



eVOQUA
WATER TECHNOLOGIES



DAVCO™ FIELD-ERECTED WASTEWATER TREATMENT SYSTEMS



DAVCO™ FIELD-ERECTED TREATMENT PLANTS

Evoqua, through its DAVCO™ product line, is an industry leader in the manufacture and installation of field-erected biological treatment plants for the reduction of biochemical oxygen demand, total suspended solids, total nitrogen, and phosphorus. Municipalities and industrial clients can reduce their overall capital expenditure and have a shorter concept-to-completion timeline. Capacities range from 0.1 MGD to 5.0 MGD with full turnkey construction, retrofit, rehab, or replacement services available.



Turnkey Wastewater Treatment Solution in less than six months.

CONCEPT TO COMPLETION THE COMPREHENSIVE TREATMENT SOLUTION

DAVCO™ field-erected treatment plants are ideal for the reduction of biochemical oxygen demand, total suspended solids, total nitrogen, and phosphorus. Evoqua's DAVCO product and service teams have worked with municipalities, developers and engineers for more than 50 years to deliver turnkey projects and solutions in months instead of years.

DAVCO field-erected treatment plants offer optimum application flexibility relative to physical size, flow rates, treatment levels, and site requirements. Treatment capacities range from 0.1 to 5.0 million gallons per day (mgd) and are available in a variety of configurations, including activated sludge processes, sequencing batch reactors, and oxidation ditch configurations. Treatment plant material options include carbon steel, galvanized steel, stainless steel, concrete, or any combination of these materials.

Overall capital, maintenance, and operating costs can be reduced with a shorter concept-to-completion timeline. Full turnkey, retrofit or upgrade solutions are also available.

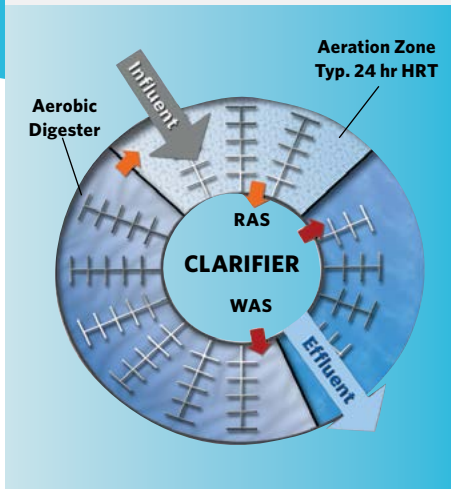
KEY FEATURES

- Over 50 years of experience and biological process expertise
- Engineering to Start-up: Single-source responsibility
- Equipment engineering and quality manufacturing
- Short on-site completion timelines with full technical support
- Retrofit and Rehab of existing equipment available (regardless of manufacturer)

APPLICATIONS:

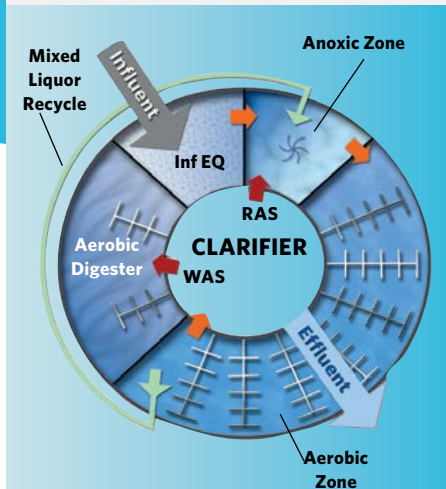
- Municipal Wastewater
- Industrial Wastewater
- Commercial or Home Developers
- Reuse and Reclamation
- Biological Nutrient Removal (BNR)
- BOD/COD/TSS/Reduction

**EXTENDED AERATION
90% - 95% REMOVAL**



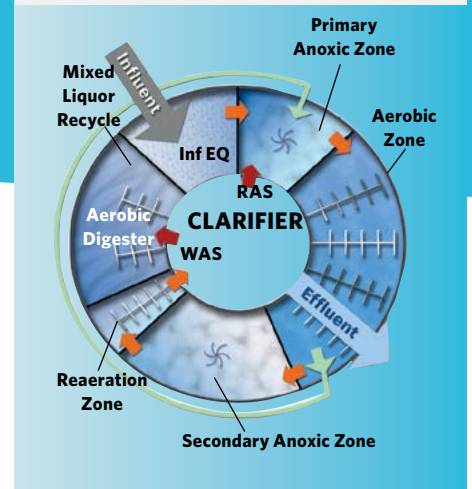
- BOD/TSS
- NH₃ < 1 mg/L
- TP (Chemically)

**BIOLOGICAL NUTRIENT REMOVAL
2 STAGE**



- BOD/TSS
- TN < 8 mg/L
- TP (Chemically)

**BIOLOGICAL NUTRIENT REMOVAL
4 STAGE**



- BOD/TSS
- TN < 3 mg/L
- TP (Chemically)

EFFICIENCY & ECONOMY IN A SINGLE PACKAGE

DAVCO™ field-erected treatment plants integrate the industry’s most advanced treatment processes into a cost effective package solution. The result is a highly flexible and efficient treatment facility that can be operational in months instead of years.

Evoqua’s biological treatment process experts are always available to guide process selection and to assist with technical support in all phases of application refinement, process design, and specification development.

One of the unique innovative Evoqua processes is the dual path, providing complete process redundancy meeting EPA Class I, II, or III reliability standards in a single DAVCO™ field-erected treatment plant tank. In reuse applications, and other instances where process redundancy is required, the innovative and reliable dual path design offers significant savings in both capital cost and land utilization, while achieving even strict biological nutrient removal.

Evoqua treatment processes utilizing a DAVCO treatment plant design are guaranteed to meet or exceed all Federal, State, and Local government requirements. Evoqua has more than two decades of experience in the design of biological nutrient removal processes, meeting stringent effluent requirements.

EFFLUENT PARAMETERS

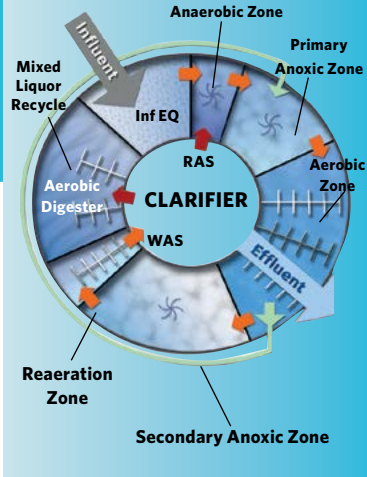
For flows from 0.1 to 5.0 mgd (Before Filtration)

- Biological Oxygen Demand BOD < 10 mg/L
- Total Suspended Solids TSS < 10 mg/L
- Ammonia Nh₃ < 1 mg/L
- Total Nitrogen TN < 3 mg/L
- Total Phosphorus TP < 1 mg/L

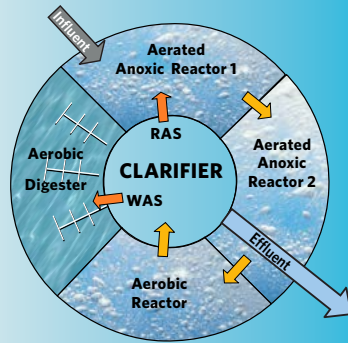


Dual Path Process 1 MGD installation in North Carolina

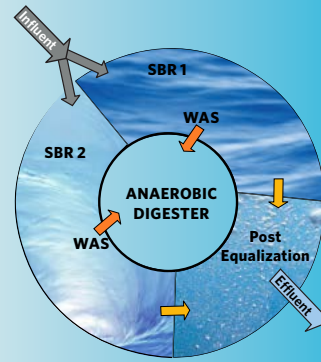
BIOLOGICAL NUTRIENT REMOVAL 5 STAGE



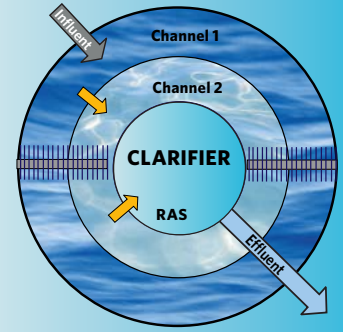
AERATED ANOXIC



OMNIPAC® SBR PACKAGE PLANTS



ORBAL® SYSTEMS



- BOD/TSS
- TN < 3 mg/L
- TP < 1 mg/L (Biologically)



- BOD/TSS
- TN < 6 mg/L
- TP (Chemically)

- BOD/TSS
- TN < 3 mg/L
- TP (Chemically)

- BOD/TSS
- TN < 6 mg/L
- TN < 4 mg/ with MLSS recycle
- TP (Chemically)

DAVCO™ field-erected treatment plants provide a cost-effective long-life solution to treatment plant construction. This package plant approach is considerably less capital intensive than form-built, concrete basin type treatment plants due to the weather-related delays and labor-intensive conditions associated with built-in-place approaches.

The field-erected plants are simpler and faster to install because they require less physical space, less yard piping and electrical conduit, less maintenance, and significantly less site preparation.

\$ Field-Erected Plants	\$ Site-Built Concrete Plants
	
Both the capital costs and life-cycle costs of Field-Erected Treatment Plants are only a fraction of these same costs in site-built concrete plants.	



Biological Nutrient Removal Process 1 MGD Installation in Alabama

OTHER PROCESSES OFFERED

- Orbal® Multichannel Oxidation Ditch
- VLR® Looped Reactor Process
- OMNIPAC® Sequencing Batch Reactors (SBR)
- Tow-Bro® Clarifiers
- Membrane Bio Reactors (MBR)
- Envirex® Rotating Biological Contactors (RBC)



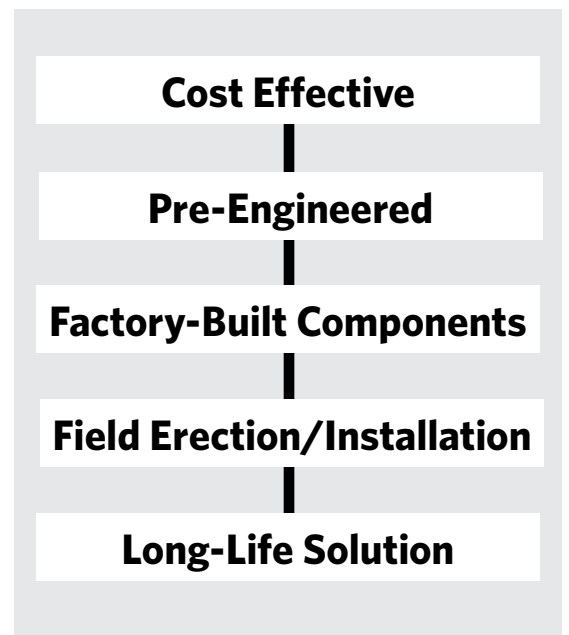
Field-erected plants installed in cold-climate conditions may be partially or fully buried to utilize the earth as insulation conserving the latent heat of the incoming raw sewage and to prevent freezing.

COST-EFFECTIVE, LONG-LIFE TREATMENT SOLUTION

Evoqua’s DAVCO™ product and service team is the industry’s most experienced, relative to the field-erected treatment plant assembly methods, procedures, and quick start-up techniques. Over the years, the Evoqua installation team has earned an enviable reputation for its quality on-site workmanship, and its reliability in meeting strict schedule and budget parameters. With the use of the Evoqua installation team, sole-source responsibility is assured.

In addition, DAVCO field-erected treatment plants save money in many ways - both initially and over time, eliminating the need for multiple tankage, separate clarification systems and sludge recycle systems. Engineering and construction costs are dramatically reduced by the use of pre-engineered components and the precision factory fabrication of individual assemblies.

Davco field-erected plants have proven their long-life functionality and durability over decades and in all types of climatic extremes. They provide an immediate solution that outlasts other options which often cost many times more and take far longer to construct.



Evoqua’s single source approach integrates experience with equipment design, steel fabrication, field installation/construction, and commissioning services.

THE DAVCO™ FIELD-ERECTED TREATMENT PLANT CYCLE

Contract-to-completion timelines for site-built concrete treatment plants can be exceedingly long often ranging from months to years. In contrast, DAVCO™ field-erected treatment plants are pre-engineered and factory built in our Thomasville, GA fabrication facility. The components and internal piping assemblies in these field-erected plants benefit from the machine shop atmosphere of factory construction, and provide a major advantage with short on-site installation time.

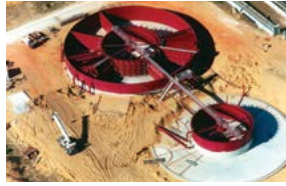
DAVCO field-erected treatment plant components are trucked to the site and installed on a concrete base slab (typically the site is prepared and excavated as necessary and the slab poured while the system is manufactured). The field installation primarily involves assembling and welding the components, then cleaning and coating the entire system.



DAVCO™ PRODUCTS AND SERVICES

FAST, TURNKEY, OEM SOLUTIONS FOR FILTRATION, SCREW PUMPS, AND FIELD ERECTED WASTEWATER TREATMENT PLANTS

BIOLOGICAL TREATMENT



DAVCO™ Field Erected Treatment Plants

TERTIARY FILTRATION



Forty-X™ Disc Filters



Continuous Backwash Filters



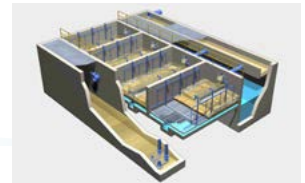
Package Plants



OMNIPAC® SBR Field Erected Package Plant



Gravisand® Traveling Bridge Filters



Hydro-Clear® Sand Filters

CLARIFICATION



Modular & Field Erected Clarifiers

SCREW PUMPS



Internalift® and Externalift™ Screw Pumps



Deep-Bed Sand Filters



NxClear® Denitrification Filters

ABOUT THE DAVCO PRODUCT LINE

Evoqua, through its Davco product line is an industry leader in the manufacture and installation of water and wastewater treatment equipment and systems including field erected biological treatment plants, screw pumps, filtration equipment and clarifier rehabilitation. Davco products and services are supported by experienced project teams that have been working with municipalities, developers and engineers for more than 50 years to deliver turnkey treatment projects and solutions. Evoqua offers a single source approach that integrates industry-leading expertise and equipment with design, build, installation and commissioning services, and can deliver a high quality project in months instead of years.

PROJECT CAPABILITIES

- Applications & Design Engineering
- Equipment Manufacturing
- Project Management
- Field Erection & Installation
- Turnkey Project Solutions
- Performance Warranties
- Commissioning



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