

# BILECTRIC HF

## High-frequency AC desalter

### APPLICATIONS

- Refineries

### ADVANTAGES

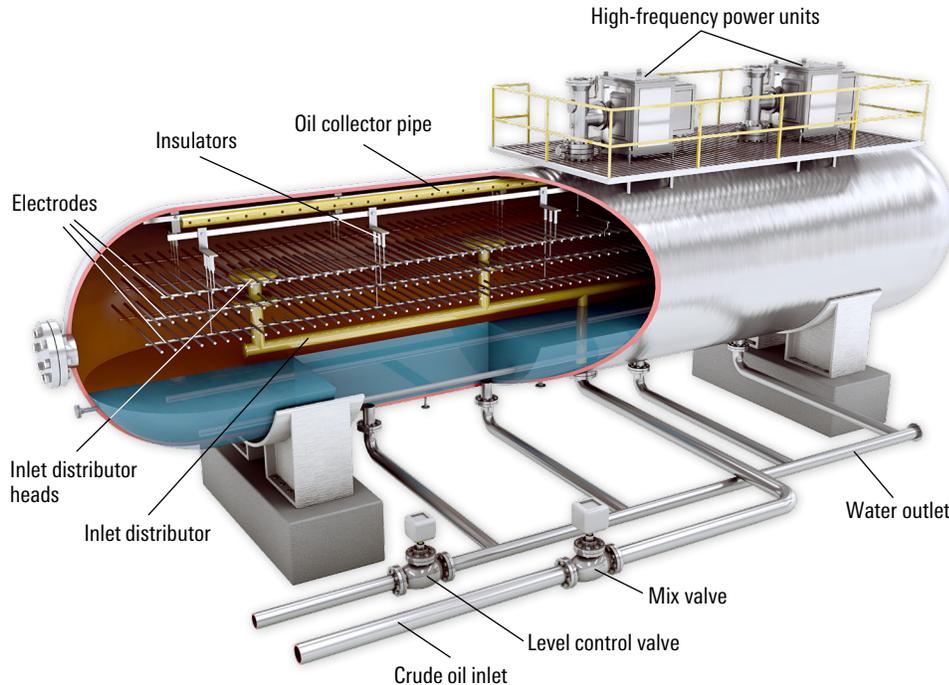
- Operational flexibility
- Easy change of OP parameters
- Higher uptime
- Less maintenance
- Fewer shutdowns
- Lower output salinity (pounds of salt per thousand barrels of crude)
- Reduced demulsifier dosage
- Reduced amount of wash water
- Improved rag and emulsion control
- Trend analysis
- Early upset detection
- Semiautomatic control



The Schlumberger BILECTRIC HF\* high-frequency AC desalter is the ideal solution for refinery desalting in which challenging crude slates, including low API and conductive crude oils, are present.

In response to more challenging crude slates, Schlumberger developed an innovative and effective performance upgrade of the legacy PETRECO BILECTRIC\* AC desalter. The advanced BILECTRIC HF high-frequency AC desalter elevates refinery crude oil desalting to a higher standard that no other AC electrostatic technology can match.

The BILECTRIC HF desalter provides improved removal of saline water from crude slates in refineries. It has an upgraded power unit that delivers much stronger electrostatic power, thus significantly improving the crude slate desalting process.



# BILECTRIC HF

Benefits of using the BILECTRIC HF desalter include a higher process rate in an existing desalter, improved desalting of difficult-to-treat crude slates, reduced dosage of demulsifiers, lower crude oil salinity, and reduced washwater consumption.

The legacy BILECTRIC desalter has been recognized by the refinery industry as the first choice for crude oil desalting. The BILECTRIC HF desalter utilizes the effective fluid distribution of the legacy BILECTRIC desalter with an advanced high-frequency AC power unit and the NATCO LRC-II\* smart interface.

## Easy upgrade

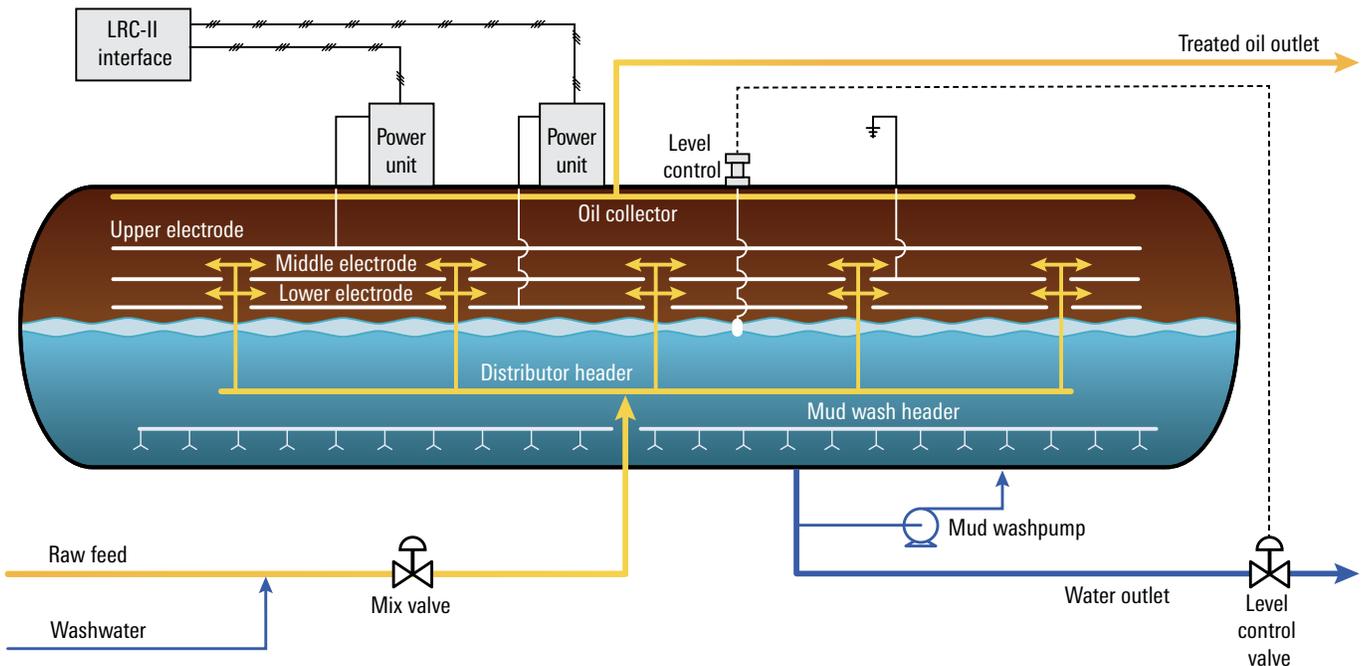
Upgrading to the BILECTRIC HF desalter can be performed without the need for vessel entry because all upgrades are done only to the power supply and control. The upgrade includes

- high-frequency power unit
- three-phase power supply
- LRC-II smart interface
- control wiring from the LRC-II smart interface to the BILECTRIC HF desalter power unit
- improved entrance bushing.

In electrostatic desalting, the crude oil is thoroughly mixed with freshwater in the mix valve to create uniform-size water droplets.

The higher electrostatic force from the BILECTRIC HF desalter power unit creates improved coalescence of brine and freshwater droplets and growth of these droplets. These larger droplets of reduced salinity separate faster from the crude oil, and thus an improved desalting is achieved.

The BILECTRIC HF desalter enables a higher operating pressure and offers an improved entrance bushing to handle the higher power from the high-frequency power unit. The upgraded entrance bushing can be installed without vessel entry through nozzles with a 2-in interior diameter and larger. With the LRC-II smart interface, the operational parameters of the BILECTRIC HF power unit can be adjusted while the desalter is operating, eliminating costly process shutdowns for parameter changes. The operational parameters include base and modulation frequency and power unit secondary voltage.



BILECTRIC HF desalter process diagram.

[slb.com/oil-treatment](http://slb.com/oil-treatment)

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