BorsoCrypto

A barrier to Cryptosporidium and Giardia

VAN BORSELEN FILTERS

BorsoCrypto filter cartridges are utilised for the control of Cryptosporidium oocysts in water used in the food, beverage and ultrapure water industries.

The **BorsoCrypto** cartridge has been developed after extensive research and has resulted in filter media with continuously graded fibre density. This yields progressively finer oocyst retention through the depth of the media.

This graded density depth filtration mechanism, combined with optimised pleated pack configuration and resultant high surface area, affords high flow capability and exceptional oocyst retention capacity.

Cryptosporidium oocysts removed from the water flow are captured within the media and are not subject to release by system fluctuations. The voids volume of **BorsoCrypto** combined with advanced cartridge construction results in a filter capable of retaining high concentrations of oocysts ensuring extended service life and reduced filtration costs.

Features and Benefits:

• BorsoCrypto 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.

• Controlled manufacturing environment

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

• 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

BorsoCrypto cartridges have been independently tested to ensure >log4 removal of Cryptosporidium parvum oocysts.

• Cartridge integrity and low TOC levels

Each **BorsoCrypto** module of every cartridge is individually integrity tested.

• Suitable for steam and hot water sanitisation

BorsoCrypto cartridges are resistant to repeat steam sterilisation up to 130°C (266°F) and hot water cycles at up to 90°C (194°F).

• Environmentally friendly

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

• Full traceability

All **BorsoCrypto** cartridges are identified with a batch serial number. Each **BorsoCrypto** 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:	70mm (2.8")
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)

Sterilisation

In situ steam 60 x 30 minute cycles at 130°C (266°F).
Hot water 200 x 20 minute cycles at 80°C (176°F).

Extractables

Minimum total extractables. Please refer to the **BorsoCrypto** Validation Guide.

Integrity Testing

Each **BorsoCrypto** module of every cartridge is individually integrity tested using the Bubble Point Test. Procedural details are available.

Cartridge Construction

The high quality robust all polypropylene construction of **BorsoCrypto** 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 **BorsoCrypto**, prevents ‘channelling’ and avoids the risk of Cryptosporidium oocysts 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 **BorsoCrypto** fusion bonded construction ensures cartridge integrity. No surfactants or bonding agents are used, minimising extractables.

Applications

BorsoCrypto cartridges provide absolute filtration where reproducibility and consistency of performance are critical. **BorsoCrypto** cartridges are recommended for the production of oocyst-free water in the following applications:

• Mineral Water
The safeguard of bottled water to prevent Cryptosporidium oocyst contamination.

• Food Processing
Process water used in the manufacture of food stuffs and decontamination of process equipment. Recommended for use in fresh food preparation, such as fruit and salad washing.

• Embarkation Water Supply
For the protection of potable onboard water systems in marine and portable water installations.

• Leisure
For the protection of potable water used in hotels and resorts. For the removal of Cryptosporidium oocysts in outbreak scenarios.

Additional Information

Range
Van Borselen Filters Supplies a full range of filtration products: e.g.: Filtercartridges (Meltblown/ Membranes/ Activated Carbon) Filterhousings, 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 BorsoCrypto cartridges is assured by FDA approval to Title 21CFR.177. and EC 10/2011

Quality Assurance
BorsoCrypto cartridges are manufactured in an ISO Cleanroom environment by staff fully gowned to minimise any risk of contamination during production. BorsoCrypto cartridges are individually 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.

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 gases PED classes I, II, III, IV, all modules

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