BorsoMetal-CM

VAN BORSELEN FILTERS

Cylindrical Metal Mesh Filter Elements

Van Borselen Filters supplies a range of industry standard stainless steel filter elements suitable for use in a wide range of industries, including petrochemical.

The robustness of design, that is provided by a fully welded metallic element or cartridge, is required to resist deterioration in harsh operating environments where the fluids present are aggressive, high temperatures are experienced or where the operating differential pressures are high.

For some filtration applications, the use of a conventional disposable polymeric cartridge may simply be environmentally unacceptable and the use of a re-cleanable element will often give more cost effective filtration.

These filter elements are offered in the following media configurations:

BorsoMetal-CF Sintered Metal Fibre
BorsoMetal-CP Sintered Metal Powder
BorsoMetal-PF Pleated Fibre
BorsoMetal-SMC Sintered Metal Composite

BorsoMetal-CM precision woven meshes are manufactured in various types of weaves. Plain square weave is available for simple sieving duties through various weave patterns (reverse plain dutch, broad mesh twill and single plain weave). Dutch twill weave is provided for the most comprehensive selection of surface filtration duties.

BorsoMetal-CM demonstrates good permeability, high tensile strength and is available from single wrap designs through to complex multi-layered structures in pleated constructions to optimise the area available. These meshes can be manufactured in diffusion bonded versions to increase performance security of pore shape and size and have the broadest range of pore sizes of any filter media type.

Features and Benefits:

- BorsoMetal-CM Metal mesh is a robust, non-shedding media which provides resistance to mechanical abrasion.
- Available in plain square mesh, reverse plain dutch, broad mesh twill, single plain weave and dutch (Hollander) twill weave to give the most defined absolute rating.
- The all-welded construction eliminates the need for resin bonded end caps. Its robust structure ensures log service life and its suitability to the most demanding of environments.
- The manufacturing process of our elements enables us to achieve a smooth surface variant. This is the preferred choice for backwash applications.
- Available in 316L stainless steel as standard with other alloys such as 304L stainless steel, Inconel®, Hastelloy® and Monel® on request.

Specifications

Materials of Manufacture

316L stainless steel standard. Inconel®, Hastelloy®, NiCrMo Alloy 59 and Fecralloy® on request or by process selection.
Additional alloys are available on request.

Cartridge Dimensions

Diameter: 66mm (2.6") as standard.
Lengths: 125mm (5"),
250mm (10"),
498mm (20"),
745mm (30")
1012mm (40").

** Other diameters and lengths available on request.*

Effective Filtration Area

0.05m2 (0.55ft2) per 250mm (10") element.

Gaskets and O-Rings

EPDM as standard. Nitrile, PTFE, Silicone, Viton® and PTFE coated Viton® available on request or by process selection.
** FDA approved seals are available.*

Typical Maximum Differential Pressure* (all lengths)

Normal flow direction: 15bar (218psi)
Reverse flow direction: 3bar (44psi)
** Grade dependant.*

Operating Temperature

Maximum continuous:
From -195ºC (-319ºF) to 340°C (644°F) seal limiting
From -269ºC (-452ºF) to 1000°C (1832°F) alloy limiting

Element Construction

The **BorsoMetal-CF** range of filter cartridges and elements are constructed in stainless steel 316L as standard. These filters are available in a cylindrical element configuration, giving 0.05m2 (0.55ft2) of active filtration area per 10" length.

The cylindrical element design provides a sleeve of filter medium (protected and supported by woven meshes) around a support core.

The filter media and support meshes are either plasma or TiG seam welded and the media support core and end fittings are fully TiG welded together. This method of construction guarantees element integrity, eliminating the risk of bypassing and the presence of extractables derived from bonding agents.

The method of construction and materials used allow for operation from -269°C (-452°F) to 1000°C (1832°F) and up to 25bar (363psi) differential pressure in normal flow direction. Higher operating temperatures and differential pressures can be accommodated by design.

In the double open ended configuration, in addition to the support core, there is a 25mm (1") inner core to assist the location of multiple length units onto tie rods. Our cylindrical elements have optional outer support available for backflow/ backflushing protection up to 3bar (44psi) differential.

Applications

Typical applications for our BorsoMetal-CM elements include the following:

• Catalyst recovery and retention
For use in the collection of catalyst dust on various catalyst hoppers or FCC regenerator stream on refineries.

• Gasification and chemical production
For the clean-up of syngas from pet coke/coal feedstock and for IGCC trains, amongst others, for the production of hydrogen and other chemicals.

• Vent filters
For emission control of dust in various industry applications.

• Agrochemical
Typically for ammonia systems used on nitric acid and urea plants.

• Steam
For applications in the chemical, food, beverage andpharmaceutical industries.

• Pharmaceutical powder recovery
For medium pressure applications in dryers and blenders.

• Polymer melt
For the filtration of hot polymers used for the manufacture of man-made polymer films, fibres and bottles.

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..

Product innovation

We understand that product development involves building multidiscipline teams, not only within the company, but often in partnership with our customers, improving project efficiency and ensuring complete customer satisfaction. This continuous development of products and materials is vital, to enable us to offer new and better solutions to applications. Our manufacturing facility has implemented various methodologies to drive out waste and process variance across the company to achieve the ultimate goal of zero defects.

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

Manufacturing and Testing

We have a dedicated team of scientists, engineers, production and quality professionals working towards the best possible filtration solutions for our customers. We have a fully equipped test house and laboratory, and our experienced design engineers use the latest AutoCAD® technology, with 3D solid modelling, integrated with a finite element analysis system to give full structural assurance capability.

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