



PILOT-SCALE JACKETED GLASS REACTOR

Pilot-scale Jacketed Glass Reactor is primarily used for experiments like material synthesis, distillation, and concentration. Its dual-layer design, featuring an inner and outer layer, allows precise temperature control by circulating a liquid of the desired temperature through the jacket.

APPLICATIONS

The Torontech Pilot-scale Jacketed Glass Reactor is engineered to bridge the critical gap between laboratory-scale research and full-scale industrial production. Its primary application is to scale up chemical processes, allowing for the synthesis, distillation, and crystallization of larger batches of material under precisely controlled conditions. This provides the essential data needed to validate a process and assess its commercial viability before committing to major capital investment.

This essential scale-up technology is a cornerstone of process development in:

- **Pharmaceutical & Chemical Manufacturing:** For conducting pilot-scale synthesis of Active Pharmaceutical Ingredients (APIs) and specialty chemicals to produce the kilogram-quantities needed for clinical trials, toxicological studies, and final process validation.
- **Contract Development & Manufacturing (CDMO):** As a versatile workhorse for developing and optimizing client processes, providing the flexibility to handle a wide range of chemical reactions and produce pre-commercial quantities of material.
- **Polymer & Materials Science:** To scale up the production of new polymers and advanced materials, allowing for the production of sufficient quantities for comprehensive physical property testing, application development, and customer sampling.
- **Food, Flavor & Fragrance:** For the pilot production of new extracts, concentrates, and synthesized flavor compounds, enabling companies to produce market-test quantities and refine the manufacturing process for optimal quality and yield.

Pilot-scale Jacketed Glass Reactor

GDR-50L

Pilot-scale Jacketed Glass Reactor

ExGDR-100L

Pilot-scale Jacketed Glass Reactor

GDR-200L

FEATURES

- PTFE and fluororubber double seal provide reliable vacuum integrity.
- High-strength borosilicate glass 3.3 ensures excellent temperature and corrosion resistance.
- Fixed external loop buffer offers a secure and stable connection.

TECHNICAL SPECIFICATIONS

Model	GDR-10L (ExGDR-10L)	GDR-20L (ExGDR-20L)	GDR-30L (ExGDR-30L)	GDR-50L (ExGDR-50L)
Glass vessel volume	10L	20L	30L	50L
Jacket volume	3L	7L	9L	16L
Voltage	220V/50Hz (110V is also available)			
Stirring motor power	120W1/3 (Ex: 180W)			
Stirring speed	0~450rpm (Ex:0~1400rpm)			
Temperature range of glass vessel	-80~+250℃			
Temperature measurement accuracy	+/-1℃			
Vacuum degree	0.098MPa			
Condenser size	Φ100×6000H mm		Φ100×700H mm	
Glass vessel lid diameter	Φ265mm			
Dropping funnel	1L		2L	
Dimensions	780W*550D*1870H mm	780W*550D*1970H mm	870W*560D*2170H mm	870W*560D*2270H mm
Weight	49kg (Ex: 53kg)	52kg (Ex: 56kg)	61kg (Ex: 65kg)	67kg (Ex: 71kg)

Model	GDR-100L (ExGDR-100L)	GDR-150L (ExGDR-150L)	GDR-200L (ExGDR-200L)
Glass vessel volume	100L	150L	200L
Jacket volume	20L	35L	40L
Voltage	220V/50Hz (110V is also available)		
Stirring motor power	200W1/3 (Ex: 370W)		

Model	GDR-100L (ExGDR-100L)	GDR-150L (ExGDR-150L)	GDR-200L (ExGDR-200L)
Stirring speed	0~450rpm (Ex:0~1400rpm)		
Temperature range of glass vessel	-80~+250°C		
Temperature measurement accuracy	+/-1°C		
Vacuum degree	0.098MPa		
Glass vessel lid diameter	Φ340mm		
Dropping funnel	2L	5L	
Receiving bottle	-	10L	
Dimensions	950W*750D*2390H mm	1280W*850D*2730H mm	1280W*930D*2800H mm
Weight	95kg (Ex: 99kg)	155kg (Ex: 160kg)	175kg (Ex: 180kg)

Note: The explosion-proof type is equipped with explosion-proof motor, explosion-proof frequency converter and explosion-proof cable conduit. Other parameters are the same as standard type.



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