



FILMTEC Membranes

System Operation: Initial Start-Up

Before initiating system start-up procedures, pretreatment checks, loading of the membrane elements, instrument calibration and other system checks should be completed.

Equipment

The initial system start-up is typically performed just after the element loading. The material needed for element loading is listed in [Preparation \(Section 4.1\)](#). For start-up, the following additional equipment is recommended - this should also be part of the equipment at the site:

- Safety glasses when working with chemicals
- Thermometer
- pH meter
- Conductivity meter (range: from permeate to concentrate conductivity)
- SDI measuring equipment
- Adequate chemicals for cleaning, sanitization and preservation
- Scale to weigh one element
- Spare elements
- Single element test stand (for large systems > 500 elements)
- Bottles for water samples:
 - Volume: at least 125 ml
 - Material: HDPE (high density polyethylene)
 - Number: sufficient to sample raw water, system feed, system permeate and system concentrate. In case of a system with more than one train, each train is to be sampled separately. In case of systems with more than one stage, permeate samples of the individual stages and feed/concentrate samples from in-between the stages have to be added. The operating conditions of the membrane system during sampling have to be provided.
- Analysis equipment for:
 - Total hardness
 - Calcium
 - Alkalinity
 - Chloride
 - Sulfate
 - Iron
 - Silica
 - Free chlorine
 - Redox potential
 - TOC
 - Color (a large white container may suffice to detect color in the permeate)

FILMTEC™ Membranes
For more information about FILMTEC
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Separations business:

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Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

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