



HARRIS ENVIRONMENTAL SYSTEMS

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Please print this document and email or fax your info to us at (978-475-7903). We will respond immediately to your needs and specifications.

PROJECT _____

CONTACT _____

COMPANY/INSTITUTION _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

PHONE NO. _____ FAX NO. _____

1. CHAMBER PURPOSE/USE

A. STORAGE

- 1) Product _____ 2) Stability Testing _____ Plant Growth _____
4) Heat producing equipment in chamber. Describe in BTUs, watts or HP.

B. WORKING "LABORATORY" CHAMBER

- 1) People in lab at one time _____ 2) Approximate door openings per day _____
3) Heat producing equipment in chamber. Describe in BTUH, watts or HP.

C. SPECIAL

2. SITE INSTALLATION CRITERIA

A. Building type: New _____ Existing _____ Renovation _____

B. Floor type: Concrete _____ Other _____

C. Size of space available for chamber: _____ W x _____ L x _____ H

D. Space: Air-conditioned _____ Non Air -conditioned _____

E. Loading docks available: Yes _____ No _____



F. Freight Elevator: Yes _____ No _____
SYSTEMS

G. Building limitations (doorways, overhead duct, pipe, columns). Describe

H. Condensing Unit Location: Indoors at chamber _____ Indoors remote _____
Outside on ground level _____ Outside on roof _____
Other _____ Estimated piping distance _____

I. Type of condensing unit: Air-cooled _____ Water Cooled _____

J. Power available for equipment

1) Control panel: 120/208/60/3 phase 4-wire _____ 120/208/60/1-phase/ 4-wire _____

Special order: 460/480/60/3 phase 4-wire _____ Other _____

2) Compressor, condensing unit: 208/230/60/3 phase 4-wire _____
460/480/60/3 phase 4-wire _____

Other Power available _____

K. Water supply for water-cooled condensing unit:

Chilled Water Temp. _____ Cooling Tower Water Temp. _____

L. Water supply available for steam humidifier on elevated humidity chambers:

Yes _____ Deionized _____ Reverse Osmosis _____ No _____

M. Exhaust duct available for desiccant reactivation waste air on low humidity chambers.

Yes _____ No _____

3. CHAMBER DESCRIPTION

A) SIZE

1.) Room Nominal size _____ W x _____ L x _____ H

Notes: Attached you will find a sizing chart. Remember that our nominal size is the outside dimensions of the chamber and you will lose 8" when figuring inside dimensions due to panel thickness. Our standard chamber height is 9'6" with a floor, 9'2" without a floor.

Notes:

a) Try to stay with the standard sizes on the worksheet. Special sizes and configurations add to the cost of the project.

b) Clearance required around each wall is 2" to prevent condensation on outside walls.

c) Clearance required above the chamber is 6" from any overhead pipe, duct etc.

B. FINISH

1.) Walls/Ceiling

a) Interior 1. Aluminum: White painted aluminum _____ Unpainted Aluminum _____

2. Stainless: 22 Ga #4 finish _____

3. Galvanized: Painted White _____ Unpainted _____

b) Exterior 1. Aluminum: White painted aluminum _____ Unpainted Aluminum _____

2. Stainless: 22 Ga #4 finish _____

3. Galvanized: Painted White _____ Unpainted _____

2.) Floors (4" urethane insulation)

Floor Covering for insulated floor : Sheet vinyl _____ Stainless _____ Galvanized _____

Special Describe: _____



SYSTEMS

C. DOORS

Notes: (Door finishes same as interior, exterior above.)

- 1) 34"x78" (Standard) Left hand hinge _____ Right hand hinge _____
- 2) Additional doors, quantity and size _____
- 3) Optional door sizes
 - 30" x 78" _____ 48" x 84" _____
 - 48" x 78" _____ 60" x 84" _____ Other _____
- 4) Optional view window: 12" x 12" _____ 14-1/2" x 23" _____

4. CHAMBER PERFORMANCE

A. TEMPERATURE RANGE

- 1) 0 to 10 C Cold Room
- 2) 20 to 40 C Warm Room
- 3) -10 C Freezer
- 4) -20 C Low Temp Freezer
- 5) -40 C Cascade System Freezer
- 6) 0 C to 40 C Wide Range Room
- 7) Ambient to 90 C High Temp Room
- 8) _____ C Constant Temp Room.....

B. CONDITIONING SYSTEM

- 1) Internal Ceiling evaporator (positive pressure plenum) _____ (Type A AHU)
For rooms A1,A2, A6,A7 above. Achievable uniformity +/- 0.5 C
- 2) Stainless Plenum Air Handler with low wall return..... _____ (Type B AHU)
For rooms A1,A2,A6,A7 where stainless components are required. Achievable uniformity +/- 0.5 C
- 3) Exterior duct conditioning package. Special For ranges A6, A7 above.

Note: The Stainless Air Handler with wall plenum, Type B2, is more expensive than ceiling plenum evaporators. It is often utilized in process pharmaceutical environmental room applications.

C. TEMPERATURE GRADIENT (Also called Volumetric Uniformity)

- 1) _____ +/- 1.0 C hot gas bypasses system with proportional heat where applicable.
- 2) _____ +/- 2.0 C hot gas bypasses system with proportional heat where applicable.
- 3) _____ +/- _____ Other

Note: Temperature gradient is the variation between any two points in each Room, with sensors no closer than 12" from the chamber floor or within 12" from the walls. Most biomedical, research and industrial chamber applications utilize ± 1.0 C or ± 2°C as a standard gradient.



D. RELATIVE HUMIDITY CONTROL : YES _____ NO _____

- 1) _____ Constant Humidity control above ambient humidity to _____ % RH
- 2) _____ Constant Humidity control below ambient humidity to _____ % RH
- 3) _____ Special. What humidity level and at what temperature range is desirable for your research?

E. RELATIVE HUMIDITY UNIFORMITY

- 1) _____ +/- 5% achieved with microprocessor based humidity control and temperature dependent.
- 2) _____ +/- 3% achieved with microprocessor based humidity control and temperature dependent.
- 3) _____ +/- 1% achieved with microprocessor based humidity control and temperature dependent.

Note: Relative humidity uniformity is the variation between two points across a horizontal plane 40" off the chamber floor and to within 12" from the walls. In our research we have found that to have close tolerance humidity control (+/- 3% proportional) you must also invest in a proportional temperature control system because humidity levels are critically dependant on temperature and therefore its control.

F. LIGHTING

- 1) 70 f.c. fluorescent _____
 - 2) 50 f.c. fluorescent _____
 - 3) 50 f.c. vapor proof incandescent _____
 - 4) Other lighting requirements _____
 - 5) Plant growth chamber or tissue culture chambers _____ f.c at _____ inches from the floor _____
- Describe type of light source, variable intensity levels and timers required.

5. CHAMBER ACCESSORIES

A. FLOOR COVERING

- 1) _____ 5/32 Grey diamond tread vinyl floor mat, Entire floor _____ Runner _____
- 2) _____ 1/8" aluminum diamond tread plate for floor reinforcement beyond 600 lbs/sq.ft.
- 3) _____ Sheet vinyl floor covering _____

B. LAY-IN CEILING GRID (For light diffusion and air uniformity.)

- 1) _____ Standard 2 x 4 grid with white eggcrate
- 2) _____ Standard perforated 2x4 grid with lay-in grid diffusers
- 3) _____ None

C. RECORDER

Number of pens: One temperature only _____ Two. Temperature/humidity _____

D. OUTLETS (Show room location on room sketch sheet.)

Quantity _____ volts _____ #wire _____ Quantity _____ volts _____ #wire _____



E. SHELVING (Show shelving units and required lengths of each unit on room sketch sheet.

- 1) Open wire _____ Solid _____ Louvered _____
- 2) Freestanding _____ Wall mounted _____
- 3) Finish: Stainless _____ Epoxy coated plated _____
- 4) Depth: 14" _____ 18" _____ 21" _____ 24" _____ 30" _____ 36" _____
- 5) No. of tiers: 4 _____ 8 _____ Other _____
- 6) Post height: 63" _____ 74" _____ 86" _____

Note: Stainless steel shelving and epoxy coated plated shelving are recommended for cold rooms and corrosive atmospheres. For warm, dry environments plated shelving can be used. Be aware that stainless steel can double shelving costs. Wall mounted shelving is not designed for heavy load bearing capacity. For heavy loading, use freestanding shelves.

6. SPECIAL NOTES

Furniture, instrumentation, explosion proof requirements, floor drains, etc.

7. ROOM SKETCH

Please draw a plan view of the environmental rooms you require on this page.

