



HALCO PRODUCTS COMPANY

100 N. Gordon Street - Elk Grove Village, IL 60007-1193

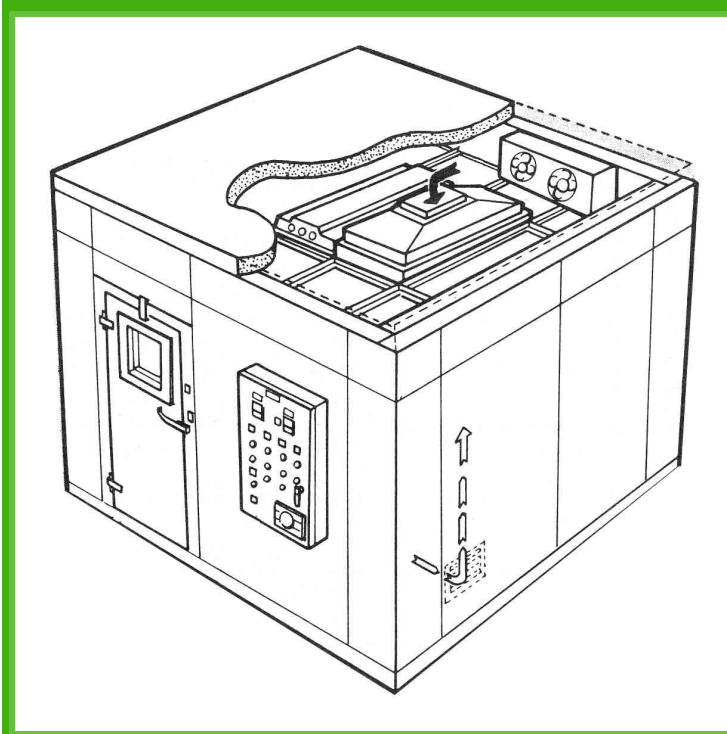
Tel: 847-956-1600 - Fax: 847-956-0595

E-Mail: Info@Halco-Products.com

Website: www.Halco-Products.com



ENVIRONMENTAL CHAMBER CLEAN ROOM SERIES 400 WALL SYSTEM



COMPARE THE SERIES FEATURES & BENEFITS

- Factory designed instrumentation/controls*
- Factory installed finished panels*
- Factory installed double glaze windows*
- Factory installed intake grilles*
- Factory installed conduit & boxes*
- Factory installed door frames*
- Factory installed air charge*
- Factory prefabbed cooling/heating*
- Factory humidification/dehumidification*
- Self-trimming*
- Cam Lock Interlocking*
- Self-aligning expansion joints*
- Wall module interface sealing*
- Modular design for ease in construction*
- Altitude capability*

WALL FINISHES

- Galvanized Steel
- Stainless Steel
- Aluminum
- Ceramic Coated Walls
- Special Material

HALCO PRODUCTS COMPANY specializes in providing Clean or Sterile Modular Air Systems. The AIR-LOCK system has been designed to meet cleanliness levels of Class 100,000 to Class 100. We have engineered and designed this system to provide airtight interfacing while providing features unequalled in the construction industry. Features such as self-trimming module interface, self-aligning expansion joints and wall module interface sealing provides to the end user an air tight room or facility.

MODULAR DESIGN

The modular design of the SERIES 400 WALL SYSTEMS offers environmental and contamination control providing efficiency to the operation and installation of the room. Components such as doors, windows, air intake grilles, electrical conduit boxes are incorporated within the SERIES 400 wall system at the factory.

SPECIALS

THE SERIES 400 WALL SYSTEM offers to the user or contractor a complete range of engineered wall module sections. Special wall modules can be fabricated to meet precise needs to accommodate pass thru, ovens, etc.

SUPPORT EQUIPMENT

HALCO uses industrial quality refrigeration components, heating systems, humidification and dehumidification equipment. All components are designed for heavy duty usage.

- Temperature: -100 F to +250F
- Humidity: 5% to 98%
- Dew point control.
- Altitude to 250,000 feet.

DETAILS

Shelving, casework and counter sinks are available in many materials. Specialized lighting, pure water and air systems can be custom designed.

ENVIRONMENTAL CHAMBER - CLEAN ROOM SERIES 400 WALL SYSTEM

ITEM #	DESCRIPTION OF WALL SECTIONS
400-01	Standard Wall Module. 4" Thick Insulated within exterior and interior, metal surfaces, tongue and groove edges.
400-001	Floor (Similar to walls) 700# Per Sq. Ft. Loading
400-02	Air Handling Module. Includes return air chase and intake grill.
400-03	Window module. Includes view port ___" X ___" (Optional heater for low temperature applications)
400-04	Window/Air Handling Module. Flush window both sides and air chase with intake grill.
400-051A*	Door Section Flush type ___" X ___" Brushed chrome handle and hinges, safety release, FRP frame and jamb. (optional heater) Magnetic gaskets.
400-052A*	Two (2) door sections flush type ___" X ___" same as #W 5/1
400-053A	Sliding door for large opening ___" X ___" With casings and header. (Optional electric operation)
400-054A*	Reach in doors for minor access or pass thru applications. ___" X ___"
400-058	Vacuum outlets for central vacuum.
400-061	Duplex electric outlet 115/60/1Ø box and conduit.
400-062	Duplex electric outlet 220/60/1Ø box and conduit.
400-063	Electrical box and conduit/Emergency lights.
400-064	Electrical box and conduit/Exit signs
400-064	Electrical box and conduit/Thermostat
400-07	Switch, electrical box and conduit
400-08	Corner Module 90 - 12" wide
400-09	Ramps for floor

* Substitute S for A for special construction.

AIRTIGHT INTERLOCKING:

The SERIES 400 module incorporates our unique designed framework forming the vertical air chases and providing features such as self-aligning expansion joints, sealing interconnection and self-trimming interfacing of each wall module section. The airtight interlocking eliminates the need for over design of the mechanical air system due to air losses.

DIMENSIONS:	
Exterior Depth	<input type="checkbox"/> 4" <input type="checkbox"/> 5" <input type="checkbox"/> ___" Optional
Intake Grille Size	<input type="checkbox"/> 36" X 20" <input type="checkbox"/> ___" X ___" Optional <input type="checkbox"/> with pre-filter
Wall Module Width	<input type="checkbox"/> 11 1/2" <input type="checkbox"/> 23" <input type="checkbox"/> 34 1/2" <input type="checkbox"/> 46"
Wall Module Height	<input type="checkbox"/> 6' <input type="checkbox"/> 7' <input type="checkbox"/> 8' <input type="checkbox"/> 9' <input type="checkbox"/> 10' <input type="checkbox"/> 11' <input type="checkbox"/> 12' <input type="checkbox"/> 13'

MATERIALS:	
Framing System	<input type="checkbox"/> Extruded Anodized Aluminum <input type="checkbox"/> Stainless Steel <input type="checkbox"/> Galvanized Steel
Horz/Vert. Track	<input type="checkbox"/> Extruded Anodized Aluminum <input type="checkbox"/> Galvanized Steel (Painted) <input type="checkbox"/> Fiberglass
Intake Grilles	<input type="checkbox"/> Anodized Aluminum <input type="checkbox"/> Stainless Steel
Window	<input type="checkbox"/> 36" X 30" <input type="checkbox"/> ___" X ___" (Optional)
Window Glass	<input type="checkbox"/> Clear .125 Tempered <input type="checkbox"/> Amber .125 UVA <input type="checkbox"/> Safety Glass
Door Frames	<input type="checkbox"/> FRP <input type="checkbox"/> Stainless Steel
Door	<input type="checkbox"/> 4" <input type="checkbox"/> 5" Swing <input type="checkbox"/> LEFT <input type="checkbox"/> RIGHT
Panel Core	Foamed in place urethane between exterior metal facing R Factor 33.3. Panels have tongue and groove edges and camlock locking assemblies. Vinyl gaskets provide tight seal.
Panel Finish	<input type="checkbox"/> Galvanized stucco <input type="checkbox"/> Stainless Steel <input type="checkbox"/> Steel painted baked enamel <input type="checkbox"/> Aluminum <input type="checkbox"/> FRP Laminate
Weight	Average 3.5 lbs. per sq. ft.

CHAMBER ASSEMBLY:

SERIES 400 module offers ease of assembly in limited space. This also allows relocation with relative ease. The floor panels are similar to the ceiling/wall panels. They support 700 pounds per sq. ft. Optional flooring is available upon requirement.

ENVIRONMENTAL CHAMBER CLEAN ROOM SERIES 400 (CEILING & FLOOR SELECTIONS)

ITEM # 1	DESCRIPTION
400-100	Ceiling Grid
-101	<input type="checkbox"/> Extruded Aluminum
-102	<input type="checkbox"/> Fiberglass
-103	<input type="checkbox"/> Galvanized Steel
400-110	Upper Ceiling Plenum Deck
-111	<input type="checkbox"/> 2" thick
-112	<input type="checkbox"/> 4" thick
400-120	Perforated Floor Module System with 2'X2' floor modules with leg supports and levelers. <input type="checkbox"/> Aluminum <input type="checkbox"/> Metal <input type="checkbox"/> Wood core
400-130	Magnehelic mounted Communicator. <input type="checkbox"/> Flush Mounted
400-131	<input type="checkbox"/> Surface Mounted
400-132	2'X4' Ceiling Panel (Standard)
400-140	2'X4' Ceiling Panel (Woodcore-laminated)
-141	2'X4' Ceiling Panel (Ceramic coated)
-142	2'X4' Ceiling Panel (Aluminum Honey comb)
-143	Structural steel roof support for rigid deck. *Specify weight support.
400-150	Upper mechanical roof system to allow equipment to be put on roof.
-152	Access ladder to roof.
400-160	Heating/Cooling system <input type="checkbox"/> See spec sheet for details.
-161	Humidification/Dehumidification <input type="checkbox"/> See spec sheet for details.
-165	Halco FT-24-3M-LO HEPA module (low profile) 99.97% eff. 800CFM, 240 watt 1 <input type="checkbox"/> Optional Construction (Advise)
166	Upper Ceiling Plenum HEPA Blower Module with Lights
400-170	Halco CR-244 2'x 4' Troffer
-171	Halco TD 2', 4' or 6' Tear drop

FLOOR PANEL

All steel floor panel design is adapted for both the steel clad and formed steel panels. The unique design of the perforated panel provides the high structural strength needed for any type room where air is supplied through the plenum. Perforated panels have 25% open area. Optional damper is controlled from the top of the panel.

Woodcore Aluminum Galvanized Other

BLOWER MODULES

Ceiling modules fit all standard 2' X 4' T-Bar systems. All units are factory sealed, ready for Installation. Modules are supplied with 6" thick HEPA filter. Optional 3" 'separatorless' filters are also available.

CEILING GRID * See Options Below

Extruded aluminum for corrosive resistance, structural integrity and good looks.

Use to control the air leaks which occur between the clean room and plenum in a normal suspended ceiling. The gasket seals the horizontal surface of air filters and panels where they rest on the grid. The compression causes gaps to fill horizontally between system members (i.e. main tees to cross tees and wail angle.)

Finished to match ceiling in clear satin or painted finish. Available pre-gasketed to seal plenum and eliminate air leaks. Several types of gaskets are available: adhesive on one or both sides, polyvinyl, neoprene and polyethylene, or anti-bacterial and flame retardant. Various thicknesses are also available. Designed and manufactured to meet the exacting standards of the clean room industry. Applications also include the food service and hospital industries. Available in standard modules of 2' X 2', 2' X 4', 4' X 4' or any custom size modules.

Fiberglass Extruded Galvanized Other

UPPER CEILING PLENUM HEPA BLOWER MODULE WITH LIGHTS

This ceiling plenum module is a compromise between an individual downflow HEPA blower module and a prefabricated laminar downflow clean room. The ceiling module can be hung or suspended from any existing ceiling using threaded support rods. This method eliminates the need to install, set and erect a piece-meal ceiling system.

This self-contained unit is delivered ready for operation. Motor, blowers and HEPA filters are mounted for easy access. Fluorescent lighting in each unit allows illumination in the work area. Optional accessories: Ion Grid 20 Mil Curtains Laminated Stainless steel Epoxy Painted Steel

SEALED TROFFER LIGHT FIXTURE

Sealed housing keeps contaminants from room. Easily installed in 1-1/2" T-bar ceiling. Door hinges easily insertable at either side of housing. Finger activated spring steel latches control door. Available: 2' X 2', 2' X 4' or 1' X 4' sizes, 120V or 277V with energy savings ballast standard.
 Flow-thru design or Tear drop fixtures

DECK CONSTRUCTION

Each panel shall consist of an interior and exterior standard FRP with a frame retainer. These panels shall be separated by rigid, self-extinguishing insulation which adheres to the interior of the surfaces providing increased structural strength. Panels shall have butt joints with alignment pins to insure flush erection. Each joint shall have vinyl gaskets to provide maximum sealing efficiency. Aluminum both sides Painted Galvanized Stainless steel Built-up Construction

SAMPLE SPECIFICATIONS

DESIGN --- The HALCO Series 400 Module Wall System shall be engineered and designed to meet design options including standard wall or air handling modules. The materials selected shall provide quality wall module construction and best meet the application process. The HALCO Series 400 shall be an architecturally complete modular system. All chosen materials shall be of the highest quality and with the design directed to assure rapid installation.

WALL FRAMING --- The HALCO Series 400 Modular Framing System shall be constructed of heavy duty extruded, clear anodized aluminum which provides self-trimming and self-aligning and sealing expansion joints. Keyed camlocks shall be mechanically fastened with framework which will provide positive interlocking of each wall module section. Wall framing shall be designed to carry the required weight as specified. Special structural sections can be provided.

PANELS --- The standard panel core shall be 4" thick modules filled with foamed in place insulation, laminated sides with painted steel. The substrate shall be inorganic for reduced expansion and warp due to moisture. All panels shall be sealed within the framework to assure an airtight seal. Panel interface shall utilize gasketing or silicone to assure airtight interface and also provide expansion joint interface. The Series 400 Wall System shall be free of trim throughout the construction due to its self-trimming design. All return grilles shall be constructed of extruded, clear anodized aluminum components. Grilles permit the frame to be opened and securely closed without the need of tools.

FINISHES --- The substrate shall be faced with smooth, white, painted steel, which will provide excellent resistance to disinfectants and chemicals to the wall surface. Optional surfaces can be provided. The interior shall be finished to prevent particle generation. Other finishes available.

WINDOWS --- The HALCO Series 400 Window Wall Module shall be 36.00 by 30.00 inch viewing area on both panel surfaces. The window design shall be a flush aerodynamic design. Window frames shall be extruded, clear anodized aluminum with .125" thick tempered glass. All window wall modules can also be provided as return air walls for air handling capability.

DOORS --- Heavy duty 1-3/4" aluminum doors shall be provided with or without vision lights. Doors shall be supplied with hardware such as passage sets, hinges and closures. Other styles available upon request.

DOOR FRAMES --- Door frames shall be heavy duty, measuring 1-3/4" by 4-1/2" and are mechanically fastened. Frames shall be designed for heavy traffic areas. Frames shall be virtually flush to the wall framing system. Special designed door modules can be provided with removable headers to allow for equipment in or out of clean room area(s). Wall modules shall be pre-plumbed with non-metallic conduit and boxes, for duplex outlets, switches, HALCO Communicator, emergency lights, exit signs, thermostat, etc.

MECHANICAL---HALCO Series 400 System shall be factory designed and engineered to provide temperature/humidity/altitude criteria as established in the scope details. A central control module shall monitor and control all systems as required. All ancillary systems shall be operated through this panel. (I.E. Fire suppression or special lighting.)

- * **TOTAL DESIGN RESPONSIBILITY**
- * **PRELIMINARY BUDGET**
- * **COMPLETE DESIGN OF SYSTEM**

Halco Products Company guarantees this product against defect in material and workmanship for a period of one year from the date of purchase. If found defective within that period and returned with the shipping charges prepaid to the factory, it will be repaired or replaced, at the manufacturer's option, free of charge. This guarantee is void on any product which has been improperly installed, abused or altered in any manner. Other than the preceding obligations, the manufacturer assumes no liability in regard to the sale or use of this product This warranty is in lieu of any other, either expressed or implied by Halco Products Company, its distributors or any associated sales outlet.



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