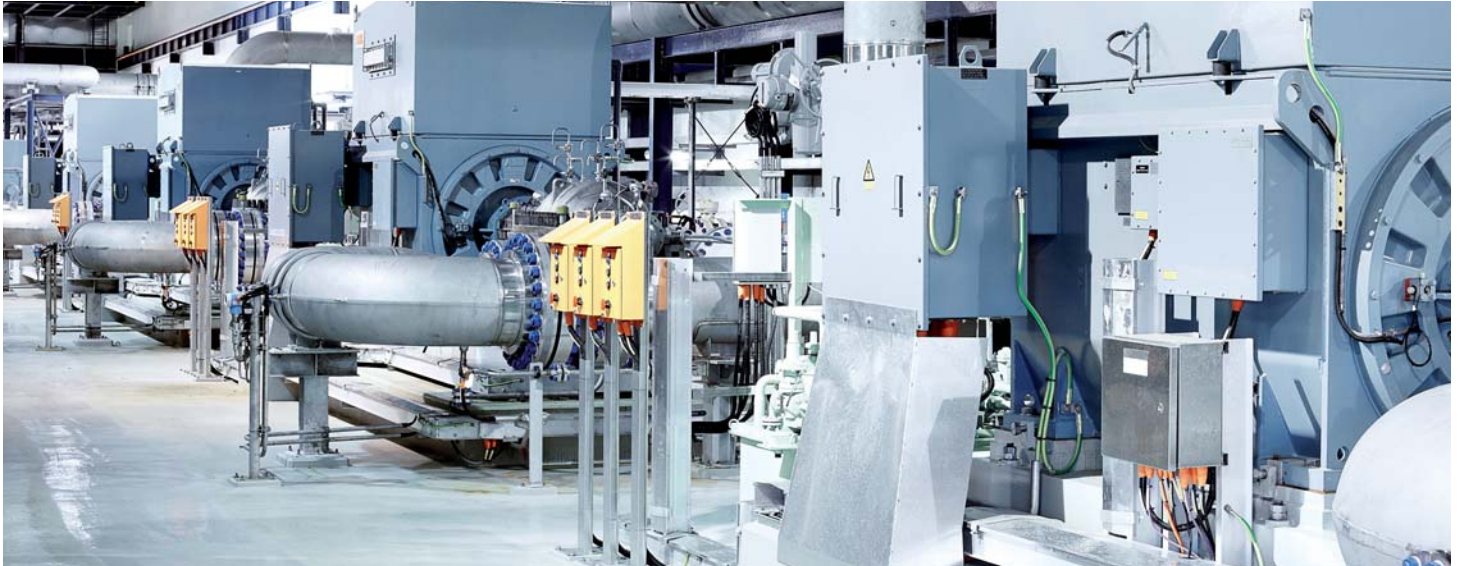


S+ Applications Desalination solutions



Active for decades in the desalination industry, ABB delivers completely integrated instrumentation, control and electrical (ICE) systems and extensive process expertise in both membrane based and thermal based technologies.

Key benefits

- Enhanced plant performance, efficiency and reliability
- Reduced development costs with integrated solutions
- Improved scheduling and prioritization of maintenance activities
- Reduced risk with proven products

Overview

Electricity is a key cost component of desalinated water. Depending on the applied desalination technology, it can represent more than 30% of operational costs. As a result, energy efficiency and life cycle cost optimization are among the most important challenges for both developers and plant owners.

ABB offers advanced technology and solutions for the desalination industry. We are the ideal partner for desalination projects as well as combined water and power plants (based on our vast experience in power generation). Our portfolio covers the entire electrical and automation requirements for RO (Reverse Osmosis), MSF (Multi-Stage Flash), MED (Multiple-Effect) and Hybrid desalination plants. We have a strong focus on energy efficiency and optimization, and provide a professional presence in more than 100 countries.

Proven products and integrated solutions

ABB offers a comprehensive range of proven products, as well as the technology ownership behind these products. These include: drives and motors; soft-starters; low, medium and high-voltage switchgears and components; transformers; instrumentation and control products; as well as an extensive range of optimization tools. But even more important, ABB can take the responsibility for building complete integrated automation and electrification solutions including engineering, installation, commissioning and maintenance. By using ABB as a single interface for the project, costs are significantly reduced.

Integrated instrumentation, control and electrical solutions

ABB provides control, instrumentation and electrification as either single solutions or as an integrated solution. It is our unique single-source capability that enables ABB to provide complete engineered packages such as electrical balance of plant (eBoP) and ICE solutions. The benefit of a fully integrated ICE solution is a single interface that saves time, reduces cost and manages risk.

ABB has met the challenge of desalination plant development and operation at major project sites throughout the world, including some of the largest seawater desalination plants. ABB has excellent project management expertise in large scale, complex projects.

Motors and drives

Desalination processes require a large amount of energy, representing a key component of operational expenditure. ABB is a leader in high-efficiency motors, which can significantly increase energy savings up to 20% and long-term reliability for water desalination plants. Our variable speed drives are used to control the motor speed of pumps, with a guaranteed 30% to 60% energy savings.

Electrical balance of plant

ABB has the engineering expertise, experience and state-of-the-art technology to deliver turnkey systems integration of eBoP applications, specifically tailored to desalination plants. ABB offers desalination customers a single source for design, engineering, supply, installation, commissioning, testing and maintenance, reducing the cost of ownership.

Instrumentation and control

ABB distributed control systems (DCS) and programmable logic controllers (PLC) platforms provide an innovative, consistent and comprehensive information management platform for desalination plants. The DCS handles all plant operations as well as added-value control applications such as performance monitoring and optimization, pump efficiency monitoring and vibration monitoring. ABB's extensive instrumentation portfolio includes flow, pressure and level measurement, recorders and quality analyzers.

Performance monitoring and optimization

ABB has developed award winning advanced tool sets for performance monitoring and optimization for various desalination technologies, including reverse osmosis. ABB solutions address the challenge of short-term and long-term operation planning by providing tools for load scheduling, performance monitoring, performance optimization, water management and pump efficiency. Our solutions have been proven in plants utilizing membrane based technologies such as reverse osmosis, as well as in hybrid desalination plants.

Pump efficiency monitoring

ABB's Pump Efficiency Monitoring System provides rapid and detailed real time information on pump efficiency. ABB's solution calculates pump efficiency by processing water temperatures, pressures and the motor power associated with each pump. Customers monitor the status of their pumps and improve scheduling and prioritization of maintenance activities.

An ideal partner

Combining our in-house technology and extensive process expertise, ABB is a tested and proven partner for all players in the desalination ecosystem. We serve developers to optimize the entire life cycle energy costs, EPC contractors to provide a single source for all ICE solutions, and pump OEMs by delivering efficient motors and state-of-the-art drives.

Symphony Plus, ABB's total plant automation for the power and water industry

With over 125 years of experience, ABB optimizes performance, improves reliability, enhances efficiency and minimizes environmental impact. Combining in-depth process knowledge with an extensive automation and electrical portfolio, this expertise has been successfully deployed in thousands of demanding applications. ABB optimizes your desalination plant with Symphony™ Plus and our embedded application know-how.

Symphony Plus represents the new generation of the field-proven Symphony family of control systems with over 6,000 systems installed worldwide. Through ABB's "Evolution without obsolescence" life cycle policy, we continue to provide enhancements with graceful evolution to newer technology with power and water specific products and applications.

Symphony Plus – simple, scalable, seamless, secure.

ABB Inc.

Power Generation

Wickliffe, Ohio, USA

Phone: +1 440 585 3087

E-Mail: powergeneration@us.abb.com

ABB AG

Power Generation

Mannheim, Germany

Phone: +49 621 381 3000

E-Mail: powergeneration@de.abb.com

ABB Pte. Ltd.

Power Generation

Singapore

Phone: +65 6776 5711

E-Mail: powergeneration@sg.abb.com

www.abb.com/powergeneration

©Copyright 2011 ABB

All rights reserved. Specifications subject to change without notice. Pictures, schematics and other graphics contained herein are published for illustration purposes only and do not represent product configurations or functionality. User documentations accompanying the product is the exclusive source for functionality. User documentation accompanying the product is the exclusive source for functionality descriptions.

Symphony is a registered or pending trademark of ABB S.p.A.

All rights to other trademarks reside with their respective owners.