

4555

Series 4555 10-20 L Floor Stand Reactors



Series Number:
4555

Type:
**General Purpose Floor
Stand Reactor**

Vessel:
Moveable

Sizes:
10 & 20 Liter

Maximum Operating
Pressure:
1900 psi (130) bar

Maximum Operating
Temperature:
**350 °C
w/ PTFE Flat Gasket**

The Model 4555 Reactor with its 5 gallon (18.75 L) capacity is the largest stirred reactor offered by Parr. The 4556 Model is a similar unit with a 10 liter (2.6 gal) volume which falls between the larger 5 gallon design and the smaller 1 and 2 gallon models in the 4550 Series.

These reactors are available only with a flat, PTFE gasket in a moveable head designed for operating temperatures up to 350 °C maximum. A fixed head is not offered because it would become too tall for reasonable operation if equipped with a bottom drain valve, which is usually requested. The vessel is held in a support system which minimizes the physical effort required to handle these heavy components. A hoist attached to a support column provides a convenient means for lifting the head and cylinder out of the stand and transferring these parts to an opening in the right hand table. Since these vessels are usually equipped with a bottom drain, the cylinder will probably remain in the heater most of the time, but it can be lifted out when necessary.

These reactors are generally used for pilot plant or for custom chemical production purposes, usually with a variety of attachments added to the basic units. Special heaters, larger motors, heavier stirrer drives and remote controls appropriate to the size of these reactors have been designed and are available. Other volume, pressure and temperature limits have also been built into



4555 Floor Stand Reactor, 5 Gallon, Electric Hoist, Direct Drive, with 4842 Temperature Controller

these units within the outside dimensions of the 5 gallon system, including a special stirred system rated as high as 5000 psi and 500 °C.

Approximately 7.5 kW of electric power is required to operate these reactors. This is usually too large a load to be drawn from a single phase,

230 volt line. This requirement must therefore be considered carefully when ordering any of these reactors to be sure that the ordered unit is configured to operate on the available power.

Series 4555 Ordering Guide

A composite identification number to be used when ordering a 4555 Series reactor can be developed by combining individual symbols from the separate sections.

Example: A 5 Gallon, T316SS reactor with a heavy duty magnetic drive, 230 volt, 3/4 hp variable speed motor, 2000 psi pressure gage, serpentine cooling coil, manual bottom drain valve, ceramic three-zone heater, electric hoist, 3:1 gear drive, PID controller with tachometer, pressure display module and high temperature cutoff module would be listed as:

No. 4555-T-HD-SS-230-VS.75-2000-SC-BDV-C3-EH-3D-4842-TDM-PDM-HTM

A.	B.	C.	D.	E.	F.	G.	H.	Etc.
Model	Gasket	Stirrer	Material	Voltage	Motor	Gage	Cooling Coil	
No.4555	-T	-HD	-SS	-230	-VS.75	-2000	-SC	

A. Base Model

Model No.	Size	Vessel Style
4555	5 Gallon	Moveable
4556	10 Liter	Moveable

B. Gasket / Maximum Temperature

-T	Compression Gasket, 350 °C
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C. Stirrer Drive

-HD	Heavy Duty, 60 in.-lb.
-XHD	Extra Heavy Duty, 120 in.-lb.
-FMD2	Footless, Heavy Duty, 60 in.-lb.
-FMD3	Footless, Extra Heavy Duty, 120 in.-lb.

D. Materials of Construction

-SS	T316 Stainless Steel
-HB	Alloy B-3
-HC	Alloy C-276
-Ti2	Titanium Grade 2
-Other materials may be available, contact Parr.	

E. Electrical Supply

-230	230 Volt, 50/60Hz
-400	400/415 Volt, 3 Phase

F. Motor Option

-VS .75	Variable Speed, 3/4 hp
-XP .75	Explosion Proof, Variable Speed, 3/4 hp
-AM	Air Motor, 1 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. Internal Cooling Coil

-No Symbol	No Coil
-CC	Spiral Coil
-SC	Serpentine Coil

I. Bottom Drain Valve

-No Symbol	No Bottom Drain Valve
-BDV	Bottom Drain Valve, 3/4" NPT
-BDV1	Bottom Drain Valve, 1" NPT
-ABDV	Air Actuated Bottom Drain Valve

J. Heater Options

-C3	Ceramic, 3-Zone
-CA3	Cast Aluminum, 3-Zone
-WJ	Welded Jacket

K. Head Lift Mechanism

-EH	Electric Hoist (115 V)
-MH	Manual Hoist

L. Stirrer Drive Gear Ratios

DD	Direct Drive
3D	3:1
5D	5:1
10D	10:1

J. Temperature Controller

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

K. 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	-GE	Gas Entrainment Stirrer
-CAD	Catalyst Addition Device	-BF	Baffles
-RC	Reflux Condenser	-SCP	Solids Charging Port
-RTC	Reflux Take-off Condenser		

M. Certifications

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



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Model 4556 Reactor, 10 Liter Vessel, with Head Removed



10 Liter Stirred Vessel



10 Liter Stirred Vessel Removed from Heater

Series 4555 Reactor Specifications

Shaded bar indicates specifications that change within series.

Model Number	4555	4556
Sizes, Gallon (Liter)	5 (18.75)	2.6 (10)
Maximum Pressure	1900 psi (130 bar)	
Maximum Temperature		
with PTFE Flat Gasket	350 °C	
Vessel Style	Moveable	
Reactor Mounting	Floor Stand	
Closure (Cap Screws)	Split-Ring (12)	Split-Ring (10)
Valve Connections	3/8" Male NPT	
Magnetic Stirrer, Model No.	A1750HC*	
Maximum Torque	60 Inch-Pounds	
Impeller(s), 6-Blade	2	
Pressure Gage, Size	4.5 inches	
Range	0-2000 psi (140 bar)*	
Temperature Measurement	Thermowell	
Cooling Coil	Standard	
Style	Serpentine	
Bottom Drain Valve	A285VB 3/4" NPT	
Heater Style	Ceramic, 3-Zone	
Heater Power Watts	7550	
Stirrer Motor	3/4 hp variable speed*	
Electrical Supply		
Volts	230-1P or 400/415-3P	
Maximum Load, amps, 115/230	1P=33 3P=15/leg	
Vessel Dimensions		
Inside Diameter, inches	9.5	7.75
Inside Depth, inches	16.25	12.2
Weight of Vessel, pounds	375	250
Reactor Dimensions		
Width, inches	62	
Depth, inches	24	
Height, inches	91	
Weight, pounds	1000	900
Spare Parts Kit	4559PCM	4559PDM

* Other options available. See Options Section and Ordering Guide