Rotation speed	20 - 300rpm		
Water bath temperature range	Water: RT+5 - 99°C , Oil: RT+5 - 180°C (Option)		
Evaporating speed	22ml/min		
Ultimate vacuum	8mbar		
Speed setting	LCD display with knob		
Lifting mode	Manual	automatic	
Motor function	N / A		
Main motor	DC brushless motor		
Condenser	Condensate Area 0.15m <sup>2</sup> , 1L Rotary Bottle, 1L Collecting Bottle, TS29 / 38 Bottle Clamp		
Rotary flask	1L	1L	3L
Vacuum seal	PTFE		
Interior weather bath size	φ230mm x130mm		
Water bath material	SS304 with PTFE coated		
Heating power	1000W		
Temperature range	5 - 35°C		
Electrical input	220V 50/60Hz		

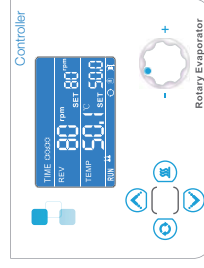
# Rotary Evaporator

## Technical parameters

Model	RV-5A	RV-10A	RV-20A	RV-50A
Size	5L	10L	20L	50L
Rotation speed (rpm)	20 - 140	20 - 130	20 - 130	20 - 110
Evaporate rate (Max. L/h)	2	3.5	4	9
Ultimate degree(mbar)	8mbar			
Temperature rate(°C)	Water: RT+5 - 99°C, Oil: RT+5 - 180°C (option)			
Temperature stability (°C)	±1			
Controller	PID controller			
Safety	1. Over current protection 2. Over temp. protection 3. Power interruption alarm 4. Anti-dry protection			
Display	LCD screen			
Lift mode	Moto lift			
Power (W)	2300	3300	4300	5300
Condensation area(M²)	0.28	0.49	1.29	1.75
Capability of rotary bottle	5L	10L	20L	50L
Capability of collecting bottle	3L	5L	10L	20L
Sealing gasket	PTFE and Teflon Coating			
Lifting distance(mm)	150	170	170	260
Bracket	Aluminum alloy bracket			
Water Bath	Diameter 280x175			
Material	Diameter 365x225 Diameter 445x250 SS304 with PTFE coated			
Interface size	14			
Exterior dimension (including glasswares) WxDxH(mm)	860x410x1120	1100x540x2060	1200x570x2060	1300x610x2150
Power	220V 50HZ			
Ambient temperature	10 - 35°C			



## Features

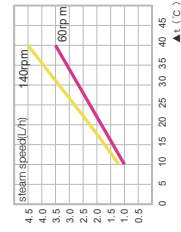


- Scheduled operation
- Rpm set/ display
- Temperature set/ display
- Running status

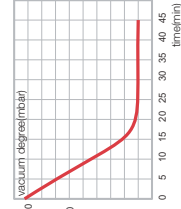
- Up
- Rotating
- Heating
- Down
- Turn left/ right to control
- Press to confirm

- One-button operation**
- Long press to lift or lower the bath
- Press to heat the bath
- Press to start/ stop rotating

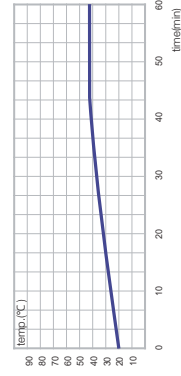
- Evaporating ability
- Ambient temperature: 20°C
- water bath
- means: the difference between steam and water bath



- Vacuum degree
- Vacuum pump required
- Flow rate: 50L/min



- Water bath heating
- Ambient temp.: 20°C
- Medium: Water
- Power: 220V 50HZ
- Set: 80°C



## Vacuum Controller

The VC-50 vacuum controller is based on vacuum applications and provides solutions for all vacuum processes, suitable for various industries such as chemical, pharmaceutical, petrochemical and material industries.

### Covers all common vacuum processes

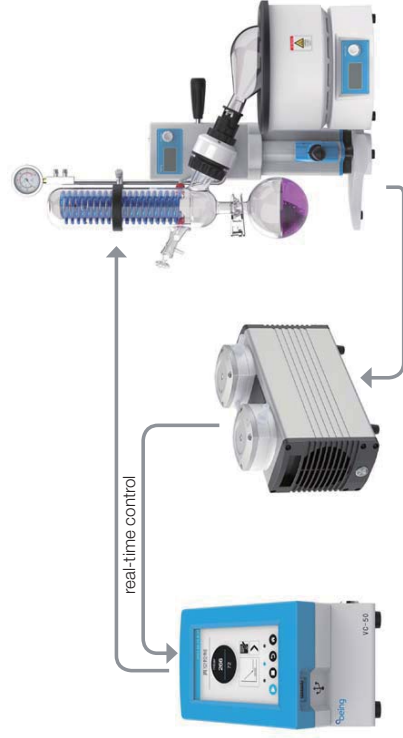
- The VC-50 vacuum controller can be used not only with V series corrosion resistant diaphragm pumps, but also in laboratory vacuum systems for all applications.

### Chemical resistant

- Like the V series corrosion resistant diaphragm pumps, the VC-50 vacuum controller is made of PTFE and the electrical switch housing is corrosion resistant, making it perfectly suited for corrosive environments.

### Advantages

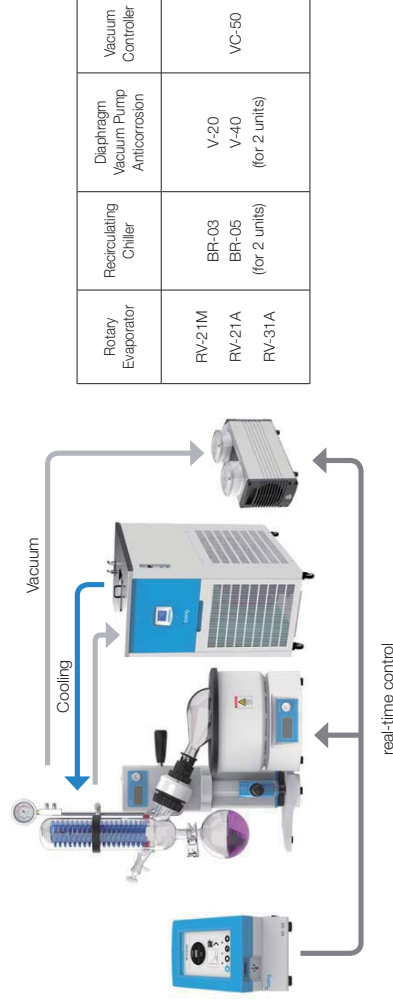
- Precise control of the vacuum level, ensuring long-term stable operation of the vacuum system.
- Significantly shortens the experimental time and ensures efficient operation of the sample in a weak-boiling state.
- Automated process operation, end of set-up, no guarding.
- Reduction of sample foaming and boiling, reducing the risk of sample loss.
- The ability to detect the initial boiling point of an unknown solvent, control and maintain of a stable pressure.



### Specification

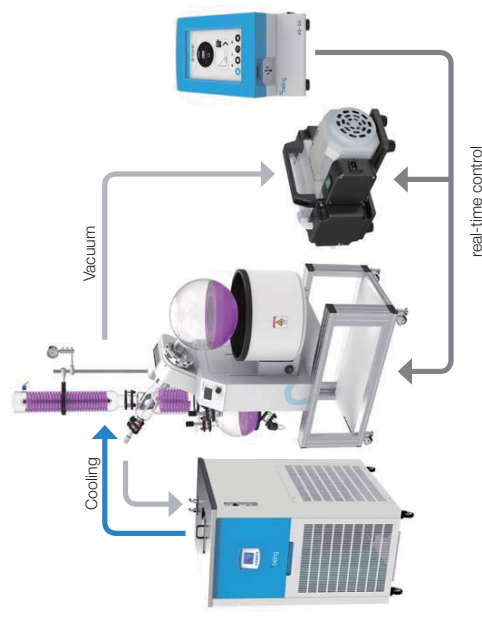
Model	VC-50
Control range	0 - 760mm Hg ( Torr)①② - 1013 hPa (Mbar)
Measuring principle	Ceramic diaphragm (alumina), capacitive, gas type independent, absolute pressure
Measuring range	0 - 800mm Hg ( Torr), 0 - 1066 hPa (Mbar)
Control mode	Fixed value automatic control, preset program automatic control (Solenoid valve switch)
Screen display	LCD
Steam measurement range	-20 - 150③(Steam temperature sensor connected)
Vacuum connector	8mm PTFE joint
Ambient temperature④operating⑤	10 - 40⑥
Shell material	Chemical corrosion-resistant plastic housing
Dimension ⑦L×W×H⑧	190×105×180mm

## 2L Rotary Evaporator Package



Rotary Evaporator	RV-21M RV-21A RV-31A	Recirculating Chiller	BR-03 BR-05 (for 2 units)	Diaphragm Vacuum Pump Anticorrosion	V-20 V-40 (for 2 units)	Vacuum Controller	VC-50
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## 5L - 50L Rotary Evaporator Package



Rotary Evaporator	RV-5A RV-10A RV-20A RV-50A	Recirculating Chiller	BR-05 BR-10 BR-20 BR-50	Diaphragm Vacuum Pump Anticorrosion	V-20 V-40 V-65 V-135	Vacuum Controller	VC-50
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# Recirculating Chiller

Temperature control, incubation, material testing, corrosion testing, cell culture, tissue research, rotary evaporator/orbital agitation at variable speeds to affect the growth of cell cultures.

## Features

- PID temperature controller provides accurate and reliable temperature control.
- Large LCD display screen and interface provides for user-friendly operation.
- Preset On/Off function.
- Independent circulating pump switch for easy starting/stopping the cycle.
- Easy to set Adjustable Timer. (1 minute to 5,999 minutes)
- Maintenance-free operation with easy to clean surface.
- Both heater and bath chamber are made of corrosion-resistant stainless steel.
- No angle in bath chamber, easy to clean.
- Uniquely designed heating method can up to 80 °C. (BR-H series)
- Programming setting function with 7 periods and 9 steps for each period, which means there are 63 programmable steps in total. (BR-H series)

## Safety

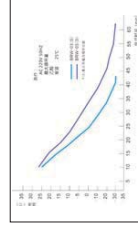
- Temperature deviation alarm.
- Over current protection.
- Independent Over-temperature protection meets DIN 12880 International standard requirements.
- Liquid level display window, through which you can intuitively observe the liquid level in the tank.

## Option

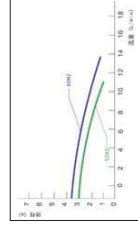
- Available RS-485 or USB ports for data collection.



Control panel



Cooling curve



Head / Flow curve



## Specification

Product Name	Cooling recirculating chiller					
Model	BR-03	BR-05	BR-10	BR-20	BR-50	BR-50
Storage tank maximum capacity (L)	5	8	15.5	30	62	62
Temperature range	-20 - 20°C					
Temperature accuracy	±0.2°C					
Cooling capacity at 10°C (W)	530	600	1500	2500	4000	4000
Refrigerant	R404A					
Security features	Delay, leakage, overcurrent, overvoltage					
Total power (W)	550	600	1300	1800	2400	2400
Power requirements	AC220V/ 50HZ					
Pump power	30	60	60	60	550	550
Pump flow max. (L / min)	6	17	17	30	30	30
Maximum head (m)	9	15	15	25	25	25
Inlet/Outlet pipe diameter (mm)	φ10					
Weight	32	41	60	76	126	126
Liquid storage	3.5	5.2	13	25	52	52
Noise level	≤45	≤55	≤55	≤65	≤75	≤75
Dimensions WxDxH(mm) (include caster)	210x410x511	310x445x570	400x500x739	450x600x821	560x845x850	560x845x850

## Specification

Product Name	Cooling / Heating recirculating chiller					
Model	BR-03H	BR-05H	BR-10H	BR-20H	BR-50H	BR-50H
Storage tank maximum capacity (L)	5	8	15.5	30	62	62
Temperature range	-20 - 80°C					
Temperature accuracy	±0.5°C					
Cooling capacity at 10°C (W)	530	600	1500	2500	4000	4000
Refrigerant	R404A					
Security features	Delay, leakage, overcurrent, overvoltage					
Total power (W)	1100	1350	2500	3000	4300	4300
Power requirements	AC220V/ 50HZ					
Pump power	30	60	60	60	550	550
Pump flow max. (L / min)	6	17	17	30	30	30
Maximum head (m)	9	15	15	25	25	25
Inlet/Outlet pipe diameter (mm)	φ10					
Weight	32	41	60	76	126	126
Liquid storage	3.5	5.2	13	25	52	52
Noise level	≤45	≤55	≤55	≤65	≤75	≤75
Dimensions WxDxH(mm) (include caster)	210x410x511	310x445x570	400x500x739	450x600x821	560x845x850	560x845x850

# Diaphragm Vacuum Pump Anticorrosion



V-20



V-40F



V-65

## Summary

V series diaphragm vacuum pump anticorrosion is a medium for the gas two-stage pump, all with the gas contact part, are PTFE (PTFE) material, corrosion resistance, wide range of applications, can completely replace the water circulation pump. Suitable for chemical, pharmaceutical, petrochemical and other industries on the treatment of corrosive gases, such as filtration, vacuum distillation, rotary evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and so on.

## Features

### Anti-strong chemical corrosion

- Anticorrosion vacuum pump using a special diaphragm (diaphragm surface composite PTFE coating) and pump head design, including all joints and piping to ensure that the contact with the gas part of the imported PTFE material, so resistant to most of the corrosive gas; at the same time electrical switches and shells are also anti-corrosion treatment, especially for the transmission mechanism and the circuit part of the use of corrosion-resistant materials to form a confined space, and the external environment completely isolated, so that the vacuum pump is not only corrosive media, but also perfect for corrosive environment, completely solve the vacuum pump chemical corrosion problems.

### No pollution, maintenance

- Diaphragm vacuum pump can be fully recovered solvent to eliminate toxic and harmful organic solvents on the environment pollution and operation and the health of nearby people, even if the mixed solvent can be highly recyclable; diaphragm pump is a dry oil-free dry pump, so that the laboratory becomes clean and quiet, the user does not need regular cleaning, changeover, change the water and other maintenance work, the diaphragm vacuum pump to do 100% maintenance-free.

### Low noise, low vibration

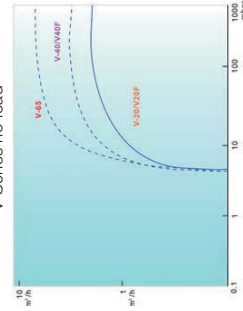
- Anticorrosion vacuum pump using electric direct drive power transmission, no intermediate transmission parts, coupled with the diaphragm low stroke, low noise characteristics, so the product noise can be maintained at 70dB below.

### Overheat protection

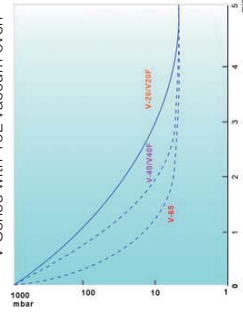
- All V series are equipped with temperature protection switch, when the body when the temperature is too high will automatically shut down, wait for the temperature after cooling and then start to ensure the stability of the system work and security.

## Vacuum Performance

V Series no load



V Series with 10L vacuum oven



## Application

Special moto

No need for Working medium

Anticorrosion

Easy operation

Auto fan

Vacuum adjustment

## Specification

Model	V-20	V-40	V-65	V-135	V-20F	V-40F
Maximum flow	20 L/min	35L/min	65L/min	125L/min	20 L/min	35L/min
Pump head type	Two - stage pump					
Ultimate vacuum	8 mbar					
Maximum operating pressure	1 bar					
Vacuum adjustment	No		Yes, display real vacuum degree			
Interface specification	10 mm		12mm		10 mm	
Pump head material	PTFE					
Composite diaphragm material	PTFE					
Valve material	FFPM					
Working system	Continuously working					
Environmental relative humidity	0-80%RH					
Medium and ambient temperature	5-40 °C					
Speed	1-450RPM					
Interior dimension WxDxH(mm)	165×315×210	170×330×210	240×290×365	380×300×200	175×315×275	180×330×275
Power consumption	120W	240W	400W	600W	120W	240W
Electrical requirement	AC 220V 50HZ					

## Cold Trap Bath



### Summary

In vacuum applications, a cold trap is a device that condenses all vapors (except the permanent gases) into a liquid or solid. The main purpose is to prevent vapors being produced by an experiment from entering the vacuum pump where they would condense and contaminate it. Cold traps can also cool surfaces or baffles to prevent oil vapors flowing from a pump into a chamber. In such a case, a baffle or section of pipe containing a number of cooled vanes, will be attached to the inlet of an existing pumping system.

### Features

#### Improve pump working efficiency

- The low temperature of the cold trap can condense the water vapor directly in the cold trap, thus greatly improving the working efficiency of the vacuum pump.

#### Protect vacuum pump

- Pumps that use oil either as their working fluid (diffusion pumps), or as their lubricant (mechanical rotary pumps), are often the sources of contamination in vacuum systems. Placing a cold trap at the mouth of such a pump greatly lowers the risk that oil vapors will back stream into the cavity.

### LCD PID controller

- PID temperature controller provides accurate and reliable temperature control.
- Large LCD display screen and interface provides for user-friendly operation.

### Energy conservation and environmental protection

- Non-fluorine refrigeration improves cooling efficiency, lower noise, longer life time ensures the stability for long time running.

### Safety

- Temperature deviation alarm.
- Compressor over current, over heat, over load protection.

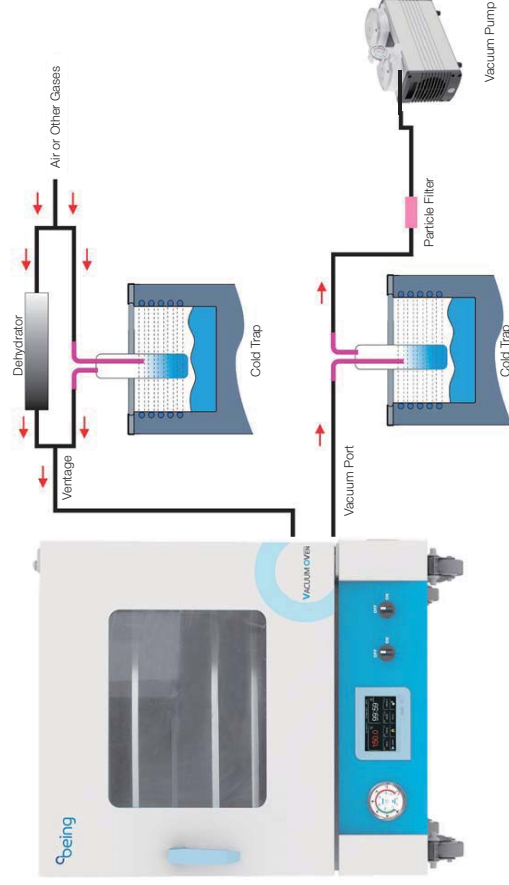
### Design with

- 3 glass trap installation.
- Upside opened glass trap.
- Easy internal observation with PC Transparent Cover.
- Drain valve for easy discharge of collected liquid.
- S304 internal bath can be used to do water or ethanol cooling experiments. If equipped with glass condenser, it also can be used to deal with acid or organic solvents.

### Option

- RS-485 connector and USB connector can connect computer to save the data.

## Cold Trap Diagram



## Specification

Model	BCT-05B / BCT-05B-T	BCT-05D
Collection methods	Immersion of Glass Condenser	
Collection amount	Max.0.5Kg	Max.0.4Kg
Lowest temp	-40°C	-80°C
Safety function	Delayed Start of Compressor, Leakage, Overcurrent, Overvoltage Protection	
Refrigerating capacity	Air Cooling 150W R404A	Air Cooling 55W R404A, R23
Cover interface material	Import PC	
Tank interior dimension(mm)	φ220mm×180mm	
Capacity(L)	5L	
PC capping diameter	φ50.3mm, 3 holes	
Condenser diameter	φ10mm (Match the Diaphragm Pump)	
Interior dimension WxD×H(mm)	315×500×570	500×600×640
Power	850W	1300W
Electrical requirement	220V/50Hz	