



## PROCEDURE

<b>Title</b>	<b>Hot GN2 Purge Process</b>
<b>Control No.:</b>	<b>15941</b>

**Purpose:** This procedure defines a generic process for purging a dosing unit using hot GN2. The exact procedure may be different from customer to customer based upon the variables at the customer site including but not limited to: environment, system use, and products being dosed. The customer must define what works best in his specific application.

**General:** Introducing (“purging”) with gaseous nitrogen, GN2 is extremely important for the proper functioning of any cryogenic system. Moisture in the form of the product being dosed or in the air can migrate into the dosing system and create ice when liquid nitrogen is introduced. Ice then causes blockages preventing the liquid nitrogen from being dispensed. Purging with gaseous nitrogen will dry out the moisture and minimize or eliminate the formation of ice.

**Procedure:** The introduction of gaseous nitrogen can be performed as follows:

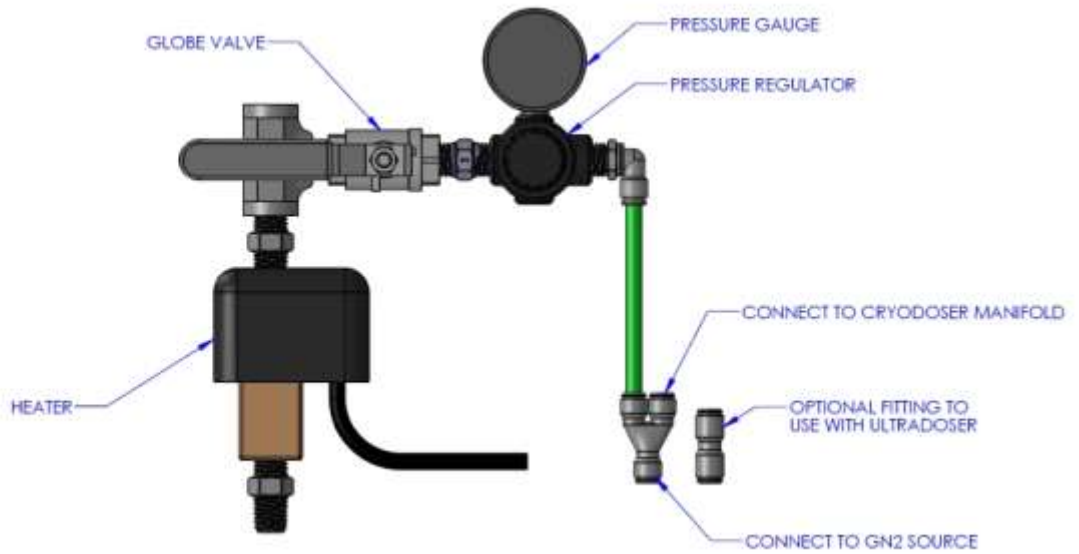
1. Prior to filling the dosing unit with liquid nitrogen.
2. While the doser has liquid nitrogen in it. Note; liquid will be consumed (vaporized) with the introduction of the heated gas.
3. When the doser is not being used; non-dosed product being produced.
4. Short term defrosting of any ice
5. Longer term purging to create positive pressure within the doser thereby preventing moisture from entering.

The standard procedure for a gaseous purge generally involves the following steps:

1. Closing the dewar liquid valve (blue handle) clockwise to prevent liquid nitrogen entering the transfer hose and doser.
2. Verifying gas inlet to the purge kit exists.
3. Connecting the power cord of the heater.
4. Opening the globe valve on the purge kit
5. If running a longer term purge the gas pressure should be between approximately 2psi and 5psi.
6. If a short term such as defrosting a nozzle, or to purge the doser vessel, a higher pressure may be used, 20psi to 40psi is suitable.
7. If defrosting the dosing head area, power needs to be applied to the solenoid valve.

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**Components:** The following drawing illustrates the standard components that make up the purge heater assembly.

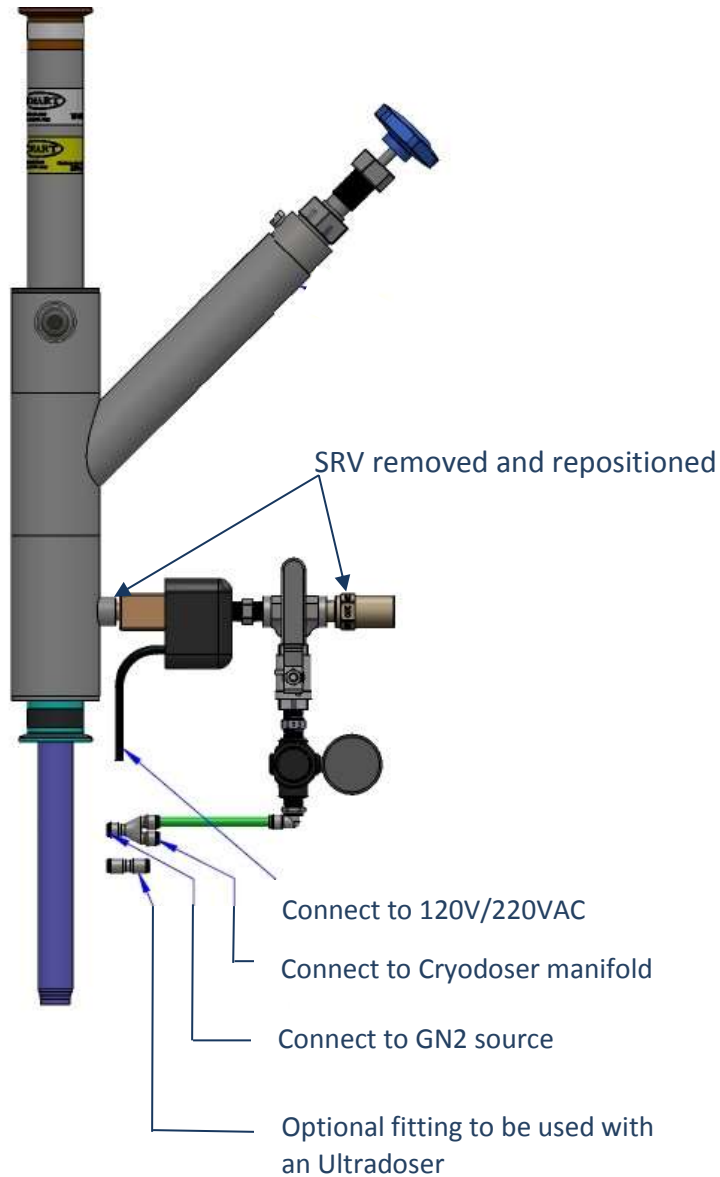


**Figure 1.** Purge heater components

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Installation of the purge heater parts on to a y-pattern valve are shown in the illustration below. Note that the relief valve (SRV) is first removed from the y-pattern valve in order to thread in the purge heater assembly. The SRV is then repositioned on to the purge kit



**Figure 2.** Purge heater components on y-pattern valve