

Performance:

RoClean L102 offers an array of performance benefits:

- Effective against **biological** foulants and for element preservation.
- Compatible with the thinfilm (polyamide) elements produced by the major membrane manufacturers.
- Contains a special blend of biodispersant agents.
- Highly buffered to resist pH changes during the usage process.
- Can be used in conjunction with other applicable cleaners to remove combination foulants.
- Temperature compensated to maintain optimum pH over a wide temperature range.

RoClean L102 is a low pH liquid formulation designed to remove biological foulants from spiral wound thinfilm elements or to preserve elements for storage.

It is important to remove scale and metal deposits from membrane surfaces before application of RoClean L102. This can be accomplished with RoClean L403, RoClean P303 or RoClean L811. Avista personnel can assist with product selection.

Elements preserved with RoClean L102 and shipped via common carrier do not require a corrosive label. A third party, independent laboratory has confirmed that a 2% solution of RoClean L102 is not corrosive.

Use Instructions:

Below is a summary of the RoClean L102 cleaning guidelines. For detailed procedures, please consult the Avista technical bulletin entitled "Cleaning of Spiral Wound Membrane Systems".

1. Fill the cleaning tank to the desired volume with RO permeate or DI water. Heat the solution to the maximum acceptable temperature (see membrane manufacturer guidelines, or use 50°C) as this will dramatically increase the cleaning efficiency. Add sufficient RoClean L102 to create a 2% wt/wt solution if the fouling is moderate/severe or 1% if the fouling is mild. Recycle the solution through the cleaning tank to ensure adequate mixing.

2. Recirculate the cleaning solution through each RO system stage, one at a time, for a minimum of 60 minutes at the flow rate recommended by the membrane manufacturer. If that rate is not known, use the guidelines listed below:

Element Diameter	Flowrate per Vessel, gpm (m ³ /hr)
4"	10 (2.4)
8"	40 (9)

3. If the membranes are heavily fouled and the recirculated cleaning solution becomes discolored or turbid, discard as much as 15% of the solution volume. Heavily fouled elements may also benefit from a soak period (up to 8 hours).

4. Monitor the pH of the solution during the cleaning process. If the pH remains in the desired range of 2 and the solution is not turbid, it may be used to clean subsequent stages. In the unlikely event that the pH rises above 3, prepare a new batch and repeat steps 1-4.

5. When the clean is completed, rinse the membranes by recirculating RO permeate through each pressure vessel.

Packaging and Storage:

Standard regional pack sizes are listed below.

Specifications	
Appearance:	Amber liquid
pH (2% solution):	2.0 –3.0
Density (kg/litre):	1.05±0.05

Packaging Formats	Americas	EMEA
Cubitainer	1 USG	-
Pails	45 lbs	20 kg
Drums	500 lbs	200 kg
IBC's (totebins)	2500 lbs	-

10/08

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