

25 ml, 50 ml, and 100 ml Mini - Reactors

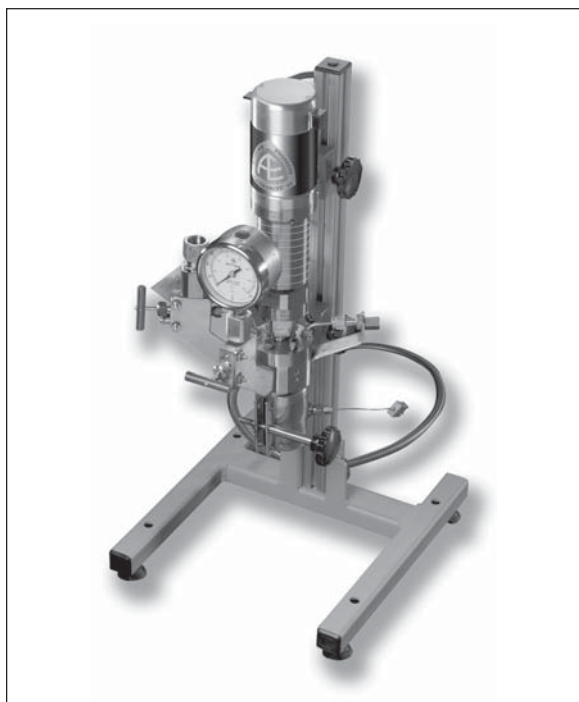
At a Glance

Volume:	25, 50, or 100 ml
Vessel MAWP: (Design Pressure)	2,900 psi @ 600°F (200 Bar @ 315°C)
Material of Construction:	316 Stainless Steel Hastelloy C276

Principle of Operation

The Autoclave Engineers Mini-Reactors incorporate all of the features found in a full size laboratory reactor at reduced internal volumes. The low cost of full features makes these Mini-Reactors ideal for parallel studies. Lower volumes reduce both reactant requirements and disposal costs. A smaller foot print reduces costly laboratory and fume hood requirements.

The 25, 50, and 100 ml volumes share the same closure geometry and are therefore interchangeable. The elastomer seal allows these Mini-Reactors to achieve high pressure with a finger-tight seal mechanism.



General Specifications

Maximum Allowable Working Pressure (MAWP)
2,900 psi @ 600°F *
200 Bar @ 315°C *

Minimum Design Metal Temperature
-20°F @ 2,900 psi
-29°C @ 200 Bar

Maximum Recommended Operating Pressure (MROP)
Varies based on gauge, transducer, and rupture disk selection. Refer to ordering guide for details.

Critical Dimensions:

	25 ml	50 ml	100 ml
Inside Diameter	1.13" (28 mm)	1.38" (61 mm)	1.38" (61 mm)
Inside Length:	2.03" (51 mm)	2.41" (35 mm)	4.66" (118 mm)

Approximate Dimensions:

	1/25 th HP Motor	1/10 th HP Motor
Overall Height:	22" (553 mm)	24" (598 mm)
Width:	10" (254 mm)	10" (254 mm)
Depth:	12.25" (311 mm)	12.25" (311 mm)

* 600°F (315°C) rating is mean wall temperature. Actual process temperature will be lower. Temperature rating is dictated by the O-ring seal selected. See the Ordering Guide for details.



Connection Schedule

All of the connections indicated below will be provided. If any accessory is not ordered, the corresponding connection will be plugged.

Opening	Purpose	External	Location
"A"	Pressure Gauge/Gas Inlet	SW125 Adapted to W062	Cover
"B"	Safety Head /Vent	SW125 Adapted to W062	Cover
"C" & "E"	Cooling Coil	SW125 Adapted to 1/4" FNPT	Cover
"D"	Thermocouple	SW125	Cover
"F"	Pressure Transducer/Blow Pipe/Liquid Sample	SW125 Adapted to W062	Cover

Technical Specifications

Autoclave Engineers provides a variety of optional accessories to custom configure your reactor. See the Mini-Reactor Ordering Guide to configure a reactor for your specific application.

Seal Materials: Buna-N, EPR, Teflon®, Viton®, Silicone, Kalrez®, Chemraz®
 Approvals: ASME Code Stamp, CE Mark, Canadian Registration
 Stand: Bench Top
 Body Lift: Not required
 Agitator: MagneDrive® III agitator with 5 in-lbs of static torque.
 Motors: 1/25 hp DC variable speed or 1/10 hp DC variable speed
 Impeller Styles: AE Dispersimax® (6-blade), Turbine (6-blade), Axial up (4-blade), Axial down (4-blade)
 Speed Sensor: General Purpose

Heating:	25 ml	50 ml	100 ml
120V or 240V Electric Furnace:	200 Watt	200 Watt	400 Watt

Jacket: Removable, baffled with Viton® O-ring Seals and 1/8" NPT connections.

Internal Accessories

Liquid Sample Tube, 1/16" valve
 Blow Pipe, 1/16" valve
 Cooling Coil
 Process Thermocouple Type J or K

External Accessories

Gas Inlet, 1/16" valve
 Vent Valve, 1/16"
 2.5" (63.5 mm) Dial Pressure Gauge - Multiple ranges available.
 Pressure Transducer - range dependent on gauge.
 External Thermocouple Type J or K

Supporting Information

Please refer to the following sections of the catalog for complimentary products and additional technical details.
 "Mini-Reactor Ordering Guide" - Provides a step-by-step guide to configure Mini-Reactors.

Mini-Reactor Drawings

25 ml 316SS – 40A-9939	50 ml 316SS – 40A- 9752	100 ml 316SS – 40A- 9753
25 ml HC – 40A- 9940	50 ml HC – 40A- 9824	100 ml HC – 40A- 9825



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