



VERTICAL BLADDER TANKS

The Chemguard Vertical Bladder Tank is one component in a balanced pressure foam proportioning system. It requires no external power, other than the water pressure to ensure correct operation. The vertical bladder tanks are designed and constructed in accordance with the latest revisions to ASME code, Section VIII for unfired pressure vessels with a working pressure of 175 psi and tested to 1.3 times this pressure.

SPECIFICATIONS

The tank shell is constructed of SA 516 Grade 70 steel, complying with ASME specifications, possessing a tensile strength of not less than 70,000 psi. The circumferential, as well as the longitudinal body seam, are machine welded. The tank interior welds and edges are ground smooth.

The tank shell water inlet and tank shell water drain is screened to prevent bladder blow out or the entrapment of debris between the tank shell and the bladder.

The vertical tank assembly is supported by four legs with access to the bladder drain/fill valve and the tank shell drain/fill valve. Four feet are provided for anchoring the tank.

FEATURES

- UL Listed*.
- FM Approved*.
- Chemguard Bladder Tanks comply with the requirements of the Pressure Equipment Directive 97/23/EC.
- The bladder is manufactured of a vinyl based polymer. Bladder material shall have an ASTM

D-412 Tensile Strength of at least 3000 psi and an ASTM D-624 Graves Tear Strength of at least 420 lbs./in.

- Tanks are supplied with foam concentrate discharge located at the top of the tank.
- Standard trim piping (vents and drains) material for non-prepiped tanks is stainless steel.
- All valves are labeled showing normal working position and function.
- Lifting lugs are permanently welded to the tank with eyes of approximately 2" diameter.
- Tanks contain a perforated PVC center tube that assures maximum agent discharge.
- All tanks are oversized to allow for any thermal expansion of the foam concentrate.
- All tanks are supplied with a label, which identifies the type of foam concentrate the system is designed for, the percentage ratio and the tank size.
- Tanks are painted red enamel.

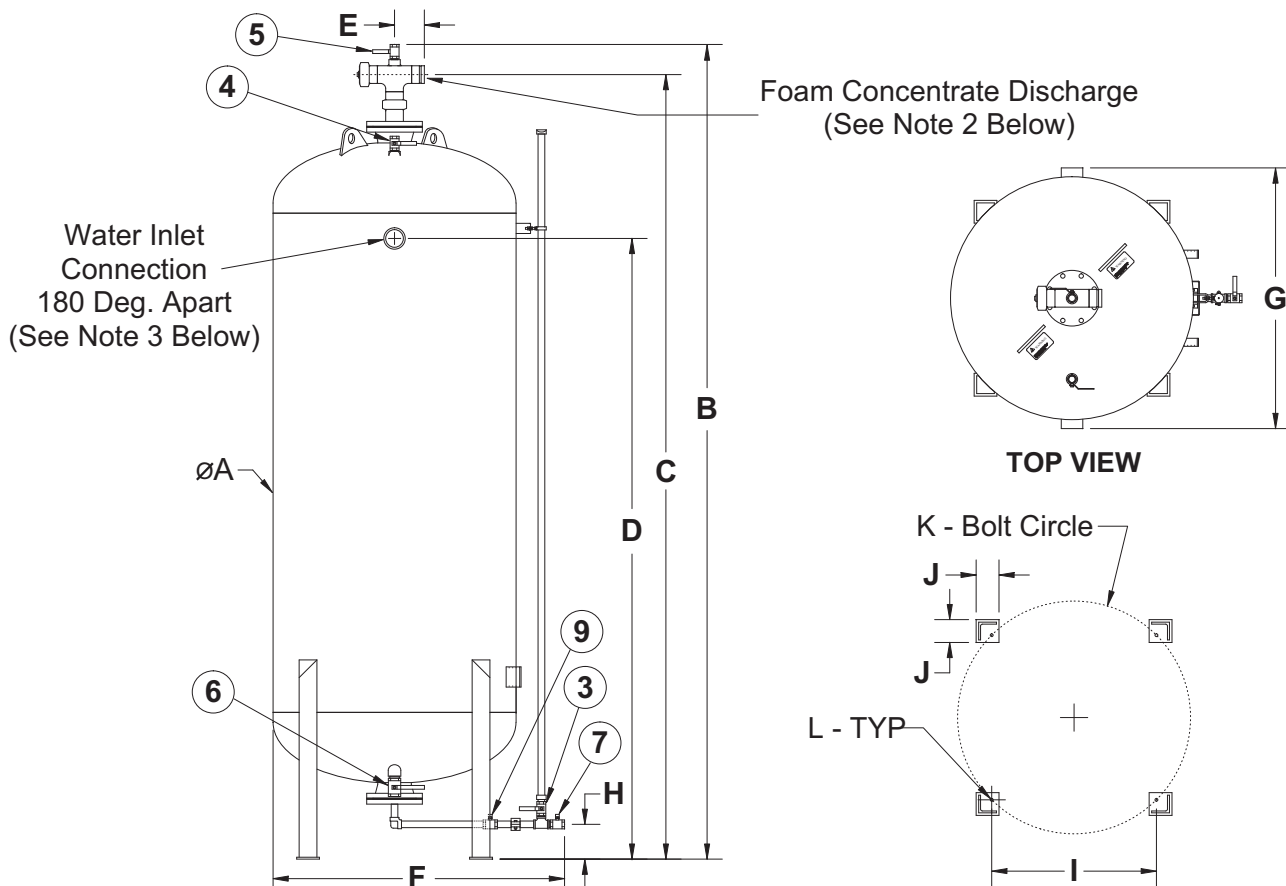
OPTIONS

- Coal tar epoxy for coating the interior shell of the tank (for use in salt-water environment).
- Sight Glass.
- Red epoxy finish.
- Custom fabrication of specialty materials, dimensions, and capacities.
- Actuated valves for water/concentrate.
- Brass or carbon steel piping for non-prepiped tanks.
- Insulation and heat tracing packages.
- Seismic designed tanks available.

* Listings, Approvals and/or Certifications for Chemguard foam concentrate and/or equipment are valid only when used with other Chemguard foam concentrates or equipment in a manner as outlined in the applicable Listing, Approval and/or Certification.

VERTICAL BLADDER TANKS

OUTLINE DRAWING AND NORMAL VALVE POSITION CHART



VALVE DESCRIPTION		NORMAL VALVE POSITION	
Valve No.	Description	Manual System	Automatic System
1	Manual Foam Concentrate Shut-Off (Not Shown)	N.C.	N.O.
2	Water Supply Shut-Off (Not Shown)	N.C.	N.O.
3	Sight Gauge Shut-Off	N.C.	N.C.
4	Tank Shell Vent	N.C.	N.C.
5	Bladder Vent	N.C.	N.C.
6	Tank Shell Drain/Fill	N.C.	N.C.
7	Bladder Drain/Fill	N.C.	N.C.
8	Automatic Foam Concentrate Isolation (Not Shown)	-	N.C.
9	Fill Line Master Shut-Off	N.C.	N.C.

N.O. - Normally Open; N.C. - Normally Closed

In this arrangement, Valves listed as "Not Shown" are either supplied as loose ship items by Chemguard or by others.

NOTES:

- Dimensions are approximate and subject to change without notice.
- Foam concentrate discharge pipe size:
 - Tank sizes 25 - 450 gallon 2" NPT(F).
 - Tank sizes 500 - 4500 gallon 3" Grooved.
- Water inlet pipe size:
 - Tank sizes 25 - 450 gallon 2" NPT(F).
 - Tank sizes 500 - 4500 gallon 3" NPT(F).
- When designing a building to store bladder tanks, steps shall be taken to allow for removal of the internal center tube(s). Center tubes are the full length and/or height of the bladder tank.

CHEMGUARD

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Vertical Bladder Tanks - Capacity, Dimensions & Weight Chart														
Capacity Gallons	Tank Dimensions - Inches													Approx. Wt. Lbs.
	Liters	A	B	C	D	E	F	G	H	I	J	K	L	
25	95	24.0	51.1	45.1	26.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	300
36	136	24.0	57.1	51.1	30.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	390
50	189	24.0	65.1	59.1	38.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	470
75	284	24.0	80.1	74.1	53.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	600
100	379	24.0	95.1	89.1	68.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	720
150	568	36.0	76.1	70.1	47.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,050
200	757	36.0	90.1	84.1	61.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,320
250	946	36.0	103.1	97.1	74.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,480
300	1,136	36.0	117.1	111.1	88.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,600
350	1,325	36.0	130.1	124.1	101.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,800
400	1,514	36.0	144.1	138.1	115.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	2,000
450	1,703	36.0	157.1	151.1	128.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	2,175
500	1,893	48.0	118.5	112.5	80.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	2,350
600	2,271	48.0	134.5	128.5	96.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	2,800
700	2,650	48.0	149.5	143.5	111.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,050
800	3,028	48.0	164.5	158.5	126.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,400
900	3,407	48.0	179.5	173.5	141.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,720
1,000	3,785	48.0	194.5	188.5	156.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,900
1,100	4,164	60.0	149.5	143.5	107.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,150
1,200	4,542	60.0	158.5	152.5	116.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,370
1,300	4,921	60.0	167.5	161.5	125.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,550
1,400	5,300	60.0	176.5	170.5	134.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,760
1,500	5,678	60.0	186.5	180.5	144.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,940
1,600	6,057	72.0	153.5	147.5	108.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,130
1,700	6,435	72.0	159.5	153.5	114.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,330
1,800	6,814	72.0	165.5	159.5	120.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,510
1,900	7,192	72.0	172.5	166.5	127.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,690
2,000	7,571	72.0	178.5	172.5	133.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	6,030
2,100	7,949	84.0	148.5	142.5	100.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,200
2,200	8,328	84.0	152.5	146.5	104.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,400
2,300	8,706	84.0	157.5	151.5	109.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,610
2,400	9,085	84.0	161.5	155.5	113.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,780
2,500	9,464	84.0	166.5	160.5	118.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,850
2,600	9,842	84.0	171.5	165.5	123.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,200
2,700	10,221	84.0	175.5	169.5	127.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,350
2,800	10,599	84.0	180.5	174.5	132.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,500
2,900	10,978	84.0	185.5	179.5	137.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,700
3,000	11,356	84.0	189.5	183.5	141.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,900
3,100	11,735	84.0	194.5	188.5	146.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,125
3,200	12,113	84.0	198.5	192.5	150.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,350
3,300	12,492	84.0	203.5	197.5	155.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,575
3,400	12,870	84.0	207.5	201.5	159.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,800
3,500	13,249	84.0	212.5	206.5	164.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,025
3,600	13,627	84.0	217.5	211.5	169.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,250
3,700	14,006	84.0	221.5	215.5	173.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,475
3,800	14,385	84.0	226.5	220.5	178.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,700
3,900	14,763	84.0	230.5	224.5	182.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	9,925
4,000	15,142	84.0	235.5	229.5	187.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,150
4,100	15,520	84.0	240.5	234.5	192.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,375
4,200	15,899	84.0	245.5	239.5	197.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,500
4,300	16,277	84.0	249.5	243.5	201.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,725
4,400	16,656	84.0	253.5	247.5	205.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,925
4,500	17,034	84.0	258.5	252.5	210.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	11,200

* NOTE: Dimension E: - For tanks 500 gallons(1,893 Liters) and larger, Dimension E is 8 in. (203.2 mm) when brass foam piping is used.

VERTICAL BLADDER TANK - STANDARD ARRANGEMENT

Vertical Bladder Tanks - Capacity, Dimensions & Weight Chart														
Capacity Gallons	Tank Dimensions - Millimeters													Approx. Wt. Kg.
	Liters	A	B	C	D	E	F	G	H	I	J	K	L	
25	95	609.6	1298.6	1146.2	660.4	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	136
36	136	609.6	1451.0	1298.6	762.0	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	177
50	189	609.6	1654.2	1501.8	965.2	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	213
75	284	609.6	2035.2	1882.8	1346.2	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	272
100	379	609.6	2416.2	2263.8	1727.2	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	327
150	568	914.4	1933.6	1781.2	1193.8	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	476
200	757	914.4	2289.2	2136.8	1549.4	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	599
250	946	914.4	2619.4	2467.0	1879.6	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	671
300	1,136	914.4	2975.0	2822.6	2235.2	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	726
350	1,325	914.4	3305.2	3152.8	2565.4	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	816
400	1,514	914.4	3660.8	3508.4	2921.0	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	907
450	1,703	914.4	3991.0	3838.6	3251.2	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	987
500	1,893	1219.2	3009.9	2857.5	2032.0	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,066
600	2,271	1219.2	3416.3	3263.9	2438.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,270
700	2,650	1219.2	3797.3	3644.9	2819.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,383
800	3,028	1219.2	4178.3	4025.9	3200.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,542
900	3,407	1219.2	4559.3	4406.9	3581.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,687
1,000	3,785	1219.2	4940.3	4787.9	3962.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,769
1,100	4,164	1524.0	3797.3	3644.9	2717.8	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	1,882
1,200	4,542	1524.0	4025.9	3873.5	2946.4	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	1,982
1,300	4,921	1524.0	4254.5	4102.1	3175.0	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	2,064
1,400	5,300	1524.0	4483.1	4330.7	3403.6	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	2,159
1,500	5,678	1524.0	4737.1	4584.7	3657.6	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	2,241
1,600	6,057	1828.8	3898.9	3746.5	2743.2	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,327
1,700	6,435	1828.8	4051.3	3898.9	2895.6	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,418
1,800	6,814	1828.8	4203.7	4051.3	3048.0	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,499
1,900	7,192	1828.8	4381.5	4229.1	3225.8	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,581
2,000	7,571	1828.8	4533.9	4381.5	3378.2	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,735
2,100	7,949	2133.6	3771.9	3619.5	2540.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	2,812
2,200	8,328	2133.6	3873.5	3721.1	2641.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	2,903
2,300	8,706	2133.6	4000.5	3848.1	2768.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	2,998
2,400	9,085	2133.6	4102.1	3949.7	2870.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,075
2,500	9,464	2133.6	4229.1	4076.7	2997.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,107
2,600	9,842	2133.6	4356.1	4203.7	3124.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,266
2,700	10,221	2133.6	4457.7	4305.3	3225.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,334
2,800	10,599	2133.6	4584.7	4432.3	3352.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,402
2,900	10,978	2133.6	4711.7	4559.3	3479.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,493
3,000	11,356	2133.6	4813.3	4660.9	3581.4	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,583
3,100	11,735	2133.6	4940.3	4787.9	3708.4	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,685
3,200	12,113	2133.6	5041.9	4889.5	3810.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,787
3,300	12,492	2133.6	5168.9	5016.5	3937.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,890
3,400	12,870	2133.6	5270.5	5118.1	4038.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,992
3,500	13,249	2133.6	5397.5	5245.1	4165.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,094
3,600	13,627	2133.6	5524.5	5372.1	4292.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,196
3,700	14,006	2133.6	5626.1	5473.7	4394.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,298
3,800	14,385	2133.6	5753.1	5600.7	4521.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,400
3,900	14,763	2133.6	5854.7	5702.3	4622.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,502
4,000	15,142	2133.6	5981.7	5829.3	4749.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,604
4,100	15,520	2133.6	6108.7	5956.3	4876.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,706
4,200	15,899	2133.6	6235.7	6083.3	5003.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,763
4,300	16,277	2133.6	6337.3	6184.9	5105.4	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,865
4,400	16,656	2133.6	6438.9	6286.5	5207.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,955
4,500	17,034	2133.6	6565.9	6413.5	5334.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	5,080

* NOTE: Dimension E: - For tanks 500 gallons(1,893 Liters) and larger, Dimension E is 8 in. (203.2 mm) when brass foam piping is used.

VERTICAL BLADDER TANK - STANDARD ARRANGEMENT

CHEMGUARD

204 S. 6th Ave • Mansfield, Tx 76063 • (817) 473-9964 • FAX (817) 473-0606

ORDERING INFORMATION

Please specify the following:

- Type of tank required - Horizontal or Vertical
- Size of tank
- Exterior finish of tank
- Whether required for salt water environment
- Any other options required

Below is the format for standard Chemguard Bladder Tanks:

Model: CVBT-TD

Size: 25 to 4500 Gallon (Vertical Tanks)

Exterior Coating (Option 1):

- 01 – Red Enamel
- 02 – Red Epoxy
- 03 – Custom

Interior Coating (Option 2):

- 01 – None
- 02 – Coal Tar
- 03 – Custom

Foam Discharge Piping (Top) (Option 3):

- 01 – 316 SS Pipe/SS Valves
- 02 – Carbon Steel Pipe/Brass Valves
- 03 – Brass Pipe/Brass Valves

Trim Piping (Vent/Fill Piping) (Option 4):

- 01 – 316 SS Pipe/SS Valves
- 02 – Carbon Steel Pipe/Brass Valves
- 03 – Brass Pipe/Brass Valves

Sight Glass (Option 5):

- 01 – None (316 SS Trim Piping)
- 02 – None (Carbon Steel Trim Piping)
- 03 – None (Brass Trim Piping)
- 04 – PVC/SS Valve
- 05 – PVC/Brass Valve

Relief Valve (Option 6):

- 01 – None (316 SS Foam Discharge Piping)
- 02 – None (Carbon Steel Foam Discharge Piping)
- 03 – None (Brass Foam Discharge Piping)
- 04 – Thermal Relief Valve
- 05 – ASME (Full Flow), 316 SS Foam Discharge Piping
- 06 – ASME (Full Flow), Carbon Steel Foam Discharge Piping
- 07 – ASME (Full Flow), Brass Foam Discharge Piping

Sample Part Number: CVBT-TD-200-01-01-01-01-01



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