



Desalination Solutions

SOLVING WATER CHALLENGES ACROSS THE WATER CYCLE

Let's Solve Water



Xylem is a leading water technology company committed to solving water by creating innovative and effective solutions to meet the world's water and wastewater challenges. Every day, we focus on harnessing the expertise and commitment of our teams to help make water safer, more accessible and more affordable for people and communities around the world.

We deliver a comprehensive suite of solutions to efficiently transport, treat and analyze water at every stage of the water cycle. Working together, we are united in our purpose of creating both economic and social value.

xylem  vue



Our full portfolio of digital solutions, Xylem Vue, empowers utilities to unlock data-driven insights wherever you are in your digital journey, and delivers greater visibility, performance, compliance and remarkable cost savings. To learn more, visit xylem.com/xylemvue.

xylem  watermark.

Because Every Drop Counts



In a world where millions of people lack access to safe drinking water and basic sanitation, we are using our expertise and technologies to make a difference.

Xylem Watermark is our corporate citizenship and social investment program that aims to provide and protect safe water resources for communities in need around the world and to educate others about pertinent water issues.

Provided water and sanitation solutions for **4.7 million**



Educated **3.9 million** on WASH and the Value of Water

People outreach statistics from 2019 to 2020

To learn more about Watermark, visit xylemwatermark.com.



World-class Support and Expertise Across Applications



Sales and Technical Support

Xylem has several branches throughout Asia that meet local customer needs, maintaining the high standards of innovation, manufacturing and long-term service that embody the Xylem brand.



Consultation & Project Management

Submissions of detailed drawings, system calculations and product documentation for tender, project approval and on-site project installations are handled by our dedicated team.



Aftermarket Services

Our trained service engineers offer commissioning, on-site product testing, and in-house repair services. In selected countries, fleets of Xylem service vehicles are on standby to answer urgent troubleshooting requests. Accredited service workshops are also available.



Desalination & Water Treatment



Stormwater Pump Stations & Flooding Relief



Potable Water Pumps & Drinking Water Treatment Systems

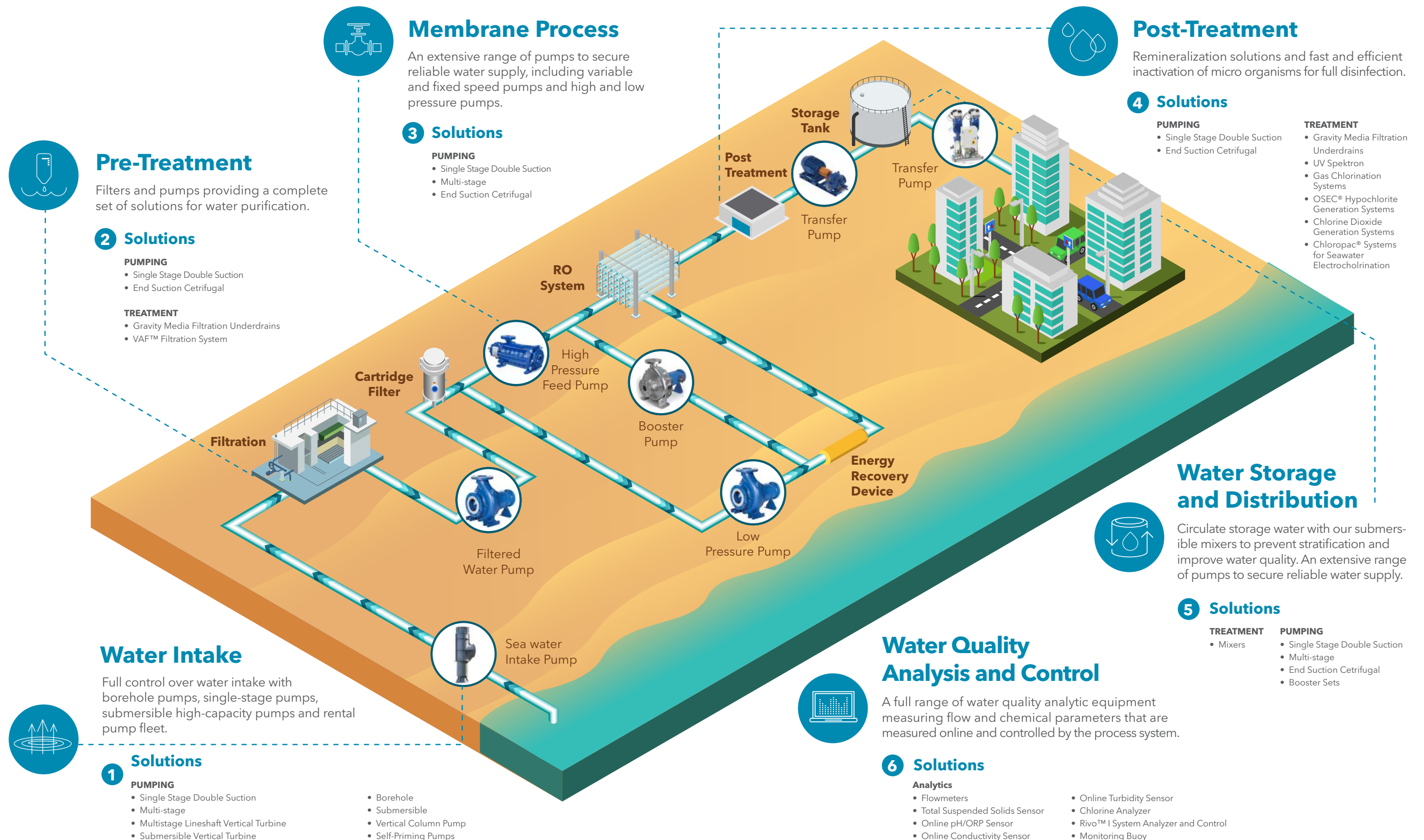


Municipal Wastewater Pumping & Treatment



Wastewater Recycling & Reuse

Desalination Solutions Map



Xylem PUMPING Solutions for Desalination

Single Stage Double Suction Centrifugal Split Case

Lowara e-XC Pump

The e-XC provides a powerful and efficient solution for a wide range applications for water utilities, general industry, mining, power generation and oil & gas.

- Maximum Flow: 12,960 m³/hr [57,061 gpm]
- Maximum Head: 266 m [873 ft]
- Casing Operating Pressure: up to 28 and 31 bar [400 psi and 450 psi]
- Fluid Temperature Range: standard: -18 to 121°C [0 to 250°F]
- Customizable pump with a range of models and upgrade options designed to handle more aggressive applications and pumped liquids



Process Applications

- Water Intake
- Pre-Treatment
- Membrane Process
- Post-Treatment
- Water Storage and Distribution

Flygt AC Series Pump

Custom engineered for both horizontal and vertical installations with multiple bearing designs in both side and bottom suction configuration.

- Maximum Flow: up to 39,000 m³/h
- Maximum Head: up to 150 m
- Size: up to 2000 mm
- High efficiency designs, low NPSHr, dual volute on some models
- Mounting flexibility with special materials available



Process Applications

- Water Intake
- Pre-Treatment

Multi-Stage Double Suction Centrifugal Pumps

Flygt e-MM Pump

State-of-art pump with heavy duty design, low maintenance, long life time and high efficiency up to 90%. Double volute design optimizes radial force and extends shaft & bearing life. Flexible and diverse material configuration meets multiple applications.

- Maximum flow: 8,000 m³/hr [92,439 gpm]
- Maximum head: 800 m [2,626 ft]
- Discharge: DN80-DN600
- Frequency: 50 HZ, 60 HZ



Process Applications

- Water Intake
- Membrane Process
- Water Storage and Distribution

Multi-Stage Pumps

Lowara e-MP Pump

Heavy duty design complying with ISO5199. Simply and cost-effectively integrate into nearly any high pressure application. Configured in super duplex, can be installed both vertically and horizontally with a robust and highly efficient design.

- Maximum Flow: 850m³/h
- Maximum Head: 950m
- Size: DN50 to DN150
- Power: 7.5 kW to 1,250kW
- Temperature of Pumped Liquid: -25°C to 140°C



Process Applications

- Membrane Process

End Suction Cetrifugal Pumps

Lowara e-NSC / e1610 Pump

Built with the highest level of flexibility and modularity, the e-NSC series has efficiency levels that exceed ErP 2015 and economical pumping solutions for long term use.

- Maximum Flow: 1,800m³/h
- Maximum Head:160m
- Size: DN32 to DN300
- Power: up to 355kW
- Engineered from stainless steel and cast iron to ensure corrosion resistance.



Process Applications

- Pre-Treatment
- Membrane Process
- Post-Treatment
- Water Storage and Distribution

Lowara e-IXP Pump

Designed according to ISO 2858 and 5199, simplifies integration in existing systems. Optimized hydraulics and use of Hydro-var or Aquavar pump controller to provide high efficiency.

- Maximum Flow: 1,270m³/h
- Maximum Head:160m
- Size: DN25 to DN250
- Power: up to 200kW
- Temperature of Pumped Liquid: -40°C to 180°C



Process Applications

- Pre-Treatment
- Membrane Process
- Post-Treatment
- Water Storage and Distribution

Single Stage End Suction Pumps

Lowara LS Pump

Stage end suction pump in compliance with ISO 5199 / EN 25199 and horizontal B3 installed.

- Maximum Flow: 5,400m3/h
- Maximum Head:160m
- Size: DN125 to DN600
- Compliance with ISO 5199 / EN 25199.
- Temperature of Pumped Liquid: - 10 ~ 180°C



- Process Applications**
- Pre-Treatment
 - Membrane Process
 - Post-Treatment
 - Water Storage and Distribution

End Suction Pumps

Lowara ICC Pump

Booster pump designed according to ISO5199. Standard Super Duplex material configuration to facilitate seawater & brackish water transport.

- Maximum Flow: 620m3/h
- Maximum Head:280m
- Size: DN25 to DN150
- Temperature of Pumped Liquid: -20°C ~ 80°C
- Flange Rating: PN100bar/ASME600L



- Process Applications**
- Pre-Treatment
 - Membrane Process
 - Post-Treatment
 - Water Storage and Distribution

Pressure Booster Sets

Lowara GHV Hydrovar® X

Fully automatic variable speed solutions equipped with 1 to 8 Lowara e-SV multistage pumps with hydrovar motors.

- Maximum Flow: 1,280m3/h
- Maximum Head: 160m
- Temp of pumped liquid: up to +65°C
- WRAS Approved
- The hydraulic performances meet the tolerances specified in ISO 2012



- Process Applications**
- Water Storage and Distribution

Submersible Vertical Turbine Pumps

Goulds Water Technology VIS Turbine Pump

Engineered to provide high efficiency and head generation. Built-in alignment and simple piping for less costly installation and ease of maintenance and reduce downtime.

- Maximum Flow: 8,000 gpm (1617 m3/hr)
- Maximum Head: 460 feet (140 m) per stage
- Bowl sSzes 5"-20"
- An array of materials (316SS, Duplex, Super Duplex etc.) available to meet desalination application requirements



- Process Applications**
- Water Intake

Borehole Pumps

Lowara Z Series Pump (Z8, Z10, Z12)

Minimize energy consumption through precision investment casting, using dynamic wear ring and high efficiency motor with hydraulics designed for high sand handling capability.

- Maximum Flow: 520m3/h [2300 gpm]
- Maximum Head: 500m [1,600 ft]
- Sizes: 8", 10", 12"
- Motor Power: up to 400kW [540HP]
- High corrosion resistance in complete stainless steel with high grade surface finishing



- Process Applications**
- Water Intake

Multistage Lineshaft Vertical Turbine Pump

Goulds Water Technology VIT/DWT Turbine Pump

Engineered to provide high efficiency and head generation. Built-in alignment and simple piping for less costly installation and ease of maintenance/ reduce downtime.

- Maximum Flow: 11,500 m3/hr [50,000 gpm]
- Maximum Head: 460 feet (140 m) per stage
- Bowl Sizes: 5"-48"
- An array of materials (316SS, Duplex, Super Duplex etc.) available to meet desalination application requirements



- Process Applications**
- Water Intake

Vertical Column Pumps

Flygt AC Series Pump

Custom designs enable the pump to meet a wide variety of applications and operating ranges while maximizing the overall pumping efficiencies.

- Flow range: 10,000-100,000+ m3/hr for 50Hz as well as 60Hz
- Heads: 18-70 m TDH, single stage
- Sizes: 42-102 in. (1000 – 2,600 mm) or larger discharge
- Offers the option for a true pull-out element configuration on our semi-enclosed impeller that substantially reduces maintainace costs
- Hydraulic efficiencies up to 90%
- Unlimited material configurations



Process Applications

- Water Intake

Self-Priming Pumps

Godwin HL Pump

Self priming pumps are engineered to deliver sustained high efficiency, resulting in lower energy and fuel costs and less unplanned downtime.

- Maximum Flow: 1,300m3/h
- Maximum Head: 300m
- Self Priming Height: 8.5m
- Duplex stainless steel pump-end construction for low pH applications, and cast steel as standard



Process Applications

- Water Intake
- Water Storage and Distribution

Submersible Pumps

Flygt PL7000 Pump

Submersible propeller pumps optimized to pump large volumes of water at low heads. Offers maximum reliability with unique N-technology hydraulic design.

- Max Q: 7000 l/s (50Hz), 114.400GPM (60Hz)
- Max H: 16m (50Hz), 53ft (60Hz)
- Up to 1400mm, 56" column
- Power: up to 578kW (50Hz), 775hp (60Hz)



Process Applications

- Water Intake

Flygt N3000 Pump

Premium submersible pumps robustly designed for continuous operation in tough applications with a long lifetime. State-of-the-art hydraulics & premium efficiency motors.

- Max Q: 3050 l/s (50Hz), 48.000GPM (60Hz)
- Max H:135m (50Hz), 575ft (60Hz)
- Up to DN800, 32"
- Power: up to 680kW (50Hz), 885hp (60Hz)



Process Applications

- Water Intake

Xylem TREATMENT Solutions for Desalination

Filtration Solutions

Leopold Filter Underdrains

Underdrains engineered for easy installation with a revolutionary low profile design that provides superior versatility and performance.

- Superior air and water distribution for effective backwash with less than +/-5% maldistribution and no dead zones, so media is 100% utilized
- Cleaner filters mean longer filter runs and higher water efficiency; more product water, less waste
- Air flow adjustability allows you more control and saves energy and water
- Faster installation with fewer parts than nozzle systems and no false floor, meaning greatly reduced civil costs and/or more room for media
- Design flexibility with different heights to allow for different combinations of lateral lengths and vertical filter heights



Process Applications

- Pre-Treatment
- Post-Treatment

VAF™ Filtration Systems

Neptune Benson® automatic self-cleaning screen filters with patented+ bi-directional drive design and 70% fewer moving parts (no electric motors, gearboxes, limit switches or pistons).

- Flow rates from 7 to 2,274 m3/hr [30 to 10,000 gpm]
- Max Pressure: 10 bar (150 psi), Min Pressure: 2 bar (30 psi)
High Pressure: 24 bar (350 psi) and ASME, Section VIII, Div 1 option
- Max Temp: 80° C (176° F) and High Temperature: 99° C (210° F) option
- Filtration 10 to 1500 micron. The cleaning cycle takes less than 15 seconds and does not interrupt the filtration process
- With 2205 Duplex for seawater



Process Applications

- Pre-Treatment

Disinfection Solutions

Wedeco UV Spektron

UV disinfection units featuring highly efficient UV lamps, advanced flow distribution technology and latest sensor technology and sophisticated control system.

- Wide array of applications with a capacity of more than 4,000 m3/h (25 MGD) per unit
- Maximum operating pressure 10 bar
- Reactor material stainless steel 1.4404 / 1.4435 (ASTM 316L)
- Certified and validated disinfection performance according to Austrian ÖNORM and German DVGW directives
- USEPA’s UV Disinfection Guidance Manual (UVDGM) validated.



Process Applications

- Post-Treatment

Gas Chlorination Systems

The Wallace & Tiernan® gas chlorinators with gas flow control achieved by the proven V-notch orifice ensuring industry proven accuracy and repeatability.

- Floor mounted maximum capacity of 10,000 lbs / 4800 kg per day (chlorine)
- Wall mounted maximum capacity 3000 lbs / 1440 kg per day (chlorine)
- Large 250 mm (10”) flowmeters for the highest degree of readability and +/- 4% of indicated accuracy
- Complete design and supply of all gas feeding and handling equipment, residual analyzers, control systems, gas detectors and accessories
- Turn down ratio of 20 : 1 for manual & auto operation



Process Applications

- Post-Treatment

OSEC® Hypochlorite Generation Systems

The Wallace & Tiernan® OSEC® systems produce a low strength disinfectant on demand by electrolysis of a brine solution generated through a highly efficient in-situ process.

- Maximum Capacity: 40 kg/h (2000 lb/day)
- Salt Efficiency: Approx. 3.0 kg salt per kg (3.0 lb per lb) chlorine
- Power Consumption: Approx 4.2 kWh per kg (1.9 kWh per lb) chlorine
- Sodium Hypochlorite Strength: 0.8 % ± 0.05 equivalent chlorine
- On-demand batch generation eliminates transportation and storage concerns compared to other chlorination technologies



Process Applications

- Post-Treatment

Chlorine Dioxide Generation Systems

Wallace & Tiernan® Chlorine Dioxide Generators deliver all the pre-oxidation and disinfection benefits of chlorine dioxide with safety & efficiency in mind.

- Maximum Capacity: 10,000 g/h ClO2
- Highest conversion efficiency for the generation of chlorine dioxide
- High stability of the chlorine dioxide solution prepared
- Batch system suitable for multiple points of application and compact footprint for easy installation
- CE Certification and DIN standard compliance



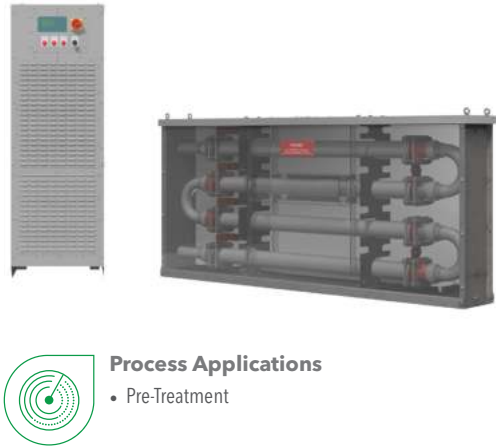
Process Applications

- Post-Treatment

Chloropac® Systems for Seawater Electrochlorination

The Chloropac® sodium hypochlorite generating system is designed to prevent marine growth in sea water piping, heat exchangers, sea chests and coolers.

- Configured standard systems with output capacities from 50 grams/hr up to 500 Kg/hr +
- Generation is on site so no storage, handling or movement of hazardous chemicals
- Degas ensures safe hydrogen removal
- IP44 and IP56 (ATEX & IECeX versions) electrical enclosures with easy access
- Low level continuous hypochlorination has been shown to be more effective than other types of marine growth prevention systems



Process Applications

- Pre-Treatment

Mixing Solutions

Flygt Mixers

Engineered for flexibility, versatility and lean installation, our mixers offer highly efficient solutions for any tank shape and size.

- Thrust up to 6400N
- Power upto 25kW
- Flexible and easy to install and maintain
- Excellent energy efficiency with IE3 and high-yield super premium (IE4) options
- Multiple combinations to adapt to specific needs.



Process Applications

- Water Storage and Distribution

Xylem ANALYTICS Solutions for Desalination

Flowmeters

MJK MagFlux™ Electromagnetic Flow Meter

MagFlux Flowmeters are manufactured with carbon steel flanges and lining in hard or PTFE/PFA and Build in data logger.

- 0.25% accuracy over the full velocity range from 0.2 - 10 m/sec (0.6 - 30 ft./sec)
- Compact or separate mounting of converter 5-line text display
- mA output for flow in both directions with detection of empty pipe
- MagFlux 7200 Series from DN40 to DN1400 (1,5" - 48")
Hard rubber liner / painted, corrosion class C4, SS electrode
- MagFlux 7100 Series from DN40 to DN300 (1,5" - 12")
PTFE/PFA liner / painted, corrosion class C4, Hastelloy C electrodes
- MCERT, Wras, DC supply, ModBus RTU, Profibus DP



Process Applications

- Water Intake
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Total Suspended Solids Sensors

WTW ViSolid® 700 IQ Sensor

Optical sensors for in-situ use to measure suspended solids via scattered light and direct back-scattering with ultrasonic cleaning system. For the IQ Sensor Net System.

- Seawater version allows reliable measurement in water with high salinity
- Measurement range:

SiO ₂ :	TSS:
0.01~300g/L SiO ₂ ;	0.003~1,000g/L TSS;
0.001~30 % SiO ₂	0.0003~100 %



Process Applications

- Pre-Treatment
- Membrane Process

Online pH/ORP Sensors

WTW SensoLyt® 700 IQ Sensor

Digital pH/ORP armature with integrated preamplifier and temperature sensor as well as lightning protection. For the IQ Sensor Net System.

- Measurement Range: pH 0~14 (depending on electrode)
- Accuracy: depends on calibration ± 0.2 pH; ± 20 mV
- Temperature: 0~60°C.
- Material: V4A stainless steel 1.4571, POM; IP 68.
- Seawater version allows reliable measurement in water with high salinity.



Process Applications

- Pre-Treatment
- Membrane Process

Online Conductivity Sensors

WTW TetraCon® 700 IQ Sensor

Provides continuous and reagentless monitoring of conductivity, salinity, or total dissolved solids (TDS) using a 4-electrode measuring cell to eliminate polarization effects and reduce measurement error due to fouling. For the IQ Sensor Net System.

- Accuracy: ± 2 % of measured value ± 1 Digit (in standard solution, 25 °C, with non-linear temp. comp. (acc. DIN 38404))
- Material: PVC, V4A stainless steel 1.4571.
- Seawater version allows reliable measurement in water with high salinity
- Measurement range: 10 μ S/cm - 500 mS/cm
SAL: 0 ... 70
TDS: 0 ... 2000 mg/l



Process Applications

- Pre-Treatment
- Membrane Process

Online Turbidity Sensors

WTW VisoTurb® 700 IQ Sensor

Optical turbidity sensors according to nephelometric principle according to DIN EN 27027 and ISO 7027 with ultrasonic cleaning system.

- Temperature: 0~60°C ; 0~40°C (ultrasonic cleaning system)
- Seawater version allows reliable measurement in water with high salinity
- Measurement Range:
NTU : 0.05~4,000NTU
SiO₂ : 0.1~4,000 mg/LSiO₂
TSS : 0.0001~400 g/L TSS



Process Applications

- Pre-Treatment
- Membrane Process

Process Monitoring & Control

WTW IQ Sensor Net System 281

- Low-cost entrance into the digital measuring technique
- For the parameters pH/ORP, Cond, D.O., Turb, TSS, and sludge level
- Stable, robust, and reliable measuring technique
- One controller, one sensor
- HART and Modbus RTU versions available

WTW IQ Sensor Net System 282/284

- Multi-channel controller for up to 4 IQ sensors provides easy and low-cost expansion
- Up to 20 parameters can be visualized at the same time
- Perfectly suited to replace or add a single measuring point
- Simple Data transfer and download with USB stick at every controller
- Optional: Ethernet and RS 485 interface for network connection and Fieldbus communication



Process Applications

- Pre-Treatment
- Membrane Process
- Post-Treatment
- Water Storage and Distribution

Monitoring Buoys

YSI DB1750 Metocean Buoy

Operational in 40+ countries. This adaptable metocean buoy, with a 10-year design life, provides a resilient platform for collecting diverse oceanographic, meteorological, and water quality data.

- Long-term strength and security - The float section is internally cross-braced with stainless steel rods that are connected to stainless steel bushings in mooring and lifting eyes
- UV-stabilised polyethylene - The rotationally-moulded seamless hull is 9.5 mm thick, able to withstand knocks and/or collisions
- Stability - A carefully calculated ballast of reinforced concrete holds station where you place it



Process Applications

- Water Intake

IDS Sensors



PH:
SenTix® 945-P



ORP:
SensoLyt® 900-ORP-P



Conductivity:
TetraCon® 925-P



Turbidity:
VisoTurb® 900-P



O2:
FDO® 925 /
FDO® 925-P



Chlorine:
CS4H-M12 (0 - 2mg/l) /
CS4H-M12 (0 - 20 mg/l)



Process Applications

- Post-Treatment
- Water Storage and Distribution

Analyzing and Controlling

Rivo™ I System

The Wallace & Tiernan® analyser and control platform, seamlessly integrates a wide range of water treatment processes and remotely manages multiple facilities and breaks down siloed operations.

- Management and dosing control for up to two water parameters
- Focus on the measuring and controlling of gas feed /OSEC® Hypochlorite and Ozone systems
- Flexible usage of wet cells and sensors
- Up to four flexible input and output ports for Rivo Flex IO Modules
- Intuitive, high-resolution touchscreen



Process Applications

- Post-Treatment
- Water Storage and Distribution

Chlorine Analyzers

WTW Chlorine 3017M DPD Analyzer

Photometric analyzer with large measuring range and a high resolution for free and total chlorine with the DPD method according to the ISO and US EPA.

- Measurement Principle/Method: Colorimetric with N, N-Diethyl-p-phenylenediamine (DPD)
- Measurement Range: 0 ... 5 mg/l free or total chlorine, reagent dependent
- Resolution: 0.01 mg/l
- Accuracy: ± 0.03 mg/l or $\pm 5\%$, whichever is greater
- Limit of Detection: 0.03 mg/l



Process Applications

- Post-Treatment
- Water Storage and Distribution

Lab Titrators

SI Analytics TitroLine® 7000 Titrator

TitroLine pH titrator with innovative features for easy operation without sacrificing accuracy. It can store up to 50 user methods with new intelligent, interchangeable modules and flexible configuration features.

- High-resolution pH/mV-electrode and temperature inputs for pH, ISE, redox (ORP), or photometric titrations
- Polarizable electrode input for setting endpoint titrations
- Linear (fixed increment) and dynamic equivalence point titration mode
- Titration to pH/ mV and μ A-Endpoint
- Manual titration mode and routine dosing tasks are also available.



Process Applications

- Pre-treatment
- Membrane Process
- Post-treatment
- Water Storage and Distribution

Lab Portable Multiparameter Colorimeters

WTW pHotoFlex® Turb Colorimeter

Multi-parameter colorimeter with pH, ORP, and turbidity measurement. With its unique combination of photometric, electro-chemical pH and turbidity measurement with lab precision, the pHotoFlex® Turb is the most versatile meter for desalination facilities.

- More than 180 programs for standard parameters
- Versatile with special methods NH₃ and CO₂
- Unique combination with pH and turbidity measurement
- Turbidity measurement of 0.01 - 1,100 NTU according to DIN ISO 27027



Process Applications

- Pre-treatment
- Membrane Process
- Post-treatment
- Water Storage and Distribution

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions

For more information on how Xylem can help you, go to www.xylem.com



Neptune Benson



Wallace & Tiernan



[xylem.com](http://www.xylem.com)