

Adsorption filter elements for the removal of oil and other hydrocarbon vapors, chemicals, and odors.

Donaldson® AK adsorption activated carbon filter elements consist of two filter stages. At the activated carbon stage, oil and hydrocarbon vapors and odors are removed by adsorption. Particles are removed using the microfiber fleece depth filter stage. In addition, support fleece and an outer stainless steel support sleeve ensure structural integrity of the adsorption and filter stages.

A special flow insert ensures optimum flow distribution through the filter from inside to outside. This creates minimum pressure loss and ensures maximum usage of the filter material.

When appropriate prepurification is used (such as an SMF pre-filter), a residual oil content of <math><0.003 \text{ mg/m}^3</math> is achieved.



AK

APPLICATIONS

AK adsorption filter elements are ideal in the following industries and applications:

- Chemical
- Petrochemical
- Pharmaceutical
- Breathing air supply
- Pre-filtration of sterile air
- Filling machines
- Packaging machines
- Food
- Beverage
- Instrumentation and control air

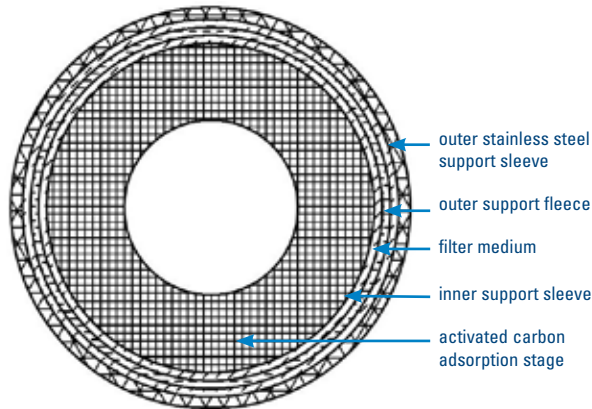
FEATURES	BENEFITS
Performance validation	Independent verification of filtration performance in compliance with industry standard ISO 12500:1/3
Reversible flow direction	Filter can be oriented for particulate (outside to inside flow) or coalescing/particulate (inside to outside flow) without removal of filter housing
Inner and outer stainless steel media support	Media is supported fully in both flow directions against destructive transient pressure impulses. Stainless steel offers protection against corrosion which can blind filter
Oleophobic/hydrophobic media	Aids in shedding water and oil from media. Liquid can be collected in filter bowl and drained away easily.
Fully bonded coalescing sleeve	Sleeve maintains full contact with media to efficiently drain liquids and will not separate from filter to potentially contaminate downstream processes
Fiber reinforced polyamide end caps	Non-corrosive, disposable and high-strength support for filter media ensures trouble-free operation
Low pressure drop	High void-volume media saves energy and lowers cost by minimizing pressure loss

SPECIFICATIONS

MATERIALS

Adsorption Stage	Activated carbon granulate, embedded into PUR ester foam
Filter Media	Borosilicate
Support Fleece	Polyamide fleece
Bonding	Polyurethane
End Caps	Aluminum
Two O-Rings	Buna
Support Sleeves	304 SS

Adsorption Filter Design



Inside-to-Outside Flow

AK ELEMENT ADSORPTION EFFECTIVENESS

Ethane	Slight
Toluene	Very good
Acetic Acid	Very good
Methanol	Good
Acetone	Good
Isopropyl Ether	Very good
Methyl Acetate	Good
Sulphuric Acid	Very good
Hydrogen Sulphide	Poor
Chlorine	Good
Freon	Poor
Ammonia	Poor
Citrus Fruits	Very good
Perfumes	Very good

Retention Rate	Residual oil content <0.003 mg/m ³ in combination with SMF element
Initial Differential Pressure at Nominal Flow	1.16 psi
Recommended Application Temperature	50°F-104°F (Tmax = 140°F) (adsorption efficiency decreases at higher temperatures)



Important Notice

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country.

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