

Series Number:

4590

Type:
Micro

Stand:
Bench Top

Mounting Style:
**Moveable or
Fixed Head**

Vessel Sizes, mL:
25, 50, 100

Standard Pressure
MAWP Rating, psi (bar):
3000 (207)

High Pressure (HP)
MAWP Rating, psi (bar):
5000 (345)

Standard Maximum
Operating Temp., °C:
225 w/ FKM O-ring
300 w/ FFKM O-ring
350 w/ PTFE Flat Gasket

High Temperature (HT) /
High Pressure (HP)
Maximum Operating
Temperature, °C:
500 w/ FG Flat Gasket
(Fixed Head Only)



Smaller vessel sizes are available in our **Series 2500 Micro Batch System** which includes three reactors in 5 mL or 10 mL. See page 72.

Series 4590 Micro Stirred Reactors, 25-100 mL

These are Parr's smallest individual Stirred Reactors. They are a good choice for chemists working with very expensive materials, materials only available in small amounts, or those chemists working with hazardous materials. Use of the Series 4590 Reactors helps minimize the quantities of waste products created which may require special disposal procedures. The 4590 systems are now available in high pressure (5000 psi) or high pressure/high temperature (500 °C) versions.

These micro reactors have been designed to provide as many of the features of the larger vessels as possible in the limited space available. All of the standard head fittings are provided, with optional cooling now available with aluminum block heaters with cooling capability, welded jackets or internal cold fingers.

These systems are offered in both fixed head and moveable head vessel styles with choices of a self sealing FKM O-ring for temperatures up to 225 °C or with FFKM O-ring for temperatures to 300 °C or with a flat PTFE gasket for temperatures to 350 °C, or with an Flexible Graphite gasket for temperatures to 500 °C with the HP/HT option (for fixed head versions only). A split-ring closure is standard.

All three volumes use the same ceramic fiber heater.

These micro reactors can be easily converted from one size to another by simply substituting a larger or smaller cylinder and the corresponding internal fittings. The support system can also be readily adapted to accept any of the vessels from the 4560 Mini Reactor Series. The opportunity to modify these small reactors is restricted because of the limited head space available.



4598 HP/HT Micro Reactor, 100 mL with Fixed Head.

4590

Series 4590 Pressure Reactor System Specifications						
Shaded bar indicates specifications that change within series.						
Model Number	4591	4592	4593	4596	4597	4598
Approximate Volume, mL	25	50	100	25	50	100
Maximum Pressure (MAWP)	3000 psi (207 bar, 200 bar for CE orders)					
HP, HP/HT Max. Pressure (MAWP)	5000 psi (345 bar)					
Maximum Temperature						
with FKM O-ring	225 °C					
with FFKM O-ring	300 °C					
with PTFE Flat Gasket	350 °C					
with FG Flexible Graphite Flat Gasket (HP/HT)	500 °C					
Reactor Details						
Mounting Style	Moveable			Fixed Head		
Stand type	Bench Top					
Closure	Split-Ring (6 Compression Bolts for Flat Gasket, No Compression Bolts for O-ring)					
Valve Connections	1/8" NPT Male, 1/4" NPT Male for HP, 1/4" NPT Female for HP/HT					
Magnetic Stirrer, Model No.	A1120HC6					
Maximum Torque	16 Inch-Pounds					
Impeller, 4-Blade	1 (.81" dia.)					
Stirrer Motor	1/8 hp Variable Speed					
Pressure Gage, Size	3.5 inches					
Range	0-3000 psi (207 bar), 0-5000 psi (345 bar) HP, HP/HT					
Temperature Measurement	Fixed Thermocouple (Thermowell for special alloys)					
Cooling (optional)	Cold Finger					
Bottom Drain Valve	1/4" NPT (Not available on HP or HP/HT models)					
Heater Style	Ceramic Fiber Heater					
Heater Power, Watts	700					
Electrical Supply						
Volts, AC	115 / 230					
Maximum Load, amps, 115 / 230	7 / 4			7 / 4		
Maximum Load, amps, HP/HT, 115 / 230	N/A			7 / 4		
Cylinder Dimensions						
I.D. x Depth, inches	1.0 x 2.0	1.3 x 2.3	1.3 x 4.6	1.0 x 2.0	1.3 x 2.3	1.3 x 4.6
Vessel Assembly Weight, pounds	18	18	19	19	19	20
Cylinder Weight, pounds	3.5	3.1	4.2	3.5	3.1	4.2
Reactor/Stand Dimensions						
Width x Depth w/o Controller, inches	12 x 18					
Height, inches*	27	35	27	35	27	35
Weight, pounds	55	56	56	56	57	57
Spare Parts Kit	4599M (4599HPHT for High Temperature)					
* Add 8-inches to height for Aluminum Block Heater options.						
Other options available. See Ordering Guide, visit www.parrinst.com , or call for more information. Weights and dimensions are estimated from the base model. Final weights and dimensions will vary based on options selected.						