

eNPure Process Systems is Your Single Source Solution for All Your Boiler Process, Feedwater Resources and Treatment Programs



REVERSE OSMOSIS PRE-TREATMENT OF DEMINERALIZED FEEDWATER ELIMINATES UP TO 95% OF REGENERANT CHEMICAL COSTS, INCREASES WATER QUALITY AND IMPROVES OPERATOR SAFETY

Maximize your water resources with a Reflex™ RO System and eliminate thousands of dollars in annual operating costs.

HIGH PRESSURE BOILERS DEMAND CONSISTENT DEMINERALIZED WATER. ION-EXCHANGE SYSTEMS IMPOSE SIGNIFICANT OPERATING COSTS, INCLUDING:

- *Handling and disposal costs of dangerous acids and caustics*
- *Neutralization costs of regenerant chemicals*
- *Frequent replacement of ion-exchange resins*
- *Operator personal protection*

While Reverse Osmosis pre-treatment of boiler feedwater prior to ion-exchange demineralization has offered an opportunity for process improvement, potential cost savings were often overshadowed by low RO permeate recoveries and the need to dispose of the RO concentrate. The challenge in the past has been to design an RO system that could operate reliably and flexibly at high enough recovery and efficiency to minimize the costs associated with RO concentrate. Until now!

ReFlex™ RO systems deliver the maximum recovery rate - guaranteed. ReFlex™ RO systems are the solution, typically achieving recoveries of up to 95% for a boiler and process feedwater application, while reducing energy consumption up to 35 percent.

BENEFITS

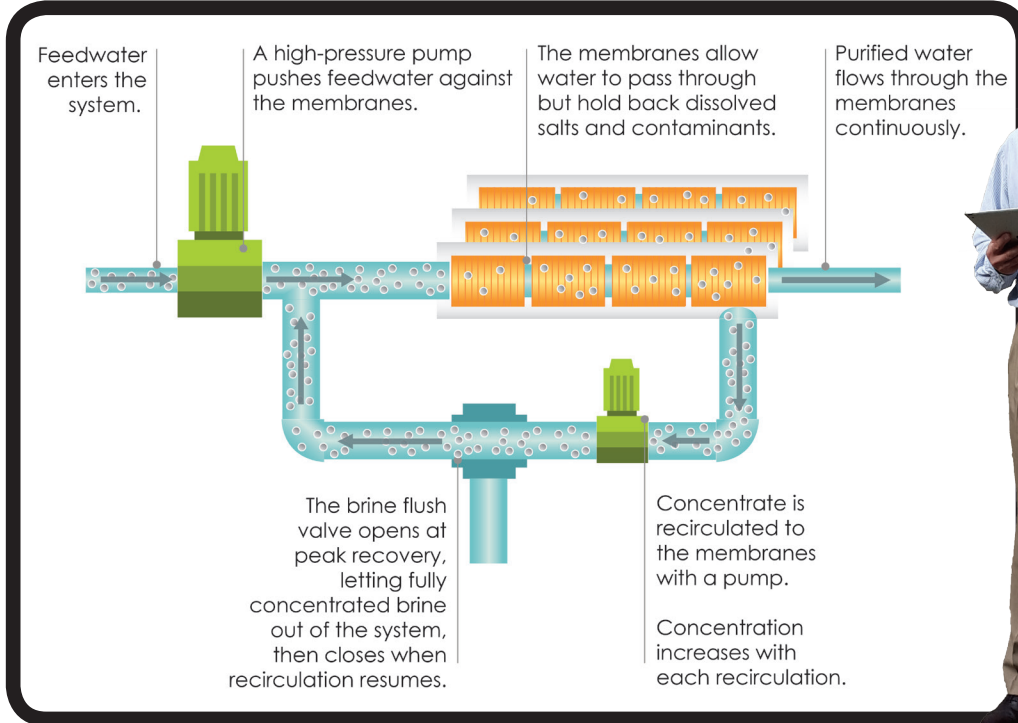
- QUICK PAYBACK, GENERALLY BETWEEN 18 TO 30 MONTHS.
- ELIMINATE SILICA BREAK THROUGH
- REDUCE CHEMICAL RESIN REGENERATION COSTS BY UP TO 90%

Call eNPure for an evaluation today.
281-900-3842



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*eNPure's water treatment experts can design a specific
ReFlex™ RO System for customers utilizing
advanced and proprietary process design and engineering*



Schematic Flow Diagram

ReFlex™ RO combines media filtration with reverse osmosis to achieve recovery rates up to 95%. Reflex RO works by recirculating pressurized brine until a desired recovery level is reached. Brine is replaced with fresh feed without stopping the flow of pressurized feed or permeate and starts a new cycle. The low initial pressure of each Closed Circuit Desalination (CCD™) cycle means a lower average operating pressure and less pump energy than required in conventional RO systems. ReFlex™ RO achieves recovery by re-circulation, not with multiple membrane elements and stages in series, and can therefore reach any desired recovery percentage in a single stage. Recovery is adjustable at the system control panel, providing unmatched flexibility. High crossflow supplied by the recirculation scours the membranes, greatly reducing scaling and fouling, while the higher salin-

ity cycles act as a natural biocide, disrupting biological fouling. Cycle times are often shorter than the induction time for scale deposition; frequent and complete brine rejection can stop and even reverse precipitation, making very high recovery rates possible even from difficult source waters. Short membrane arrays and high cross flow also allow ReFlex™ RO to operate at higher average fluxes without exceeding the membrane manufacturer's flow or recovery specifications.

Our solution will conserve water and save treatment expenses. ReFlex™ RO reduces brine waste by up to 75% and energy consumption by up to 35% compared to conventional reverse osmosis designs. Our customers will enjoy superior performance, higher reliability and lower operating expenses.



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