

Series Number:

# 4670

Type:  
**High Pressure  
High Temperature**

Stand:  
**Cart or Floor Stand**

Mounting Style:  
**Moveable or  
Fixed Head**

Vessel Sizes, Gallons (Liters):  
**1 (3.75) and 1.5 (5.8)**

Standard Pressure  
MAWP Rating, psi (bar):  
**3000 (200)**

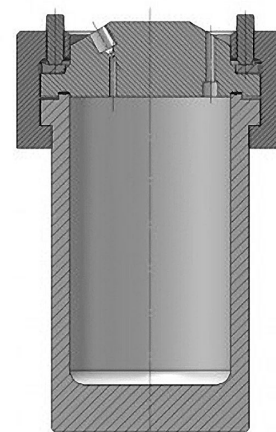
Standard Maximum  
Operating Temperature, °C:  
**600 w/ Flat FG Gasket**



**4670-1.5G Moveable  
Head Vessel, single valve  
w/ dip tube, gas release  
valve, rupture disc, gage  
and thermowell**

## Series 4670 HP-HT Vessel Systems, 1 and 1.5 Gallon

The Series 4670 High Pressure/High Temperature Vessels are available in either a 1.0 or 1.5 Gallon capacity. These vessels can obtain temperatures up to 600 °C and a maximum pressure of 3000 psi (207 bar). The maximum pressure at maximum temperature is 2200 psi (151 bar) at 600 °C. A Split Ring closure with 16 Compression Bolts secures the head which allows a maximum of 12 openings. The Series 4670 Vessels can be configured with either a fixed head on a floor stand or as a moveable head vessel on a moveable cart. 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.



**4670 Cross Section**

Series 4670 Pressure Vessel Specifications		
Shaded bar indicates specifications that change within series.		
Model Number	<b>4670</b>	
Approximate Volume, Gallon (Liter)	1 (3.75)	1.5 (5.8)
Maximum Pressure (MAWP)	3000 psi (207 bar, 200 bar for CE orders) @ 500 °C 2200 psi (151 bar) @ 600 °C	
Maximum Temperature		
with PTFE Flat Gasket	350 °C	
with Flexible Graphite Flat Gasket	500-600 °C	
Vessel Details		
Mounting Style	Moveable or Fixed Head	
Closure	Split-Ring with 16 Compression Bolts	
Head Opening Options	One head opening (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	12 (Dependent on opening size, and required fittings)	
Valve Connections	1/4" NPT Female	
Pressure Gage, Size	4.5 inches	
Range	0-3000 psi (207 bar)	
Temperature Measurement	Thermowell	
Cooling Coil (optional)	Serpentine	
Bottom Drain Valve (BDV) (optional)	1" NPS (Floor Stand or Moveable Cart Only)	
Stand and Heater (optional)		
Stand Type*	Floor Cart with heater (moveable head only) Floor Stand with Pneumatic Lift and heater (fixed head)	
Heater Style	Ceramic Fiber	
Heater Power, Watts	2800	
Maximum Load, amps, 230V	12	
*Heater watts and amps vary between different heater styles, contact Parr Technical Support for more information.		
Weights & Dimensions		
Cylinder I.D. x Depth, inches	5.5 x 9.75	5.5 x 15.0
Vessel Assembly w/ Moveable Head Weight, pounds*	113	131
Vessel Assembly w/ Fixed Head Weight, pounds*	124	143
Cylinder Weight, pounds	53	72
*Vessel weight is based on a vessel with VGR head fittings. Vessel weight will vary based on head configuration choice and fitting options.		
Other options available. See Ordering Guide, visit <a href="http://www.parrinst.com">www.parrinst.com</a> , or call for more information.		

# Series 4670 Ordering Guide

An example order number for a vessel in this series is: **4670-1G-FG-SS-VGR-5000**

A composite identification number to be used when ordering a 4670 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, 5.5" ID
-1.5G	1.5 Gallon, 5.5" 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, 500 or 600 °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*

\*High temperature option not available.  
See page 10 or 24 for complete list of available alloys.

E Head Configuration	
-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)
-SC	Serpentine Cooling Coil
-BDV	Bottom Drain Valve (1" NPS)
-CAD	Internal Catalyst Addition Device
-XCAD	External Catalyst Addition Device
-SCP	Solids Charging Port (Ball Valve)
-RC	Reflux Condenser
-RTC	Reflux/Take-Off Condenser

G Pressure Gage	
-No Symbol	None
-5000	5000 psi / 345 bar
-3000	3000 psi / 207 bar
-2000	2000 psi / 138 bar

H Stand and Heater Options	
-No Symbol	None
-FC	Floor Cart with heater (moveable head only)
-FSP	Floor Stand w/ Pneumatic Lift and heater (fixed head)

I Controller	
-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 for 4838/4848 Controller

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

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



4760-1G Moveable Head Vessel with Floor Cart, Heater, and 4838 Controller.