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## SMD Operations Procedures Manual

### 8.1.3.14 OPERATION OF THE WARMUP SYSTEM

Text Pages 1 through 2

#### Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Revision No. 01

Approved:

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Division Head

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### **8.1.3.14 Operation of the Warmup System**

#### **1.0 Purpose**

This procedure provides Instructions for Startup, Shutdown, and Operation of the warmup system.

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

Operators are responsible for Startup, Shutdown and Operation of the Warmup System.

#### **3.0 Prerequisites**

- 3.1 Operator shall be instructed by a supervisor or designee.
- 3.2 Instruction shall include operation of 100 HP Sullairs, Purifier System.

#### **4.0 Precautions**

Hearing protection to be worn in the Compressor Room.

- 4.1 Ensure that no personnel are near units to be started unless they are issued hearing protection and are accompanied by authorized personnel.

#### **5.0 Procedure**

To put magnet into Warmup from Test and Measure

- 5.1 Start CS4. Wait for **ON LINE** flag. Enter compressor start time in Logbook.
- 5.2 Purifier A or B **ON LINE**.
- 5.3 Start CS6. Wait for **ON LINE** flag. Enter compressor start time in Logbook.
- 5.4 Display pg. D9, 10. Bring cursor to **TEST & MEASURE**. Press **CLOSE or OFF**. Enter in Logbook.
- 5.5 Bring cursor to **WARMUP**, press **OPEN or ON**. **WARMUP** will begin. Enter in Logbook.

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- 5.6 Operation of Warmup is computer controlled. Process condition and the controller can be seen from the computer screen, Figure 1. In Figure 1, the heat exchangers and by-pass mixing flow are shown. Temperatures to and from the magnet are given in the lower left corner. The controllers, for flow split between heat exchanger and by-pass line, are located in the upper left. Trends for differential across the magnet and magnet outlet temperature are given in the upper right.
- 5.7 Initially, the program goes through a slow warmup period to avoid generating helium gas too rapidly. Once the magnet reaches about 10? K, the program switches to normal speed.
- 5.8 When magnet is warm. System will automatically go out of warmup and display install and remove flag.
- 5.9 When remove and install flag is showing the operator should make sure no pressure is left in magnet.
  - 5.8.1 Check to make sure **DOV 114, A, B, C, D, OR E**, is in an open position.
- 5.10 Remove air from stand which magnet is to be removed.

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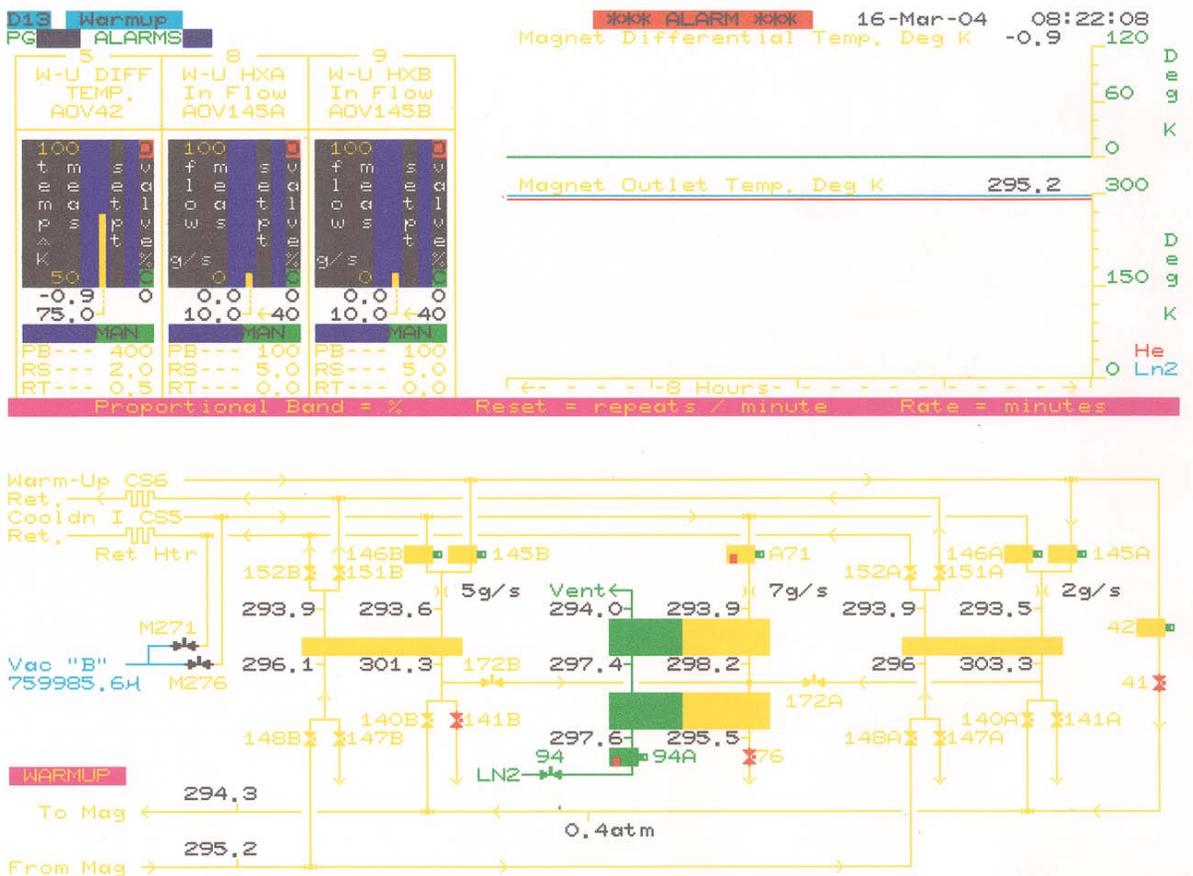


Figure 1. Display of control page D13 for Warmup

## 6.0 Documentation

Documentation is kept in MAGCOOL Logbook located in Building 902.

## 7.0 References

- 7.1 Operation and Maintenance manual provided by CVI is kept in the CRYOGENIC Control Room located in Building 902.
- 7.2 An Operators Program Guide and an Operations Guide is given to all operators and a copy is kept in CRYOGENIC Control Room.

## 8.0 Attachments

None