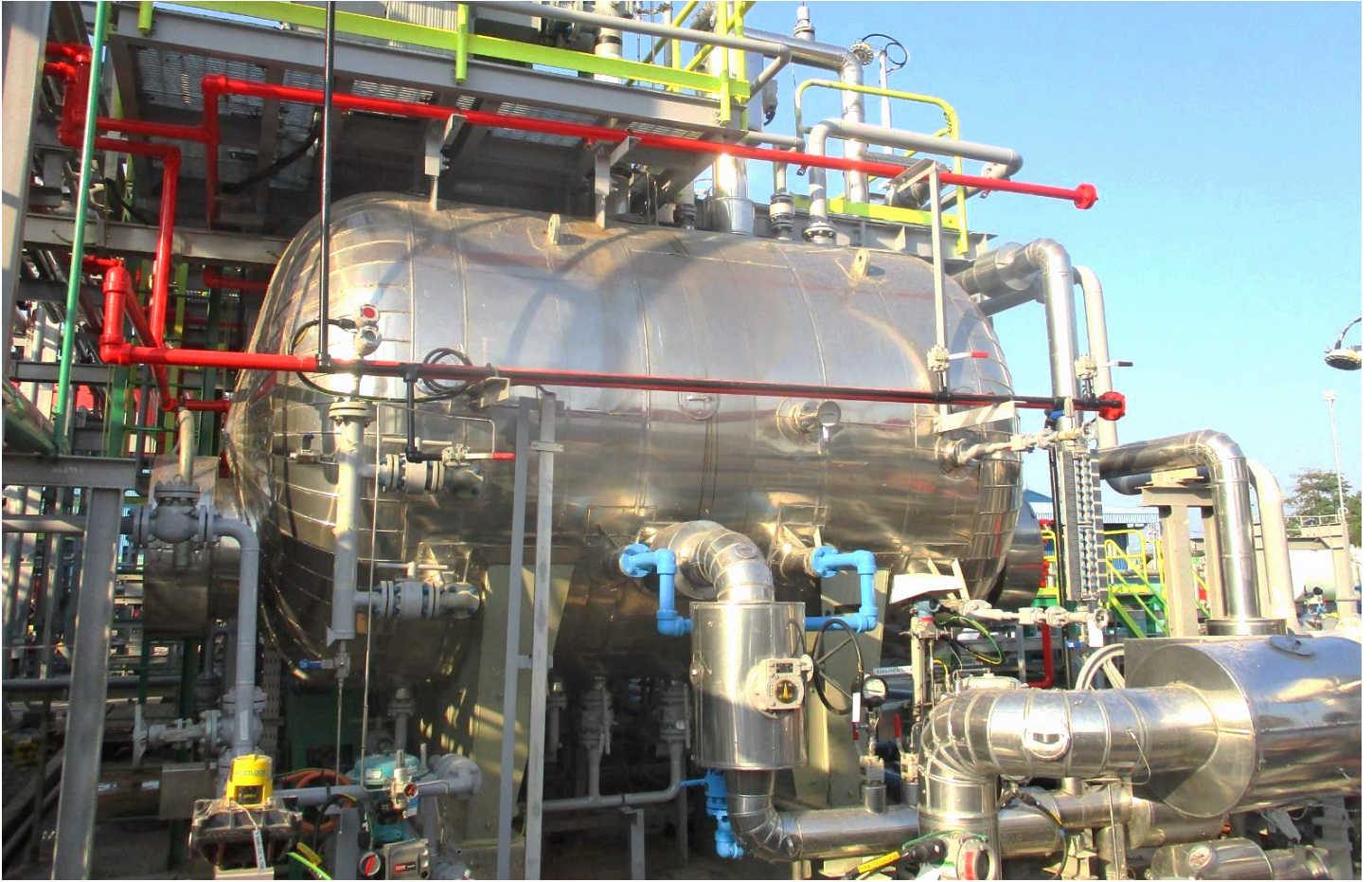


FILE CASE STUDY

Desalter Commissioning & Performance

Oil & Gas · Crude Desalting · Indonesia



A MILESTONE WORTH CELEBRATING

Desalter Commissioned in Indonesia

We have successfully commissioned another high-performance Desalter, this time marking our first installation in Indonesia. A significant step forward as CECO Environmental continues to expand its footprint across Southeast Asia.

The Milestone

CECO has successfully commissioned another Two-Stage High Performance **Electrostatic Crude Oil Desalter**. Standing up a first installation in Indonesia marks a meaningful expansion of our regional presence and lays the groundwork for continued growth across the market. Commissioning this advanced high-performance unit demands **precision, tight coordination, and relentless commitment** and delivering it on-target is a credit to the team on the ground and to everyone behind the scenes who made this achievement possible.

How the Desalter works?

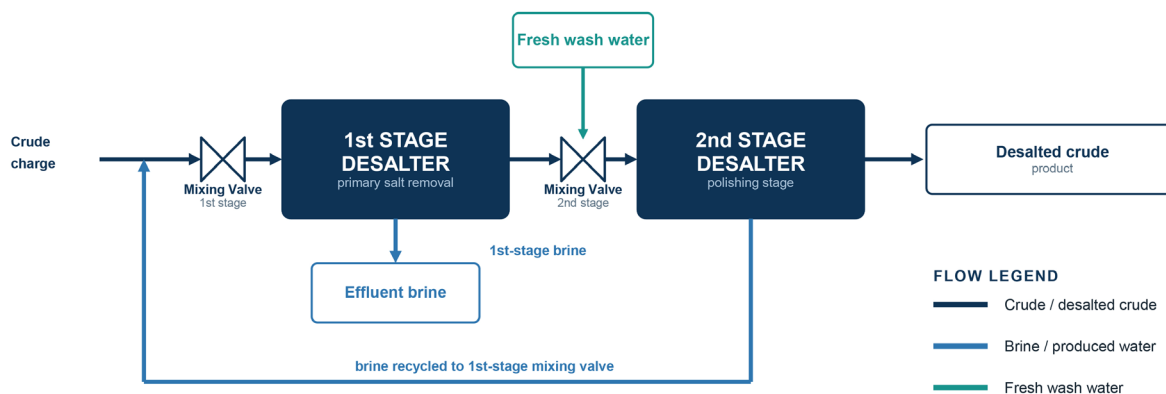
Desalting is an extension of the crude **dehydration** process which uses electrostatic force to achieve high level separation of crude and water. Fresh wash water is blended into the incoming crude through a mixing valve to form a controlled, diluted emulsion, which lowers the concentration of salt in the water phase. This crude-and-water mixture is introduced into the desalter vessel, where the separation of water and oil under the influence of electrostatic forces using CECO's proprietary high-performance internals simultaneously removes the salt dissolved in that water. Depending on the process requirements, the unit can be supplied in a single-stage or two-stage configuration.

Two-Stage Configuration (as deployed in Indonesia)

In a two-stage desalter, fresh water is injected into the crude **upstream of both the First Stage and Second Stage units** and blended through a specially designed mixing valve. This scheme helped our customers to remove the requirement for wash water recycled pumps and thus minimize capex and power requirements. This scheme was proposed considering relatively low crude oil flow and minimal wash requirement using our high-performance mixing device.

The partially treated crude from the first stage flows on to the second-stage desalter for final polishing. The brine leaving the bottom of the first stage and second-stage desalter.

TWO-STAGE DESALTER — PROCESS FLOW



Countercurrent wash-water reuse – fresh water is injected at the 2nd-stage mixing valve, 2nd-stage brine is recycled to the 1st stage, and 1st-stage brine is discharged as effluent.

Performance Guarantee - Validated

The numbers are in, and every acceptance criterion was not just met; it was left behind.

Acceptance Criterion	Performance Guarantee	Delivered On Site	Result
Salt Content (PTB – lb salt / 1,000 bbl)	< 5 PTB	0.4 PTB	EXCEEDED
BS&W (basic sediment & water, vol %)	<0.25%	0%	EXCEEDED

Values shown as measured on site during performance testing. Every acceptance criterion was met, and every commitment was exceeded.

PTB = pounds of salt per thousand barrels · BS&W = basic sediment & water.

CECO Environmental · #EngineeredReliability #Desalting #OilAndGas

The desalter section of the Crude Oil Stabilization Package underwent Site Assistance Performance testing at an Indonesia Site from 16–20 June 2026, as part of the Field Development Project. The horizontal vessel (2,500 mm ID × 3,000 mm T/T length), fitted with CECO's advanced high-performance electrostatic grid.

Laboratory sampling on 17 June 2026 verified performance against the acceptance criteria of salt content below 5 PTB and BS&W below 0.25 Vol%. Desalted crude achieved 0.4 PTB salt content, approximately 99% salt removal, with BS&W reduced to 0 Vol% at both transformer tap settings.

All results passed. Testing confirmed reliable desalter operation well beyond the guaranteed limits.



How Can We Customize This For You

No two crude streams or two developments are the same, and neither are our desalters. Every unit is engineered around your specific process, footprint, and commercial priorities.

We can tailor the solution across several dimensions. Configuration can be single-stage for straightforward duties or two-stage for demanding salt-removal targets, and we routinely optimize the wash-water scheme as we did here to strip out recycle pumps and minimize capex and power. Our advanced high-performance electrostatic grids and proprietary high-performance internals are sized to your flow rates and turndown, so performance holds from minimum to maximum throughput rather than only at the design point. Vessel dimensions, operating pressure and temperature, dilution-water rate, and mixing-valve design are all set to your feed characteristics and target specifications.

Beyond hardware, we bring the full lifecycle: process engineering and scheme selection, fabrication, commissioning and site assistance, operator guidance, and aftermarket support across the globe.

Whether you are debottlenecking an existing train, green fielding a new development, or chasing tighter salt and BS&W targets, CECO can design a desalter package built around your numbers and stand beside your team until it delivers.

Explore our desalters: www.cecoenviro.com/products/desalter-dehydrator