

Performance:

RoClean P911 offers a variety of performance benefits:

- Superior results in the removal of **organic** and **colloidal foulants**, especially when compared to generic solutions.
- Compatible with the thinfilm elements of all major membrane manufacturers.
- Contains a specialized blend of buffering agents and other components to dissolve organic foulants and disperse colloidal particles.
- Highly buffered to resist pH changes during the cleaning process.
- Can be used in conjunction with other applicable cleaners as shown in the Avista cleaner selection guide.
- Temperature compensated to maintain optimum pH over a wide temperature range.

RoClean P911 is a high pH powdered cleaner designed to remove silt and organic foulants such as colloidal silica, clays, organic color and bacterial slime from spiral wound thinfilm elements.

On and off-site cleanings have proven that RoClean P911 is often effective when other cleaners have not been able to provide the desired results.

Use Instructions:

Below is a summary of the RoClean P911 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 35°C as this will dramatically increase the cleaning efficiency. Add sufficient RoClean P911 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 11.5 and the solution is not turbid, it may be used to clean subsequent stages. In the unlikely event that the pH falls below 11, 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. The system can then be returned to service.

Packaging and Storage:

Standard regional pack sizes are listed below. Custom packing available on request.

Specifications	
Appearance:	Cream powder
pH (2% solution):	11.5 –12.8
Density (kg/litre):	1.0+ 0.05

Packaging Formats	Americas	EMEA
Pails	45 lbs	20 kg
Fibre Carboy	100 lbs	-
Fibre Drums	350 lbs	-

