

ENVIRONMENTAL AND PROCESS AIR SPECIFICATIONS  
for the  
ULTRA-HIGH PRECISION STEREOCOMPARATOR

1. Film cooling air - intermediate pressure:  
35 psig - 4 cfm, 20 watts to dissipate, total.  
To match room ambient air.

2. Lamp cooling air - low pressure:  
5" H<sub>2</sub>O at supply, 2-1/2" H<sub>2</sub>O at distribution header.  
1/2" change in pressure through  equipment. STAT

- a. 2 of 450 watts = 130 cfm (for 2 lamps with 50°F rise) (Under the floor)
  - b. 2 of 75 watts = 40 cfm (for 2 lamps with 50°F rise) (Up in the instrument)
- To match room ambient air.

c. Optical bridge:  
Total 4 watts to be dissipated at 1/4°F rise.  
To match room ambient air.  
100 cfm total, 1" H<sub>2</sub>O at header. No return system.

3. Cabinet cooling

	<u>Peak Watts</u>	<u>Average Watts</u>
a. Electronic - #1 - 2000 cfm	9900	5500
b. Electronic - #2 - 1300 cfm	4400	3300
c. Electronic - #3 - 2400 cfm	6050	6050
d. Electronic - #4 - 450 cfm	1100	1100

Air temperature exit from cabinet 72°F ± 5°F.  
2-1/2" H<sub>2</sub>O at distribution header. 1/2" change in pressure through  
NRI equipment.

4. Sub-platen cooling

25 watt total, 1/4°F rise - 300 cfm (2 platens), 1" H<sub>2</sub>O at header.  
No return system. To match ambient air.

5. Teletype - 5 amps at 110 volts = 550 watts.
6. Card punch - 5 amps at 110 volts = 550 watts.
7. Control console - 275 watts.  
1°F rise - 1000 cfm - Pressure change = 1/2" H<sub>2</sub>O through  equipment. STAT  
Supplied with room ambient air.
8. People:  
2 operators, 2 visitors, 2 engineers, 2 servicemen, 4 supervisors.  
Total of 12 people.
9. Air bearings:  
1 cfm - refrigerate to room ambient air - 150 psig ( compressor). STAT  
No return system.
10. Film lift - off.  
6 cfm - room ambient air - 35 psig. No return system.
11. Vacuum system -  pump). STAT
12. Room ambient conditions -  
72°F ± 0.5°F - 55% RH, ± 5% RH - Particle count class 100 clean room.
13. Optical servo systems - total
  - a. Optical bridge - connected load 1100 watts.  
average load 200 watts.
  - b. Illumination system - connected load 2080 watts.  
average load 500 watts.
  - c. Stage drives - connected load 6600 watts.  
average load with film clamped 400 watts.  
average load with film unclamped, i.e., film drive  
servos on "ready" or in operation, 3200 watts.