Clean AiR PRODUCTS

Series 575

Vertical Flow Modular Softwall Cleanroom

The Series 575 softwall cleanroom is a cost-effective method of providing quality particulate control in a softwalled enclosure. The 2 x 4 ft. tubular steel NEST TIGHT ceiling grid system allows the cleanroom to enclose a large span without center posts. This system provides a durable, cost-effective, easy-to-assemble cleanroom system. A variety of sizes and shapes are available to ensure a system that is matched to your individual needs.

The softwall cleanrooms are free-standing and require only the building floor to support the NEST TIGHT ceiling grid system, HEPA filters, and cleanroom lights. This tubular frame is held in place by steel support legs to ensure a strong rigid structure. The entire frame and leg support system is finished with a white cleanroom-grade baked enamel paint.

The NEST TIGHT ceiling grid is used to maintain a leak-free ceiling system. The NEST TIGHT grid system utilizes a special gasketed, overlapped and interlocking nested tee bar joint. This eliminates the butt joint space of conventional non-cleanroom tee bar grid systems. The proven NEST TIGHT ceiling grid system eliminates one of the largest problems in a cleanroom — a leaking ceiling grid system.

Gasketed Series 112 HEPA filters, SEAL TIGHT cleanroom lights, and vinyl-covered blank ceiling panels complete the ceiling grid system. These gasketed components along with the NEST TIGHT ceiling grid system provide a zero-leak cleanroom ceiling which is essential for optimum cleanroom performance.

Features

- 2 x 4 ft. tubular steel frame with 4 x 4 ft. angle iron legs
- Large open spans up to 32 ft. with no center supports
- NEST TIGHT ceiling grid system maintains a leak-free ceiling system
- Complete with motorized ceiling HEPA filters, lights, ceiling panel, tee bars and prefab wiring — requires only assembly and single-point power connection
- Sturdy, durable softwall cleanroom environment
- Fast delivery and easy installation
- Room Class 100,000 to Class 10

For more information or to download or fax this product from the web, simply go to:
www.cleanairproducts.com/575

Overview

The Series 575 softwall cleanroom is available from Class 100,000 to Class 10. They typically operate as positive pressure enclosures but can also be used as negative pressure containment areas to HEPA filter outgoing room air.

The NEST TIGHT ceiling grid is used to maintain a leak-free ceiling system. The NEST TIGHT grid system utilizes a special gasketed, overlapped and interlocking nested tee bar joint. This eliminates the butt joint space of conventional non-cleanroom tee bar grid systems. The proven NEST TIGHT ceiling grid system eliminates one of the largest problems in a softwall cleanroom—a leaking ceiling grid system.

Gasketed CAP112 motorized ceiling HEPA filters, SEAL TIGHT CAP1210-2x4 (4) lamp cleanroom lights, or CAP1220-2x4 (4) lamp flow thru lights and vinyl-covered blank ceiling panels complete the ceiling grid system. The quantities of these items will depend on the size and class of the cleanroom. These gasketed components along with the NEST TIGHT ceiling grid system provide a zero-leak cleanroom ceiling which is essential for optimum cleanroom performance.

The quantity of filter units and lights will be determined by the chosen system. The rooms can be Class upgraded by adding additional HEPA filters to the system to create better "clean zones" or to upgrade the entire cleanroom system. This upgrade feature of the room ensures that the cleanroom will be able to meet the needs of future requirements.

The room is enclosed by a heavy-gage clear polished-vinyl curtain. These curtains are installed in sections with the top sealing against the support frame and the seams overlapped to prevent contamination from entering the clean space. The overlapped joints are located on 4-ft. centers, around the perimeter of the room. To enter or exit the room, the curtains are simply spread apart at the seams. The curtains automatically re-seal as the two halves come together. Optional styles and materials for hardwall sided rooms are also available. Strip doors are available in high traffic areas.

Installation of the cleanroom system is a fast and easy process. The room components are lightweight and prefabricated with no on-site fitting or cutting required. The parts simply bolt, snap, or set into place. Standard assembly time is just a few hours on most rooms (consult factory for more details). Simple step-by-step assembly instructions with diagrams accompany every cleanroom system.

Prefabricated wiring is utilized, to not only reduce the on-site wiring cost, but to also speed up the installation process. Assembly personnel "plug" the electrical components together as the room is being assembled. The electrician simply connects power to a single point on the cleanroom.

Standard

- 99.99% test on 0.3 micron HEPA filters
- Aluminum frame HEPA filters
- White lights
- Clear vinyl curtains
- 120 volts filters and lights
- White painted finish

Options (consult factory for additional items)

- 99.999% test on 0.12
- ULPA Filters (Class 10)
- Flow thru lights
- Micron ULPA filters
- Lights on outside of room
- Non-DOP test filters
- Casters
- Yellow lights
- Special room heights
- Pass Thru
- Yellow or opaque curtains
- Strip doors
- Inside room curtains
- Conductive curtains
- Acrylic or Lexan walls
- Ionization
- Economy swing doors
- Light switch
- Custom designs
- Building suspension bracket
- Hard exterior walls
- Prefab wiring kit
- Hard interior walls
- Gowning rooms
- All stainless steel frame

Curtains

Standard softwall cleanroom curtain dimensions are clear 20 mil double-polished vinyl. All standard and optional curtain dimensions will be 54 in. x 84 in. x 20 mil thick and will contain a sewn/riveted loop at the curtain top and bottom. The bottom loop will house a chain weight to hold the curtain down.

An aluminum mounting channel will be enclosed in the top loop. The curtain will be pierced in the areas where screws will fasten the channel to the cleanroom ceiling beam. The top loop stitching stops 7 inches back from the edge so the curtains can overlap between sections.

Optional material:

- Static or non-static dissipative curtains are available in standard 20 mil and 40 mil optional curtain thicknesses.
- 13 mil yellow vinyl curtains are available with channel or velcro mounting. These curtains can be used for ultraviolet light filtration or photo-resist applications (yellow

static dissipative not available).
- Clear double-polished conductive 20 mil vinyl with a diamond-shaped grid bonded to one side. These curtains are constructed to allow for grounding, so that the carbon grid can dissipate the surface charge to ground. Attached with channel-top mounting and chain bottom.
- Black Herculite
- Yellow 13 mil used for ultraviolet light filtration. This can also be used with photo-resist applications. Attached with channel-top mounting and chain bottom.

NOTE: Special "extra length" curtains are available for all of the above materials.

Strip Doors

The strip door consists of (8) 8-in. wide strips with 2 in. overlap on each side along the length. This makes the standard strip door dimension 48 in. wide x 84 in. long x 80 mil thick. The strip doors are shipped assembled, with mounting angle on top. Optional material:

- Heavy 125 mil clear vinyl strips for high-traffic areas
- Clear anti-static vinyl
- Clear flame-retardant anti-static vinyl
- Yellow standard vinyl
- Yellow flame retardant vinyl

NOTE: Special "extra length" strip doors are available for all of the above materials.

Cleanroom Ceiling Height Requirements

The standard height dimension is 8 ft. Standard filter unit height is 14 in. A 7 in. minimum space is required between the filter unit top and ceiling. Standard room heights are 8, 9, and 10 ft. Other cleanroom heights are available.

Flow thru lights add 5-1/2 in. to standard filter unit height (see flow thru light description).

Acrylic or Lexan Walls With Economy Swing Door

Standard cleanrooms consist of softwalled vinyl curtain and/or strip doors.

Acrylic or Lexan panels provide a sturdy, attractive, and economic cleanroom wall option. These panels are attached to the steel framing with 3M Dual Lock (cleanroom velcro-type material).

Economy swing doors also consist of these panels attached with velcro to steel framing. Included with the economy door are hinges and a door closer.

NOTE: Panel length cut to allow 12 in. opening along the bottom of the entire cleanroom to achieve proper airflow.

If you are looking for a cleanroom with acrylic walls, you may also want to look at the Series 591.

Cleanroom Ceiling Lights (standard)

Cleanroom lights consist of a 2x4 - 4 lamp - 120v, 60 Hz, 1.5 amp enclosed "seal tight" white fluorescent panel light.

Flow Thru Lights

Flow thru lights are similar to standard cleanroom lights with the exception that a motorized ceiling HEPA filter unit is mounted directly on top of it. This light fixture is open enough that filtered air is able to flow through the light fixture down into the cleanroom.

Flow thru lights are used when space for lighting is limited. For example, Class 10 conditions require 100% ceiling filter unit coverage. Providing the light sources beneath the filter unit becomes a viable solution to this space limitation. Flow thru lights are also valuable in situations where concentrated "clean areas" and lighting need to be achieved within a cleanroom.

The filter unit and light fixture are joined together at the factory with fasteners to form one complete flow thru light unit.

Casters

Casters with brakes are available on 12 ft. x 12 ft. and smaller cleanroom sizes.

Anteroom or Gowning Room Areas

Anterooms (to perform pre-cleanroom procedures) or gowning rooms are modular and can easily be added to the cleanroom. Mobility can be added to these rooms by adapting them with the caster option (on rooms 12 ft. x 12 ft. and smaller). The anterooms and gowning rooms can then be relocated to another location along the outside perimeter of the cleanroom for adaptation or modifications to manufacturing processes.

Prefab Electric Wiring Kit

Clean Air Products offers a prefab electric wiring kit as a cost and time effective option to conventional electrical wiring. It facilitates quick, easy "plug together" type electric connection of the lights and filter units by assembly personnel. The electrician simply connects power to a single point.

The "plug together" male/female connectors included with your prefab wiring kit are "Reloc" brand connectors. They are designed to be repeatedly plugged and unplugged as necessary.

Basic Components of the Prefab Wiring Kit

The basic components included with your prefab wiring kit are as follows:

- Metal "plug together" male/female connectors and "plug together" flex metal cable segments
- Electrical junction box
- Lights and ON/OFF light switch
- Speed control

Connections

The "plug together" system consists of "Reloc" brand metal connectors and "Reloc" brand metal flex cables.

The "plug together" system provides connection between the ceiling lights, filter units, and junction box, and is UL listed.

Electrical Junction Box

The electrical junction box contains light and filter unit circuit breakers and speed control adjustment switches. It also receives your building-supplied electric power source. It is located on the top horizontal beam near the outside corner of the cleanroom.

Lights and ON/OFF Light Switch

Ceiling lights are on their own separate 20-amp maximum electric circuit and are controlled by a standard light switch(es).

The ON/OFF switch is conveniently located on the cleanroom corner leg outside the curtain below the junction box.

Filter Units

Filter units are also on their own separate 20 amp maximum electric circuit 2.8 RLA (5 filters per 20 amp circuit).

Each filter unit has an electric junction box that has it's own ON/OFF switch mounted to it. The filter unit ON/OFF switch is not exposed to the cleanroom ceiling interior. An adjacent ceiling panel can be removed to gain access to it if necessary.

NOTE: Filter units and ceiling lights are not be on the same circuit.

Speed Control

The CAP112 fan filter unit (FFU) has a 3-speed switch located on the top of the unit. Low, medium, and high speeds are selectable. The switch can be moved to compensate for filter loading. If closer airflow adjusting is required, see option 1 or 2.

Option 1

Manually adjustable variable speed control — located on top of the FFU. The speed is adjusted by turning a knob on top of the FFU.

Option 2

Automatic speed adjustment. This speed control has a built-in sensor that measures the airflow of the unit. Once set, it will maintain a constant velocity until the filters need to be changed — eliminating the need to manually increase filter speed.

Assembly

Electrical assembly is simplified because all connections can be completed with a continuous series of "plug together" type cable segments and connectors.

The electric power for each series of lights and filter units begins with a "plug together" cable connection at the cleanroom electrical junction box. This cable then continues on to connect to any number in a series of lights or filter units within their circuit.

NOTE: Start by setting the lights and filter units in place. It is easiest to start closest to the cleanroom's prefab kit-included electric junction box, plugging in any number in a series of light or filter circuits.

Each ceiling light and filter unit has it's own electrical junction box that the cable connector is mounted to. The cable is then connected to the connection on the electrical junction box to complete the electric power connection.

The cables have "plug together" connectors attached on each end. These cables allow a series of connections to be made between any number of filter units or ceiling lights within their circuit.

NOTE: Reloc cables also have a connector on one end that is a 2-in-1 connector. One of the 2-in-1 connections of this single connector establishes connection to the next light or filter in the series. The other connection of this single 2-in-1 connector connects to the receptacle connector of the light or filter unit and supplies power to them.

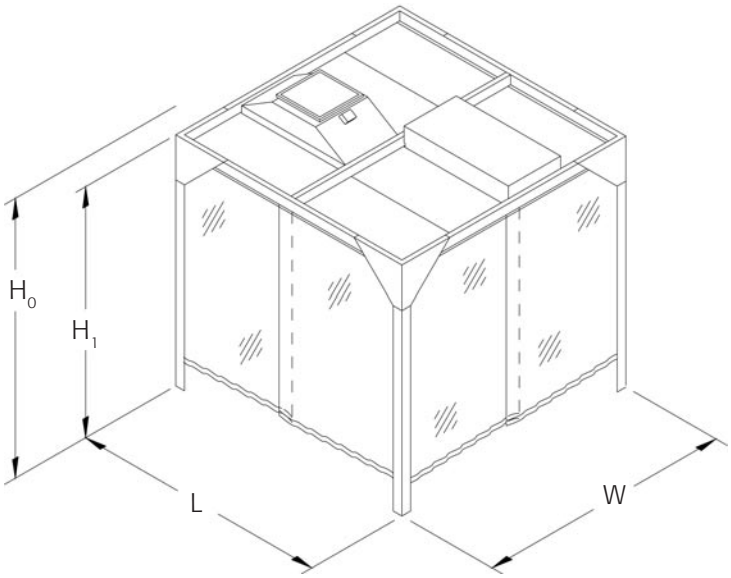
Serviceability

The "plug together" prefab wiring kit makes connecting and disconnecting ceiling lights and filter units for maintenance fast and easy.

Cleanroom light and filter unit relocation and additions can be made quickly by using the "plug together" connectors.

Guarantee

A written 1 year warranty is furnished with each softwall cleanroom.



Standard Sizes

	Length (in.)	Width (in.)
6 ft. x 6 ft.	81	79
8 ft. x 6 ft.	105	79
8 ft. x 8 ft.	105	103
8 ft. x 12 ft.	105	151
8 ft. x 16 ft.	105	199
8 ft. x 20 ft.	105	247
12 ft. x 12 ft.	156	151
12 ft. x 16 ft.	156	199
16 ft. x 16 ft.	207	199
16 ft. x 20 ft.	207	247
20 ft. x 20 ft.	258	247
24 ft. x 24 ft.	311	271
24 ft. x 48 ft.	617	271

Custom sizes available upon request.
Consult factory for spans up to 24 ft.
Outside dimension shown.
Inside = Outside - 5
Recommended to have 7 in. clearance above unit to properly service filters and light. Consult factory for details.
Seismic units available but must be specifically quoted to meet specific seismic conditions. This will change the overall dimensions.

	Inside Height (in.) H_1	Overall Height (in.) H_0
8 ft.	96	110
9 ft.	108	122
10 ft.	120	134

H_0 = maximum height of filters and lights.

Flow thru lights add 5 in. to height.

Specifications subject to change. Please contact factory for details.

Clean AIR PRODUCTS

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