



Jacketed Glass Reactor

/ LAB1ST Scientific & Industrial



LAB1ST / Laboratory and Processing Equipment

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JACKETED GLASS REACTOR

The Lab1st jacketed glass reactors are designed to create ideal environments to facilitate reactions and the mixing of different types of materials under a specific adjustable temperatures and under vacuum. The glass vessel is designed to control temperature via heating or cooling fluid which is circulated through a "jacket" around the vessel. The jacket permits the uniform exchange of heat between the fluid circulating in it and the walls of the vessel. Agitation is used to improve the homogeneity of the fluid properties (such as temperature or concentration).

Our jacketed glass reactor series is designed and engineered for ease-of-use and exceptional performance. These reactors are manufactured from borosilicate glass and have a stainless steel frame. Glass reactors are the go-to solution for chemical and pharmaceutical industries. They are the ideal device for extraction, stirring, dissolving and mixing.



From lab scale
to commercial scale



Multiple
Applications



Different sizes
for your needs
and requirements



Corrosion
Resistance



COMPNOENTS

Durable AC induction motor is designed for continuous operation.

Pressure Equilizing Funnel

Unlike normal voltage-modulated controllers, VFD (variable-frequency drive) motor controller can get much larger stirring torque even at low speed.

The glass lid comes with 6 ports for maximized (stirring, thermowell, funnel, condenser, powder inlet & vacuum valve).

All the glassware is carefully crafted by borosilicate 3.3 glass for excellent chemical and physical performance.

The bottom drain valve has a zero dead space design, to make sure materials inside the vessel is always mixed thoroughly.



Large dual layer condenser for highly efficient condensation during distillation and reflux operations.

Vacuum Adapter

Reflux/distillation splitter

Bases are available in PTFE, stainless steel or PTFE-coated stainless steel, and can be clamped on the stirring shaft.

Support frame is made of stainless steel 304, with outstanding corrosion resistance. Moreover, it is designed to protect the glass vessel against damages from careless operation.

Lockable Casters

MODEL



JGR-1L



JGR-5L



JGR-10L JGR-20L JGR-30L



JGR-50L JGR-80L JGR-100L



JGR-200EX
(Explosion-proof motor)



JGR series upgrades
• Explosion-proof motor
• Insulation Jacket

FEATURES

Safe Operation

- High quality borosilicate 3.3 glass components for safe operation.



Corrosion Resistance

- Glass / PTFE wetted components for outstanding corrosion resistance. (① Temperature probe ② Material feeding port ③ Condenser ④ Stirrer ⑤ Vacuum port ⑥ Feeding funnel)



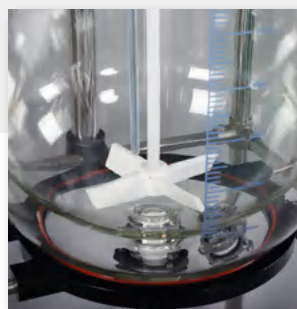
Option : Thermo Insulation Jacket

- High quality thermo insulation jacket available.



More Details

- Ideal equipment for mixing, reaction and distillation.
- Wide range of temperature operations, from -80°C to 200°C .
- Easily visual operation with speed and temperature displays.
- Stainless steel supporting framework with lockable casters for mobility and stability.
- Fully customizable system based on your request.



TECHNICAL DATA

Model	JGR-1L	JGR-2L	JGR-5L	JGR-10L	JGR-20L	JGR-30L
Technical Data						
Glass Vessel Temperature Range	-120°C—250°C					
Working Pressure Range	-0.1Mpa—Atm					
Glass Material	High Borosilicate Glass					
Vacuum Sealing	Machinery Seal					
Electrical Data						
Voltage [V]	110 220					
Phase [P]	1					
Frequency [Hz]	50/60					
Total Power [W]	120W					
Glass Vessel						
Volume	1L	2L	5L	10L	20L	30L
Vessel Pressure	-0.1Mpa—Atm					
Jacket Volume	1L	1.5L	2L	3L	6L	10L
Jacket Pressure	≤0.05Mpa					
Reactor Lid						
Ports On Lid [Pcs]	5	5	5	6	6	6
Agitator						
Motor Power	120W					
Blade Layers	1 Layer	1 Layer	1 Layer	1 Layer	2 Layers	2 Layers
Blade Material	PTFE					
Weight Dimension						
Installation Dimension [Mm]	440×360×1325	440×360×1325	520×500×1510	700×600×2030	720×650×2110	750×650×2450
Unit Weight [Kg]	40	40	60	90	110	115

Model	JGR-50L	JGR-80L	JGR-100L	JGR-150L	JGR-200L
Technical Data					
Glass Vessel Temperature Range	-120°C—250°C				
Working Pressure Range	-0.1Mpa—Atm				
Glass Material	High Borosilicate Glass				
Vacuum Sealing	Machinery Seal				
Electrical Data					
Voltage [V]	110 220				
Phase [P]	1				
Frequency [Hz]	50/60				
Total Power [W]	120W				
Glass Vessel					
Volume	50L	80L	100L	150L	200L
Vessel Pressure	-0.1Mpa—Atm				
Jacket Volume	16L	24L	30L	35L	40L
Jacket Pressure	≤0.05Mpa				
Reactor Lid					
Ports On Lid [Pcs]	6	6	6	6	6
Agitator					
Motor Power	120W				
Blade Layers	2 Layers	2 Layers	2 Layers	3 Layers	3 Layers
Blade Material	PTFE				
Weight Dimension					
Installation Dimension [Mm]	750×650×2450	850×700×2550	850×700×2550	1000×1300×3000	1000×1300×3200
Unit Weight [Kg]	120	140	160	210	270

AUXILIARY EQUIPMENTS

Vacuum Pump

Water-jet Vacuum Pump

Chemical duty and easy to maintain vacuum pumps with up to 50L/min air-taking speed and 20 mbar end vacuum. Vacuum is generated by forced water circulation, making it the ideal vacuum pump for chemical applications.



PTFE Diaphragm Vacuum Pump

Light-weight and low noise. The PTFE diaphragm design makes them suitable for even the most corrosive solvents. Available in different capabilities (Up to 120L/min air-taking speed and 50 mbar end vacuum).



Rotary Vane Oil Pump

Strong and relatively low cost, with different choices based on your requirement. They are available in single-stage or dual-stage, from 2.5 CFM to 45 CFM. Some of them are suitable for 24x7 continuous operation. Note: a cold trap is needed for rotary vane oil pumps in chemical applications.



Heating & Cooling Circulator

HR-Series

These are integrated heating & cooling circulators for customers requiring a high dynamic temperature range. They come with a hermetic design and are available in different models. The starting temperature range is from $-25\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$. On advanced models, the lowest temperature can be as low as $-80\text{ }^{\circ}\text{C}$, and the highest temperature can be up to $250\text{ }^{\circ}\text{C}$.



AUXILIARY EQUIPMENTS

Heating Circulator

OBC-Series

The most cost-effective heating circulator, with a concise but efficient design. Standard versions can heat up to 180C and advanced versions can reach 300C. These circulators comes with an open reservoir (from 10L to 100L), which can also be used as a heating bath. The heating power and voltage of the circulators are totally customizable.



UC-Series

Advanced heating circulator with a hermetic design, for minimized oxidation of heating oil at high temperature. These circulators are available with 200C or 300C max temperature. They come with air or water cooling, making them suitable for applications requiring a quick drop from high temperature to room temperature.



Cooling Circulator

DL-Series

The most cost-effective cooling circulator, which comes with an open reservoir (from 5L to 100L), making them suitable to be also used as a cooling bath. They come with a variety of models with reservoirs from 5L to 100L and with lowest temperature from -20C to -120C.



DLH-Series

High-end cooling circulators with a hermetic design, for extended life of both the circulator and the cooling fluid (preventing frost and ice flake in the circulator). They come with a variety of models with chilling power as low as 2.5kW and with lowest temperature from -15C to -120C.

