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. Temperature controller – Do not set heater voltage above 12 V for sorb activation. If you are using your own, do not exceed the heater voltage limit stated in the test results.
5. Venting the OVC – Only vent the OVC when the system is at room temperature. Only vent with dry gas (eg nitrogen or air).
6. Ensure NW25 clamp holds sample rod to cryostat at all times.
7. This guide assumes an ITC502/503 is being used. If using an alternative controller, see the manual for control information.

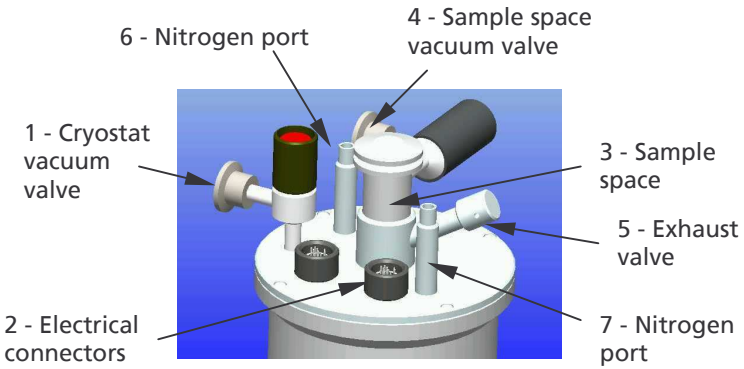
1 Getting Started

Connect pump to cryostat vacuum valve (1)
Evacuate OVC to less than 10^{-4}mbar

Sorb Activation (Do this while cryostat is on pump)

a) Connect short adapter cable to the ten pin seal marked 'sensor', and the long cryostat cable to the temperature controller. Connect the two cables together.
b) Press and hold the heater MAN button and use the RAISE and LOWER buttons to set the heater voltage to 12 V.
c) Leave for at least 4 hours (overnight if possible)
d) Allow to cool for 2hrs
e) Close valve to pump (1)

NB: do not reactivate the sorb when the system is cold



OptistatDN
Quick Start Guide

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+ 44 (0) 1865 393 311
helpdesk.nanoscience@oxinst.co.uk

2 Preparing the System

a) Check / turn off heater by holding MAN and pressing LOWER
b) Remove adapter cable from ten pin seal (2)
c) Connect cryostat cable directly from ITC to ten pin seal (2)
d) Insert sample holder or plug into (3) and pump the sample space
e) Fit full bladder of helium to NW16 flange (4) and fill sample space
f) Open gas exhaust valve (5) by 3 or 4 turns
g) Set temperature below 77 K by holding SET and pressing RAISE or LOWER

3 Cooling the System to Base

a) Connect funnel to LN_2 vent port (6) using rubber tube where necessary. Use a filter in the funnel, e.g. paper towel to remove ice. Fit 20 cm of suitable polythene tube to the other vent (7)
b) Fill reservoir through (6) until liquid comes out of other vent (7)
c) When temperature settles at 77 K, refill nitrogen reservoir

4 Controlling at Set Temperature

a) Close exhaust NV (5) fully and open ¼ to ½ turn
b) Set desired temperature by holding SET and pressing RAISE and LOWER to desired temperature.
c) Set PID values to nearest shown in test results (ITC502 only)
d) Press AUTO once on the heater control

✓ When the nitrogen level falls you may need to adjust the needle valve to achieve the required temperature
✓ For optimum performance, use the flow and PID values given in the test results.

5 Changing Samples

✓ It is good practice to warm the sample space to room temperature before opening
✓ Remember, your sample may be subjected to thermal shock if it is warmed or cooled too quickly
✓ When sample space is open, purge with dry gas (e.g. nitrogen or air)
✓ Seal the sample space as soon as possible, using either a sample rod or the plug supplied with the cryostat

6 Warming Up

a) Set temperature to 300 K, close the needle valve (5) and allow to warm.

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