

Sanders Inc. Medical Containment Filters Frequently Asked Questions.



- ***Why Was this new Medical Filtration Filter system Developed.***

Nosocomial diseases are spread throughout facilities in part, by the mixing action of the HVAC system. This allows contaminated air in one room to be dispersed throughout all rooms served by the same air handler, in effect spreading pathogens from a single infected room to all rooms on the same system. The Sanders Inc. Medical Containment Filter eliminates the problem of pathogens being spread by this mixing action of the HVAC system.

- ***Why place the Medical Containment Filters over the Return Vent.***

The filter attached to the return vent prevents the pathogen from entering the HVAC system through the return vent. Preventing any possibility of it being spread to other rooms on the same HVAC system. The pathogen is thereby contained to only the original room where the release occurred. This process not only prevents the pathogen from entering the HVAC system. The Medical Containment Filter also captures and holds at or near Hepa efficiencies most of the pathogens, as they were about to enter the system, removing them from the air. Once the filters are installed, this process is automatic and continuous every hour of every day, straining the air and diluting the total quantity of pathogens in the air throughout the facility.

- ***How do the Medical Containment filters placed over the return vents, affect air flow.***

In the past, commercial building return vents have not been filtered and especially not at Hepa or near Hepa filtration. The Medical Containment Filters utilize a very specialized media specifically designed to provide very low static pressure, while maintaining Hepa or near Hepa efficiencies. Even with this low static pressure media, the concept of placing any filters over the return vent seems foreign to the way we have done things in the past. It is logical that you would assume it could cause a problem with the air flow and thereby the necessary heating and cooling function of the HVAC system. Return air is not forced under pressure, as is the supply side. The return air is moved by the vacuum created as the supply side air is pushed from the blower to the building. The vacuum creates suction and this suction moves the air on the return side to fill this void. This process still occurs after the Medical Filters are placed over the return vents.

- ***Could the Medical Containment Filters reduce the return air flow and cause the HVAC system not to work properly.***

The Medical Containment Filters must be placed over ***all*** return vents, when used. This provides for a uniform increase in static pressure throughout the entire system. Allowing the return vents to still be balanced. All commercial systems are designed with and require ***Make Up Air Dampers*** to replace air that exits the building by the normal process as people enter and leave the building. This is normally 10% makeup air. This damper can be opened to allow more outside air to the system decreasing the vacuum or be closed to create more suction in the return side of the system. The additional resistance created after installing the filters on the return side will increase the face velocity of the air at the damper and should be inspected to verify the proper air flow at the damper, after installation of the filters is completed. This should be verified by ***the return side Magnahelic pressure reading.*** ***On large high pressure systems, It is strongly recommended that the make up damper be adjusted to "full open", before installation and adjusted to the correct balance after the MCF Filters are installed to the correct balance.*** This adjustment should be done under the direction of your engineering staff or facilities manager and should easily correct any imbalance.

- ***What If adjusting the Make Up Damper does not correct the Imbalance in my System***

Your building may not have a blower or fan with sufficient force to overcome this additional resistance. The Medical Containment Filters are also available in a lower weight, less restrictive media, at a slightly lower initial efficiency. Please contact the factory or your local Sanders Inc. Authorized Distributor for additional information and assistance.

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- ***If used for Bio-terrorism Prevention, How would the Medical Containment Filter***

Help. In the event of a Terrorist Attack, the terrorists goal will be to disperse the chemical agent or pathogen as quickly as possible throughout as much as the building, as fast as they can. After the release occurs, the terrorists will rely on the HVAC system assisting them in this dispersal. Any release of chemical agents or pathogens submicron in size will move with the air current throughout the common area or hallways where the release occurs. Many of these chemical agents or pathogens are submicron in size and would be picked up by the HVAC system that would act as a mixer, spreading the particles to other rooms and throughout the rest of the wing served by the same HVAC system. The Medical Containment Filter will all but stop this process by containing the pathogens to the release area only, providing time for personnel to exit other parts of the building. The Medical Containment Filter will also immediately begin diluting the release area of pathogens as they are drawn into the media over the return of the HVAC system, holding and removing them from the air. In this manner the HVAC system now helps to prevent the spread of pathogens instead of aiding in the dispersal.

- ***What information do I need to place an order.***

Medical containment Filters are provided as standard HVAC size precut pads with the self stick adhesive already attached and as bulk rolls for non-standard sizes with the adhesive sold separately in rolls. To expedite the process you need provide an OD x OD list of necessary return vent sizes with the number of sizes requested. Please keep in mind this survey should be categorized by wing or floor so installation can be easily accomplished later. For system with non-standard or metric. The surveys are easiest accomplished again by OD x OD measurements. Add all measurements with 15% scrap. The bulk rolls are provided at 1062 square foot rolls.

- ***How do I install the Medical Containment Filters.***

Sanders Inc. has a separate Installation Instructions sheet Please contact you local Sanders Inc. Authorized Distributor . They will be more than happy to provide that information or call Sanders Inc.

- ***How Often Do the Medical Filters Need to be Replaced.***

The Medical Containment Media is capable of filtering most particles from the air to as small as submicron in size. This means the media is collecting and trapping particles much smaller than the human eye can see and larger. Because of the efficiencies it will surface load quickly. The estimated change is 1-2 months for commercial buildings. The best way to gauge the change schedule is to monitor the Magnahelic pressure on the return side daily. Once the pressure starts to rise, they will load quickly and need to be changed. After monitoring this change schedule with the first set of filter the change schedule should remain similar, unless the conditions within facilities change.

- ***What actual Efficiencies should I receive from the Filters in my Building.***

The media used in the Medical Containment Filters is rated at initial efficiencies to 99.97% @.1 micron We say "to" 99.97% because the efficiencies can vary or be reduced with higher air flow velocities in some return systems. Return HVAC systems can vary in this face velocity from vent to vent and system to system with in the same building. This is due to the design parameters of each individual system.

If the face velocity goes beyond the rated flow, the media may drop below HEPA efficiency.

Please keep in mind, Hepa filtration allows for only 3/10th, of 1% of the submicron particles to pass through the media. Even if, on your system the efficiencies of the Containment Filters are reduced to 99% or 98 % at .1 micron. This reduced efficiency would still be very effective at stopping, holding and trapping particle of this submicron size. Even this reduced efficiency would allow only 1-2% of the total particle through the media. *The CDC currently recommends N-95 respirators that are rated 95% efficiency @.3 micron as sufficient protection for personal respirators for health care professionals treating H1N1 patients.*

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