

4560

Series 4560 Mini Bench Top Reactors



Series Number:
4560

Type:
**Bench Top
Mini Reactor**

Vessel:
Moveable or Fixed

Sizes:
100-600 mL

Maximum Operating
Pressure:
3000 psi (200) bar

Maximum Operating
Temperature:
**225 °C
w/ FKM O-ring**
**275 °C
w/ FFKM O-ring**
**350 °C
w/ PTFE Flat Gasket**

These are the most popular of all Parr Stirred Reactors. Although they are called “Mini” reactors, they offer a range of sizes large enough to work with significant sample sizes, yet small enough to be handled with ease by all operators. They are made in both fixed head and moveable vessel styles, with a choice of either a self-sealing O-ring closure with no cap screws for working temperatures up to 225 °C, or with a flat, PTFE gasket for higher temperatures up to 350 °C sealed with six cap screws in a split-ring cover clamp.

Although internal and external space is limited in these small vessels, gas entrainment impellers, catalyst baskets, condensers and other options are available. All reactors in this series can also be easily converted from one size to another by simply substituting a longer or shorter cylinder and the corresponding internal fittings and heaters. The heaters for these vessels are sized to the cylinder dimensions. When converting volumes it is acceptable to use a larger volume cylinder in a smaller heater, but not a smaller cylinder in a larger heater. The heaters are designed to be in full contact with the cylinder. An air gap below a smaller vessel will cause the heater to burn-out prematurely.

The support system for these Mini Reactors is designed specifically to provide stability at stirring speeds up to 1700 rpm, in a compact mounting small enough to fit into a laboratory hood. The support system can also be adapted to accept any of the smaller vessels from the 4590 Micro Reactor Series.



Model 4566 Mini Reactor, Fixed Head, 300 mL, with O-ring Seal, Open Position



Model 4566 Mini Reactor, Fixed Head, 300 mL, Closed Position

Series 4560 Ordering Guide

A composite identification number to be used when ordering a 4560 Series Reactor can be developed by combining individual symbols from the separate sections.

Example: A 600 mL, T316SS, moveable head reactor with general purpose magnetic drive, O-ring seal, 115V, explosion proof motor, 3000 psi gage and PID controller with pressure display module would be listed as: **No. 4563-O-GP-SS-115-XP.25-3000-4842-PDM**

A.	B.	C.	D.	E.	F.	G.	I.	J.
Model	Gasket	Stirrer	Material	Voltage	Motor	Gage	Controller	Options
No. 4563	-O	-GP	-SS	-115	-XP.25	-3000	-4842	-PDM

A. Base Model

Model No.	Size	Vessel Style
4561	300 mL	Moveable
4562	450 mL	Moveable
4563	600 mL	Moveable
4564	160 mL	Moveable
4565	100 mL	Moveable
4566	300 mL	Fixed Head
4567	450 mL	Fixed Head
4568	600 mL	Fixed Head
4566B	160 mL	Fixed Head
4566C	100 mL	Fixed Head

B. Gasket / Maximum Temperature

-O	FKM O-ring, 225 °C	FFKM O-ring, 275 °C
-T	PTFE Compression Gasket, 350 °C	

C. Magnetic Stirrer Drive

-GP	General Purpose, 16 in.-lb.
-FMD1	Footless, 16 in.-lb.

D. Materials of Construction

-SS	T316 Stainless Steel
-MO	Alloy 400
-IN	Alloy 600
-HB	Alloy B-3
-HC	Alloy C-276
-HC2	Hastelloy C-2000
-CS	Alloy 20Cb3
-TI2	Titanium Grade 2
-TI4	Titanium Grade 4
-NI	Nickel 200
-Zl	Zirconium 702 or 705

E. Electrical Supply

-115	115 Volt, 50/60Hz
-230	230 Volt, 50/60Hz

F. Motor Option

-VS .12	Variable Speed, 1/8 hp
-VS .25	Variable Speed, 1/4 hp
-XP .25	Explosion Proof, Variable Speed, 1/4 hp
-AM .25	Air Motor, 1/4 hp

G. Pressure Gage

-3000	3000 psi / 200 bar
-2000	2000 psi / 140 bar
-1000	1000 psi / 70 bar
-600	600 psi / 40 bar
-200	200 psi / 14 bar
-100	100 psi / 7 bar

H. Bottom Drain Valve

-No Symbol	No Bottom Drain Valve
-BDV	Bottom Drain Valve Installed

I. Temperature Controller

-4842*	PID Control
-4843*	Programmable Control
-4835	Compact Controller PID
-4836*	Compact Controller Ramp & Soak
-4870	Process Controller
*(A)	Add to above for Analog Output (0-5 or 0-10 VDC or 4-20mA)

J. Control Options (List All Desired)

-TDM*	Tachometer Display Module
-PDM*	Pressure Display Module
-HTM*	High Temperature Cut-off Module
-AMM*	Ammeter Display Module
*(A)	Add to above for Analog Output (0-5 or 0-10 VDC or 4-20mA)
-SVM	Solenoid Valve Module
-CM	Communications Module
-4846	Data Acquisition System

K. Custom Options (List All Desired)

-AS	Anchor Stirrer	-RC	Reflux Condenser
-SB	Static Catalyst Basket	-RTC	Reflux Take-off Condenser
-CAD	Catalyst Addition Device	-SCP	Solids Charging Port
-BF	Baffles	-ABH	Aluminum Block Heater
-GE	Gas Entrainment Stirrer	-WJ	Welded Jacket

L. Certifications

-No Symbol	No Certification
-ASME	ASME Certification
-CE/PED	European Community Certification/Pressure
-P	Parr Certification

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Series 4560 Options



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Model 4563 Mini Reactor, 600mL, Moveable Vessel, Flat Gasket Seal, with Vessel Disassembled, and 4843 Controller



300 mL, 100 mL, 450 mL, 160 mL, and 600 mL Cylinders

Series 4560 Reactor Specifications										
Shaded bar indicates specifications that change within series.										
Model Number	4561	4562	4563	4564	4565	4566	4567	4568	4566B	4566C
Sizes, mL	300	450	600	160	100	300	450	600	160	100
Maximum Pressure	3000 psi (200 bar)									
Maximum Temperature										
with FKM O-ring	225 °C									
with FFKM O-ring	275 °C									
with PTFE Flat Gasket	350 °C									
Vessel Style	Moveable					Fixed Head				
Reactor Mounting	Bench Top									
Closure (Cap Screws)	Split-Ring (6)									
Valve Connections	1/8" NPT Male									
Magnetic Stirrer, Model No.	A1120HC6									
Maximum Torque	16 Inch-Pounds									
Impeller(s), 4-Blade	1	1	2	1	1	1	1	2	1	1
Pressure Gage, Size	3.5 inches									
Range	0-3000 psi (200 bar)*									
Temperature Measurement	Fixed Thermocouple									
Cooling Coil	Included			Not Included			Included		Not Included	
Style	Single Loop									
Bottom Drain Valve	A485VB, 1/4" NPT									
Heater Style	Mantle			Clamp-on			Mantle		Clamp-on	
Heater Power Watts	400	590	780	500	500	400	590	780	500	500
Stirrer Motor	1/8 hp variable speed*									
Electrical Supply										
Volts	115 or 230									
Maximum Load, 115 / 230	12 / 6* amps									
Vessel Dimensions										
Inside Diameter, inches	2.5	2.5	2.5	2.5	2	2.5	2.5	2.5	2.5	2
Inside Depth, inches	4	6	8	2	2	4	6	8	2	2
Weight of Vessel, pounds	10	13	16	8	9	12	15	18	8	9
Reactor Dimensions										
Width, inches w/o Controller	11.5									
Depth, inches	17.5									
Height, inches	25.5	29.5	33.5	25.5	25.5	25.5	29.5	33.5	25.5	25.5
Weight, pounds w/ Controller	60	63	66	60	60	62	65	68	60	60
Spare Parts Kit	4569M									
* Other options available. See Options Section and Ordering Guide										