

CRYOMECH

Medium Pressure Helium Recovery System Specification Sheet

Low pressure storage bag (Standard size shown, other sizes available upon request)

**it is recommended that the bag be placed on a dedicated platform*

Standard storage capacity	300 ft ³ (8.5 m ³)
Equivalent liquid helium capacity	~11 L
Deflated bag dimensions - L x W	11.0 x 8.0 ft (3.4 m x 2.5 m)
Inflated bag dimensions - L x W x H	10.5 x 7 x 6.5 ft (3.2 x 2.1 x 2.0 m)
Weight	100 lb (45.36 kg)
Maximum Pressure	0.15 psig (.010 bar) <i>Cracking pressure of relief valve</i>
Operating temperature range	-10°F to 150°F (-23°C to 66°C)
Recommended platform dimensions - L x W	14.0 x 9.0 ft (4.3 x 2.8 m)
Height clearance above bag	Minimum 1 ft (0.3 m) above inflated bag height

Medium pressure helium compressor

Electrical rating	200/230 VAC, 3 Ph, 60Hz // 200 VAC, 3 Ph, 50Hz; 380/415 VAC, 3 Ph, 50Hz
Power Consumption	~5.5 kW
Dedicated Circuit Breaker (Type K or D Curve)	25A: 200/230 VAC, 3 Ph, 60Hz; 200 VAC, 3 Ph, 50Hz 20A: 380/415 VAC, 3 Ph, 50Hz
Flow rate capacity	8.5 SCFM (241 SLPM)//7.5 SCFM (212 SLPM)
Maximum Working pressure	400 psig (27.6 bar)
Weight	345 lb (157 kg)
Dimensions – L x W x H	24.5 x 34.5 x 28 in (62 x 88 x 71 cm)
Recommended footprint	3 ft (0.9 m) around all sides
Ambient temperature range	45°F to 100°F (7°C to 38°C)

Medium pressure storage w/ square or straight-line manifold

Standard Quantity	4
Maximum Operating Pressure	400 psig (27.6 bar)
Test Pressure	800 psig (55.2 bar)
Relief Valve Pressure	600 psig (41.4 bar) <i>Cracking pressure of relief valve</i>
Storage Capacity (@ 400 psig (27.6 bar))	~435 ft ³ (12.3 m ³) of Helium gas/per cylinder
Liquid Helium Storage Equivalent	~16 L/per cylinder
Cylinder diameter/height/weight	30 in (76 cm)/ 52 in (132 cm)/ 271 lb (123 kg)

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Helium purifier (includes two LN2 traps)

Power consumption 30 W
Electrical rating 120/240 VAC 1Ph, 60/50 Hz
Helium outlet purity >99.99% on start-up, >99.999% 1/2 hr thereafter

Helium Purifier	Dewar Volume	Trap Regeneration Interval w/ inlet helium impurity levels @ 0.1%	Purifier Weight (one trap included)	Trap Weight	Dimensions
6" Purifier	100 L	3.5 weeks @ 10.7 SLPM	300 lbs (136 kg)	46 lbs (20.9 kg)	33 x 22 x 52 in (84 x 56 x 132 cm)
8" Purifier	200 L	4.5 weeks @ 29.2 SLPM	440 lbs (200 kg)	85 lbs (38.6 kg)	34 x 26 x 61 in (86 x 66 x 155 cm)

Heater Blanket for trap regeneration (*electrical specifications*)

Power consumption 500W
Electrical rating 120 VAC 1Ph, 60 Hz
230 VAC 1Ph, 50 Hz

Hoist for purifier trap removal (not included)

Minimum weight capacity 100 lbs (45.4 kg)
Minimum height clearance 6" trap, 8 ft (2.4 m)
8" trap, 9.5 ft (2.9 m)

Vacuum pump for trap regeneration (not included)

*A dry scroll pump and vacuum gauge capable of reading 10 microns (1×10^{-2} torr) is recommended for regenerating the purifier traps.

Desired Ultimate Vacuum 10 microns (1×10^{-2} torr) or better
Minimum Pumping Speed 99 LPM (3.5 CFM)

Shipping crates

Crate 1 Wood box
Contents Medium pressure helium compressor, helium purifier
Weight ~450 lbs (205 kg)
Dimensions - L x W x H TBD

Crate 2 Wood box
Contents LN₂ trap (qty. 2)
Weight 286 lbs (130 kg)
Dimensions - L x W x H 64 x 36 x 31 in (163 x 92 x 79 cm)

Crate 3 Wood Box
Contents (4) Medium Pressure Cylinders w/ manifold
Weight TBD
Dimensions - L x W x H TBD