Pan America Environmental, Inc.

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ENGINEERING SPECIFICATION

FB Series Steel Oil/Water Separator

Engineering Specification

MODEL RANGE	GET A QUOTE	SPEAK TO AN ENGINEER
FB2 through FB2112	technical@panamenv.com	262.716.0105

PRODUCT PAGE

https://www.panamenv.com/oil-water-separators/fb/

SECTION 1.0 OIL/WATER SEPARATOR

Performance

The Pan America Environmental FB 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, February 1990 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 separation chamber.

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 droplet impact sites and changes of flow direction. The media shall have a 60-degree cross-flute angle.

1.04 Oil Skimmer

The separator shall be provided with a fixed weir oil skimmer with integral oil reservoir. The skimmer shall be located at the effluent end of the separation chamber.

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 FB tank.

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1.06 Expanded Oil Reservoir (OPTIONAL)

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 pump suction and vent. This reservoir is provided in larger volumes than the standard reservoir.

1.07 Separator Cover

The separator is to have a single 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 polyethylene gasket.

1.08 Fittings

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

1.09 Lifting Lugs & Skid

The FB shall be provided with lifting lugs and a skidded base. The skid shall be provided with bolt holes to allow attachment of the tank to an installation surface.

1.10 Submittal 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

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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.

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

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SECTION 2.0 MATERIALS OF CONSTRUCTION

2.01 Steel Construction

Tank shell, baffles and external structural members shall be constructed of ASTM A-36 carbon steel. Joints are 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 (16 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 steel.

2.05 Coalescing Media

Cross-fluted, oleophilic Flopak coalescing media shall be provided as manufactured by Pan America Environmental, material of construction to be PVC.

2.06 Cover Gasketing

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

2.07 Manufacturer

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

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.

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

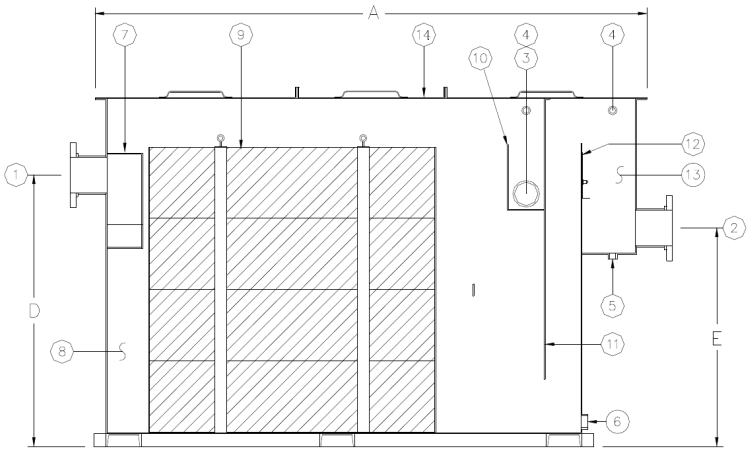
All equipment prices include palletization except for equipment that ships via flat bed.

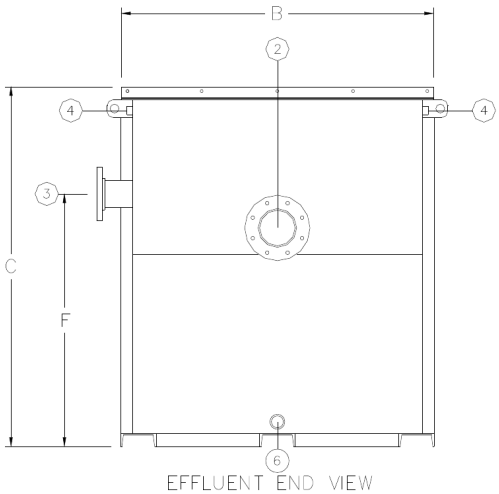
3.03 Crating

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.

Export crating is not included in the equipment cost unless indicated in the quote provided to you.

Product Drawing and Detail Tables





Model	Length	Width	Height	Inlet	Outlet	Oil Outlet	Oil Spill Vol. Gal.	Oil Chamber Gal.	Inlet Size	Outlet Size	Drain Size	Oil Outlet Size	Empty Weight	Operat. Weight	Flow Rate GPM (Max.)
	A	B	C	D	E	F									
FB-2	5’-6”	1’-6”	1’-8”	1’-0”	8”	9”	12	1	2”	2”	1”	2”	350	900	5
FB-4	5’-6”	2’-4”	1’-8”	1’-0”	8”	9”	25	2	2”	2”	1”	2”	600	1615	10
FB-8	5’-6”	2’-4”	2’-8”	2’-0”	1’-8”	21”	48	3	2”	2”	1”	2”	720	2290	25
FB-12	5’-6”	3’-4”	2’-8”	2’-0”	1’-8”	21”	72	4	3”	3”	1.5”	3”	1065	3300	35
FB-16	6’-0”	4’-4”	2’-8”	2’-0”	1’-8”	21”	95	6	3”	3”	1.5”	3”	1210	4330	50
FB-24	7’-9”	3’-4”	3’-1”	1’-10”	1’-6”	16”	90	8	4”	4”	2”	3”	1340	4545	70
FB-36	7’-9”	3’-4”	4’-1”	3’-10”	2’-6”	28”	135	12	4”	4”	2”	3”	1425	5520	100
FB-48	7’-9”	3’-4”	5’-1”	3’-10”	3’-6”	40”	180	15	4”	4”	2”	3”	1605	6600	140
FB-64	7’-9”	4’-4”	5’-1”	3’-10”	3’-6”	40”	270	20	6”	6”	2”	4”	1750	9035	190
FB-80	7’-9”	5’-4”	5’-1”	3’-10”	3’-6”	40”	340	25	6”	6”	2”	4”	1930	10800	220
FB-96	7’-9”	6’-4”	5’-1”	3’-10”	3’-6”	40”	400	30	6”	6”	2”	4”	2002	12577	275
FB-128	7’-9”	8’-4”	5’-1”	3’-10”	3’-6”	40”	545	35	6”	6”	3”	4”	2200	14700	350
FB-144	7’-9”	9’-4”	5’-1”	3’-10”	3’-6”	40”	615	35	6”	6”	3”	4”	2635	18700	415
FB-160	14’-1”	5’-10”	5’-5”	4’-0”	2’-10”	2’-8”	640	40	6”	6”	3”	6”	4900	21600	465
FB-192	14’-1”	6’-10”	5’-5”	4’-0”	2’-10”	2’-8”	765	40	8”	8”	3”	6”	5580	25550	550
FB-224	14’-1”	7’-10”	5’-5”	4’-0”	2’-10”	2’-8”	895	40	8”	8”	4”	6”	6215	29500	640
FB-256	14’-1”	8’-10”	5’-5”	4’-0”	2’-10”	2’-8”	1025	40	8”	8”	4”	6”	6990	33460	730
FB-288	14’-1”	9’-10”	5’-5”	4’-0”	2’-10”	2’-8”	1150	40	8”	8”	4”	6”	7800	37600	815
FB-320	16’-9”	5’-10”	9’-3”	7’-10”	6’-7”	5’-10”	1500	50	8”	8”	4”	6”	10050	51000	910
FB-384	16’-9”	6’-10”	9’-3”	7’-10”	6’-7”	5’-10”	1820	50	8”	8”	4”	6”	10800	59300	1050

Drawing not for construction, design, features and dimensions subject to change without notice.

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Item	Qty	Description	Item	Qty	Description	Item	Qty	Description	Item	Qty	Description	Item	Qty	Description
1	1	Inlet	4	4	Vent	7	1	Inlet Diffuser	10	1	Oil Skimmer/Reserv	13	1	Effluent Chamber
2	1	Outlet	5	1	Drain	8	1	Influent Chamber	11	1	Oil Baffle	14	1	Cover
3	1	Oil Outlet	6	1	Drain	9	-	Flopak Media	12	1/2	Water Weir			

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

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