

Nautilus™ Process

Enhanced Separation Technologies



CLEAR SOLUTIONS
for complex fluids

A Minerals Technologies Company

The Nautilus™ Process leverages proven CETCO technologies to improve water quality throughout each treatment stage. Our carefully selected stage process assures that discharge specifications are met and often exceeded while our engineered solutions make us the leader in on-line systems applications.

Stage 1 consists of bulk separation and degassing, where fluid enters the Nautilus™ Weir Box which is comprised of four individual compartments. Chemical injection, induced gas flotation, and oil separation capabilities are available in each compartment.

Stage 2 is fine filtration, where oil, solids and other entrained particulates removed. Various size filter skids are available depending on the flow rate desired. Due to built-in redundancy in the skid design, filters can be replaced while remaining on-line.

Stage 3 is the final step of the process where final polishing is achieved through CETCO's proprietary media. Through either coalescence or adsorption process, our technologies remove the remaining hydrocarbons from the fluid stream. In this final polishing stage prior to discharge, vessels containing one of CETCO's proprietary adsorption media or Hi-Flow® coalescence technology may be used.

ABOUT US

CETCO ENERGY SERVICES (CETCO), the trusted partner and complex fluid experts equipped and ready to solve your fluid challenges; delivering clear and proven results by increasing operator efficiency, reducing downtime, and maximizing output while safely protecting the environment.

**16 WORLDWIDE
LOCATIONS
≥10 COUNTRIES**
*Headquarters Houston, TX

OUR EXPERTISE

- ✓ Advanced Technology
- ✓ Safety Performance
- ✓ Globally Innovative
- ✓ Environmentally Conscious

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Developed to efficiently separate the product stream and deliver enhanced water quality, the Nautilus™ Technology Suite is a scalable design with enhancement options to accommodate a wide range of water treatment needs and situations. This trusted technology is used to separate fluids in the product stream, return soluble hydrocarbons, and ensure overboard regulation compliance.

Some Enhancement Options for the Nautilus™ Technology Suite



Centrifuges – CETCO centrifuges mechanically separate oil/ water faster than a conventional separator, while using a smaller footprint. This compact unit promotes oil/water separation during flowbacks to return better quality oil for platform sales.



The Tuna™ – Our flameless heat exchanger unit provides a safer solution to fluid temperature control offshore. Unlike other available flameless units which place the recovered well fluid lines inside the open heat source chamber, CETCO's design runs well fluid lines inside a water and glycol bath. This acts as a neutral barrier between recovered well fluids and the unit's heat source to optimize the heating capabilities with an improved design for safety.



Nautilus™ Enhanced Separation Technology – An enhanced system that specializes in hard-to-treat production fluids where normal methods of separation fail, the Nautilus™ EST features a CETCO Weir Box that is enhanced by adding Dissolved Gas Flotation, DGF in its chambered system to expedite the oil/water separation process. The package includes a DGF pump, an enhanced mixing system, optional emulsion breaker skid and an automated level control system.

Features & Benefits

- Scalable separation technology
- Enhancement options
- Returns saleable hydrocarbons
- Improves water quality in each treatment phase
- Meet and exceed discharge specifications
- Ensures overboard regulation compliance

