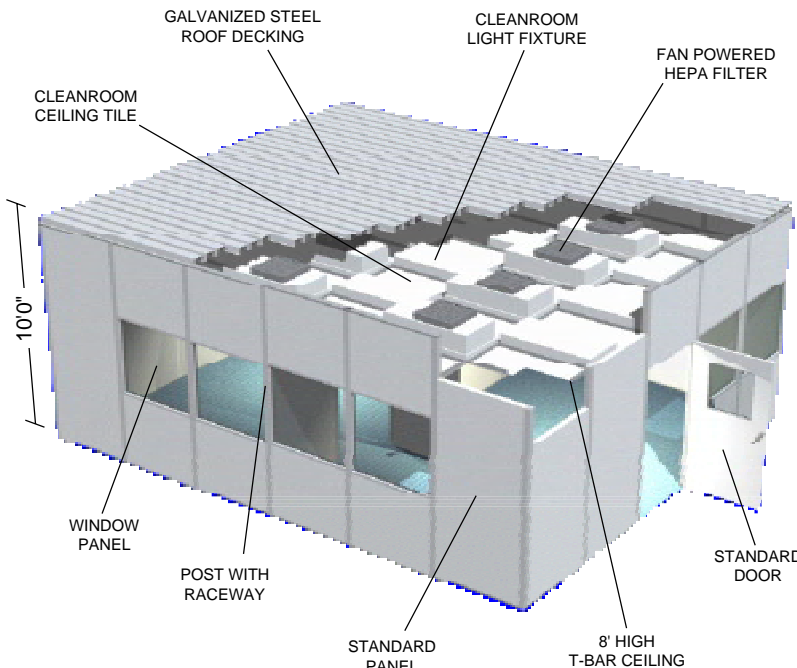




HDW Series Hardwall Cleanrooms are designed to provide a clean, Environmentally Controlled Environment. Clean levels are available from Class 100,000 to Class 1 (ISO Standards Class 1 thru Class 8), with Temperature and/or Humidity control.

The standard system consists of a Panelized Wall Structure that supports the Roof and Ceiling Grid material. Filtered air is provided by Self Powered Filter Units mounted in Ceiling that draw outside air through a Prefilter and deliver filtered air through a Hepa filter into Cleanroom. Filtered air is exhausted from Cleanroom through adjustable Exhaust Vents near Floor level. Clean levels will vary depending on quantity and configuration of Filters.

All components are prefabricated and completely Modular in design. Packages can be installed by End User or by our Factory Trained Technicians. Call factory direct for prices on standard or custom sizes.



SPECIFICATIONS:

HDW Series Modular Hardwall Cleanrooms:

Factory Prefabricated Modular Systems are designed to offer the greatest flexibility possible. Our modular components allow for future expansion and upgrades or relocation of complete system. Installation in most cases can be performed by the End User in a few days.

Wall Construction:

Based on a 3-inch thick panelized wall system supported by a series of Clear Anodized Aluminum extrusions. Wall panels can be ordered in a wide variety of materials and finishes. Standard panel is a double faced Kraft Honeycomb core with 1/8" White Melamine covered Hardboard both sides. Panel sizes are nominal 4-feet wide with heights from 8-feet to 14-feet and higher. Doors and windows are pre-hung for installation ease. Return air cutouts are framed in Aluminum Extrusions. Electrical is concealed inside Wall Post Cavity for Outlets, Light Switches, Conduits, etc.

Ceiling and Roof System:

Heavy Duty Steel Cleanroom T-Grid with a 2 foot by 4 foot pattern supports Filters, Light Fixtures, Cleanroom Tiles, and includes Gasketing material. Cleanroom Grid is supported by Corrugated Steel Deck, Panel Roof or Structural Steel. Aluminum T-Grid and Gel Grid Ceiling Systems are available for special applications.

Filtration Systems:

Designed to meet Federal standard 209E with a variety of air flow designs. Single Pass or Recirculating systems with Unidirectional or Non-Unidirectional air flow patterns are available. Filtration levels from Class 100,000 to Class 1. Standard Units are 2' x 4' Self Powered HEPA Filters, 99.99% @ .3 microns efficiency, with a 1' x 1' x 1" 30% pleated disposable Prefilter. Internal fans have Backward Incline Impellers with Direct Drive Motors, Statically Balanced, and require 115V-4.1A-1Ph-60 HZ power, or optional 115V-1A 1ph 60 hz power.

Environmental Control Packages:

Can be included to control Temperature and Humidity levels based on process requirements. Existing HVAC systems can be incorporated into design in some cases.

Options:

Ante/Gown Rooms, Air Showers, Pass-Thru air lock, ESD walls-ceilings-and-floors, Raised Floors, Vinyl Cleanroom and Tile floors, Single and Double Doors, Windows, Cleanroom tables and other furniture, Amber colored lights and windows, Pressure Gauges, Equipment Platforms, Pre-Fab Steel Floor, Installation, Certification, and Modular Wiring Systems.

model#	nominal size	model#	nominal size
HDW-8810	8'6"X8'6"	HDW-121210	12'6"X12'6"
HDW-81010	8'6"X10'6"	HDW-121410	12'6"X14'6"
HDW-81210	8'6"X12'6"	HDW-121610	12'6"X16'6"
HDW-101010	10'6"X10'6"	HDW-121810	12'6"X18'6"
HDW-101210	10'6"X12'6"	HDW-122010	12'6"X20'6"
HDW-101410	10'6"X14'6"	HDW-161610	16'6"X16'6"
HDW-101610	10'6"X16'6"	HDW-161810	16'6"X18'6"
HDW-101810	10'6"X18'6"	HDW-162010	16'6"X20'6"
HDW-102010	10'6"X20'6"	HDW-202010	20'6"X20'6"

Specify Class: (A)=100,000 (B)=10,000 (C)=1,000 (D)=100 (E)=10 example: for a HDW-888 Class 10 add "E" to model# (HDW-888-E)

Specifications are subject to change without notice. See Cleanroom Particulates Table for Reference to ISO Standards.

Panels are nominal 3-inch thick with standard sizes from four feet wide by eight feet tall to four feet wide to ten feet tall. Custom heights over ten feet tall are also available. Panel construction varies over a wide range.

Standard panels are Melamine laminated 1/8" Tempered Hardboard both sides of Kraft Honeycomb core.

Fire and Sound Rated Panels are Vinyl laminated 1/2" Gypsum both sides of expanded Polystyrene Foam core.

High Pressure Laminate Panels have vertical grade, Plastic laminated Hardboard, laminated to both sides of Kraft Honeycomb or Expanded Polystyrene Foam core. Static dissipative Formica is also available.

Metal Wall Panels will have either 24 ga. pre-painted Steel or .019 pre-painted Aluminum skins laminated to 1/8" Tempered Hardboard both sides of Kraft Honeycomb or Expanded Polystyrene Form core.

FRP Panels are smooth faced .060 White Fiberglass Reinforced Plastic laminated to 1/8" Tempered Hardboard with Kraft Honeycomb or Expanded Polystyrene core. Many more custom panel configurations are available.

Posts:

Posts are to be of four-piece design to form a non-progressive wall system. Cavity of posts will allow use of approved steel electrical boxes that are now required by building codes. Posts shall also act as raceways for Phone Lines, Data Lines, and other electrical lines. Structural design loading on Posts allows up to 4,500 vertical pounds or an additional Structural Steel Cavity insert can be installed for loads up to 12,500 pounds. The structural elements of the posts shall be connected by Machine Bolts and Nuts no more than 18" center line. All Extrusions shall be 6063-T5 aluminum, minimum .062 thickness, with a Clear Anodized finish.



Corner Posts:

Corner posts will be of single piece construction and support loads of up to 4,500 vertical pounds. Structural steel cavity inserts can be added for loads up to 12,000 pounds. Material will be 6063-T5 aluminum, minimum .062 thickness, and Clear Anodized finish.

Base Channel:

Base Channel provides support for wall panels and posts while allowing space for anchors or post uplift connectors. Its low-profile design is aesthetically pleasing and eliminates the need for additional base molding. Material shall be of 6063-T5 aluminum, minimum .062 thick, and Clear Anodized finish.

Capping Channel:

Capping Channel acts as a support for vertical deck loads in addition to serving as a continuous diaphragm member. Material is 6063-T5 aluminum, minimum .062 thickness, and Clear Anodized finish.

Windows:

Standard fixed windows are 44" wide by 40" tall with 3/16" tempered safety glass installed in aluminum frame. Window units are completely modular. Horizontal sliding and pass thru windows can also be provided. Frames are 6063-T5 aluminum, .062 minimum thickness, with Clear Anodized finish. Full view glass panels are available as an option.

Doors:

Doors will be 1 3/4" thick and standard 42" wide by 80" tall to accommodate equipment or furniture. Door material will match wall panels and be framed in an aluminum channel for heavy traffic areas. Door Jamb is a very heavy extrusion designed to eliminate weak door panel frames. All doors are factory prehung with hinges and door lockset. Windows with 3/16" tempered safety glass are optional. Extrusions are 6063-T5 aluminum, minimum .062 thickness, with Clear Anodized Finish.

Ceiling System:

Ceiling system is Heavy Duty White Steel T-Bar Grid. Ceiling Tiles are 1/2" Vinyl Laminated Gypsum with sealed edges. Gasketing is provided for a complete seal of ceiling system. Grid is arranged in a 2'x4' pattern to accept standard filters and light fixtures. Optional ceiling systems also available are 1 1/2" or 2" Anodized Aluminum T-Bar and Gel Grid, Powder Coated Perforated Steel Tile, FRP Tile, and Powder Coated Aluminum Tile.

Roof System:

Galvanized Steel Roof Decking acts as the building diaphragm in addition to supporting the Ceiling system. HVAC Equipment can be mounted on roof with optional Structural Steel Equipment Platform. Structural panel roof systems are also optional.

Filtration System:

2'x4' HEPA Filters that are Fan powered or ducted Central Blower package. Standard final HEPA filters are 99.99% efficient @ .3 microns. ULPA grade 99.9995% efficient @ .12 microns are optional. Disposable Pre-Filters mounted in lower portion of wall panel are 30% pleated type.

Lighting:

2'x4'-4 Tube Recessed Cleanroom Sealed fixture with a Plastic Prismatic Lens to enhance Light Diffusion. Fixtures require 1.3A @ 115V power and provide nominal 100 Foot Candles in Cleanroom Space. Electronic Ballasts, 277V systems, and teardrop fixtures are optional.

Electrical:

Posts are pre-wired with 120v Duplex Outlets and Switches and mounted in a Steel Electrical Box. Fluorescent gasketed light fixtures are 2'x4', 4 TUBE, 120V, less tubes with energy saving or Electronic Ballasts. All components are U.L. approved and conform to the National Electric Code (N.E.C.). Options-Class 1 Division 1 Hazardous Environment components, 208/240V 3 PH 480V 3 PH voltages, Electromagnetic Interlocks, Automatic Programmable Door Closures.

Environmental Control Packages:

Air Handlers can control temperature and/or humidity levels. Units can be package or Split System with DX or Chilled Water Coils. Control systems are available with fully Programmable Micro-processor Control/Display with Remote Sensors. Factory Trained Technicians will provide equipment design assistance.

Floor:

Optional 12" x 12" x 1/8" vinyl tile, vinyl sheet flooring, antistat or ESD Cleanroom vinyl sheet; with optional welded seams, raised flooring, and epoxy painted floor coating.

Installation:

Factory trained crews will provide a Turnkey project or a material only package is available. All projects include CAD drawings and instructions.

Specifications are subject to change without notice.