

## Startup the Compressor in Local Mode

See 8040707, 8600 Compressor Installation, Operation, and Maintenance Instructions, for details.

1. Ensure that the power is connected to the compressor. Turn it on and start cryopump operation.
2. Use the allen wrench provided with the compressor (part number 7024020P001) to press the RST switch. The indicator lights cycle from STS 1 through STS 8 continuously.
3. When the STS 4 indicator lights, press the RST switch. This switches the compressor to Local mode. You can now control it manually.

The PWR LED and RDY LED indicators light up (Figure 2) and the alarm buzzer stops, indicating the compressor is ready for operation.



Figure 2: Operation Ready

**NOTE:** If the alarm does not stop and all STS indicators (8) light up, you might be using the reverse phase of input power cable. In this case, rewiring of the input power cable is required. See 8040707 for troubleshooting information.

4. After the second stage temperature for the cryopumps is below 17K, record the compressor pressure gauge reading as the *normal system operating pressure*.

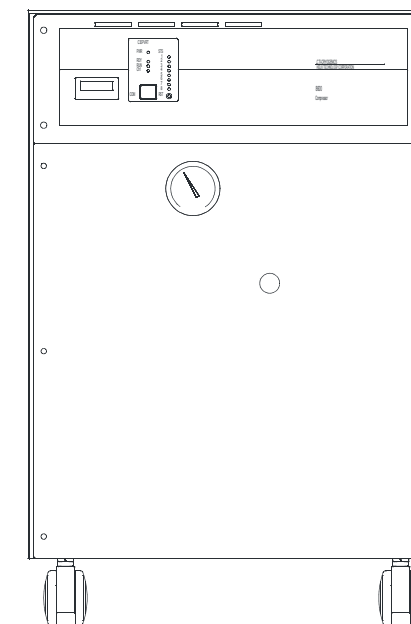
## Product Information and Technical Support

Please visit the Brooks Automation website at [www.brooks.com](http://www.brooks.com) or email to [tscallcenter@brooks.com](mailto:tscallcenter@brooks.com).

# 8600 Compressor Quick Installation Guide

Part Number 8040743, Revision A, 01/11/2013

ECO Number 63723



8600 Compressor Specifications




Cooling Water	General	Electrical
<p><b>Maximum Inlet Temperature:</b> &lt; 101 psig (0.7MPa (gauge))</p> <p><b>Minimum Inlet Temperature:</b> 40° F (5° C)</p> <p><b>Flow Rate:</b> 1.0~3.3 gpm (5~15L/min)</p> <p><b>Pressure Drop (Inlet-to-outlet):</b> 2.9 - 24.6 psi (0.02~0.17MPa). Refer to Water Flow Rate chart in product manual, 8040707.</p> <p><b>Maximum Inlet Pressure:</b> &lt; 101 psig (&lt; 0.7 MPa (gauge))</p>	<p><b>Part Number:</b> 8175001G003</p> <p><b>Input Power Cable:</b> Supplied</p> <p><b>Static Helium Pressure:</b> 200 psig ± 6 psi (1.4 ± 0.04MPa)</p> <p><b>Interface:</b> Cryopump power receptacle mates with CTI-Cryogenics-supplied cryopump power cable for single pump use.</p> <p><b>Gas Supply And Return Connectors:</b> 1/2-inch Aeroquip® Self-sealing Couplings</p> <p><b>Remote Control Receptacle:</b> Supplied</p> <p><b>Adsorber Service Schedule:</b> 24,000 Hours</p> <p>Inclination Angle: &lt; 5°</p> <p><b>Ambient Operating Temperature:</b> 50 - 100° F (10 ~ 38° C)</p> <p>Must be installed in a dust-free and moisture-free area</p>	<p><b>Power Source:</b> 190 - 220 VAC 50Hz and 200 - 230 VAC 60Hz</p> <p><b>Phase:</b> 3</p> <p><b>Power (Normal Operation):</b> 5.2kW @ 50 Hz and 6.8kW@60 Hz</p> <p><b>Minimum Electrical Service:</b> 30 AMPS</p>

## Before You Start

1. Ensure the Cryo-Torr® 20HP Cryopump is installed according to the appropriate *Cryo-Torr 20HP Cryopump Quick Installation Guide*.
2. Read and follow all safety notices in this guide and in the appropriate compressor guides.

## Compressor Safety

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

	<p style="text-align: center;"><b>⚠ WARNING</b></p> <p style="text-align: center;"><b>High Voltage Electric Shock Hazard</b></p> <ol style="list-style-type: none"> <li>1. To avoid electric shock, all electrical work must be performed by qualified personnel, in accordance with all applicable electrical codes.</li> <li>2. Before servicing the compressor, ensure it is locked out and tagged out.</li> <li>3. Disconnect<sup>1</sup> the cryopump from all power sources before making electrical connections between system components, and before performing troubleshooting or maintenance procedures. This includes setting the switch at the power entry module to the OFF position.</li> </ol>
	<p style="text-align: center;"><b>⚠ CAUTION</b></p> <p style="text-align: center;"><b>Tipover Hazard</b></p> <p>To avoid injury from the compressor suddenly moving or tipping, lock all of the casters after you finish moving the compressor.</p>
	<p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;"><b>Over-Temperature Shutdown and Equipment Damage</b></p> <ol style="list-style-type: none"> <li>1. To avoid an over-temperature shutdown due to built up dust and scale in the cooling water line, which raises the helium temperature, ensure you install a water filter between the cooling water main valve and the compressor.</li> <li>2. To avoid an over-temperature shutdown or damage to the heat exchanger, monitor the cooling water for the following: <ul style="list-style-type: none"> <li>• Temperature below 41°F (5°C).</li> <li>• Temperature above 89.6°F (32°C).</li> <li>• An overflow rate that may damage the compressor. See the <i>Installation</i> section of <i>8600 Compressor Installation, Operation, and Maintenance Instructions</i>, part number 8040707.</li> </ul> </li> <li>3. To avoid damaging the input and output connector threads, do not over tighten the ferrules.</li> <li>4. To avoid damaging the compressor, ensure the helium pressure is not in the red zone of the gauge (too little pressure), or above 260 psig (too much pressure).</li> </ol>

1. *Disconnected* is when the power entry module is OFF, or the power cord is detached from the power entry module.

**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*.

## Compressor Connections

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

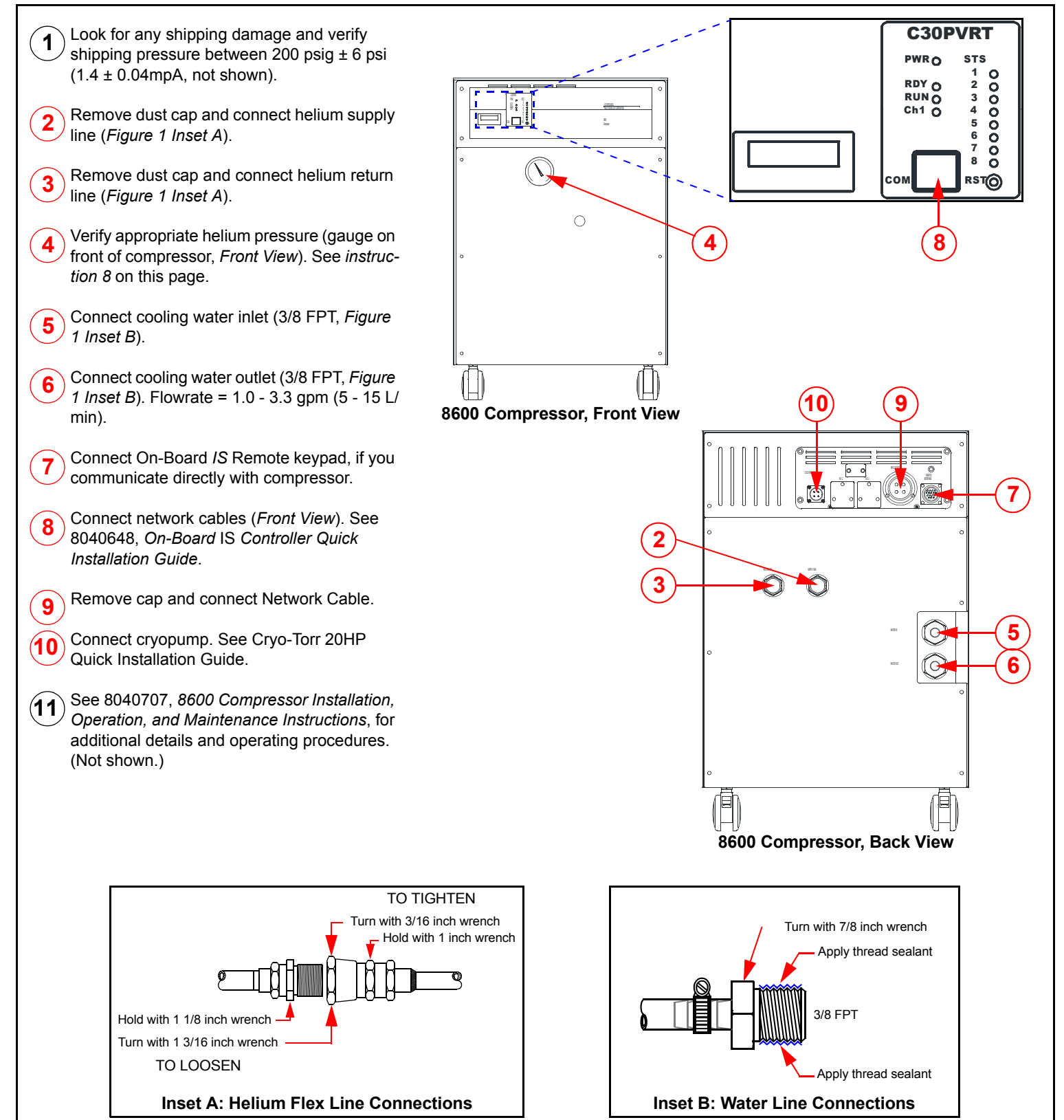


Figure 1: 8600 Compressor Basic Connections