

BorsoPleat-K

Absolute Rated Pleated Depth Filters



A 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.

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 pre-filtration 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.

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 pre-filters 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).

- **Food 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.

- **Electronics and semiconductors**

For the sub-micronic filtration of process water and chemicals, including solvents, developers and photoresists. Applications typically include central water plant treatment and critical 'wet bench' point of use filtration.

- **Process Water Systems**

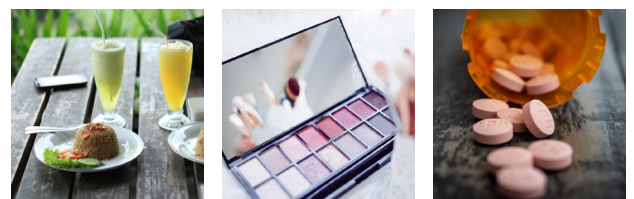
The filtration of process water installations for removal of general contamination and resin fines.

- **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.



Specification

Materials of Manufacture

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

Cartridge Dimensions (Nominal)

- Diameter : 70mm (2.8")
- Length : 1 module (short) : 125mm (5")
1 module : 254mm (10")
: 508mm (20")
2 module : 762mm (30")
: 1016mm (40")

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

Operating Temperature

Maximum continuous : 85-90°C (176°F)

Sterilisation

- In situ steam 80 x 30 minute cycles at 125°C (257°F).
- Hot water 100 x 20 minute cycles at 85-90°C (185-194°F).

Extractables

Minimum total extractables.
Please refer to the BorsoPleat-K Validation Guide.

Clean Water Flow Rates

Typical clean water flow rate:

A 254mm (10") BorsoPleat-P single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.

Other solutions:

For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

Gaskets and O-Rings

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

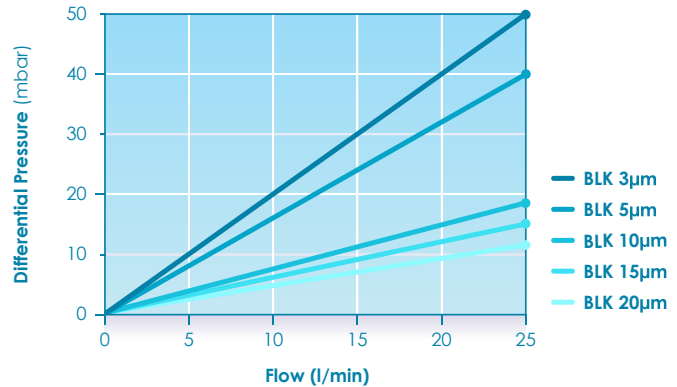
Maximum Differential Pressure

Normal flow direction at :

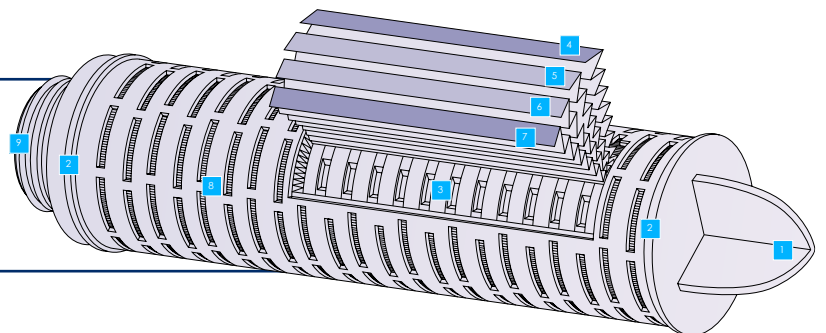
- 20°C (68°F) : 6.0bar (87psi)
- 80°C (176°F) : 4.0bar (58psi)
- 100°C (212°F) : 3.0bar (44psi)
- 120°C (248°F) : 2.0bar (29psi)
- 125°C (257°F) : 1.5bar (22psi)

Reverse flow direction at

- 20°C (68°F) : 2.1bar (30psi)
- 80°C (176°F) : 1.0bar (15psi)
- 100°C (212°F) : 0.5bar (7psi)



- | | |
|--------------------------------|------------------------------|
| 1 Top end fitting/adaptor | 6 Final Membrane Layer |
| 2 Fusion bonding | 7 Drainage layer |
| 3 Inner core | 8 Outer support |
| 4 Irrigation mesh | 9 Outlet end fitting/adaptor |
| 5 Prefiltration Membrane Layer | |



Additional Information

Range

Suitable for use in Van Borselen Filters and as direct replacements for existing cartridges, BorsoPleat-K cartridges can be supplied with end fittings to suit most hardware installations without modification. They are available in single or multiple module units of 5, 10, 20, 30 and 40 inches, and in a choice of removal ratings from 0.5 to 75 micron. BorsoPleat-K Junior versions are also available. Each cartridge is supplied with all necessary seals or O-rings to ensure chemical compatibility.

Quality Assurance

BorsoPleat-K cartridges are manufactured in an ISO Cleanroom environment by staff fully gowned to minimise any risk of contamination during production. BorsoPleat-K cartridges are batch tested and flushed with pyrogen-free ultra-pure water. As a further safeguard, every cartridge is identified with a batch serial number, allowing users to maintain their own process records.

Registered to ISO9001, Van Borselen Filters procedures are subject to high standards of quality assurance as demonstrated through its Drug Master File status.

Material Conformity and Validation

The bio-safety of all materials used in the manufacture of BorsoPleat-K cartridges is assured by FDA approval, USP Class VI and meets or exceeds the latest EC Directives for Food Contact.

A comprehensive validation guide for BorsoPleat-K cartridges is available on request.

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. A comprehensive chemical compatibility guide is available. Since operating conditions vary considerably between applications, verification by the end user is recommended.

Filter Housings

Please contact a **Van Borselen Filters** representative for further information on our range of filter housings.

