



# TECH TIP #22

Table is based on formula:  
 $Q = 1.28 \times A \times (D);$

## CAPACITY OF ROUND TANKS

Dia.	Gals.	Area Sq. Ft.	Diam.	Gals.	Area Sq. Ft.	Diam.	Gals.	Area Sq. Ft.	Diam.	Gals.	Area Sq. Ft.
1'	5.87	7.85	4'	94.00	12.566	11'	710.90	95.03	22'	2843.60	380.13
1' 1"	6.89	9.22	4' 1"	97.96	13.095	11' 3"	743.58	99.40	22' 3"	2908.60	388.82
1' 2"	8.00	1.069	4' 2"	102.00	13.635	11' 6"	776.99	103.87	22' 6"	2974.30	397.61
1' 3"	9.18	1.227	4' 3"	106.12	14.186	11' 9"	811.14	108.43	22' 9"	3040.80	406.49
1' 4"	10.44	1.396	4' 4"	110.32	14.748	12'	846.03	113.10	23'	3108.00	415.48
1' 5"	11.79	1.576	4' 5"	114.61	15.321	12' 3"	881.65	117.86	23' 3"	3175.90	424.56
1' 6"	13.22	1.767	4' 6"	118.97	15.90	12' 6"	918.00	122.72	23' 6"	3244.60	433.74
1' 7"	14.73	1.969	4' 7"	123.42	16.50	12' 9"	955.09	126.78	23' 9"	3314.00	443.01
1' 8"	16.32	2.182	4' 8"	127.95	17.10	13'	992.91	132.73	24'	3384.10	452.39
1' 9"	17.99	2.045	4' 9"	132.56	17.72	13' 3"	1031.50	137.89	24' 3"	3455.00	461.86
1' 10"	19.75	2.640	4' 10"	137.25	18.35	13' 6"	1070.80	142.14	24' 6"	3526.60	471.44
1' 11"	21.58	2.885	4' 11"	142.02	18.99	13' 9"	1110.80	148.49	24' 9"	3598.90	481.11
2'	23.50	3.142	5' 8"	188.66	25.22	14'	1151.50	153.94	25'	3672.00	490.87
2' 1"	25.50	3.409	5' 9"	194.25	25.97	14' 3"	1193.00	159.48	25' 3"	3745.80	500.74
2' 2"	27.58	3.687	5' 10"	199.92	26.73	14' 6"	1235.30	165.13	25' 6"	3820.30	510.71
2' 3"	29.74	3.976	5' 11"	205.67	27.49	14' 9"	1278.20	170.87	25' 9"	3895.60	527.77
2' 4"	31.99	4.276	6"	211.51	28.27	15'	1321.90	176.71	26'	3971.60	530.93
2' 5"	34.31	4.587	6' 3"	229.50	30.68	15' 3"	1366.40	182.65	26' 3"	4048.40	541.19
2' 6"	36.72	4.909	6' 6"	248.23	35.18	15' 6"	1411.50	188.69	26' 6"	4125.90	551.55
2' 7"	39.21	5.241	6' 9"	267.69	35.78	15' 9"	1457.40	198.83	26' 9"	4204.10	562.00
2' 8"	41.78	5.585	7"	287.88	38.48	16'	1504.10	201.06	27'	4283.00	572.66
2' 9"	44.43	5.940	7' 3"	308.81	41.28	16' 3"	1551.40	207.39	27' 3"	4362.70	583.21
2' 10"	47.16	6.305	7' 6"	330.48	44.18	16' 6"	1599.50	213.82	27' 6"	4443.10	593.96
2' 11"	49.98	6.681	7' 9"	352.88	47.17	16' 9"	1648.40	220.35	27' 9"	4524.30	604.81
3'	52.88	7.069	8'	376.01	50.27	19'	2120.90	283.53	28'	4606.20	615.75
3' 1"	55.86	7.467	8' 3"	399.80	53.46	19' 3"	2177.10	291.04	28' 3"	4688.80	626.80
3' 2"	58.92	7.876	8' 6"	424.48	56.75	19' 6"	2234.00	298.65	28' 6"	4772.10	637.94
3' 3"	62.06	8.296	8' 9"	449.82	60.13	19' 9"	2291.70	306.35	28' 9"	4856.20	649.18
3' 4"	65.28	8.727	9'	475.89	63.62	20'	2350.10	314.16	29'	4941.00	660.52
3' 5"	68.58	9.168	9' 3"	502.70	67.20	20' 3"	2409.20	322.06	29' 3"	5026.60	671.96
3' 6"	71.97	9.621	9' 6"	530.24	70.88	20' 6"	2469.10	330.06	29' 6"	5112.90	683.49
3' 7"	75.44	10.085	9' 9"	558.51	74.66	20' 9"	2529.60	338.16	29' 9"	5199.90	695.13
3' 8"	78.99	10.559	10'	587.52	78.54	21'	2591.00	346.36	30'	5287.70	706.86
3' 9"	82.62	11.045	10' 3"	617.26	82.52	21' 3"	2653.00	354.66	30' 3"	5376.20	718.69
3' 10"	86.33	11.541	10' 6"	640.74	86.59	21' 6"	2715.80	363.05	30' 6"	5465.40	730.62
3' 11"	90.13	12.048	10' 9"	678.95	90.76	21' 9"	2779.30	371.54	30' 9"	5555.40	742.64

To find the capacity of tanks greater than shown above, find a tank of one-half the size desired, and multiply its capacity by four, or find one-third the size desired and multiply its capacity by 9.



# TECH TIP #23

## WATER VOLUME IN A PIPING SYSTEM

To calculate the volume of water in a hydronic system, list the length of pipe in a system by size. Divide the length by the factor to calculate volume. Example: Find the water volume in 200' of 4" steel pipe.

Volume = 200 ft. / 1.5 ft per gallon = 133 gallons

VOLUME OF WATER IN PIPE LINEAL FEET PER GALLON		
Size	Steel	Copper
1/2"	63.5	82.5
3/4"	36.0	40.0
1"	22.2	23.3
1 1/4"	12.8	15.3
1 1/2"	9.5	10.8
2"	5.8	6.2
2 1/2"	4.0	4.0
3"	2.6	2.8
4"	1.5	1.6
5"	1.0	1.0
6"	.7	.7