

## Helium Distribution and Supply Options

As the world's largest producer and supplier of helium, Air Products offers a variety of supply options. These include:

### *Gaseous Helium*

- High pressure cylinders from 0.4 L capacity to 12 x 50 L (12 cylinder banks)
- Tubes as in tube manifold and tube trailers

### *Liquid Helium*

- Vacuum—Insulated dewars from 60 L to 500 L
- Containers and over-the-road tankers with capacities up to 64,000 L

### *Nominal Liquid Helium Dewar Weights*

Size (liters)	Empty Weight (pounds)	Full Weight (pounds)
60	190	209
100	210	237
250	375/440	445/510
500	500/645	640/785

### *Description of the Cylinder Sizes*

Water Capacity	Air Products Code	Description	Approximate Contents	Old Code for Reference Only
0.4 L	X0.4S	Lecture bottle Steel	0.1 m <sup>3</sup>	LB
2L	X2S	Steel cylinder	0.4 m <sup>3</sup>	B2
9 L	X9S/x9A	Steel cylinder	1 m <sup>3</sup>	F/FA
10 L	X10S	Steel cylinder	2 m <sup>3</sup>	PT10
40 L	X40S	Steel cylinder	7 m <sup>3</sup>	Y41
47 L	X47S	Steel cylinder	10 m <sup>3</sup>	K/L
11 x 47 L	11 x 47 S	11 cyl. bank	110 m <sup>3</sup>	PL11
12 x 50 L	12 x 50 S	12 cyl. bank	120 m <sup>3</sup>	PB50

## System Information

<b>Gas</b>	
<p><b>Tube Trailers</b></p> <ul style="list-style-type: none"> <li>• 42,000–180,000 scf capacity</li> <li>• 3,000 psig MAWP</li> <li>• Can be both a supply vehicle and an on-site storage solution</li> </ul> <p><b>Hydril Tubes</b></p> <ul style="list-style-type: none"> <li>• 2,450 psig MASWP</li> <li>• 23,000 scf storage modules</li> </ul> <p><b>Tube Trailer Discharge Stanchion</b></p> <ul style="list-style-type: none"> <li>• 4,000 scfh/3,000 psig MAWP</li> <li>• 316 L electropolished SS tubing/fittings</li> <li>• Orbital welding</li> </ul> <p><b>Tube Manifold</b></p> <ul style="list-style-type: none"> <li>• 3,000 psig MAWP</li> <li>• 316 L electropolished SS tubing/fittings</li> <li>• Orbital welding</li> </ul>	<p><b>High-Pressure Control Manifold (HPCM)</b></p> <ul style="list-style-type: none"> <li>• Regulates pressure up to 250 psig</li> <li>• 316 L electropolished SS tubing/fittings</li> <li>• Orbital welding</li> </ul> <p><b>Filter Manifold</b></p> <ul style="list-style-type: none"> <li>• 316 L electropolished SS</li> <li>• Removes particles</li> <li>• Double purge port isolation valve</li> <li>• Two 100% parallel filters</li> </ul> <p><b>Purifier</b></p> <ul style="list-style-type: none"> <li>• Palladium tube membrane/zirconium getter</li> <li>• 100 to 7,000 scf</li> <li>• PLC controlled</li> <li>• 316 L electropolished SS tubing/fittings</li> <li>• Bellows/diaphragm valves</li> <li>• Flowmeter/totalizer</li> </ul>
<b>Liquid</b>	
<p><b>Liquid Helium Tank</b></p> <ul style="list-style-type: none"> <li>• 3,400 to 11,000 gal. capacity</li> <li>• 304 SS inner vessel and internal piping</li> <li>• Evacuated multi-layer insulation with cryogenic cooled shields</li> </ul>	<p><b>Pressure Control Filter Manifold (PCFM)</b></p> <ul style="list-style-type: none"> <li>• 53,000 scfh maximum</li> <li>• 316 L electropolished SS</li> <li>• Regulates pressure/removes particles</li> <li>• Two 100% parallel filters</li> <li>• Double purge port isolation valve</li> </ul>

The equipment set described above is Air Products' recommended solution for UHP gas supply. Customers who prefer to utilize the standard grade (i.e., copper/bronze) supply systems may incorporate a downstream purifier to improve product purity.

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[www.airproducts.com/helium](http://www.airproducts.com/helium)

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