



ATL Transfer Port Icing Service Advisory

Introduction

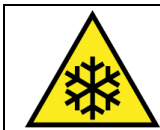
Contamination in an ATL system can accumulate around the transfer port creating a serious safety concern of an over pressure situation in the ATL Dewar. This service advisory will guide the user through a de-icing of the ATL transfer port which will allow the ATL to safely de-pressurize.

Hardware needed:

- 1) Ultra-torr fitting (QD part number: 4321-119)
- 2) Copper or aluminum rod with stop (QD part number: 4315-004)

Troubleshooting

An ice plug in the dewar's transfer port will usually be noticed when the user is unable to fully insert a transfer tube. If this does occur, in order to prevent over pressure conditions, it is necessary to bore through this ice and allow an outlet for the helium gas. Depending on where the ice plug forms, it might mean that internal pressure gauges will read incorrectly. Always assume that a dewar with an ice plug is a serious safety concern.



A dewar with an ice plug must safely be warmed up, and the root cause of the contamination located and corrected before continued use of the equipment. Failure to do so might result in a **cryogenic hazard** that could result in bodily harm and loss of life.

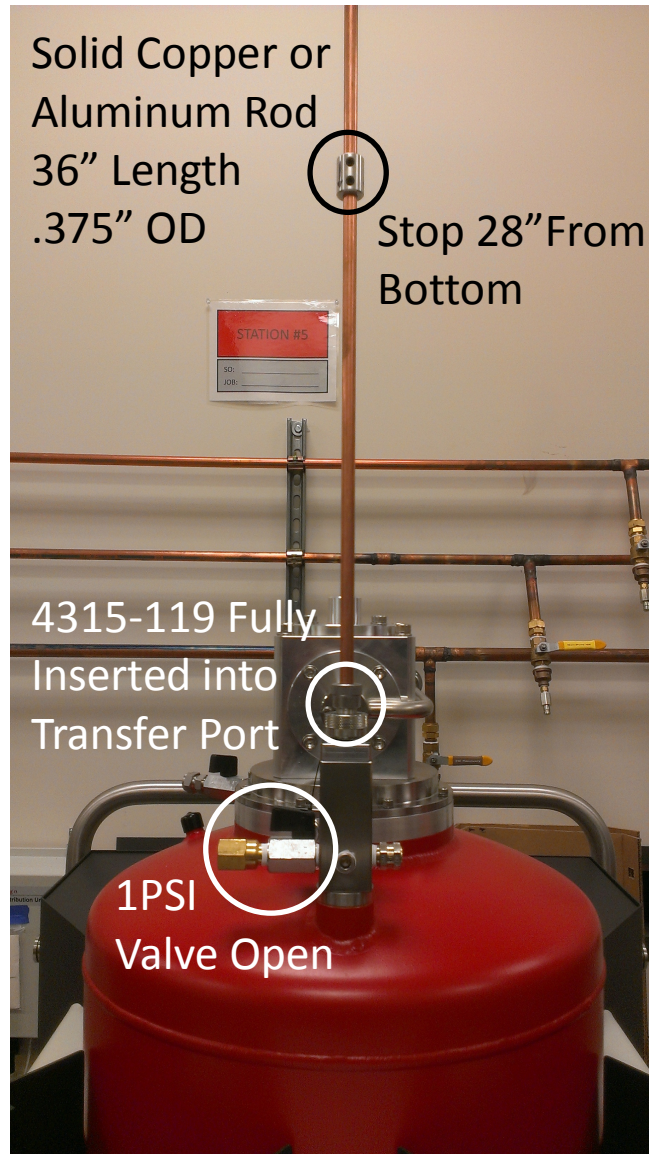
Warm-up procedure

Please immediately do the following:

1. Leave the coldhead and compressor running. Set the ATL to Liquefy Recovery Mode.
2. Open the manual valve by the transfer port to the 1 psi relief valve.
3. Disconnect all recovery or gas feed lines from the ATL and verify that the fittings have sealed properly.
4. Install a 4321-119 ultra torr adaptor as a sleeve, onto the copper or aluminum rod such that the end of the rod is flush with the end of the adaptor (see Figure below). Note if you have a 3/8" transfer port the 4321-119 adaptor is not necessary.



5. Insert the rod and adaptor into the transfer port, such that it touches the ice build-up. The rod will provide a thermal short to room temperature, and its weight will be sufficient to pierce through the ice. It is necessary to ensure the rod is loose enough in the transfer port to freely slide into the dewar under its own weight.



Under no circumstances should you attempt to puncture the ice by use of a repeated stabbing action, as this runs the risk of gouging the inner construct of the dewar, and thus compromise the vacuum sleeve and create a sudden release of pressure.

6. Leave the rod inserted until gas stops escaping from the 1 psi relief valve.
7. Once an ice plug has formed the ATL needs to be warmed to room temperature to completely clear the ice. Contact your local Quantum Design Technical Support office if you believe that your ATL has an ice plug so that we may support further.



The following preventative measures should be taken to ensure that contamination or a more serious ice blockage does not occur:

1. The blanking plug should always be installed atop the transfer port except when a liquid transfer is occurring.
2. The o-ring under the knurled cap which seals to the plug and transfer tube should be checked for sealing integrity at every transfer.
3. Complete a thorough purge before connecting any hose to the helium gas circuit.
4. Never leave an ATL valve or hose open to atmosphere.