



Taylor-Wharton

# Liquid Cylinders

## LIQUID CYLINDERS

Portable vacuum-insulated containers that provide convenient and economical means of transporting, storing and dispensing liquefied gases.

- Full Circle® Shock-Mount Ring\*
- Polished Heavy Duty Outer Body
- Innovative Non-Binding Contents Gauge
- Reinforced Lateral Head Support
- Color-Coded Relief Valves for Different Pressure Settings
- Protective Nylon Shipping Sleeve\*\*
- 5-Year Warranty on Vacuum



**Taylor-Wharton**





# GL Series



## GL SERIES - Gas and Liquid Withdrawal Medium Pressure *XL-45, XL-50, XL-55, XL-65 and XL-70*

Liquid or Gaseous Nitrogen, Oxygen, Argon

These over-the-road transport cylinders feature automatic pressure-building and economizer circuits. Low-loss holding capabilities help conserve gas during low demand periods. These units are considered the workhorses of the industry.

	XL-45	XL-50	XL-55	XL-65	XL-70
<b>Dimensions</b>					
Diameter	20 in. (508 mm)	20 in. (508 mm)	20 in. (508 mm)	26 in. (660 mm)	26 in. (660 mm)
Height	61 3/8 in. (1559 mm)	64 5/8 in. (1641 mm)	69 7/16 in. (1764 mm)	59 1/2 in. (1511 mm) <sup>4</sup>	63 1/4 in. (1607 mm)
<b>Weight</b>					
Empty (Nominal)	255 lb. (116 kg)	270 lb. (122 kg)	270 lb. (122 kg)	N/A	N/A
5 caster base	N/A	N/A	N/A	375 lb. (170 kg)	395 lb. (179 kg)
4 caster base	N/A	N/A	N/A	445 lb. (202 kg)	465 lb. (211 kg)
Maximum Liquid Capacity	180 liters	193 liters	210 liters	250 liters	280 liters
Usable Liquid Capacity	169 liters	181 liters	200 liters	240 liters	265 liters
<b>Normal Evaporation Rate<sup>1</sup> % Capacity per Day</b>					
Oxygen	1.2%	1.1%	1.1%	0.9%	1.0%
Nitrogen	1.9%	1.8%	1.7%	1.4%	1.6%
Argon	1.2%	1.1%	1.1%	0.9%	1.0%
Carbon Dioxide	N/A	N/A	N/A	N/A	N/A
Nitrous Oxide	N/A	N/A	N/A	N/A	N/A
<b>Gas Withdrawal Rate<sup>2</sup> @ NTP (STP)</b>					
Oxygen	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)
Nitrogen	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)
Argon	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)	350 cfh (9.2 cu. m/h)
Carbon Dioxide	N/A	N/A	N/A	N/A	N/A
Nitrous Oxide	N/A	N/A	N/A	N/A	N/A
<b>Dual Pressure Building/ Economizer Regulator<sup>3</sup></b>					
Pressure Building	125 psig (8.6 bar/862 kPa)	125 psig (8.6 bar/862 kPa)	125 psig (8.6 bar/862 kPa)	125 psig (8.6 bar/862 kPa)	125 psig (8.6 bar/862 kPa)
Economizer Setting	145 psig (10 bar/1000 kPa)	145 psig (10 bar/1000 kPa)	145 psig (10 bar/1000 kPa)	145 psig (10 bar/1000 kPa)	145 psig (10 bar/1000 kPa)
<b>Design Specification</b>					
TC N/A	4LM	4LM	4LM	4LM	4LM
DOT	4L	4L	4L	4L	4L
Rated DOT Service	200 psig	200 psig	200 psig	200 psig	200 psig
<b>Safety Devices</b>					
Pressure Relief Valve	230 psig (16 bar/1586 kPa)	230 psig (16 bar/1586 kPa)	230 psig (16 bar/1586 kPa)	230 psig (16 bar/1586 kPa)	230 psig (16 bar/1586 kPa)
Inner Container Bursting Disc	360 psig (24.8 bar/248 kPa)	360 psig (24.8 bar/248 kPa)	360 psig (24.8 bar/248 kPa)	360 psig (24.8 bar/248 kPa)	360 psig (24.8 bar/248 kPa)
<b>Weight of Contents Based on DOT Rated Service Pressure</b>					
Oxygen	388 lb. (176 kg)	416 lb. (189 kg)	454 lb. (206 kg)	539 lb. (244 kg)	606 lb. (275 kg)
Nitrogen	273 lb. (124 kg)	293 lb. (133 kg)	319 lb. (145 kg)	380 lb. (172 kg)	426 lb. (193 kg)
Argon	471 lb. (214 kg)	505 lb. (229 kg)	551 lb. (250 kg)	655 lb. (297 kg)	735 lb. (333 kg)
Carbon Dioxide	N/A	N/A	N/A	N/A	N/A
Nitrous Oxide	N/A	N/A	N/A	N/A	N/A
<b>Gaseous Capacity Based on DOT Rated Service Pressure @ NTP (STP)</b>					
Oxygen	4688 cu.ft. (123 cu.m)	5025 cu.ft. (132 cu.m)	5484 cu.ft. (144 cu.m)	6511 cu.ft. (171 cu.m)	7320 cu.ft. (207 cu.m)
Nitrogen	3771 cu.ft. (99 cu.m)	4043 cu.ft. (106 cu.m)	4402 cu.ft. (116 cu.m)	5244 cu.ft. (139 cu.m)	5879 cu.ft. (166 cu.m)
Argon	4558 cu.ft. (120 cu.m)	4884 cu.ft. (128 cu.m)	5331 cu.ft. (140 cu.m)	6335 cu.ft. (166 cu.m)	7112 cu.ft. (201 cu.m)
Carbon Dioxide	N/A	N/A	N/A	N/A	N/A
Nitrous Oxide	N/A	N/A	N/A	N/A	N/A

(1) - Vented N.E.R. based on usable liquid capacity

(2) - Container pressure at or above factory dual pressure/economizer regulator setting

(3) - Regulator has a pressure delta of 20 psig (1.4 bar/138 kPa)



# Accessories

## TRANSFER HOSES

Transfer hoses are constructed of a flexible stainless steel suitable for the transfer of cryogenic fluids and are available in 4 ft. (1.2 m) or 6 ft. (1.8 m) lengths. Hoses are fitted with a 3/8 in. NPT male fitting on one end and a CGA female fitting on the other end.



Female End Fitting	Hose Length	Male End Fitting	Part Number
<b>Nitrogen and Argon LIQUID or VENT Connection</b>			
CGA 295	4 ft. (1.2 m)	3/8 in. NPT	1700-9C65
CGA 295	6 ft. (1.8 m)	3/8 in. NPT	1600-9C66
<b>Nitrogen and Argon USE Connection</b>			
CGA 580	6 ft. (1.8 m)	3/8 in. NPT	GL50-8C51
<b>Oxygen LIQUID or VENT Connection</b>			
CGA 440	6 ft. (1.8 m)	3/8 in. NPT	GL50-8C53
<b>Oxygen USE Connection</b>			
CGA 540	6 ft. (1.8 m)	3/8 in. NPT	GL50-8C56
<b>Carbon Dioxide LIQUID or Gas USE Connection</b>			
CGA 320	6 ft. (1.8 m)	3/8 in. NPT	HP50-8C51
<b>Carbon Dioxide Gas VENT Connection</b>			
CGA 295	4 ft. (1.2 m)	3/8 in. NPT	1700-9C65
CGA 295	6 ft. (1.8 m)	3/8 in. NPT	1600-9C66

## CRYOGENIC PHASE SEPARATORS

Designed to minimize hazardous splashing and vaporization, phase separators are available in three different sizes to accommodate transferring liquids into various open containers. The two larger phase separator are designed to fit the 3/8 in. NPT end of Taylor-Wharton transfer hoses. Specify quantity and size or part number.



Model	Part No.
2 3/4 in. x 1 3/8 in. OD (3/8 in. NPT) (70 mm x 35 mm)	1193-8C80
1 1/4 in. x 1 in. OD (3/8 in. NPT) (32 mm x 25.4 mm)	1193-8C82
1 1/4 in. x 1/2 in. OD (1/8 in. NPT) (32 mm x 12.7 mm)	1193-8C83

## EXTERNAL HEAT EXCHANGER

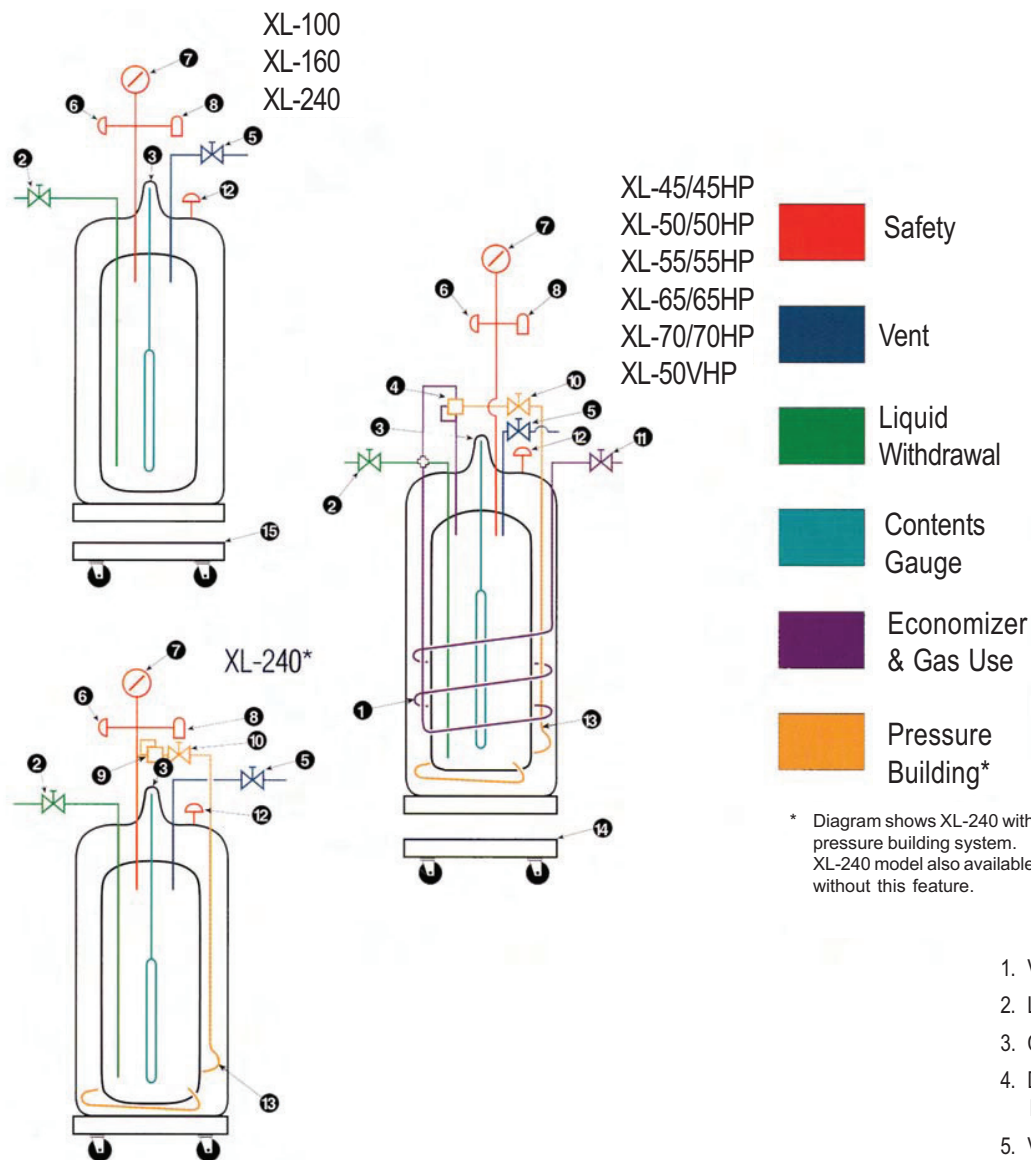
An External Heat Exchanger (vaporizer) effectively increases the gaseous delivery rate of any liquid cylinder by approximately 250 cfh (7.0 cu. m/h) air gases and 120 cfh (3.4 cu m/h) CO<sub>2</sub> continuous at pressures up to 500 psig (34 bar/3447 kPa). The vaporizer is cleaned for oxygen service and comes equipped with a 3/8 in. NPT fitting to connect to a transfer hose and regulator suited to your application. Dimensions - 12 x 15 3/4 x 46



Model	Part No.
External Heat Exchanger	VP50-7C10



# Flow Diagram



1. Vaporizer
2. Liquid Fill/Withdrawal Valve
3. Contents Gauge
4. Dual Pressure Building/  
Economizer Regulator
5. Vent Valve
6. Inner Containing Bursting Disc
7. Pressure Gauge
8. Pressure Relief Valve
9. Pressure Building Regulator
10. Pressure Building Valve
11. Gas Withdrawal (USE) Valve
12. Vacuum Bursting Disc
13. Pressure Building Coil
14. Base for XL-65/65HP, XL-70/70HP  
only, optional five-caster base or  
four-caster base with SureGrip  
handle available.
15. Five-caster base for XL-100  
and XL-240.



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