

info@lennotech.com
 www.lennotech.com
 Tel. +31-15-261.09.00
 Fax. +31-15-261.62.89



AccuSep™ Inorganic Membranes

Description

Pall AccuSep filter elements, which are available in a seamless, tubular format, are high performance, low cost inorganic microfiltration products. These sintered metal filter elements are produced by a proprietary process which creates a high void volume, strong and very uniform medium. This medium is relatively thin, resulting in a structure that is up to 3 times more permeable than that found in conventional pressed sintered metal tubes.

Available Sizes

Standard Nominal Outer Diameters:
 1/2 inch/12.7 mm and 3/4 inch/19.05 mm
 Standard Lengths: Up to 8 ft/2.43 m long
 Medium Wall Thickness:

Tube Outer Diameter inches/mm	Filter Area (Sq Ft) per linear foot	Filter Area (Sq M) per linear meter	Nominal Wall Thickness inches/mm
0.47/11.8	0.12	0.037	0.018/0.46
0.72/18.2	0.19	0.057	0.025/0.63

Configurations

Examples of standard configurations are:

Configuration	Typical Use
Single tube, double open ended	Cross flow element OEM product Substrate for additional functional coatings
Single tube, single open ended, tube flare connection on the end	Backwashable filter element
Single or multi-tube assembly, single open ended, connected to blowback venturi on the open end	Blowback filter element Retrofits existing porous metal or polymeric bag house filters
Multi-tube or larger assembly, double open ended, gasket seals	Filter element
Multi-tube or larger assembly, single open ended, threaded open end	Filter element

Pall will provide custom configurations to meet your requirements.



AccuSep™ Filter Element

Available Metallurgy

- 316L Stainless Steel - standard
- 304L Stainless Steel
- 310SC Stainless Steel
- Hastelloy X
- Inconel 600

The filter element hardware is dictated by the operating conditions of the application.

Operating Characteristics

Maximum Differential Pressure (psid/bar D) at Temperature °F/°C Outside to Inside Flow

Nominal Element Size	Micron Rating	Operating Temperature °F/°C			
		70°F/21.1°C	250°F/121.1°C	500°F/260°C	750°F/398.9°C
3/4 inch/18 mm	2 microns	90 psid/6.2 bar D	79 psid/5.4 bar D	67 psid/4.6 bar D	61 psid/4.2 bar D
1/2 inch/12 mm	2 microns	98 psid/6.8 bar D	85 psid/5.9 bar D	70 psid/4.8 bar D	63 psid/4.3 bar D
3/4 inch/18 mm	5 microns	60 psid/4.1 bar D	50 psid/3.4 bar D	43 psid/3.0 bar D	38 psid/2.6 bar D
1/2 inch/12 mm	5 microns	82 psid/5.7 bar D	70 psid/4.8 bar D	58 psid/4.0 bar D	52 psid/3.6 bar D

Maximum Differential Pressure (psid/bar D) at Temperature °F/°C Inside to Outside Flow

Nominal Element Size	Micron Rating	Operating Temperature °F/°C			
		70°F/21.1°C	250°F/121.1°C	500°F/260°C	750°F/398.9°C
3/4 inch/18 mm	2 microns	330 psid/22.7 bar D	270 psid/18.6 bar D	210 psid/14.5 bar D	190 psid/13.1 bar D
1/2 inch/12 mm	2 microns	360 psid/24.8 bar D	290 psid/20.0 bar D	230 psid/15.8 bar D	200 psid/13.8 bar D
3/4 inch/18 mm	5 microns	240 psid/16.5 bar D	200 psid/13.8 bar D	160 psid/11.3 bar D	140 psid/9.6 bar D
1/2 inch/12 mm	5 microns	260 psid/17.9 bar D	210 psid/14.5 bar D	170 psid/11.7 bar D	150 psid/10.3 bar D

Performance Data

Filter Grade	Removal Ratings		Clean Pressure Drop			
	Liquid Service	Gaseous Service	Liquid Service		Gaseous Service	
	Rating in Microns at Which % Removal by Count Equals ⁽¹⁾	Rating Based Upon Particle Count Data	Aqueous Pressure Drop (psi/gpm/sq ft)/ (mbard/lpm/sq m) ⁽²⁾		Air Pressure Drop (psi/acfm/sq ft)/ (mbar/cubic meter/min/sq meter) ⁽³⁾	
	99.98%	99.98%	0.5 inch/12 mm OD Tube	0.75 inch/18 mm OD Tube	0.5 inch/12 mm OD Tube	0.75 inch/18 mm OD Tube
C020	2.0	0.3	0.62/1.05	0.86/1.45	0.084/18.99	0.116/26.45
C050	5.0	0.5	0.21/0.35	0.29/0.49	0.023/5.20	0.033/7.23

(1) Liquid removal ratings are based upon a modified F2 test method and actual particle count data

(2) Pressure drop in PSID is obtained by multiplying value shown by the actual flow in gpm, viscosity of the fluid in centipoise and then dividing by the filter area deployed in sq ft.

(3) Pressure drop in PSID is obtained by multiplying value shown by the actual gaseous flow in acfm, multiplying by the viscosity of the gas in centipoise and then dividing by 0.018. Then divide this value by the filter area deployed in sq ft.

Applications

AccuSep microfiltration tubular elements can be deployed as either retrofit products to fit into your existing equipment or as part of a new filtration system provided by Pall Corporation.

Typical Applications Include

- Self Cleaning Jet Pulse or Reverse Flow Blowback Filters (Solids Removal From Gas)
- Self Cleaning Backwashable Filters (Solids Removal From Liquid)
- Cross Flow Microfiltration Elements • Spargers • High Temperature Gas Filter • Liquid Filter Cartridge For High Temperature or Aggressive Service Applications

Features/Advantages/Benefits

Features	Advantages	Benefits
Seamless construction	Higher effective surface area Greater resistance to thermal and chemical stresses	Lower filtration costs Smaller filter systems required Reliable and consistent product performance
Available in Up to 8 ft continuous lengths	Fewer seal points Efficient manufacturing process	Lower filtration costs
Small diameter tubes	High packing (filter area per vessel volume) efficiency	Smaller, lower cost filtration system
Proprietary inorganic medium	Higher permeability than competitive ceramic or sintered metal products Highly uniform pore size distribution crossflow filter	Longer filter life Smaller filter systems required Consistent operating flux when used as a backwashable, blowback or

Besides AccuSep filter medium, Pall Corporation offers sintered metal products made from meshes, fibers and powders as well as engineered composites. With our manufacturing capability, we can create almost limitless combinations to meet your specific requirements.

To learn more about AccuSep filter medium, Pall's other sintered metal or ceramic filter products or the complete microfiltration systems we supply that utilize these inorganic filter media, please contact Pall Corporation or your local Pall distributor. Phone 516-484-5400 in New York State or 1-800-645-6532 outside New York.

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