

# Process IQ Electrostatic Oil Treater Performance

Maximize electrostatic dehydrating and desalting performance and reliability

## Where it is used

- Upstream crude oil processing facilities onshore and offshore
- Refineries

## How it improves operations

- Accelerates response to changing process conditions
- Increases equipment reliability
- Simplifies analysis and reporting with a cross-functional dashboard
- Cuts opex by minimizing consumption of emulsion breaker
- Maximizes delivery of on-specification product oil
- Reduces environmental footprint by conserving freshwater and reducing fuel gas consumption and CO<sub>2</sub> emissions

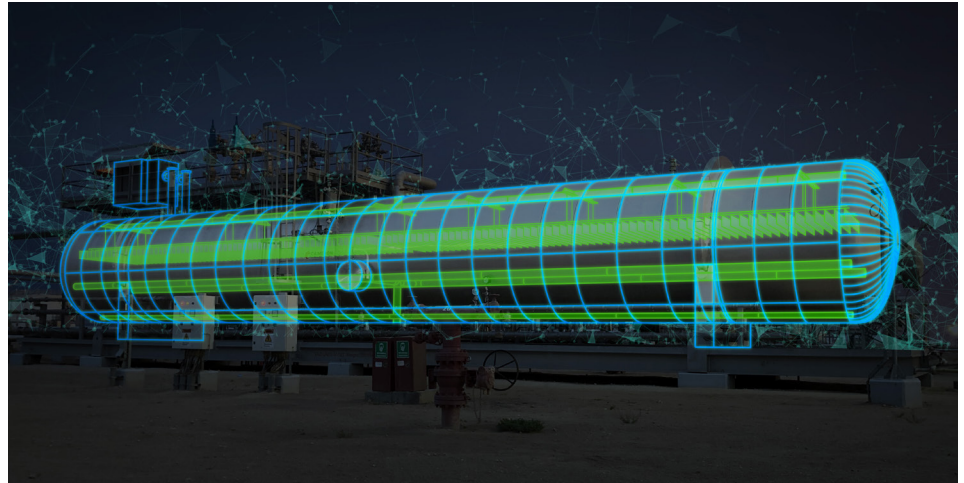
## What it replaces

Multiple data dashboards and time-consuming manual optimization of electrostatic crude oil dehydrators and desalters that remove basic sediment and water (BS&W) and salt from crude oil. Suboptimal operations impair equipment reliability and increase requirements (and costs) for demulsifier, heat, and freshwater to meet outlet specifications and ensure throughput.

## How it works

Process IQ\* Electrostatic Oil Treater Performance improves equipment reliability and simplifies data analysis by integrating electrostatic power unit measurements, live process measurements (for example, inlet and outlet BS&W), electrostatic treater domain intelligence, and application and technology expertise, with cloud-based process optimization software.

The service automatically detects and notifies the operator of events such as gas breakout, flow fluctuations, input power supply fluctuations, and operation upsets. A secure, cloud-connected, ruggedized edge computing device collects and extracts meaning from these data streams, dramatically reducing the time and interactions between detection, diagnosis, and resolution of events for the



*Process IQ Electrostatic Oil Treater Performance improves equipment reliability and process efficiency by combining multiple data streams to automatically detect events that disrupt optimal operations.*

user to avoid unplanned shutdowns and loss of throughput.

With this Process IQ service, some electrostatic treater power units can self-tune based on calculated crude oil conductivity and live measurement of the outlet BS&W. For those units, the service automatically optimizes performance parameters using active machine learning of optimal power unit operating parameters and crude oil quality feedback.

The service transforms days and hours of tuning into minutes and seconds—with no need to leave the office. It also delivers live diagnostics and KPIs for collaboration on operational troubleshooting, lessons learned, and deep-dive analysis.

## What else I should know

For facilities that do not directly measure BS&W or salinity, the service can use manual lab data.

Services are provided by a cloud-based application with secure remote access through the DELFI\* cognitive E&P environment authentication process.

Process IQ services are available for

- NATCO DUAL FREQUENCY\* electrostatic treater
- NATCO ELECTRO-DYNAMIC DESALTER\* electrostatic desalting technology
- BIELECTRIC HF\* high-frequency AC desalter
- modulated NATCO DUAL POLARITY\* electrostatic treater
- NATCO TRIVOLT\* AC treater
- PETRECO BIELECTRIC\* AC desalter
- standard NATCO DUAL POLARITY\* treater
- third-party electrostatic treater technologies.