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## 2L Multifunctional Glass Reactor - Glass Heating Reactor - MR-S2



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# 2L Glass Heating Reactor - MR-S2



## 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: 2L;
- 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

2

# Technical Specification & Configuration

Parameter	
Model	MR-S2
Capacity (L)	2L
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)	1.5 kW
Temp. Control Range & Accuracy (°C)	RT - 99 (180, Oil) ±1°C
Bath Size, Capacity, Material	Φ25×15H, 7L, SUS304
Height Adjustment (cm)	Bath Hand Lift, 12cm
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)	32×25×80H
Power Supply	220V/50Hz

Configuration	
Model	MR-S2
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	0.1 sqm condensing area
Pressure Equalizing Funnel	250ml
Liquid Feeding Valve	NS19
Safety Features	Over-current Protection No-spark Electronic Control
Distillation Receiving	Optional, 1000ml Receiving Flask

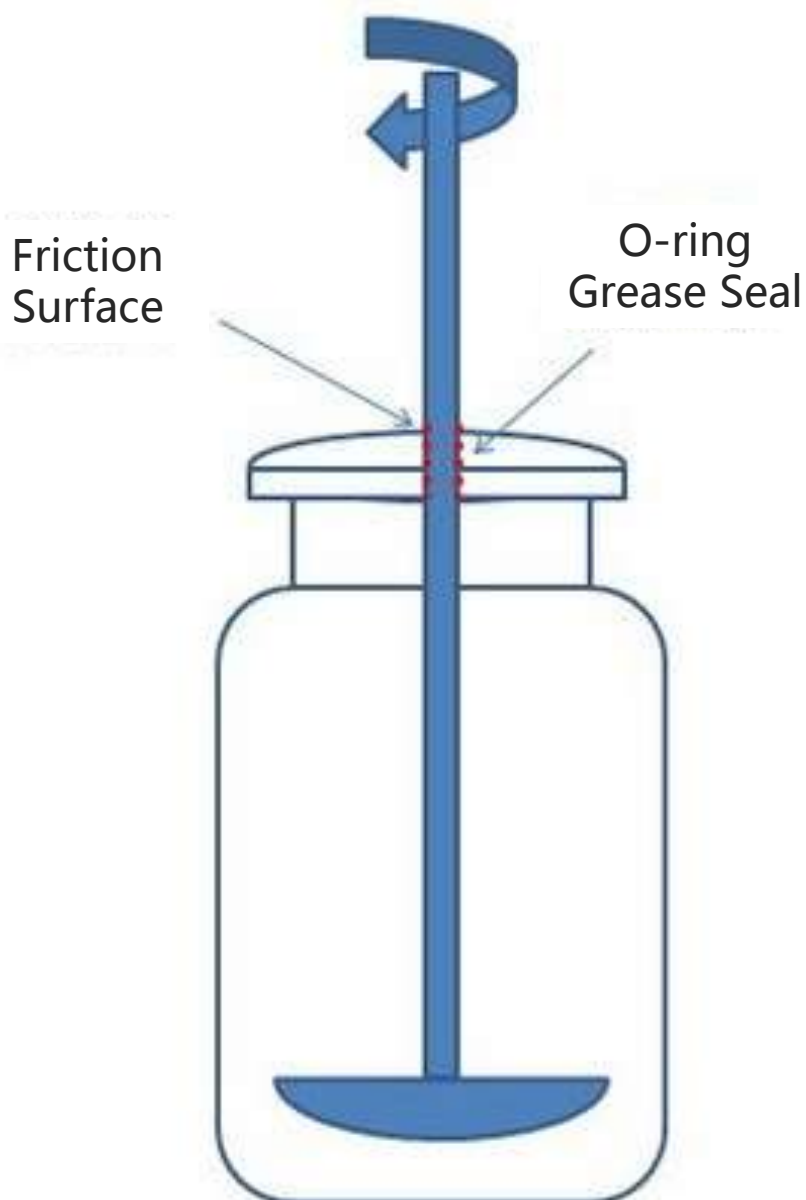
# Features

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



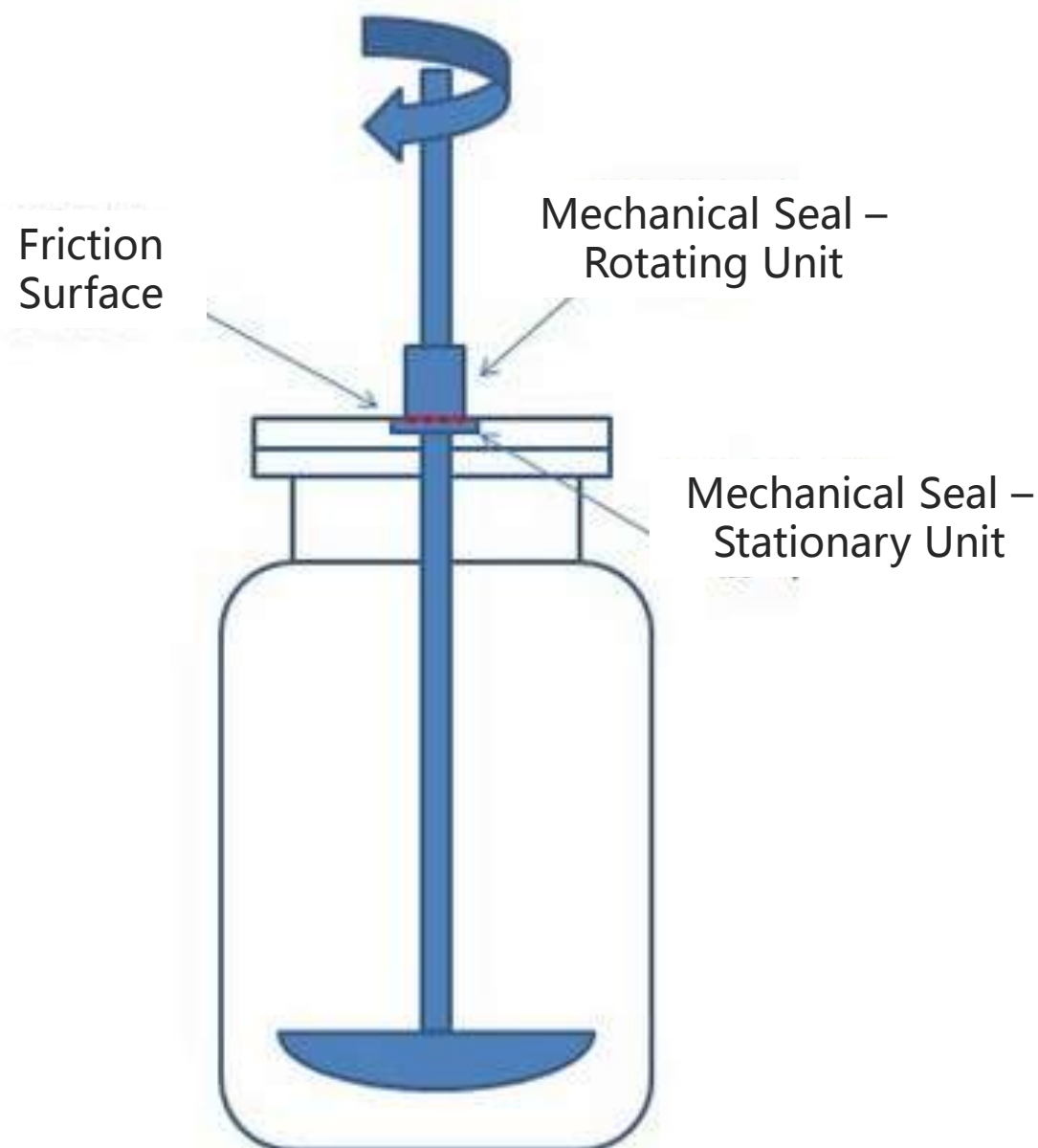
- A** **SiC+PTFE Mechanical Sealing**  
Max vacuum <2mbar, excellent resist to chemicals and durable with lifespan >5 years. Much better than most O-ring or grease seal;
- B** **Liquid Feed Valve** – for liquid feeding and vacuum release;
- C** **Pressure Equalizing Funnel**  
— controllable liquid dripping;
- 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 ( $3 \times 10^{-6}$  at  $20^{\circ}\text{C}$ ), 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 –  $99^{\circ}\text{C}$  ( $180^{\circ}\text{C}$ , 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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