

## Technical Information

### HYDRAMEM Membrane Storage Procedure

This document provides guidelines for storing of HYDRAMEM composite polyamide RO Membrane Element.

Storage procedure is divided in three categories based on the duration of storage, which are:

- Short term storage in place
- Long term storage in place
- Storage before installation

#### Short term storage in place

Short term storage is when RO plant is not in operation for more than 5 days but less than a month with RO element in place.

Follow instructions mentioned below for short term preservation:

- 1) Flush the RO unit with feed water at lower pressure, to remove air pockets from pressure tube and distribution pipes, till feed water conductivity equals reject water conductivity. Instead of feed water the system can also be flushed with permeate. Permeate has added benefit as it may help remove built up foulants and to some extent scales also.
- 2) Once the complete RO unit is flushed, close all the relevant valves to prevent the air from entering the RO unit.
- 3) Follow the above two steps after every 5 days.

#### Long term storage in place

Long term storage is the one when the RO plant is not in operation for more than 30 days with RO element in place. It is always recommended to clean the RO/NF system before preserving it for longer period.

Follows instructions mentioned below for long term preservation:

- 1) Flush the RO unit with permeate water at lower pressure, to remove air pockets from pressure tube and distribution pipes, till feed water conductivity and reject water conductivity is equal.
- 2) Prepare 1 % SMBS (sodium metabisulfite ) solution by using RO permeate and start flushing RO unit till the SMBS solution completely replaces the permeate water which is present inside the unit and then start recirculation of SMBS solution to ensure that all air pockets in pressure tube and distribution pipes are removed.

- 3) Once the complete RO unit is flushed with 1% SMBS solution, close all the relevant valves to prevent the air from entering the RO unit.
- 4) Repeat Steps 1, 2 and 3 with fresh solution of SMBS every fifteen days.
- 5) When the RO system is ready to return to service, flush the system for approximately 30 mins using low-pressure feed water with the product dump valve open to drain. Then start the system and allow the permeate to drain for 15 mins before taking the RO system in service.

**Note:**

When SMBS is used for preservation of RO membrane it is strictly recommended to use RO permeate or DI water which is free from iron or iron compound because SMBS react with iron and forms oxidising agents which can oxidise the polyamide RO membrane.

**Storage before installation**

When RO elements are stored prior to installation, they should be protected from direct sunlight and stored in a cool, dry place with an ambient temperature range of 40° F to 95° F (4.4° C to 35° C). It is always recommended to store RO membrane in air conditioned room in their original packing.