



Division of Snap-tite, Inc.

THE WORLD LEADING PROVIDER OF HIGH PRESSURE EQUIPMENT FOR RESEARCH AND INDUSTRY SINCE 1945.

Stirred Reactor and Pressure vessel Selection Guide

Autoclave Engineers has continued to update and expand its line of stirred reactors and pressure vessels to give the customer many additional choices when selecting a reactor or pressure vessel for specific set of operating conditions. New models have been added and the number of available options has been greatly expanded. Your inquiry will start with established of the **Four Basic Specifications** discussed below. Having set these requirements, the user can then identify a suitable Reactor or Pressure Vessel from our **Ordering Guide**. A list of Reactor **connections** is provided to confirm the capabilities with each reactor. The principle Options should be considered to establish the detailed specifications for specifying the reactor using the **Catalog Number** or **Ordering Guide**.

Basic Specifications: Ordering Guide

- 1. Type of Reactor** _____
Mini-Reactor, ZippeClave, Eze-Seal, Bolted Closure
- 2. Volume of reactor** _____
25ml – 10 Gallon or specified by customer.
- 3. Specified Material Required** _____
316 Stainless Steel, A286 Hastelloy C or specified by customer
- 4. Specified Connections** _____
See below for Description.

Connections:

LIQUID SAMPLE:

The liquid sample tube allows the user to remove liquid from the lower portion of the Autoclave Reactor. The sample accessory may be plugged at the top cover, or include a manual valve.

BLOW PIPE:

The blow pipe allows the user empty the liquid contents of the Autoclave Reactor via a tube formed to meet the lowest porting of Vessel. Gas pressure is used to force the contents thru the tube and out via a top cover connection. This may be used to move solids from the vessel bottom. The blow pipe accessory may be plugged at the top cover, or include a manual valve.

SPARGE TUBE: The Sparge Tube provides a means of injecting gas into the reactor below the liquid level. The gas is injected through a top cover connection. The Sparge tube accessory may be plugged at the top cover, or include a manual valve.

COOLING COIL: The Cooling Coil provides a means of cooling the reactor contents by circulating media through an internal coil. The coolant inlet and outlet connections are located on the top cover. The cooling coil accessory may be provided: plugged on the top of cover or include a manual valve.

PROCESS THERMOCOUPLE/THERMOWELL: The Thermowell provides a means of measuring process temperature using a thermocouple, which is inserted through the top cover. You can configure your reactor with Thermowell only, or Thermowell inclusive of either a Type “k” or Type “J” Thermocouple.

PRESSURE GAUGE: Laboratory Autoclaves may be equipped with 2 ½ “ (63.5mm), dual scale (psig / bar) dial pressure gauge or a combination of pressure gauge and electronic pressure transducer. These pressure measurement accessories are available in the following ranges: 0-600 psig (0-41bar), 0-5000 psig (0-345 bar) and 0-7500 psig (0-517 bar). If a pressure measurement accessory is selected that has a lower pressure rating than the Autoclave to which it is being attached, the overpressure device (Rupture Disk) will automatically be selected for protection of the pressure measurement device. The pressure transducer is a 2 wire type, with 4-20 MA signal output.

HEATING AND COOLING: There are numerous external heating and cooling options from which to choose. Single zone electrical furnaces may be 120 or 220 VAC. Removable heating / cooling jackets are available for applications where a heat transfer system is used to control reactor temperature.

GAS INLET: Each Autoclave is provided with a gas inlet port on the top cover. The Autoclave can be supplied with one or two (manifold) valves which are connected to the inlet port. If no valves are selected the gas inlet port will be plugged.

CHARGING: One charging port is provided in each reactor's top cover. This port intended for charging of catalyst or like materials. The charging valve is a ball type with a 1/4" diameter orifice. It is connected to 3/8" od-1/4" ID stainless steel tube and is manually operated.

FURNACE THERMOCOUPLE: It is recommended that any electric furnace employ an over temperature device which monitors the skin (outside diameter) temperature of the Autoclave Reactor. This is a safety device which prevents overheating due to shorted power controls. Both type "k" and type "j"

Thermocouples are available.

OTHER REACTORS VESSELS & ACCESSORIES:

HARSHAW CATALYST BASKET

MAHONEY-ROBINSON SPINNING CATALYST BASKET

ROBINSON-MOHONEY STATIONARY CATALYST BASKET

Autoclave Engineers has been a pioneer, along with it's partners in industry, in the development of catalytic internals for its reactors to control the measurement of temperature, agitator speed and pressure. Our capabilities include complete, integrated systems custom designed to your requirements.

TO REQUEST A QUOTATION CHOOSE PRODUCTS, SELECT REACTOR, USE ORDERING GUIDE TO BUILD YOUR REACTOR WITH SPECIFIED CONNECTORS TO MEET YOUR REQUIREMENTS.