

Safety

1. Read the supplied booklet 'Safety Matters' before using the system.
2. If in doubt about the system operation, refer to the system manual.
3. Use appropriate personal protective equipment to avoid hot / cold burns.
4. Venting the OVC – Only vent the OVC when the system is at room temperature. Only vent with dry nitrogen or air.
5. Ensure the cold unit assembly is properly fitted to the cryostat at all times.
6. This guide assumes an ITC502/503 is being used. If using an alternative controller, see the manual for control information.

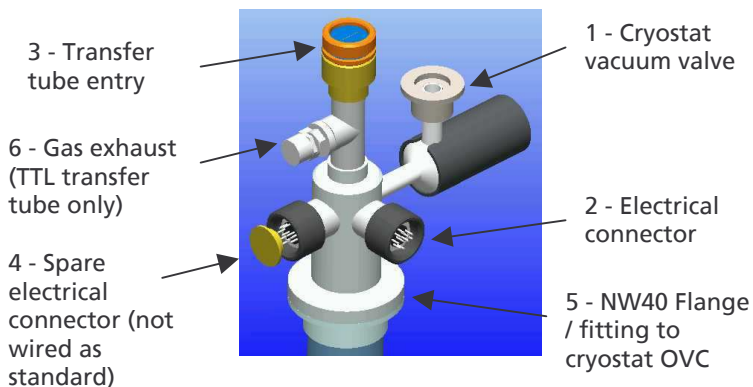
1 Getting Started

- a) Check all your received parts for damage.
- b) Check you have available all the necessary components you may need for your experiment.
- c) Connect pump to cryostat vacuum valve (1).
- d) Evacuate OVC to less than 10^{-4} mbar.

NB: When the system is new it will tend to outgas quicker and degrade the vacuum quality.

2 Preparing the System

- a) Connect all the components of your system together. (See manual for diagram if unsure.)
- b) Check that the transfer tube has been evacuated.



3 Cooling the System to Base

- a) Set temperature below 4.2 K by holding **SET** and pressing **RAISE** or **LOWER**
- b) Fully close the needle valve on the transfer tube, then open by six turns.
- c) Open the valve on the VC31 (by turning anti-clockwise).
- d) Slowly lower the dewar leg of the transfer tube into the dewar.
- e) Push the other end into the entry arm of the cryostat (3). Engage the nut on the transfer tube with the thread on the cryostat and tighten it.
- f) Switch on the GF4 pump. The cryostat should now cool steadily.

4 Controlling at Set Temperature

- a) Set desired temperature by holding **SET** and pressing **RAISE** and **LOWER** to desired temperature.
 - b) Set PID values to nearest shown in test results (ITC502 only)
 - c) Press **AUTO** once on the heater control
- ✓ For optimum performance, use the flow and PID values given in the test results.

5 Changing Samples

- a) Warm the cryostat to room temperature.
- b) Remove the NW40 clamp or undo the OVC screws (5) and remove the cold unit.
- c) After changing the sample, evacuate the OVC (as in step 1d).
- d) Repeat the cooldown process from step 3.

6 Warming Up

- a) Switch off the gas flow pump.
- b) Wait for the pressure in the helium circuit to rise to approximately the storage dewar pressure.
- c) Remove the transfer tube from the cryostat. Immediately fit the special pressure relief valve into the cryostat.



Microstat He & Optistat CF-V Quick Start Guide

