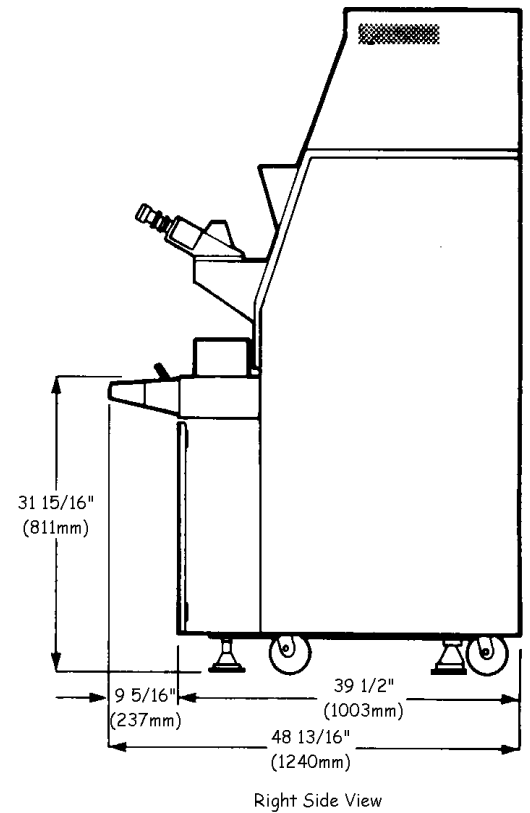
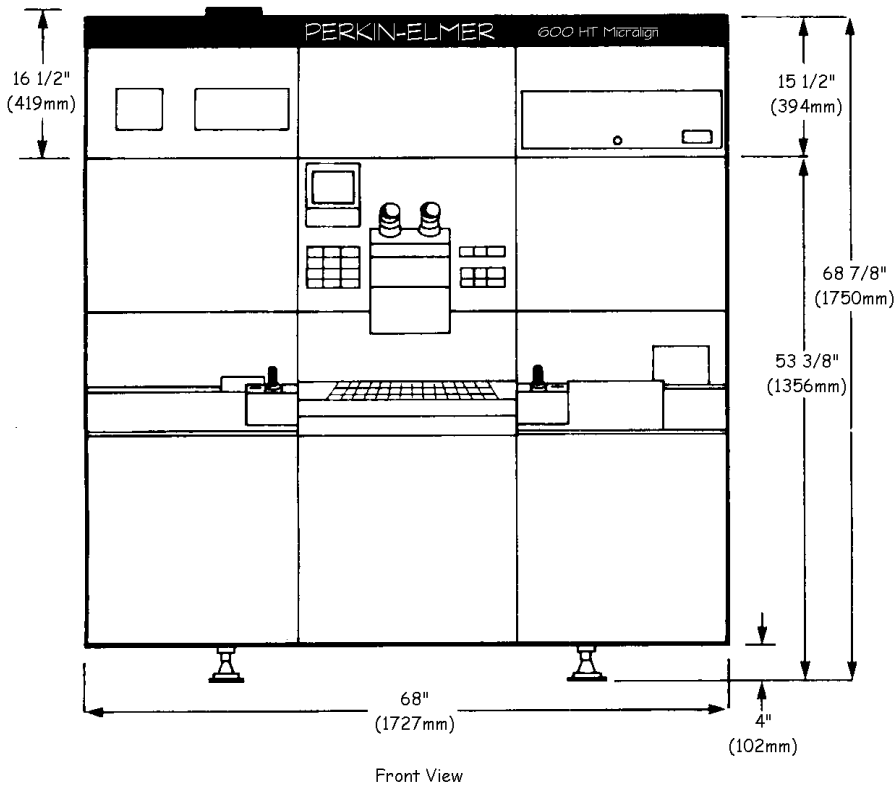


Micralign M600HT Series Projection Mask Aligner Environmental/Utilities Specifications

Service Consortium Inc.
 1759 South Main Street Suite 100
 Milpitas, CA 95035-6765
 (408) 935-9700 Fax: (408) 719-9700



Dimensional Outlines of the Micralign 600 HT Series.

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1. Air-Compressed

Pressure: 80-100 PSIG
Flowrate: 20 SCFM
Temperature: Ambient (measured at connection to Micralign)
Quality: Dew point: -40 C
Oil Content: Less than one part per million
Particle Size: Less than 0.9 micron (Equipment to supply such air is available from Pall Trinity Micro Corp., Cortland, NY 13045)
Fitting: Swagelok keyed quick-connect
No. SS-QC8-S-8PMK1 Color Code: Black
Customer to supply such air via 3/8" I.D. flexible hose to Swagelok fitting No. SS-QC8-B-8PFK1 Color Code: Black

2. Autofocus Air Gauge Supply

Pressure: 80-100 PSIG
Flowrate: 4.0 SCFM
Temperature: Ambient
Quality: Dew point: -40 C
Oil Content: Less than 0.003 parts per million
Particle Size: Less than 0.01 micron
Filters: In-Line (Wilkerson) Coalescing Filter
Part No. M20-02-F00
(Wilkerson) Absorption Filter Part No. M20-02-X00 or Engineering approved equivalent
Fitting: Swagelok keyed quick-connect
No. SS-QC6-S-4PMK6 Color Code: White
Customer to supply such air via 1/4" I.D. flexible hose to Swagelok fitting No. SS QC6-B-4PFK6 Color Code: White

3. Vacuum

Pressure: At least 22 inches Hg below ambient
Flowrate: 1.5 SCFM (Measured at connection to Micralign)
Fitting: Swagelok keyed quick-connect
No. SS-QC6-S-4PMK3 Color Code: Green
Customer to supply vacuum via 1/4" I.D. flexible hose to Swagelok fitting No. SS QC6-B-4PFK3 Color Code: Green

4. Nitrogen

Pressure: 50-100 PSIG
Flowrate: 17 SCFM
Quality: High purity: (typical properties: minimum purity 99.99%, maximum moisture 3 PPM) Measured at connection to Micralign
Fitting: Swagelok keyed quick-connect
No. SS-QC6-S-4PMK2 Color Code: Orange
Customer to supply such air via 1/4" I.D. flexible hose to Swagelok fitting No. SS QC6-B-4PFK2 Color Code: Orange

5. Helium

Pressure: 4-5 PSIG (Measured at connection to Micralign)
Recommended regulator at each machine: LINDE SSC-5.
If this regulator is not used, a separate purge source is recommended.
Purge: 72 SCF required for initial purge
27 SCFH max
To purge at lower flow rates, consult chart in M600HT Service Manual
Filter: A submicron filter on the input line is recommended
Recommended filter: Airco, Model B91
Normal Usage: 3 SCF/day maximum
Recommended flowmeters: LINDE Model FM4301-1 (5-85 cc/min) for usage
LINDE Model FM4301-5 (0.1 - 19.2 liters/min) for purge
Quality: High purity: (typical properties: Minimum purity: 99.997% maximum moisture 5PPM)
Fitting: Swagelok keyed quick-connect
No. SS-QC6-S-4PMK8 Color Code: Brown
Customer to supply helium via 1/4" I.D. flexible hose to Swagelok fitting No. SS QC6-B-4PFK8 Color Code: Brown

6. Exhaust Air-Electronics and Condenser Cooling

Flowrate: 150-200 SCFM (0.75 to 1.0 inch H₂O below ambient as measured on "HPC FLOW" setting located on Environmental Control System)
Fitting: Tube extension for 6" inside diameter flexible hose
Suggested vendor: R.B. Birge Co., 22 Webster Ave., Bridgeport, CT 06607 (203) 368-3481 - 6" dia. White flexible vent hose

NOTE:

*An exhaust fan is not supplied in the M600HT; therefore, exhaust capability must be provided by the user.
Exhaust air is normally drawn directly from the room environment. A user may, however, supply clean, oil-free air from outside the room through inlet adapter ducts, but the air must meet the following conditions: 72 ± 5 F @ 50% R.H. maximum and 0.0 to 0.2 inches H₂O relative to room ambient conditions. The flow required will be between 150-200 SCFM, and should be adjustable with a damper. This exhaust air may contain mercury vapor and ozone and, therefore, must not be mixed with air used within the building. Provisions must be made to dispose of this air safely.*

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7. Chilled Air - Input to Environmental Control System

NOTE:

The M600HT Environmental Control System contains only a heater with a temperature control system and a HEPA type filter. (99.97% retention of 0.3 micron particles). It is recommended that the M600HT Environmental Control System be operated with a fixed temperature setting of 72 F. The user must supply oil-free air that meets the requirements outlined below.

Flowrate: 150-180 SCFM (0.45-0.60 inch H₂O on "HEPA FLOW" setting)
Pressure: 1.8-2.2 inches H₂O above ambient (Measured at connection to Micralign)
Temperature: I. Minimum temp: 12 F below maximum desired environmental control setting
II. Maximum temp: 2 F below minimum desired environmental control setting
III. Rate of change: 10 F/hour maximum
Relative Humidity: 30-50% maximum at the controlled temperature within the Micralign
Fitting: Tube extensions for 6" inside diameter flexible hose
Suggested vendor: R.B. Birge Co., 22 Webster Ave., Bridgeport, CT 06607 (203) 368-3481 - 6" dia. White flexible vent hose

8. Air - Room Ambient

It is required that the room ambient air be held within ± 3 F of the environmental control temperature setting.

9. Electrical Requirements

9.1 Main Power Chassis

All power to the system is controlled by the Main Power Chassis. It contains the system main power circuit breaker disconnect, a circuit protector for power to the M600HT and a circuit-protected receptacle into which the Environmental Control System is connected. Provisions are also made for a 24VAC E.P.O. circuit within the chassis.

Required Service: 182-264 VAC, Single Phase, 60Hz, 30 Amp rating (50Hz available on special order). Operating Power Consumption: 4.3 kW maximum.

Fitting: Use flexible line cord with Hubbell Twist-Lock Plug No. 2621 (3-wire; single phase plus equipment safety ground) and Hubbell No. 2621 Twist-Lock wall receptacle. Suggested vendor: Harvey Hubbell, State Street & Bostwick Avenue, Bridgeport, CT 06602

9.2 Micralign M600HT

The M600HT receives power from the circuit protector which is located in the Main Power Chassis. Depending on the nominal line voltage, connect the taps on the isolation transformer (T202) using the following criteria:

Nominal Voltage	Operating Range	Taps
202 VRMS	182-222 VRMS	1-2
220 VRMS	198-242 VRMS	1-3
240 VRMS	216-264 VRMS	1-4

9.3 Environmental Control System

The Environmental Control System is supplied power via its line cord from the circuit protected twist-lock receptacle located in the Main Power Chassis.

9.4 Utility Outlet for Test Equipment

Required Service: 105-115 VAC, Single Phase, 50 or 60Hz, 15 Amp service

10. Leveling Requirements

Use four Armstrong 2-Ton Machine Jacks P/N 79-917 or equivalent. The criteria for leveling and the method to be used are covered in the M600HT Service Manual.

11. Weight: 2,600 Pounds

11.1 Maximum floor loading 2,200 PSI between caster and floor.

12. Floor Vibration and Acoustic Noise Limits

Consult Applications Engineering for available information on acceptable floor vibration and acoustic noise levels.