

Stirred Reactors





Series 4590



Series 4560



Series 4520



Series 4530



Series 4540



Series 4550



Series 4555



Series 4570/80

Parr Instrument Company offers a wide selection of stirred reactors with volumes ranging from 25 ml to 5 gallons (18.75 liters). Designs are offered for operating pressures to 5000 psi (350 bar) and for operating temperatures to 500 °C.

Applications

These reactors are used in many branches of chemical technology. Catalytic hydrogenation with its associated catalyst development and testing is certainly one of the principle applications of these reactors with their excellent three phase mixing designs. Polymer development is another major area of application. Additionally, the vessels have been used extensively in hydrometallurgical applications.

Design Features

Parr offers a wide choice of design options to meet the users' individual installation or operating requirements. For users with multiple feed, vent and instrumentation needs, we offer a fixed head design. The movable vessel is offered to users who wish to charge or recover reactants and products away from the operating area. We offer quick-opening, O-ring sealed vessels for users looking for convenience at moderate operating temperatures and PTFE or Graphoil gaskets for users requiring higher operating temperatures.

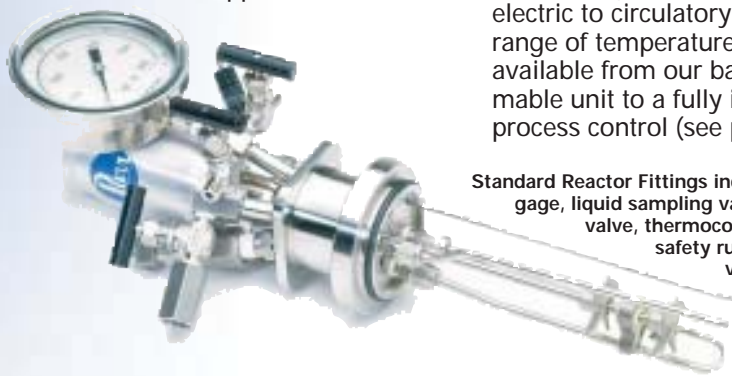
Magnetically coupled stirrer drives are offered in high and low speed designs in four operating torque ranges. Heaters range from electric to circulatory jackets. A wide range of temperature controllers are available from our basic programmable unit to a fully integrated process control (see pages 10-11).

Many accessories are available such as internal cooling coils, bottom drain valves, condensers, custom stirrers, explosion proof components, liquid or gas charging systems and electrical glands to highlight a few.

Materials of Construction

To meet the wide range of corrosive environments encountered in the many chemical and mining applications for which reactors are used, Parr offers stirred reactors constructed from the following alloys:

- T316 Stainless Steel
- Alloy 400
- Carbon Steel
- Alloy 600
- Alloy C-276
- Alloy B-3
- Alloy 20Cb-3
- Titanium
- Nickel
- Zirconium



Standard Reactor Fittings include: pressure gage, liquid sampling valve, gas release valve, thermocouple or thermowell, safety rupture disc, gas inlet valve, dip tube, cooling coil, and an internal stirring system.

Pressure Vessel Catalog

These reactors, temperature controllers and their related accessories are described in detail in the Tenth Edition of the Parr Stirred Reactors and Pressure Vessels Catalog as well as on our website.

Guide to Parr Stirred Reactors

Model Number	Reactor Type	Nominal Size	Maximum Pressure psi (bar)	Maximum Temperature °C	Catalog
4591-4598	Micro, Bench Top	25 - 100 mL	3000 (200)	225 to 350	4500
4561-4568	Mini, Bench Top	100 - 600 mL	3000 (200)	225 to 350	4500
4523-4526	Mid-Size, Bench Top & Floor Stand	1000 & 2000 mL	1900 (130)	225 to 350	4500
4531-4536	Mid-Size, Floor Stand or Cart	1000 & 2000 mL	1900 (130)	225 to 350	4500
4544-4547	High Press. / Moderate Temp., Bench Top, Floor Stand or Cart	600 & 1200 mL	5000 (345)	350	4500
4551-4554	General Purpose, Floor Stand or Cart	1 & 2 gallon (3.75 & 7.5L)	1900 (130)	225 to 350	4500
4555-4556	General Purpose, Floor Stand	5 & 2.6 gallon (18.75 & 10L)	1900 (130)	350	4500
4571-4572, 4577-4578	High Press. / High Temp., Floor Stand or Cart	1000 & 1800 mL	5000 (345)	500	4500
4575-4576, 4575A-4576A	High Press. / High Temp., Bench Top	500 & 250 mL	5000 (345)	500	4500
4581-4584	High Press. / High Temp., Floor Stand or Cart	1 & 1.5 gallon (3.75 & 5.5L)	3000 (200)	500	4500