

Spec. #11

STAT

14 May 1968 (3 pages)

**INSTALLATION REQUIREMENTS FOR THE
ULTRA-HIGH PRECISION STEREOCOMPARATOR**

I. INSTRUMENT

- A. Name of instrument: Ultra-High Precision Stereocomparator
 B. Manufacturer:
 C. Contract number:
 D. Delivery date: Tentative: January 12, 1970

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II. PHYSICAL FEATURES

- A. Sub-assemblies:
1. Number of sub-assemblies: N/A
Main frame
 2. Largest sub-assembly: Weight 6000 lbs; 18" H x 123" W x 74" D
 3. Heaviest sub-assembly: Weight 6000 lbs; 18" H x 123" W x 74" D
- B. Assembled instrument:
1. Number of major components: 7
 2. Largest component: Weight 27000 lbs; 90" H x 160" W x 96" D
 3. Heaviest component: Weight 27000 lbs; 90" H x 160" W x 96" D
 4. Total floor space required after assembly, including maintenance access space: 10' H x 18' W x 28' D
 5. Total weight of assembled instrument: 32,000 lbs.
- C. Type of base of mount: 4-point suspension
- D. Does the instrument have built-in mobility? No.
- E. Is the instrument particularly sensitive to vibration? Yes.
Will the instrument generate vibration? No.
- F. Are any special or unusual tools or fixtures necessary or advisable for the installation or the maintenance of this instrument? No (mechanical).

III. UTILITIES

- A. Electrical:
1. Voltage 110/120 volts A.C., 208 V A.C., 24 V D.C. 440 3 phase
 2. Current 100 Amps/phase
 3. Frequency 60 cps
 4. Nr. of phases 3 Ph
 5. Nr. of wires 4
 6. Power Required 40,000 watts
 7. Power factor .7 (Lagging)
 8. Type of outlet: Permanent 24 volt control system
 9. Type of ground: Direct earth ground.
 10. Should the instrument be shielded, either from external electromagnetic signals or to prevent interference with other equipment? Yes.
If "Yes," to what extent? Machine will be self-shielded.

14 May 1968

B. Air conditioning:

1. Desired environment: Room air temperature of $72^{\circ}\text{F} \pm 0.5^{\circ}\text{F}$ and relative humidity of $55\% \pm 5\%$. (At the machine)
2. Input Air: Is a direct connection necessary? Yes.
Required input air temperature $72^{\circ}\text{F} \pm 0.5^{\circ}\text{F}$.
Relative humidity $55\% \pm 5\%$.
Maximum particle size in entering air less than 1 micrometer diameter.
3. (a) Film cooling air - Intermediate pressure
35 psig - 4 cfm, 20 watts to dissipate, total,
To match room ambient air.
- (b) Lamp cooling air - Low pressure
5" H₂O at supply, 2-1/2" H₂O at distribution header, 1/2" change
in pressure through equipment STAT
 - 1) 450 watts = 130 cfm (for 2 lamps with 50°F rise)
 - 2) 75 watts = 40 cfm (for 2 lamps with 50°F rise)
To match room ambient air
 - 3) Optical bridge
Total 4 watts to be dissipated at 1/4°F rise
To match room ambient air
100 cfm total
1" H₂O at header - No return system
- (c) Cabinet cooling

<ol style="list-style-type: none"> 1) (Electronic) - #1 - 2000 cfm 2) (Electronic) - #2 - 1300 cfm 3) (Electronic) - #3 - 2400 cfm 4) (Utilities) - #4 - 450 cfm 	} 2-1/2" H ₂ O at distribution header 1/2" change in pressure through NRI equipment
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- (d) Sub-Platen Cooling
25 watt total, 1/4°F rise - 300 cfm (2 platens), 1" H₂O at header - no
return. To match room ambient air
- (e) Teletype - 5 amps at 110 volts = 550 watts
- (f) Card Punch - 5 amps at 110 volts = 550 watts
- (g) Control console - 275 watts
1°F rise - 1000 cfm - Pressure change = 1/2" H₂O through NRI equipment.
Supplied with room ambient air
- (h) People
2 operators, 2 visitors, 2 engineers, 2 service men, 4 supervisors.
Total of 12 people.
- (i) Air-Bearing
1 cfm - Refrigerate to room ambient air - 150 psig COMPRESSOR STAT
No return system
- (j) Film lift off
35 cfm - Room ambient air - 35 psig - No return system
- (k) Vacuum system - PUMP) STAT
- (l) Room ambient conditions
 $72^{\circ}\text{F} \pm 0.5^{\circ}\text{F}$ - 60% RH - 10% RH - Particle count, class 100 clean room

NOTE: Atmospheric pressure at equipment. STAT**C. No water is required.****D. Compressed air:**

Is compressed air required? Yes. Water free and oil free.
Pressure 35 psig.
Flow in CFM maximum 10, minimum 1, average 4.

14 May 1968

E. No vacuum is required.

F. Peripheral Devices:

The instrument is connected to a peripheral computer by a cable and connector mating with cannon connector number RWK-8-31SL. Connections are specified by logic diagram, output interface, number EE 5832.

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Information provided by:

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