

## Below Ground Oil Water Separators

### Because oil and water don't mix

Our efficient, environmentally-smart Below Ground Oil Water Separators are designed for industries that need to prevent runoff and spills from getting into drains and natural waterways. Over the years **SPCC** (Spill Prevention Control and Countermeasure) plan and the **NPDES** (National Pollutant Discharge Elimination System) have regulated discharges from their point sources. Due to the recent increase in environmental awareness, their guidelines, permits, and fines are becoming more stringent.

The problems associated with the removal of oil from water at various industries are complex. Some of these problems include:

- Diverse wastewaters
- Events that produce stormwater runoffs
- Spill containment
- Vehicle maintenance facilities and washing operations

Hydro Quip oil water separators will remove solids and all free and dispersed non-emulsified oil droplets 20 micron or greater in size and produce an effluent discharge of less than 5 ppm. Our proprietary design incorporates patented revolutionary non-plugging poly-propylene coalescing plates that have 132 square feet of usable surface area for better separation of oil and suspended solids. Our coalescing media exceeds all known American performance standards including UL 2215, and has been tested in accordance with European Union Standard CEN EN858-1, which requires a discharge limit of less than 5 ppm. Hydro Quip's design meets or exceeds API 421 guidelines and meet more stringent military guidelines.

Our separator tanks are manufactured to UL 58 and UL 1746 Standards. Construction can be either single wall or double wall with a corrosion protection system. Available options include integral grit chamber, an oil storage compartment, and an effluent pump out chamber, and can be customized with pumps, controls, leak detection and level indicating systems. Sizes are available up to 4000 gpm flow rate.



### FEATURES & BENEFITS

- Smaller units, higher flow rates
- Low maintenance cost
- Easily cleaned through the removable vapor tight cover(s)
- No moving parts or consumables
- No power consumption
- No chemicals, absorbent or filter cartridges to remove, replace or dispose of
- Service & maintenance of coalescing media and removal of sludge from outside
- No confined spaces

Let us show you why we are the leader in water treatment technology, visit [www.hydroquipinc.com](http://www.hydroquipinc.com)

## Specification

The separator shall be a special purpose prefabricated parallel-corrugated plate gravity displacement type oil/water separator designed to remove free and dispersed non-emulsified oil and settleable solids in accordance with API 421. The separator capacities, dimensions, and construction shall be built in strict accordance with UL 58, and UL 1746. Separator shall be comprised of a tank containing:

### INLET COMPARTMENT

The inlet compartment will be comprised of a non-clog solids compartment to distribute the flow across the width of the separator chamber. The inlet compartment shall be of sufficient volume to effectively reduce influent suspended solids, dissipate energy and begin separation. The inlet compartment shall be of sufficient volume to effectively reduce influent suspended solids, dissipate energy and begin separation. A sludge baffle will be provided to prevent settleable solids and sediment from entering the separation chamber.

### SEPARATION CHAMBER

The separation chamber will contain coalescing plates containing a minimum of 132 square feet per cubic foot of effective coalescing area. Spacing between these elements shall be spaced 3/16" apart for the removal of a minimum of 99.9% of free droplets of oil 20 micron in size or greater. Laminar flow with a Reynolds Number of less than 500 at a maximum design flow rate shall be maintained throughout the separator packed bed including entrance and exit so as to prevent re-entrainment of oils with water. Flow through the polypropylene coalescing plates shall be crossflow perpendicular to the vertical plate elements such that all 132 square feet/cubic foot of coalescing area is available for contact with rising oil. The plates shall have a minimum of 87% void volume to facilitate removal of oil and dirt particles. Plates shall be enclosed in a stainless steel frame to facilitate installation and removal.

### SLUDGE CHAMBER

The sediment chamber will be located prior to the separation chamber and will provide adequate volume and baffling for the settling of any solids.

### OIL STORAGE RESERVOIR

The waste oil storage shall be an integral part of the separator, and have a capacity of 30% of the total separator volume. Oil will be stored on the surface of the water and can be pumped away when the oil water interface reaches a predetermined depth.

### CLEAN WATER CHAMBER

A clean water chamber which allows the water to leave the separator by gravity flow through the clean water drop tube and outlet flange will be provided.

### COATINGS

External coatings shall be in accordance with UL1746. FRP, Urethane and STI-P3 compliant coating available.

### COVERS

Manways and vaults will provide access into the separator. Each access way will be provided complete with extensions, bolt down cover, gaskets and bolts.

