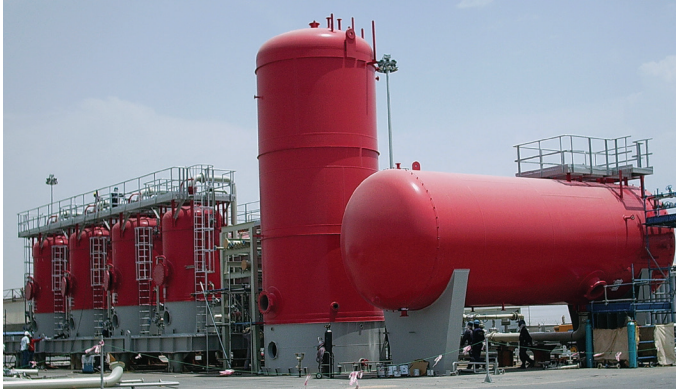




# DOX (Dispersed Oil Extraction) Ethylene Quench Water Cleanup System

Efficient, Low-Maintenance Water Cleanup System



Cameron's DOX Process System

## Overview

The DOX<sup>®</sup> (dispersed oil extraction) process system was designed to serve as an efficient and reliable system for producing clean water that meets environmental regulations in downstream applications. The DOX system is uniquely suited to solve tough emulsion, hydrocarbon, solids and water separation problems. It is available in both standard and custom designs and can be tailored to fit an existing or planned plant process, biological treatment or environmental compliance projects. The DOX system provides customers with versatility in design and operation, combined with flexibility in process.

## Operating Principle

The DOX system consists of two specially designed coalescers (one primary and one secondary) and one proprietary Performax<sup>®</sup> separator. The primary initiates coalescence and removes the solids and tars. The secondary serves as an enhancer, allowing for clean separation among the hydrocarbons, solids and water. This continuous process was designed to operate unattended with minimal maintenance required. Traditional water cleanup systems use technologies that require heavy operator intervention for change-out, cleaning and backwash. The fully automated DOX technology is self-contained to provide online backwash cycles for:

- Source control
- Waste reduction
- Limited operator exposure to aromatics
- Highest onstream times in the industry

## Designed to Perform While Meeting Regulations

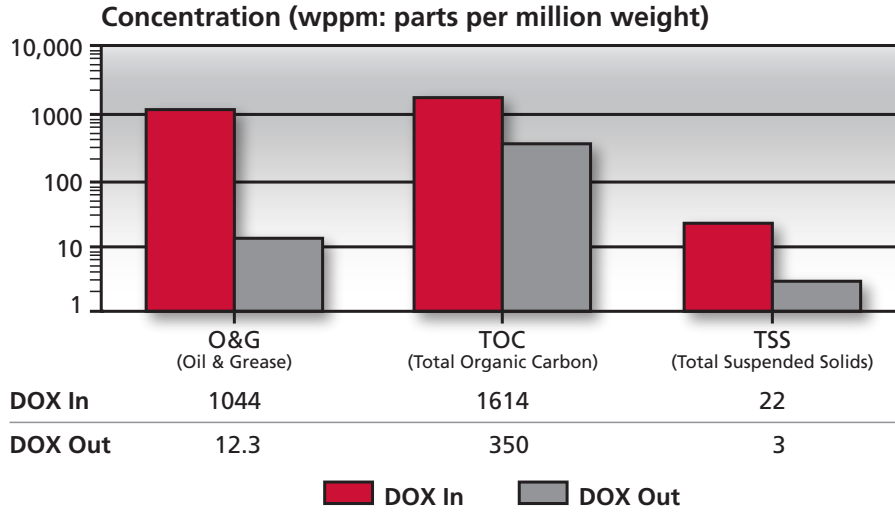
The ability to provide efficient performance while meeting environmental regulations is unique to the DOX system. Featuring an engineered design that provides reduced maintenance, ease of operation and low operating costs, the DOX system is able to provide benefits to customers that improve bottomline results. Benefits include:

- Reduced operator exposure to hydrocarbons and BTX
- Additional sources of disposable or hazardous wastes and pollutants are eliminated
- Reduced environmental hazards and maintained compliance levels with no disposable components
- Removal of free and emulsified hydrocarbons and suspended solids down to 25 ppm or less (see performance chart on page 2)
- System performance is unaffected by tars, coke or heavy and light hydrocarbon concentration changes (within system design limits)
- Lower operating costs through limited net water usage and recovery of light hydrocarbons for fuel or re-sell
- High level of automation that requires minimal operator intervention, reducing total operating costs
- Fouling of steam generators and strippers is lowered, reducing downtime of downstream equipment
- Reduced installation times allow for quicker commissioning and startup
- Available in standard or custom-engineered packages

## Proven Reliability in Multiple Applications

- Cleanup of ethylene quench water to feed dilution steam generators
- Replacement of settling basins, API separators and sludge pits
- Elimination of deep well injection
- Wastewater cleanup
- Source control of hazardous waste streams and/or toxic hydrocarbons in waste streams
- Closing of oily water sewers
- Waste reduction through recovery and/or recycle of a product or a hazardous material
- Difficult separations and tough emulsion breaking problems
- Groundwater cleanup
- Oil, solids and polymer separation from spent treating solutions
- Cleanup of water feed to stream strippers

## Typical DOX Performance



Average Inlet and Outlet Data

## Training

As part of Cameron’s commitment to providing full-service solutions to customers, we also provide a diverse Educational Services Program for the oil and gas processing markets. Our training capabilities include both open enrollment and custom courses that can be designed to meet our customers’ specific needs, in addition to the ability to provide hands-on training. To obtain additional details, please contact your local Cameron sales representative or email [prstraining@c-a-m.com](mailto:prstraining@c-a-m.com).

## The Process Solutions Group

The Process Solutions Group is our industry-recognized in-house consulting service. Services are provided by an integrated team of R&D specialists that routinely develop solutions for challenging customer process problems. This unique group of specialists is available to work with customers to design efficient solutions that meet project requirements.

## Aftermarket Support

Cameron’s global aftermarket network provides site support utilizing a dedicated team of experienced service and project representatives. Strategically located across the globe, this network provides turnkey expertise and support for customers for the duration of a project, from commissioning to operation. From replacement parts and spares, field service to equipment repair, our mission is to provide the highest quality support to ensure our customers’ satisfaction.

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### OTHER LOCATIONS

- Abu Dhabi
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