

# Glass Reactor



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# Glass Reactor



**Stirring shaft sealing**

Excellent sealing,  
Durable and corrosion  
resistant, abrasion resistant,  
corrosion resistant,  
long service life



**Stainless steel thermal insulation hose**

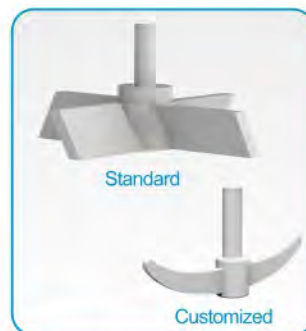
Temperature range: -100 - 250°C, can be  
used for both high and low temperature  
circulating fluid pipeline



**Thermal Insulation Jacket ( Optional )**

For thermal insulation;  
Designed with window for observation.

CE



**Propeller stirrer**

Stirring shaft is PTFE reinforced  
stainless steel, strong and durable



**Explosion-proof motor**

Ex grade is dII BT4



**Explosion-proof control box**

For II B explosive atmospheres,  
we use dII BT4 explosion-proof  
electrical parts for safety concern.

# Glass Reactor

- 1L, 2L, 3L, 5L volume available.
- Designed with vacuum gauge and temperature display unit.
- Imported motor for stable stirring performance.
- Imported stirrer sealing guide with high level of chemical resistance, anti-whip and reduced vibration, no shedding.

CE

CE



IGR-2CE



IGR-5CE



IGR-5Ex

## Technical Specifications

Model	IGR-1(CE)	IGR-2(CE)	IGR-3(CE)	IGR-5	IGR-5CE	IGR-5Ex
Vessel volume	1.0L	2.0L	3.0L	5.0L	5.0L	5.0L
Jacket volume	1.2L	1.7L	2.0L	3.0L	3.0L	1.5L
Funnel volume	0.2L			0.5L		
Pressure in the vessel	-0.1 ~ 0.0MPa					
Pressure in the jacket	≤0.03MPa					
Working temperature	-80 ~ 200°C					
Stirring speed	40~500rpm			50 ~ 500rpm	20~500rpm	50 ~ 500rpm
Power supply	220-240V, 50/60HZ or 110V, 60Hz			220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz
Dimensions(W×D×H)	480×420×1110mm	480×420×1020mm	480×420×1200mm	591×520×1594mm	640×520×1600 mm	

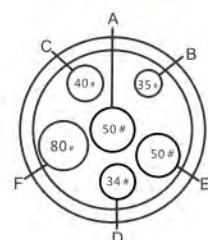


### Glass Reactor



IGR-10CE

IGR-20CE



- A) 50# flange, stirring shaft
- B) 35# flange, connected to temperature sensor
- C) 40/38 tapered frosted mouth, connected to constant-pressure funnel
- D) 34/35 tapered frosted mouth, liquid charging port
- E) 50# ball milling port, connected to condenser
- F) 80# flange, solid feeding port

10/20/50L reactor lid layout

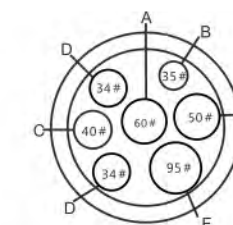
#### Technical Specifications

Model	IGR-10	IGR-10CE	IGR-10Ex	IGR-20	IGR-20CE	IGR-20Ex	IGR-50	IGR-50CE	IGR-50Ex
Vessel volume	10L			20L			50L		
Jacket volume	8L	3L		9L	6L		13L	16L	
Funnel volume	1.0L			2.0L			2L		
Operating pressure	Ordinary or negative pressure								
Working temperature	-80 ~ 200°C								
Condenser cooling area	0.168 m <sup>2</sup>	0.234 m <sup>2</sup>		0.265 m <sup>2</sup>	0.341 m <sup>2</sup>	0.265 m <sup>2</sup>	0.429 m <sup>2</sup>		
Stirring speed	50~500rpm	20~500rpm	50~500rpm	50~500rpm	20~500rpm	50~500rpm	50~500rpm	20~500rpm	50~500rpm
Power supply	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz
Drain port ground	355mm	320mm		355mm	320mm	355mm	320mm		
Dimensions(W×D×H)	840×625×1780mm	845×640×1780 mm		870×580×1910mm	845×640×1910mm	870×580×1910mm	900×690×2050mm	900×690×2100mm	900×690×2050mm

### Glass Reactor



IGR-100CE



- A) 60# flange, stirring shaft
- B) 35# flange, connected to temperature sensor
- C) 40/38 tapered frosted mouth, connected to feeding bottle
- D) 34/35 tapered frosted mouth, liquid charging port
- E) 50# ball milling port, connected to condenser
- F) 95# flange mouth, solid feeding port

100L reactor lid (Φ290) layout

#### Technical Specifications

Model	IGR-100	IGR-100CE	IGR-100Ex
Vessel volume	100 L		
Jacket volume	25 L		30L
Feeding flask volume	10 L		
Receiving flask volume	20 L		
Glass material	High borosilicate glass 3.3		
Frame and connection parts material	SUS304	SUS304 + aluminum plate 6061-F spraying	SUS304
Operating pressure	Ordinary or negative pressure		
Working temperature	-80~200°C		
Condenser cooling area	0.954 m <sup>2</sup>		
Stirring speed	50~500rpm	20~500 rpm	50~500rpm
Power supply	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz
Drain port ground clearance	340mm		
Dimensions(W×D×H)	1200×790×2360mm	1270×810×2360mm	1200×790×2360mm



## Lifting Glass Reactor ( IGRL )

- The reaction vessel and the lid can be separated, the glass vessel can be lifted up, and can be angled 120 degree both sides, which makes it more convenient to operate and clean.
- Openings are sealed with flanges, ensuring higher vacuum degree, easy to disassemble.

National Patent



IGRL-20CE



Lifting



Rotating

### Technical Specifications

Model	IGRL-10	IGRL-10CE	IGRL-10Ex	IGRL-20	IGRL-20CE	IGRL-20Ex	IGRL-50	IGRL-50CE	IGRL-50Ex
Vessel volume		10L			20L			50L	
Jacket volume		8L			9L			13L	
Funnel volume		1L			1L			1L	
Glass material	High borosilicate glass 3.3								
Operating pressure	Ordinary or negative pressure								
Working temperature	-80~200°C								
Condenser cooling area	0.245 m <sup>2</sup>						0.420 m <sup>2</sup>		
Stirring speed	50~500rpm	20~500rpm	50~500rpm	50~500rpm	20~500rpm	50~500rpm	50~500rpm	20~500rpm	50~500rpm
Power supply	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz	220-240V, 50/60Hz	100-240V, 50/60Hz	220-240V, 50/60Hz
Drain port ground clearance	580mm			530mm			570mm		
Lifting distance	400mm			400mm			400mm		
Dimensions(W×D×H)	850×1100×2050mm						860×1100×2500mm		

## Lifting Filter Glass Reactor

- High borosilicate glass 3.3 has good physical and chemical properties. Wide working temperature range: -80 ~ 200°C.
- The glass vessel can be lifted up, and can be angled 120° both sides, which makes it more convenient to operate and clean.
- The inlet/outlet of the jacket connected with stainless steel hose to decrease the stress of the liquid inlet/outlet.
- Lockable casters with adjustable foot structure for easy moving and locating.
- Equipped with a lift truck, making it easier to disassemble the filter part for cleaning or replacing of filter paper or filter cloth.
- BLDC ( brushless DC) stirring motor, stepless speed regulation, LED digital display of torque, set stirring speed, measured speed, temperature and running time.
- The data can be copied through RS485 communication interface on the operation box.
- Patent technology of stirrer sealing guide comes along with good sealing performance and long service life.
- PT100 temperature sensor has high temperature accuracy, SUS304 material coated with PTFE tube, double anti-corrosion.
- Propeller-type shaft stirrer, PTFE stirring rotor, PTFE jacketed stainless steel (SUS304) stirring shaft, highly corrosion resistant.

Model	IGRL-50F	
Vessel volume	50L	
Jacket volume	About 16L	
Interface size of liquid outlet/inlet	R: 3/4"	
Power supply	110V~, 60Hz or 220-240V~, 50/60Hz	
Condenser heat exchanging area	About 0.42m <sup>2</sup>	
Constant pressure funnel volume	2000 ml	
Material of glass parts	High borosilicate glass 3.3	
Reactor lid openings	Stirring port	50 # flange port
	Temperature sensor port	35 # flange port
	Condenser connection port	50 # flange port
	Vacuum gauge installation port	35 # flange port
	Constant pressure funnel elbow port	35 # flange port
80 # flange port		
Filter parts	Material	PTFE sand core (filter paper/cloth to be prepared by users)
	Filtration accuracy	1~250µm available
		Performed filter plate hole size available
16~30µm		
7~16µm		
	4~7µm	
Filtration area	About 0.16 m <sup>2</sup>	
Material of filtration base plate	PTFE	
Mobility	Lockable casters + adjustable foot	
Working temperature range	-80~200°C Please pay attention to the Max. tolerable temperature of filter cloth	
Max temperature difference inside/outside the vessel	ΔT<80°C	
Operating pressure	Ordinary pressure	
Max. jacket pressure	≤+0.03 MPa	
Max. filtration pressure difference	0.1 MPa	
Stirring motor power	370 W	
Max. torque	5.4N·m	
Stirring speed range	20~500rpm	



Lifting filter glass reactor



## Customized Filter Glass Reactor\*

### Applications

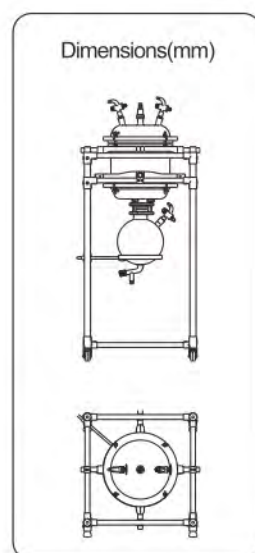
Pilot-scale solid-liquid separation process.

### Advantages

- Stainless steel supporting framework with beautiful appearance and strong corrosion resistance;
- High borosilicate glass vessel with strong corrosion resistance and wide range of application, the filtering process is visible.
- Various options of filter plate.
- The filter plate is convenient to remove and easy to clean and maintain.

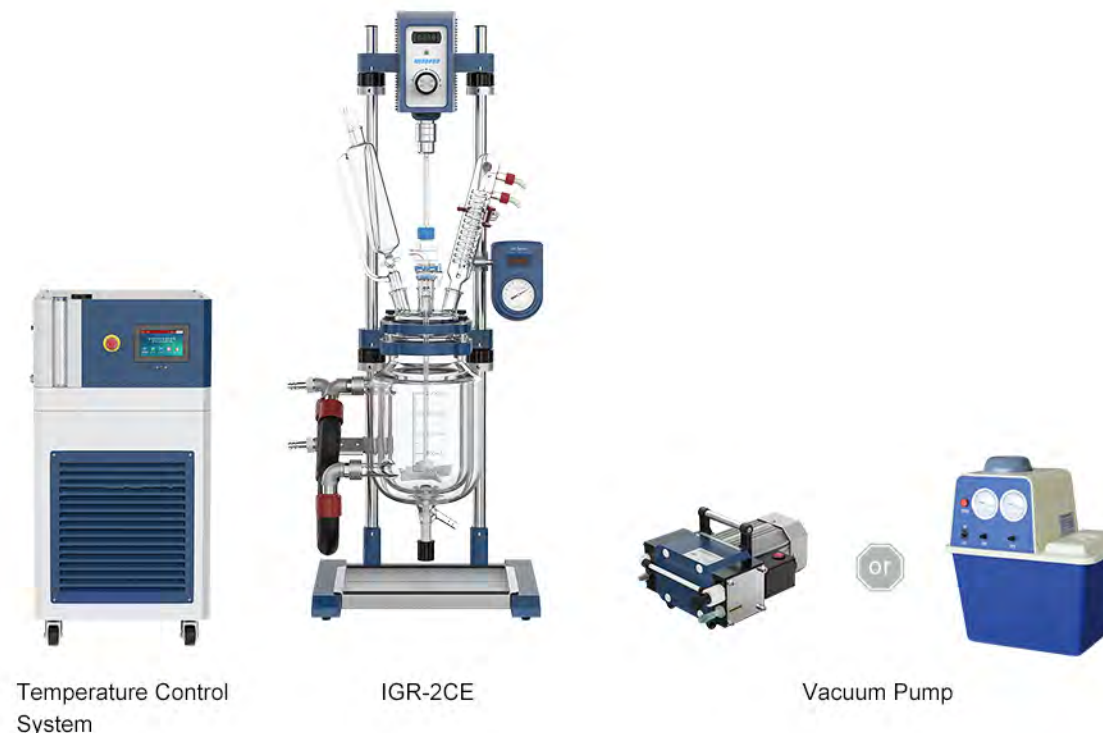
### Technical Specifications

Name		Filter Glass Reactor		
Model		ICLZZ-20	ICLZZ-30	ICLZZ-50
Filter Vessel	Capacity (L)	20	30	50
	Vessel Diameter (mm)	φ 300		φ 365
Receiving Flask Capacity (L)		10	20	30
Glass Material		High Borosilicate 3.3		
Material of Frame and Connection Parts		SUS304		
Glass Vessel Bearable Temperature Range		-80~200 C		
Operating Pressure (MPa)		Ordinary pressure or negative pressure		
Reactor Lid Openings	Liquid Charging Port	40# Flange		
	Vacuum Port	24# standard ground		
	Exhaust Vent	24# standard ground		
Sand Core	Material	PTFE		
	Specification	Optional		
Material of Filter Plate		PTFE		
Dimensions(W×D×H) (mm)		650×650×1300	650×650×1600	650×650×1800



\*Customized products

## Lab Scale Glass Reactor Solution



Temperature Control System

IGR-2CE

Vacuum Pump

## Pilot Scale Glass Reactor Solution



Vacuum Pump

IGR-20CE

Temperature Control System