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5L Multifunctional Glass Reactor - Glass Heating Reactor - MR-S5



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5L Glass Heating Reactor - MR-S5



Overview

Benchtop glass heating reactor is the single layer glass reactor for lab scale reaction. Excellent resistance to chemicals corrosion, vacuum tight, constant stirring speed and temperature. Widely used in scientific research and education.

- Capacity: 5L;
- Mechanical sealing, resist to chemicals and durable with max vacuum <2 mbar;
- Brushless AC induction motor, low noise, constant stirring speed;
- Stirring speed range: 50 – 1200 rpm;
- Quality borosilicate glass 3.3 (BORO3.3);
- Heating bath, temperature control range: RT ~ 99°C (180 °C, Oil);
- Bath hand lift mechanism;
- SS304 stirring shaft covered with PTFE.

Model

Capacity (L)

MR - S

5

Technical Specification & Configuration

| Parameter | |
|-------------------------------------|----------------------------------|
| Model | MR-S5 |
| Capacity (L) | 5L |
| Nozzle Size & No. on Lid | 5 (NS19×2+NS24×2+DN30) |
| Max Vacuum Level(mbar) | < 2 mbar (-0.0998MPa) |
| Stirring Power (W) | 90W |
| Rotary Speed (rpm) | 50 – 1200 |
| Heating Power (kW) | 2 kW |
| Temp. Control Range & Accuracy (°C) | RT - 99 (180, Oil) ±1°C |
| Bath Size, Capacity, Material | Φ28×17H, 10L, SUS304 |
| Height Adjustment (cm) | Bath Hand Lift, 13cm |
| Glass Material | Borosilicate Glass 3.3 (BORO3.3) |
| Frame Material | SUS304 |
| Stirring Shaft Material | SUS304 Covered with PTFE |
| Agitator | Anchor, PTFE |
| Diameter of Stirrer Shaft (mm) | 10mm |
| Dimension (cm) | 36×46×90H |
| Power Supply | 220V/50Hz |

| Configuration | |
|----------------------------|--|
| Model | MR-S5 |
| Seal | Mechanical Sealing |
| Stirring Speed Controller | Stepless Electronic |
| Reactor Lid | Glass Lid with 5 Nozzles |
| Digital Display | Stirring Speed, Bath Temp. |
| Agitator Type | Anchor |
| Thermowell | Yes |
| Reflux Condenser | 0.14 sqm condensing area |
| Pressure Equalizing Funnel | 250ml |
| Liquid Feeding Valve | NS19 |
| Safety Features | Over-current Protection No-spark Electronic Control |
| Distillation Receiving | Optional, 3000ml Receiving Flask |

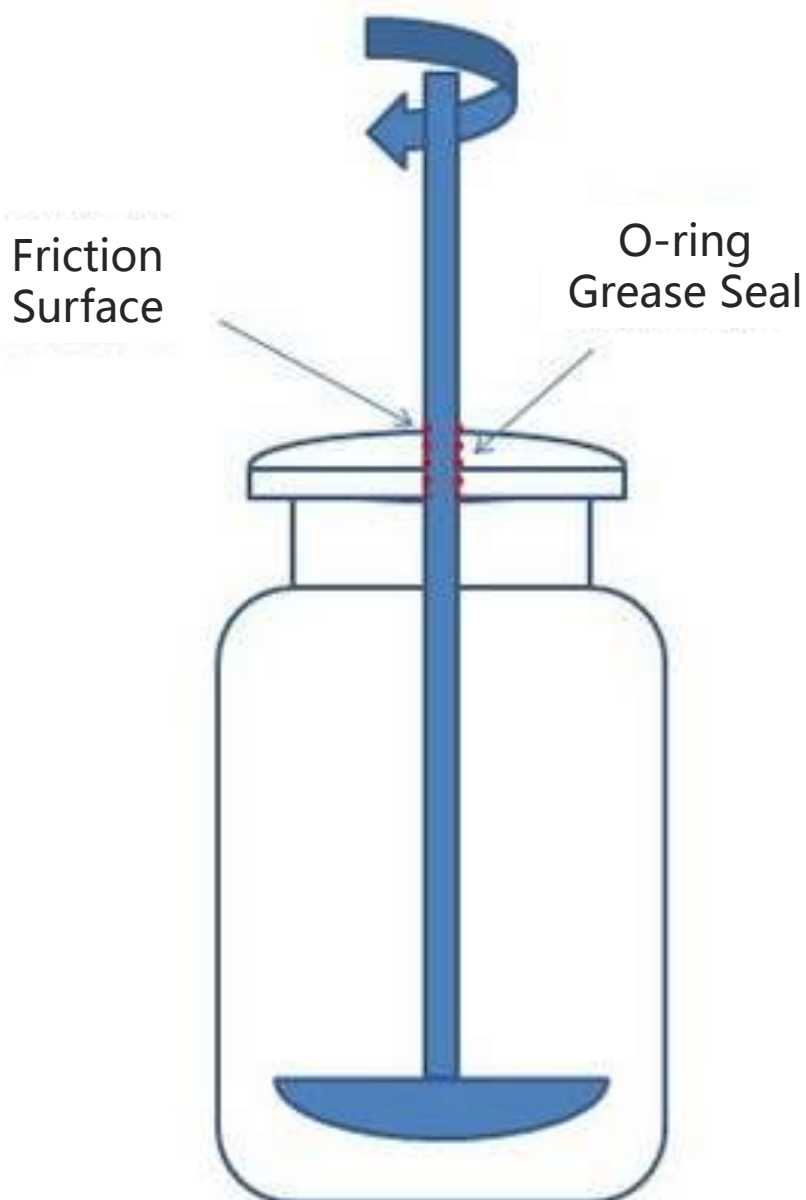
Features

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



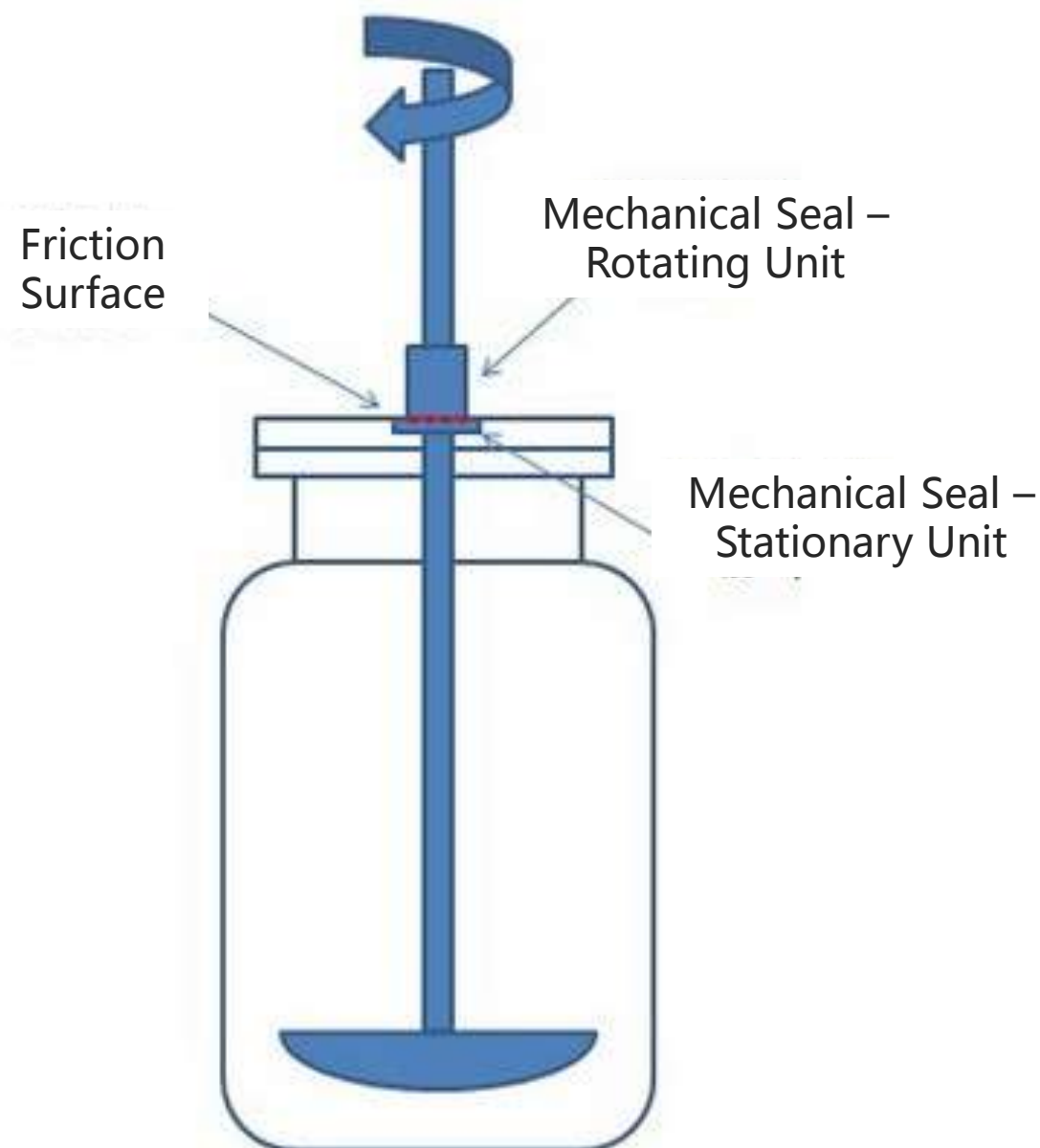
- A** **SiC+PTFE Mechanical Sealing**
Max vacuum <2mbar, excellent resist to chemicals and durable with lifespan >5 years. Much better than most O-ring or grease seal;
- B** **Liquid Feed Valve** – for liquid feeding and vacuum release;
- C** **Pressure Equalizing Funnel** — controllable liquid dripping;
- 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.

Features



A Brushless AC induction motor, safe and durable, offers constant speed stirring. Torque changes with the viscosity of material to ensure desired stirring speed;

Stepless electronic control of stirring speed with LED display. Stirring speed range 50 – 1200 rpm;

B SUS304 stirring shaft covered with PTFE provides strong stirring with excellent resistance to chemicals;

C Quality borosilicate glass 3.3 (BORO3.3), 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.

D Heating bath, quick, precise heats water or oil and covers a wide temp. range from RT – 99°C (180°C , oil).

Continuous **digital display** of the actual temp. and temp. set point.

Economic and safe lift jack to smooth adjust bath height.

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



Experienced Glassware Maker



Fine Processing



Individual quality control for every unit



Pilot Scale Jacketed Glass Reactor



Pilot Scale Rotary Evaporator

Our Customer



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