INDION® Reflux RO: Advancing High-Recovery Water Treatment

Addressing the Water Recovery Challenge

With increasing freshwater scarcity and rising water procurement costs, efficient water recovery and reuse are becoming critical priorities for industries. Addressing this need, Ion Exchange offers INDION® Reflux RO, an advanced reverse osmosis (RO) system designed to maximise water recovery while reducing reject generation and operating costs.

Technology Overview

Conventional RO systems typically achieve 70–75% water recovery, resulting in higher reject volumes and increased downstream treatment requirements. INDION® Reflux RO addresses this challenge through an innovative single-stage design, achieving 90–95% water recovery at typical operating pressures of 10–25 bar depending on feed TDS.

Its unique design optimises water utilisation while reducing osmotic and mechanical stress on membranes. A lower scaling tendency supports stable operation, while continuous online monitoring and a dedicated backflush cleaning system help maintain performance. Semi-automatic operation further simplifies maintenance and minimises manual intervention.

Key Benefits

- High water recovery with reduced reject generation
- Lower energy and chemical consumption
- Reduced capital expenditure (CAPEX) and operating expenditure (OPEX)
- Extended membrane life and improved system uptime
- Lower operating cost per kilolitre of water recovered
- Simplified maintenance with minimal manual intervention

Applications

By increasing the availability of recovered water and minimising reject volumes, INDION® Reflux RO supports industrial and process-water recycling initiatives. Recovered water can be reused for toilet flushing, gardening, landscaping and other non-potable applications, subject to the required water quality specifications.

Supporting Sustainable Water Management

INDION® Reflux RO reflects Ion Exchange's continued focus on developing efficient water treatment solutions that help industries optimise resources, reduce freshwater dependency and advance sustainable water management.

