

Technical Specifications

High Pressure Reactor BR-100

Note

Unique selling propositions and knock-out specifications are written in blue.
Notes refer to main competitors Parr Instruments, Büchi and Premex.

High Pressure Reactor BR-100	High Pressure Reactor BR-100
Model with PTFE-Lining	Model without PTFE-Lining
General Specifications Please select appropriate specifications according to customers reactor configuration	
Materials of construction: Vessel : SS 316 and PTFE Valves and fittings: SS 316 or Hastelloy	Materials of construction: Vessel : SS 316 or Hastelloy Valves and fittings: SS 316 or Hastelloy
Sealing: PTFE, FPM (Viton) or FFKM	Sealing: PTFE, FPM (Viton) or FFKM
Capacity reactor: 150 or 200ml	Capacity reactor: 150 or 200ml
Capacity liner: 75, 100, 150 or 200 ml	
Max. operating temperature: 230°C (446°F)	Max. operating temperature: 300°C (572°F)
Max. operating pressure: 200 bar (2900 psi)	Max. operating pressure: 200 bar (2900 psi)
TÜV* certificate	TÜV* certificate
Outer diameter: 58 mm (2.3 inch)	Outer diameter: 58 mm (2.3 inch)
Interior diameter: 29 mm (1.1 inch) with 75ml 34 mm (1.3 inch) with 100ml 40 mm (1.6 inch) with 150ml 24 mm (0.94 inch) with 200ml	Interior diameter: 42 mm (1.7 inch)
Interior depth: 121 mm (4.8 inch) with 75ml 118 mm (4.6 inch) with 100ml 121 mm (4.8 inch) with 150ml 159 mm (6.3 inch) with 200ml	Interior depth: 124 mm (4.9 inch) with 150ml 162 mm (6.4 inch) with 200ml
Basic Installation PTFE-lining knocks-out all competitors.	
High pressure reactor with pressure vessel made of stainless steel SS 316 TI fully lined with PTFE for effective corrosion	High pressure reactor with pressure vessel made of stainless steel SS 316 TI or Hastelloy C-4 for corrosive media and an

protection for all reactor components which come in contact with liquid medium. Lining consists of a removeable PTFE-insert with a wall thickness of 5 mm (insert with 100ml), fixed-mount lid-liner made of PTFE (thickness 4 mm) and an O-seal ring made of PTFE, FPM or FFKM. The reactor is closed manually, tool-free with a quick-acting closure chain and exceeding of the maximum pressure is prevented by a rupture disc with a burst pressure of 200 bar (2900 psi).

O-seal ring made of PTFE, FPM or FFKM.

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Set of Fittings SS 316

Please select appropriate specifications according to customers reactor configuration.

Fittings are made of SS 316 and include:

Manometer (0-250 bar; 0-3626 psi)

Rupture disc made of monel with PFA protecting foil with rupture disc holder made of SS 316 TI incl. Certificate.

Connection to high pressure tubing possible for safe drainage of emitted gases.

Gas valve (nominal width 4mm)

NiCrNi-temperature probe (type K) in PFA-sheathed (thickness 0.5 mm) dip-tube made of SS 316 TI

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Gas valve (nominal width 4mm)

NiCrNi-temperature probe (type K) in dip-tube made of SS 316 TI

Options:

Liquid sampling valve with PTFE rising tube (nominal width 4mm)

PTFE high pressure exhaust tubing for rupture disc (2.5m, ID 9mm, 550bar)

Digital manometer (0-250bar; 0-3626 psi)

Liquid feeding of 5-50ml under working pressure

Options:

Liquid sampling valve with SS 316 rising tube (nominal width 4mm)

PTFE high pressure exhaust tubing for rupture disc (2.5m, ID 9mm, 550bar)

Digital manometer (0-250bar; 0-3626 psi)

Liquid feeding of 5-50ml under working pressure

Option: Set of Fittings Hastelloy C4

Please select appropriate specifications according to customers reactor configuration.

Hastelloy valves and fittings knocks-out Parr, especially.

Fittings are made of Hastelloy C4 and include:

Manometer (0-250 bar; 0-3626 psi) with Hastelloy C4 pressure transmitter

Rupture disc made of monel with PFA protecting foil with rupture disc holder made of HC-4 incl. Certificate. Connection to high pressure tubing possible for safe drainage of emitted gases.

Gas valve (nominal width 2mm)

NiCrNi-temperature probe (type K) in PFA-sheathed (thickness 0.5 mm) dip-tube made of SS 316 TI

Fittings are made of Hastelloy C4 and include:

Manometer (0-250 bar; 0-3626 psi) with Hastelloy C4 pressure transmitter

Rupture disc made of monel with PFA protecting foil with rupture disc holder made of HC-4 incl. Certificate. Connection to high pressure tubing possible for safe drainage of emitted gases.

Gas valve (nominal width 1 mm)

NiCrNi-temperature probe (type K) in dip-tube made of HC-4

Options:

Liquid sampling valve with PTFE rising tube (nominal width 2mm)

PTFE high pressure exhaust tubing for rupture disc (2.5m, ID 9mm, 550bar)

Digital manometer (0-250bar; 0-3626 psi) and

Hastelloy C4 pressure transmitter (0-250bar; 0-3626 psi)

Options:

Liquid sampling valve with HC-4 rising tube (nominal width 2mm)

PTFE high pressure exhaust tubing for rupture disc (2.5m, ID 9mm, 550bar)

Digital manometer (0-250bar; 0-3626 psi) and

Hastelloy C4 pressure transmitter (0-250bar; 0-3626 psi)

Heating

Heating is performed from outside with a heating plate (heating output: 850W, power supply: 230V/50Hz) and a

Heating is performed from outside with a heating plate (heating output: 850W, power supply: 230V/50Hz) and a

suitable heating block. The heating plate is controlled by the inner temperature of the reactor with a freely adjustable, separate controller (PID-controller) with LED-display (power supply 95-230V; max. current 10A, 50/60Hz). Adjustable parameters are heating ramp, end point, power limitation etc.

A stand is not required.

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Agitation

Competitors typically do not offer such a simple, cost effective stirrer but magnetic clutch with electronic drive.

Magnetic agitation with a magnetic bar using the integrated magnetic drive in the heating plate (0-1250 rpm)

A stand is not required.

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A stand is not required.

BTC-3000

Temperature controller with built-in data logger system with 62x42 mm LCD graphic display for real-time monitoring of temperature (0-500 °C, display accuracy 1°C) and pressure progression (display accuracy 1 bar). Heating programs are programmed and controlled in up to 6 steps comprising of warm-up time, hold time and temperature with a run time up to 17 days. PID regulation of temperature with PID parameters freely programmable. Implemented monitoring of stirrer rotational speed (0-2000rpm) and second adjustable, overtemperature protection (30-300°C). Control of heaters with max. 3000W power consumption. Data logger function including PC software data monitoring of up to 4 reactor systems.

BDL-3000

Data Logger System with PC-Software to monitor, display and document pressure, temperature data of up to 2 reactors. Provision of internal reactor temperature regulation with BLH-800 hot plate for up to 2 reactors. Operating system: Windows 98, Windows 2000 or higher.

* An independent german testing laboratory