



TECHNICAL DATA

SAFE Tank®

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

1. GENERAL DESCRIPTION

Poly Processing's SAFE-Tank® is a "tank-within-a-tank" system. These tanks provide secondary containment to avoid the damaging of equipment or property, loss of chemical, or injury to employees in the event of a spill.

Double wall (Safe-Tank®), flat bottom tanks are manufactured of high density cross-linked polyethylene (XLPE). The assembly consists of one cylindrical, closed top inner primary tank and one cylindrical, open top containment outer tank. Each tank is a rotationally molded one-piece seamless constructed tank. The SAFE-Tank® tanks are designed for above-ground, vertical installation.

2. LISTINGS AND APPROVALS

N/A

3. TECHNICAL DATA

3.1 Construction Features

- Provides 110% secondary containment
- Available in several sizes ranging from 105 to 8700 Gal (397.5 to 32933 L)
- Eliminates expense, cost and maintenance of secondary concrete containment
- Minimizes the footprint by providing secondary compact containment
- Lifting lugs on 3000 Gal (11356 L) or larger tanks
- PVC threaded EPDM gasketed bulkhead fittings
- PVC threaded lid
- Reverse Float Level Gauge
- Pressure Vacuum Vent

3.2 Standard Materials



WARNING: Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Table 3.2.1 - Standard Materials

Component	Description
Primary Inner SAFE Tank	Specific Crosslinked Polyethelene (XLPE) (Natural color)
Containment Outer SAFE Tank	Specific Crosslinked Polyethelene (XLPE) (Natural Color)
Lid/Manway	<405 Gal and less: 7" Butress threaded cap 540 Gal - 2500 Gal: 17" Butress threaded cap >3150 Gal: 24" bolted (8) manway cover
Top suction	Bulkhead Fitting Assembly, Socket x Thread, Hayward PVC/EPDM w/Internal Drop Tube One (1) additional top suction connection can be added. (Please contact Viking for pricing)
Fill	Fitting Assembly, Socket x Thread, Hayward PVC/EPDM
Drain	<750 Gal (2839 L) – Bulkhead Fitting Assembly, Socket x Thread, Hayward PVC/EPDM >750 Gal (2839 L) – Bolted Flange Fitting, Threaded, PVC/SS/EPDM
Vent	Pressure Vacuum Vent
Level Indicator	Reverse Float Level Gauge



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3.3 Standard Design Specifications



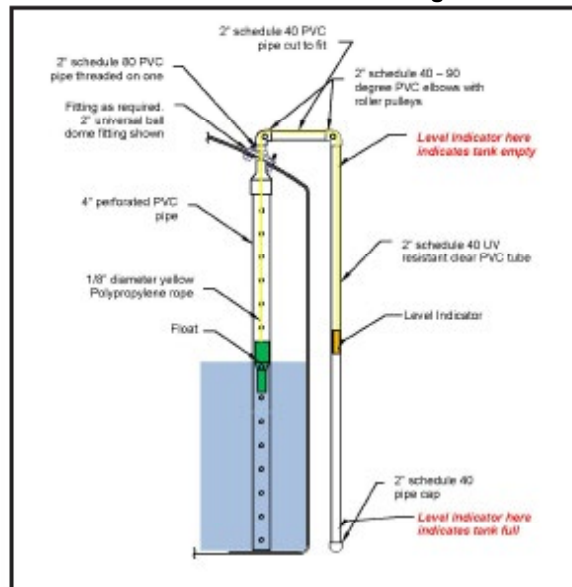
PVC Threaded EPDM Gasket



PVC Threaded Lid



Reverse Float Level Gauge





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Table 3.4.1 - Ordering Information

Part Number	Description	Vent Size	Weight Lbs.
F20396A1123	105 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	100
F20396B23	105 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F20396C2123	105 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20396D33	105 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F20003A1123	160 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	150
F20003B23	160 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F20003C2123	160 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20003D33	160 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F22240A1123	250 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	200
F22240B23	250 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F22240C2123	250 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F22240D33	250 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F20004A1123	405 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	280
F20004B23	405 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F20004C2123	405 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20004D33	405 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F20005A1123	540 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	360
F20005B23	540 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F20005C2123	540 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20005D33	540 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F20014A1123	750 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	400
F20014B23	750 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F20014C2123	750 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20014D33	750 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F20006A1123	1000 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	490
F20006B23	1000 Gallon SAFE Tank w/2" ftgs & level ind.	2"	
F20006C2123	1000 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20006D33	1000 Gallon SAFE Tank w/3" ftgs & level ind.	3"	
F20007A1123	1550 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	800
F20007B23	1550 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20007C2123	1550 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20007D33	1550 Gallon SAFE Tank w/3" ftgs & level ind.	4"	
F20008A1123	2500 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	1300
F20008B23	2500 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20008C2123	2500 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20008D33	2500 Gallon SAFE Tank w/3" ftgs & level ind.	4"	
F20009A1123	3150 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	1960
F20009B23	3150 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20009C2123	3150 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20009D33	3150 Gallon SAFE Tank w/3" ftgs & level ind.	4"	

NOTE: All tanks listed above include Primary Tank, Containment Tank, Lid/Manway, Drop Tube Suction Connection, Drop Tube Fill Connection, Pressure Vacuum Vent and Reverse Float Level Gauge

Table continues on next page.



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Table 3.4.1 - Ordering Information			
Part Number	Description	Vent Size	Weight Lbs.
F20010A1123	4400 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	2250
F20010B23	4400 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20010C2123	4400 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20010D33	4400 Gallon SAFE Tank w/3" ftgs & level ind.	4"	
F20011A1123	5400 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	2750
F20011B23	5400 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20011C2123	5400 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20011D33	5400 Gallon SAFE Tank w/3" ftgs & level ind.	4"	
F20397A1123	6550 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	4400
F20397B23	6550 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20397C2123	6550 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20397D33	6550 Gallon SAFE Tank w/3" ftgs & level ind.	4"	
F20013A1123	8700 Gallon SAFE Tank w/1-1/2" ftgs & level ind.	2"	5400
F20013B23	8700 Gallon SAFE Tank w/2" ftgs & level ind.	3"	
F20013C2123	8700 Gallon SAFE Tank w/2-1/2" ftgs & level ind.	3"	
F20013D33	8700 Gallon SAFE Tank w/3" ftgs & level ind.	4"	

NOTE: All tanks listed above include Primary Tank, Containment Tank, Lid/Manway, Drop Tube Suction Connection, Drop Tube Fill Connection, Pressure Vacuum Vent and Reverse Float Level Gauge

3.4 Ordering Information

4. SCOPE OF DELIVERY

Ensure that all components are complete and in good condition. The SAFE Tank is supplied with the items listed below.

Included:

- Primary Tank
- Containment Tank
- Lid/Manway
- Drop Tube
- Suction Connection
- Drop Tube Fill Connection
- Pressure Vacuum Vent
- Reverse Float Level Gauge

Not included:

- Seismic Restraints
- Ladders
- Ultrasonic Level Indicator

5. AVAILABILITY

Please contact your local Viking sales office for further information.

The product is available directly from Viking and official distributors only.

EMEA: Viking SA, ZI Haneboesch, L-4562 Differdange / Niederkorn, Tel.: +352 58 37 37 - 1, Fax: +352 38 37 36, vikinglux@viking-emea.com

Americas: The Viking Corporation, 210 N. Industrial Park Drive, Hastings, Michigan 49058, Toll free phone: (800) 968-9501

APAC: The Viking Corporation (Far East) Pte. Ltd., 69 Tuas View Square, Westlink Techpark, Singapore 637621
Tel: (+65) 6 278 4061, Fax: (+65) 6 278 4609, Email: vikingsingapore@vikingcorp.com



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6. PRODUCT VARIANTS

6.1 Options

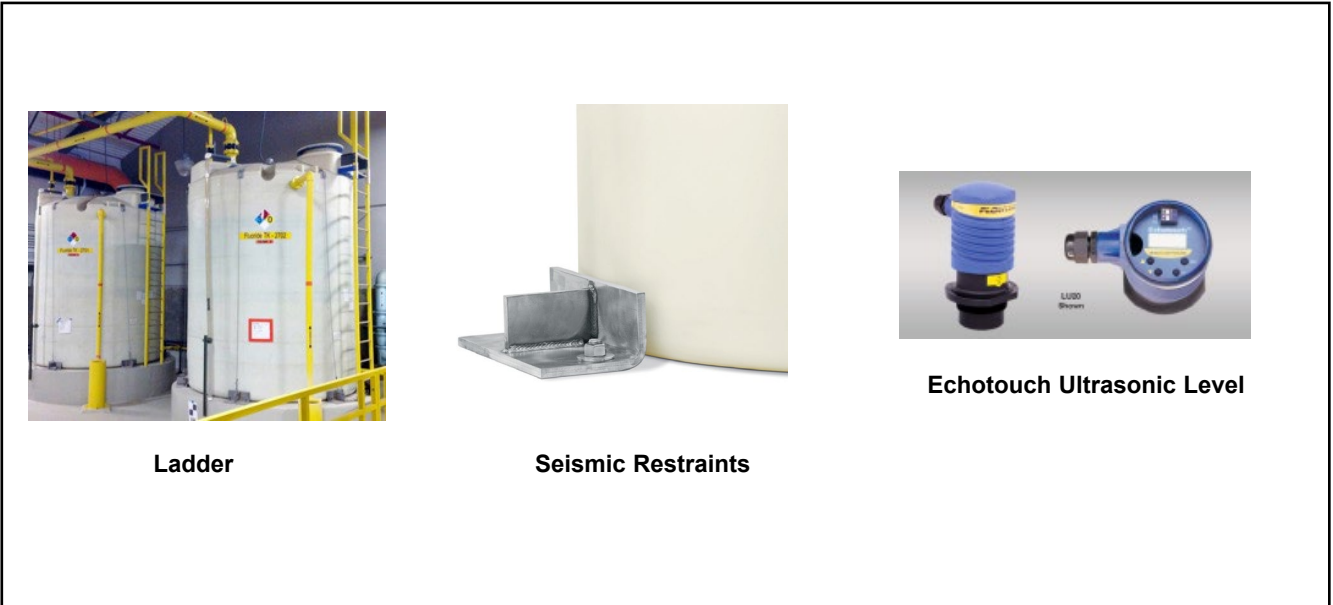


Table 6.2.1 - Optional

Part Number	Description
F20015	105 Gallon SAFE Tank, Seismic Restraint
F20016	160 Gallon SAFE Tank, Seismic Restraint
F20017	405 Gallon SAFE Tank, Seismic Restraint
F20018	540 Gallon SAFE Tank, Seismic Restraint
F23159	750 Gallon SAFE Tank, Seismic Restraint
F20019	1000 Gallon SAFE Tank, Seismic Restraint
F20020	1550 Gallon SAFE Tank, Seismic Restraint
F20021	2500 Gallon SAFE Tank, Seismic Restraint
F20022	3150 Gallon SAFE Tank, Seismic Restraint
F20023	4400 Gallon SAFE Tank, Seismic Restraint
F20024	5400 Gallon SAFE Tank, Seismic Restraint
F20398	6550 Gallon SAFE Tank, Seismic Restraint
F20026	8700 Gallon SAFE Tank, Seismic Restraint
F20027	6' Ladder for 1000 Gallon Tank
F20028	7' Ladder for 1550 & 3150 Gallon Tank
F20029	10' Ladder for 2500, 4400, & 5400 Gallon Tanks
F20399	14' Ladder for 6650 Gallon Tank
F20031	15' Ladder for 8700 Gallon Tank
F20032	Export Skid Packaging with Heat Treated Skid



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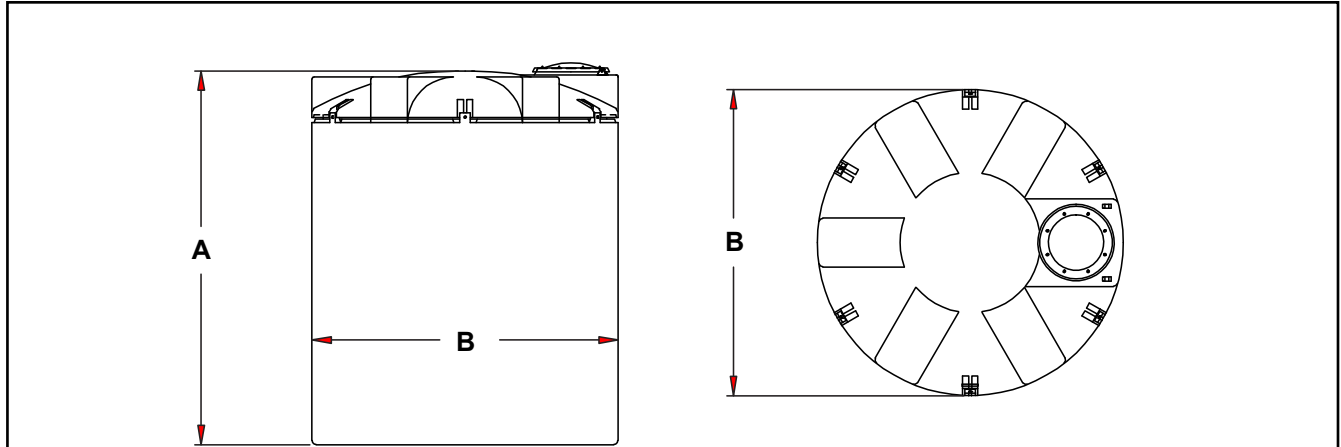


Figure 6.2.1 - SAFE Tank Dimensions

Drawing is for reference only. Your SAFE Tank configuration may differ.

NOTE: For tanks 1000 gallon and larger – safety cages must be added to ladders as required per OSHA (safety cages provided by others)

6.2 Dimensions

Table 6.2.1 - Dimensions					
Nominal Capacity (Gallons)	A (Feet-inches)	B (Feet-inches)	Lid Size (Inches)	Ladder Height (Feet)	Tank Weight (Lbs.)
8,700	14'-6"	11'-11"	24"	15'	5400
6,650	14'-3"	10'-2"	24"	14'	4400
5,400	9'-9"	11'-11"	24"	10'	2750
4,400	10'-3"	10'-3"	24"	10'	2250
4,400	10'-3"	10'-3"	24"	10'	2125
3,150	7'-7"	10'-2"	24"	7'	1960
2,500	9'-11"	8'-0"	17"	10'	1300
1,550	6'-11"	8'-0"	17"	7'	800
1,000	6'-7"	6'-5"	17"	6'	500
750	8'-2.5"	5'-0"	17"	7'	400
540	4'-0"	6'-5"	17"	--	360
405	5'-9"	4'-0"	7"	--	280
250	4'-4"	3'-11"	7"	--	200
160	4'-11"	3'-0"	7"	--	150
105	3'-6"	3'-0"	7"	--	100
55	2'-5"	3'-0"	7"	--	80



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7. INSTALLATION

Place the tank in the desired level location and if necessary, anchor to the floor. Leave an area around the tank free from any walls or obstacles for a working space for connecting the foam system piping to the tank. When all piping is completed, using the drop tube fill connection off the top of the tank, fill to desired level. The top suction and fill connections are drop tubes into the tank and are supported at 6' maximum intervals. Drop tubes are of PVC material. A Pressure Vacuum Vent is provided off the top of the tank for venting.

The SAFE-Tank® polyethylene tanks are provided with inspection hatches and must be adequately vented as shown in Table 4.1. Tank shall be provided with ancillary mechanical fittings and accessories as required.

Table 4.1 - Venting Requirements

IF ≤ 1000 Gallons	IF - Vent Length ≤ 3'			IF - Vent Length > 3' and ≤ 30'		
Vent size should equal size of largest fill or discharge fitting	AND - Vent screen mesh size ≥ 1/4" or no screen used			AND - 3 or less 90° elbows with no other restrictions or reduction in pipe size		
IF > 1000 Gallons	Emergency Pressure Relief Cover Required			Emergency Pressure Relief Cover Required		
Vent size should exceed the largest fill or discharge fitting by 1"	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size
	2"	2"	4"	2"	2"	6"
	3"	2"	6"	3"	2"	6"
	3"	3"	6"	3"	3"	8"
Footnotes						
<ul style="list-style-type: none"> • (2) 2" vents DO NOT EQUAL 4" venting capacity. • For detailed venting guidelines, please visit our Technical Resources at www.polyprocessing.com. 						

When using AFFF or AR-AFFF type foam concentrates in any atmospheric type storage tank, it is recommended that a thin layer (approximately 1/4 inch) of a quality mineral oil be placed on the surface of the foam concentrate after filling the tank with the correct quantity. This alleviates the problem associated with evaporation of the foam concentrate.

Stainless steel pipe is suitable for use with Viking manufactured AFFF/AR-AFFF types of foam concentrates. Galvanized pipe should not be used with any AFFF/AR-AFFF concentrates. AFFFs have a solvent in their formulation, which may dissolve standard pipe joint compound (pipe dope) normally used with plain water sprinkler systems. When installing a foam water fire protection system using AFFF concentrates, it is recommended where the concentrate or the solution is in contact with any pipe joints etc., a quality PTFE tape in accordance with MIL-T-27730 and a PTFE based pipe joining compound be used on all threaded fittings.

If any AFFF concentrate spills on any painted surface during any filling of the storage tank(s), immediately wash the area with water. The solvents in the AFFF may cause streaking of any painted surface. It is recommended that when using non-freeze protected foam concentrates, that the foam tanks be located in an area that is kept between 35 °F - 120 °F (2 °C - 49 °C). All tanks offered by Viking are suitable for use with Viking manufactured and supplied foam concentrates.

8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

9. INSPECTIONS, TESTS AND MAINTENANCE

⚠ WARNING

Any system maintenance or testing that involves placing a control valve or detection system out of service may eliminate the fire protection capabilities of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.

NOTICE

The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC, and VdS, which describe care and maintenance of sprinkler systems. In addition, the "Authority Having Jurisdiction" may have additional maintenance, testing, and inspection requirements that must be followed.



10. DISPOSAL

At end of use the product described here should be disposed of via the national recycling system. Upon request, the manufacturer can take back and properly dispose of the electrical equipment and electronic devices.