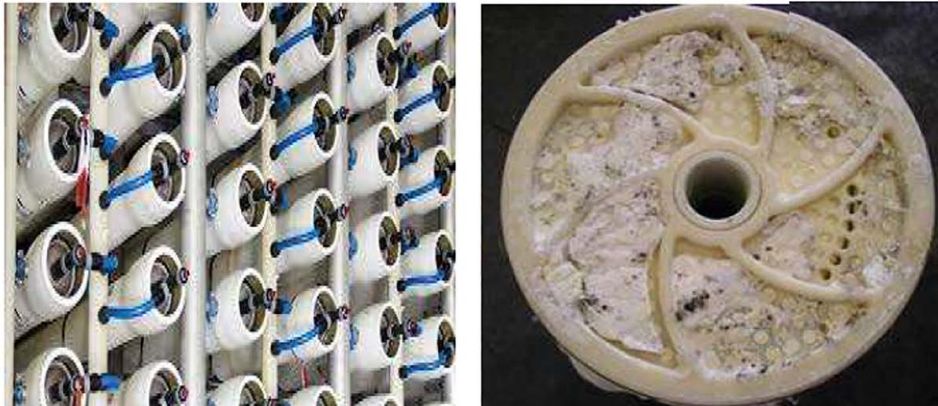


G-CAT CATALYTIC TREATMENT SYSTEM APPLICATION DATA SHEET

CATALYST ACTIVATOR TECHNOLOGY

G-CAT CATALYTIC TREATMENT TECHNOLOGY
UF AND RO MEMBRANE PROTECTION



- Membrane scaling is when one or more sparingly soluble salts (Ionic Hardness) (e.g., calcium carbonate, calcium phosphate, etc.) precipitate and form a dense layer on the membrane surface in Ultra Filtration (UF) and Reverse Osmosis (RO) applications
- The major cause that affects the performance of UF and RO membranes, are suspended solids, organic, scaling and biological scaling. The **G-CAT Catalyst system** through its cation effect neutralizes these factors to provide better performance of UF and RO membrane systems. Additionally, the presence of reactive silica in the source water to be treated, acts more aggressive on the membrane surface, often tearing the membrane requiring replacement. This system neutralizes these compounds.
- The **G-CAT catalyst system** can also be used with bio-organic flocculants such as Zeoturb or with specific antiscalants based on the pretreatment application to prevent damage of the membranes from fouling due to free ionic minerals like, Calcium, Magnesium, Silica, and organic or biological scaling conditions.
- The **G-CAT** accomplishes this protection by changing the crystalline structure of these ionic contaminants and they are then subsequently rejected by the membrane system and removed in the RO reject water stream.



Hardness crystals before G-CAT system



Hardness crystals after G-CAT system

Advantages of the G-CAT Catalyst System

- 1) 100% natural specialized ceramic catalytic media
 - 2) No power requirements
 - 3) Optimal for both low TDS and high TDS water sources
 - 4) Low operating cost with media replacement about every 2-3 years
 - 5) Multiple benefits including reduction of natural organic matter (NOM), nutrient contaminants, ionic hardness (Mg & Ca) and silica
 - 6) No backwash requirements, only typical requirement is air ejection installed upstream
 - 7) Can be used as part of a treatment process for process water, storm water, ground water, surface water, domestic wastewater and industrial wastewater
 - 8) Can be scalable for low and high flow rates by adding catalyst system vessels
 - 9) 316SS system vessels or Duplex 2205 system vessels based on source water TDS
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Pictures of a G-CAT catalytic system installation

