

## Waste Water Cleansing

RAY International specializes in providing services in middle east region, represents IKM Production technology, Norway for waste water cleaning through Xtract System. Xtract is a further development of the oil in water removal systems for onsite applications. It consists of a compact containerized unit designed for treating slop, waste waters, and produced water offshore. The highly effective separation technology involves a unique membrane filtration process that avoids the build-up of filtrate blockages and results in close to zero ppm discharges. Xtract is built into a 13 ft. container in compliance with the NORSOK Z-015 standard and is approved for ATEX II/3G.

### Benefits

- Treated discharge water - less than 1 ppm oil
- No use of flocculent chemicals
- 98% waste reduction on treated waste water streams.
- Treatment capacity 10m<sup>3</sup>/hr. for standard system
- Easily upgradable for larger feed volumes.
- Standard footprint - 13 ft. container
- No downtime (built in process redundancy)
- Programmable - no need for 24 hr. personnel operation.

### Applications

- Oily water treatment during cleaning operations
- Slop water treatment during drilling operations
- Produced water treatment
- Water DE ballast operations - in port.

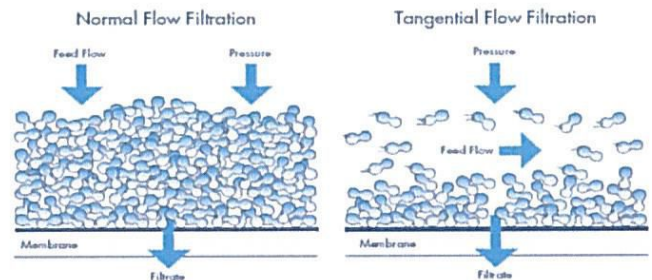
### Features

Feed water is pumped through a system of ceramic rods containing an array of tangential passages through which the oily water passes through. The rods are coated with a hydrophilic membrane, such that water passes through the membrane to the outside of the rod while leaving Hydrocarbons and particulates to be discharged through the tangentially arranged passages. This process ensures that no blockages occur, and that the separation is 100% effective.

The Xtract system shown housed in the 13ft container.



Drawing showing tangential separation technique



Typical on-site set up for water treatment

