



## PROJECT BRIEF

### Sodium Hypochlorite Producer Optimizes Brine Softening Process with SAMCO Ion Exchange Technology

#### PROJECT OVERVIEW

At a bleach manufacturing facility in Pottstown, PA, the use of electrochemical cells demanded removal of hardness from sodium chloride brine. SAMCO kept production flowing, delivering an ion exchange (IX) system that delivered high purity brine and required low maintenance.

#### OBJECTIVE

Remove hardness from sodium chloride brine for downstream membrane cell electrolysis. Project specifications:

- Reduce calcium to <20 ppb
- Reduce magnesium to < 20 ppb

#### SCOPE OF SERVICE

SAMCO delivered a turnkey IX deionization system, with project scope entailing comprehensive process design and engineering, system fabrication, controls integration, commissioning, startup training and support.

#### CHALLENGES

- High purity threshold for electrochemical cells
- Limited operator availability

#### SOLUTION

SAMCO designed, fabricated, and installed a 60 GPM IX system to support the client's sodium hypochlorite manufacturing operations. To ensure consistent performance and to safeguard against media exhaustion, the system utilized two IX pressure vessels arranged in lead-lag configuration, while included tube filtration pretreatment and regeneration systems ensured optimal production. Additionally, the IX system was outfitted with programmable logic controls (PLC) to minimize on-site operation and maintenance demands while providing process monitoring capabilities.

#### TECHNOLOGY

SAMCO delivered a 60 GPM IX system, including:

- Two lead-lag IX pressure vessels
- Tubular backwash filter
- PLC controls

## OVERVIEW

**Industry**  
Chemical

**Location**  
Pottstown, PA

**Objective**  
Soften brine process stream to <20 ppb Ca, Mg for sodium hypochlorite production

**Solution**  
60 GPM Ion Exchange System