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2L Jacketed Glass Reactor – JR-S2



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2L Jacketed Glass Reactor – Model: JR-S2



Overview

Benchtop jacketed glass reactor for lab scale reaction. Excellent resistance to thermal shock and chemicals corrosion, vacuum tight, constant stirring speed and user friendly. Widely used in scientific research and education.

- Capacity: 2L;
- Mechanical sealing, resist to chemicals and durable, max vacuum <2 mbar;
- Brushless AC induction motor, low noise, constant stirring speed;
- Stirring speed range: 50 – 1200 rpm;
- Quality borosilicate glass 3.3 (BORO 3.3);
- Temperature range: -90°C - 250°C;
- PTFE drain valve, no dead space and no leakage, clean discharge;
- SUS304 stirring shaft covered with PTFE.

Model

Capacity (L)

JR - S

2

Technical Specification & Configuration

| Parameter | |
|--------------------------------|-----------------------------------|
| Model | JR-S2 |
| Capacity (L) | 2L |
| Diameter of Vessel (mm) | 150 mm |
| Nozzle Size & No. on Lid | 5 (NS19×2+NS24×2+DN30) |
| Bottom Valve Diameter (mm) | 10mm |
| Temp. Range (°C) | -90 - 250°C |
| Max Vacuum Level(mbar) | < 2 mbar |
| Stirring Power (W) | 90W |
| Rotary Speed (rpm) | 50 – 1200 |
| Glass Material | Borosilicate Glass 3.3 (BORO 3.3) |
| Frame Material | SUS304 |
| Stirring Shaft Material | SUS304 Covered with PTFE |
| Agitator | Anchor, PTFE |
| Diameter of Stirrer Shaft (mm) | 10mm |
| Dimension (cm) | 35×46×104H |
| Power Supply | 220V/50Hz |

| Configuration | |
|-----------------------------------|----------------------------------|
| Model | JR-S2 |
| Seal | Mechanical Sealing |
| Stirring Speed Controller | Stepless Electronic |
| Reactor Lid | Glass Lid with 5 Nozzles |
| Agitator Type | Anchor |
| Drain Valve | PTFE Valve, Drift Diameter: 10mm |
| Thermowell | Yes |
| Reflux Condenser | 0.1 sqm condensing area |
| Pressure Equalizing Funnel | 250ml |
| Liquid Feeding Valve | NS19 |
| High Viscosity Agitator | Optional |
| PTFE Lid | Optional |
| Distillation Separation Receiving | Optional (0.5L) |
| Digital Display Thermometer | Optional |

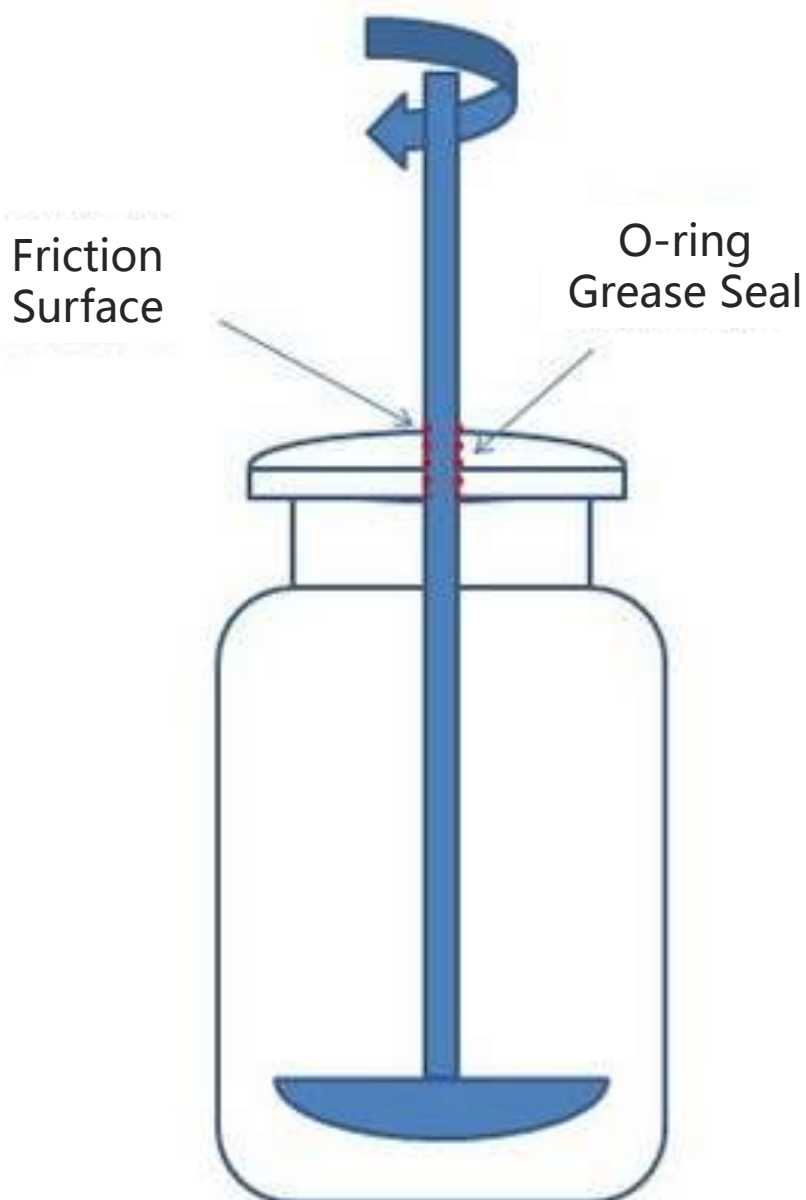
Features

Glass Lid, SiC+PTFE Mechanical Sealing, Durable and Vacuum Tight



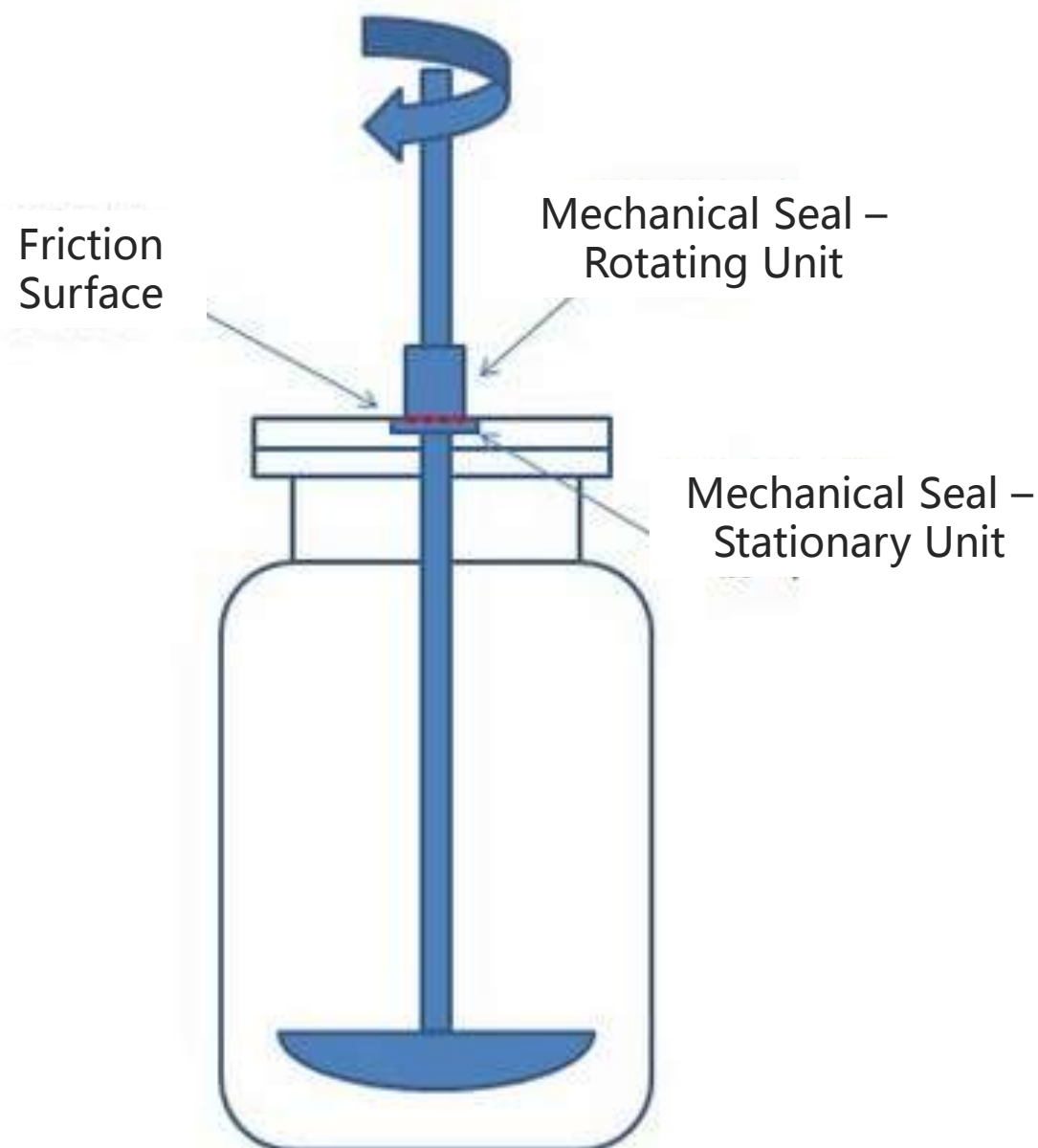
- A** **SiC+PTFE Mechanical Sealing**
Max vacuum <2mbar, excellent resist to chemicals and durable with lifespan >5 years. Much better than most O-ring or grease seal;
- B** **Liquid Feed Valve** – for liquid feeding and vacuum release;
- C** **Pressure Equalizing Funnel**
— controllable liquid dripping;
- D** **Condenser** — reflux reaction. Distillation head and distillation receiving are optional;
- E** **Thermowell** — digital display thermometer is optional.

Mechanical Seal VS Traditional Seal



Traditional Seal – Seal on Axis

O-ring or Grease Seal is known as seal on axis to be used between stirring shaft and vessel lid, but is heavily prone to be worn out by friction, especially under corrosion of solvent and high temperature, which requires regular operation stop, disassemble and O-ring change.



Mechanical Seal - Seal on Surface

Mechanical Seal is the seal on surface between its rotating part and stationary part. It is made of SiC and reinforced PTFE, which is vacuum tight, durable, long lasting and great for 24/7 operation.

With PTFE vessel lid, stirring can be very stable so that mechanical seal can ensure <2mbar vacuum level.

Quality Borosilicate Glass Reactor Vessel (BG3.3)



The quality of glassware is critical! The time and efforts you spent in the reaction is far more valuable than the jacketed glass reactor itself, let alone the cost of the solvents. The loss of glass broken is huge. So we provide Quality Borosilicate Glassware and give individual quality control to every unit.

Quality borosilicate glass 3.3 (BORO 3.3), having very low coefficients of thermal expansion (3×10^{-6} at 20°C), is well resistant to thermal shock and less subject to thermal stress. Complying with ISO3585, the glassware have excellent performance against chemicals and water.

Bottom Flush Drain Valve



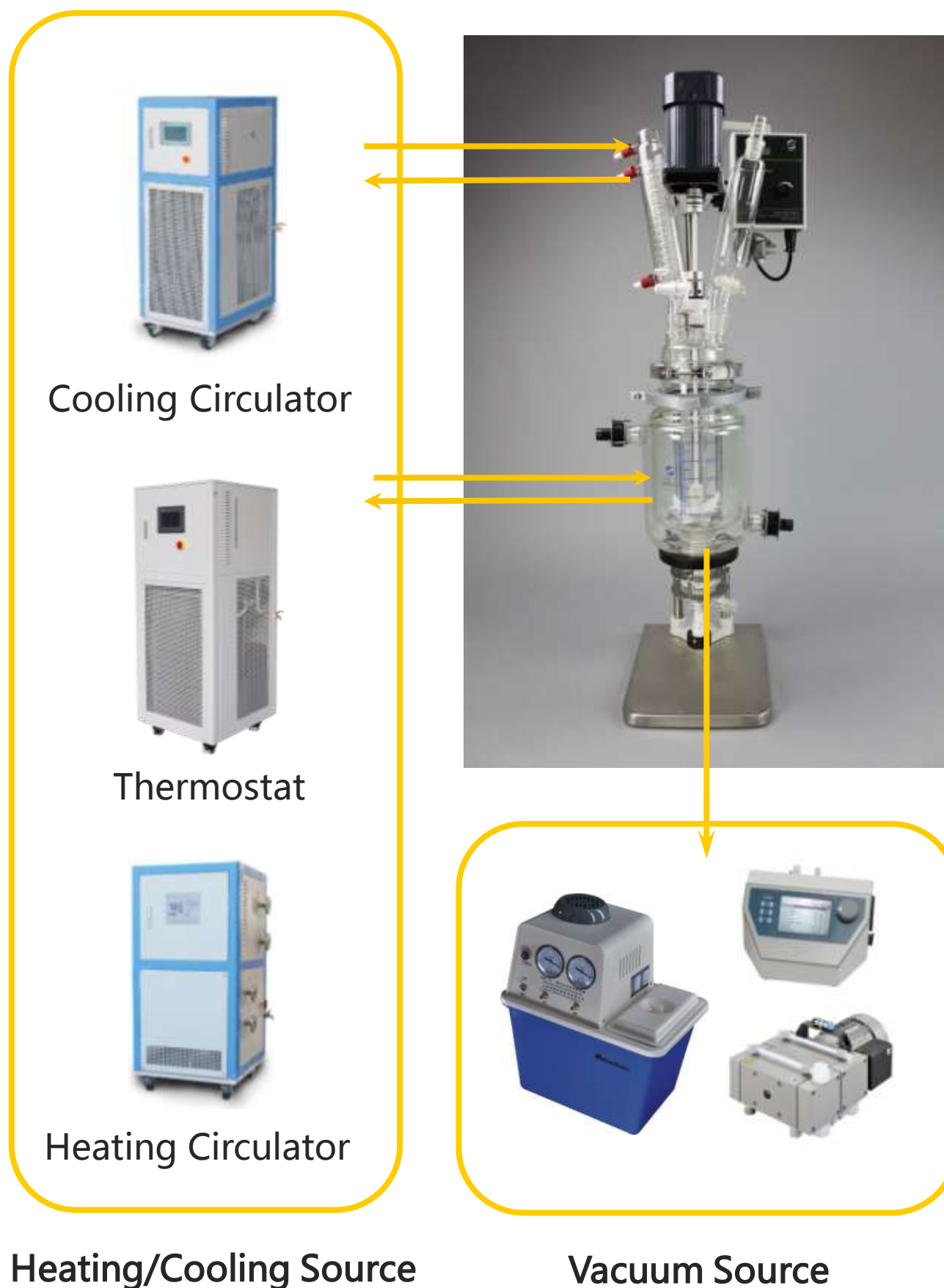
Bottom Flush Drain Valve with no dead space, no leakage.

Valve is made of PTFE, resist to chemicals and is easy to operate and durable.

No need of vacuum grease. Clean discharge.

Jacketed Glass Reactor Set – Lab Scale

Along with Jacketed Glass Reactor, Shanghai Shensheng provides Heating & Cooling Circulator and Vacuum Pump which are designed for optimal use with Jacketed Glass Reactor.



Heating & Cooling Circulator



Provide both heating and cooling sources for Jacketed Glass Reactor.

Wide temperature range from -25 °C to 200 °C.

Safety features including self-diagnosis, high pressure protection, overload relay, compressor over-temp protect.

Parameters

| Model | | HR-25 |
|-----------------------------|-------|--|
| Temp. Control Range (°C) | | -25 - 200°C |
| Temp. Control Accuracy (°C) | | 1°C |
| Flow Rate (L/min, bar) | | 25 L/min 2.0 bar |
| Heating Power (kW) | | 2.5 |
| Cooling Power (kW) | 200°C | 2.5 |
| | 100°C | 2.5 |
| | 20°C | 2.5 |
| | -5°C | 2 |
| | -20°C | 1 |
| Coolant | | R404A |
| Temperature Display | | Digital |
| Circulation Type | | Close Circulation, No Oil Mist, No Oxidization to Thermal Oil |
| Dimension (cm) | | 50×60×115 |
| Power Supply | | 220V/50Hz |

Safety Features

| Model | HR - 25 |
|----------------------------------|---------|
| Compressor Over-temp. Protection | ● |
| Error Alarm | ● |
| Overload Protection | ● |
| High Pressure Protection | ● |

Symbol Instruction: / - None , ● - Equipped , ○ - Optional

Vacuum Pump



- Safe and reliable water circulation vacuum pump.
- Equipped with two independent suction nozzles for vacuum supply.
- Can be water supply for condenser.
- Oil free and water saving.

Parameter

| Model | SHB – 3A |
|-------------------|-------------------|
| Type | Water Circulation |
| Max Vacuum (mbar) | 20 mbar |
| Rate (L/min) | 10L/min×2 |
| Power | 180 W |
| Dimensions (cm) | 39×28×42 |
| Power Supply | 220V/50Hz |

Factory Show - Shanghai Shensheng Biotech Co., Ltd.



Manufacture Plant in Shanghai



Quality Mechanical Parts



Glassware Fabrication



Fine Processing



Individual quality control for every unit



Pilot Scale Jacketed Glass Reactor



Pilot Scale Rotary Evaporator

Our Customer



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