

Spiral Wound Element User Manual

Thank you for purchasing Spiral wound element from **UNISOL MEMBRANE TECHNOLOGY**. When using this product, please pay attention to the following instructions.

1. Receiving

Upon receipt, please inspect the membrane element and its packaging for any cosmetic damage. If there is any such phenomenon, please notify us immediately

2. Storage

Membrane elements in their original hermetically sealed packages may be stored for up to one year, subject to the following conditions:

	Dry Membrane Elements	Wet Membrane Elements
Protective Fluid	No need for protective fluids	1.0%(W) sodium bisulfite with regular replacement
Preservation Temperature	No higher than 45°C	5~30°C
Storage Location	Cool and dry, no prolonged direct sunlight	Dry, no direct sunlight for a long time

3. Installation

Before installing the membrane element, carefully inspect and clean membrane system piping to ensure reliable pre-filter operation, thus preventing foreign matter from entering the membrane element when starting up the membrane system.

Use only intact seals and replace them if in doubt. The use of certified pre-treated water or glycerin as a lubricant will aid in the installation of the membrane elements and seals. Use of other lubricants should be tested for actual application and should not be used if there is a problem.

4. Trial Operation

The membranes in delivery condition are preserved with a preservative. Before the membrane system is started, the membrane elements are flushed with water for about 15 minutes during the first test run. During flushing the preservative is dissolved and flows away with the water. The resulting concentrate and produced water should be discharged to a wastewater treatment facility.

For applications requiring high product purity, it is recommended that the membrane elements be rinsed and then cleaned before the membrane system begins operation.

The flushing and cleaning water must be of a certain quality.

◆ Attention

- 1) Forced alkaline cleaning at high temperatures and pH conditions may cause membrane degradation and lead to premature failure. Consult your system supplier or cleaning chemical supplier.
- 2) Frequent use of oxidizer solutions (e.g. hydrogen peroxide) for disinfection more than 1-2 times per week may result in premature membrane oxidation.
- 3) Nitric acid solutions may oxidize membranes and should be used with caution.

◆ Recommended Flushing Operating Parameters

Membrane Diameter	Flow Rate m ³ /hr	Stresses bar	Max. Pressure Drop bar
2.5 "	0.7-1.2	1.5-4.0	3.5
3.8 "	1.8-2.3	1.5-4.0	3.5
4.0 "	1.8-2.3	1.5-4.0	3.5
6.3 "	3.6-4.5	1.5-4.0	3.5
8.0 "	7.0-9.1	1.5-4.0	3.5

◆ Recommends Flushing And Cleaning Water

Norm	Unit	Reference Limit
Total hardness (as CaCO ₃)	mg/L	< 50
Total alkalinity (as CaCO ₃)	mg/L	< 50
Turbidity	NTU	< 0.5
Unshakeable (Fe)	mg/L	< 0.05
Manganese (Mn)	mg/L	< 0.02
Aluminum (Al)	mg/L	< 0.05
Silicon dioxide (SiO ₂)	mg/L	< 5.0
Chloride	mg/L	0
Sludge density index	SDI	< 1

The use of installed membrane elements is subject to the operating conditions specified by us. The operating conditions are described in our Membrane Element Technical Data Sheet.