



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





HP Series



HP SERIES - Gas and Liquid Withdrawal High Pressure

XL-45HP, XL-50HP, XL-55HP, XL-65HP, XL-70HP

Liquefied or Gaseous Nitrogen, Oxygen, Argon, Carbon Dioxide, Nitrous Oxide

These high pressure units are equipped with automatic pressure building and economizer circuits, as well as an internal vaporizer, making them ideal for handling a variety of gases or liquefied gases.

	XL-45HP	XL-50HP	XL-55HP	XL-65HP	XL-70HP
Dimensions					
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)	58 1/8 in. (1476 mm) ⁴	64 1/4 in. (1607 mm)
Weight					
Empty (Nominal)	272 lb. (123 kg)	284 lb. (129 kg)	287 lb. (130 kg)	465 lb. (211 kg)	N/A
5 caster base	N/A	N/A	N/A	465 lb. (211 kg)	490 lb. (222 kg)
4 caster base	N/A	N/A	N/A	535 lb. (243 kg)	560 lb. (254 kg)
Maximum Liquid Capacity	176 liters	188 liters	208 liters	247 liters	280 liters
Usable Liquid Capacity	165 liters	176 liters	198 liters	240 liters	265 liters
Normal Evaporation Rate¹ % Capacity per Day					
Oxygen	1.4%	1.2%	1.2%	1.0%	1.0%
Nitrogen	2.2%	2.0%	1.9%	1.6%	1.6%
Argon	1.4%	1.2%	1.2%	1.0%	1.0%
Carbon Dioxide	0.75%	0.75%	0.75%	0.75%	0.75%
Nitrous Oxide	0.75%	0.75%	0.75%	0.75%	0.75%
Gas Withdrawal Rate² @ NTP (STP)					
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	150 cfh (3.9 cu. m/h)	150 cfh (3.9 cu. m/h)	150 cfh (3.9 cu. m/h)	150 cfh (3.9 cu. m/h)	150 cfh (3.9 cu. m/h)
Nitrous Oxide	110 cfh (2.9 cu. m/h)	110 cfh (2.9 cu. m/h)	110 cfh (2.9 cu. m/h)	110 cfh (2.9 cu. m/h)	110 cfh (2.9 cu. m/h)
Dual Pressure Building/ Economizer Regulator³					
Pressure Building Setting	300 psig (20.7 bar/2068 kPa)	300 psig (20.7 bar/2068 kPa)	300 psig (20.7 bar/2068 kPa)	300 psig (20.7 bar/2068 kPa)	300 psig (20.7 bar/2068 kPa)
Economizer Setting	320 psig (22 bar/2206 kPa)	320 psig (22 bar/2206 kPa)	320 psig (22 bar/2206 kPa)	320 psig (22 bar/2206 kPa)	320 psig (22 bar/2206 kPa)
Design Specification					
TC N/A	4LM	4LM	4LM	4LM	4LM
DOT	4L	4L	4L	4L	4L
Rated DOT Service Pressure	292 psig	292 psig	292 psig	292 psig	292 psig
Safety Devices					
Pressure Relief Valve	350 psig (24 bar/2413 kPa)	350 psig (24 bar/2413 kPa)	350 psig (24 bar/2413 kPa)	350 psig (24 bar/2413 kPa)	350 psig (24 bar/2413 kPa)
Inner Container Bursting Disc	525 psig (36 bar/3620 kPa)	525 psig (36 bar/3620 kPa)	525 psig (36 bar/3620 kPa)	525 psig (36 bar/3620 kPa)	525 psig (36 bar/3620 kPa)
Weight of Contents Based on DOT Rated Service Pressure					
Oxygen	360 lb. (163 kg)	385 lb. (175 kg)	458 lb. (208 kg)	505 lb. (229 kg)	572 lb. (259 kg)
Nitrogen	252 lb. (114 kg)	296 lb. (122 kg)	298 lb. (135 kg)	353 lb. (160 kg)	400 lb. (181 kg)
Argon	438 lb. (199 kg)	467 lb. (212 kg)	518 lb. (235 kg)	614 lb. (279 kg)	695 lb. (315 kg)
Carbon Dioxide	387 lb. (176 kg)	414 lb. (188 kg)	458 lb. (208 kg)	516 lb. (234 kg)	615 lb. (279 kg)
Nitrous Oxide	368 lb. (167 kg)	393 lb. (177 kg)	435 lb. (197 kg)	543 lb. (246 kg)	584 lb. (265 kg)
Gaseous Capacity Based on DOT Rated Service Pressure @ NTP (STP)					
Oxygen	4350 cu.ft. (114 cu.m)	4651 cu.ft. (122 cu.m)	5146 cu.ft. (135 cu.m)	6100 cu.ft. (160 cu.m)	6910 cu.ft. (196 cu.m)
Nitrogen	3478 cu.ft. (91 cu.m)	3712 cu.ft. (98 cu.m)	4112 cu.ft. (108 cu.m)	4871 cu.ft. (128 cu.m)	5520 cu.ft. (156 cu.m)
Argon	4236 cu.ft. (111 cu.m)	4516 cu.ft. (119 cu.m)	5012 cu.ft. (132 cu.m)	5938 cu.ft. (156 cu.m)	6725 cu.ft. (190 cu.m)
Carbon Dioxide	3383 cu.ft. (89 cu.m)	3619 cu.ft. (89 cu.m)	4003 cu.ft. (105 cu.m)	4511 cu.ft. (119 cu.m)	5376 cu.ft. (152 cu.m)
Nitrous Oxide	3211 cu.ft. (84 cu.m)	3429 cu.ft. (90 cu.m)	3796 cu.ft. (100 cu.m)	5419 cu.ft. (142 cu.m)	5096 cu.ft. (144 cu.m)

(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)

(4) - 5 caster base used for weight and height measurement. For 4 caster square base with handle add approximately 70 lb. and 1/2 in. (12.7 mm)



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
Nitrogen and Argon LIQUID or VENT Connection			
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
Nitrogen and Argon USE Connection			
CGA 580	6 ft. (1.8 m)	3/8 in. NPT	GL50-8C51
Oxygen LIQUID or VENT Connection			
CGA 440	6 ft. (1.8 m)	3/8 in. NPT	GL50-8C53
Oxygen USE Connection			
CGA 540	6 ft. (1.8 m)	3/8 in. NPT	GL50-8C56
Carbon Dioxide LIQUID or Gas USE Connection			
CGA 320	6 ft. (1.8 m)	3/8 in. NPT	HP50-8C51
Carbon Dioxide Gas VENT Connection			
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

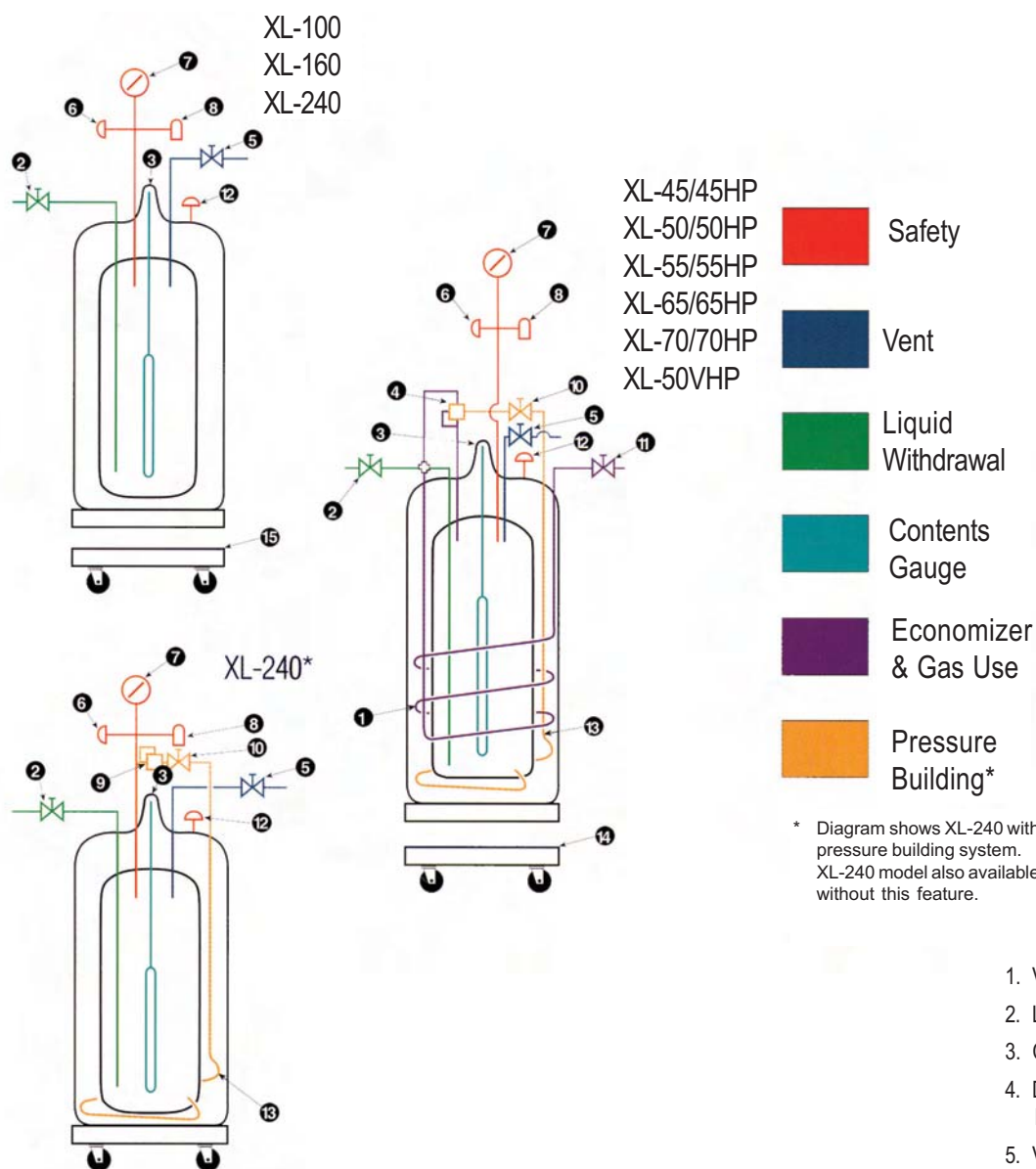
An External Heat Exchanger (vaporizer) effectively increases the gaseous delivery rate of any liquid cylinder by approximately 250 cfh (7.0 cu. m/h) air gases and 120 cfh (3.4 cu m/h) CO₂ continuous at pressures up to 500 psig (34 bar/3447 kPa). The vaporizer is cleaned for oxygen service and comes equipped 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



Taylor-Wharton