

Rotary Evaporator

Highly efficient standard rotary evaporator with manual lift

RE202-A/212-A (basic) REV202M-A/212M-A (with vacuum controller)

Evaporating /
receiving flask

1L (Standard)

Rotation speed
control range

5~315 rpm

Water bath / oil bath
temp. range

RT +10~90°C / RT +10~180°C



Features

5~315 rpm rotation speed range

Turning the encoder dial slowly increases or decreases the value by 1, turning it quickly changes the value by 10. Selectable rotation mode (forward, reverse, auto reverse) RPM display brightness can be adjusted in 8 levels.



Set inversion function

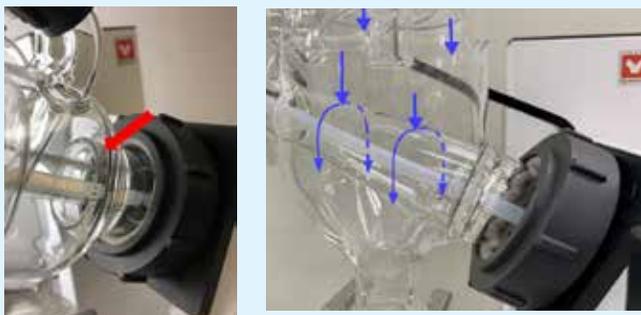
Glassware and bath can be set in either side, left or right, depending on user's dominant hand and installation location. Three units of Glassware B (with vertical condenser) can be installed in a standard fume hood.



Uniquely designed glass condenser

This prevents liquid stagnation and backflow improving durability of vacuum seal

When using ketone or ether solvents, standard vacuum seal swells. It is recommended to use PTFE vacuum seal.



Two types of baths

Option for water and oil bath. Large capacity 5L bath with 240mm I.D. and a full complement of safety functions such as automatic overheat prevention and temp. upper limit difference.



Specifications

| Model | | WITHOUT VACUUM CONTROLLER | | WITH VACUUM CONTROLLER | |
|----------------------|--|---|---|--|---|
| | | RE202-AWA/212-AWA (Glassware A) | RE202-BWA/212-BWA (Glassware B) | REV202M-AWA/212M-AWA (Glassware A) | REV202M-BWA/212M-BWA (Glassware B) |
| Performance *1 | Operating ambient temp. range | 5~35°C | | | |
| | Speed range | 5~315 rpm *3 | | | |
| | Evaporation capacity | Up to 23 ml/min | | | |
| | Pressure setting range | --- | --- | 0-1013 hPa | |
| Functions | RPM display | Digital display / Control knob | | | |
| | Rotation mode | Forward / Reverse / Auto inversion | | | |
| | Spring-loaded jack | Manual balance (maximum height 200 mm, stepless regulation, one-touch lock) | | | |
| Configuration | Vacuum controller | --- | --- | VR102S, installed above jack handle with attachment bracket | |
| | Vacuum control solenoid valve | --- | --- | OVR10, installed in the rear of stand base | |
| | Rotary motor | DC brushless (simple servo) | | | |
| | Condenser retention | --- | Condenser bracket | --- | Condenser bracket |
| Safety functions | Rotary evaporator | DC motor: Motor overload protection, overvoltage, low voltage, rotation speed sensor error AC adapter: Short circuit in internal circuit, overcurrent protection, overvoltage protection | | | |
| | Vacuum controller | --- | --- | Communication error, Pressure sensor error, Memory error, Leak error, High pressure error, Auto leak at error occurrence | |
| Standard | Cooling condenser | Double corrugated tube (cooling surface: 0.143 m ²) | | | |
| | | Suction port: GL-14 (lower), Φ10 nozzle | Suction Port: GL-14 (upper), Φ10 nozzle | Suction port: GL-14 (lower), Φ10 nozzle | Suction Port: GL-14 (upper), Φ10 nozzle |
| | | Cooling port: GL14 (two places in lower part), two φ10 nozzles | | | |
| | Compatible evaporation flask | 50-2000ml. Use optional reducer to attach small flasks | | | |
| | Compatible receiving flask | 100-2000 ml | | | |
| | External dimensions *2 (W x D x H) | 719 × 324 × 534 | 529 × 324 × 745 | 719 × 324 × 534 | 529 × 324 × 745 |
| | Overall dimensions *2 (including bath) (W x D x H) | 744 × 365 × 534 | 554 × 365 × 745 | 744 × 365 × 534 | 554 × 365 × 745 |
| | Power rating 50/60Hz | RE202 and REV202M: 100-115V 1A <i>with plug</i> RE212 and REV212M: 200-230V single phase 1A <i>no plug, round terminal</i> | | | |
| Weight | ~10.0 kg | | ~10.5 kg | | |
| Included accessories | Main unit: AC adapter (1), power cable (1), bath guide (1), rear cover (1), single-sided tape fastener roll (1), double-sided tape fastener roll (1) | | | | |
| | Glass set: Cooling condenser (type A/B)(1), rotary joint (1), evaporation flask (1), receiving flask (1), ball joint clamp (1), flask clip (1), vacuum seal (1), condenser insulation kit (1), condenser bracket (1) (for type B), hex wrench (1) (for type B) | | | | |

*1 Performance data above based on 23 ±5 °C room temperature, 65%RH ±20% humidity, and no process load.

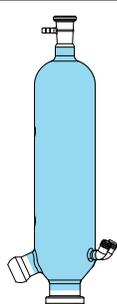
*2 Dimensions excludes protrusions.

*3 Applicable rotation speed range and sample volume depend on the capacity of evaporation flask.

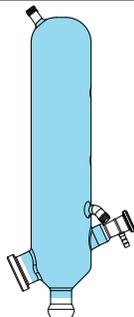
Operational Accessories

Glassware Set

| Product code | Set |
|--------------|--|
| RG202A | Set A (use with chiller) Traditional glass set where condenser is tilted diagonally |
| RG202B | Set B (use with chiller) Standard glass set where condenser is set vertically, suitable for limited space |



Condenser A



Condenser B

Bath Specifications

| Product name | Water bath | | Oil bath | |
|------------------------------|--|--------------------------|----------------------------|--------------------------|
| | BM302-A | BM312-A | BO302-A | BO312-A |
| Model | BM302-A | | BO302-A | |
| Temp. control range *1 | RT +10°C~90°C | | RT +10°C~180°C | |
| Temp. control accuracy *1 | ±1.0°C | | ±1.5°C (water), ±2°C (oil) | |
| Safety features | Automatic overheat prevention, independent overheat prevention (fixed temp.), temperature upper limit error, overcurrent protection fuse | | | |
| Other features | Calibration offset, overshoot alert, auto resume (selectable), 2A service outlet (for AC100~115V) | | | |
| Bath capacity | ~5L | | | |
| Internal dimensions | Φ240 x H119 mm | | | |
| External dimensions *2 | Φ262(max depth 286mm) x H240 mm | | | |
| Weight | ~4.5kg | | | |
| Power supply (fuse capacity) | AC100~115V 10~12A (15A) | AC200~230V 5~6A (10A) | AC100~115V 10~12A (15A) | AC200~230V 5~6A (10A) |

*1 Performance data above based on 220 VAC ±5% supplied power, 23 ±5 °C ambient, 65%RH. ±20% humidity, and no process load. Temp accuracy measured in JTM K05.

*2 Dimensions excludes protrusions.



Operational Accessories

Vacuum Controller



- Equipped with a color LCD that allows you to judge the operating status by color.
- Suppresses bumping with three operation modes that can be selected according to application.
- Evaporator body and vacuum pump work together with one button
- Wireless connection with specified vacuum pumps for control

| Model | VR102S |
|---|---|
| Setting range of the degree of vacuum*1 | 0 to 1013 hPa |
| Measurement range of the degree of vacuum | 0 to 1100 hPa |
| Display | Color LCD (2.3") |
| Display items | Measurement/setting of vacuum degree, operation time, status |
| Operation mode | Manual (constant operation), Gradient (gradient decompression, constant operation) Auto (gradient decompression, target pressure automatic setting) |
| Hold function | Maintains current vacuum degree in the middle of decompression (controlled) |
| Pressure unit | mmHg/Torr/hPa/kPa/mbar |
| Automatic functions at end of operation | Auto leak, Auto cleaning |
| Vacuum control system*2 | Based on ON/OFF of vacuum control solenoid valve, or pump rotation speed. |
| Safety functions | Communication error, pressure sensor error, memory error, leak error, high pressure error, auto leak at error occurrence |
| External dimension*3 | 86AW x 113D x 83H |
| Power supply | 24V DC *1 (100-240VAC 1A or less) |
| Weight | 0.5 kg |
| Included accessories | Vacuum line branch joint (O.D. $\phi 4 \times \phi 2 \times 700$ mm with PTFE tube) |

*1 A separate optional vacuum control solenoid valve is required. With the combination of vacuum pump N820G and vacuum pump control unit G, vacuum control can be performed by pump rotation speed without vacuum control solenoid valve. However, operation mode is limited.

*2 An optional connection cable (multi line of power supply/operation signal) for connecting RE unit is required. When using this unit without connecting to RE units, use optional AC adapter/power cable separately.

*3 Dimensions excludes protrusions.

Optional Accessories

Glassware



Evaporating flask
Size: 24/40

| Product code | Capacity |
|---------------|------------|
| 255713 | 2L |
| 255712 | 1L* |
| 255711 | 500ml |
| 255710 | 300ml |
| 255709 | 200ml |
| 255708 | 100ml |

Size: 29/38

| Product code | Capacity |
|--------------|----------|
| 255706 | 2L |
| 255705 | 1L |
| 255704 | 500ml |
| 255703 | 300ml |
| 255702 | 200ml |
| 255701 | 100ml |



Receiving flask
Size 35/20

| Product code | Capacity |
|---------------|------------|
| 255719 | 2L |
| 255718 | 1L* |
| 255717 | 500ml |
| 255716 | 300ml |
| 255715 | 200ml |
| 255714 | 100ml |

*Standard



Rotary joint

RG202A

| Product code | Size | Type |
|---------------|---------------------|------------------|
| 255720 | 29/38 L284mm | Standard |
| 255722 | 24/40 L286mm | Standard* |
| 255724 | 29/38 L284mm | Transparent |
| 255726 | 24/40 L286mm | Transparent |

RG202B

| Product code | Size | Type |
|---------------|---------------------|------------------|
| 255721 | 29/38 L208mm | Standard |
| 255723 | 24/40 L210mm | Standard* |
| 255725 | 29/38 L208mm | Transparent |
| 255727 | 24/40 L210mm | Transparent |



Rotary joint different diameter

| Product code | Description |
|--------------|----------------------|
| 255732 | 24/40 → 24/40 L105mm |
| 255733 | 24/40 → 19/38 L103mm |
| 255734 | 24/40 → 15/25 L90mm |
| 255728 | 29/38 → 29/38 L106mm |
| 255729 | 29/38 → 24/40 L108mm |
| 255731 | 29/38 → 15/25 L105mm |
| 255730 | 29/38 → 19/38 L105mm |



PTFE vacuum seal

| Product code | Description |
|--------------|---|
| 255741 | Recommended for ketone and other solvents |



FKM vacuum seal

| Product code | Description |
|-------------------|---------------------|
| RE50040090 | YSA Standard |

Optional Accessories

Water Circulator (Chiller)

CF302LA/CF312LA



| Model | CF302L-A / CF312L-A | CF802-A |
|--|---|--|
| Operating temp. range | -20°C~30°C | |
| Temp. control accuracy | ±1.0°C (≥ 0°C) ±1.5°C (< 0°C) | ±1.0°C |
| Cooling capacity | ~420W at liquid temp 10°C ~280W at liquid temp -10°C | ~1320W (at 10°C) ~700W (at -10°C) |
| Temp. control | Refrigerator On/Off | |
| Refrigerator, coolant | Air cooling 450W, R404A | Air cooling, 700W, R410A |
| External dimension WxDxH (including protrusions) | 205 × 396 × 535 mm (225 × 434 × 564 mm) | 340 × 370 × 838 mm (340 × 408 × 920 mm) |
| Water capacity | ~3.9L (Liquid volume 3.5L) | ~15.5L (liquid volume 14L) |
| Power source 60Hz | 115V 7.5A / 220V 4A | Single phase 115V 15A |
| Weight | ~31kg | ~44kg |



CF802A

Control panel



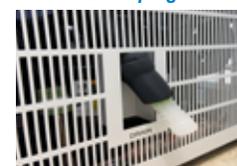
Filter mounting plate



Circulation hose connection



Drain plug

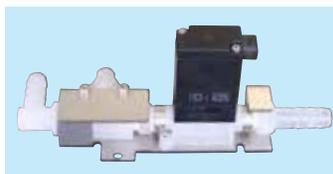


Vacuum Pump



| Model | N820G |
|------------------------------------|-----------------|
| Ultimate vacuum (mbar abs.) | |
| Minimum speed: | |
| Gas ballast closed | ≤ 6 |
| Gas ballast open | ≤ 17 |
| Maximum speed: | |
| Gas ballast closed | ≤ 8 |
| Gas ballast open | ≤ 15 |
| Flow rate at atm. pressure (l/min) | |
| Min. speed | 9 |
| Max. speed | 20 |
| Permissible ambient temperature | +10°C to + 40°C |
| Diaphragm material | PTFE-coated |
| Voltage (V) | 100-240 |
| Frequency (Hz) | 50/60 |
| Max. operating current (A) | 0.66 |
| Dimensions LxWxH (mm) | 259 x 163 x 220 |
| Weight (kg) | 8.8 |

Vacuum Control Solenoid Valve



255762 (OVR10)

- Opens / closes to control the degree of vacuum
- Works with VR102S Vacuum Controller by wire
- Can be installed onto RT302 solvent recovery unit

Included accessories:

- PTFE tube $\phi 4 \times \phi 2 \times 700$ mm 1 pc
- Solenoid valve cable 1 pc

Vacuum Pump Control Unit G



255783 (OVR26)

- Regulates motor speed of vacuum pump to control the degree of vacuum
- Wireless interconnection with VR102S

Included accessories:

- N820G mounting bracket 1 pc.
- Hexagon wrench 1 pc.
- M4 hexagon socket head cap screw 3 pcs.

Compatible pump:

Yamato Scientific N820G

Stand



255770 (ORT10)

- Stand for VR102S and vacuum pump
- Power supply to this unit is either RE connection cable or AC adapter
- Includes waste liquid trap bottle (250 ml) 255772 (ORT14)

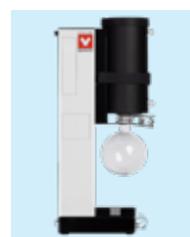
Exhaust Trap Kit



255771 (ORT12)

- Used as a solvent recovery unit by installing onto ORT10 stand.
- Comes with an exhaust trap, 500 ml flask, tray, connection hose on the OUT side, and a set of attachment brackets

Solvent Recovery Unit



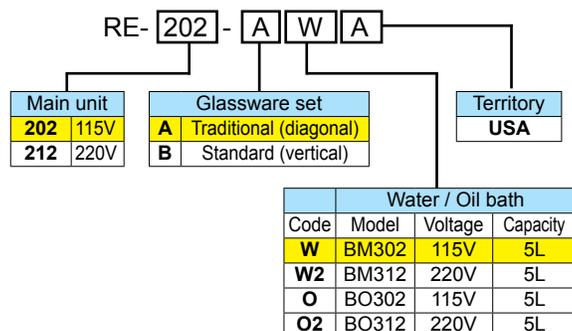
RT302 (255378)

- Allows efficient solvent recovery by cooling water circulation
- Connected to the exhaust side of a diaphragm vacuum pump
- Combination of stand (255770) and exhaust trap kit (255771)

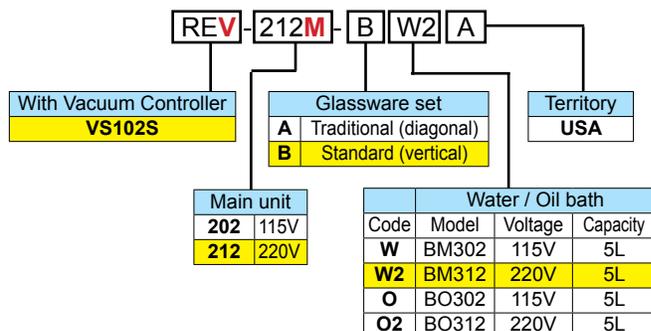
Set Guide

Set Guide

STANDARD SET MAIN UNIT + BATH + GLASSWARE SET



SET WITH VACUUM CONTROLLER MAIN UNIT + VACUUM CONTROLLER + BATH + GLASSWARE SET



Basic Set Selection Chart

| Model | Glassware | | Water Bath | | Oil Bath | | Vacuum Controller |
|---------------|-----------|---|------------|-------|----------|-------|-------------------|
| | A | B | BM302 | BM312 | BO302 | BO312 | |
| RE-202-AWA | ● | | ● | | | | |
| RE-202-BWA | | ● | ● | | | | |
| RE-202-AOA | ● | | | | ● | | |
| RE-202-BOA | | ● | | | ● | | |
| RE-212-AW2A | ● | | | ● | | | |
| RE-212-BW2A | | ● | | ● | | | |
| RE-212-AO2A | ● | | | | | ● | |
| RE-212-BO2A | | ● | | | | ● | |
| REV-202M-AWA | ● | | ● | | | | ● |
| REV-202M-BWA | | ● | ● | | | | ● |
| REV-202M-AOA | ● | | | | ● | | ● |
| REV-202M-BOA | | ● | | | ● | | ● |
| REV-212M-AW2A | ● | | | ● | | | ● |
| REV-212M-BW2A | | ● | | ● | | | ● |
| REV-212M-AO2A | ● | | | | | ● | ● |
| REV-212M-BO2A | | ● | | | | ● | ● |

SET VARIATION

SET 1 BASIC SET

Includes a space-saving glassware set B (vertical condenser) and water bath. Also available in glassware set A (diagonal condenser).



| Product code | Description |
|--------------|--------------------------------------|
| RE202 | Rotary evaporator |
| RG202B | Glassware set B (vertical condenser) |
| BM302 | Water bath |

SET 2 STANDARD SET

Includes a space-saving glassware set B (vertical condenser), water circulator (chiller), water bath and vacuum pump.

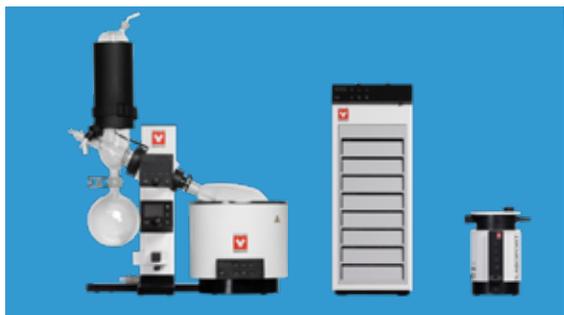


| Product code | Description |
|--------------|--------------------------------------|
| RE202 | Rotary evaporator |
| RG202B | Glassware set B (vertical condenser) |
| BM302 | Water bath |
| CF302LA | Water circulator (chiller) |
| 221581 | Insulation hose 2 pcs. |
| N820G | Diaphragm vacuum pump |
| 255297 | Vacuum hose |

SAMPLE VARIATION

SET 3 COMPLETE SET 1

Similar to Set 2 (glassware set B, water circulator, water bath and vacuum pump) but with the addition of a **vacuum controller**. User friendly and space saving.



| Product code | Description |
|--------------|--|
| REV202M | Rotary evaporator with vacuum controller |
| RG202B | Glassware set B (vertical condenser) |
| BM302 | Water bath |
| CF302LA | Water circulator (chiller) |
| 221581 | Insulation hose 2 pcs. |
| N820G | Diaphragm vacuum pump |
| 255783 | Vacuum pump control unit G (OVR26) |
| 255297 | Vacuum hose |

SET 4 COMPLETE SET 2

Similar to Set 3, this comes with a rotavap with vacuum controller, glassware B, chiller, water bath and vacuum pump. In addition, it considers environment protection and odor measures by improving collection efficiency through a **secondary trap**.



| Product code | Description |
|--------------|--|
| REV202M | Rotary evaporator with vacuum controller |
| RG202B | Glassware set B (vertical condenser) |
| BM302 | Water bath |
| 255770 | Stand (ORT10) |
| 255771 | Exhaust trap kit (ORT12) |
| CF302LA | Water circulator (chiller) |
| 221581 | Insulation hose 2 pcs. |
| 281330 | Insulation hose (OA094) 1 pc. |
| N820G | Diaphragm vacuum pump |
| 255783 | Vacuum pump control unit G (OVR26) |
| 255297 | Vacuum hose |

SET 5 "USE YOUR OWN VACUUM PUMP" SET

A complete set with a rotavap with vacuum controller, space-saving glassware set B (vertical condenser), water circulator (chiller) and water bath, combined with your **existing vacuum pump**. Vacuum pump is manually and continuously operated.



| Product code | Description |
|--------------|--|
| REV202M | Rotary evaporator with vacuum controller |
| RG202B | Glassware set B (vertical condenser) |
| BM302 | Water bath |
| CF302LA | Water circulator (chiller) |
| 221581 | Insulation hose 2 pcs. |

SET 6 DOUBLE PERFORMANCE SET

A combination that connects two complete sets of rotary evaporator (glassware set B, water bath and vacuum pump) with one water circulator (CF802) that can be installed under the laboratory table or fume hood, and a secondary trap.



| Product code | Qty | Description |
|--------------|--------|--|
| REV202M | 2 | Rotary evaporator with vacuum controller |
| RG202B | 2 | Glassware set B (vertical condenser) |
| BM302 | 2 | Water bath |
| CF802 | 1 | Water circulator (chiller) |
| 281478 | 1 | Secondary trap (OCF84) |
| 221581 | 2 sets | Insulation hose 2 pcs. |
| N820G | 2 | Diaphragm vacuum pump |
| 255783 | 2 | Vacuum pump control unit G (OVR26) |
| 255297 | 2 | Vacuum hose |