X-FLOW XF75
ULTRAFILTRATION MEMBRANE

MEMBRANE ELEMENT DATASHEET

ARTICLE CODE : 2172DC195A

GENERAL INFORMATION

XF75 is an ultrafiltration, used for the production of process and potable water from surface water, for wastewater polishing and reuse, in the pre-treatment of large SWRO plants, and in large-scale drinking water production. The XF75 module can be utilized in Pentair's unique solutions Aquaflex and X-Line.

GENERAL SOLVENT RESISTANCE

Since the resistance of the membrane to solvents strongly depends on the actual process conditions, the indications given below should only be considered as guideline.

Acids	++
Bases	++
Organic esters, ketones, ethers	-
Aliphatic alcohols	+
Aliphatic hydrocarbons	+
Halogenated hydrocarbons	—
Aromatic hydrocarbons	—
Polar organic solvents	—
Oils	++

CLEANING CHEMICAL RESISTANCE

Sodium Hypochlorite
- Typical 200 ppm, at ≤ 40 ºC at ≥ pH 10
- Maximum 500 ppm
- 250.000 ppm hours cumulative; ≥ pH 10

Chlorine Dioxide
- Typical 1 ppm, at ≤ 40 ºC
- Maximum 2 ppm
- 90.000 ppm hours cumulative; pH 11

Hydrogen Peroxide
- Typical 200 ppm, at ≤ 40 ºC
- Maximum 500 ppm
- 350.000 ppm hours cumulative

Note:
The above figures for oxidant contact represent the membrane resistance to each individual oxidizing agent. The total combined exposure for Sodium Hypochlorite and Chlorine Dioxide will be calculated as follows:

Combined exposure ($NaOCl + ClO_2$) = 2.6 x Exposure to ClO_2 (in ppm hours)+ Exposure to NaOCl (in ppm hours) < 250.000 ppm hours

As a good working practice and in order to maximise the lifetime of the membrane it is advised to reduce the membrane exposure to oxidising agents to a minimum. Exposure limits are also affected by temperature, pH and the presence of metals. In order not to exceed maximum exposure limits, membranes must be preserved free of any oxidising agent when the plant is stopped.

Acids

Hydrochloric Acid	+ +
Nitric Acid	+ +
Sulphuric Acid	+ +
Phosphoric Acid	+ +
Acetic Acid	+ +
Citric Acid	+ +

pH > 2 during filtration
pH > 1 during cleaning

Bases

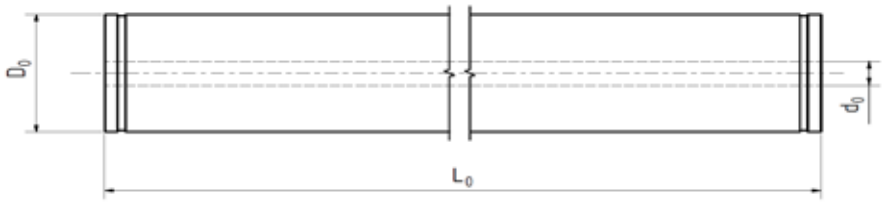
Sodium Hydroxide (<4%)	+ +
Potassium Hydroxide (<4%)	+ +

pH < 12 during filtration
pH < 13 during cleaning

MEMBRANE CHARACTERISTICS

- Hydrophilic membrane composed of a blend of polyvinylpyrrolidone and polyethersulfone
- A nominal pore size of 20 nm
- Structure asymmetric/microporous
- High performance and a very good anti-fouling behaviour
- Typical permeate quality SDI<3, turbidity <0,1 NTU
- Membrane filtration provides 99.9999% reduction of bacteria and 99.99% reduction of viruses by mechanical means. EPA Est. No. 090374-NLD-001

Membrane diameter mm [mil]	Effective membrane area m^2 [ft^2]	Feed connection DO mm [Inch]	Module length L_0 mm [Inch]	Permeate connection d_0 mm [Inch]
0.72 [28.3]	75 [807]	220.0 [8.66]	1537.5 [60.52]	51.6 [2.03]



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OPERATING SPECIFICATIONS

Max. trans-membrane pressure Filtration	Max. trans-membrane pressure Backwash	Temp. range
kPa [psi]	kPa [psi]	°C [°F]
100 [14.5]	200 [29]	0-40 [32-104]

- Backwash water should be free of particulates and should be of UF permeate quality or better
- Backwash pumps should preferably be made of non-corroding materials, e.g., plastic or stainless steel. If compressed air is used to pressurize the backwash water, do not allow a two-phase air/water mixture to enter the element
- To avoid mechanical damage, do not subject the membrane module or element to sudden temperature changes, particularly decreasings. Bring the module or element back to ambient operating temperature slowly (max. value 3 °C/min). Failure to adhere to this guideline can result in irreparable damage

Operation of membrane modules at any combination of maximum limits of pH, concentration, pressure or temperature, during cleaning or production, will influence the membrane lifetime.

TECHNICAL SPECIFICATIONS

Weight Specifications
Dry weight of membrane element
ca. 34 kg [75 lbs]

Membrane element filled with water
ca. 66 kg [145 lbs]

Materials of Construction

Housing	PVC white
Flow distributor	PVC
Potting	PU resin
Membrane	PES/PVP

Process Characteristics (Water, 20 ºC)

Hydraulic membrane diameter	Pressure-drop across module at 0.2 m/s	Pressure-drop across module at 0.5 m/s
mm [mil]	kPa [psi]	kPa [psi]
0.72 [28.3]	19 [2.8]	47.7 [6.9]

STORAGE

New membrane modules can be stored as supplied in the original packaging. The membrane modules contain an aqueous preservation solution of glycerine (20wt%) and sodium metabisulfite (1wt%) to prevent dehydration and control bacterial growth. The membrane modules are packed in plastic bags which are vacuum sealed to keep the moisture in the module. Membrane modules should be stored in a dry, normally ventilated place, away from sources of heat ignition and direct sunlight.

Storage temperature should be between 0 and 40 °C. Pentair instructions for transport and storage are to be followed at all times and available upon request. It is recommended to have the membrane modules installed into the UF skids and commissioned as soon as possible. The membrane shelf life is maximum 6 months from the date the modules are announced ready for delivery ex works Pentair warehouse. After expiry of the shelf life all warrantees are null and void.

PENTAIR

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