

# EPCON Dual

## Compact flotation unit

### APPLICATIONS

- Water polishing
- Debottlenecking
- Bulk oil removal
- Gas condensate production

### BENEFITS

- Significant space savings
- Increased reliability
- More efficient and streamlined operations
- Enhanced safety

### FEATURES

- Improved capacity and reduced footprint
- Higher-performance oil-in-water (OIW) removal
- Robust construction and long operating life
- No moving parts, minimized maintenance, and simplified control requirements
- No external energy required
- Compliance with strict industry standards for permissible produced water overboard disposal limits
- Reduced emission of soluble-oil pollutants

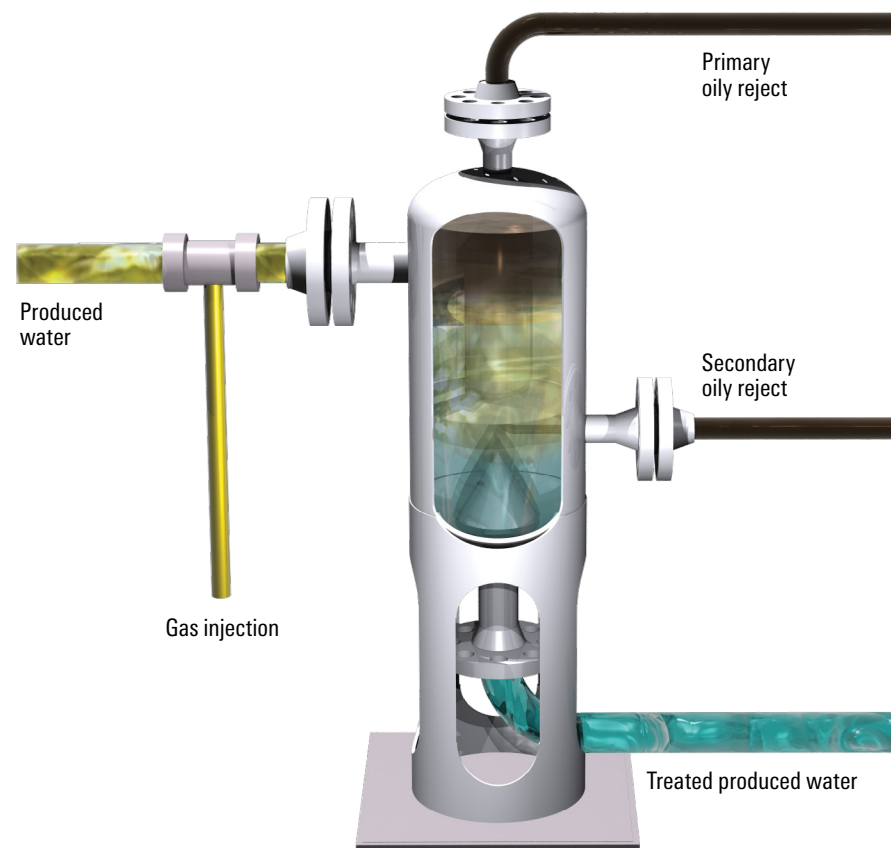
The EPCON Dual\* compact flotation unit (CFU) efficiently removes oil from produced water, decreasing oil content for compliant overboard disposal. Its redeveloped internal design enables 50% greater oil removal efficiency in the same footprint as conventional technologies.

### Innovative internal design

The technology's redesigned vessel utilizes previously lost excess gas to remove larger amounts of flotation gas bubbles that carry oil and further improved OIW separation efficiency. The separation process is aided by a gas flotation effect caused by the release of residual gas from the water, added gas, or both. Oil droplets are made to agglomerate and coalesce, facilitating separation from water. Treated water exits through the bottom of the EPCON Dual CFU.

### Measurable results

The EPCON Dual CFU's gas-stripping effect, optimized reduction in dispersed oil, and use of nitrogen as flotation gas can reduce polycyclic aromatic hydrocarbon emissions up to 83%. Alkylated phenols and benzene, toluene, ethylbenzene, and xylene (BTEX) compounds are reduced up to 88%.



EPCON Dual CFU.

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The innovative technology was developed through computational fluid dynamics simulation, pilot testing, and offshore verification. A successful field trial was performed in the Norwegian sector of the North Sea in cooperation with Statoil that verified 27% better separation rates compared with traditional technologies. Additionally, pilot testing in an onshore controlled environment concluded in 75% greater oil removal efficiency compared with traditional technologies.

## Customizable design

One single-pressure EPCON Dual CFU can accommodate flow rates between 500 bbl/d [3 m<sup>3</sup>/h] and 150,000 bbl/d [1,000 m<sup>3</sup>/h]. Operating multiple EPCON Dual CFUs in parallel can accommodate higher flow rates.

The CFU's makeup materials range from standard- and low-temperature carbon steels—which can be internally lined according to customer specification—to high-grade alloys such as duplex stainless steel and titanium.

Standard-pressure vessel designs accommodate most pressures, temperatures, and design codes, including British Standards Institution PD 5500; American Society of Mechanical Engineers (ASME) Section VIII; Australian/New Zealand Standard AS 1210; and EuroAsian Interstate Council for Standardization, Metrology and Certification Pressure Equipment Directive EN13445, and GOST R Certificate of Conformity.

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