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## SMD Operations Procedures Manual

### 8.1.3.9 OPERATION OF MAGCOOL HELIUM PURIFIERS

Text Pages 1 through 3

#### Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Division Head

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### **8.1.3.9 Operation of MAGCOOL Helium Purifiers**

#### **1.0 Purpose**

This procedure provides instructions for STARTUP/SHUTDOWN and operations of the MAGCOOL helium purifiers.

#### **2.0 Responsibilities and Scope**

- 2.1 Operator is responsible for STARTUP/SHUTDOWN operation and regeneration of purifiers.
- 2.2 The operation is responsible for the control of environmental aspects as defined in course number AM-ENV-F56.

#### **3.0 Prerequisites**

- 3.1 Operator shall be instructed by a supervisor or designee.
- 3.2 Instruction shall include operation of 100 HP Sullairs and MAGCOOL pump and purge system.

#### **4.0 Precautions**

Ear protection shall be worn in the compressor room. Ensure personnel near units are authorized or accompanied by authorized personnel.

#### **5.0 Procedure**

- 5.1 On the **day before** starting Pump and Purge and Cooldown of a magnet in the Horizontal Test Facility (HTF):
  - 5.1.1 Check I/O rack - all switches should be in their middle position. This is the Computer Control Mode.
  - 5.1.2 Exception

If switches for DOV 100 (A,B,C,D,E) or DOV 102 (A,B,C,D,E) are in their down position, i.e.; manually closed; leave them closed. This means there are valves leaking into the pump-out manifold.
- 5.2 To PUMP DOWN PURIFIER A OR B:

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5.2.1 Turn on **VAC** pump A manually. Enter in Logbook.

5.2.2 At computer CRT, display pg. D5 “Purifiers A and B” as shown in Figure 1. The screen displays flow diagram of the dual purifiers. The selection control manuals are located in the left side of the screen. Put cursor on Manual A or B **PUMP** and hit **OPEN** or **ON** key. Enter start time in Logbook.

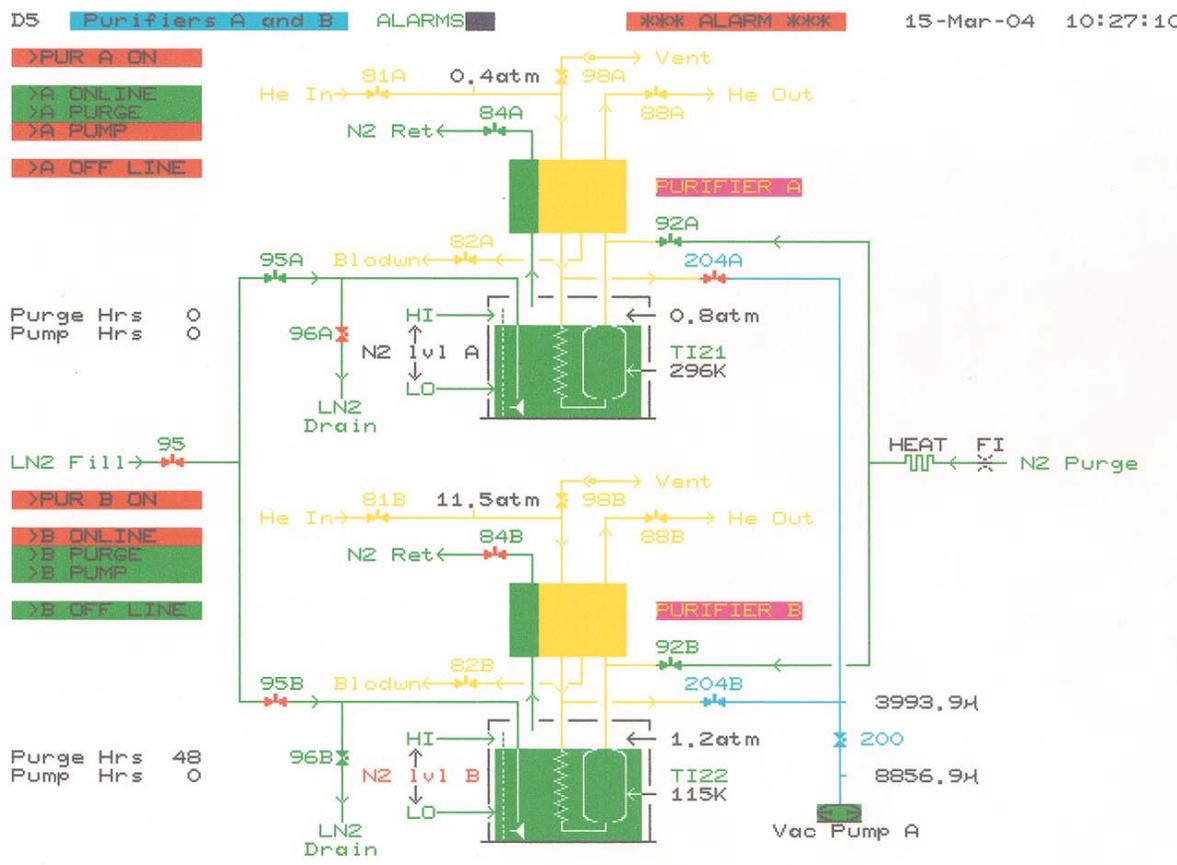


Figure 1. Display of control page D5 for MAGCOOL helium purifiers

#### 5.4 Purifier Startup

5.4.1 Display pg. D3, and bring cursor to CS-4. Press **OPEN** or **ON**.

5.4.2 Wait for CS4 **ON LINE** flag to turn **RED**.

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5.4.3 Bring cursor to A or B **PUMP**, press **CLOSE or OFF** key.

5.4.4 Bring cursor to A or B **ON LINE**, press **OPEN or ON**. Wait. When purifier cools to 150<sup>0</sup> K and at 10 atm pressure, the **ON LINE** flag will show above the purifier in use. Purifier is now ready for magnet pump and purge. Enter "on-line" time in Logbook.

5.4.5 If CS-4 goes off, or temperature goes higher then 120<sup>0</sup>, or the pressure drops under 8 atmosphere. The purifier will go off line.

5.5 To take purifier off line. Move **cursor** to **off line flag** and hit **OPEN or ON**. Enter "off-line" time in Logbook.

5.6 To Regenerator Purifiers

5.6.1 This will be done automatically by the computer.

5.6.2 Upon finishing regeneration it will automatically go to on line state and remove the purifier on line state and remove the purifier on line and regenerate.

5.7 To stop the automatic regeneration

5.7.1 Just put the off line flag on the purifier being regenerated. Enter in Logbook.

## **6.0 Documentation**

Documentation is kept in the CRYOGENIC Logbook located in Bldg. 902.

## **7.0 References**

Operators and Maintenance manual provided by CVI is kept in the CRYOGENIC Control Room.

An Operators Program Guide and an Operations Guide is given to all operators and a copy is kept in the CRYOGENIC Control Room.

## **8.0 Attachments**

None