



Low profile tunnel section with blowers in sidewalls. Combine multiple sections and end walls to form a cleanroom.



Series 558

Vertical Flow Hardwall Modular Cleanrooms

The Series 558 is a vertical flow hardwall cleanroom system that is designed to provide superior cleanroom performance. Its modular design combines functionality with flexibility to create systems that will meet your cleanroom needs of today and into the future. The full ceiling HEPA filter coverage with diffuser panels and tear drop lights provide uniform airflow out of the ceiling plenum.

Features

- ❖ All feature full-ceiling HEPA filter plenum sections for superior cleanroom performance
- ❖ All metal construction
- ❖ Very energy efficient
- ❖ Modular sections
- ❖ Easily maintained
- ❖ Full HEPA ceiling coverage
- ❖ High air changes per hour
- ❖ Unidirectional airflow
- ❖ Class 100 or Class 10



For more information or to download or fax this product from the web, simply go to:

www.cleanairproducts.com/558

Series 558 Vertical Flow Hardwall Modular Cleanrooms

Overview

The Series 558 consists of full-ceiling, HEPA filter plenum sections that provide filtered laminar flow air to clean areas. These sections are designed to deliver filtered air through 100% of the ceiling's available surface area.

The Series 558 is constructed from heavy-duty 16 gage cold-rolled steel with a white baked-enamel or powder coat finish.

The Series 558 uses side wall blower cabinets that blow air into upper filter plenums. The side wall cabinets contain start/disconnect, wall receptacles, prefilters and optional cooling coils. Units can be designed so these items are serviced from inside or outside the cleanroom. Multiple sections combine together along with end wall to form a cleanroom.

Motor/Blower

The motors are efficient 3-phase, 1,725 RPM open drip-proof. They have pre-lubricated ball bearings, 1.15 service factor and are recognized by UL for their construction. The voltage can be 208, 230 or 460 volts, 60 Hz which is standard; other voltages and 50 Hz are available. The specific operating voltage must be specified.

NOTE: Motor HP will vary depending on ceiling filter plenum size.

The blowers are belt-driven by the motor at a fixed speed (1,725 RPM). A variable pitched pulley is installed on the motor. CFM and greater air velocities are achieved by moving the belt to another pulley on the motor.

An optional direct drive motor is available upon request.

Airflow

The airflow is 90 LFPM+/-20 LFPM average uniformly at the filter face as defined by Federal Standard 209E.

Airflow CFM and pressure adjustments can be made as the filters load over time. The motor is equipped with a variable pitch pulley to control the speed of the blower. This allows for adjusting the blower CFM and pressure to the system as the filters load over time.

Filters

Filters are rated 99.99% efficient on 0.3 micron and larger particles utilizing a DOP smoke test. The frame is extruded aluminum.

Filters are changed from the underside of the filter unit.

Other filter options are available upon request.

Prefilters

The prefilters are a disposable pleated style of standard industrial size. They use a non-woven cotton fabric reinforced with a wire mesh backing. The prefilters have a rigid Kraftboard frame. They have a 40% efficiency rating.

Lighting

The lighting is tear drop fluorescent, and individual lights can be spaced evenly below the HEPA filter or positioned between them. The lighting has a minimum of 90 footcandles illumination. The lights have a light diffuser grill to provide glare-free lighting and provide protection for the HEPA filter.

Greater lighting levels are available upon request.

Sound Attenuation (Optional)

Parts of the units are lined with acoustical duct liner to assist in sound attenuation.

Electrical

The wiring conforms with the

National Electric Code and all components are UL listed. Voltage requirements will vary depending on the number of lights used.

Vibration

The blower/motor is vibration isolated from the cleanroom utilizing the VIBO-STAT isolation system.

Environmental Control

An optional temperature and humidity control can utilize the house airconditioning system or can be supplied by Clean Air Products with the cleanroom in one of the following methods: DX (direct expansion), Freon refrigeration system, or chilled water coils. The chilled water coils utilize 45°F inlet customer provided water or a water chiller can be provided.

Filter Section Sizing

The following sizes are for the filter section only and do not include the blower/motor or optional cooling coil sections.

NOTE: 4, 5 and 6 ft. widths. Two units can be joined together using spanning brackets to form spans up to 32 ft. Longer spans available upon request.

Options

- Fire sprinklers – water or Halogen as well as smoke, heat infrared fire detection equipment can be provided to meet your requirements
- Hardwall – can be provided to meet your requirements. Support legs can be made to meet any internal height requirements.
 - The walls can be insulated or non-insulated and can be furnished in a variety of materials.
 - Aluminum
 - Painted Aluminum

- Painted Steel
- Vinyl Covered Steel
- Other materials available upon request
- Temperature control — can be provided from comfort cooling to precise temperature $\pm 0.5^{\circ}\text{F}$ and humidity control to $\pm 2\%$ RH.
Chilled water or DX coils can be built into the filter modules, saving the cost and valuable space taken up by a ducted air cooling system.
- Humidity control — humidity control can control both the minimum and/or maximum depending on the systems used. Control types 1) supply upper control, no humidity will be added, 2) upper and lower control with humidity being added by an electric steam humidifier. The control limit of $\pm 5\%$ RH is typical but can be controlled to $\pm 2\%$ RH. Consult the factory on particular applications.
- Extra sound attenuation — extra sound attenuation can be built into the Series 558 units in which the blowers blow into a supply duct prior to going into the air plenum.
- A/C inlet collar — would allow for an outside airconditioning system to be connected to the cleanroom for cooling and other environmental control.
- Starters and disconnects — can be provided mounted on the units or can be assembled on a pre-wired control panel. The pre-wired control panels would have main disconnects, step down control transformers, starters, indicating lights, start/stop controls, etc., all pre-wired and tested. This system would eliminate much of the on-site wiring.
- Emergency shut down and computer controlled off-hours controls
- ULPA filter 99.999% on 0.12 micron particles
- 230V, 460V, 50 Hz and other voltages
- Solid-state speed control

Guarantee

A written 1 year warranty is furnished with each cleanroom.

Specifications subject to change. Please contact factory for details.



Solutions Built to Your Specifications.

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