

7.1.66 80K Cooler Operations

1. Purpose

This procedure provides instructions for normal 80K cooler operations.

2. Responsibilities

2.1 The Shift Supervisor, or an Operator designated by the Shift Supervisor, is responsible for conducting the procedure and providing documentation in the Cryogenic Control Room Log and in the Cryogenic Valve Log.

2.2 Should a problem arise during the completion of this procedure, the Shift Supervisor shall contact the Technical Supervisor for instructions before continuing.

3. Prerequisites

3.1 System Pumped and Purged

3.2 Insulating Vacuum Established

3.3 Electrical and Mechanical Checkouts complete

3.4 The Glycol system should be charged and running.

3.5 The N2 dewar at 1006B should be at least 85 % filled.

3.6 Ring flow paths should be aligned for 80K cooler operations

3.7 COOLER VALVE SETUP:

The following Valves Should be **CLOSED**:

All valves connecting the cooler to the 6 o'clock valve box

H9374A	H9375A	H9369A	H9364A	H9359A
H9354A	H9370A	H9365A	H9360A	H9355A

Nitrogen Valves

N3801A	N3803A	N3809A	N3821M	N3811M	N3812M
N3813M	N3814M	N3815M	N3816M	N3817M	N3819M
N3820M	N3823M	N3840M			
N3822M					

Helium Valves

Circulating Loop

H9601M	H9602M	H9604M	H9606M	H9615M	
H9624M	H9621M	H9617M	H9613M	H9621M	H9632M
H9633M	H9635M	H9636M	H9634M	H9637M	H9638M
H9639M					
H9640M	H9641M				

Cooldown Circuit

H9630A	H9627M	H9629A	H9642M	H9643M	H9644M
H9645M	H9646M	H9647M			

The following Valves should be **OPEN**

All instrumentation valves on cooler and transfer lines

Nitrogen Valves

N3800M	N3802M	N3804M	N3806M	N3808M	N3810M
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Helium Valves

Circulating Loop

H9600M	H9603M	H9605A	H9607A	H9610A	H9611A
H9614A	H9616M	H9618A	H9619A		
H9622A	H9623M	H9625M	H9624M	H9617M	H9613M
H9609M	H9601M	H9631M			

4. Precautions

None

5. Procedure

- 5.1 Pressurize cooler cool down circuit to 10 Atm Via makeup Valve
- 5.2 Set makeup valve to maintain 10 atm in circulating loop, as read on PI850H
- 5.3 Fill each HX2, HX3 and HX4 to 75%, as read on level indicators via N2 fill valves.
- 5.4 Set N2 fill valves to maintain level at 75%
- 5.5 Pressures in 6 o'clock valve box M and H lines should be within 2 ATM of Pressure in 80K cooler. Temperatures in ring should be below 80K.

5.6 Open Supply and return valves on 80 K cooler xfer lines.

H9369A	H9364A	H9359A	H9354A	H9370A
H9365A	H9360A	H9355A		

5.7 Start on C3020. Increase to 2000 RPM. Flow through cooler until temperatures are all below 120 K.

5.8 Start C2, increase to until 2000 rpm.

5.9 Start C3. Slowly increase speed on each circulator until approximately 15000 rpm on each.

5.10 Monitor return temperate in M and H lines in both rings. Should be approximately 100K. Use valves in cooler transfer lines to split flow according to the following:

H-flow	120g/s
M-flow	30g/s

6. Documentation

None

7. References

None

8. Attachments

None