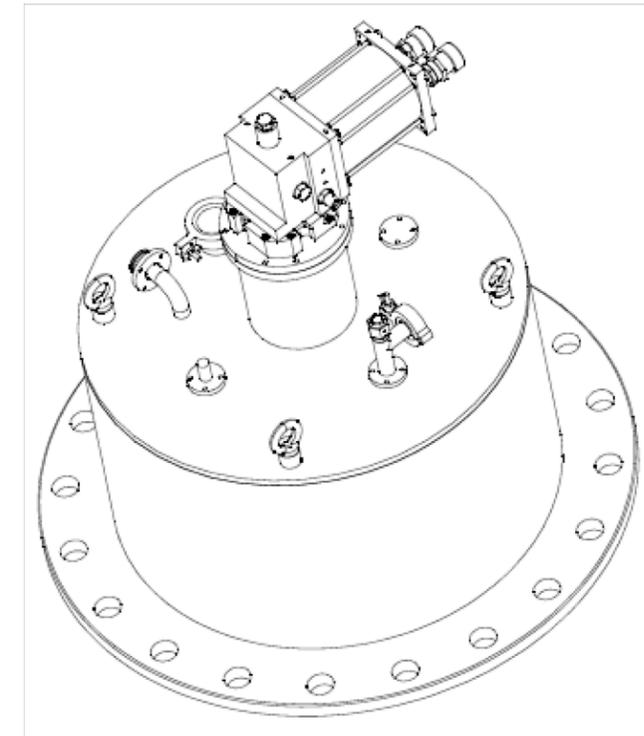


Part Number	Description
8080250K023	Purge Gas Solenoid Valve Kit, 110V
8080250K020	Purge Gas Heater Kit, 110V
8080250K022	Roughing Valve Kit, 110V
8080250K008	Exhaust Adapter Kit
8043459G001	Temperature Indicator
8080250K017	Purge Gas Solenoid Valve Kit, 230V
8080250K036	Purge Gas Heater Kit, 230V
8080250K037	Roughing Valve Kit, 230V

Cryo-Torr[®] 20HP with Temperature Sensor Quick Installation Guide

Part Number 8040706, Revision A, 01/11/2013

ECO Number 63723



Cryo-Torr 20HP Cryopump Facility Requirements

Electrical Power	Nitrogen Purge Gas	Roughing Connector
Conditioned power supplied from helium compressor	3/8 inch VCO tube connection (Parker Ultraseal No. 6)	NW-40 ISO KF flange

Before You Start

1. Ensure 8600 Compressors are installed according to 8040705, *Cryo-Torr 8600 Compressor Quick Installation Guide* and 8040707, *Cryo-Torr 8600 Compressor Operation, Installation, and Maintenance Manual*.
2. Read and follow all safety notices in this guide and in the appropriate compressor guides.

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;">⚠ WARNING</p> <p style="text-align: center;">Toxic, Corrosive, Flammable or Explosive Materials</p> <ol style="list-style-type: none"> 1. To prevent personal injury, over pressurization, and equipment damage, always vent toxic, corrosive, or flammable materials to a safe location using an inert gas. 2. Clearly identify toxic, corrosive, or flammable materials on shipping containers when you ship equipment that contacted these materials. 3. To prevent flammable gas ignition, do not install a hot filament type vacuum gauge on the high vacuum side of the isolation valve. 4. To prevent explosions, be aware of ozone as a by-product of an oxygen process, and take the appropriate precautions.
	<p style="text-align: center;">⚠ WARNING</p> <p style="text-align: center;">High Voltage Electric Shock Hazard</p> <ol style="list-style-type: none"> 1. To avoid electric shock, disconnect the cryopump from all power sources before making electrical connections between system components, and before performing troubleshooting or maintenance procedures. 2. When you connect the cryopump to a power source, ensure it is a 208 VAC, Single-Phase 5 Amp source.
	<p style="text-align: center;">⚠ CAUTION</p> <p style="text-align: center;">Heavy Object</p> <p>To avoid injury when moving the cryopump, use a lifting aid and proper lifting techniques.</p>
	<p style="text-align: center;">⚠ CAUTION</p> <p style="text-align: center;">High Pressure Gas Hazard</p> <p>To avoid injury from unexpectedly propelled objects, always bleed the helium charge to atmospheric pressure before servicing or disassembling the self-sealing couplings.</p>

NOTE: To avoid loss of helium, do not modify or remove the pressure relief valves.
Always connect and disconnect helium flex lines with the method illustrated in *Figure 1 Inset B*.

Cryopump Connections

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

NOTE: Before mounting the cryopump to the vacuum system, ensure a high-vacuum isolation (hi-vac) valve is installed between the cryopump and the vacuum chamber. This isolates the cryopump from the chamber during rough pumping, cooldown, and regeneration.

NOTE: Install the cryopump in any orientation. This does not affect its performance.

- 1 Remove flange cover (not visible), and clean o-ring and flange.
- 2 Attach flange (ANSI shown) to hi-vac valve on tool with mounting bolts.
- 3 Connect Relief Valve Exhaust (*Figure 1 Inset A*).
- 4 Connect rough pump.
- 5 Connect purge gas supply.
- 6 Remove dust cap and connect (tighten) helium supply line (*Figure 1 Inset B*).
- 7 Remove dust cap and connect (tighten) helium return line (*Figure 1 Inset B*).
- 8 Connect temperature sensor cable (not visible).
- 9 Connect motor cable.

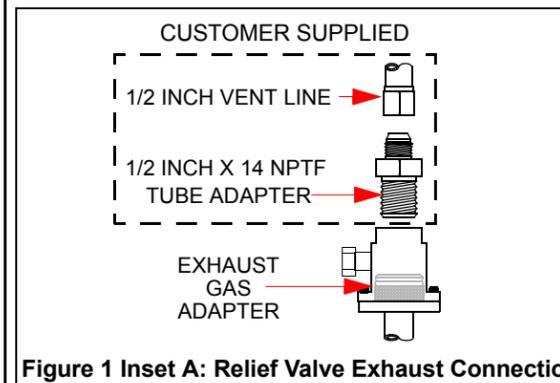
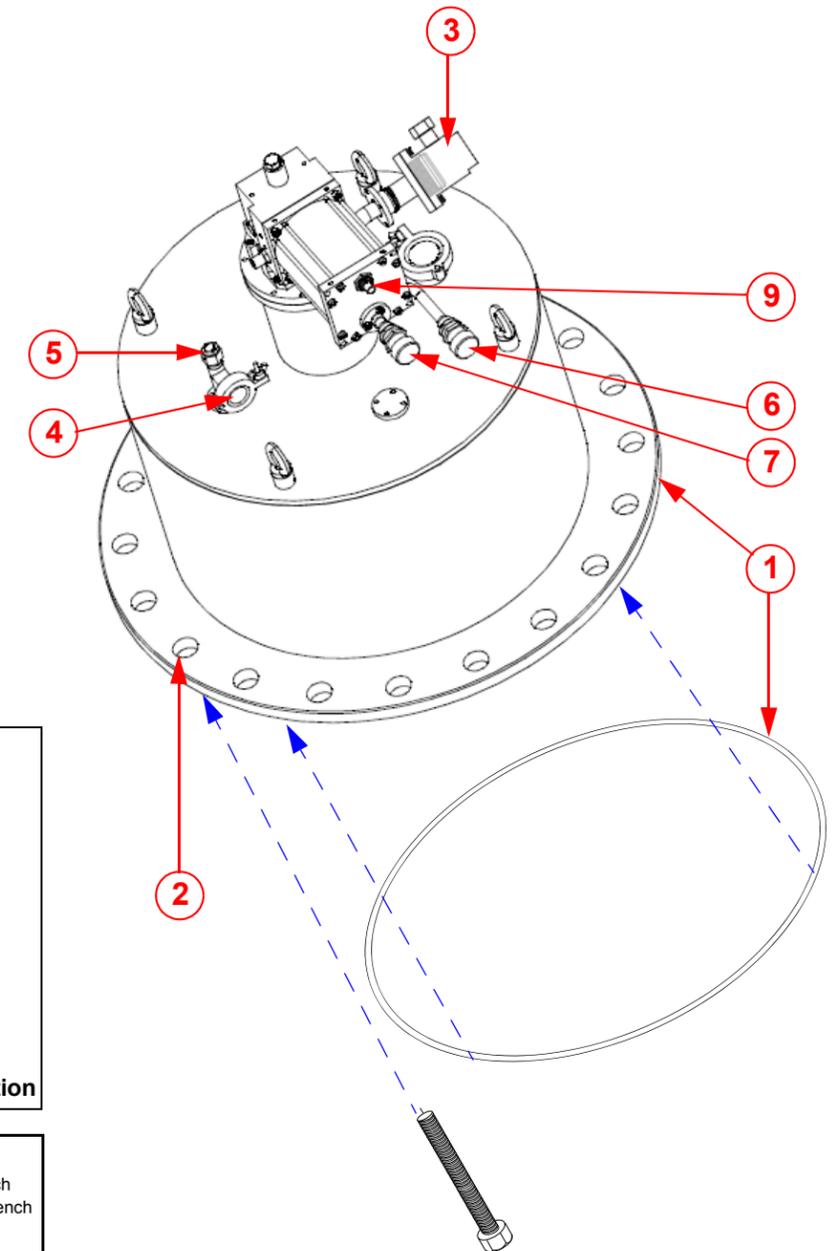


Figure 1 Inset A: Relief Valve Exhaust Connection

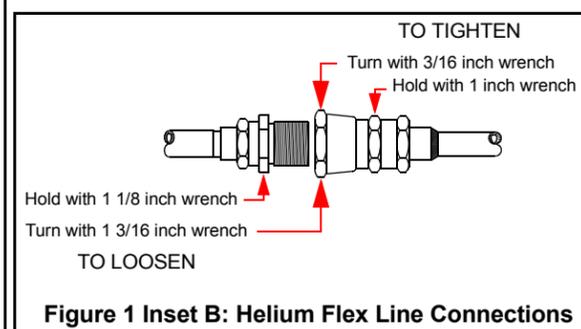


Figure 1 Inset B: Helium Flex Line Connections

Figure 1: 8F Cryopump Basic Connections

Startup the Cryopump

See the 8040613, *Cryo-Torr High-Vacuum Pump Installation, Operation, and Maintenance Instructions*, for details.

Product Information and Technical Support

Please visit the Brooks Automation website at www.brooks.com or email to tscallcenter@brooks.com.