

Series Number:

4660Type:
General PurposeStand:
Floor StandMounting Style:
**Moveable or
Fixed Head**Vessel Sizes, Gallons (Liters)
1 (3.75) and 2 (7.99)Standard Pressure
MAWP Rating, psi (bar):
1900 (131)Standard Maximum
Operating Temp., °C:
225 w/ FKM O-ring
300 w/ FFKM O-ring
350 w/ PTFE Flat Gasket

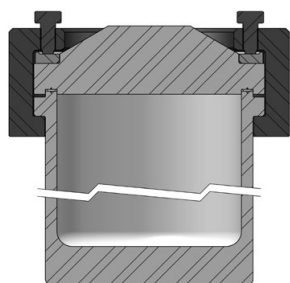
Series 4660 Pressure Vessel Systems, 1 & 2 Gallon

The 4660 Vessels extend the range of Parr Pressure Vessels to 1 and 2 gallon (3.75 and 7.99 liter) sizes. These vessels are available with an FKM O-ring seal for operating temperatures to 225 °C, and FFKM O-ring for temperatures to 300 °C, or with a flat, PTFE gasket for operating temperatures up to 350 °C maximum.

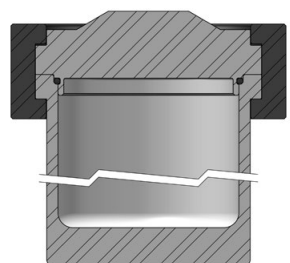
Both fixed head and moveable head designs are available. The moveable head vessels are designed so that they can be opened or closed conveniently without removing the cylinder from the heater and without auxiliary handling equipment. The split-ring cover clamp sections can be moved into place from the sides, and the compression bolts can be tightened with the vessel in place in its heater. The fixed head versions allow the head (and the connections made to it) to remain in place while the cylinder and heater are lowered with the aid of the included pneumatic lift system.

An optional bottom drain valve may be added for convenient product recovery. As with the smaller floor stand models, these larger, self-contained systems can be equipped with a variety of attachments, such as condensers, solids charging ports, bottom drains, special heaters, jacketed vessels and automatic valves and regulators. Because of the higher wattage heaters for these reactors, all models in this series require a 230 volt power supply.

Series 4660 Pressure Vessel Specifications		
Shaded bar indicates specifications that change within series.		
Model Number	4660	
Approximate Volume, Gallon (Liter)	1 (3.75)	2 (7.99)
Maximum Pressure (MAWP)	1900 psi (131 bar)	
Maximum Temperature		
with FKM O-Ring	225 °C	
with FFKM O-Ring	300 °C	
with PTFE Flat Gasket	350 °C	
with Flexible Graphite Flat Gasket	350 °C	
Vessel Details		
Mounting Style	Moveable or Fixed Head	
Closure	Split-Ring with 10 Compression Bolts, no Compression Bolts for O-ring	
Head Opening Options	One head opening (1/4" NPT or rupture disc assembly port) Ports for valve, gage, rupture disc, and thermowell with thermocouple (VGR) Custom port option (Contact our technical sales department to discuss options)	
Maximum Head Openings	10 (Dependent on opening size, and required fittings)	
Valve Connections	1/4" NPT Female	
Pressure Gage, Size	4.5 inches	
Range	0-2000 psi (138 bar)	
Temperature Measurement	Thermowell	
Cooling Coil (optional)	Serpentine	
Bottom Drain Valve	3/8" NPT	
Stand and Heater (optional)		
Stand Type	Floor Cart with heater (moveable head only) Floor Stand with Pneumatic Lift and heater (fixed head)	
Heater Style	Calrod	
Heater Power, Watts	2250	2750
Maximum Load, amps, 230V	10	12
Weights & Dimensions		
Cylinder I.D. x Depth, inches	6.0 x 8.5	6.0 x 17.1
Vessel Assembly w/ Moveable Head Weight, pounds*	84	103
Vessel Assembly w/ Fixed Head Weight, pounds*	98	117
Cylinder Weight, pounds	33	52
* Vessel Assembly weight varies based on head configuration choice and fitting options. Weights shown are based on vessels with valve, gage, rupture disc, thermocouple, and double valve assembly.		
Other options available. See Ordering Guide, visit www.parrinst.com , or call for more information.		



4660 Cross Section
with Flat Gasket Seal



4660Q Cross Section
with O-ring Seal

Series 4660 Ordering Guide

An example order number for a vessel in this series is: **4660-1G-T-SS-VGR-2000**

A composite identification number to be used when ordering a 4660 Series Pressure Vessel System can be developed by combining individual symbols from the separate sections below. For more information on how to use this ordering guide, please see page 27.

A Vessel Volume	
-1G	1 Gallon, 6" ID
-2G	2 Gallon, 6" ID

B Head Mounting Style	
-No Symbol	Moveable Head (Standard configuration)
-FH	Fixed Head

C Gasket / Maximum Temperature	
-T	PTFE Flat Gasket, 350 °C
-FG	Flexible Graphite Flat Gasket, 350 °C

D Material of Construction	
-SS	T316 Stainless Steel
-C20	Alloy 20
-MO	Alloy 400
-IN600	Alloy 600
-IN625	Alloy 625
-HB	Alloy B-2 / B-3
-HC	Alloy C-276
-NI	Nickel 200
-Ti2	Titanium Grade 2
-Ti4	Titanium Grade 4
-ZR702	Zirconium Grade 702
-ZR705	Zirconium Grade 705

See page 10 or 24 for complete list of available alloys.

E Head Configuration	
-1/4	One head opening, 1/4" NPT port, plugged
-RD	Rupture disc port with rupture disc assembly & disc
-VGR	Valve on gage adapter, pressure gage, rupture disc assembly, & thermocouple and thermowell
-NS	Non-standard, custom head opening

F Optional Fittings & Custom Options (List all needed)	
-VD	Single Valve on head w/ dip tube (VGR Required)
-DVD	Double Valve Assembly on head w/ dip tube (VGR Required)
-CL	Cooling Loop
-BDV	Bottom Drain Valve
-CAD	Internal Catalyst Addition Device
-XCAD	External Catalyst Addition Device
-SCP	Solids Charging Port (Ball Valve)
-RC	Reflux Condenser
-RTC	Reflux/Take-Off Condenser
-WJ	Welded Jacket

G Pressure Gage	
-No Symbol	None
-2000	2000 psi / 138 bar
-1000	1000 psi / 69 bar
-600	600 psi / 40 bar
-200	200 psi / 14 bar
-100	100 psi / 7 bar

H Stand and Heater Options	
-No Symbol	None
-FC	Floor Cart with Heater
-FSP	Floor Stand with Pneumatic Lift and heater

I Controller	
-No Symbol	None
-4838	PID Control, Ramp & Soak Programming, and Data logging with Software (RS-485 to USB cable not included). For use with one additional display module.
-4848	PID Control, Ramp & Soak Programming, and Data logging with Software. (RS-485 to USB cable not included). For use with up to three additional display modules.

See Chapter 6 for complete list of Controller options.

J Controller Options (Check all needed)	
-PDM	Pressure Display Module
-HTM	High Temperature Cut Off Module
-ETLM	External Temperature Limit Module
-SVM	Solenoid Valve Module (for cooling control)
-A1925E4	RS-485 to USB Converter (required for data logging)
-A1925E6	RS-485 to USB Converter, isolated, 30-ft
-A2208E	RS-485 Daisy Chain for Multiple Controllers (Must be used with A1925E6)
-A3504HC	SpecView Software Package

K Electrical Supply for Heater and/or Controller	
-No Symbol	None
-230	230V Heater

L Certifications	
-No Symbol	No Certification
-ASME	ASME Documentation
-CE	CE Documentation
-P	Parr Certification



Model 4660-1G Vessel in Floor Cart with Heater and 4848 Controller

Model 4660-2G Vessel, Fixed Head Floor Stand, with Pneumatic Lift and Heater