

Tubular membrane Modules Overview CR 5 mm

66.03 I5 CR

Type of filtration: Ultrafiltration

Membrane material: Polyvinylidene fluoride (PVDF)

Membrane diameter (internal): 5.2 mm



General properties

- asymmetric membrane structure
- inside-out filtration
- highly efficient hydrophilic tubular membrane
- high permeability
- excellent anti-fouling characteristics
- high pressure stability
- excellent chemical resistance
- optimised for B-Smart™ application
- used in HyperFlux membrane module (Chemical Resistant)

Fields of application

- membrane bioreactor
- purification
- biomass separation
- wastewater treatment
- prefiltration
- enzyme separation
- emulsion separation
- concentration
- filtration of fermentation effluent
- reclamation of reusable materials

Performance characteristics

Membrane type	Type 66.03 I5 CR	Notes
Clean water flux [l/m ² -h-100 kPa]	> 750	RO water, 25 °C
Transmembrane pressure max. [kPa]*	-60 to +600	
Mean pore size [nm]	approx. 30	
pH range of application [-]	2 – 12	at 25 °C
Max. temperature [°C]*	40	up to 600 kPa

* **Note:** the maximum values for pressure and temperature of I5-CR-module should not be exceeded!

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Membrane lifetime is influenced by:

- Operating conditions under normal operation
- Cleaning, especially regarding the combinations of maximal values of pH, concentration, pressure and temperature

Chemical resistance

• **Process chemicals** - the chemical resistance of a membrane is strongly dependent on the process conditions.

The following ratings are to be taken as general guideline only.

Acids (pH > 2)	+++
Bases (pH < 12)	+++
Organic esters, ether, ketones	+
Aliphatic alcohols	++++
Aliphatic hydrocarbons	++++
Halogenated hydrocarbons	+++
Aromatic hydrocarbons	+++
Polar organic solvent	+
Oils	++++

Scale: +++++ = highly resistant
+ = poorly resistant

Cleaning chemicals

• Depending on nature and degree of contamination, membrane cleaning may be carried out using the following chemicals.

The membrane lifetime may be reduced when values, placed in brackets, are exceeded.

Chlorine, active (max. 500 ppm)	Phosphoric acid (pH ≥ 1)
Chlorine exposure 250,000 ppm·h (at 25 °C)	Citric acid
Hydrogen peroxide (max. 1000 ppm)	Oxalic acid
Sodium hydroxide (pH < 13)	Enzymes
Nitric acid (pH > 1)	

See Berghof cleaning and preservation instruction.

Membrane storage

- New membranes can be stored in delivered condition up to two years.
- Membrane must be stored dry, well packed in a cool, frost free, dark place
- Used membranes must be preserved in a clean state - *see Berghof cleaning and preservation instruction*