

The World Leading Provider of High Pressure Equipment for Research and Industry since 1945!

500 & 1000 ml

ZipperClave® Stirred Reactor

At a Glance

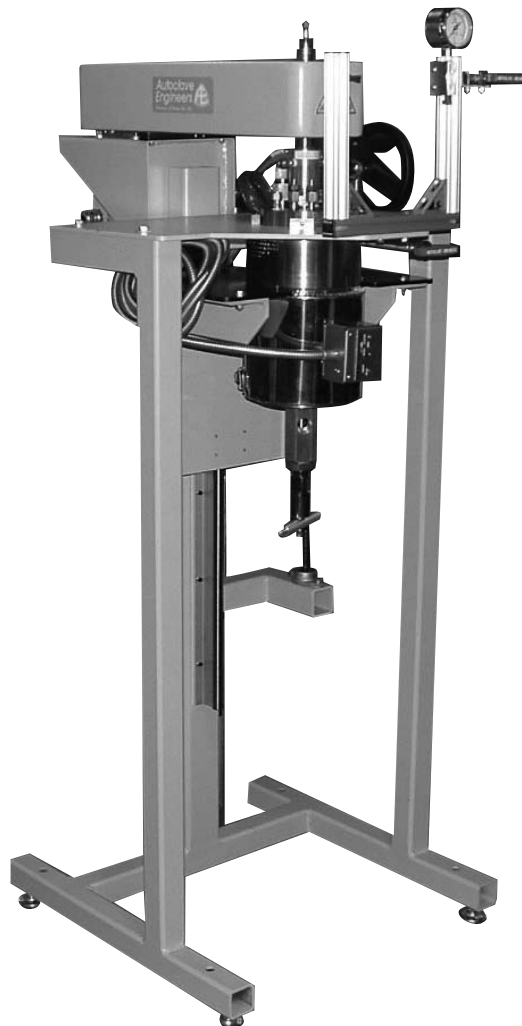
Volume: 500 & 1,000 ml

Material of

Construction: 316 Stainless Steel & Hastelloy® C-276

Design Pressure: 2,200 psi @ 450° F
(151 bar @ 232° C)

Applications: The ZipperClave® laboratory reactor is opened without tools using a single quick release. This reactor design is ideal for experiments where the cover must be removed for cleaning, inspection, loading/unloading.



**Autoclave
Engineers** 

Division of Snap-tite, Inc.

Principle of Operation

The Autoclave Engineers' ZipperClave® Reactor has been designed to provide the researcher with a reliable quick-opening closure. The main seal of the reactor is an O-ring available in many different materials. The 500 ml and 1,000 ml units are identical in design except for the depth of the reactor. Conversion kits are available between the two sizes. Many combinations of standard components are available. The cover of the unit remains fixed in the stand to permit opening of the vessel without disassembling any process connections. The body is easily removed and drops away from the cover.

Features

- Easy, toolless quick opening and closing vessel
- Versatile product configuration
- Operating pressures as high as 1894 psi @ 450° F (131 bar @ 232° C)
- Open vessel and remove body without disassembling pressure connections
- Available worldwide to meet codes such as CE, CRN

General Specifications

Design Pressure

2,200 psi @ 450° F* (151 Bar @ 232° C)*

Minimum Design Metal Temperature (MDMT)

-20° F @ 2,200 psi (-29° C @ 151 Bar)

Maximum Operating Pressure (MOP)

Varies based on gauge, transducer and rupture disk selection. Refer to Ordering Guide for Details.

Critical Dimensions:	500 ml	1000 ml
Inside Diameter:	3.0" (76mm)	3.0" (76 mm)
Straight Wall:	4.59" (116 mm)	8.71" (221 mm)
Approximate Dimensions:	Tall Bench Top	Floor Stand
Overall Height**	38.7" (988 mm)	59.4" (1002 mm)
Width:	16.0" (406 mm)	30.4" (762 mm)
Depth:	26.3" (667 mm)	38.0" (965 mm)

* 450° F (232° C) rating is vessel mean wall temperature. Actual Process temperature will be lower.

** Overall height based on belt driven units. For actuals see standard drawings.



**1,000 ml ZipperClave®
Reactor Internals**

Connection Schedule

All of the connections shown will be provided. For any accessories not ordered, the corresponding connection will be plugged. All connections at cover are AE F437 Flat Bottom adapted to the "Topside Of Cover" connection listed below.

Opening Label	Purpose	Internal	External	Location
A	Charging Port	3/8" port	3/8" O.D. Tube	Cover Top
B	Gas Inlet	3/16" O.D. Tube	1/8" O.D. Tube	Cover Top
C	Sparge Tube	3/16" O.D. Tube	1/8" O.D. Tube	Cover Top
D & H	Cooling Coil	3/16" O.D. Tube	1/4" O.D. Tube	Cover Side
E	Vent and Pressure Indication	None	1/8" O.D. Tube	Cover Side
F	Safety Head	None	1/8" FNPT	Cover Top
G	Thermowell	3/16" O.D. Tube	None	Cover Top
J	Blow Pipe	3/16" O.D. Tube	1/8" O.D. Tube	Cover Top
K	Liquid Sample	3/16" O.D. Tube	1/8" O.D. Tube	Cover Top
L	MagneDrive® Agitator	None	AE Special	Cover Top

Technical Specifications

Autoclave Engineers provides a variety of optional accessories to custom configure each reactor. See the ZipperClave® Stirred Reactor Ordering Guide to configure a reactor for a specific application.

Seal Materials: Buna-N, Ethylene-Propylene, PTFE, Viton®, Silicone, or Kalrez® O-rings.

Approvals: Optional CE Mark.

Stand: Tall Bench Top or Floor Stand.

Body Lift: None or Manual Jack.

Agitator: 3300 RPM rated MagneDrive® MAG075-01 Series with 7 in-lb (0.79 N-m) static torque. 3300 RPM rated MagneDrive® MAG075-02 Series with 16 in-lb (1.8 N-m) static torque, carbon/graphite bearings or Fluoropolymer with graphite fiber.

Motors: 1/2 HP (0.37 KW) General Purpose DC with either: 90 V Armature (120 V unit), or 180 V Armature (240 V unit). 1/2 HP (0.37 KW) Explosion-Proof DC with either: 90 V Armature (120 V unit), or 180 V Armature (240 V unit). Air Motor with manual or electronic speed adjustment. (Supply with 35 SCFM of 40 psi compressed air minimum).

Impeller Styles: AE Dispersimax, Straight Turbine, Axial Flow-Up, or Axial Flow-Down; All 1.25 inch (31.8 mm) diameter.

Baffle: Two (2) blade spring loaded baffle bar (removable).

Speed Sensor: Magnetic Sensor General Purpose, or Intrinsically-Safe Magnetic Sensor (Barrier Required)

Heating: Furnaces: 120 VAC or 240 VAC, Single Phase; 500 ml - 550 Watt, 1,000 ml - 1,100 Watt. Jacket: Removable, Spiral Baffled with O-ring Seals.

Internal Accessories Available:

Liquid sample tube w or w/o valve
(1/8" O.D. tube)
Blow Pipe w or w/o valve
(1/8" O.D. tube)
Sparge Tube w or w/o valve
(1/8" O.D. tube)
Cooling Coil w or w/o valve
(1/8" O.D. tube)
Process Thermocouple, Type J or K

External Accessories Available:

Vent Valve, 1/8" Valve
2.5" (63.5 mm) Dial Pressure Gage - Multiple ranges available
Pressure Transducers - Range Dependent on Gauge
One or Two Gas Inlet, 1/8" Valves, Shared Connection
Catalyst Charging Valve, 3/8" Tube with 3/8" port
External Thermocouple, Type J or K
1/2" Port Manual Flush Valve (Requires Floor Stand)
Bottom port 3/16" (centered AE F437FB connection)

Please refer to the following sections of the catalog for complimentary products and additional technical details.

ZipperClave® Stirred Reactor Ordering Guide - Provides a step-by-step guide on how to configure the ZipperClave® Reactor to a specific application.

Instrumentation - Details Autoclave Engineers' full line of control options for temperature, pressure, and speed.

Agitation - Provides additional specifications on the MagneDrive® magnetic agitator and available impeller systems.

Pressure Vessels - Provides details on the ZipperClave® vessel assembly.

Stirred Reactor Selection Guide - Provides general information on all of Autoclave Engineers' stirred reactors.

¹ Viton® and Kalrez® are registered trademarks of DuPont Dow Elastomers.

² Purebon® is a registered trademark of Pure Carbon.

Supporting Information

