



HQB-ES Below Ground Oil Water Separators

- Smaller units, higher flow rates
- Prevents oily sludge from fouling coalescing media
- Effectively removing settleable solids as well as suspended solids
- Sheen filter prevents any discharge of smaller oil droplets and mechanical emulsions
- Equipment can be serviced and maintained from outside; no confined spaces
- Easily cleaned through the removable vapor-tight cover(s)



Hydro Quip’s Below Ground Oil Water Separator ES Series are newly designed with a smaller footprint and a higher removal efficiency.

Since below ground oil water separators first entered the marketplace, there has been little innovation with the design. Most are based on a 10:1 ratio requiring long retention times and resulting in larger units. Over the years, SPCC and NPDES have become more stringent in their guidelines, permits and fines, yet the 10:1 design has not adapted to accommodate these ever-changing regulations.

Our below ground oil water separators can address:

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

DESIGN

Our oil water separators will remove solids and all free and dispersed (non-

emulsified) oil droplets 30 micron or greater in size and is capable of achieving an effluent discharge of less than 5 ppm. Our design meets or exceeds API 421 guidelines and will meet more stringent military guidelines.

Our separator tanks are manufactured to UL 58 Standards. Construction can be either single wall or double wall with a corrosion protection system. Corrosion protection systems are either in accordance with UL1746 or per your jurisdiction. Sizes are available up to 3000 gpm flow rate.

For a full list of options, see hydroquipinc.com/below

INLET COMPARTMENT AND GRIT CHAMBER

The inlet compartment will be comprised of a non-clog diffuser to distribute the flow evenly across the width of the separator chamber. The inlet

compartment shall be of sufficient volume to effectively reduce free oil and settleable solids. A full sludge baffle will be provided to prevent settleable solids, sediment, and free oil from entering the Coalescing Chamber. The suspended solids and dispersed oil will flow into the up tube in the Grit Chamber and over to the Coalescing Chamber.

COALESCING CHAMBER

The Coalescing Chamber shall contain the appropriate coalescing media specific to your application. The media, when installed in crossflow, will help meet your SPCC and NPDES limits. It will separate oil droplets 30-micron size and larger and is also capable of achieving a discharge limit of 5ppm in accordance with European Standard EN 858-1.

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. The separator will also have an emergency spill capacity of 80% 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

The clean water chamber allows the water to leave the separator by gravity flow

through the clean water drop tube and outlet flange. The drop tube will contain a removable Sheen Filter to prevent any carryover of smaller oil droplets and mechanical emulsions

COATINGS

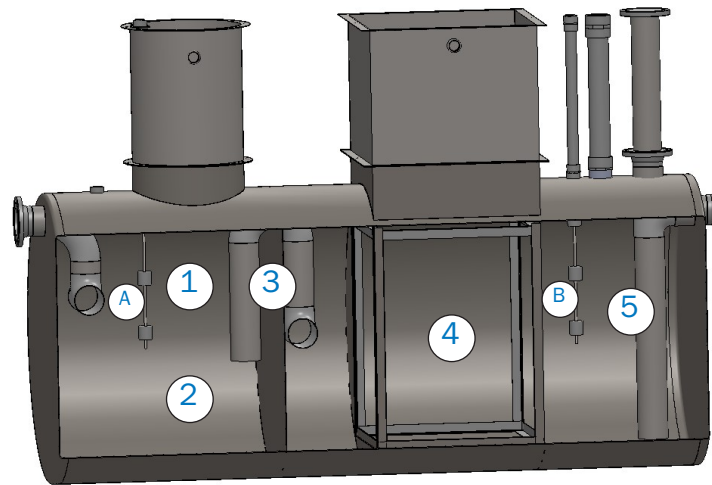
Available external coatings include FRP, Urethane and STI-P3 which are in accordance to UL1746. Other various coatings that are acceptable per your jurisdiction are also available.

MANWAYS AND 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.

VENTS AND HOLD-DOWN STRAPS

Sufficient size vents will be provided. Optional hold-down straps can be provided.

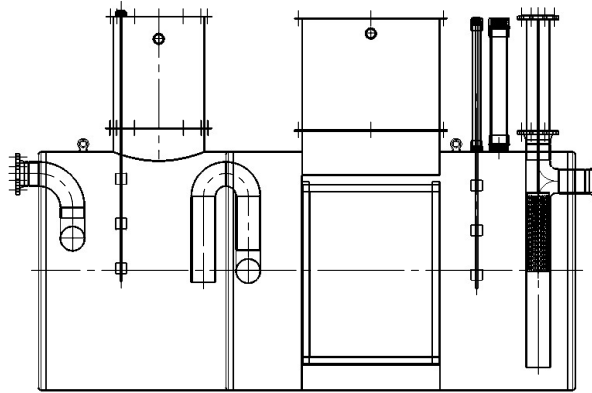


HOW IT WORKS

1. The inlet diffuser distributes the flow evenly across the width of the separator. The free oil (150-micron size or larger) is separated in the Grit Chamber.
2. The settleable solids will fall downward into the bottom of the Grit Chamber where they can be removed. The Grit Chamber protects the coalescing chamber from heavy, oily sludge which reduces media fouling.
3. The suspended solids and dispersed oil will flow into the up tube in the Grit Chamber, and over to another diffuser in the Coalescing Chamber.
4. The flow continues through the Coalescing Chamber where the coalescing plates will separate the oil droplets 30-micron size and larger up to the surface, and the remaining suspended solids will be captured beneath the coalescing plates. The amount of solids captured over time will determine the frequency of maintenance. Each unit will contain the appropriate type and amount of coalescing media that is determined by proprietary software.
5. A removable Sheen Filter will be placed vertically inside the up tube in the Effluent Compartment which will remove carryover, smaller droplets of oil, and mechanical emulsions.

Items A and B are float switches that monitors the level of oil in each compartment.

HQB-ES MODEL

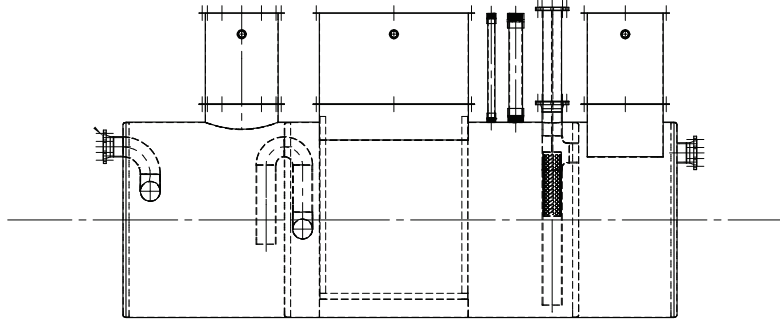


SPECIFICATIONS

*Dimensions are approximate and may vary depending on your application.

HQB Model	Diameter	Length	Inlet	Outlet	Flow Rate (GPM)	Tank Capacity (GAL)
HQB-35-ES	3' 6"	6' 0"	4"	4"	35	350
HQB-55-ES	4' 0"	6' 0"	4"	4"	55	550
HQB-100-ES	4' 0"	10' 9"	6"	6"	100	1000
HQB-200-ES	5' 4"	12' 0"	6"	6"	200	2000
HQB-300-ES	5' 4"	15' 0"	6"	6"	300	2500
HQB-400-ES	5' 4"	18' 0"	8"	8"	400	4000
HQB-500-ES	6' 0"	18' 0"	8"	8"	500	3700
HQB-600-ES	6' 0"	18' 0"	10"	10"	600	4000
HQB-700-ES	8' 0"	18' 0"	10"	10"	700	7000
HQB-800-ES	8' 0"	18' 0"	10"	10"	800	7000
HQB-900-ES	8' 0"	18' 0"	12"	12"	900	7000
HQB-1000-ES	8' 0"	20' 0"	12"	12"	1000	7500
HQB-1200-ES	8' 0"	22' 6"	12"	12"	1200	8500
HQB-1500-ES	10' 0"	20' 0"	16"	16"	1500	12000
HQB-2000-ES	10' 0"	24' 0"	18"	18"	2000	14000
HQB-2500-ES	10' 6"	26' 6"	18"	18"	2500	17000
HQB-3000-ES	10' 6"	29' 0"	20"	20"	3000	19000

HQBP-ES MODEL WITH EFFLUENT PUMP OUT CHAMBER



SPECIFICATIONS

*Dimensions are approximate and may vary depending on your application.

HQBP Model	Diameter	Pump Out	Length	Inlet	Outlet	Flow Rate (GPM)	Tank Capacity (GAL)
HQBP-35-ES	3' 6"	3' 0"	9' 0"	4"	4"	35	525
HQBP-55-ES	4' 0"	3' 0"	9' 0"	4"	4"	55	825
HQBP-100-ES	4' 0"	3' 0"	13' 9"	6"	6"	100	1280
HQBP-200-ES	5' 4"	3' 0"	15' 0"	6"	6"	200	2500
HQBP-300-ES	5' 4"	3' 0"	18' 0"	6"	6"	300	3000
HQBP-400-ES	5' 4"	5' 0"	23' 0"	8"	8"	400	3800
HQBP-500-ES	6' 0"	5' 0"	23' 0"	8"	8"	500	5000
HQBP-600-ES	6' 0"	5' 0"	23' 0"	10"	10"	600	5000
HQBP-700-ES	8' 0"	5' 0"	23' 0"	10"	10"	700	9000
HQBP-800-ES	8' 0"	5' 0"	23' 0"	10"	10"	800	9000
HQBP-900-ES	8' 0"	6' 0"	24' 0"	12"	12"	900	12000
HQBP-1000-ES	8' 0"	6' 0"	26' 0"	12"	12"	1000	13000
HQBP-1200-ES	8' 0"	6' 10"	29' 0"	12"	12"	1200	14500
HQBP-1500-ES	10' 0"	6' 10"	29' 0"	16"	16"	1500	16200
HQBP-2000-ES	10' 0"	6' 10"	30' 0"	18"	18"	2000	17500
HQBP-2500-ES	10' 6"	7' 10"	35' 0"	18"	18"	2500	22500
HQBP-3000-ES	10' 6"	10' 8"	39' 0"	20"	20"	3000	25500



Whether an off-the-shelf unit or customized equipment, we'll help you determine the best solution for your application and site-specific needs.

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