

Mini-Reactor

50 ml and 100 ml

ID = 1.38" (35mm)



Principle of Operation:

The Parker Autoclave Engineers' Mini-Reactor is a highly capable design incorporating all features found in a full size laboratory reactor at reduced internal volumes. The low cost of full features makes the Mini-Reactor ideal for parallel studies. A lower volume reduces both reactant requirements and disposal costs, while a smaller foot print reduces costly laboratory and fume hood requirements. The 50 and 100 ml volumes share the same closure geometry and the vessel bodies are interchangeable. The elastomer seal allows the Mini-Reactor to achieve high pressure with a finger-tight seal.

General Specifications:

Maximum Allowable Working Pressure: (MAWP)
2,900 psi @ 600°F (200 Bar @ 315°C) Note
Maximum Recommended Operating Pressure:
2,500 psi @ 527°F (172 Bar @ 275°C) with PH-MSK O-ring
Material of Construction:
316 Stainless Steel
Hastelloy® C

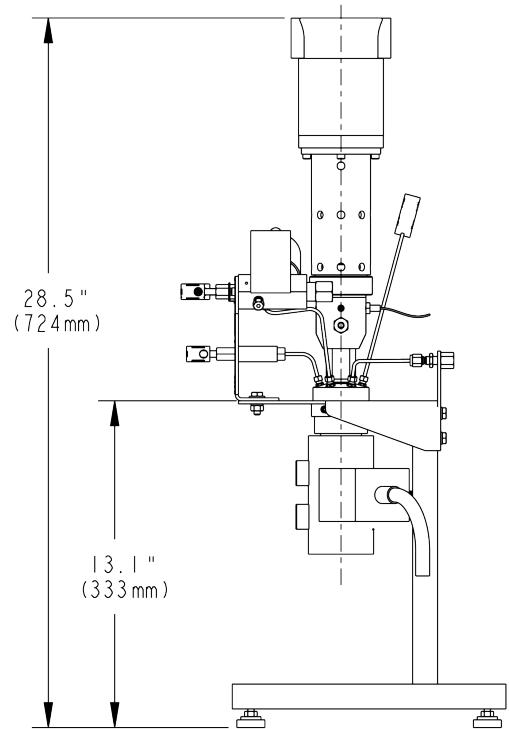
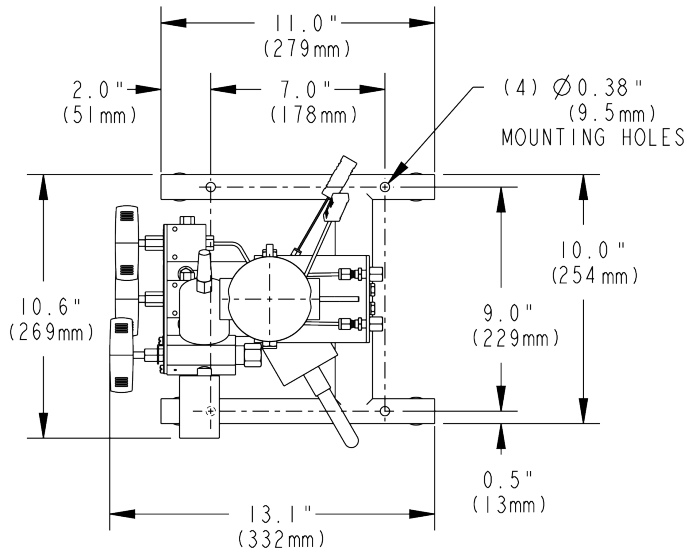
Standard/Optional Unit Features:

- 50 and 100 ml volumes with common closure geometry
- Elastomer seal with finger tight closure make-up
- Easy removal electric heater with over-temperature thermocouple
- Process thermocouple (Type K)
- Cooling Coil
- Liquid sample tube with valve
- Gas inlet valve
- Vent valve with pressure gauge/transducer and safety rupture disc (0-3000 psi gauge, 0-5000 psi pressure transducer)
- Bench Top Vessel Stand

- Optional: 50 and 100 ml volumes with common closure geometry
- Optional: In-line MagneDrive with 1/8 hp motor, speed sensor, and Dispersimax impeller
- Optional: ASME code stamp or CE Mark



Drawing Details:



Ordering Information:

Part Number Example	PH-M	010	SS	-	MM	NS
Category		1	2		3	4

Example: PH-M010SS-MMNS

Description: 100 ml Mini-Reactor, 316 Stainless Steel with Drive, No Code Requirements

1 - Vessel Volume Code	
005	50 ml (Mini-Reactor)
010	100 ml (Mini-Reactor)

2 - Vessel Material Code	
SS	316 Stainless Steel
HC	Hastelloy® C

3 - Mixer Code	
NS	No Mixer (port plugged)
MM	In-Line MagneDrive Mixer (w/Dispersion Impeller - pg. 31)

4 - Pressure Code Requirement (unit voltage)	
NS	No Code (120 VAC)
AS	ASME Code Stamped (120 VAC)
CE	CE Marked (240 VAC)
NE	Export with CRN (240 VAC)

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Note The user should be aware that the 600°F (315°C) vessel temperature rating is the maximum mean wall temperature of the vessel, as defined by the ASME B&PV Code. Many variables can affect the thermal capabilities of the vessel. These factors can include, but are not limited to, the use of insulation, whether the process is batch or continuous flow, or even a chemical process itself. These factors may have bearing on heat up rate, maximum process temperature, and the cool down rate of the reactor. These factors should be considered by the user when purchasing a system in order to verify that the equipment will reach desired operating temperature in a reasonable time period. Please consult Parker Autoclave Engineers if assistance is required.

Optional Feature Kits/Spare Parts

(purchased separately but assembled as part of purchased Reactor if required)

- Soft Seat Vessel Closure Seal Kits
- MagneDrive Bearing Option Kits
- Internal Tube Kits
- Process Cooling Component Kits
- Solid or Liquid Catalyst Charging Kit
- Tool Kits (matched to vessel type)

For complete description of kit contents please see pages 16-19

Universal Reactor Controller (URC)

We recommend that our Reactors be operated using our URC-II control package. It provides an interface to control and monitor heater & process temperature, MagneDrive speed, and Pressure. See page 41 for information on ordering the URC-II controller.