

Chemical Filtration

Keep corrosive elements including H_2S and SO_2 at bay with chemical filtration modules

Available as standalone system or add-on for all InPac HVAC and purge/pressurization units



Features and Benefits

- Engineered to perfectly match the airflow in each size of InPac unit for ease of ordering
- Includes MERV-8 Pre and Final filters to remove particulate matter from the environment
- Quick installation and changeout of media thanks to sliding modules

Chemical protection for your building's valuable equipment

Specific Systems' ChemPac Filter units are available in multiple sizes to match customer requirements. The ChemPac typically combines four stages of filtration for removal of airborne pollutants and corrosive gases when combined with one of our conditioning units.

The first filter consists of a row of 2" MERV 8 reinforced pleated paper pre-filters. In the standard system, air then passes through a bank of chemical media modules (see chart at left), often followed by a second bank of chemical media modules for maximum scrub. Before entering the evaporator section of the HVAC unit, the air is finally filtered through a set of 2" to 12" final filters, dependent on the maximum allowable particle size specified.

Options and Accessories

- Carbon filter pellet media
- Additional blended media available to meet the needs of each individual application
- Modular disposable "Honeycomb" carbon filters

Along with pellet filtration media, we also offer adsorbent honeycomb media as a solution. The honeycomb modules provide increased rate of adsorption of gases and significantly lower pressure drop, a smaller footprint and less weight with equivalent gas removal, and energy savings as a result of reduced system static pressure demand. Additionally, the adsorbent honeycomb modules are much easier and less messy to replace than loose media pellets. This gives the added advantage of less waste and a reduction in potential environmental issues over other spent media.



The ChemPac units can be ordered as a field add-ons to existing units or as an option to new orders. Packed bed scrubbers are available in on-board or standalone units when extreme corrosive gas levels dictate their use. Packed bed scrubbers normally provide a much higher level of corrosive gas scrubbing and longer media life than the standard cellular system noted above.

Chemical Filtration

- Capabilities
- Applications
- What is Chemical Filtration Media?

Chemical Media Capabilities

Applications	Typical Media of Choice	Gases Targeted
Catalytic Cracking, Desulphurization, Coker, Distillation, Power Generation Pit, Tank Farm, Docks, Paper & Pulp Processing	Carb Media & SP Media	Chlorine, Hydrogen Sulfide, Nitrogen Oxides, Sulphur Dioxide
De-Waxing	Carb Media, SP Media, & Akol AM Media	Chlorine, Hydrogen Sulfide, Nitrogen Oxides, Sulphur Dioxide, Ammonia
Makeup air odors from automotive exhaust, diesel fumes, and jet emissions	Triple Blend Makeup Air Media	Nitric Oxide, Nitrogen Dioxide, Sulphur Dioxide, Alcohols, Aldehydes, Hydrocarbons, Organic Acids, Organochlorides, & Sulphur Compounds
Makeup air odors from automotive exhaust, diesel fumes, and jet emissions	Triple Blend Makeup Air Media for Elevated Pollutant Levels, or SP Blend Media for Moderate Pollutant Levels	Nitric Oxide, Nitrogen Dioxide, Sulphur Dioxide, Alcohols, Aldehydes, Hydrocarbons, Organic Acids, Organochlorides, & Sulphur Compounds
Internally generated pollutants that cause poor indoor air quality	P Blend & Akol AM Media	Formaldehyde, Ammonia, VOCs, Nitrogen Dioxide
Bleach Plant, Digester, Motor Load Center, Power House Boiler, Recovery, Sludge Plant, Wood Yard	Carb & SP Media	Chlorine, Hydrogen Sulfide, Nitrogen Dioxide, Sulphur Dioxide
Pump Stations, Lift Stations, & Wet Wells	OdorCarb Media (with Media Life Indicator Pellets) and OdorMix Media	Hydrogen Sulfide, Sulphur Dioxide, Aldehydes, Amines, Mercaptans, Organics
Removal of accidentally released chlorine and/or sulphur dioxide in a worst-case release scenario	ChloroSorb Media for Chlorine removal and CSO Media for Chlorine and/or Sulphur Dioxide removal	Chlorine / Sulphur Dioxide
Internally generated pollutants from furnishings and processes in storage rooms, restoration/conservation laboratories	SP Blend Media	Sulphur Dioxide, Nitrogen Dioxide, Ozone, Hydrogen Chloride, Acetic Acid, Formaldehyde, Metallic Fumes

Applications

Specific Systems' experienced engineers are able to assist in determining the proper product and mix required when provided with the external and desired internal design conditions. Standard applications for the filters include:

- Refineries
- Smelting Facilities
- Sewage Treatment Plants
- Clean Rooms
- Paper and Pulp Plants
- Petrochemical Plants
- Medical Facilities
- Sludge Facilities
- Fertilizer Production
- Grain Processing Facilities

What is Media?

In the gas-phase filtration industry, media refers to small, dry granules, pellets, or beads that remove gaseous chemical pollutants from airstreams.

What makes Specific Systems' Media unique?

Permanent Gas Removal: Our media contains special chemical ingredients which remove gaseous pollutants through a process known as chemisorption. During chemisorption, our media converts gases into harmless microscopic particles, which remain trapped in the pellet. This process is instantaneous and irreversible. Other media, such as activated carbon, or charcoal, remove gases through a different process known as adsorption. During adsorption, gases stick to the surface of the media, but since no chemical reaction occurs, gases may desorb or be released back into the air. Unlike chemisorption, adsorption is a reversible process. Used alone, adsorptive media such as activated carbon are unreliable at removing gaseous pollutants.

Engineered for Performance: Our media are engineered using a blend of substrates, active ingredients, and binders. Using proven techniques, the media combines these ingredients to meet our exact specifications of porosity, active ingredient content, and other factors that affect the media's performance. Other engineered-media manufacturers may use more simplistic methods of impregnating their media with active ingredients. Our engineers and manufacturers make their media from raw materials using patented formulas. Activated carbon is a natural substance that does not offer the benefits of an engineered media, such as active ingredients, to enhance performance.