

Model 8800-12

Large Capacity Disposable Adsorption Filters



Proven to be the best performing filters, Parker Balston has introduced a new line of disposable in-line adsorption filters, the model 8800-12. This filter is designed to remove vapors from gases. Vapors such as hydrocarbons, ketones, carbon dioxide, ammonia, mercury, methane, ethylene, methanol, freons, acidic gases, and water vapor are just a few of a long list of vapors that can be adsorbed. In addition, several of the models can be used in liquid service to remove trace contaminants.

The filters are capable of handling up to 50 psig operating pressures in gas service and up to 70 psig in liquid service.

The units come standard with 1/2" tube connections and are constructed of durable nylon.

These filters are ideal for sample analyzing, venting applications, emissions monitoring, direct food contact applications and other applications critical to vapor contamination.

Our years of experience in fitting products to individual applications has led to the creation of a variety of standard products that can be ordered off the shelf. If you require a specific configuration, size, or material, our Engineering Team will be happy to work closely with you and design product to your exact specifications.



Ideal for the following gas filtration applications:

- Final filter for air logic devices
- Protection of pneumatic components
- Filtration of portable environmental sampling devices
- Filtration of samples to on-line analyzers
- Protection of pneumatic temperature controls

Ideal for the following liquid filtration applications:

- Filtration of liquid with minimum holdup volume
- Filtration of liquid samples to analyzers

Additional applications in the following industries:

- Instrument & Controls
- HVAC
- Dental
- Emissions Monitoring
- Food Packaging
- Ambient Air Monitors



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Adsorbent	Grade	Use For
Carbon	000	Compressor oil vapors, C ₃ and heavier hydrocarbons, aromatics, oxygenated hydrocarbons, chlorinated organics, freons, carbon disulfide.
Silica Gel	101	Recommended only for water vapor.
Molecular Sieve Type 13X	103	Most C ₄ and lighter hydrocarbons, ethylene, propylene, acetylene, ethylene oxide, ammonia, mercaptans, sulfur hexafluoride, triethylamine, and smaller amines.
Mixed Sodium & Calcium Hydroxides	107	All acidic gases, including sulfur trioxide, sulfur dioxide, nitrogen dioxide, carbon dioxide, hydrogen sulfide, hydrogen chloride, phosphorus trichloride, boron trifluoride.

Notes:

- 1 Please refer to Ordering Information for complete explanation of nomenclature.
- 2 In DAU 8800-12-107, color indicator turns violet when adsorbent is spent.
- 3 In DAU 8800-12-101, adsorbent turns pink when vapor capacity is reached.
- 4 Maximum operating temperature is 180°F.

Chemical Compatibility Model 8800-12

Suitable: Water to 158°F (70°C); benzene, toluene, other aromatic hydrocarbons; hydrocarbon solvents and fuels, perchloroethylene; trichloroethylene, nitric acid (to 10%); sulfuric acid (to 40%); hydrochloric acid (to 10%); most salt solutions; sodium and potassium hydroxide (to 50%).

Limited Use: Water at 176°F (80°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 158°F (70°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.



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Disposable Adsorption Units (DAUs) contain a bed of adsorbent granules. Utilizing a wide choice of adsorbents, the DAUs selectively remove vapors from air and other gases.

Because the adsorbed vapor remains trapped in the solid bed, the DAU has a fixed upper limit of total weight of vapor which can be captured. It is usually not feasible to regenerate the filter when it has reached its adsorption limit. DAUs should be used only when small quantities of vapor are to be removed.

Considerations in Using Adsorbent Cartridges

The following factors should be considered when selecting a DAU:

- 1 Solid adsorbents are effective only for vapors. Since liquids will damage or inactivate most solid adsorbents, the DAU must be preceded by an efficient coalescing filter.
- 2 In contrast with Microfibre Filters, which operate at their initial efficiency throughout their life, adsorbent cartridges have a limited holding capacity. When the adsorption capacity is reached, no further adsorption occurs. The limiting capacity, or "break-through" point, is not sharply defined, and the exit vapor concentration will increase rapidly as saturation is approached. To avoid unwanted vapor contaminants downstream, it is necessary to change the adsorbent cartridge well before it has reached its ultimate adsorption capacity.
- 3 Adsorption is reversible, if operating conditions change, a vapor may desorb rather than adsorb. For example, if a temporary surge in vapor impurity concentration causes a relatively high concentration to be adsorbed on the solid, a subsequent decrease in inlet vapor composition will result in desorption of vapor from the solid to the gas stream.
- 4 The efficiency of a given adsorbent for a given vapor depends upon the specific operating conditions. Therefore, again in contrast to filtration, it is not possible to assign a single efficiency rating to an adsorbent. While it is not possible to predict or guarantee an adsorption efficiency for any specific set of conditions, it is possible to enhance the conditions beneficial to adsorption and avoid conditions which interfere with adsorption. Conditions which aid adsorption are: low temperature, high pressure, low flow rate, and absence of competing vapors (particularly water vapor).

Flow Rates (SCFM @ 2 psig Δ P)	10" H2O	2 PSIG	20 PSIG	40 PSIG	50 PSIG
8800-12-0000	.25	1.1	4.8	6.5	7.3
8800-12-101, 103, 107	0.42	2.1	6	8	9

Principal Specifications

Model	8800-12-000, 101, 103, 107
Inlet and Outlet Ports	1/2" Tubing
Drain	None
Material of Construction	Nylon
Filter Cartridge Length	2.5" (5.71 cm)
Maximum Temperature (1)	150°F (66°C)
Maximum Pressure (2)	50 psi (5)
Dimensions	2.24"D x 6.24"L (5.69 cm x 15.85 cm)

Ordering Information

Model	8800-12
Box of 1 DFU (3)	8800-12-XXX

Notes:

1 At 0 psig

2 At 110°F (43°C)

3 To designate adsorbent in the DAU, insert adsorbent numbers after DAU designation. For example, to obtain a miniature clear nylon DAU with carbon adsorbent, order 8800-12-000.