

BMC200 MF500 XD

Microfiltration membrane module for beverage
applications

BMC200 MF500 XD

General Information

The BMC200 MF500 XD microfiltration module is used for the clarification of beer, along with other applications in the Food & Beverage industry, like dairy, biotechnology, and pharmaceutical industries. This module excels at efficiently removing yeast. Its inside-out operation in a cross-flow mode enhances its performance, making it a superior alternative to traditional filtration methods like diatomaceous earth. Additionally, its high-performance materials enable high-temperature cleaning and sanitation using lye, acid, or oxidizing agents, ensuring its reliability and effectiveness in maintaining product quality and safety.

Membrane characteristics

Membrane material	Hydrophilic PES
Pore size	0.6 µm
Membrane fiber inner diameter	1.5 mm
Filtration mode	Inside-Out; Vertical
Operation mode	Cross-flow

Operating Conditions ¹

Filtration mode

Temperature range	-1°C to 20°C
Max. system pressure	5 bar
Max. transmembrane pressure	2 bar
Typical flux	25-100 LMH
Max. particle size	300 µm
pH range during operation	2-12

Cleaning mode ²

Max. Temperature ³	75 °C
Max. temperature change ³	3°C/min
Max. system pressure	5 bar
Max. transmembrane pressure & backflush pressure	2 bar
Max. Nitric acid concentration	0,3 % (w/w)
Max. active Persulfate concentration	5000 ppm @ pH>10 (max. 1,000,000 ppm.hrs)
Max. active H ₂ O ₂ concentration	6000 ppm @ pH>10 (max. 2,000,000 ppm.hrs)
pH range during cleaning	1-13
Max. accum. exposure time to T>60 °C and P>2 bar	500 hrs

¹ Water hammer and pressure spikes should be avoided at all time! This causes stresses leading to mechanical failure of the module especially at elevated temperatures, during temperature ramp up and ramp down. Combinations of elevated pressure, temperature, and cleaning agents, especially oxidizing conditions, will have a negative influence on product lifetime.

² Cleaning fluids must be of permeate quality or better. Persulfate and H₂O₂ cannot be combined, one chooses one or the other!

³ Avoid sudden temperature changes subjected to the membrane module or element. This can cause mechanical damage. Follow the guidance of the installation manufacturer and never exceed the mentioned temperatures. The max value 3°C/min should never be exceeded during heating or cooling. Irreparable damage could result from failure to adhere to this guideline.

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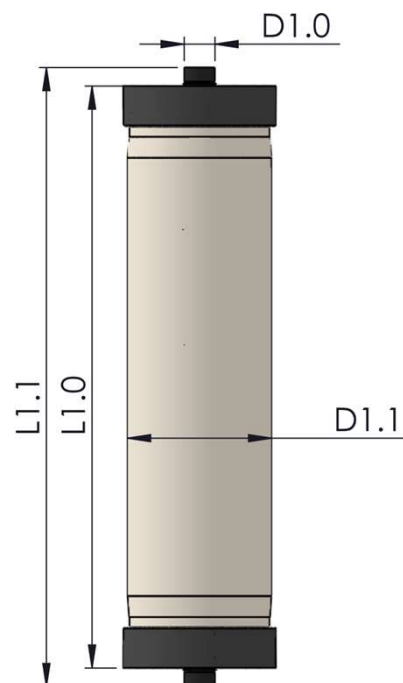
Module Specification

Materials of Construction

Housing	Noryl™, reinforced with glass fiber and resin on the outside
Internals	Noryl™, PP
Potting	Epoxy Resin

Dimensions

Membrane Surface Area	11 m²
L1.0	833 mm (32.80")
L1.1	886 mm (34.88")
D1.0	44 mm (1.73")
D1.1	206 mm (8.11")



Available Module Type

BMC200 MF500 X

Product-Code	ELEMF0041
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Storage Information

The dry BMC200 MF500 Y must be stored in their original packaging under dry, moderately ventilated conditions at a relative humidity below 80%, protected from sunlight or any heat source. Adhere to the storage and transport temperatures in a range from 0°C to 40°C.

Product certifications

Compliant with the Code of Federal Regulations (CFR).

Complaint with the requirements of the Federal Food, Drug and Cosmetic Act (FDA).

Compliant with the Commission Regulation (EU) No. 10/2011 on plastic materials and articles intended to come into contact with food.

Compliant with Pressure Equipment Directive (PED) 2014/68/EU – as assembly in combination with end caps supplied by NX Filtration or as stand-alone filtration element when used with 3rd party end caps.

This product is 100% PFAS free and **CE** compliant.

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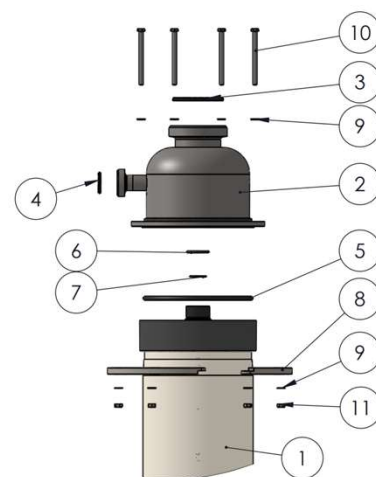
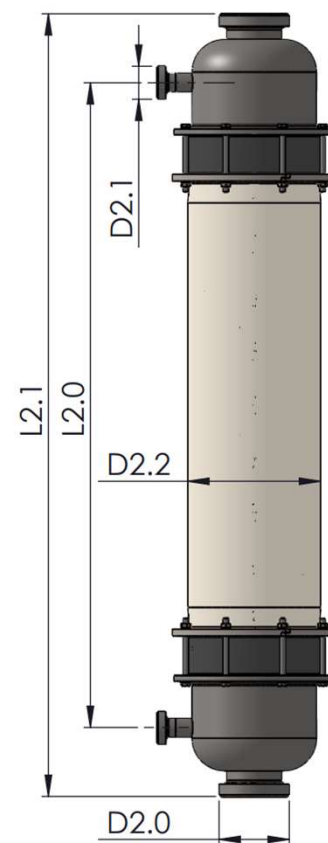
Connection Configurations

Dimensions

L2.0	1000 mm (39.37")
L2.1	1214 mm (47.80")
D2.0	DIN11851 DN80
D2.1	DIN11851 DN25
D2.2	206 mm (8.11")

Assembly Components

(1) Module	BMC200 MF500 X
(2) Endcap	BMC200 MF XD Endcap stainless steel 316
(3) Gasket	Gasket DIN11851 DN080
(4) Gasket	Gasket DIN11851 DN025
(5) O-ring	O-ring EPDM 55501 190x8
(6) O-ring	O-ring ISO3601 221 36.09x3.53
(7) O-ring	O-ring 28x2.5
(8) Connection	Clamp bracket stainless steel 304
(9) Washer	Washer D125-1A-M8-A2
(10) Bolt	Hex Bolt I4014-M8x100-A2
(11) Nut	Hex Nut D934-M8-A2



Available Set (Components 1-11)

BMC200 MF500 XD Set

Set-Code	SETMF0041
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BMC200 MF500 XD

Weight Information

Weight

BMC200 MF500 XD Set

Dry weight Module (without assembly components)	10.5 kg (23 lbs)
Dry weight Module including assembly components	22 kg (48.5 lbs)

Assembly information

Do not use any lubricants, grease or sealants that contain silicone or mineral oil components during assembly! Only glycerine or water may be used as a lubricant for gaskets, O-rings, couplings etc.

Apply an anti-seize lubricant for the bolts and nuts of the end cap during installation. Do not apply anti-seize for O-ring lubrication!

Chemical Compatibility

Compatible with:

- alcohol (max 20%)
- nitric acid*
- phosphoric acid*
- sulphuric acid*
- hydrochloric acid*
- acetic acid* citric acid*
- persulfate*
- hydrogen peroxide (H₂O₂)*
- Sodium hydroxide (NaOH)*, potassium hydroxide (KOH)*
- NaOCl (max 500 ppm and 250,000 ppm.hrs @ pH>10)

* Obey pH limitations, concentrations and temperatures specified on page 1

Not Compatible with:

- mineral oils
- aliphatic and aromatic hydrocarbons
- lubricants based on mineral oils
- lubricants based on silicon
- combination of acids
- anti foaming agents

In case of doubt or questions related to chemical compatibility of the membrane module, contact NX Filtration's Food & Beverage team.

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