

High Purity Products HEPA & ULPA Full Line Brochure



MANN+HUMMEL

Air Filtration Americas



Air Filtration Americas High Purity Manufacturing & Testing Facility
Wilson, NC

A division of the LS&E (Life Sciences & Environment) segment, MANN+HUMMEL – Air Filtration Americas is already one of the world's largest filtration companies, but our vision of "Leadership in Filtration" stands for much more than sales or size. Our vision keeps our core principles in the forefront:

- Tradition spanning over 80 years
- Commitment to innovation
- Extensive R&D activities
- Global presence
- Customer obsession
- FILTER values (*Focus, Innovation, Leadership, Trust, Empowerment, Results*)

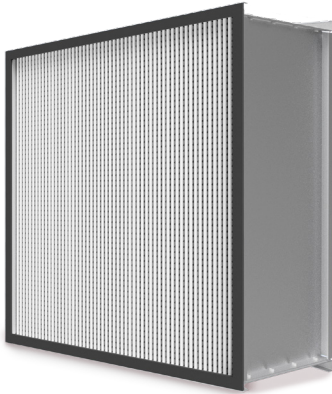
Values are important because they underline how we want to achieve our goals. Values aren't just words. They're a statement of purpose.

One Team. One Goal. One Voice.

INNOVATIVE FILTRATION SOLUTIONS

At MANN+HUMMEL, we take responsibility for our common goals as one global team. And together, we provide the filtration solutions that will make our common future cleaner. In the Air Filtration Americas division, our customers include clients in microelectronics manufacturing, pharmaceutical manufacturing, medical fields, as well as other Cleanroom disciplines. The experience that MANN+HUMMEL – Air Filtration Americas has accumulated through decades of service to the Cleanroom industry has positioned our company as an industry leader in providing clean air into sensitive environments. MANN+HUMMEL – Air Filtration Americas uses the most technologically advanced manufacturing equipment in a sophisticated production facility. This ensures that the quality and performance of our high purity products are unrivaled in today's market. MANN+HUMMEL – Air Filtration Americas has implemented a stringent set of quality standards that will give you the confidence and assurance that you need for your high purity applications.

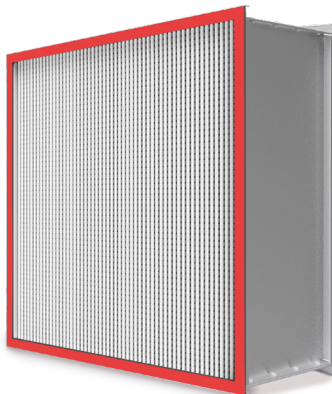
Microbarrier Series HEPA & ULPA Filters



MICROBARRIER HEPA & HEPAMAX™

Microbarrier HEPA & HEPAMAX™ filters include a complete line of high efficiency filters for critical applications and environments.

- Quality controlled manufacturing facility
- Variety of styles to meet demanding applications
- HEPAMAX™ rated at 500 FPM
- Efficiencies of 99.97% & 99.99% @ 0.3 microns



MICROBARRIER HEPA HT & HEPAMAX™ HT

Microbarrier HEPA HT and HEPAMAX™ HT filters are designed for the challenging environments of high temperature applications where high demands are placed on HEPA filters.

- Rated to 500°F (260°C)
- Silicone sponge gasket standard
- Available in standard & high capacity
- 304 stainless steel frame

Microbarrier Series HEPA & ULPA Filters



MICROBARRIER HEPA MP, HEPAMAX™ MP, & HEPAMAX™ MPX MINI PLEAT

Microbarrier HEPA MP, HEPAMAX™ MP, and HEPAMAX™ MPX filters utilize state-of-the-art technology to offer a high efficiency, low resistance, and cost-effective replacement to separator style HEPA filters.

- Standard depth of 11½" (292mm) – easy retrofit for separator style filters
- Mini pleat technology to produce 5.125" (131mm), 8.625" (220mm), and 10.75" (273mm) deep packs
- Low initial resistance – equal to or less than a traditional separator style filter
- Media pack is recessed & centered in frame to minimize potential damage

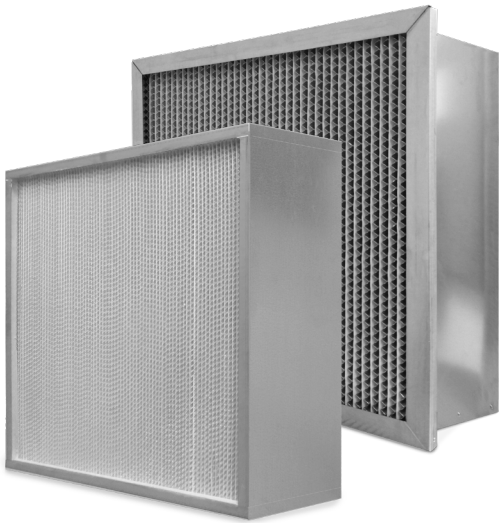


MICROBARRIER HEPAMAX™ 2000 & HEPAMAX™ 2400

Microbarrier HEPAMAX™ 2000 & HEPAMAX™ 2400 high flow HEPA filters are designed for use in demanding applications where high air flow and high efficiency filtration are required. Applications include medical, pharmaceutical, microelectronics as well as other disciplines.

- Utilizes V-Bank construction to maximize air flow & minimize resistance
- HEPAMAX™ 2000: rated at 500 FPM (2.5 m/sec)
- HEPAMAX™ 2400: rated at 600 FPM (3.0 m/sec)
- Plastic & various metal frame options available with either gasket or gel seal
- Efficiencies of 99.97% & 99.99% @ 0.3 microns

Microbarrier Series HEPA & ULPA Filters



MICROBARRIER 95 & MICROBARRIER 95XL/95XL MAX

MANN+HUMMEL offers a full line of MERV 16 (95% @ 0.3 micron) filters in a 'HEPA' box style and in a 'ASHRAE' single and double header style.

- Efficiency 95% @ 0.3 microns
- Retrofit in most housings or holding frames
- Available in a variety of frame materials & configurations with optional faceguards
- Microfiber media
- Rolled & tapered aluminum separators



MICROBARRIER 95XL MAX MP

The Microbarrier 95XL MAX MP offers MERV 16 (95% @ 0.3 microns) and features a mini pleat pack that offers superior performance.

- Variety of frame materials (MDF particle board and galvalume)
- Glass microfiber media
- 8.625" (220mm) deep mini pleat media packs manufactured in a quality controlled facility
- Efficiency 95% @ 0.3 microns
- MERV 16

Microclass Series

HEPA & ULPA Modules



MICROCLASS PANEL - GASKET & GEL SEAL

Microclass HEPA/ULPA panel filters are designed for use in Cleanroom applications where a compact footprint and high efficiency filtration is required. Applications include medical, pharmaceutical, and microelectronics as well as other Cleanroom disciplines.

- Low profile - pleat depths from 1.69" (43mm), 2.09" (53mm), 2.75" (70mm), & 3.94" (100mm). Custom depths available.
- Gasket seal & gel seal models available
- Manufactured on a computer-controlled pleater for consistent & repeatable media packs
- Efficiencies from 99.99% @ 0.3 microns to 99.9995% @ 0.1 microns



eFLEXMH - HEPA FILTER

eFlexMH HEPA is a final filter for any application in which HEPA or ULPA efficiencies are needed, and product reliability is a necessity. It is particularly helpful in the separation of viruses, bacteria, toxic dust and aerosols in hospitals/medical institutes, laboratories, Cleanrooms, pharmaceutical applications, food processing applications and microelectronics.

- Efficiencies from H13 to U15
- Available in depths of 2.72" & 3.54"
- Mini pleat technology for laminar flow
- Very low pressure drop

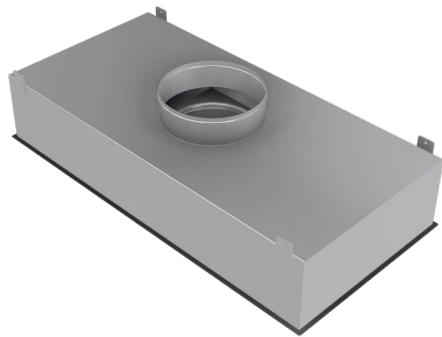


MICROCLASS TM - TERMINAL MODULES

Microclass TM HEPA/ULPA ducted disposable terminal modules are designed for use in Cleanroom applications where a compact footprint and high efficiency filtration is required. Applications include medical, pharmaceutical, microelectronics as well as other Cleanroom disciplines.

- Low profile - filter pack depths from 2.09" (53mm) to 3.94" (100mm)
- T-bar applications or gel seal applications with a 3/4" (19mm) knife edge
- Standard hanger supports
- Standard adjustable distribution plate - easily adjusted room-side
- Efficiencies from 99.99% @ 0.3 microns to 99.9995% @ 0.1 microns

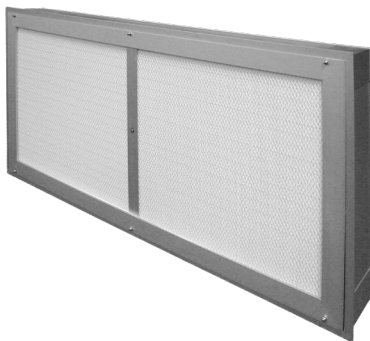
Microclass Series HEPA & ULPA Modules



MICROCLASS GSR - GEL SEAL REPLACEABLE MODULES

The Microclass GSR gel seal replaceable ducted module is designed for applications such as pharmaceutical or biotech where ease of filter change and a bypass free filter change is required.

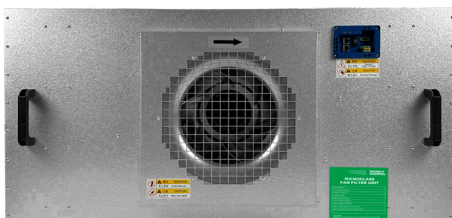
- Constructed of 0.63" aluminum or 16 gauge stainless steel
- Seams welded & sealed with silicone caulking to prevent air leakage. Tested at 4.0" w.g. to ensure no leakage.
- Available in two profile depths – standard 12" (305mm) & slim 9" (229mm)
- Designed for tee-grid or gypsum-board ceiling
- Custom sizes available
- Compatible with our Microclass Cleanroom panel filters



MICROCLASS GSR2 - ROOM SIDE REPLACEABLE MODULES

The Microclass GSR2 is a ducted terminal filter module that houses a room side replaceable gel seal filter. The Microclass GSR2 is designed for applications such as pharmaceutical or biotech where ease of filter change and a bypass free filter change is required and where a more economical solution is needed.

- Fabricated of an anodized extruded aluminum frame
- Lightweight & low profile (only 5.8" [147mm] deep)
- 10" or 12" diameter ducted collar
- Designed to lay in a gasketed 1½" (38mm) tee-grid ceiling or sheet rock adapter



MICROCLASS FAN FILTER UNIT (FFU) - HEPA & ULPA MODULES

The Microclass Fan Filter Unit series is designed for use in Cleanroom applications that require a powered HEPA and/or ULPA filter in a compact footprint. Applications include healthcare, pharmaceutical, microelectronics, medical device manufacturing and other Cleanroom disciplines.

- Quiet noise levels around 52dBA
- Constructed materials have low chemical off gasing
- For containment of bio-hazards
- Low energy consumption

Microlock Series HEPA & ULPA Equipment



MICROLOCK HEPA BAG-IN/BAG-OUT

Microlock BIBO containment housings are made of quality materials and have a wide variety of options to meet the needs of your critical applications.

- Designed for critical applications
- Utilize bag-in/bag-out system to change filters
- Available in gasket or gel seal
- Available in 304L, 316 stainless or aluminized steel
- Optional prefilter section

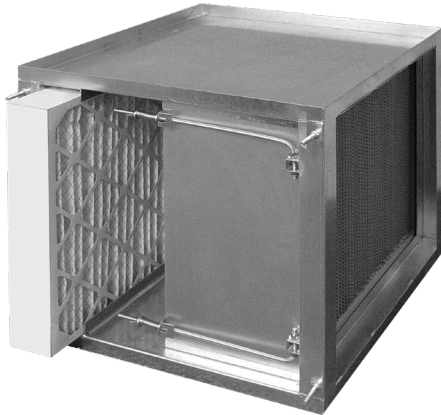


MICROLOCK HEPA SA CRANK LOCK

The Microlock HEPA side access crank lock housing is constructed with high quality materials and can be customized to meet your specifications.

- HEPA housing with crank lock mechanism
- Available in gasket or gel seal
- Heavy duty construction
- Optional prefilter section
- Custom configurations available

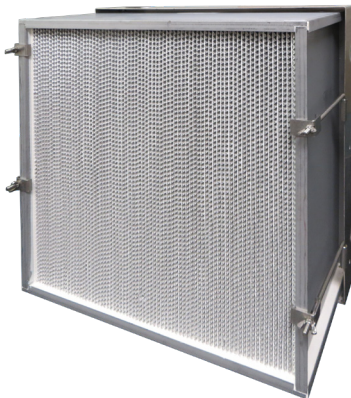
Microlock Series HEPA & ULPA Equipment



MICROLOCK HEPA SA BOLT LOCK

The Microlock HEPA side access bolt lock housing is manufactured with a swing bolt locking mechanism specifically for high purity applications and can be customized to meet your specifications.

- HEPA housing with swing bolt locking mechanism
- Available in gasket seal only
- Prefilter section
- Durable construction
- Custom configurations available

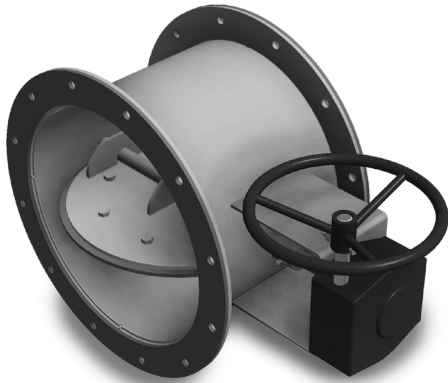


MICROLOCK HEPA HOLDING FRAMES

MANN+HUMMEL offers a line of high quality HEPA holding frames designed for your high purity applications.

- Gasket or gel seal models available
- Modular framing system with removable swing arms
- Heavy duty construction
- 14 gauge stainless steel
- Joints continuously welded

Microlock Series HEPA & ULPA Equipment



MICROLOCK DAMPERS

MANN+HUMMEL offers dampers as part of our containment product line, built to the highest quality for sensitive applications.

- 12 gauge 304 stainless barrel
- 16 gauge 304 stainless damper blades
- All 300 series stainless components
- Continuously welded construction
- Available in standard sizes from 6" to 36" (ID)



MICROLOCK LOW WALL RETURNS

MANN+HUMMEL's low wall returns are designed for containment specifications in high purity applications.

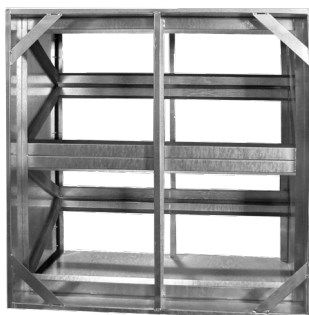
- Completely factory assembled
- Housings are constructed of 14 & 11 gauge stainless steel
- Continuously welded construction
- Available in half size & full size
- Cosmetic access door

Microlock ASHRAE Additional Products



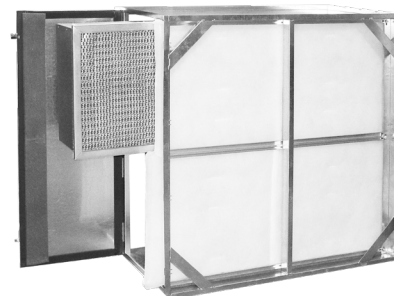
MICROLOCK ASHRAE FB HOUSINGS

- Galvanized or stainless steel options
- Welded construction with corner supports for rigidity
- Flexible filter configurations
- Gasketed, positive-tension doors
- Perform up to ± 3 " w.g.
- Factory installed flange



MICROLOCK ASHRAE VB HOUSINGS

- Galvanized or stainless steel options
- Welded construction with corner supports for rigidity
- Flexible filter configurations
- Gasketed, positive-tension doors
- V-Bank design



MICROLOCK ASHRAE SA HOUSINGS

- Galvanized or stainless steel options
- Welded construction with corner supports for rigidity
- Perform up to ± 3 " w.g.
- Gasketed, positive-tension doors
- Factory installed flange

Microlock ASHRAE Additional Products



MICROLOCK ASHRAE TML HOLDING FRAMES

- Available in 16 gauge aluminized, galvanized or stainless steel
- Functional in either front or rear load applications
- Can be used with virtually all ASHRAE rated filters
- Multiple stages per frame
- Optional gasketing



MICROLOCK ASHRAE TM8 HOLDING FRAMES

- Seven standard sizes available
- Available in aluminized, galvanized, or stainless steel
- Functional in either front or rear load applications
- Can be used with virtually all ASHRAE rated filters
- Multiple stages per frame
- Optional gasketing



MC MICROLOCK HOUSINGS

- Molecular housings & holding frames for carbon filters
- Particulate & molecular filtration
- Available in a variety of metals
- Welded construction

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