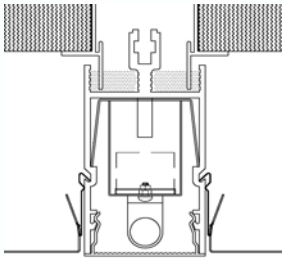
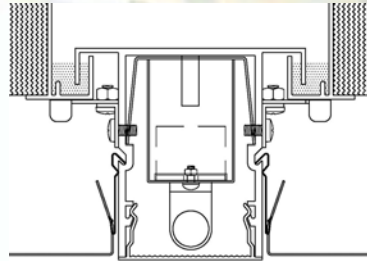




CLEANROOM PRODUCTS



TOP LOAD
FLUSH GRID



BOTTOM LOAD
FLUSH GRID



FLUSH HEPA GRID WITH INTEGRAL LIGHTING

- TOP LOAD FLUSH HEPA CEILING GRID
- BOTTOM LOAD FLUSH HEPA CEILING GRID
- 304 & 316 BOTTOM LOAD FLUSH HEPA CEILING GRID



PLENUM MODULES

- PLENUM MODULES
- FAN POWERED PLENUM MODULES

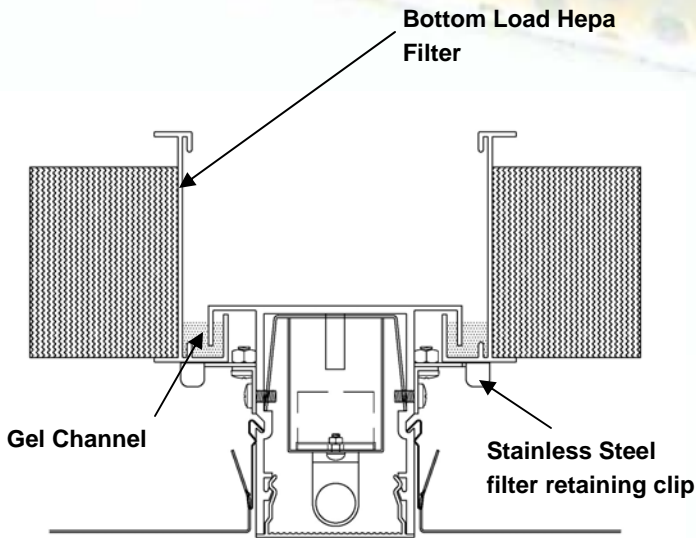
CUSTOM AIR HANDLERS

- RECIRCULATION AIR HANDLERS
- CUSTOM MAKEUP AIR HANDLERS





CLEANROOM PRODUCTS

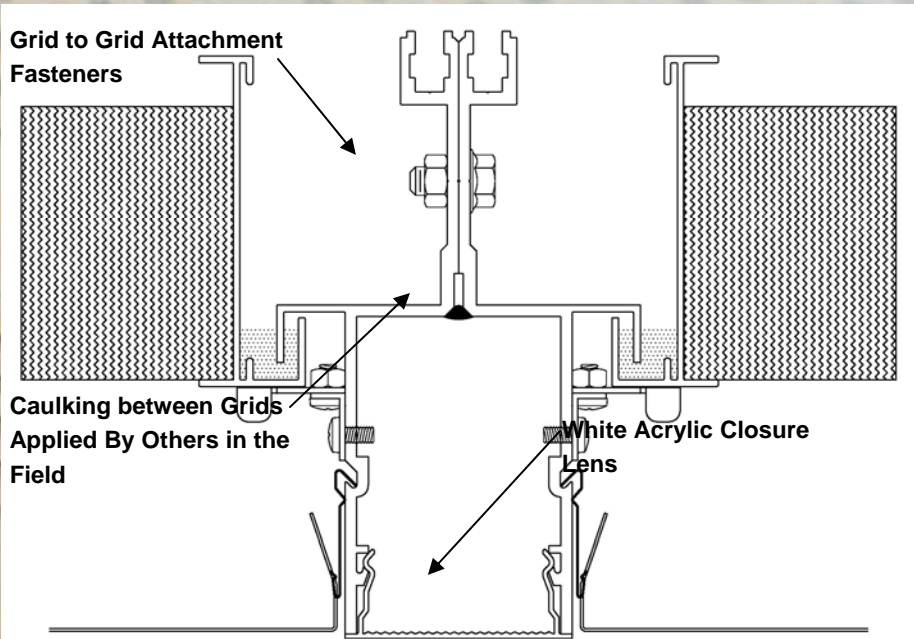


Section View At Interior Grid With Light Bar Assembly

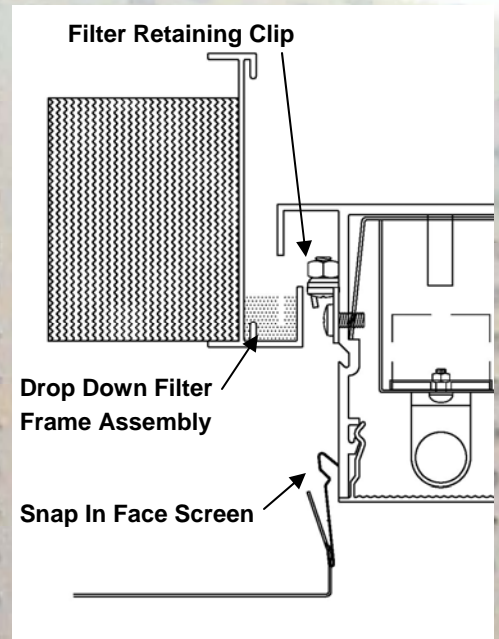
EXTRUDED ALUMINUM BOTTOM LOAD FLUSH CEILING SYSTEM

GRID SYSTEM FEATURES

- 2 1/2" Flush Bottom Load Grid System With Integral Light Assembly
- Welded Grid Modules Manufactured In Sizes Up to 8' x 24'
- Pre-punched Bolt Holes for Grid to Grid Attachment



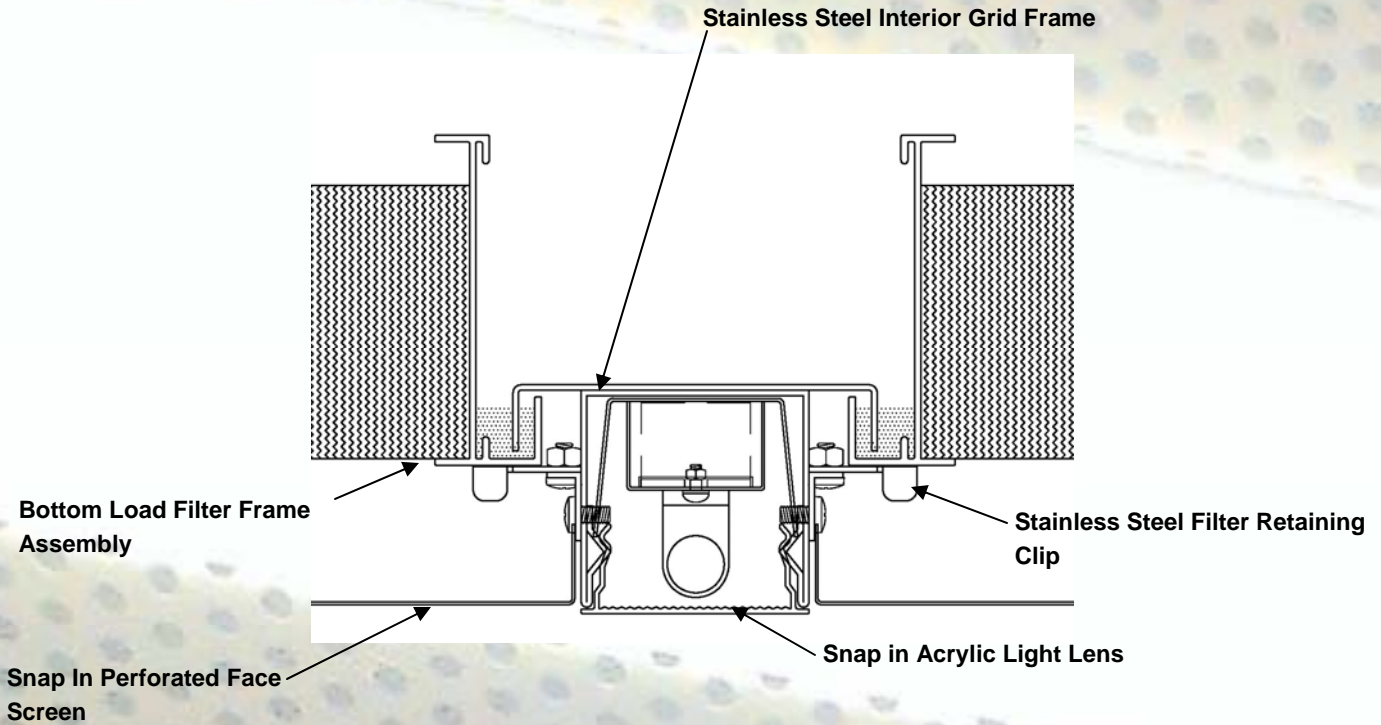
Section View at Perimeter to Perimeter Grid connection



Section View At Interior Grid With Filter Removal



CLEANROOM PRODUCTS



Section View At Interior Grid With
Light Bar Assembly

304 & 316 STAINLESS STEEL FABRICATED BOTTOM LOAD STAINLESS STEEL GRID SYSTEM

GRID SYSTEM FEATURES:

- Lights Integral To Grid
- Sprinkler Head and Sprinkler Ports Integral To Grid
- Welded Grid Will Reduce Project Schedule Due to Elimination Of Field Work And Additional Suspension Points
- Grid Suspension Points On 8' x 12' Centers



CLEANROOM PRODUCTS

FLUSH HEPA GRID WITH INTEGRAL LIGHTING



LED LIGHTS

- **INTEGRAL TO FLUSH GRID**
- **ENERGY EFFICIENT**
- **NO DEADSPOTS – CONTINUOUS LIGHT**
- **LIGHTS AND DRIVERS HAVE A LONGER LIFE**
- **LIGHT LEVEL EQUIVALENT TO T-5**
- **NO FLUORESCENT LIGHT TUBES – NO BREAKAGE**



T-5 LIGHTS

- **INTEGRAL TO FLUSH GRID**
- **INDIVIDUAL FLUORESCENT TUBES HAVE DARK AREAS BETWEEN LIGHT TUBES**
- **FLUORESCENT TUBES CAN BREAK IN CHANGEOUT**
- **RELAMPING REQUIRED FREQUENTLY**



CLEANROOM PRODUCTS

LAMP COMPARISON

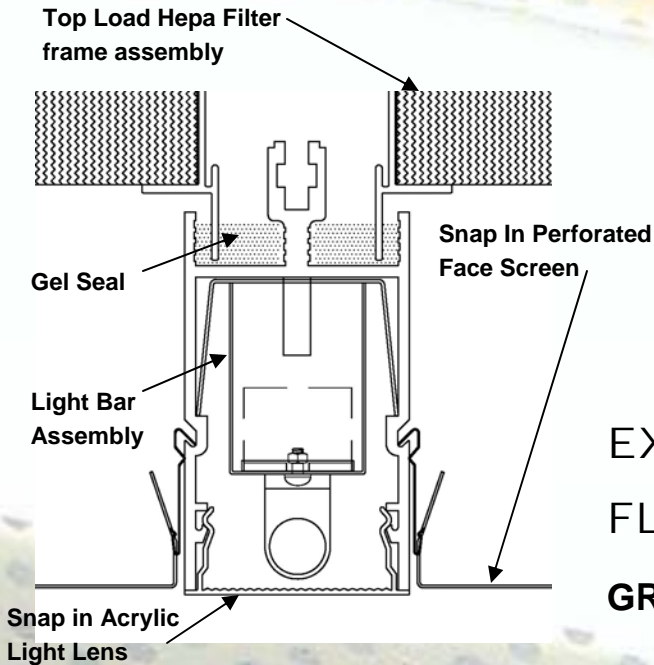
Mfg.	Type	Tubes - 8' Light Bar	Watts/ Tube	Lumens/tube	Life Hrs.	Total Watts/ fixture	Total Lumens/ fixture	Efficiency (Lumens/Watt)
GE	T5 HO	2	39	3220	36,000	78	6440	82.6
GE	Std. T5	2	21	1930	36,000	42	3860	91.9
GE	Std. T8	2	25	1970	29,000	50	3940	78.8
Earth LED	LED tube	2	12	1000	50,000	24	2000	83.3
Seasons 4	Linear LED	4*	12.5	1390	50,000**	50	5560	111.2
* Linear Led (not tubes) ** L80 Lumen Maintenance								

LED PRODUCT INFORMATION

- LED LIGHTS AND DRIVER HAVE A PARTS ONLY 5 YEAR WARRANTY
- ETL LISTED LIGHT BAR ASSEMBLY
- LIGHT BAR WITH LED LIGHTS EASILY REPLACED (GO TO SEASONS4.NET FOR VIDEO OF LIGHT REPLACEMENT)
- TEMPERATURE COLOR (CCT OF THE COLOR OF LIGHTS)
 - A. LED LIGHTS COME IN 2700, 3000, 3500, 4000, AND 5000 KELVIN (K)
 - B. SEASONS 4 LED LIGHTS UTILIZE 3500 KEVLIN LIGHTS. THIS MATCHES THE COLOR OF T-8 AND T-5 LAMPS
- VOLTAGE - 120V OR 277V IS ACCEPTABLE TO THE LED DRIVER. THE LIGHT BAR ITSELF OPERATES AT 36 VOLTS
- EMI - LOW VOLTAGE CONSTANT CURRENT DESIGN ELIMINATES EMI
- LED DRIVER CAN BE REMOTELY MOUNTED 10 - 12 FT. FROM LIGHT BAR ASSEMBLY
- CYCLING LIGHTS ON AND OFF WILL NOT IMPACT LIFE EXPECTANCY OF LIGHTS
- LOSS OF A LED DRIVER OR SPECIFIC LED BOARD WILL ONLY CAUSE THAT SECTION OF THE LIGHT BAR TO GO OUT AND NOT THE REMAINDER OF LIGHTS IN THE ROW
- LED LIGHT LUMEN WILL NOT GO BELOW 85% OF LUMEN LEVEL IN 50,000 HOURS OF USAGE. HUMAN EYE DOES NOT DETECT THE DECREASE IN LUMENS UNTIL 30% LOSS OF LUMEN LEVEL
- L80 LED LAMP RATING OF 50,000 HOURS IS NOT TIME TO FAILURE. IT IS THE TIME TO 15%DEPRICIATION OF LIGHT OUTPUT
- UV LIGHT LENS IS AVAILABLE UV SENSITIVE AREAS

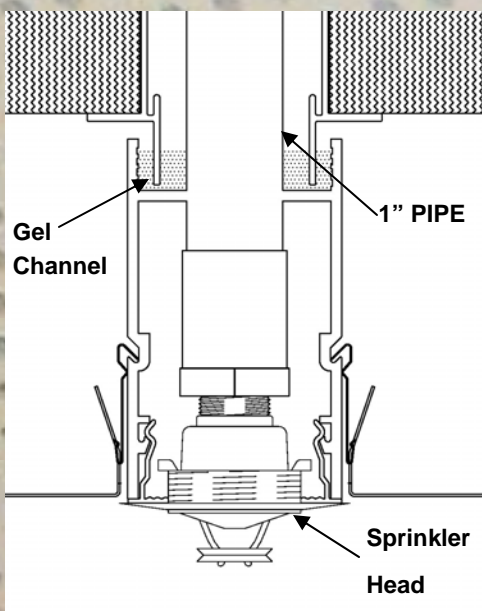


CLEANROOM PRODUCTS



Section View at Interior

Grid



Section View at Interior Grid

EXTRUDED ALUMINUM TOP LOAD FLUSH CEILING GRID SYSTEM

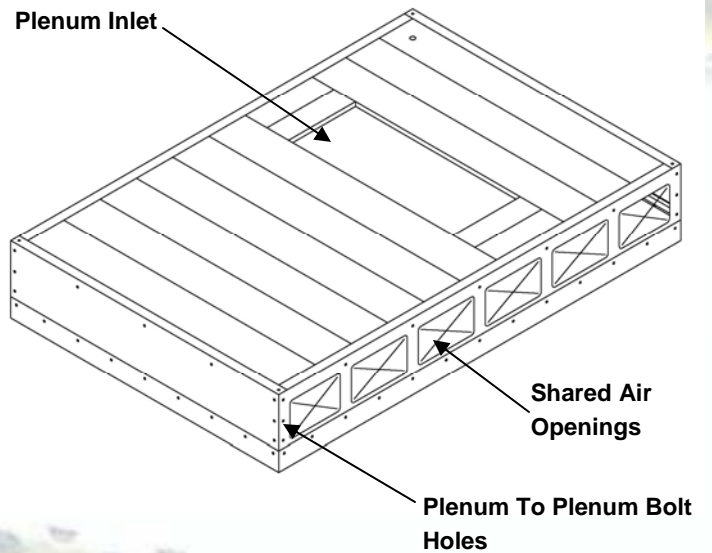
GRID SYSTEM FEATURES:

- 2-1/2" Flush Hepa Grid System with Integral Light Assembly
- Top Load with Gel in Grid Frame
- Integral Sprinkler Connections
- Bottom Snap in Flush Face Screen that Aerodynamically Evens the Airflow Under the Grid.
- Grid is a proven product with over 1 million Sq. Ft. installed.
- Head Track Connections Available



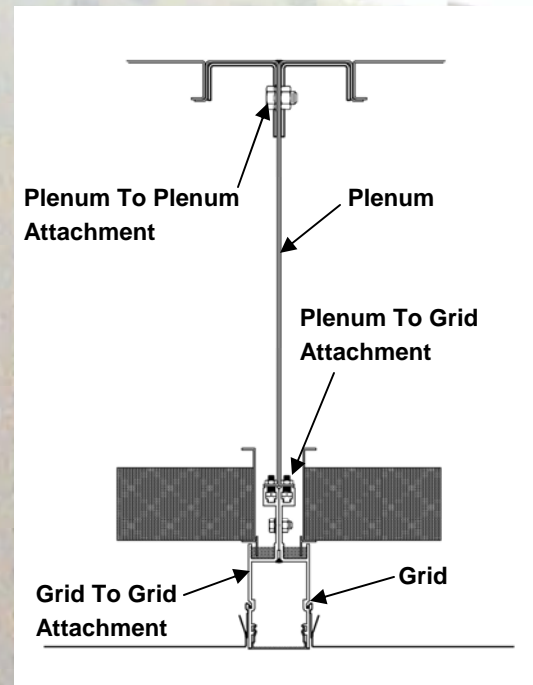
CLEANROOM PRODUCTS

PLENUM MODULES



PLENUM FEATURES:

- Provides Direct Support For Recirculation Air Handlers
- Plenum Module Eliminates The Need For Field Built Plenums
- Shared Air Openings To Adjacent Plenums
- Plenum Modules Are Suspended From Structure Or Custom Floor Mounted Support Structure Can Be Provided
- Plenum Modules Are Available In Sizes Up To 8' x 24'



Top Load Section View At Interior Grid With Plenum To Plenum Connection

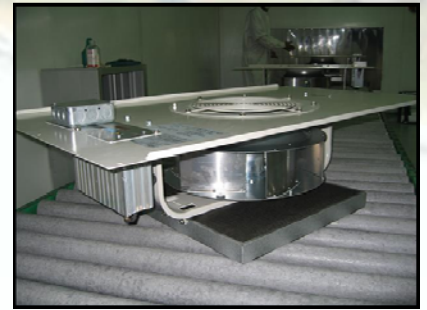


CLEANROOM PRODUCTS

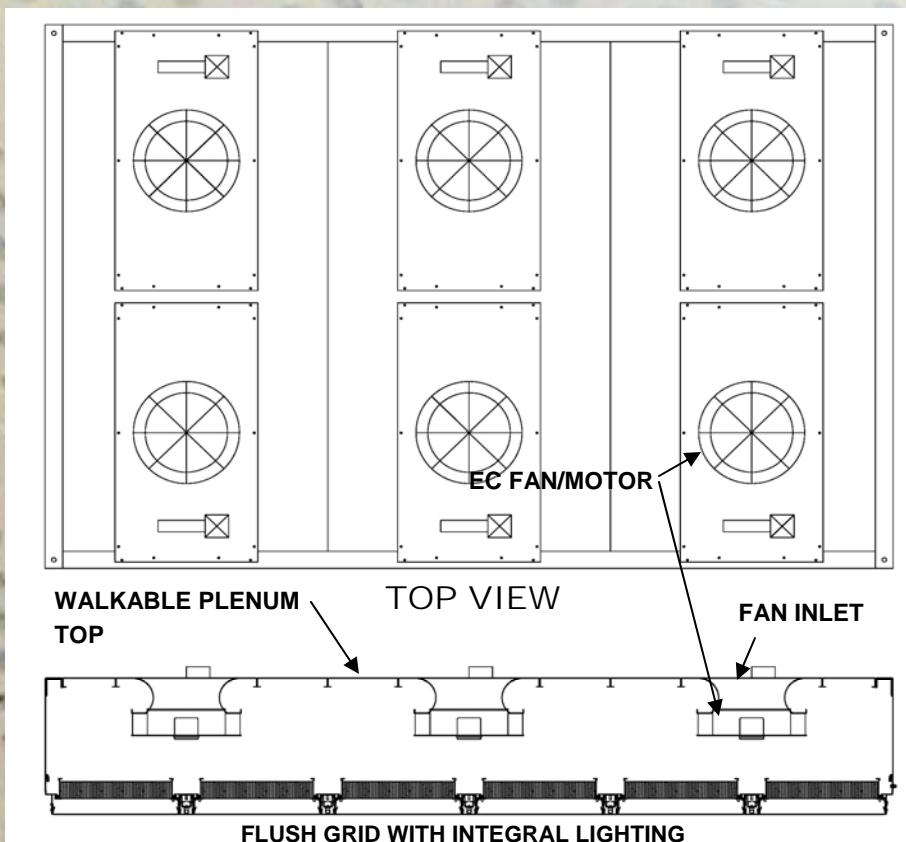
FAN POWERED PLENUM MODULES

FAN POWERED PLENUM FEATURES:

- Ideal For Retrofits With No Space Available For Recirculation Air Handlers
- Provides Great Redundancy In The System
- Available With Complete Control System. Control From A PC With Interface To Building Management System
- Available With Handheld Controller To Individually Set and Control Fan/Motor Speed
- Fan Commander 200 - Control Up To 200 Fan/Motor Assemblies



DIRECT DRIVE FAN/MOTOR ASSY



SIDE VIEW



CLEANROOM PRODUCTS

FAN FILTER UNITS



- Gebhardt IS The Leading Manufacture Of EC Motor/Fan/Controls
- Gebhardt Produced Over 80,000 4 x 4 Fan Filter Units in the last year



Photo of 2000 4 x 4 Fan Filter Units Installed At A Leading Microelectronic Facility



CLEANROOM PRODUCTS

RECIRCULATION AIR HANDLERS

AIR HANDLER FEATURES:

- Direct Drive, Arrangement 4 Fans (No Belts, Sheaves, or Fan Bearings)
- Sound Attenuation Packages Available
- Designed with Low Offgassing Materials
- Available with Heating and Cooling Coils
- Powder Coated Finish
- Available in Stainless Steel and Aluminum Construction
- Single Fan or Fan Array Available with Full Controls



50,000 CFM CLEANROOM RECIRCULATION AIR HANDLER



CLEANROOM PRODUCTS

CUSTOM MAKE UP AIR HANDLERS

AIR HANDLER FEATURES:

- Full Featured Makeup Air Handlers Designed to Meet the Most Stringent Requirements
- Unit Sizes Available from Low CFM Units to Over 100,000 CFM
- Plenum Fans or with Four Fan System Available for Critical Process Areas
- Four Fan System Allows Removal of One Fan Assembly in the System from Outside the Unit for Repair or Maintenance While the Other Fans Continue to Run at Set Point
- Available with the Fan Array to provide benefits in airway length, sound, and energy savings



CUSTOM MAKEUP AIR HANDLER WITH PIPING VESTIBULE



DIRECT DRIVE PLENUM FAN
OR FAN ARRAY



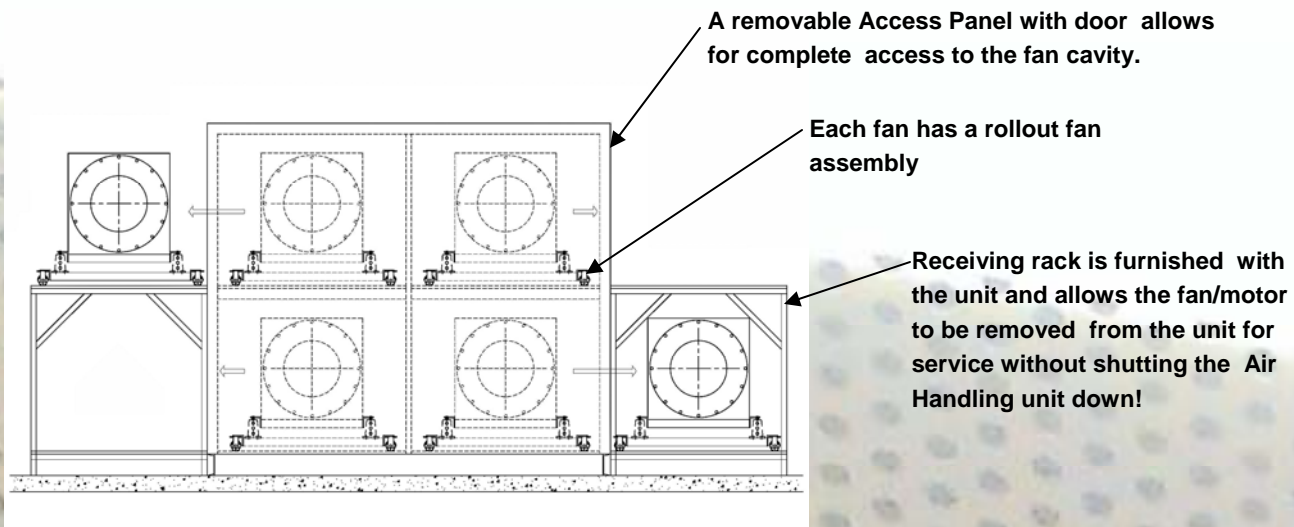
COMPACT VANE AXIAL



CLEANROOM PRODUCTS

4 - Array

- Each fan cell features inlet and outlet dampers
- Roll out fan assemblies for easy maintenance
- Receiving rack to roll the fans onto is furnished
- In the event of one fan failing the remaining fans speed up to meet system



FRONT VIEW OF 4-ARRAY

4-Array

- Individual isolation— Access from outside unit to each fan WITHOUT SHUTTING DOWN UNIT
- One fan failure allowed while maintaining system set point
- When shutting down the system is not an option



Access Panel Removed And Fan Rolled Onto Rack



CLEANROOM PRODUCTS

FAN ARRAY



FAN ARRAY BENEFITS

- Increased Redundancy
- Improved system reliability
- Reduced footprint of unit
- Improved Acoustics
- Ease of maintenance
- Reduced velocity across coils and filters reducing static pressure
- Elimination of sound traps
- Improved efficiency

Small Fans and small motors equate to easy quick removal of fans and motors reducing downtime.





CLEANROOM PRODUCTS

FAN ARRAY RETROFITS

Fan Array Retrofitting of existing air handlers provide the full benefits of the Fan Array including redundancy, possible removal of Sound Traps or downstream diffusers and improved efficiency.

The Fan Modules are built as individual stand alone components for installation into a final assembly in the field. Reduced Fan BHP with up to 30% over existing single fan assemblies. A very simple way to achieve modern technology without total replacement of the unit.



Fan Modules in final assembly at Seasons 4

FAN CUBES INSTALLED INTO AN EXISTING AIR HANDLER
CUSTOMER REALIZED A 30% POWER SAVINGS AND NOW HAS A SYSTEM WITH REDUNDANCY





CLEANROOM
PRODUCTS

HERITAGE OF QUALITY

Seasons-4 has built its history on solving unique cooling, heating and air quality problems. Our company began as a custom HVAC manufacturer in 1971 in Atlanta, Georgia. Since then, we've continually adapted the best in environmental technology to meet each customer's special needs.

Since 1991, Seasons-4 has built two new headquarters, doubling our office and manufacturing space since 1971.

Seasons-4 is an employee-owned company, rewarding the pride and dedication of our workers who share in the success of Seasons-4. As our industry becomes more specialized, Seasons-4 uses each new development to design solutions for a wide variety of customers. From hatcheries to plastic manufactures, from supermarket chains to school districts, from hospitals and laboratories to manufacturing sites, from Microelectronic to Pharmaceutical Cleanrooms. Seasons-4 has the capability to provide environmental solutions that work.

Today, with our solid commitment to quality, service and overall reliability, Seasons-4 looks forward to helping even more customers meet their unique environmental needs.

SEASONS 4

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