

BorsoPleat-K

VAN BORSELEN FILTERS



Absolute Rated Pleated Depth Filter Cartridge

A wide range of absolute rated cartridge filters from Van Borselen Filters, featuring the latest developments in meltblown polypropylene filter media technology, **BorsoPleat-K** cartridges are based on a robust all polypropylene construction, offering removal ratings from 0.5 to 75 micron absolute, rated 99,98%.

The combination of up to eight separate filtration layers provides true depth filtration, within a pleated cartridge construction. This design will reduce fouling of the filter surface area caused by a broad spectrum of contaminants.

BorsoPleat-K cartridges are ideally suited for the filtration of process fluids, that contain contaminants with a wide range of particle sizes. The graded multi-layer polypropylene media provides prefiltration of the process fluid prior to the absolute rated final layer.

The unique design of the **BorsoPleat-K** cartridges helps to achieve lower running costs and a smaller process footprint.

The **BorsoPleat-K** are also highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

They are suitable for applications ranging from bioburden reduction and the clarification of a wide range of process liquids and end products.

Features and Benefits:

- **Controlled manufacturing environment**
BorsoPleat-K cartridges are manufactured in an ISO Cleanroom environment by fully gowned staff, minimising the risk of contamination.



- **Depth filtration**

The combination of up to eight separate filtration layers provides true depth filtration, within a pleated cartridge construction, and resistance to fouling

- **Graded multi-layer media**

The multi-layer media structure provides prefiltration of the process fluid prior to the absolute rated final layer. This combination provides economy of use and a smaller process footprint.

- **Guaranteed removal ratings**

BorsoPleat-K cartridges are validated using the recognised industry standard modified OSU-F2 single pass test to Beta 5000 (99.98% efficiency).

- **Suitable for steam and hot water sanitisation**

BorsoPleat-K cartridges are resistant to repeat steam sterilisation up to 135°C (275°F) and hot water cycles at up to 90°C (194°F).

- **Full traceability**

All **BorsoPleat-K** cartridges are identified with a batch serial number. Each **BorsoPleat-K** cartridge is supplied with a Certificate of Quality and an operating instruction leaflet.



Specifications

Materials of Manufacture

Filter media: Polypropylene
 End fittings: Polypropylene
 Inner core: Polypropylene
 Outer support: Polypropylene
 End fittings: Polypropylene
 Support ring: Stainless steel

Cartridge Dimensions

Diameter: 63mm (2.5")
 Length: 254mm (10")
 508mm (20")
 762mm (30")
 1016mm (40")

Effective Filtration Area

Up to 0.6m² per 10".

Cartridge Treatment

Standard: Cleaned without further treatment.
 Flushed: Flushed with pyrogen-free water.
 Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings

Ethylene Propylene, FEP encapsulated, Silicone, Viton®, Nitrile or Polypropylene felt available.

Maximum Differential Pressure

Normal flow direction at:

20°C (68°F): 6.0 bar (87lb/in²)
 80°C (176°F): 4.0 bar (58lb/in²)
 100°C (212°F): 3.0 bar (43lb/in²)
 120°C (248°F): 2.0 bar (29lb/in²)
 125°C (257°F): 1.5 bar (22lb/in²)

Reverse flow direction at:

20°C (68°F): 2.1 bar (30lb/in²)
 80°C (176°F): 1.0 bar (15lb/in²)
 100°C (212°F): 0.5 bar (7lb/in²)

Operating Temperature

Maximum continuous: 80°C (176°F)

Foodgrade approved

FDA 21 CFR 177.1520
 FDA 21 CFR 177.2600
 EC 10/2011

Sterilisation

In situ steam 80 x 30 minute cycles at 135°C (275°F).
 Hot water 200 x 20 minute cycles at 85-90°C (185-194°F).

Extractables

Minimum total extractables. Please refer to the [BorsoPleat-K Validation Guide](#).

Integrity Testing

[BorsoPleat-K](#) filter cartridges are batch tested for integrity using the Bubble Point Test.

Cartridge Construction

The high quality robust all polypropylene construction of [BorsoPleat-K](#) cartridges, allows for excellent chemical compatibility with a wide range of fluids.

The meltblown polypropylene media provides a bonded matrix thus eliminating fibre migration.

The inherent structural stability of the [BorsoPleat-K](#), prevents 'channelling' and avoids the risk of particle unloading even under impulse conditions.

The multi-layer combination of filter media, irrigation mesh and drainage material carefully pleated and thermally bonded maximises the filtration depth and ensures an efficient flow throughout the cartridge.

The [BorsoPleat-K](#) fusion bonded construction ensures cartridge integrity. No surfactants or bonding agents are used, minimising extractables.



Applications

BorsoPleat-K cartridges provide absolute filtration where reproducibility and consistency of performance are critical.

Suitable for the filtration of aqueous and organic liquids, **BorsoPleat-K** cartridges can be used as prefilters or final filters in the following applications:

- **Pharmaceuticals and Bioprocessing**

The structure of the filter media makes it ideally suited for the filtration of complex biological fluids (e.g. serum).

- **Foods and Beverages**

The clarification of beers, wines and spirits to a clear and bright finish without affecting taste or colour. Provides an alternative to plate and frame and other sheet formatted depth filters.

- **Process Water**

The filtration of process water installations for removal of general contamination and resin fines.

- **Fine Chemicals**

The filtration of high grade chemicals including solvents, reagents, photographic emulsions, inks, paints and plating solutions.

- **Cosmetics**

The clarification of process water and intermediates for the finished product.





Additional Information

Range

Van Borselen Filters Supplies a full range of filtration products: e.g.:
Filtercartridges (Meltblown/ Membranes/ Activated Carbon)
Filter housings, Filterbags, Lenticular Module Filters, Self Cleaning
Filters, Filter Sheets, Sieving Machines, Porous Sintered Metal,
Oil skimmers, Strainers and many more..

Material Conformity and Validation

The bio-safety of all materials used in the manufacture of **BorsoPleat-K** cartridges is assured by FDA approval to Title 21CFR.177. and EC 10/2011

Chemical Compatibility

The **BorsoPleat-K** materials of construction are compatible with a wide range of chemicals and solvents, however care must be taken to select the appropriate seal material. Advice on chemical compatibility is available. Since operating conditions vary considerably between applications, verification by the end user is recommended.

Quality control

Our factories are all located in Western Europe and are accredited to ISO 9001-2008.

All our filters are fully traceable and manufactured under clean room conditions.

Engineering capacities

One of our strengths is developing filter vessels for critical applications in the chemical industry.

We have a wide experience in supplying filter vessels, like Duplex (UNS S31803), Super-Duplex (UNS S32750/60), Titanium, RvS316L, CS (optionally with a coating or lining).

Our filter vessels comply with the necessary design codes (ASME VIII, EN13445, U-stamp and PD5500) and comply to ATEX and PED 97/23/EC standards. Both liquids and gasses PED classes I, II, III, IV, all modules



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