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Rotary Evaporator

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IR-series Rotary Evaporator (Lab-scale)

Advantages

- Patented technology of double sealing of Teflon(PTFE) and FV rubber can ensure the negative pressure level.
- Wide power supply range 100V to 240V～，50/60Hz.
- Patented structure, the tilt angle of the evaporating flask is adjustable.
- Quick lock button on rotation axis makes it easier to be installed or removed.
- Motorized lift. Belt drive mechanism makes it running more smoothly, with lower noise during rotation process.
- Individual main machine and water bath design for easy future upgrades.

Technical Specifications

Model	IR-3001
Rotation speed	10～280rpm
Evaporating flask immersion angle	15° to 45°
Pressure rise rate of vacuum system	≤ 0.33kPa/min
Temperature range	RT+5℃～95℃
Temperature stability	±1℃
Temperature control	Keypad input, digital display
Speed control	Knob setting, digital display
Lifting	Motorized lift
Lifting distance	150mm
Lifting speed	10mm/s
Rotary motor power	40W
Heating power	1300W
Condensing area	0.126m²
Evaporating flask	500/1000mL
Receiving flask	1000mL
Vacuum sealing	Double sealing rings made of Teflon + Viton materials
Water bath size·Capacity	250×130mm · 6.5L
Evaporating speed | Water	23.5mL/h
Ambient Temperature	5～35℃
Environment Relative Humidity	≤70
Protection Class of Shell	IP20
Dimensions (W×D×H)	595×390×680mm
Net Weight	13.9kg
Power Supply	110V, 60Hz or 220-240V, 50 /60Hz

IR-3001

IR-series Rotary Evaporator (Lab-scale)

Applications

It is suitable for experiment of evaporation, distillation or separation of chemicals.It usually works with water circulating vacuum pump and recirculating chiller as a whole system to meet the production and experimental requirements.

Advantages

- Patented technology of double sealing of Teflon (PTFE) and FV rubber can ensure the negative pressure level.
- The tilt angle of the evaporating flask is adjustable.
- Evaporating flask can be lifted manually by the handle.
- Specialized motor and reasonable structure design ensures the evaporating flask running smoothly and steadily.
- PID controller ensures precise temperature control.
- Digital display of rotation speed and bath temperature.
- Individual main machine and water bath design for easy future upgrades.

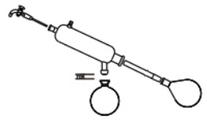
Technical Specifications

Model	IR-1001VN	IR-1001LN
Rotation speed	20~180 rpm	
Evaporating speed	20 ml/min (Ethanol)	
	15ml/min (Water)	
Pressure rise rate of vacuum system	≤ 0.33kPa/min	
Temperature range	RT+5~95℃ (water bath)	
	RT~180℃ (oil bath)	
Temperature stability	±1℃	
Temperature control	Keypad input Digital display	
Speed control	Knob setting Digital display	
Safety functions	Over-current protection, ground fault protection, over-temperature protection	
Lifting	Weight balancing Gliding elevating+ manual lifting	
Rotary Motor power	25W	
Heating power	1050W	
Condenser type	Vertical	Diagonal
Evaporating flask	500ml, 1000ml, 2000ml (optional)	
Receiving flask	1000ml	
Vacuum sealing	Double sealing rings made of Teflon + Viton materials	
Water bath size ·capacity	250×130mm ·6.5L	
Lifting Distance	100+150mm	
Ambient temperature	5~35℃	
Overall dimensions (W×D×H)	About 560×320×660mm (Depend on the condenser type)	
Net weight	9.5kg	
Power supply	110V, 60Hz or 220V-240V, 50/60Hz	

IR-1001VN

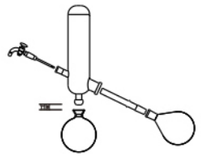
Glass Components

Three types of condenser available.



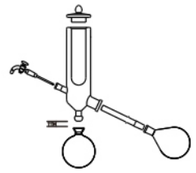
LN type

Lean condenser with higher cooling efficiency.



VN type

Vertical condenser with smaller foot print.



JN type

Jacketed condenser with lower temperature by dry ice cooling.

Accessories

Evaporating flask 500ml

Evaporating flask 1000ml

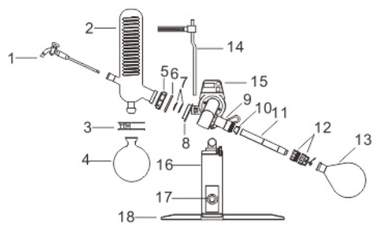
Receiving flask 1000ml

Sealing ring

Receiving flask clamp

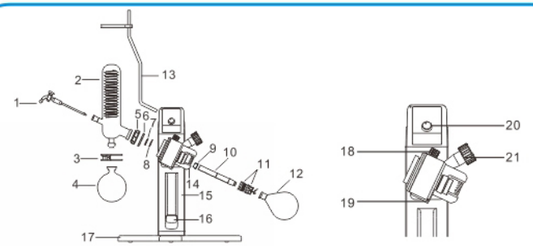
Configuration

IR-1001VN



1. Glass feeding valve
2. Glass condenser
3. Receiving flask clamp
4. Receiving flask
5. Condenser locknut
6. Spring ring
7. Vacuum sealing ring
8. Bearing end cap
9. Stainless steel rotation axis
10. Tapered sleeve
11. Glass rotation axis
12. Evaporating flask quick-release nut
13. Evaporating flask
14. Condenser support +Rubber bracket
15. Motor shield
16. Lifting column
17. Lifting handle
18. Base

IR-3001



1. Glass feeding valve
2. Glass condenser
3. Receiving flask clamp
4. Receiving flask
5. Condenser locknut
6. Spring ring
7. Deputy vacuum seal
8. Main vacuum seal
9. Tapered sleeve
10. Glass rotation axis
11. Evaporating flask quick-release nut
12. Evaporating flask
13. Condenser support
14. Motor shield
15. Lifting column
16. Lifting handle
17. Base
18. Locking knob
19. Quick locking knob
20. Rotation speed adjusting knob
21. Angle adjusting knob

IR-series Rotary Evaporator (Pilot-scale)

Applications

Large capacity and large opening of evaporating flask give larger evaporation surface.The evaporating flask keeps rotating when it is constantly heated by water bath, and solvent evaporates more efficiently under vacuum condition. It can be used for pilot-scale production in biology engineering, pharmaceutical industry, chemical industry and food processing.It usually works with water circulating vacuum pump, diaphragm vacuum pump, recirculating chiller, constant-temperature circulator, low temperature circulating pump, etc.

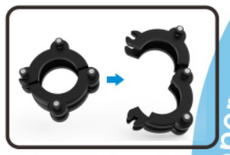
Advantages

- Patented technology of double sealing of Teflon (PTFE) and FV rubber ensures the negative pressure level.
- Automatic switch valve makes continuous collection possible without affecting vacuum degree and without stopping distillation.
- Teflon discharge valve is corrosion resistant and contamination free.
- Water bath jacket protecting operator from scalding by hot liquid.

Large LCD display screen, one-touch setting mode

National Patent

Rubber insulation jacket can protect operator from scalding by hot liquid.



Fast-assembly flange: For quick and easy installation

Evaporating flask cap spanner, easy to remove evaporating flask

Sealing gasket

Auxiliary sealing part

Main sealing part

Patented structure in sealing ensuring leakage ≤ 2000Pa/h

Note: This picture is a regular type

Rotary Evaporator

Technical Specifications

Model		IR-1005(CE)	IR-1005Ex	IR-1010(CE)	IR-1010Ex	IR-1020(CE)	IR-1050(CE)
Evaporating flask		5L (flange opening φ50mm)		10L (flange opening φ125mm)		20L (flange opening φ125mm)	50L (flange opening φ125mm)
Receiving flask		3L		5L		10L	20L
Speed-regulation		DC stepless	Variable frequency stepless	DC stepless	Variable frequency stepless	DC stepless	DC stepless
Rotation speed		20～140 rpm		20～130 rpm			20～110 rpm
Condenser type		Vertical type double coil pipe		Vertical type, main + auxiliary triple-circulating cold traps			
Condensing area	Main condenser	0.278m²		0.39m²		0.948m²	1.15m²
	Auxiliary	—		0.253m²		0.458m²	0.4m²
Bath	Dimensions	Φ300×170mm		Φ350×220mm		Φ450×260mm	Φ550×320mm
	Material	Stainless steel 304					
Temperature range		RT+5～95℃(water bath) / RT ~180℃(oil bath)					
Temperature control stability		±1.5℃					
Display screen		LCD	LED	LCD	LED	LCD	LCD
Rotation parts sealing		PTFE + Teflon FV rubber					
Discharge valve (valve core)		PTFE					
Pressure rise rate of vacuum system		≤2kPa/h					
Evaporating spee	Water	2.0 L/h		3.2 L/h		5 L/h	9 L/h
	Ethanol	5.4 L/h		8.6 L/h		14.3 L/h	24.5 L/h
Lifting method		Motorized lift	Manual lift	Motorized lift	Manual lift	Motorized lift	Motorized + manual lift
Lifting stroke		0～150mm		0～160mm		0～190mm	0～180mm
Ambient temperature		5～35℃					
Dimensions (W×D×H)	Main machine	840×460×1090mm		990×550×1740mm		1120×680×1900mm	1345×770×2230mm
	Explosion-proof control box	—	500×455×985mm	—	500×455×985mm	—	—
Net weight	Main machine	35kg	60kg	61kg	85kg	90kg	140kg
	Explosion-proof control box	—	58kg	—	58kg	—	—
Motor power		250W	60W	250W	180W	250W	250W
Heating power		2.0KW	3.0KW	3.5 KW	4.5KW	220-240V/60Hz: 4KW 380V/50Hz : 6KW	6KW
Overall power		2.3KW	3.1KW	3.8 KW	4.8KW	220-240V/60Hz: 4.3KW 380V/50Hz : 6.3KW	6.3 KW
Power supply		1 phase 220-240V, 50/60Hz				1 phase 220-240V/ 60Hz ; 3 phase 380V/50Hz	

Optional Accessories

Water bath cover

①

②

③

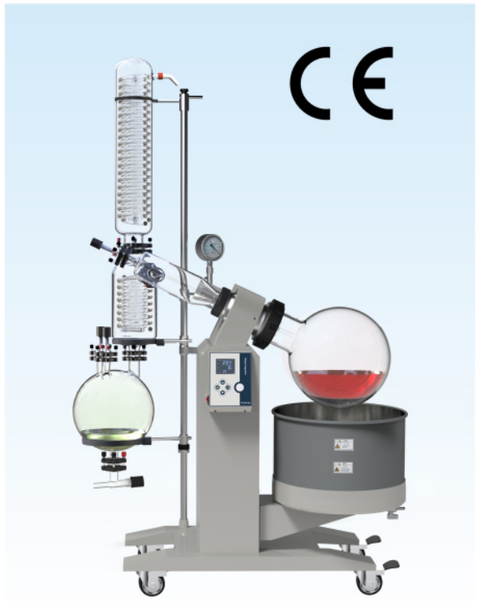
Flask carrier

IR-1005CE Solution

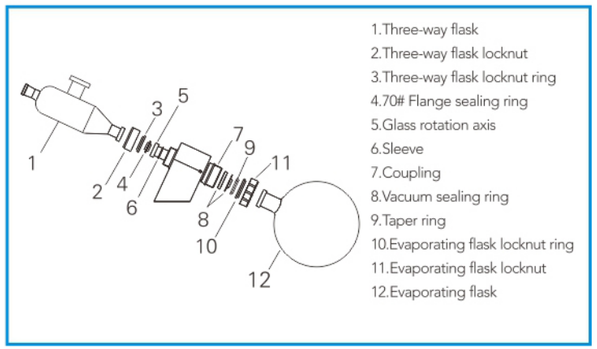
IR-1005CE Solution

Rotary Evaporator

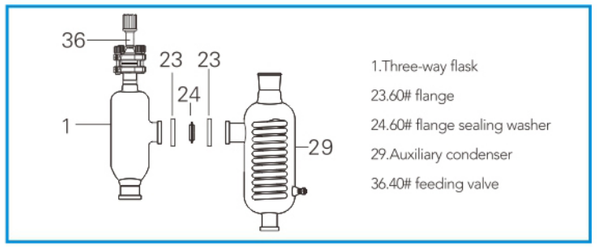
IR-1020CE



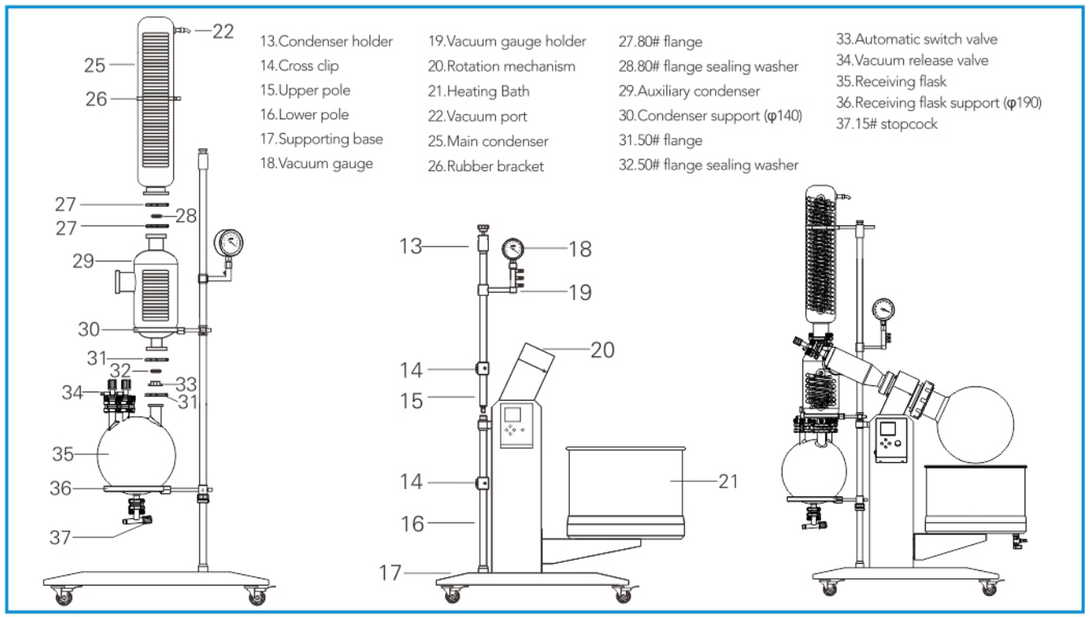
IR-1020CE



1.Three-way flask
2.Three-way flask locknut
3.Three-way flask locknut ring
4.70# Flange sealing ring
5.Glass rotation axis
6.Sleeve
7.Coupling
8.Vacuum sealing ring
9.Taper ring
10.Evaporating flask locknut ring
11.Evaporating flask locknut
12.Evaporating flask



1.Three-way flask
23.60# flange
24.60# flange sealing washer
29.Auxiliary condenser
36.40# feeding valve



13.Condenser holder
14.Cross clip
15.Upper pole
16.Lower pole
17.Supporting base
18.Vacuum gauge

19.Vacuum gauge holder
20.Rotation mechanism
21.Heating Bath
22.Vacuum port
25.Main condenser
26.Rubber bracket

27.80# flange
28.80# flange sealing washer
29.Auxiliary condenser
30.Condenser support (φ140)
31.50# flange
32.50# flange sealing washer

33.Automatic switch valve
34.Vacuum release valve
35.Receiving flask
36.Receiving flask support (φ190)
37.15# stopcock

Explosion-Proof Rotary Evaporator

Features

- High borosilicate 3.3 glass has good physical and chemical properties.
- Main and auxiliary condensers, high efficiency triple-circulating condensing tube has bigger condensing area.
- High borosilicate glass three-way flask can prevent flushing and bumping to ensure safe operation.
- Patented technology of double sealing of Teflon (PTFE) and FV rubber ensures negative pressure level.
- Auto switch valve makes continuous collecting possible without affecting vacuum degree and without stopping distillation.
- The motor, heater, electric control box and low liquid level protector are all explosion proof type. Explosion-proof grade: Exd II BT4, all explosion-proof parts have related certificates .
- Motorized stainless steel water bath, has liquid level protection and dry- run protection .
- Quick-clamp for easy installation and removal of glass components.
- PTFE discharge valve is corrosion resistant and contamination free.
- Lockable casters, easy to move and lock.
- LCD control panel.

Technical Specifications

Model		IR-2020Ex	IR-2050Ex
Rotary flask		20.0L, flange opening Φ125mm	50.0L, flange opening Φ125mm
Receiving flask		10.0L	20.0L
Temperature range		RT+5～95℃	
Display screen		LCD display	
Pressure rise rate of vacuum system		≤2kPa/h	
Speed-regulation		Frequency control	
Rotation speed		20～130rpm	20～110rpm
Condenser type		Vertical, main + auxiliary condensers, high efficient triple-coil condenser	
Condensing area	Main condenser	0.948m²	1.15m²
	Auxiliary condenser	0.358m²	0.4m²
Water bath		SUS304, Φ450mm×260mm	SUS304, Φ560mm×340mm
Temperature control stability		±1.5℃	
Lifting method		Motorized lift	
Lifting distance		0～160mm	0～170mm
Vacuum sealing (Patent technology)		PTFE + PTFE - Viton rubber	
Discharge valve (valve plug)		PTFE	
Evaporating speed (L/h)	Water	About 5.0L	About 9.0L
	Ethanol	About 14.3L	About 24.5L
Protection functions		Over-current, ground-fault, over-temperature, run-dry protection	
Communication protocol		RS485 interface Standard MODBUS RTU communication protocol	
Ex-grade of electric control box		Exd Ⅱ BT4	
Protection grade of electric control		IP65	
Ambient temperature		5～35℃	
Relative humidity		≤ 70%	
Movement		Lockable casters	
Dimensions (W×D×H)		1210×740×2080mm	1360×770×2250mm
Heating power		4000W	6000W
Rated power		4500W	6500W
Rotary motor power		370W	
Power supply		3 phase 380V/50Hz; 1 phase220V/60Hz	

IR-2020Ex