X-FLOW COMPACT 55G
HELIX - ULTRAFILTRATION MEMBRANE

MEMBRANE ELEMENT DATASHEET

10 INCH 8 mm Helix Compact 55G
ARTICLE CODE : 7181KRJ99RS

APPLICATIONS

- Effluent treatment
- Membrane bioreactor
- Leachate treatment

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 guidelines.

Acids, pH >2	+
Bases, pH <11	+
Organic esters, ketones, ethers	–
Aliphatic alcohols	++
Aliphatic hydrocarbons	++
Halogenated hydrocarbons	++
Aromatic hydrocarbons	+
Polar organic solvents	–
Oils	++

Sodium Hypochlorite
- Typical 200 ppm, at ≤ 40 ºC
- Maximum 500 ppm
- 250.000 ppm hours cumulative at 30 ºC

CLEANING CHEMICAL RESISTANCE

Depending on the nature of the feed solution the following cleaning agents can be chosen:

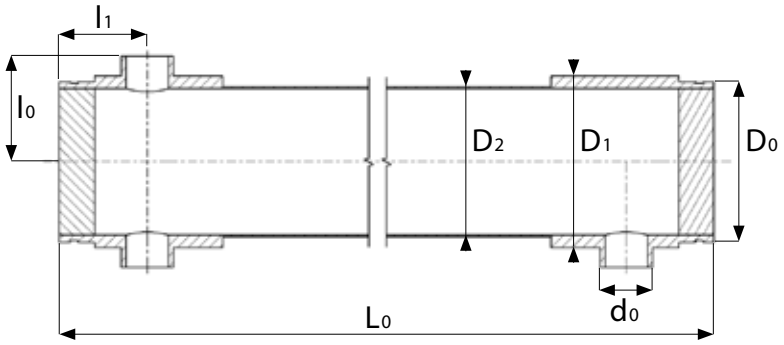
NaOCl (active chlorine)	500 ppm max.
H2O2	1000 ppm max.
NaOH	pH ≤ 11
Nitric acid	pH ≥ 1
Phosphoric acid	pH ≥ 1
EDTA	pH ≤ 11
Citric acid	
Enzymatic compounds	

It is recommended to keep the pH between 1 and 11 and not to exceed a temperature of 40 °C during cleaning and/or disinfection. If those standard cleaning techniques fail to remove the foulants, more concentrated cleaning solutions can be tried. Please contact X-Flow for recommendations. It has to be stressed, however, that no warranty can be given on the efficiency of any cleaning nor on the membrane performance after such cleaning attempts.

ELEMENT SPECIFICATIONS

Membrane diameter [mm]	Membrane area [m²]	Feed connection D_0 [mm]	Module length L_0 [mm]	Saddle diameter D_1 [mm]	Module diameter D_2 [mm]	Permeate connection d_0 [mm]	Permeate length l_0 [mm]	Permeate position l_1 [mm]
8	55	273	4000	292 - 300	257 - 265	89	180	150

For connection specifications please check the corresponding connection configuration data sheet.



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OPERATING SPECIFICATIONS

Max. feed pressure	Max. permeate pressure	Max. transmem-brane pressure	Max temp.
[kPa]	[kPa]	[kPa]	[°C]
20 - 60°C 800	at 20 - 60°C 800	at 20°C -60 - +250	60
		at 30°C -60 - +250	
		at 40°C -60 - +250	
		at 50°C -50 - +250	
		at 60°C -50 - +250	

- To avoid mechanical damage, do not subject the membrane module or element to sudden temperature changes, particularly decreasings. Do not exceed 60°C process temperature. Bring the module or element back to ambient operating temperature slowly (typical value 3°C/min). Failure to adhere to this guideline can result in irreparable damage
- It is strongly advised to at least use 2 permeate ports (1 on each module end) during filtration and backwash. Only using 1 permeate port can have negative influence on filtration performance and fouling removal during backwash

MEMBRANE CHARACTERISTICS

- Hydrophilic tubular polyvinylidene fluoride membrane cast on a polyester carrier
- The Helix structure of the membrane surface enhances the turbulence and reduces the membrane fouling
- Structure asymmetric
- Mean pore size of 30 nm
- Developed for use in large-scale processes for water purification
- High performance and a very good anti-fouling behaviour
- Membrane elements can be backflushed for efficient membrane cleaning resulting in a higher average product flux

TECHNICAL SPECIFICATIONS

Weight Specifications
Dry weight of membrane element
ca. 80 kg [176 lbs]

Membrane element filled with water
ca. 270 kg [595 lbs]

Materials of Construction

Housing	GRE
Potting	EP resin
Membrane	- Material composed of polyvinylidene fluoride - Carrier is a double nonwoven polyester

Process Characteristics (water, 20°C)

Hydraulic membrane diameter	Crossflow flow rate (*)	Pressure-drop across module (turbulent flow)(*)
[mm]	[m^3/h]	[kPa]
8.0	102.8 x v	14 x $v^{1.8}$

(*) Fluid velocity (v) in m/s

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STORAGE

New membrane modules can be stored as supplied.

Membrane modules should be stored in a dry, normally ventilated place, away from sources of heat, ignition and direct sunlight. Store between 0 and 40 °C.

The membrane modules should not be subjected to any freezing temperatures.

After use, UF membranes need to be stored wet at all times.

To avoid biological growth during shutdowns or storage, wet membranes should be treated with a compatible biocide. The membrane is compatible with many common disinfecting agents or biocidal preservatives. For short-term shutdowns, a daily flush with permeate quality water containing up to 2.0 ppm free available chlorine for 30 to 60 minutes may be adequate for bacteria control.

In case of long-term storage, membranes should be cleaned before the disinfection step is carried out. For disinfection, a 1% sodium metabisulfite solution can be used. In either situation, modules should be stored hydraulically filled.

PENTAIR

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