

VORTIXX[®] COMPACT FLOTATION UNIT



The Vortixx[®] CFU is the latest generation compact flotation unit available on the market. The philosophy of compact flotation is the combination of multiple separation technologies including cyclonic and flotation principles.

The Vortixx[®] CFU uses a unique design developed over many years by Enhydra's technology experts. Available as a single or two stage system, combined or separate oil/gas outlets, the Vortixx[®] is adaptable to the wide variety of oil industry process conditions and applications. Delivering enhanced oil separation with a reduced footprint and low pressure drop, the technology can be employed as both primary or secondary produced water separation systems. Unlimited turndown is available with zero fouling due to the presence of solids in the inlet flow.

FEATURES AND BENEFITS

- **Removal of oil in water down to 5ppmv**
- **Twin bottom tangential inlets**
 - Capitalise upon natural bubble rise
 - Stable flotation profile
- **Optional conical bottom maintains solids separation providing self-flushing solids system**
- **Enhanced control system design that eliminates complex level control**
- **Optimised internal acceleration profile**
- **Deceleration into the outer annulus reduces oil carry over**
- **A design with two stages of flotation in a single vessel is available**
- **Single outlet for oily reject and gas or separate outlet designs available**

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OVERVIEW

Overcoming the complex issues of sizing sometimes inherent in other CFU designs, the Vortixx® has been proven in trials and full scale applications to deliver outstanding performance in some of the toughest process conditions.

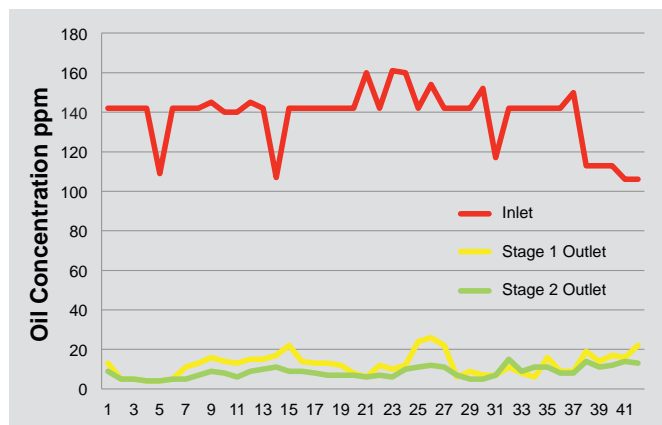
The technology is available under licence from our worldwide network of partners.



OPERATION

The Vortixx® CFU uses a homogenised gas and water inlet that passes through dual tangential inlets to induce a vortex within the inner annulus of the vessel. Micro bubble shear devices and mixers are used to ensure correct distribution and bubble size for effective oil coalescence as they rise through the inner annulus. The combined effects of the centrifugal forces created by the induced swirl, the unique acceleration profile and rising micro bubbles, result in the gas and oil droplets being drawn into the central core of the Vortixx® CFU for removal.

The clean water then moves towards the outside of the vessel passing over the internal baffle to the outer annulus where it is removed. In a two stage design, additional twin tangential inlets are provided for in the outer annulus which also acts as a separate flotation chamber rising the oil and gas to the central core for removal, thereby operating a true two stage system design.



Performance in offshore trials

The oily reject and gas are removed together by a common outlet. In this case the system operates fully flooded, being manually set without the need for any automated control systems.

Where separate oily reject and gas outlets are required, oil is removed by a central oil weir and the gas passes out through an outlet in the top of the vessel.

Vortixx is a registered trademark of Enhydra Ltd.
The Vortixx® CFU design is patent pending.



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