

# BorsoPleat-K

## Absolute Rated Pleated Depth Filters

VAN BORSELEN 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).

### • 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.

### • 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 : 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

### 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)

### Operating Temperature

Maximum continuous : 80°C (176°F)

### Sterilisation

*In situ* steam 80 x 30 minute cycles at 135°C (257°F).

Hot water 200 x 20 minute cycles at 85-90°C ((185-194°).

### 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. Procedural details are available from Van Borselen Filters.

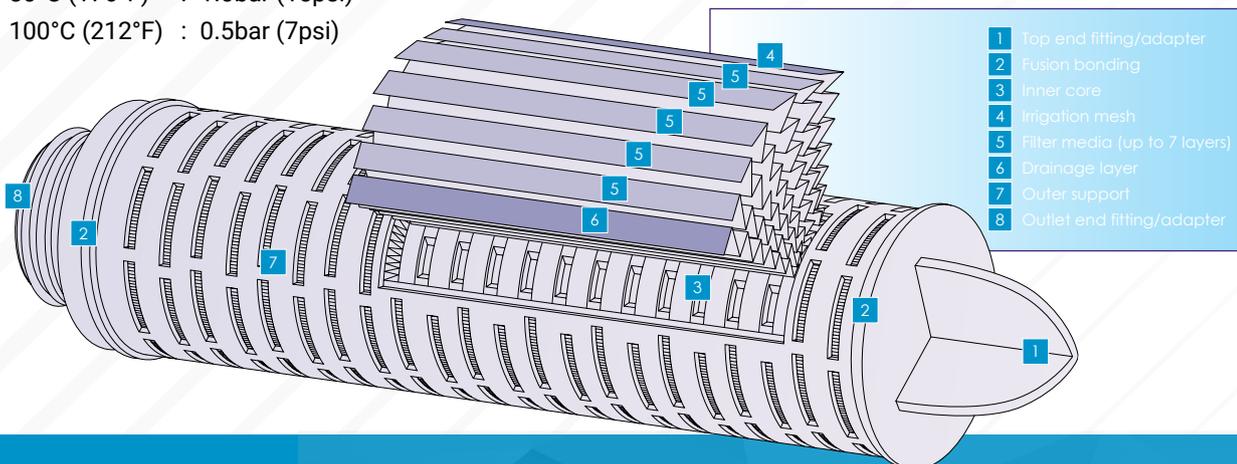
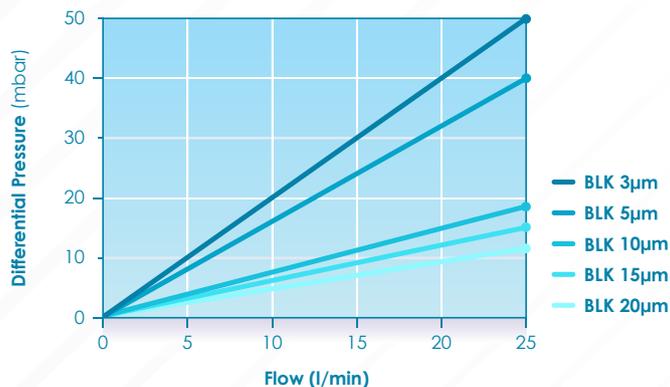
### Clean Water Flow Rates

- Typical clean water flow rate:

A 254mm (10") BorsoPleat-K 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.



### 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 ISO 9001, 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.

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