

KL™ Series

Powder Membrane Cleaners

The KL™ Series products are heavy duty action cleaners that quickly and easily mix with water to make an easy-to-use cleaning solution that effectively removes a wide range of membrane foulants from polyamide thin film (TF), cellulose acetate (CA), and ultrafiltration (UF) membrane elements.

Product	For Removing	Membrane Type	Solution pH
KL™ LpH	Hardness Scale	TF, CA & UF	2
KL™ Silica	Silica	TF, CA & UF	4
KL™ HpH	Organics	TF & UF	11

*SDS available upon request.

General Cleaning Instructions

1. Clean each RO train when its normalized productivity has decreased by 15% from clean operation.
2. Clean in the following order or as recommended by a KLT team member: KL™ LpH, KL™ Silica, KL™ HpH
3. Prepare each cleaning solution using a ratio of 1 lb of cleaning powder to 10 gallons of permeate or DI water. If the system is not drained before cleaning, assume that approximately 4 gallons of water is present in each 8"x40" membrane element and 1 gallon of water is present in each 4"x40" membrane element after a thorough system flush.
4. For each of the 3 cleaning cycles, use 15 gallons of cleaning solution per 8"x40" element, or 10 gallons of cleaning solution per 4"x40" element. The volume of cleaning solution necessary may fluctuate depending on the volume of your CIP tank.
5. Recirculate solution continuously at 30-40 GPM per 8" pressure vessel, or 7-10 GPM per 4" pressure vessel. Pressure should not exceed 60 psi, and permeate production should be minimized.
6. Soak and circulation times will vary based on the condition of the membranes. Monitoring pH during cleaning and documenting results for each step will help empirically fine-tune your procedure.
7. To improve cleaning effectiveness, you may heat the cleaning solution to approximately 95°F. Do not exceed 110°F or the equipment manufacturer's operational temperature limit.
8. Discard the used solution and rinse the system thoroughly after each cycle.

Packaging:

2 lbs, 4 lbs, 25 lbs, 45 lbs

