



Jacketed Glass Reactor

/ LAB1ST Scientific & Industrial



LAB1ST / Laboratory and Processing Equipment

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lab1st_extraction

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 (for 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



1-5L



5-10L



20L



30L



50L



100L

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)



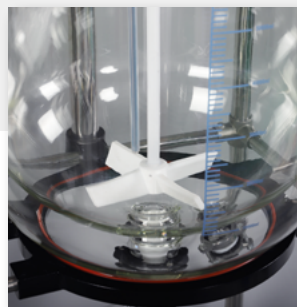
Option : Thermo Insulation Jacket

- 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-5L	JGR-10L	JGR-20L	JGR-50L	JGR-100L	
Reaction Capacity (L)	5	10	20	50	100	
Jacketed Volume (L)	2	3	6	16	30	
Port No. on the Lid	Total (pcs)	4+1	5+1	5+1	5+1	5+1
	Stirrer Port	12#	50#	50#	50#	60#
	Air charging valve	24#	34#	34#	34#	34#
	Solid feeding Port	N/A	80# Flange			
	Thermometer Tube	19#	DN25 Flange			
	Reflux Separator	34#	50#	50#	50#	50#
	Condenser Port	Ball Socket Joint				
	Pressure Equalized Funnel	24#, 250ml	40#,1000ml		40#,2000ml	
	Discharge port	N/A	OD:32mm, ID:22mm			
PTFE Stirrer	Four-blade Type		Four-blade type, Two-layer			

Turnkey Solution



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.

