

**Startup**

See the *On-Board Cryopump Installation and Maintenance Instructions* (8040491) for details.



**Product Information and Technical Support**

Please visit the Corporation Website located at <http://www.brooks.com> to obtain additional product information or call the GUTS® (Guaranteed Uptime Support) Service Center for 24 hour, 7 day per week support by dialing:

**800-367-4887** - Inside the United States of America

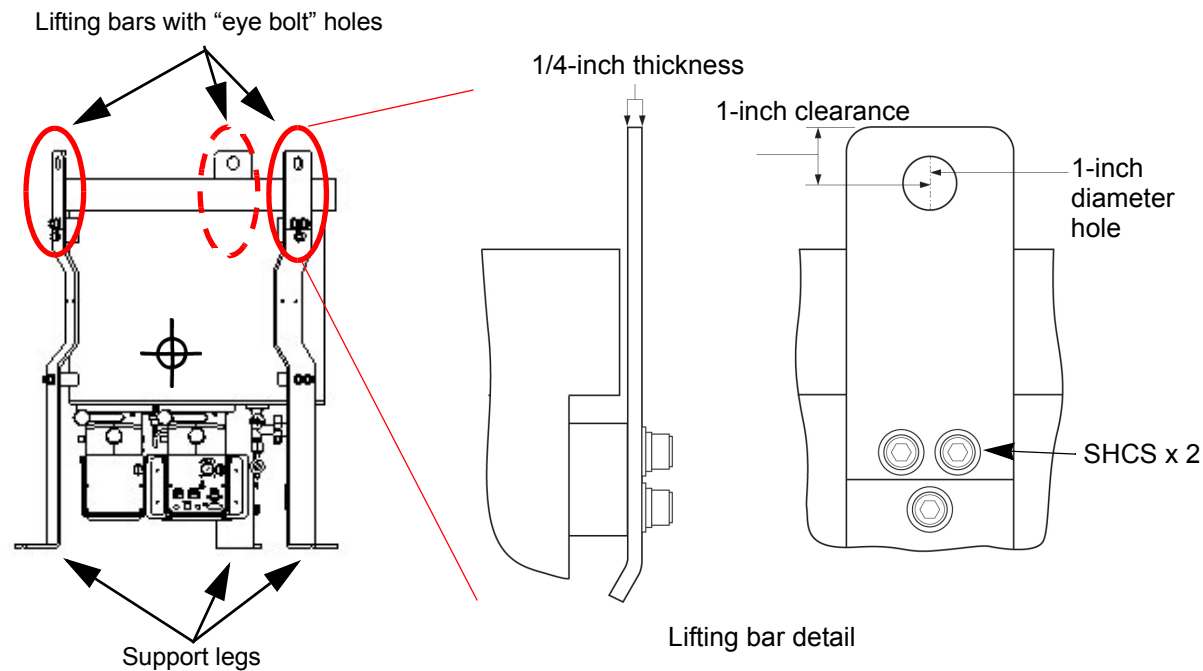
**508-337-5599** - Outside the United States of America

**Lifting the On-Board 500 Cryopump**

	<p><b>CAUTION</b></p>
	<p style="text-align: center;"><b>Tip-Over/Heavy Object Hazard</b></p> <p>Lifting the On-Board 500 Cryopump by fewer than all 3 lift points can result in instability of the pump, leading to personnel injury. Always use a lifting aid when attempting to lift or move this pump.</p>

When lifting the On-Board 500 Cryopump from the packaging container, always attach cables to each of the 3 lifting bars provided for the purpose. The attachment points are indicated in the diagram below.

When installing the cryopump on the tool, first remove the lifting bars from the support legs. Use a 3/8-inch Allen wrench to remove the 2 SHCSs, with washer and lock washer, that secure each of the 3 lifting bars.



When installing the pump in a horizontal orientation, leave the support legs attached, cradle the vessel at the Center of Gravity, attach a separate cable to one support leg to maintain horizontal orientation, and use an overhead lifting device.

When installing the pump in a vertical orientation, use the support legs.

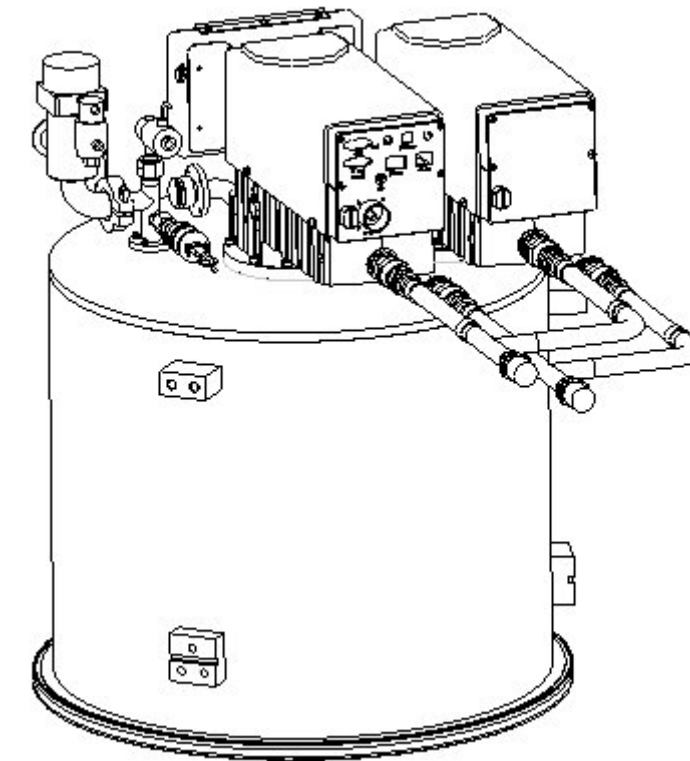


800-367-4887 USA  
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# On-Board® 500 Cryopump Quick Installation Guide

Part Number 174166, Revision B, 10-Jan-2013

ECO Number 63723



**On-Board 500 Cryopump Facility Requirements**

Electrical Power
Power is supplied by the compressor.

## Before You Start

Read and follow all safety notices in this Quick Install Guide and in the appropriate cryopump and compressor manuals.

## Cryopump Safety

Ensure the cryopump operates safely and dependably by adhering to all safety notices when you use or service the cryopump.

	<p style="text-align: center;"><b>WARNING</b></p> <p style="text-align: center;"><b>Toxic/Corrosive/Flammable/Explosive Gases</b></p> <p>Toxic, corrosive, flammable or explosive process gases pumped or captured by the pump can cause severe injury. Always vent toxic, corrosive, flammable or explosive gases to a safe location using an inert purge gas. Always purge the cryopump with an inert gas during regeneration. Purging the cryopump's exhaust line might also be necessary. The customer is responsible for safely exhausting these gases. Clearly identify on the cryopump which toxic/corrosive gas or liquid is contained in the pump before storing or shipping it. Do not install a hot filament type vacuum gauge on the high vacuum side of the isolation valve. This could be an ignition source for flammable gases in the product.</p>
	<p style="text-align: center;"><b>WARNING</b></p> <p style="text-align: center;"><b>High Voltage Electric Shock</b></p> <p>Electric shock can cause severe injury or death. Disconnect the high vacuum pump system from all power sources before making electrical connections between system components or before performing troubleshooting and maintenance procedures. Perform Lockout/Tagout as defined by the facility in which the equipment is installed.</p>
	<p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;"><b>High Pressure Gas</b></p> <p>High helium gas pressure is present in the cryogenic system and high pressure gas can be present within the cryopump. These high pressure gases can cause severe injury from propelled particles or parts. Do not modify or remove any pressure relief valve on the cryopump. Ensure that the path for the regenerated gas is unobstructed.</p>
	<p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;"><b>Lifting Aid Required</b></p> <p>The On-Board 50 Cryopump weighs 118.2 kg/260 lbs. Lifting heavy loads can result in serious injury. Always use a lifting aid when attempting to lift this pump.</p>

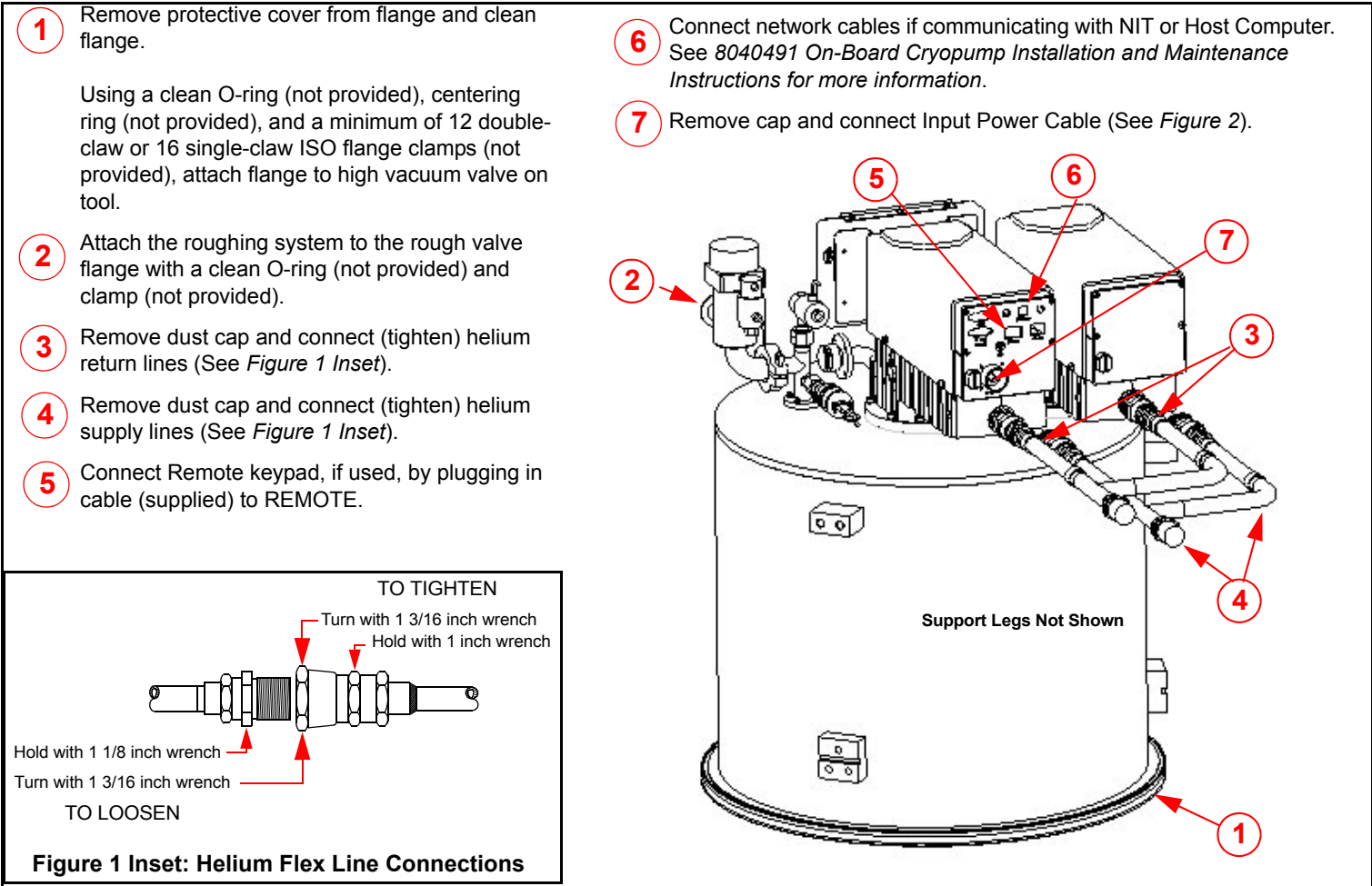
## Lifting the On-Board 500 Cryopump

See instructions on Page 4 of this guide.

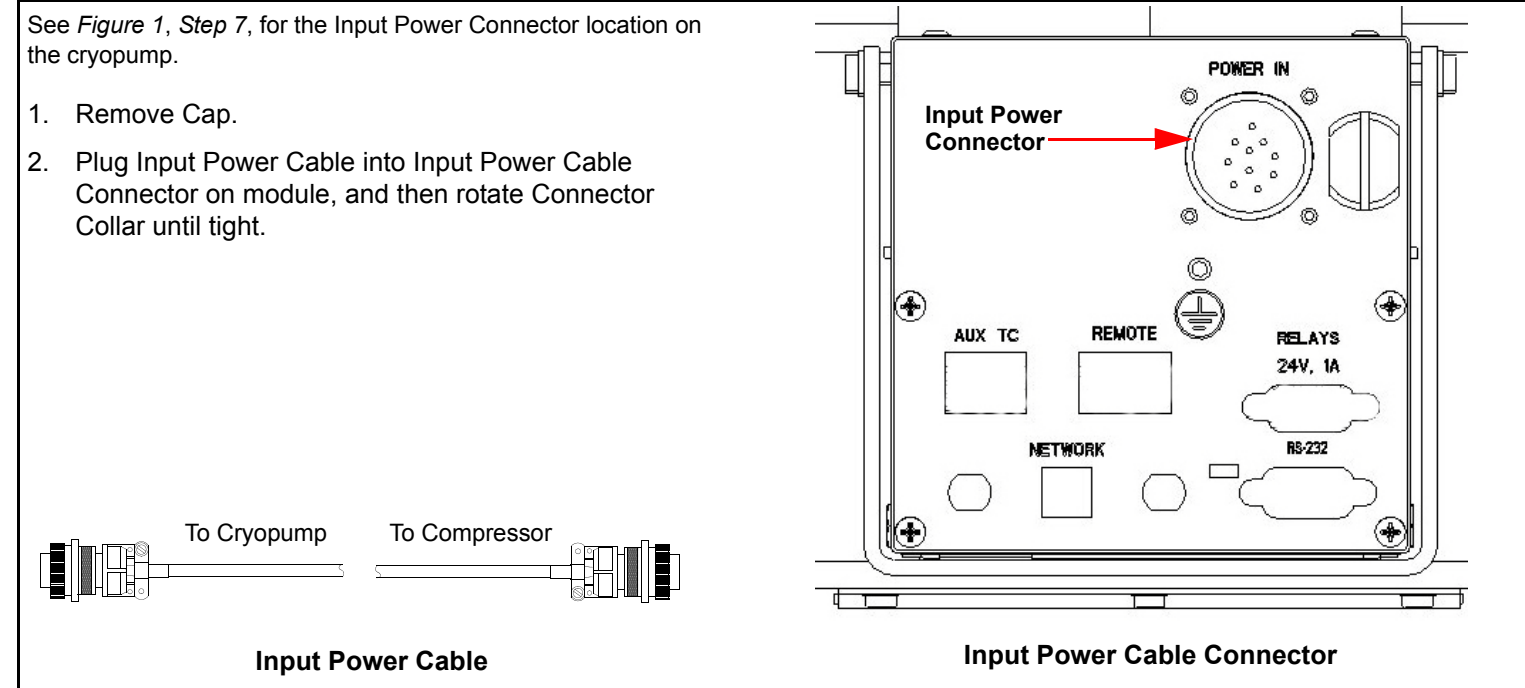
## On-Board 500 Cryopump Connections

See the numbered steps in *Figure 1* and *Figure 2* for cryopump installation connections.

**NOTE:** The On-Board 500 cryopump can be installed in any orientation without affecting its performance.



**Figure 1: On-Board 500 Cryopump Basic Connections**



**Figure 2: Input Power Cable Connector and Input Power Cable**