



METRIC  
MILLIMETERS

CENTIMETERS

0 1 2 3 4 5 6 7 8 9 10 11 12

**PURAFIL**<sup>®</sup>

FIRST  
IN CLEAN  
AIR

ENGINEERED <sup>4</sup> HEALTHCARE  
FACILITIES



1 <b>IaQ</b> IMPROVING INDOOR AIR	2 <b>Po</b> PREVENTING ODORS	3 <b>Se</b> SAVING ENERGY
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## CLEAN AIR SOLUTIONS 4 HEALTHCARE FACILITIES

### IMPROVING INDOOR AIR QUALITY + PREVENTING ODORS

For more than 30 years, Purafil has provided clean air solutions to hospitals and healthcare facilities worldwide. Purafil specializes in the manufacture of air purification systems that remove gaseous and particulate contaminants to ensure a comfortable environment for healthcare patients and staff.

Sources of airborne pollution are everywhere — from automobile emissions to office furnishings. Common particulate filters trap dust, pollen, and other particles, but only Purafil gas-phase air filtration systems eliminate gaseous pollutants, the true sources of poor indoor air quality and odor complaints.

#### IDENTIFYING THE PROBLEM: AIRBORNE POLLUTION

Controlling airborne pollutants is essential to maintaining a comfortable indoor environment. Pollutants can come from outside and inside the building. Outside sources of odors, including the heliport, incinerators, loading docks, ambulances, and waste disposal units, are usually located at the rear of the building within a few feet of primary HVAC air intakes. Emissions from nearby industrial facilities or residential furnaces can also result in complaints from patients and staff. Inside sources of pollution can

include breakrooms, cafeterias, cleaning compounds, laboratories, and the use of special medical equipment or machinery. Office furnishings and printers can worsen indoor air quality.

For clean indoor air, Purafil offers an extensive product selection, from pleated chemical filters to modular front and side access units. Our systems are designed for easy maintenance and are incorporated into your makeup, supply, or return airstreams.

#### PURAFIL APPLICATIONS WITHIN HEALTHCARE FACILITIES

There are numerous locations in hospitals and healthcare facilities where gas-phase air filtration can be applied. Purafil offers a wide

range of dry-chemical adsorbents called media, which are engineered to mitigate objectionable odors.

#### LOCATIONS AND CAUSES OF GAS-PHASE POLLUTION

LOCATION	OPERATING ROOMS	OFFICES	CAFETERIAS AND BREAKROOMS
PROBLEM	Complaints of odors from staff	Complaints of eye and throat irritation	General odor complaints
CAUSE	Air intake ducts near the ambulance bay, loading dock, or heliport	Air intake ducts face a busy highway Off-gassing of new office furnishings	Insufficient ventilation or filtration
GASEOUS POLLUTANTS	<ul style="list-style-type: none"> <li>Sulfur dioxide</li> <li>Nitrogen oxides</li> <li>Hydrocarbons</li> <li>VOC</li> <li>Ozone</li> </ul>	<ul style="list-style-type: none"> <li>Sulfur dioxide</li> <li>Nitrogen oxides</li> <li>Hydrocarbons</li> <li>VOCs</li> <li>Ozone</li> <li>Formaldehyde</li> </ul>	<ul style="list-style-type: none"> <li>Tobacco smoke (made up of many gases and particulates)</li> <li>Cooking odors (hydrogen sulfide, aldehydes, mercaptans, and VOCs)</li> </ul>

#### APPLICATION AREA CONTAMINANTS

APPLICATION AREA	GASEOUS POLLUTANTS
Morgue	Formaldehyde, ethyl alcohol, isopropyl alcohol
Dialysis Ward	Formaldehyde, ammonia, urea, alcohols
Burn Center	Organic compounds, amines, alcohols

## WHICH AIR FILTRATION SYSTEM IS BEST?

Purafil's systems are built-to-order to meet the needs of your budget, space, and air handling system. We offer solutions for retrofit applications and new construction.

**PURAFIL MEDIA** Purafil offers a broad selection of dry-chemical adsorbents called media, which are the core of our built-to-order air purification systems. Purafil manufactures a wide variety of media to remove specific pollutants from specific sources. Purafil media remove contaminants through a process known as chemisorption. During this instantaneous process, gases are adsorbed, or captured on the surface of the media. Unlike adsorption, during chemisorption the contaminants are chemically transformed into harmless solids that remain trapped inside the media. Once the gases are removed from your environment, they cannot re-enter the air stream.



In most cases, we recommend Purafil® SP Blend media because it removes the widest variety of odors and gases. SP Blend is a combination of Purakol® media, a premium grade activated carbon, and Purafil® SP media, an activated alumina substrate impregnated with the active ingredient sodium permanganate. While Purakol is highly effective at removing VOCs, it performs poorly against hydrogen sulfide, sulfur dioxide, and oxides of nitrogen. By using these media in combination, Purafil can ensure the removal of all odors.

## THE PURAFIL AIR PURIFICATION SYSTEM

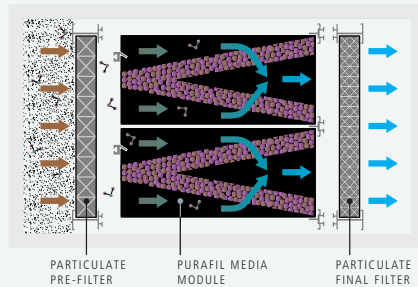
Purafil media are packaged into disposable plastic modules. The MediaPAK™ disposable plastic module is factory filled with media and comes ready to be installed. Each MediaPAK holds 0.5 ft<sup>3</sup> of media and is easy to install and replace. In addition to media modules, Purafil's air purification system also offers a variety of filter options: a MERV 6 prefilter for removal of dust, pollen, and other particulates, as well as a MERV 13 or MERV 14 final filter to polish air before it enters the room.



THE PURAFIL® SIDE ACCESS SYSTEM (PSA)

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The PSA is designed for both particulate and general odor control and works in conjunction with the facility's air handling system. The PSA is a built-to-order system available in more than 20 size options. A full range of prefilter selections and particulate final filter selections are also available.

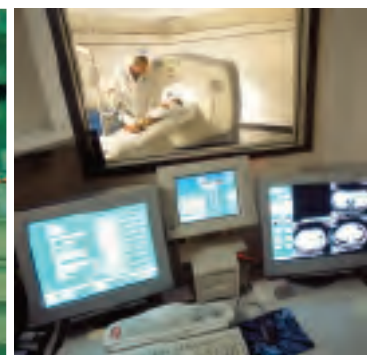


### THE PURAFIL FRONT ACCESS SYSTEM (FAS)

The FAS consists of modular frames that are individually tracked for Purafil media modules. Frames can be stacked to any size or configuration to meet any space requirement. The FAS is specified in retrofit applications with high airflows or for custom air handling units. Each frame with modules can handle airflows up to 2000 cfm depending on the model chosen.



THE PURAFIL® FRONT ACCESS SYSTEM (FAS)







16X  
MAGNIFIED



32X  
MAGNIFIED



#### THE PURAFILTER®

Purafil also recommends the use of the Purafilter, a combination chemical and particulate filter designed to replace existing particulate filters in retrofit or rework applications. The Purafilter, which contains Purafil blended media, is useful in applications where space limitations exist.

Purafil engineers were the first to successfully suspend sodium permanganate adsorbents in a bi-component fiber matrix, which does not require the use of adhesives, so adsorbents are fully exposed for reaction with gaseous chemical contaminants and odors. Adsorbents are evenly distributed throughout the filter structure to assure the highest filtration efficiencies.

#### INCORPORATING PURAFIL INTO YOUR FACILITY

- 1 In the return airstream, the Purafil system removes odors generated inside the building, such as those from office furnishings or medical equipment.
- 2 In the supply airstream, Purafil removes odors from outside and return air.
- 3 In the outside/makeup airstream, the Purafil system removes pollutants from outside air, including loading dock fumes, general automobile exhaust, and odors from nearby facilities.



#### PURAFIL CASE STUDY: ST. JOSEPH'S HOSPITAL

St. Joseph's Hospital, an 883-bed primary care facility in Tampa, Florida, offers all the services of a major medical facility.

Like most hospitals, St. Joseph's is exposed to many sources of pollution, such as incinerators, loading docks, and ambulance bays. Aware of the problems associated with poor indoor air quality, St. Joseph's took preventive action and contacted Purafil's local representative. Without the proper filtration system, a build-up of odorous emissions could have contaminated the hospital's 12 surgical suites.

Purafil's Front Access Systems were installed to filter odors from outside intake air. Sized for retrofit, they operate within the hospital's existing air handling units, which supply purified air to St. Joseph's surgical suites.

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