CORIX Water Systems offers leading edge solutions and process designs for high quality effluent with our packaged and modular wastewater treatment plants. Designed for municipal and industrial applications, our plants are scaled to meet our clients' needs and can produce up to 1 MGD (up to 4,000 m$^3$/d).

Our systems can be used to remove biological and particulate contaminants as well as oils, grease and heavy metals from a variety of municipal and industrial wastes. They are designed to achieve high quality effluents reliably and consistently.

Our in-house engineering and design team will help you select the right solution, balancing physical input factors, such as site location, with desired cost and operation outcomes, including lower rates and better service. Once the best solution is identified, we design, fabricate and test the entire system in our controlled manufacturing facility, which results in reduced construction costs, improved quality and decreased delivery times for the client.

Wastewater Treatment

TREATMENT PROCESSES

Our fully engineered, factory-built wastewater plants use advanced designs and processes tailored to each application. CORIX provides a wide variety of options for the conventional process components of primary settling, biological treatment and final clarification.

For high quality effluent requirements, tertiary treatment using sand filtration, membrane filtration, dissolved air flotation and UV disinfection are options.

Primary Clarification
- Sedimentation
- Tube settlers

Biological Treatment
- Attached growth, moving bed bioreactors
- Suspended growth, biological nitrification, denitrification and phosphorous removal

Tertiary Treatment
- Sand filtration
- Dissolved air flotation
- Membrane filtration
- UV disinfection
- Denitrification reactors

Sludge Treatment
- Centrifuges
- Dissolved air flotation thickeners
- Membrane thickeners
- Aerobic digesters

Membrane Bioreactor (MBR)
CORIX’s MBR plants employ flat panel submerged membranes and are designed to treat domestic, commercial and industrial raw sewage for the removal of biochemical oxygen demand (BOD), total suspended solids (TSS), total nitrogen (TN), ammonia (NH$_3$) and phosphorous (P).
- High re-use quality water
- Ultra filtration
- Uncomplicated membrane maintenance
- Compact plant footprint
Rotating Biological Contactor-Moving Bed (RBC-MB)
CORIX’s RBC-MB is an extremely efficient attached growth, moving bed biological reactor for reducing organics in wastewater. Where retrofitted to replace existing RBC’s, it can increase plant capacity two to three times.

- High capacity and small footprint
- High dissolved oxygen (DO) levels prevent odors
- Very low power consumption – no blowers
- Self-cleaning, continuous sloughing
- Eliminates excess biofilm build-up and failures
- Capacities up to 257,000 gpd (930 m³/d) per train

Moving Bed Biological Reactor (MBBR)
Our MBBR is an efficient packaged plant for uncomplicated performance. Biofilm carrier media helps to shrink the tank volumes and creates stable biomass performance. This creates a compact, factory-manufactured system that is ready for transport to the job site. In addition, Integrated Fixed Film Activated Sludge (IFAS) provides an even smaller footprint.

- Compact size (much smaller than sequencing batch reactors or extended aeration)
- Available as a skid package or in a building module
- Nutrient removal is available
- Very little operator attention required
- Minimal sludge protection

Dissolved Air Flotation (DAF)
Our DAF systems are available for both high-rate clarification and sludge thickening. We also convert existing clarifiers to DAF, dramatically increasing plant capacity and effluent quality.

- Excellent removal of organic matter
- Non-clog saturation systems
- Option for unique “DAF” pump recycle system that eliminates need for a saturator
- Over 95% TSS reduction on wastewater
- Sludge thickening to over 8%
- Capacities up to 700 gpm (3,800 m³/d) per train

Effluent Filtration
- Micro-filtration for high effluent quality
- Dual media sand filtration
- Pressure multi-media filtration
- Membrane filtration

PLANT FEATURES AND ADDITIONAL SERVICES

Quality Tank Construction
- Constructed of marine-grade aluminum alloys for long life, durability and corrosion-free service

Cost-Effective
- Pre-assembled and pre-tested in our controlled factory environment, often saving 50% or more over in-situ construction
- Increased savings and reduced project schedule using pre-engineered building systems

Electrical Systems and Control Panels
- Fully integrated automated control and electrical systems
- Remote monitoring, control and SCADA options
- Industrial standard PLC’s with simple plug-in, pre-programmed modules

Chemical Feed Systems
- Fully equipped, pre-assembled chemical feed systems
- Solution and mixing tanks with automatic float/sludge control
- Automatic control based on flow, pH, streaming current, chlorine sensors, etc.

Disinfection Systems
- Chlorine and UV disinfection systems

Pilot Plant Testing
- Pilot plant testing in order to select and optimize the best process
Project Profiles

British Columbia Ferries MBR wastewater treatment plant
When BC Ferries required a solution for treating sanitary wastewater from three of its vessels, CORIX implemented an MBR plant designed to treat sewage from a saltwater flush system. Based on the use of Toray flat panel membranes, the uncomplicated process functions with minimal operator input. The plant, which can handle 200 m$^3$/d (37 gpm), efficiently treats the vessels’ sewage, while safely meeting British Columbia’s Municipal Sewage Regulation requirements.

Alberta oil sands MBR wastewater treatment plant
A privately owned oil sands company, operating in Alberta’s Fort McMurray area, required an on-site sewage treatment plant to support its 500-person construction camp. CORIX provided a modular wastewater treatment plant based on MBR technology that was delivered as a complete building module to site, minimizing field installation requirements and cost while addressing the specific challenges and needs of the client. Commissioned in 2009, this state-of-the-art plant operates at design capacity, treating approximately 177 m$^3$/d (32 gpm).

ABOUT CORIX WATER SYSTEMS
CORIX Water Systems specializes in providing innovative packaged and modular water and wastewater infrastructure solutions for municipal and industrial applications. With more than 500 plants delivered around the world, we offer unmatched expertise and a reputation for delivering reliable, high quality water and wastewater solutions.

Contact CORIX today to discuss your project needs.
info.watersystems@corix.com

DELEVERING THE CORIX ADVANTAGE
CORIX is a fully integrated provider of utility infrastructure products, services and systems for water, wastewater and sustainable energy. Our “one-stop shop” approach allows us to deliver comprehensive, flexible and innovative solutions to our customers’ most complex utility infrastructure challenges.

Our partners choose CORIX for our proven leadership in providing comprehensive, multi-utility solutions. Additionally, the strong financial and corporate foundation provided by our principal owners, CAI Capital Management and British Columbia Investment Management Corporation, enables CORIX to become fully invested, long-term partners to clients, allowing them the further freedom to reallocate their own capital investment programs.