

Tubular membrane Modules Overview CR 8 mm

66.03 I8 CR

Type of filtration: Ultrafiltration

Membrane material: Polyvinylidene fluoride (PVDF)

Membrane diameter (internal): 8.0 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 BioPulse 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 I8 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 HyperFlux I8-CR-module should not be exceeded!

Tubular membrane Modules Overview CR 8 mm

66.03 I8 CR

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*



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Tubular membrane Modules Overview CR 8 mm

37.03 I8 CR

Type of filtration: Ultrafiltration
Membrane material: Polyethersulfone (PES)
Membrane diameter (internal): 8 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 37.03 I8 CR | Notes |
|--|------------------|-----------------|
| Clean water flux [l/m ² -h-100 kPa] | > 300 | RO water, 25 °C |
| Transmembrane pressure max. [kPa]* | -20 to +600 | |
| Molecular weight cut-off [Dalton] | approx. 100,000 | |
| 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 I8-CR-module should not be exceeded!

Tubular membrane Modules Overview CR 8 mm

37.03 I8 CR

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

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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

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