

OS Series Steel Oil/Water Separator Engineering Specification OS2-S through OS2112

SECTION 1.0 OIL/WATER SEPARATOR

Performance

The Pan America Environmental OS Series Oil/Water Separators are designed to produce an effluent concentration of 10 mg/l or less of oil droplets 30 micron and larger of non-emulsified, free and dispersed oils. By virtue of our Flopak coalescing media and tank design, readily settleable solids are also removed.

1.01 Design

The oil/water separator will be designed and fabricated per the following specifications. Rectangular tankage with features as described designed per API #421 Design & Operation of Oil/Water Separators Manual and Stokes law. The design will incorporate flexible flow rating capability based on application parameters.

1.02 Influent Chamber

Influent flow enters the clog proof influent diffuser pipe and is immediately spread out across the depth and width of the chamber. Any readily settleable solids drop to the bottom of the V-shaped solids accumulation chamber located directly under the Flopak coalescing media pack.

1.03 Oil/Water Separation Chamber

The separation chamber is to be packed with Flopak cross-fluted coalescing media. The media pack will be designed to create a quiescent zone, a laminar flow pattern to facilitate the impingement of oil on the media, and will provide numerous impact sites and changes of flow direction. The media shall have a 60° cross-flute angle.

1.04 Solids Accumulation Chamber

The separator shall have a V-shaped solids accumulation chamber located under the coalescing media. This chamber will provide temporary solids storage. The chamber walls are to be pitched at 45 degrees to assure simple and thorough solids removal. Dual outlet ports will be provided for sludge removal.

1.05 Clean Water Effluent Chamber

The cleansed water will flow under the oil retention baffle, over the water weir and into the effluent chamber. This chamber is to have the capability to be expanded at the factory by modifying the standard integral chamber so a greater volume of water is available for pump suction directly from the OS tank.

1.06 Oil Skimmer / Reservoir

A fixed weir oil skimmer with integral reservoir is to be provided for the temporary storage of separated oils. This chamber is located at the effluent end of the separator. The reservoir will have fittings for pump suction, high/low level switch accommodation and vent. This chamber is to have the capability to be expanded at the factory by modifying the standard integral chamber so a greater volume of oil can be stored and pumped directly from the OS tank to desired point of discharge.

1.07 Separator Cover

The separator is to have a multi-piece cover that provides complete closure of the tank. The separator cover will be mounted to the tank via zinc plate hardware and vapor sealed with an industrial grade closed cell, compressible PVC gasket.

1.08 Fittings

All fittings are to be FNPT coupling up to 3". Fittings larger to be 150# FF ANSI B16.5 flange.

SECTION 2.0 MATERIALS OF CONSTRUCTION

2.01 Steel Construction

Tank shell, baffles, cover and external structural members shall be constructed of A-36 carbon steel. Welded joints are continuous double welded and dye penetrant tested.

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2.02 Surface Preparation

Interior surfaces shall be prepared to an SSPC-SP10 near white metal blast. Exterior surfaces shall be prepared to an SSPC-SP6 commercial blast.

2.03 Coatings

Interior coating shall be a self-priming, coal tar epoxy (12 DFT). Exterior coating shall be primer coat followed by industrial epoxy coat (6 DFT). Color is Rain Forest green.

2.04 Piping

Internal piping shall be ASTM, A-53 black steel.

2.05 Coalescing Media

Flopak, cross-fluted, oleophilic, PVC coalescing media shall be provided as manufactured by Pan America Environmental. The media shall be packed in a stainless steel frame with lifting lugs (OS24 & larger).

2.06 Cover Gasketing

Closed cell, industrial grade PVC constructed vapor sealed cover gasketing shall be provided. No neoprene or EPDM shall be permitted.

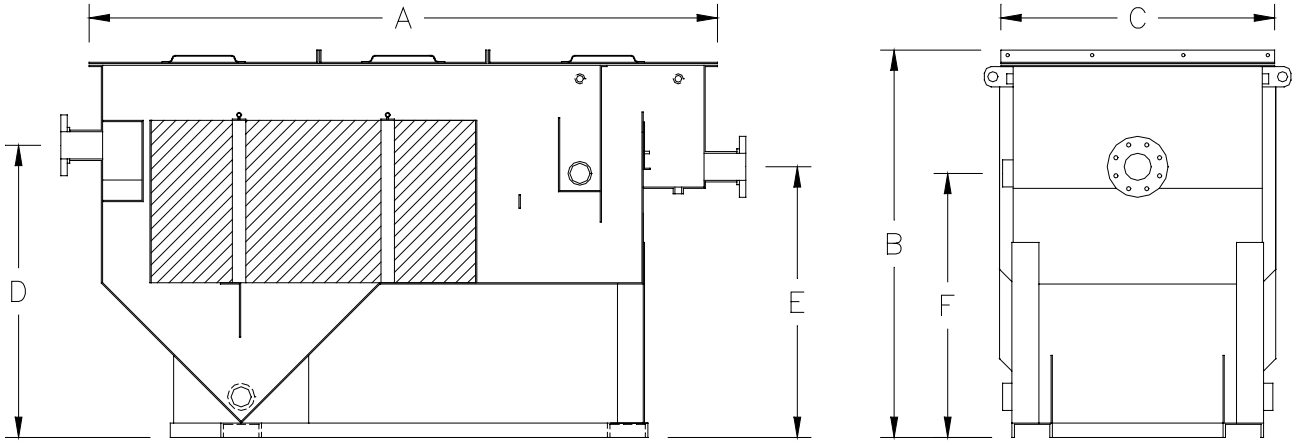
2.07 Manufacturer

The manufacturer of preference shall be: Pan America Environmental
950 Rand Rd. Unit 120 Wauconda, IL 60084 USA

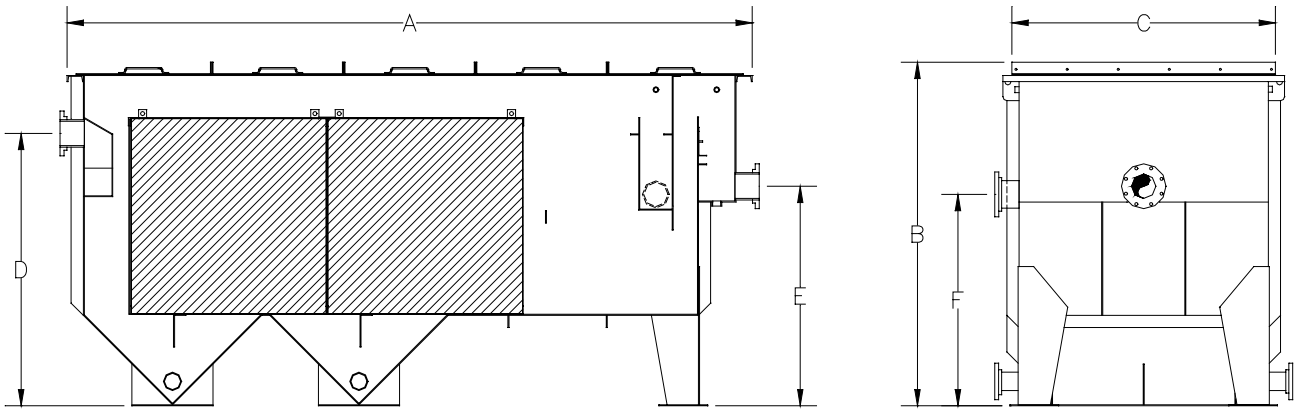
2.08 Warranty

Pan America Environmental warrants its products to be free of defect in materials and workmanship for a period of one year from the date of shipment.

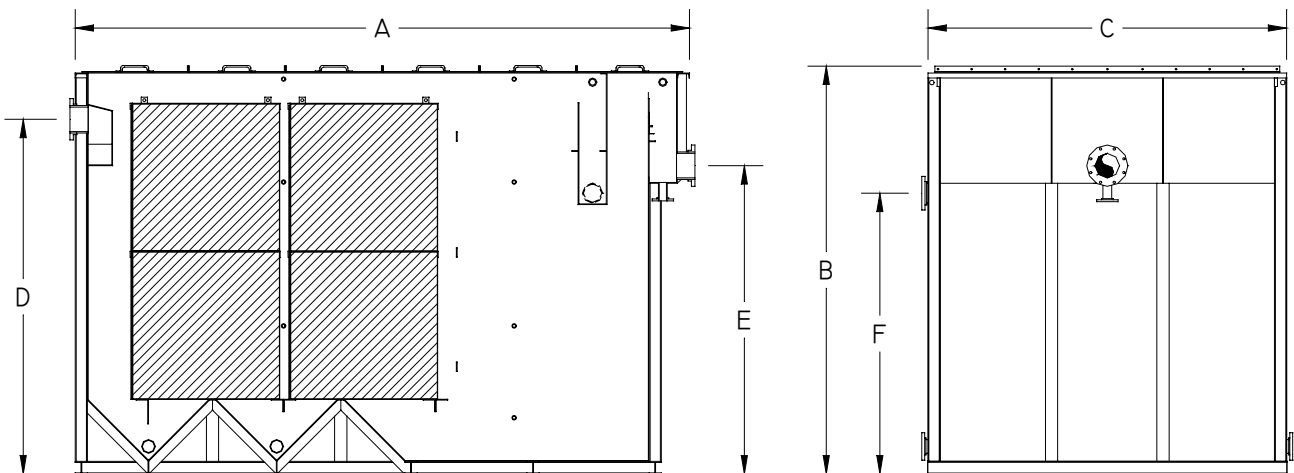
OS Series Steel Separator Tank Drawings



Models: OS2 – OS144



Models: OS160 – OS288



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Information not for construction Design & dimensions may change without notice Flow rates are nominal

Model	A	B	C	D	E	F	GPM	Model	A	B	C	D	E	F	GPM
OS4	6'-0"	3'-0"	2'-4"	1'-11"	2'-0"	2'-1"	10	OS288	14'-2"	7'-3"	9'-10"	5'	4'-8"	5'-8"	805
OS8	6'-0"	4'-0"	2'-4"	3'-5"	2'-10"	3'-3"	25	OS320	16'-9"	10'-11"	5'-10"	9'	8'-4"	9'-2"	900
OS12	6'-0"	4'-0"	3'-4"	3'-5"	2'-10"	3'-3"	36	OS384	16'-9"	10'-11"	6'-10"	9'	8'-4"	9'-2"	1075
OS16	6'-0"	4'-0"	4'-4"	3'-5"	2'-10"	3'-3"	50	OS448	16'-9"	10'-11"	7'-10"	9'	8'-4"	9'-2"	1255
OS24	7'-9"	4'-7"	3'-4"	3'-7"	3'-3"	3'-3"	72	OS512	16'-9"	10'-11"	8'-10"	9'	8'-4"	9'-2"	1435
OS36	7'-9"	5'-7"	3'-4"	4'-6"	3'-9"	4'-3"	108	OS576	16'-9"	10'-11"	9'-10"	9'	8'-4"	9'-2"	1615
OS48	7'-9"	6'-7"	3'-4"	5'-6"	4'-9"	5'-3"	144	OS640	25'-2"	11'-4"	8'-10"	9'	8'-4"	9'-4"	1800
OS64	7'-9"	6'-7"	4'-4"	5'-6"	4'-9"	5'-3"	192	OS720	25'-2"	11'-4"	9'-10"	9'	8'-4"	9'-4"	2015
OS80	7'-9"	6'-7"	5'-4"	5'-6"	4'-9"	5'-3"	240	OS800	28'-2"	11'-4"	10'-10"	9'	8'-4"	9'-4"	2270
OS96	7'-9"	6'-7"	6'-4"	5'-6"	4'-9"	5'-3"	288	OS960	28'-2"	11'-4"	10'-10"	9'	8'-4"	9'-4"	2688
OS128	7'-9"	6'-7"	8'-4"	5'-6"	4'-9"	5'-3"	384	OS1120	32'-6"	11'-4"	10'-10"	9'	8'-4"	9'-4"	3150
OS144	7'-9"	6'-7"	9'-4"	5'-6"	4'-9"	5'-3"	400	OS1280	38'	11'-4"	10'-10"	9'	8'-4"	9'-4"	3585
OS160	14'-2"	7'-3"	5'-6"	5'-0"	4'-8"	5'-8"	450	OS1386	38'	12'-2"	11'-10"	10'	8'-6"	9'-10"	3835
OS192	14'-2"	7'-3"	6'-10"	5'-0"	4'-8"	5'-8"	535	OS1760	38'	13'-2"	11'-10"	10'-4"	8'-6"	10'	4650
OS224	14'-2"	7'-3"	7'-10"	5'-0"	4'-8"	5'-8"	630	OS1936	42'	14'-2"	11'-10"	11'-4"	9'-6"	11'	5050
OS256	14'-2"	7'-3"	8'-10"	5'-0"	4'-8"	5'-8"	715	OS2112	46'	15'-3"	11'-10"	12'-10"	9'-6"	12'	5200