

# BorsoPleat-P

Absolute Rated Polypropylene Filter Cartridge

VAN BORSELEN FILTERS



A wide range of absolute rated cartridge filters from Van Borselen Filters, featuring the latest developments in meltblown polypropylene filter media technology, **BorsoPleat-P** cartridges are based on a robust all polypropylene construction, offering removal ratings from 0.5 to 105 micron absolute, rated 99,98%.

**BorsoPleat-P** cartridges are suitable for absolute removal of unwanted particulates and for prefiltration to membrane filters.

The graded multi-layer polypropylene media provide prefiltration of the process fluid prior to the absolute rated final layer. The unique design of the **BorsoPleat-P** cartridges helps to achieve lower running costs and a smaller process footprint.

The **BorsoPleat-P** 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 to the clarification of a wide range of process liquids and end products.

## Features and Benefits:

### • BorsoPleat-P cartridges

Extensive research and selection of the latest and most advanced polypropylene meltblown microfibre filter media, results in improved performance, leading to extended filter life at a given efficiency.

### • 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.

### • High filtration area

Large surface area for low clean pressure drop.

### • Guaranteed removal ratings

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

### • Environmentally friendly

BorsoPleat-P filters are environmentally friendly, all spent cartridges can be readily incinerated to trace ash.

### • Full traceability

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

### • Controlled manufacturing environment

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





# 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 0.6m<sup>2</sup> 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/in<sup>2</sup>)  
 80°C (176°F): 4.0 bar (58lb/in<sup>2</sup>)  
 100°C (212°F): 3.0 bar (43lb/in<sup>2</sup>)  
 120°C (248°F): 2.0 bar (29lb/in<sup>2</sup>)  
 125°C (248°F): 1.5 bar (22lb/in<sup>2</sup>)

Reverse flow direction at:

20°C (68°F): 2.1 bar (30lb/in<sup>2</sup>)  
 80°C (176°F): 1.0 bar (15lb/in<sup>2</sup>)  
 100°C (212°F): 0.5 bar (7lb/in<sup>2</sup>)

## 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-P Validation Guide.

## Integrity Testing

BorsoPleat-P filter cartridges are batch tested for integrity using the Bubble Point Test.

## Cartridge Construction

The high quality robust all polypropylene construction of BorsoPleat-P 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-P, 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 media area and ensures an efficient flow throughout the cartridge.

The BorsoPleat-P fusion bonded construction ensures cartridge integrity. No surfactants or bonding agents are used, minimising extractables.



# Applications

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

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

- **Pharmaceuticals and Bioprocessing**

The batch preparation of intermediates used in the manufacture of pharmaceutical and bioprocessed products. Used as prefilters to extend the life of membrane filters.

- **Foods and Beverages**

The clarification of beers, wines and spirits to a clear and bright finish without affecting taste or colour.

- **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.

- **Process Water Systems**

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

- **Micro-electronics**

The preparation of process water and chemicals used in the manufacture of semiconductors and other electronic components.





# 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,  
 Oilskimmers, Strainers and many more..

## Material Conformity and Validation

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

## Chemical Compatibility

The **BorsoPleat-P** 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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