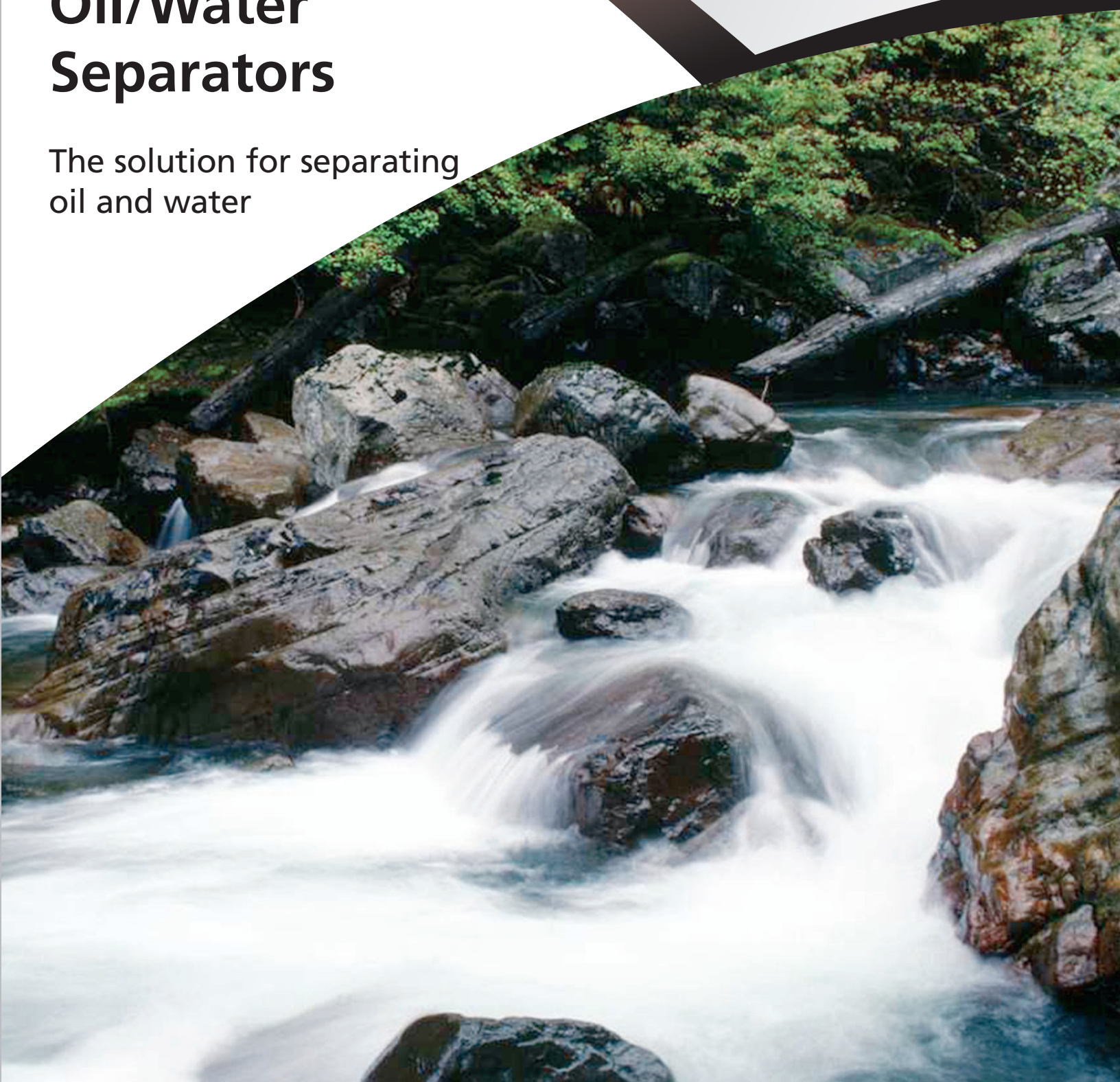
XERXES®
CORPORATION
a subsidiary of ZCL Composites Inc.

Fiberglass Underground Oil/Water Separators

The solution for separating oil and water



Xerxes Oil/Water Separators

Another Innovative Solution from Xerxes

The Xerxes underground oil/water separators, which allow customers to select the appropriate flow rate and spill capacity for their specific needs, are simply one example of the company's reputation for innovation. Xerxes was the first to make fiberglass underground tanks and separators with integrally constructed ribs, which dramatically increase the tanks' robustness. Xerxes was also the first to make fiberglass underground double-wall storage tanks and to obtain the Underwriters Laboratories (UL) Subject 2215 listing. The added design flexibility Xerxes brings to its oil/water separators couldn't have come at a better time.

Solving a Growing Environmental Challenge

Today, more and more regulations are in place to diminish the impact of oily water runoff on the environment. To address environmental and regulatory concerns, Xerxes offers an oil/water separator that is:

- cost-effective
- rustproof
- lightweight
- designed to meet customer site-specific needs
- offered as a UL Subject 2215-listed option
- made with unique vertical-tube coalescers
- backed with a Xerxes limited warranty

The Unsurpassed Performance of Fiberglass

Since the early 1970s, the advantages of fiberglass underground tanks have been proven repeatedly. Long used for petroleum storage, fiberglass tanks today account for a large majority of the underground tanks purchased by North America's leading fuel marketers. The advantage of fiberglass is even more compelling when water is added to the mix:

- Xerxes oil/water separators require no corrosion monitoring or special internal lining. They eliminate the possibility of either internal or external rust.
- Lightweight fiberglass separators are easier to install than steel separators and eliminate the need for heavy rental equipment during installation.
- Xerxes combines high-quality resin and glass for its robust fiberglass oil/water separators, providing a strong, long-lasting tank.

Capacities and Models for Every Need

Xerxes fiberglass separators are available in:

- single-wall and double-wall models,
- sizes from 600 gallons to 50,000 gallons,
- influent flow rates from 0 to more than 4,000 gallons per minute,
- models that meet UL Subject 2215 listing requirements,
- double-wall models with Xerxes' hydrostatic monitoring system that provides continuous leak protection and allows owners to conduct a TRUCHEK® tank-tightness test that meets EPA criteria and has UL third-party verification.

Meeting or Exceeding Exacting Standards

You can specify Xerxes oil/water separators with complete confidence that they meet the performance standards Xerxes has outlined. Xerxes' technical representatives can analyze the basic information provided to suggest the oil/water separator that meets your requirements. The separators are designed and constructed in accordance, as applicable, with the following standards:

- UL Subject 2215,
- UL 1316,
- U.S. Coast Guard Test Method 46 CFR 162.050,
- API manual on disposal of refinery wastes,
- API bulletin No. 1630, first edition,
- API bulletin No. 421,
- EPA Test Methods 413.1 and 413.2,
- Stokes Law.

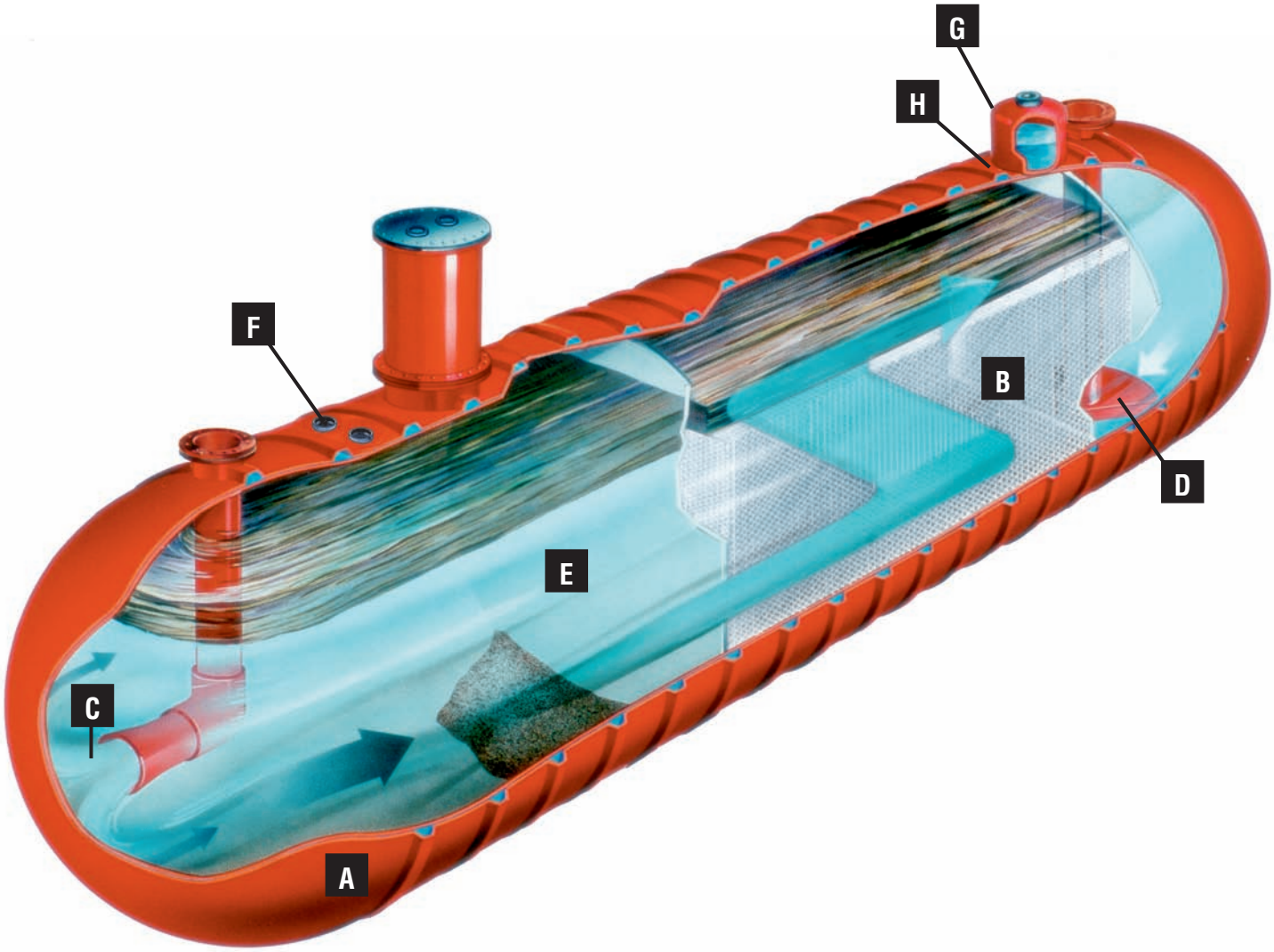
Options for Washdown Applications

As regulations governing oil and grease discharge increase, consumers need systems to handle the equipment washdown that can contaminate our groundwater. Xerxes offers separator options to handle such oily discharge from cars, trucks and equipment that generate this washdown. In washdown applications, significant performance variance can be created by the use of detergents.

Installation

All Xerxes oil/water separators should be installed according to the Xerxes Installation Manual and Operating Guidelines for Fiberglass Underground Storage Tanks, and the Oil/Water Separator Operating & Maintenance Manual in effect at time of installation.

Xerxes 8-Foot-Diameter, 10,000-Gallon Double-Wall Separator



A. Xerxes Separator: The separator is rustproof and requires no cathodic protection.

B. Unique Polypropylene Vertical-Tube Coalescers: The coalescers enhance oil/water separation through the random tube matrix system.

C. Fiberglass Inlet Diffuser: The diffuser is designed to direct flow, reduce turbulence and distribute the flow evenly over the cross-sectional area of the separator.

D. Fiberglass Clean-Water Collector: The collector is designed to direct flow, allow clean-water discharge and minimize turbulence in the oil/water separator.

E. Fiberglass Sludge Baffle: The baffle is intended to prevent heavy solids and sludge from entering the coalescer area.

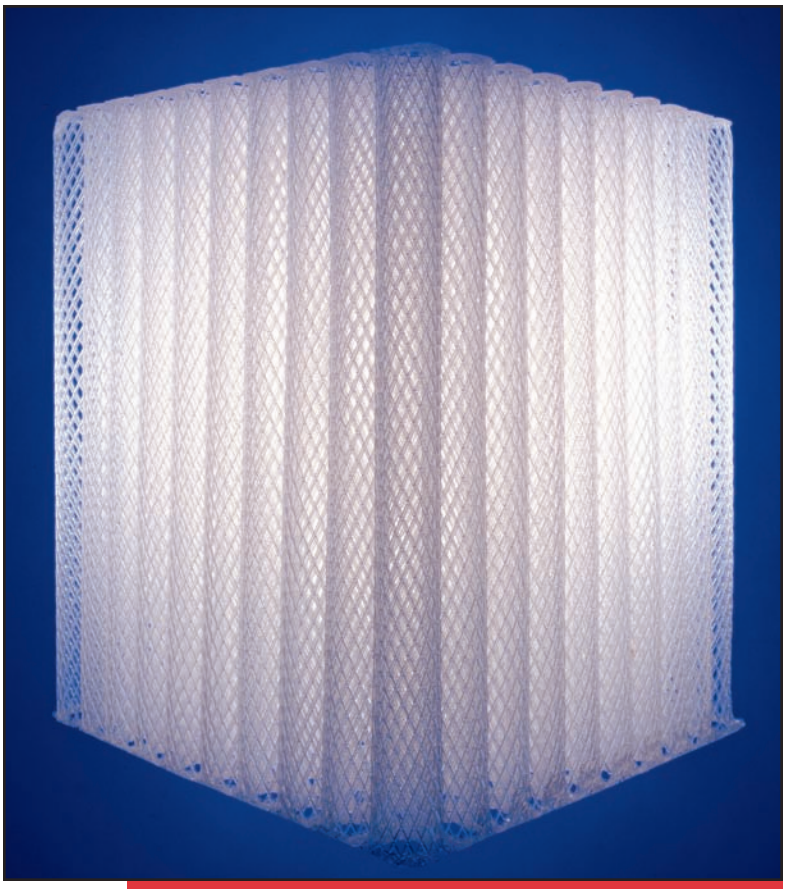
F. 4-Inch NPT Duplex Fitting: The fitting provides access for a high-low-level gauge and pump out.

G. Optional Fiberglass Reservoir: The double-wall separator can be shipped with an interstice that is factory-filled with monitoring fluid, which provides a positive-pressure hydrostatic monitoring system to detect a leak.

H. Optional 4-Inch Monitor Fitting: The fitting allows placement of a probe in a dry interstitial space.

Unique Coalescer for Superior Performance and Maintenance

At the heart of the Xerxes separator is a unique vertical-tube coalescer. The random tube matrix design provides laminar flow important to proper separation. Small oil droplets are attached to the polypropylene tube matrix because of its oil-attracting characteristics. Once attached, they provide additional surface area to the tubes while attracting other small oil droplets with their own inherent properties. This process combines oil droplets until they are large enough to rise to the surface to await periodic removal.



Vertical-Tube Coalescer (VTC)
Xerxes oil/water separators utilize a unique polypropylene vertical-tube coalescer that provides enhanced oil/water separation.

Performance Specifications

The Xerxes oil/water separator:

- removes free-floating oils (not chemically emulsified or dissolved) and settleable sands from oil/water mixtures,
- removes free-floating oil droplets to a size of 20 microns or larger,
- attains minimum effluent quality of 10 ppm.

These performance claims are based on the following system parameters:

- Influent must be gravity fed to the separator to prevent overpressurizing of the tank and mechanical emulsification of the stored product.
- Maximum influent shall be 1,000 ppm of free oil.
- Influent oil/water mixture temperatures must be between 40° F and 150° F.
- Ambient air temperatures must be between 0° F and 140° F.
- Separator must be vented at all times.
- Influent oil specific gravity must be between .68 and .95.
- Flexible connectors must be installed on inlet and outlet pipes if piping is larger than 6-inch diameter.
- An interceptor tank should be installed prior to the oil/water separator inlet pipe to collect heavy debris that could clog coalescer tubes.
- The oil/water separator must be installed and periodically maintained in accordance with the Xerxes Installation Manual and Operating Guidelines for Fiberglass Underground Storage Tanks, and the Xerxes Oil/Water Separator Operating & Maintenance Manual in effect at time of installation.

Electronic Monitoring System

Xerxes can provide optional electronic equipment to monitor the oil level in the oil/water separator, as well as electronic leak-detection systems for double-wall separators.

When a UL 2215 separator is specified, an electronic liquid-level monitoring system must be included in the OWS design and shipped with it.

Standard Tank Notes

- The tank will not separate alcohols, solvents or soapy solutions. Solvents may not be compatible with the tank or coalescer tubes and should not be introduced. Doing so may result in tank failure, leaks and environmental damage.
- Please contact your Xerxes representative for sizes not shown on standard oil/water separator data charts.
- Standard pipe fittings are 150-pound bolt-pattern flanges (inlet and outlet sizes vary) and 4-inch NPT couplings.
- If the double-wall separator includes a hydrostatic system, a fiberglass reservoir will be installed on top of the tank.

4-Foot-Diameter Single-Wall and Double-Wall Oil/Water Separators Gallons-Per-Minute (GPM) Flow Rate Chart (Based on a maximum 1,000 ppm influent and 10 ppm effluent)

Number of Coalescer Rows	Standard Pipe Size (inches)	Separator Size (nominal gallons)		
		1,000	700*	600**
1	4	34	34	34
2	6	68		
3	6	102		
4	6	136		
Nominal Oil Storage (gallons)		100	70	60
Emergency Spill Capacity (gallons)		600	400	360
Length	SW DW	11'-3-7/8" 11'-4-1/4"	— 8'-0"	6'-11-7/8" —
Nominal Weight Dry (pounds)	SW DW	1,400 1,700	— 1,000	800 —
Nominal Weight with Monitoring Fluid (pounds)	DW	1,900	1,200	—

6-Foot-Diameter Single-Wall and Double-Wall Oil/Water Separators Gallons-Per-Minute (GPM) Flow Rate Chart (Based on a maximum 1,000 ppm influent and 10 ppm effluent)

Number of Coalescer Rows	Standard Pipe Size (inches)	Separator Size (nominal gallons)			
		6,000	4,000	3,000*	2,000**
1	6	73	73	73	73
2	6	146	146	146	146
3	8	219	219	219	
4	8	292	292	292	
5	10	365	365		
Nominal Oil Storage (gallons)		580	380	290	240
Emergency Spill Capacity (gallons)		3,600	2,400	1,800	1,200
Length	SW DW	30'-8-3/4" 30'-8-3/4"	21'-11-1/8" 20'-8"	— 16'-4-1/4"	13'-5-3/4" —
Nominal Weight Dry (pounds)	SW DW	5,100 6,000	4,000 4,900	— 2,700	2,400 —
Nominal Weight with Monitoring Fluid (pounds)	DW	7,300	6,200	3,000	—

* Only available in double-wall models.

**Only available in single-wall models.

8-Foot-Diameter Single-Wall and Double-Wall Oil/Water Separators
Gallons-Per-Minute (GPM) Flow Rate Chart (Based on a maximum 1,000 ppm influent and 10 ppm effluent)

Number of Coalescer Rows	Standard Pipe Size (inches)	Separator Size (nominal gallons)			
		12,000	10,000	8,000	6,000
1	6	76	76	76	76
2	6	152	152	152	152
3	8	228	228	228	228
4	8	304	304	304	304
5	10	380	380	380	380
6	10	456	456	456	
7	10	532	532	532	
8	12	608	608	608	
9	12	684	684	684	
10	12	760	760	760	
11	12	836	836	836	
12	12	912	912		
13	14	988	988		
14	14	1,064	1,064		
15	14	1,140	1,140		
16	14	1,216	1,216		
17	14	1,292			
18	14	1,368			
19	14	1,444			
20	16	1,520			
Nominal Oil Storage (gallons)		1,150	970	785	600
Emergency Spill Capacity (gallons)		7,200	6,000	4,800	3,600
Length	SW, DW	37’-1/2”	31’-6-1/2”	26’-1/2”	20’-6-1/2”
Nominal Weight Dry (pounds)	SW DW	7,400 9,200	6,300 7,800	5,300 6,400	4,800 5,700
Nominal Weight with Monitoring Fluid (pounds)	DW	12,000	10,200	8,200	7,100

10-Foot-Diameter Single-Wall and Double-Wall Oil/Water Separators
Gallons-Per-Minute (GPM) Flow Rate Chart (Based on a maximum 1,000 ppm influent and 10 ppm effluent)

Number of Coalescer Rows	Pipe Size (inches)	Separator Size (nominal gallons) 30,000	25,000	20,000	15,000	12,000
1	6	114	114	114	114	114
2	8	228	228	228	228	228
3	10	342	342	342	342	342
4	10	456	456	456	456	456
5	10	570	570	570	570	570
6	12	684	684	684	684	684
7	12	798	798	798	798	798
8	12	912	912	912	912	
9	14	1,026	1,026	1,026	1,026	
10	14	1,140	1,140	1,140	1,140	
11	14	1,254	1,254	1,254	1,254	
12	14	1,368	1,368	1,368		
13	14	1,482	1,482	1,482		
14	16	1,596	1,596	1,596		
15	16	1,710	1,710	1,710		
16	16	1,824	1,824	1,824		
17	16	1,938	1,938	1,938		
18	16	2,052	2,052	2,052		
19	18	2,166	2,166	2,166		
20	18	2,280	2,280			
21	18	2,394	2,394			
22	18	2,508	2,508			
23	18	2,622	2,622			
24	18	2,736	2,736			
25	18	2,850	2,850			
26	20	2,964	2,964			
27	20	3,078	3,078			
28	20	3,192	3,192			
29	20	3,306				
30	20	3,420				
31	20	3,534				
32	20	3,648				
33	20	3,762				
34	24	3,876				
35	24	3,990				
36	24	4,104				
37	24	4,218				
Nominal Oil Storage (gallons)		3,010	2,535	1,970	1,500	1,185
Emergency Spill Capacity (gallons)		18,000	15,000	12,000	9,000	7,200
Length	SW, DW	55’-9-3/4”	47’-6-3/4”	37’-8-3/4”	29’-5-3/4”	24’-1/4”
Nominal Weight Dry (pounds)	SW DW	18,700 21,900	15,000 17,700	10,900 13,400	7,800 9,000	6,000 7,600
Nominal Weight with Monitoring Fluid (pounds)	DW	26,300	21,700	16,800	11,600	9,600

Guide Specifications: UL-Listed Oil/Water Separator

Short Form

The contractor shall provide fiberglass reinforced plastic (FRP) underground oil/water separator as shown on the drawings. The separator size, fittings and accessories shall be as shown on the drawings. The fiberglass separator shall be manufactured by Xerxes Corporation.

The separator shall be tested and installed according to the Xerxes Installation Manual and Operating Guidelines for Fiberglass Underground Storage Tanks, and the Xerxes Oil/Water Separator Operating & Maintenance Manual in effect at time of installation.

Long Form

Part I: General

1.01 Quality Assurance

A. Acceptable Manufacturer: Xerxes Corporation

B. Governing Standards, as applicable:

1. Manufacturer shall be able to provide documentation that the separator has been built to the applicable requirements of Underwriters Laboratories (UL) Subject 2215.
2. Manufacturer shall be able to provide documentation that the separator shell has been tested by an independent third party to the applicable requirements of U.S. Coast Guard Test Method 46 CFR 162.050.

Part II: Products

2.01 Fiberglass Underground Oil/Water Separator

A. Loading Conditions: Separator shall meet the following design criteria:

1. Internal Load: Primary and secondary tanks shall withstand a 5-psig air-pressure test with a 5:1 safety factor. Installer shall test each tank for leakage prior to installation. Maximum test pressure is 5 psig.
2. Surface Loads: Separator shall withstand surface H-20 axle loads when properly installed according to manufacturer's current Installation Manual and Operating Guidelines.
3. External Hydrostatic Pressure and Burial Depth: Separator shall be capable of being buried in ground with 7 feet of overburden over the top of the tank, the hole fully flooded, and a double-wall separator safety factor of 5:1 and a single-wall safety factor of 3:1.
4. Separator shall support accessory equipment—such as manways, manway extensions, collar risers, inlet and outlet piping—as shown on separator drawings and when installed according to separator manufacturer's recommendations.
5. Separator shall be manufactured with integral ribs for structural integrity.

B. Product Storage:

1. Separator shall be capable of handling liquids with specific gravity up to 1.1.
2. Primary tank shall be vented to atmospheric pressure.
3. Separator shall be capable of handling water, grease and oils at temperatures not to exceed 150°.

C. Materials:

1. Separator shell shall be manufactured of 100% resin and glass-fiber reinforcement. No sand fillers.
2. Separator coalescer media shall be a polypropylene vertical-tube coalescer.
3. Coalescer tubes and associated internal mounting hardware shall be rustproof.

D. Separator Dimensions and Capability:

1. Separator shall have nominal capacity of _____ gallons.
2. Separator shall have nominal outside diameter of ____ feet.
3. Maximum influent flow rate in gallons per minute shall be ____ gallons per minute.
4. Total oil spill capacity shall be ____ gallons.
5. Influent oil specific gravity shall range between ____ and ____.
6. Specific application for the oil/water separator is _____.

E. Interstitial Space:

1. Separator shall have a space between the primary and secondary walls to allow for the free flow and containment of leaked product from the primary tank. The space also allows the insertion of a monitoring device through a monitor fitting.

2.02 Accessories

A. Manways:

1. All separators shall require at least one manway with a bolted cover.
2. All manways shall be flanged and 22-inch-, 30-inch- or 36-inch-diameter (based on separator drawing), complete with UL-listed cover, gaskets and hardware.
3. Location(s) are shown on separator drawing.
4. A manway cover shall include at least one 4-inch NPT steel fitting.
5. An FRP manway extension with a minimum height of 24 inches shall be provided.

B. Inlet Fitting:

1. All separators shall be equipped with one FRP, factory-installed, flanged inlet nozzle.
2. All threaded fittings shall have machine tolerances in accordance with the ANSI standard for each fitting size.
3. Location is shown on separator drawings.

C. Outlet Nozzle and Clean-Water Collector:

1. All separators shall be equipped with one FRP, factory-installed, flanged outlet nozzle and clean-water collector.
2. Location is shown on separator drawings.

D. Fittings:

1. Single fittings on a UL-listed separator shall be located along the top centerline of the separator or in a manway lid.
2. Duplex fittings shall be located on each side of the separator's centerline.
3. All standard NPT threaded fittings shall be constructed of carbon steel.
4. All standard NPT threaded fittings shall be half-couplings, and of 2-inch, 4-inch or 6-inch diameter. Reducers are to be used for smaller sizes where shown and provided by contractor.
5. All NPT fittings shall withstand a minimum of 150 foot-pounds of torque and 1,000 foot-pounds of bending, both with a 2:1 safety factor.
6. All FRP nozzles shall be flat-faced, flanged and gusseted, and conform to ANSI B16.5 150-pound bolting pattern.
7. Each interstitial space monitor fitting or reservoir fitting shall consist of a 4-inch NPT fitting.

E. Sludge Baffle:

1. All separators shall have a FRP grate on which the coalescer packs will be placed to keep sludge build-up from interfering with the coalescer media.

F. Lifting Lugs:

1. All separators shall have lifting lug(s) that are capable of withstanding weight of separator with a safety factor of 2:1.

G. Optional Attached Collars:

1. Attached collars are optional and shall be constructed of fiberglass reinforced plastic and shall be of 42-inch- or 48-inch-diameter, as supplied by separator manufacturer.
2. Attached collars shall be factory-installed as shown on separator drawings.

H. Optional Containment Sump:

1. Containment sumps are optional and shall be constructed of fiberglass reinforced plastic and shall be used with 42-inch- or 48-inch-diameter attached collars, as supplied by separator manufacturer.
2. Containment sumps shall be attached to collars by contractor with adhesive supplied by separator manufacturer.
3. Location shall be as shown on separator drawings.

I. Optional Anchor Straps:

1. Straps are optional and shall be FRP anchor straps as supplied by separator manufacturer.
2. Number and location of straps shall be shown on separator drawings.

J. Optional Ladders:

1. Ladders are optional and shall be the standard ladder as supplied by separator manufacturer.
2. Ladder material (fiberglass or aluminum) shall be as shown on separator drawings.

2.03 Optional Hydrostatic Leak Monitoring System for Double-Wall Separators

A. General:

1. The separator manufacturer shall offer the option of a continuously monitored, hydrostatic head-pressure, leak-detection system.
2. The leak-monitoring system shall be designed by the manufacturer to detect a leak in either the primary or secondary tank, at installations with or without groundwater.
3. The hydrostatic monitoring system shall be UL third-party verified and shall meet EPA criteria for tank-tightness testing through the use of TRUCHEK®. (For further information, refer to the Xerxes document on TRUCHEK®.)
4. The leak-detection performance of the monitoring system shall be tested and verified by a qualified independent consultant to detect leaks as small as 0.1 gallons per hour with a 95% probability of detection and a 5% probability of a false alarm.

B. Requirements:

1. The monitoring system shall include an interstice factory-filled with monitoring fluid, and a fiberglass reservoir mounted directly on top of the separator to provide for continuous monitoring of the fluid level.
2. The solution used in the interstitial space of the separator shall be compatible with the separator and shall be a contrasting color to the separator surface to facilitate visual inspection of the separator for leaks prior to burial.
3. The interstice between the primary and secondary tanks must be vented to atmosphere.
4. The reservoir shall be fitted with one 4-inch NPT fitting for installation of an electronic reservoir-level sensor, which shall be adjusted to a point midway between the high and low points of the reservoir sensor.

2.04 Electronic Liquid-Level Monitoring System

A. General:

1. All UL-listed separators shall have an electronic liquid-level monitoring system, including a controller and a sensor.

B. Materials:

1. The controller shall be UL-listed and shall have a NEMA 4X, weatherproof, corrosion-resistant enclosure.

C. Requirements:

1. The controller shall have an audio-visual alarm activated by a float sensor.
2. The controller shall provide for automatic pump-out capability.
3. Controls to be provided by separate manufacturer.

Part III: Testing and Installation

3.01 Testing

A. Separator shall be tested according to the Xerxes Installation Manual and Operating Guidelines for Fiberglass Underground Storage Tanks, and the Xerxes Oil/Water Separator Operating & Maintenance Manual in effect at time of installation.

3.02 Installation
A. Separator shall be installed according to the Xerxes Installation Manual and Operating Guidelines for Fiberglass Underground Storage Tanks, and the Xerxes Oil/Water Separator Operating & Maintenance Manual in effect at time of installation.

3.03 Operation and Maintenance:
A. Separator shall be operated and undergo maintenance according to the Xerxes Oil/Water Separator Operating & Maintenance Manual in effect at time of installation.

Part IV: Warranty

4.01 Warranty
A. Warranty shall be manufacturer's standard limited warranty in effect at time of purchase.

Limited Warranty

Underground Oil/Water Separator Tanks

Xerxes Corporation ("Xerxes") warrants to ("Owner") that our underground oil/water separator tanks, if installed, used and maintained in the United States in accordance with Xerxes' published specifications, installation instructions and operating guidelines, and all applicable laws and regulations, and if used solely for gravity separation of free oils and settleable sands at temperatures not to exceed 150° F:

1) Will not fail for a period of thirty (30) years from date of original delivery by Xerxes due to natural external corrosion of the tank.

2) Will not fail for a period of thirty (30) years from date of original delivery by Xerxes due to internal corrosion of the tank provided the tank is used solely for gravity separation of free oils and settleable sands from storm water runoff, at ambient temperatures.

3) Will not fail for a period of thirty (30) years from date of original delivery by Xerxes due to structural failure of the tank (defined as spontaneous breaking or collapse caused by material defects in materials or workmanship).

4) Will meet Xerxes' published specifications and will be free from material defects in materials and workmanship in the tank for a period of one (1) year following date of original delivery by Xerxes.

Xerxes warrants to Owner that all Xerxes manufactured oil/water separator accessories, if installed, used, and maintained in the United States in accordance with Xerxes' published specifications, installation instructions and operating guidelines, and all applicable laws and regulations, will be free from material defects in materials and workmanship for a period of one (1) year following the date of original delivery by Xerxes.

This warranty only extends to the oil/water separator application supplied to Xerxes by the Owner. It is Owner's responsibility to obtain any approvals or permits which may be necessary for discharge or disposal of effluent and to review Xerxes' product specifications and instructions to determine suitability for use with Owner's waste.

If any oil/water separator is to be removed from an installation, moved to original Owner's new location and is intended for active service at the new location, the oil/water separator must be recertified by Xerxes in order to maintain the warranty as originally extended. The foregoing warranty does not extend to oil/water separators or accessories (collectively "Goods") damaged due to acts of God, war, terrorism, or failure of Goods caused, in whole or in part, by misuse, improper installation, storage, servicing, maintenance, or operation in excess of their rated capacity or contrary to their recommended use, whether intentional or otherwise, or any other cause or damage of any kind not the fault of Xerxes. Xerxes only warrants repairs or alterations performed by Xerxes or its authorized contractors. Xerxes does not warrant any product, components or parts manufactured by others.

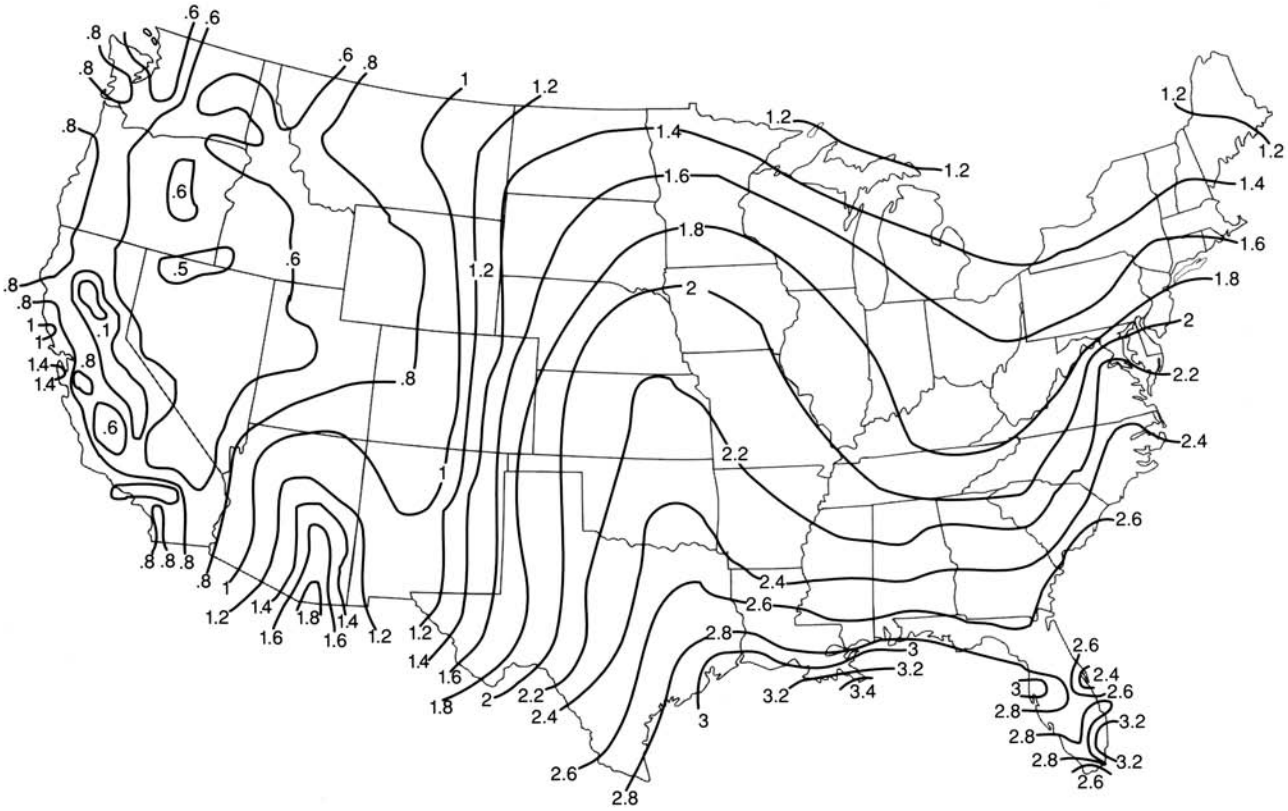
Owner's sole and exclusive remedy for breach of warranty is limited at Xerxes' option to: (a) repair of the defective oil/water separator or accessory, (b) delivery of a replacement oil/water separator or accessory, to the point of original delivery, or (c) refund of the original purchase price. A claimant must give Xerxes the opportunity to observe and inspect the oil/water separator and/or accessory prior to removal from the ground or the claim will be forever barred. All claims must be made in writing within one (1) year after oil/water separator and/or accessory failure or be forever barred. THE FOREGOING WARRANTY CONSTITUTES XERXES' EXCLUSIVE OBLIGATION AND XERXES MAKES NO OTHER WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE GOODS, OR ANY SERVICE, ADVICE, OR CONSULTATION, IF ANY, FURNISHED TO OWNER BY XERXES OR ITS REPRESENTATIVES WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. THE SELLER (XERXES) UNDERTAKES NO RESPONSIBILITY FOR THE QUALITY OF THE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THIS CONTRACT. THE SELLER (XERXES) ASSUMES NO RESPONSIBILITY THAT THE GOODS WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH YOU (OWNER) MAY BE BUYING THESE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THE CONTRACT. THE REMEDIES SET FORTH IN THE ABOVE WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON OR ENTITY FOR BREACH OF WARRANTY OR FOR BREACH OF ANY OTHER COVENANT, DUTY, OR OBLIGATION ON THE PART OF XERXES. XERXES SHALL HAVE NO LIABILITY OR OBLIGATION TO ANY PERSON OR ENTITY FOR BREACH OF ANY OTHER COVENANT, DUTY, OR OBLIGATION UNDER THIS WARRANTY EXCEPT AS EXPRESSLY SET FORTH HEREIN. IT IS EXPRESSLY AGREED THAT THIS WARRANTY DOES NOT FAIL OF ITS ESSENTIAL PURPOSE. XERXES SHALL HAVE NO LIABILITY FOR TANK INSTALLATION OR REMOVAL COSTS, ENVIRONMENTAL CONTAMINATION, FIRES, EXPLOSIONS OR ANY OTHER CONSEQUENCES ALLEGEDLY ATTRIBUTABLE TO A BREACH OF WARRANTY, OR INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR OTHER DAMAGES OF ANY DESCRIPTION, WHETHER ANY SUCH CLAIM OR DAMAGES BE BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE. IN NO EVENT SHALL XERXES' TOTAL LIABILITY HEREUNDER EXCEED THE ORIGINAL PURCHASE PRICE OF THE GOODS WHICH GAVE RISE TO SUCH LIABILITY.

Consumer Notice: This warranty gives you (Owner) specific legal rights. You (Owner) may also have other rights which vary from state to state.

Effective 6/1/05

USA Rainfall Intensity Map

Return Period: 5 Years Duration: 1-Hour Rainfall (inches)
Source: National Weather Service



This worksheet may be used as one guideline for determining approximate rainfall intensity flow rate and appropriate sizing/number of coalescer rows for a separator.

Step 1: Use rainfall intensity chart to find approximate rainfall amount in inches per hour (in./hr.) for the site, then calculate to determine feet per hour (ft./hr.):

Rainfall _____ in./hr. ÷ 12 in. =_____ ft./hr.

Step 2: Measure stormwater drainage area to be protected by the oil/water separator, then determine square footage as follows:

Length_____ ft. x Width _____ ft. = _____ sq.ft.

Step 3: Multiply the rainfall (ft./hr.) in Step 1 by the area (sq.ft.) in step 2 to determine the oil/water separator flow rate in cubic feet per hour (cu.ft./hr):

_____ ft./hr x _____ sq.ft.=_____ cu.ft./hr.

Step 4: Multiply flow rate (cu.ft./hr.) from Step 3 by 0.1247 to convert flow rate to U.S. gallon per minute (gpm):

_____cu.ft./hr. x 0.1247= _____ gpm.

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