



OS Series Steel Oil/Water Separator

Engineering Specification

MODEL RANGE

OS2 through OS2112

GET A QUOTE

technical@panamenv.com

SPEAK TO AN ENGINEER

262.716.0105

PRODUCT PAGE

<https://www.panamenv.com/oil-water-separators/os/>

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 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-degree cross-flute angle.

1.04 Flopak Coalescing Media Pack

The OS tank is provided with Flopak coalescing media, which has the following features:

- ½" or ¾" plate spacing
- PVC construction, 10 mil plate thickness
- Cross-corrugated design with plates attached to each other
- Corrugation angle to be 60°
- 304 SS media frame with lifting lugs and removable cover

1.05 Sludge Hopper

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. Hopper design shall allow an optional sludge auger system to be accommodated at the factory.

1.06 Sludge Auger System (STANDARD FEATURE ON OS-640 & LARGER, NOT PROVIDED WITH THIS QUOTE)

The solids hopper(s) to be provided with a rotating, screw type sludge auger. The auger consists of stainless steel drive/coupling shafts with coated steel screw auger driven by a slow speed gear motor drive assembly with TEFC motor, UHMWPE end bearings, bronze/stainless mid tank support bearing(s), external adjustable packing gland. The auger extends the full length of the sludge hopper and conveys solids to the sludge outlet. Controls: Local NEMA 4 control panel with manual on/off switch. Power required: 230/460V/3ph/60Hz.

1.07 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 expanding the standard integral chamber so a greater volume of water is available for pump suction directly from the OS tank.

1.08 Oil Skimmer & Reservoir

A fixed weir oil skimmer with an integral oil 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 gravity drain 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.

1.08 Oil Skimmer

An adjustable oil skimmer is provided for removing separated/floating oils from the separation chamber and provides the following features:

- Slotted rotary pipe design
- Adjustment collar for readjusting the skimmer by hand rotation
- Construction: ASTM D1785-12 NSF-PW, schedule 40 PVC
- External discharge fitting in tank wall with skimmer attachment to this fitting on inside of tank

1.09 Separator Cover

The separator is to have a multi-section 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 polyethylene gasket.

1.10 Skid & Lifting Lugs

The OS tank shall be provided with an integral, skid base with anchor bolt holes (hardware by others). Lifting lugs shall be provided.

1.11 Fittings

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

1.12 IOM Manuals

Two (2) IOM manuals are provided.

1.13 Field Technician

A Field Technician can be provided ask for a quote, per Diem is \$1250.00 + expenses.

Applications

- industrial oily wastewater treatment
- stormwater oil water separator
- vehicle wash oil water separator
- industrial wastewater oil separator
- refinery oil water separator
- marine oily water separator
- fuel station oil separator
- manufacturing oily water treatment
- spill response oil water separator
- environmental compliance oil separator

OWS Type

- parallel plate oil water separator
- corrugated plate interceptor (CPI)
- tilted plate interceptor (TPI)
- slant rib coalescing separator
- MPak coalescing plate
- Flopak coalescing media
- HDQPak coalescing media
- Retpak coalescing media
- enhanced coalescing oil water separator
- gravity coalescing separator
- API coalescing separator
- above ground oil water separator coalescing
- below ground coalescing separator

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.

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 coated with Ameron High Build Coal Tar Epoxy Amercoat 78HB (18-20 mils DFT). Exterior coating shall be coated with Ameron epoxy primer, Amerlock 2, (5-8 mils DFT). Final coat to be Ameron Amershield Aliphatic Polyurethane Enamel coat (5 mils DFT). Surface color to be Green RT-2203.

2.04 Piping

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

2.05 Fasteners

All wetted fasteners to be ANSI, 300 series stainless steel. All non-wetted fasteners to be zinc plated.

2.06 Coalescing Media

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

2.07 Cover Gasketing

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

2.08 Manufacturer

The manufacturer of preference shall be Pan America Environmental, Inc.

2.09 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.

SECTION 3.0 FREIGHT AND SHIPPING PREPARATION

3.01 Freight Cost

The quoted freight cost is an actual or estimated cost. This cost is subject to change throughout the life of the quote and any resultant order.

3.02 Palletizing (DOMESTIC ORDER)

All equipment prices included palletization except where large tank or skidded systems are shipped via flat bed.

3.03 Crating

Any crating cost included or itemized includes an export slat crate design. Other crate styles can be provided on request and may incur additional cost.

SECTION 4.0 PAN AMERICA ENVIRONMENTAL STANDARDS

4.01 Pan America uses elements of the following standards in its design and fabrication processes.

AWS D1.1/1.1M	API	API-650	API-421
ANSI	IEC	AWS D1.6	UL
UL-508	UL-845	SSPC	ASME
CSA	CE	NEMA	NFPA79
NEC			

SECTION 5.0 SUBMITTAL PACKAGE

5.01 Submittal Approval Package

Upon receiving an order Pan America Environmental will engineer and produce a Submittal Approval Package, which allows you the customer to review and change or keep aspects of the system detailed in this quote. The submittal package provides the following at a minimum:

- General arrangement drawings, 2D, 3D, plan, end, sectional, detail and other views
- Hydraulic profile
- Electrical schematics
- Control panel physical layout
- Process/control narrative (where project size is applicable)
- Component datasheets
- Component cutsheets

Options

- P&ID
- Structural, seismic, wind load, lifting lug review, anchorage and/or other PE review calculations
- Design sizing PE calculations and/or calculations of any other types
- Testing review and implementation during fabrication and assembly, i.e. NDT, NDE, radiographic, x-ray, ultrasonic, magnetic particle exam, others
- Piping testing per desired standards, i.e. ASME B31.1 power piping, ASME B31.3 process piping
- Rigging and lifting guide, drawings and/or procedures and methods
- WPS, ITP, PQR, PMI, others
- Document, QC report and/or other project document binder
- Mill certificates

Revisions & Meetings

The submittal package contains a limited amount of engineering and provides a maximum of Two (2) revisions of up to 10% maximum each. This quote does not include open ended, extensive or continuous revisions until approval is given. This submittal package does not include: Iterative R&D and review projects, design/redesign projects, pre-submittal before or after order placement to attain approval from the end user before order is placed, honored or executed by Buyer, engineers/consultants, contractors

and/or other parties involved with this project. In addition, numerous and/or excessive meetings relative to the system design and complexity are not provided as PAE strives to have all valuable communications in writing so as to create a trackable/traceable project evolution.

Engineering Only

The quotation provides a limited amount of engineering and does not provide “Engineering Only”. The limited engineering is part of the system cost and is provided to give direction and final understanding as to what is being provided to you in the system design. The quoted and submitted system is a proprietary PAE product and PAE will not produce drawings for you to build, license, bid out or produce and/or market as your product for your or any other entities use.

Specifying an OS Series Steel Oil/Water Separator for your project?

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