

glass filter reactor with lockable casters for pilot-scale

The glass filtration reactor adopts high transparency borosilicate glass to make the reactor body, combined with replaceable filtration system, realizing rapid filtration and separation after the reaction process, which is suitable for process amplification and process optimization in pilot scale.

Glass Filter Reactor

The glass filter reactor is a versatile solution for chemical, pharmaceutical, materials, and biological engineering industries. Made from premium borosilicate glass and stainless steel, it supports safe, efficient, and real-time visualized reactions and filtrations.

Main Features

1. **High Quality Material:** Reactor body crafted from 3.3 high borosilicate glass for excellent heat and chemical resistance. SUS304 stainless steel bracket ensures stability and durability against organic/inorganic media.
2. **Variety of Filter Plates:** Configured with PTFE sand core filter plate (20–30 μm), with options for other specifications and materials to suit different separation needs.
3. **Visualized Operation:** Transparent kettle body allows real-time observation of stirring, reaction, and filtration for enhanced control and safety.



4. **Convenient Maintenance:** Modular filter plate structure enables quick disassembly, cleaning, and replacement for frequent experimental operations.
5. **Flexible Movement:** Universal casters with brakes make the equipment easy to move and securely position during use.

Working Principle

1. After liquid-phase or solid-liquid reaction, gravity filtration is performed through a replaceable filter plate at the kettle bottom.
2. Discharge valve and negative pressure allow liquid to rapidly pass through the filter plate, while solids remain for effective solid-liquid separation.
3. PTFE sand core filter plate offers chemical resistance and reusability for various corrosive media separations.

Application Areas

1. **Fine Chemical Industry:** Catalytic reactions, crystal generation, mother liquor separation.
2. **Pharmaceutical Industry:** Small scale or pilot drug synthesis, impurity separation.
3. **New Material Development:** Preparation and purification of nanomaterials, MOFs, polymers.
4. **Environmental Engineering & Research:** Water sample treatment, pollutant sedimentation and separation.
5. **Natural Product Extraction:** Filtration of plant extracts, solid residue separation.

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Model		TGL-20	TGL-30	TGL-50
Filter vessel	Capacity	20L	30L	50L
	Outer Vessel Diameter	diameter 300mm		diameter 365mm
Receiving Flask Capacity		10L	20L	30L
Glass Material		High Borosilicate 3.3		
Material of Main Frame and Connection Parts		SUS304		
Glass Vessel Bearable Temperature Range		-80°C to 200°C		
Bearable Temperature Difference outside, inside the vessel		≤80°C		

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Model		TGL-20	TGL-30	TGL-50
Operating Pressure		-0.1mpa to 0.0mpa		
Reactor Lid Openings	Liquid Charging Port	40# flange		
	Vacuum Port	24, 29 standard ground		
	Exhaust Vent	24, 29 standard ground		
Sand Core	Material	PTFE		
	Specification	Optional		
Material of Filter Plate		PTFE		

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Model	TGL-20	TGL-30	TGL-50
Dimensions(WxDxH)	650x650x1300mm	650x650x1600mm	650x650x1800mm