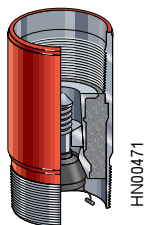


FLOAT EQUIPMENT

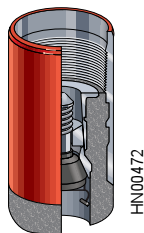
Halliburton's floating and guiding equipment helps provide a quality cement job under any condition.

SUPER SEAL™ II FLOAT EQUIPMENT

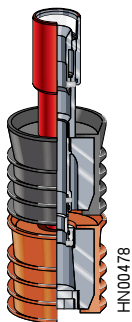
- Short, compact size makes handling and storage easier.
- 400°F temperature and 5,000 psi pressure rating under static conditions.
- Minimum amount of aluminum allows easy drilling even with PDC bits.
- Float shoe available in either rounded or wedge nose configuration.
- Contains exclusive Super Seal Float Valve, which provides extra large flow area.



SUPER SEAL II
FLOAT COLLAR



SUPER SEAL II
FLOAT SHOE

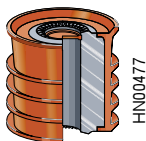


NON-ROTATING SSR™ PLUG SET

An integral part of the cementing process, cementing plugs are pumped ahead of cement slurry to minimize contamination of the cement as it is pumped down the casing.

NON-ROTATING (NR™) PLUG

- PDC drillable; rig time is greatly reduced since conventional bits are eliminated.
- Reduces drilling time of shoe joints up to 10 times with PDC bits.



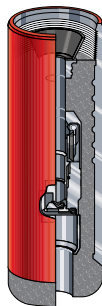
NON-ROTATING 5-WIPER PLUGS

- Conventional two plug cementing techniques can be used to ensure best possible job.
- Proven five wiper design.
- Design allows use of multiple bottom plugs or no bottom plug.

FLOAT EQUIPMENT

PDF™ FLOAT SHOE

- Helps protect formations from destructive high "ram-effect" surge pressure.
- Provides surface indication that the back pressure valve has closed.
- Minimizes casing sticking. Saves up to one-third running-in time.
- Allows hole to be circulated at any time without affecting the fillup unit.

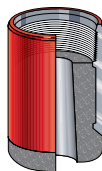


HN00474

PDF FLOAT SHOE

GUIDE SHOE

- Protects casing string from impact when landing on bottom.
- Directs casing away from ledges, reducing change of sidewall cave-in.
- Helps casing pass through narrow, deviated holes and areas with hard shoulders.



HN00476

GUIDE SHOE

INSERT FLOAT COLLAR

- More economical than conventional types of floating equipment.
- Large flow area through valve.
- Dependable, easy to drill.
- Simple installation.
- No length added to casing string.
- Eliminates two threaded connections in casing string—no welding required.



HN00475

INSERT FLOAT VALVE

AVAILABLE FOR TUBINGLESS COMPLETIONS

ENGLISH / METRIC UNITS

SECTION No. 122

VOLUME and HEIGHT Between TUBING and HOLE and CASING and HOLE and DRILL PIPE and HOLE

NOTE:

There are some differences in the values in these tables and those previously published. The differences are slight and the former values are sufficiently accurate for dependable results.

The values in these tables have been calculated on the IBM 370/155 Computer.



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VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 1.050"			Tubing O.D. 26.67 mm		
ONE STRING			ONE STRING		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
1.500	.0011	897.09	38.10	0.0006	1719.18
1.625	.0015	669.27	41.28	0.0008	1282.58
1.750	.0019	525.21	44.45	0.0010	1006.51
1.875	.0023	426.59	47.63	0.0012	817.51
2.000	.0028	355.28	50.80	0.0015	680.85
2.125	.0033	301.60	53.98	0.0017	577.99
2.250	.0038	259.95	57.15	0.0020	498.17
2.375	.0044	226.84	60.33	0.0023	434.71
2.500	.0050	199.98	63.50	0.0026	383.25
2.625	.0056	177.85	66.68	0.0029	340.83
2.750	.0063	159.35	69.85	0.0033	305.38
2.875	.0070	143.71	73.03	0.0036	275.41
3.000	.0077	130.35	76.20	0.0040	249.80
3.125	.0084	118.83	79.38	0.0044	227.72
3.250	.0092	108.82	82.55	0.0048	208.54
3.375	.0100	100.06	85.73	0.0052	191.75
3.500	.0108	92.34	88.90	0.0057	176.97
3.625	.0117	85.51	92.08	0.0061	163.88
3.750	.0126	79.43	95.25	0.0066	152.22
3.875	.0135	73.99	98.43	0.0071	141.79
4.000	.0145	69.10	101.60	0.0076	132.42
4.125	.0155	64.69	104.78	0.0081	123.97
4.250	.0165	60.70	107.95	0.0086	116.32
4.375	.0175	57.07	111.13	0.0091	109.37
4.500	.0186	53.76	114.30	0.0097	103.03
4.625	.0197	50.74	117.48	0.0103	97.24
4.750	.0208	47.97	120.65	0.0109	91.93
4.875	.0220	45.42	123.83	0.0115	87.05
5.000	.0232	43.08	127.00	0.0121	82.55
5.125	.0244	40.91	130.18	0.0128	78.40
5.250	.0257	38.90	133.35	0.0134	74.56
5.375	.0270	37.05	136.53	0.0141	70.99
5.500	.0283	35.32	139.70	0.0148	67.68
5.625	.0297	33.71	142.88	0.0155	64.60
5.750	.0310	32.21	146.05	0.0162	61.73
5.875	.0325	30.81	149.23	0.0169	59.04
6.000	.0339	29.50	152.40	0.0177	56.53
6.125	.0354	28.27	155.58	0.0185	54.18
6.250	.0369	27.12	158.75	0.0192	51.97
6.375	.0384	26.04	161.93	0.0200	49.90
6.500	.0400	25.02	165.10	0.0209	47.94
6.625	.0416	24.06	168.28	0.0217	46.11
6.750	.0432	23.15	171.45	0.0225	44.37
6.875	.0448	22.30	174.63	0.0234	42.73
7.000	.0465	21.49	177.80	0.0243	41.19
7.125	.0482	20.73	180.98	0.0252	39.72
7.250	.0500	20.00	184.15	0.0261	38.34
7.375	.0518	19.32	187.33	0.0270	37.02
7.500	.0536	18.67	190.50	0.0280	35.77
7.625	.0554	18.05	193.68	0.0289	34.59

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.050"			Tubing O.D. 26.67 mm			
TWO STRINGS			TWO STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
2.750	.0052	192.14	69.85	0.0027	368.22	
2.875	.0059	169.85	73.03	0.0031	325.50	
3.000	.0066	151.50	76.20	0.0034	290.33	
3.125	.0073	136.15	79.38	0.0038	260.93	
3.250	.0081	123.17	82.55	0.0042	236.05	
3.375	.0089	112.07	85.73	0.0047	214.77	
3.500	.0098	102.48	88.90	0.0051	196.39	
3.625	.0106	94.13	92.08	0.0055	180.40	
3.750	.0115	86.82	95.25	0.0060	166.37	
3.875	.0124	80.36	98.43	0.0065	153.99	
4.000	.0134	74.62	101.60	0.0070	143.01	
4.125	.0144	69.51	104.78	0.0075	133.20	
4.250	.0154	64.92	107.95	0.0080	124.41	
4.375	.0165	60.78	111.13	0.0086	116.49	
4.500	.0175	57.05	114.30	0.0091	109.32	
4.625	.0186	53.66	117.48	0.0097	102.82	
4.750	.0198	50.57	120.65	0.0103	96.91	
4.875	.0209	47.75	123.83	0.0109	91.50	
5.000	.0221	45.16	127.00	0.0116	86.54	
5.125	.0234	42.78	130.18	0.0122	81.99	
5.250	.0246	40.60	133.35	0.0129	77.80	
5.375	.0259	38.58	136.53	0.0135	73.93	
5.500	.0272	36.71	139.70	0.0142	70.34	
5.625	.0286	34.97	142.88	0.0149	67.02	
5.750	.0300	33.36	146.05	0.0156	63.93	
5.875	.0314	31.86	149.23	0.0164	61.06	
6.000	.0328	30.46	152.40	0.0171	58.37	
6.125	.0343	29.15	155.58	0.0179	55.87	
6.250	.0358	27.93	158.75	0.0187	53.52	
6.375	.0373	26.78	161.93	0.0195	51.33	
6.500	.0389	25.71	165.10	0.0203	49.26	
6.625	.0405	24.69	168.28	0.0211	47.32	
6.750	.0421	23.74	171.45	0.0220	45.50	
6.875	.0438	22.85	174.63	0.0228	43.78	
7.000	.0455	22.00	177.80	0.0237	42.16	
7.125	.0472	21.20	180.98	0.0246	40.62	
7.250	.0489	20.44	184.15	0.0255	39.18	
7.375	.0507	19.73	187.33	0.0265	37.80	
7.500	.0525	19.05	190.50	0.0274	36.50	
7.625	.0543	18.40	193.68	0.0284	35.27	
7.750	.0562	17.79	196.85	0.0293	34.10	
7.875	.0581	17.21	200.03	0.0303	32.98	
8.000	.0600	16.66	203.20	0.0313	31.92	
8.125	.0620	16.13	206.38	0.0323	30.92	
8.250	.0640	15.63	209.55	0.0334	29.95	
8.375	.0660	15.15	212.73	0.0344	29.04	
8.500	.0680	14.70	215.90	0.0355	28.16	
8.625	.0701	14.26	219.08	0.0366	27.33	
8.750	.0722	13.84	222.25	0.0377	26.53	
8.875	.0744	13.45	225.43	0.0388	25.77	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 1.050"			Tubing O.D. 26.67 mm		
THREE STRINGS			THREE STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
3.000	.0055	180.84	76.20	0.0029	346.55
3.125	.0063	159.40	79.38	0.0033	305.47
3.250	.0070	141.89	82.55	0.0037	271.92
3.375	.0079	127.35	85.73	0.0041	244.06
3.500	.0087	115.11	88.90	0.0045	220.61
3.625	.0096	104.69	92.08	0.0050	200.62
3.750	.0104	95.71	95.25	0.0055	183.43
3.875	.0114	87.92	98.43	0.0059	168.50
4.000	.0123	81.10	101.60	0.0064	155.43
4.125	.0133	75.10	104.78	0.0069	143.91
4.250	.0143	69.77	107.95	0.0075	133.70
4.375	.0154	65.02	111.13	0.0080	124.60
4.500	.0165	60.76	114.30	0.0086	116.44
4.625	.0176	56.93	117.48	0.0092	109.09
4.750	.0187	53.46	120.65	0.0098	102.45
4.875	.0199	50.32	123.83	0.0104	96.43
5.000	.0211	47.45	127.00	0.0110	90.94
5.125	.0223	44.84	130.18	0.0116	85.93
5.250	.0236	42.44	133.35	0.0123	81.33
5.375	.0249	40.24	136.53	0.0130	77.11
5.500	.0262	38.21	139.70	0.0137	73.22
5.625	.0275	36.33	142.88	0.0144	69.63
5.750	.0289	34.60	146.05	0.0151	66.30
5.875	.0303	32.99	149.23	0.0158	63.21
6.000	.0318	31.49	152.40	0.0166	60.34
6.125	.0332	30.09	155.58	0.0173	57.67
6.250	.0347	28.79	158.75	0.0181	55.17
6.375	.0363	27.57	161.93	0.0189	52.84
6.500	.0378	26.43	165.10	0.0197	50.66
6.625	.0394	25.37	168.28	0.0206	48.61
6.750	.0410	24.36	171.45	0.0214	46.69
6.875	.0427	23.42	174.63	0.0223	44.88
7.000	.0444	22.53	177.80	0.0232	43.17
7.125	.0461	21.69	180.98	0.0241	41.57
7.250	.0478	20.90	184.15	0.0250	40.05
7.375	.0496	20.15	187.33	0.0259	38.62
7.500	.0514	19.44	190.50	0.0268	37.26
7.625	.0533	18.77	193.68	0.0278	35.98
7.750	.0551	18.14	196.85	0.0288	34.76
7.875	.0570	17.53	200.03	0.0298	33.60
8.000	.0590	16.96	203.20	0.0308	32.50
8.125	.0609	16.42	206.38	0.0318	31.46
8.250	.0629	15.90	209.55	0.0328	30.47
8.375	.0649	15.40	212.73	0.0339	29.52
8.500	.0670	14.93	215.90	0.0349	28.61
8.625	.0691	14.48	219.08	0.0360	27.75
8.750	.0712	14.05	222.25	0.0371	26.93
8.875	.0733	13.64	225.43	0.0383	26.14
9.000	.0755	13.25	228.60	0.0394	25.39
9.125	.0777	12.87	231.78	0.0405	24.67

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS Tubing O.D. 1.050" <i>FOUR STRINGS</i>			METRIC UNITS Tubing O.D. 26.67 mm <i>FOUR STRINGS</i>		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
3.375	.0068	147.47	85.73	.0035	282.61
3.500	.0076	131.30	88.90	.0040	251.63
3.625	.0085	117.91	92.08	.0044	225.96
3.750	.0094	106.65	95.25	.0049	204.38
3.875	.0103	97.06	98.43	.0054	186.01
4.000	.0113	88.82	101.60	.0059	170.21
4.125	.0122	81.66	104.78	.0064	156.50
4.250	.0133	75.40	107.95	.0069	144.50
4.375	.0143	69.88	111.13	.0075	133.92
4.500	.0154	64.99	114.30	.0080	124.54
4.625	.0165	60.62	117.48	.0086	116.18
4.750	.0176	56.71	120.65	.0092	108.68
4.875	.0188	53.18	123.83	.0098	101.92
5.000	.0200	50.00	127.00	.0104	95.81
5.125	.0212	47.10	130.18	.0111	90.26
5.250	.0225	44.46	133.35	.0117	85.21
5.375	.0238	42.05	136.53	.0124	80.58
5.500	.0251	39.84	139.70	.0131	76.35
5.625	.0265	37.80	142.88	.0138	72.45
5.750	.0278	35.93	146.05	.0145	68.85
5.875	.0292	34.19	149.23	.0153	65.53
6.000	.0307	32.59	152.40	.0160	62.45
6.125	.0322	31.09	155.58	.0168	59.59
6.250	.0337	29.71	158.75	.0176	56.93
6.375	.0352	28.41	161.93	.0184	54.45
6.500	.0368	27.20	165.10	.0192	52.13
6.625	.0384	26.07	168.28	.0200	49.97
6.750	.0400	25.01	171.45	.0209	47.94
6.875	.0416	24.02	174.63	.0217	46.03
7.000	.0433	23.09	177.80	.0226	44.24
7.125	.0450	22.21	180.98	.0235	42.56
7.250	.0468	21.38	184.15	.0244	40.97
7.375	.0486	20.60	187.33	.0253	39.47
7.500	.0504	19.86	190.50	.0263	38.05
7.625	.0522	19.16	193.68	.0272	36.72
7.750	.0541	18.50	196.85	.0282	35.45
7.875	.0560	17.87	200.03	.0292	34.25
8.000	.0579	17.27	203.20	.0302	33.11
8.125	.0598	16.71	206.38	.0312	32.02
8.250	.0618	16.17	209.55	.0323	30.99
8.375	.0639	15.66	212.73	.0333	30.01
8.500	.0659	15.17	215.90	.0344	29.08
8.625	.0680	14.71	219.08	.0355	28.19
8.750	.0701	14.27	222.25	.0366	27.34
8.875	.0722	13.84	225.43	.0377	26.53
9.000	.0744	13.44	228.60	.0388	25.76
9.125	.0766	13.05	231.78	.0400	25.02
9.250	.0788	12.68	234.95	.0411	24.31
9.375	.0811	12.33	238.13	.0423	23.63
9.500	.0834	11.99	241.30	.0435	22.98

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS Tubing O.D. 1.315"			METRIC UNITS Tubing O.D. 33.40 mm		
<i>ONE STRING</i>			<i>ONE STRING</i>		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
1.750	.0013	772.09	44.45	.0007	1479.64
1.875	.0017	576.25	47.63	.0009	1104.32
2.000	.0022	453.33	50.80	.0012	868.76
2.125	.0027	369.44	53.98	.0014	708.00
2.250	.0032	308.83	57.15	.0017	591.84
2.375	.0038	263.18	60.33	.0020	504.36
2.500	.0044	227.71	63.50	.0023	436.38
2.625	.0050	199.44	66.68	.0026	382.21
2.750	.0057	176.47	69.85	.0030	338.19
2.875	.0063	157.49	73.03	.0033	301.81
3.000	.0071	141.58	76.20	.0037	271.33
3.125	.0078	128.09	79.38	.0041	245.48
3.250	.0086	116.54	82.55	.0045	223.33
3.375	.0094	106.55	85.73	.0049	204.19
3.500	.0102	97.85	88.90	.0053	187.51
3.625	.0111	90.21	92.08	.0058	172.88
3.750	.0120	83.47	95.25	.0063	159.95
3.875	.0129	77.48	98.43	.0067	148.48
4.000	.0139	72.13	101.60	.0072	138.24
4.125	.0148	67.34	104.78	.0077	129.05
4.250	.0159	63.03	107.95	.0083	120.78
4.375	.0169	59.12	111.13	.0088	113.30
4.500	.0180	55.58	114.30	.0094	106.52
4.625	.0191	52.36	117.48	.0100	100.34
4.750	.0202	49.41	120.65	.0106	94.69
4.875	.0214	46.71	123.83	.0112	89.52
5.000	.0226	44.24	127.00	.0118	84.77
5.125	.0238	41.95	130.18	.0124	80.40
5.250	.0251	39.85	133.35	.0131	76.37
5.375	.0264	37.90	136.53	.0138	72.63
5.500	.0277	36.09	139.70	.0145	69.17
5.625	.0291	34.42	142.88	.0152	65.95
5.750	.0304	32.85	146.05	.0159	62.96
5.875	.0318	31.40	149.23	.0166	60.17
6.000	.0333	30.04	152.40	.0174	57.56
6.125	.0348	28.77	155.58	.0181	55.13
6.250	.0363	27.57	158.75	.0189	52.84
6.375	.0378	26.46	161.93	.0197	50.70
6.500	.0394	25.40	165.10	.0205	48.69
6.625	.0410	24.42	168.28	.0214	46.79
6.750	.0426	23.48	171.45	.0222	45.01
6.875	.0442	22.61	174.63	.0231	43.32
7.000	.0459	21.78	177.80	.0240	41.73
7.125	.0476	20.99	180.98	.0249	40.23
7.250	.0494	20.25	184.15	.0258	38.81
7.375	.0512	19.55	187.33	.0267	37.46
7.500	.0530	18.88	190.50	.0276	36.18
7.625	.0548	18.25	193.68	.0286	34.97
7.750	.0567	17.65	196.85	.0296	33.82
7.875	.0586	17.08	200.03	.0306	32.72

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 1.315"			Tubing O.D. 33.40 mm		
TWO STRINGS			TWO STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
3.375	.0077	129.78	85.73	.0040	248.70
3.500	.0085	117.09	88.90	.0045	224.39
3.625	.0094	106.32	92.08	.0049	203.75
3.750	.0103	97.08	95.25	.0054	186.04
3.875	.0112	89.07	98.43	.0059	170.70
4.000	.0122	82.08	101.60	.0064	157.30
4.125	.0132	75.93	104.78	.0069	145.51
4.250	.0142	70.49	107.95	.0074	135.08
4.375	.0152	65.64	111.13	.0079	125.80
4.500	.0163	61.31	114.30	.0085	117.49
4.625	.0174	57.41	117.48	.0091	110.01
4.750	.0186	53.88	120.65	.0097	103.26
4.875	.0197	50.69	123.83	.0103	97.15
5.000	.0209	47.79	127.00	.0109	91.58
5.125	.0222	45.14	130.18	.0116	86.50
5.250	.0234	42.71	133.35	.0122	81.84
5.375	.0247	40.48	136.53	.0129	77.57
5.500	.0260	38.42	139.70	.0136	73.63
5.625	.0274	36.53	142.88	.0143	70.00
5.750	.0288	34.77	146.05	.0150	66.64
5.875	.0302	33.15	149.23	.0157	63.52
6.000	.0316	31.63	152.40	.0165	60.62
6.125	.0331	30.23	155.58	.0173	57.92
6.250	.0346	28.91	158.75	.0180	55.41
6.375	.0361	27.69	161.93	.0188	53.06
6.500	.0377	26.54	165.10	.0197	50.86
6.625	.0393	25.46	168.28	.0205	48.79
6.750	.0409	24.45	171.45	.0213	46.85
6.875	.0426	23.50	174.63	.0222	45.03
7.000	.0442	22.60	177.80	.0231	43.32
7.125	.0460	21.76	180.98	.0240	41.70
7.250	.0477	20.96	184.15	.0249	40.18
7.375	.0495	20.21	187.33	.0258	38.73
7.500	.0513	19.50	190.50	.0268	37.37
7.625	.0531	18.83	193.68	.0277	36.08
7.750	.0550	18.19	196.85	.0287	34.85
7.875	.0569	17.58	200.03	.0297	33.69
8.000	.0588	17.00	203.20	.0307	32.59
8.125	.0608	16.46	206.38	.0317	31.54
8.250	.0628	15.93	209.55	.0327	30.54
8.375	.0648	15.44	212.73	.0338	29.58
8.500	.0668	14.96	215.90	.0349	28.68
8.625	.0689	14.51	219.08	.0360	27.81
8.750	.0710	14.08	222.25	.0371	26.99
8.875	.0732	13.67	225.43	.0382	26.20
9.000	.0753	13.28	228.60	.0393	25.44
9.125	.0775	12.90	231.78	.0405	24.72
9.250	.0798	12.54	234.95	.0416	24.03
9.375	.0820	12.19	238.13	.0428	23.37
9.500	.0843	11.86	241.30	.0440	22.73

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.315"			Tubing O.D. 33.40 mm			
THREE STRINGS			THREE STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
3.625	.0077	129.44	92.08	.0040	248.05	
3.750	.0086	115.99	95.25	.0045	222.29	
3.875	.0095	104.74	98.43	.0050	200.73	
4.000	.0105	95.21	101.60	.0055	182.45	
4.125	.0115	87.03	104.78	.0060	166.79	
4.250	.0125	79.96	107.95	.0065	153.23	
4.375	.0136	73.78	111.13	.0071	141.39	
4.500	.0146	68.34	114.30	.0076	130.97	
4.625	.0157	63.53	117.48	.0082	121.75	
4.750	.0169	59.25	120.65	.0088	113.54	
4.875	.0180	55.41	123.83	.0094	106.19	
5.000	.0192	51.96	127.00	.0100	99.57	
5.125	.0205	48.84	130.18	.0107	93.59	
5.250	.0217	46.01	133.35	.0113	88.17	
5.375	.0230	43.43	136.53	.0120	83.23	
5.500	.0243	41.07	139.70	.0127	78.71	
5.625	.0257	38.91	142.88	.0134	74.58	
5.750	.0271	36.93	146.05	.0141	70.77	
5.875	.0285	35.10	149.23	.0149	67.27	
6.000	.0299	33.41	152.40	.0156	64.03	
6.125	.0314	31.84	155.58	.0164	61.02	
6.250	.0329	30.39	158.75	.0172	58.24	
6.375	.0344	29.04	161.93	.0180	55.64	
6.500	.0360	27.78	165.10	.0188	53.23	
6.625	.0376	26.60	168.28	.0196	50.97	
6.750	.0392	25.50	171.45	.0205	48.86	
6.875	.0409	24.46	174.63	.0213	46.88	
7.000	.0426	23.50	177.80	.0222	45.03	
7.125	.0443	22.59	180.98	.0231	43.28	
7.250	.0460	21.73	184.15	.0240	41.64	
7.375	.0478	20.92	187.33	.0249	40.09	
7.500	.0496	20.16	190.50	.0259	38.63	
7.625	.0514	19.44	193.68	.0268	37.25	
7.750	.0533	18.76	196.85	.0278	35.95	
7.875	.0552	18.11	200.03	.0288	34.71	
8.000	.0571	17.50	203.20	.0298	33.54	
8.125	.0591	16.92	206.38	.0308	32.43	
8.250	.0611	16.37	209.55	.0319	31.38	
8.375	.0631	15.85	212.73	.0329	30.37	
8.500	.0651	15.35	215.90	.0340	29.42	
8.625	.0672	14.88	219.08	.0351	28.51	
8.750	.0693	14.42	222.25	.0362	27.64	
8.875	.0715	13.99	225.43	.0373	26.81	
9.000	.0736	13.58	228.60	.0384	26.02	
9.125	.0758	13.18	231.78	.0396	25.27	
9.250	.0781	12.81	234.95	.0407	24.54	
9.375	.0803	12.45	238.13	.0419	23.85	
9.500	.0826	12.10	241.30	.0431	23.19	
9.625	.0850	11.77	244.48	.0443	22.56	
9.750	.0873	11.45	247.65	.0456	21.95	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 1.315"			Tubing O.D. 33.40 mm		
FOUR STRINGS			FOUR STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
4.000	.0088	113.33	101.60	.0046	217.19
4.125	.0098	101.94	104.78	.0051	195.35
4.250	.0108	92.36	107.95	.0056	177.00
4.375	.0119	84.21	111.13	.0062	161.39
4.500	.0130	77.21	114.30	.0068	147.96
4.625	.0141	71.12	117.48	.0073	136.30
4.750	.0152	65.80	120.65	.0079	126.09
4.875	.0164	61.10	123.83	.0085	117.09
5.000	.0176	56.93	127.00	.0092	109.09
5.125	.0188	53.20	130.18	.0098	101.96
5.250	.0201	49.86	133.35	.0105	95.55
5.375	.0213	46.85	136.53	.0111	89.78
5.500	.0227	44.12	139.70	.0118	84.55
5.625	.0240	41.64	142.88	.0125	79.79
5.750	.0254	39.37	146.05	.0133	75.45
5.875	.0268	37.30	149.23	.0140	71.48
6.000	.0283	35.40	152.40	.0147	67.83
6.125	.0297	33.64	155.58	.0155	64.47
6.250	.0312	32.02	158.75	.0163	61.37
6.375	.0328	30.52	161.93	.0171	58.50
6.500	.0343	29.13	165.10	.0179	55.83
6.625	.0359	27.84	168.28	.0187	53.36
6.750	.0375	26.64	171.45	.0196	51.05
6.875	.0392	25.51	174.63	.0205	48.89
7.000	.0409	24.46	177.80	.0213	46.88
7.125	.0426	23.48	180.98	.0222	44.99
7.250	.0443	22.55	184.15	.0231	43.22
7.375	.0461	21.68	187.33	.0241	41.55
7.500	.0479	20.87	190.50	.0250	39.99
7.625	.0498	20.10	193.68	.0260	38.51
7.750	.0516	19.37	196.85	.0269	37.12
7.875	.0535	18.68	200.03	.0279	35.80
8.000	.0555	18.03	203.20	.0289	34.56
8.125	.0574	17.42	206.38	.0300	33.38
8.250	.0594	16.84	209.55	.0310	32.26
8.375	.0614	16.28	212.73	.0320	31.20
8.500	.0635	15.76	215.90	.0331	30.20
8.625	.0655	15.26	219.08	.0342	29.24
8.750	.0677	14.78	222.25	.0353	28.33
8.875	.0698	14.33	225.43	.0364	27.46
9.000	.0720	13.90	228.60	.0376	26.63
9.125	.0742	13.48	231.78	.0387	25.84
9.250	.0764	13.09	234.95	.0399	25.08
9.375	.0787	12.71	238.13	.0410	24.36
9.500	.0810	12.35	241.30	.0422	23.67
9.625	.0833	12.01	244.48	.0435	23.01
9.750	.0856	11.68	247.65	.0447	22.38
9.875	.0880	11.36	250.83	.0459	21.77
10.000	.0904	11.06	254.00	.0472	21.19
10.125	.0929	10.77	257.18	.0485	20.64

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 1.660"			Tubing O.D. 42.16 mm		
ONE STRING			ONE STRING		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
2.125	.0017	584.89	53.98	.0009	1120.87
2.250	.0022	446.23	57.15	.0012	855.16
2.375	.0028	356.81	60.33	.0015	683.79
2.500	.0034	294.59	63.50	.0018	564.55
2.625	.0040	248.95	66.68	.0021	477.09
2.750	.0047	214.15	69.85	.0024	410.40
2.875	.0054	186.83	73.03	.0028	358.03
3.000	.0061	164.85	76.20	.0032	315.92
3.125	.0068	146.85	79.38	.0036	281.42
3.250	.0076	131.86	82.55	.0040	252.69
3.375	.0084	119.21	85.73	.0044	228.46
3.500	.0092	108.42	88.90	.0048	207.78
3.625	.0101	99.12	92.08	.0053	189.96
3.750	.0110	91.04	95.25	.0057	174.47
3.875	.0119	83.97	98.43	.0062	160.91
4.000	.0129	77.72	101.60	.0067	148.95
4.125	.0139	72.19	104.78	.0072	138.34
4.250	.0149	67.25	107.95	.0078	128.88
4.375	.0159	62.83	111.13	.0083	120.40
4.500	.0170	58.84	114.30	.0089	112.77
4.625	.0181	55.24	117.48	.0094	105.86
4.750	.0192	51.97	120.65	.0100	99.60
4.875	.0204	49.00	123.83	.0107	93.90
5.000	.0216	46.28	127.00	.0113	88.69
5.125	.0228	43.79	130.18	.0119	83.91
5.250	.0241	41.50	133.35	.0126	79.52
5.375	.0254	39.39	136.53	.0132	75.48
5.500	.0267	37.44	139.70	.0139	71.75
5.625	.0281	35.64	142.88	.0146	68.30
5.750	.0294	33.97	146.05	.0154	65.09
5.875	.0309	32.41	149.23	.0161	62.11
6.000	.0323	30.97	152.40	.0169	59.34
6.125	.0338	29.61	155.58	.0176	56.75
6.250	.0353	28.35	158.75	.0184	54.34
6.375	.0368	27.17	161.93	.0192	52.07
6.500	.0384	26.06	165.10	.0200	49.95
6.625	.0400	25.03	168.28	.0209	47.96
6.750	.0416	24.05	171.45	.0217	46.09
6.875	.0432	23.13	174.63	.0226	44.32
7.000	.0449	22.26	177.80	.0234	42.66
7.125	.0466	21.44	180.98	.0243	41.09
7.250	.0484	20.67	184.15	.0252	39.61
7.375	.0502	19.94	187.33	.0262	38.21
7.500	.0520	19.24	190.50	.0271	36.88
7.625	.0538	18.59	193.68	.0281	35.62
7.750	.0557	17.96	196.85	.0290	34.42
7.875	.0576	17.37	200.03	.0300	33.29
8.000	.0595	16.81	203.20	.0310	32.21
8.125	.0615	16.27	206.38	.0321	31.18
8.250	.0634	15.76	209.55	.0331	30.21

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.660"			Tubing O.D. 42.16 mm			
TWO STRINGS			TWO STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
4.000	.0102	98.14	101.60	.0053	188.08	
4.125	.0112	89.48	104.78	.0058	171.48	
4.250	.0122	82.02	107.95	.0064	157.18	
4.375	.0132	75.53	111.13	.0069	144.74	
4.500	.0143	69.84	114.30	.0075	133.85	
4.625	.0154	64.83	117.48	.0080	124.23	
4.750	.0166	60.37	120.65	.0086	115.70	
4.875	.0177	56.39	123.83	.0093	108.07	
5.000	.0189	52.82	127.00	.0099	101.23	
5.125	.0202	49.60	130.18	.0105	95.05	
5.250	.0214	46.68	133.35	.0112	89.46	
5.375	.0227	44.03	136.53	.0119	84.38	
5.500	.0240	41.61	139.70	.0125	79.74	
5.625	.0254	39.40	142.88	.0132	75.50	
5.750	.0268	37.36	146.05	.0140	71.60	
5.875	.0282	35.49	149.23	.0147	68.02	
6.000	.0296	33.76	152.40	.0155	64.70	
6.125	.0311	32.16	155.58	.0162	61.64	
6.250	.0326	30.68	158.75	.0170	58.80	
6.375	.0341	29.30	161.93	.0178	56.16	
6.500	.0357	28.02	165.10	.0186	53.70	
6.625	.0373	26.82	168.28	.0195	51.40	
6.750	.0389	25.70	171.45	.0203	49.26	
6.875	.0406	24.65	174.63	.0212	47.25	
7.000	.0422	23.67	177.80	.0220	45.36	
7.125	.0440	22.75	180.98	.0229	43.59	
7.250	.0457	21.88	184.15	.0239	41.93	
7.375	.0475	21.06	187.33	.0248	40.36	
7.500	.0493	20.29	190.50	.0257	38.88	
7.625	.0511	19.56	193.68	.0267	37.48	
7.750	.0530	18.87	196.85	.0277	36.16	
7.875	.0549	18.22	200.03	.0286	34.91	
8.000	.0568	17.60	203.20	.0296	33.73	
8.125	.0588	17.01	206.38	.0307	32.61	
8.250	.0608	16.46	209.55	.0317	31.54	
8.375	.0628	15.93	212.73	.0328	30.52	
8.500	.0648	15.42	215.90	.0338	29.56	
8.625	.0669	14.95	219.08	.0349	28.64	
8.750	.0690	14.49	222.25	.0360	27.77	
8.875	.0712	14.05	225.43	.0371	26.93	
9.000	.0733	13.64	228.60	.0383	26.13	
9.125	.0755	13.24	231.78	.0394	25.37	
9.250	.0778	12.86	234.95	.0406	24.64	
9.375	.0800	12.50	238.13	.0418	23.95	
9.500	.0823	12.15	241.30	.0430	23.28	
9.625	.0846	11.81	244.48	.0442	22.64	
9.750	.0870	11.50	247.65	.0454	22.03	
9.875	.0894	11.19	250.83	.0466	21.44	
10.000	.0918	10.89	254.00	.0479	20.88	
10.125	.0942	10.61	257.18	.0492	20.34	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 1.660"			Tubing O.D. 42.16 mm		
THREE STRINGS			THREE STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
4.375	.0106	94.67	111.13	.0055	181.42
4.500	.0116	85.90	114.30	.0061	164.63
4.625	.0127	78.44	117.48	.0067	150.32
4.750	.0139	72.01	120.65	.0072	138.00
4.875	.0151	66.42	123.83	.0079	127.28
5.000	.0163	61.52	127.00	.0085	117.90
5.125	.0175	57.19	130.18	.0091	109.61
5.250	.0187	53.35	133.35	.0098	102.24
5.375	.0200	49.91	136.53	.0105	95.65
5.500	.0214	46.83	139.70	.0111	89.74
5.625	.0227	44.04	142.88	.0118	84.40
5.750	.0241	41.52	146.05	.0126	79.56
5.875	.0255	39.22	149.23	.0133	75.16
6.000	.0269	37.12	152.40	.0141	71.13
6.125	.0284	35.20	155.58	.0148	67.45
6.250	.0299	33.43	158.75	.0156	64.06
6.375	.0314	31.80	161.93	.0164	60.94
6.500	.0330	30.29	165.10	.0172	58.05
6.625	.0346	28.90	168.28	.0181	55.38
6.750	.0362	27.60	171.45	.0189	52.90
6.875	.0379	26.40	174.63	.0198	50.59
7.000	.0396	25.27	177.80	.0206	48.43
7.125	.0413	24.22	180.98	.0215	46.42
7.250	.0430	23.24	184.15	.0225	44.54
7.375	.0448	22.32	187.33	.0234	42.77
7.500	.0466	21.45	190.50	.0243	41.11
7.625	.0484	20.64	193.68	.0253	39.56
7.750	.0503	19.87	196.85	.0263	38.09
7.875	.0522	19.15	200.03	.0272	36.70
8.000	.0541	18.47	203.20	.0283	35.40
8.125	.0561	17.83	206.38	.0293	34.16
8.250	.0581	17.22	209.55	.0303	32.99
8.375	.0601	16.64	212.73	.0314	31.88
8.500	.0622	16.09	215.90	.0324	30.83
8.625	.0642	15.57	219.08	.0335	29.83
8.750	.0663	15.07	222.25	.0346	28.89
8.875	.0685	14.60	225.43	.0357	27.98
9.000	.0707	14.15	228.60	.0369	27.12
9.125	.0729	13.73	231.78	.0380	26.30
9.250	.0751	13.32	234.95	.0392	25.52
9.375	.0773	12.93	238.13	.0404	24.78
9.500	.0796	12.56	241.30	.0416	24.06
9.625	.0820	12.20	244.48	.0428	23.38
9.750	.0843	11.86	247.65	.0440	22.73
9.875	.0867	11.53	250.83	.0452	22.10
10.000	.0891	11.22	254.00	.0465	21.51
10.125	.0916	10.92	257.18	.0478	20.93
10.250	.0940	10.63	260.35	.0491	20.38
10.375	.0965	10.36	263.53	.0504	19.85
10.500	.0991	10.09	266.70	.0517	19.34

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.660"			Tubing O.D. 42.16 mm			
FOUR STRINGS			FOUR STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
4.875	.0124	80.78	123.83	.0065	154.81	
5.000	.0136	73.65	127.00	.0071	141.14	
5.125	.0148	67.53	130.18	.0077	129.42	
5.250	.0161	62.24	133.35	.0084	119.27	
5.375	.0174	57.61	136.53	.0091	110.41	
5.500	.0187	53.54	139.70	.0097	102.60	
5.625	.0200	49.93	142.88	.0105	95.68	
5.750	.0214	46.71	146.05	.0112	89.51	
5.875	.0228	43.82	149.23	.0119	83.97	
6.000	.0243	41.21	152.40	.0127	78.98	
6.125	.0257	38.86	155.58	.0134	74.46	
6.250	.0272	36.71	158.75	.0142	70.36	
6.375	.0288	34.76	161.93	.0150	66.61	
6.500	.0303	32.96	165.10	.0158	63.17	
6.625	.0319	31.32	168.28	.0167	60.02	
6.750	.0336	29.80	171.45	.0175	57.12	
6.875	.0352	28.40	174.63	.0184	54.43	
7.000	.0369	27.11	177.80	.0193	51.95	
7.125	.0386	25.90	180.98	.0201	49.64	
7.250	.0404	24.78	184.15	.0211	47.49	
7.375	.0421	23.74	187.33	.0220	45.49	
7.500	.0439	22.76	190.50	.0229	43.62	
7.625	.0458	21.85	193.68	.0239	41.87	
7.750	.0476	20.99	196.85	.0249	40.23	
7.875	.0495	20.19	200.03	.0258	38.69	
8.000	.0515	19.43	203.20	.0269	37.24	
8.125	.0534	18.72	206.38	.0279	35.87	
8.250	.0554	18.05	209.55	.0289	34.59	
8.375	.0574	17.41	212.73	.0300	33.37	
8.500	.0595	16.81	215.90	.0310	32.22	
8.625	.0616	16.24	219.08	.0321	31.13	
8.750	.0637	15.71	222.25	.0332	30.10	
8.875	.0658	15.20	225.43	.0343	29.12	
9.000	.0680	14.71	228.60	.0355	28.19	
9.125	.0702	14.25	231.78	.0366	27.31	
9.250	.0724	13.81	234.95	.0378	26.47	
9.375	.0747	13.39	238.13	.0390	25.66	
9.500	.0770	12.99	241.30	.0402	24.90	
9.625	.0793	12.61	244.48	.0414	24.17	
9.750	.0816	12.25	247.65	.0426	23.47	
9.875	.0840	11.90	250.83	.0438	22.81	
10.000	.0864	11.57	254.00	.0451	22.17	
10.125	.0889	11.25	257.18	.0464	21.56	
10.250	.0914	10.95	260.35	.0477	20.98	
10.375	.0939	10.65	263.53	.0490	20.42	
10.500	.0964	10.37	266.70	.0503	19.88	
10.625	.0990	10.11	269.88	.0516	19.37	
10.750	.1016	9.85	273.05	.0530	18.87	
10.875	.1042	9.60	276.23	.0544	18.40	
11.000	.1068	9.36	279.40	.0557	17.94	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS Tubing O.D. 1.900"			METRIC UNITS Tubing O.D. 48.26 mm		
<i>ONE STRING</i>			<i>ONE STRING</i>		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
2.375	.0020	506.94	60.33	.0010	971.50
2.500	.0026	389.93	63.50	.0013	747.26
2.625	.0032	313.79	66.68	.0017	601.34
2.750	.0038	260.45	69.85	.0020	499.12
2.875	.0045	221.11	73.03	.0024	423.74
3.000	.0052	190.99	76.20	.0027	366.00
3.125	.0060	167.23	79.38	.0031	320.48
3.250	.0068	148.06	82.55	.0035	283.75
3.375	.0076	132.30	85.73	.0039	253.55
3.500	.0084	119.15	88.90	.0044	228.33
3.625	.0093	108.01	92.08	.0048	206.99
3.750	.0102	98.48	95.25	.0053	188.74
3.875	.0111	90.25	98.43	.0058	172.96
4.000	.0120	83.08	101.60	.0063	159.22
4.125	.0130	76.79	104.78	.0068	147.16
4.250	.0140	71.23	107.95	.0073	136.50
4.375	.0151	66.28	111.13	.0079	127.02
4.500	.0162	61.86	114.30	.0084	118.56
4.625	.0173	57.90	117.48	.0090	110.95
4.750	.0184	54.32	120.65	.0096	104.09
4.875	.0196	51.07	123.83	.0102	97.88
5.000	.0208	48.13	127.00	.0108	92.23
5.125	.0220	45.44	130.18	.0115	87.08
5.250	.0233	42.98	133.35	.0121	82.36
5.375	.0246	40.72	136.53	.0128	78.03
5.500	.0259	38.64	139.70	.0135	74.05
5.625	.0272	36.72	142.88	.0142	70.38
5.750	.0286	34.95	146.05	.0149	66.98
5.875	.0300	33.31	149.23	.0157	63.83
6.000	.0315	31.78	152.40	.0164	60.91
6.125	.0329	30.36	155.58	.0172	58.18
6.250	.0344	29.04	158.75	.0180	55.65
6.375	.0360	27.80	161.93	.0188	53.27
6.500	.0375	26.64	165.10	.0196	51.05
6.625	.0391	25.56	168.28	.0204	48.98
6.750	.0408	24.54	171.45	.0213	47.02
6.875	.0424	23.58	174.63	.0221	45.19
7.000	.0441	22.68	177.80	.0230	43.46
7.125	.0458	21.83	180.98	.0239	41.84
7.250	.0476	21.03	184.15	.0248	40.30
7.375	.0493	20.27	187.33	.0257	38.85
7.500	.0511	19.56	190.50	.0267	37.48
7.625	.0530	18.88	193.68	.0276	36.18
7.750	.0548	18.24	196.85	.0286	34.95
7.875	.0567	17.63	200.03	.0296	33.78
8.000	.0587	17.05	203.20	.0306	32.67
8.125	.0606	16.50	206.38	.0316	31.61
8.250	.0626	15.97	209.55	.0327	30.61
8.375	.0646	15.47	212.73	.0337	29.65
8.500	.0667	15.00	215.90	.0348	28.74

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.900"			Tubing O.D. 48.26 mm			
TWO STRINGS			TWO STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
4.500	.0127	79.00	114.30	.0066	151.40	
4.625	.0138	72.64	117.48	.0072	139.21	
4.750	.0149	67.10	120.65	.0078	128.58	
4.875	.0161	62.22	123.83	.0084	119.23	
5.000	.0173	57.90	127.00	.0090	110.95	
5.125	.0185	54.05	130.18	.0097	103.58	
5.250	.0198	50.60	133.35	.0103	96.98	
5.375	.0211	47.50	136.53	.0110	91.03	
5.500	.0224	44.70	139.70	.0117	85.66	
5.625	.0237	42.15	142.88	.0124	80.78	
5.750	.0251	39.83	146.05	.0131	76.34	
5.875	.0265	37.71	149.23	.0138	72.27	
6.000	.0280	35.77	152.40	.0146	68.55	
6.125	.0294	33.98	155.58	.0154	65.12	
6.250	.0309	32.33	158.75	.0161	61.95	
6.375	.0325	30.80	161.93	.0169	59.03	
6.500	.0340	29.39	165.10	.0178	56.32	
6.625	.0356	28.07	168.28	.0186	53.80	
6.750	.0372	26.85	171.45	.0194	51.45	
6.875	.0389	25.71	174.63	.0203	49.26	
7.000	.0406	24.64	177.80	.0212	47.22	
7.125	.0423	23.64	180.98	.0221	45.30	
7.250	.0440	22.70	184.15	.0230	43.51	
7.375	.0458	21.82	187.33	.0239	41.82	
7.500	.0476	21.00	190.50	.0249	40.24	
7.625	.0495	20.22	193.68	.0258	38.74	
7.750	.0513	19.48	196.85	.0268	37.33	
7.875	.0532	18.79	200.03	.0278	36.00	
8.000	.0552	18.13	203.20	.0288	34.74	
8.125	.0571	17.51	206.38	.0298	33.55	
8.250	.0591	16.92	209.55	.0308	32.42	
8.375	.0611	16.36	212.73	.0319	31.35	
8.500	.0632	15.83	215.90	.0330	30.34	
8.625	.0653	15.33	219.08	.0340	29.37	
8.750	.0674	14.85	222.25	.0351	28.45	
8.875	.0695	14.39	225.43	.0363	27.57	
9.000	.0717	13.95	228.60	.0374	26.74	
9.125	.0739	13.54	231.78	.0385	25.94	
9.250	.0761	13.14	234.95	.0397	25.18	
9.375	.0784	12.76	238.13	.0409	24.45	
9.500	.0807	12.40	241.30	.0421	23.76	
9.625	.0830	12.05	244.48	.0433	23.09	
9.750	.0853	11.72	247.65	.0445	22.46	
9.875	.0877	11.40	250.83	.0458	21.85	
10.000	.0901	11.10	254.00	.0470	21.26	
10.125	.0926	10.80	257.18	.0483	20.70	
10.250	.0950	10.52	260.35	.0496	20.16	
10.375	.0976	10.25	263.53	.0509	19.64	
10.500	.1001	9.99	266.70	.0522	19.15	
10.625	.1027	9.74	269.88	.0536	18.67	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.900"			Tubing O.D. 48.26 mm			
THREE STRINGS			THREE STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
4.875	.0126	79.58	123.83	.0066	152.51	
5.000	.0138	72.65	127.00	.0072	139.22	
5.125	.0150	66.69	130.18	.0078	127.81	
5.250	.0163	61.52	133.35	.0085	117.90	
5.375	.0175	57.00	136.53	.0092	109.23	
5.500	.0189	53.01	139.70	.0098	101.58	
5.625	.0202	49.47	142.88	.0105	94.80	
5.750	.0216	46.30	146.05	.0113	88.73	
5.875	.0230	43.46	149.23	.0120	83.29	
6.000	.0245	40.90	152.40	.0128	78.38	
6.125	.0259	38.58	155.58	.0135	73.93	
6.250	.0274	36.46	158.75	.0143	69.88	
6.375	.0290	34.53	161.93	.0151	66.18	
6.500	.0305	32.76	165.10	.0159	62.79	
6.625	.0321	31.14	168.28	.0168	59.67	
6.750	.0337	29.64	171.45	.0176	56.80	
6.875	.0354	28.25	174.63	.0185	54.14	
7.000	.0371	26.97	177.80	.0193	51.68	
7.125	.0388	25.78	180.98	.0202	49.40	
7.250	.0405	24.67	184.15	.0212	47.27	
7.375	.0423	23.63	187.33	.0221	45.29	
7.500	.0441	22.66	190.50	.0230	43.43	
7.625	.0460	21.76	193.68	.0240	41.70	
7.750	.0478	20.91	196.85	.0250	40.07	
7.875	.0497	20.11	200.03	.0259	38.54	
8.000	.0517	19.36	203.20	.0270	37.10	
8.125	.0536	18.65	206.38	.0280	35.75	
8.250	.0556	17.99	209.55	.0290	34.47	
8.375	.0576	17.36	212.73	.0301	33.26	
8.500	.0597	16.76	215.90	.0311	32.12	
8.625	.0617	16.20	219.08	.0322	31.04	
8.750	.0639	15.66	222.25	.0333	30.01	
8.875	.0660	15.15	225.43	.0344	29.04	
9.000	.0682	14.67	228.60	.0356	28.11	
9.125	.0704	14.21	231.78	.0367	27.23	
9.250	.0726	13.77	234.95	.0379	26.40	
9.375	.0749	13.36	238.13	.0391	25.60	
9.500	.0772	12.96	241.30	.0403	24.84	
9.625	.0795	12.58	244.48	.0415	24.11	
9.750	.0818	12.22	247.65	.0427	23.42	
9.875	.0842	11.88	250.83	.0439	22.76	
10.000	.0866	11.54	254.00	.0452	22.12	
10.125	.0891	11.23	257.18	.0465	21.52	
10.250	.0915	10.92	260.35	.0478	20.94	
10.375	.0940	10.63	263.53	.0491	20.38	
10.500	.0966	10.35	266.70	.0504	19.84	
10.625	.0991	10.09	269.88	.0517	19.33	
10.750	.1017	9.83	273.05	.0531	18.84	
10.875	.1044	9.58	276.23	.0545	18.36	
11.000	.1070	9.34	279.40	.0558	17.91	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 1.900"			Tubing O.D. 48.26 mm			
FOUR STRINGS			FOUR STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
5.500	.0154	65.11	139.70	.0080	124.78	
5.625	.0167	59.85	142.88	.0087	114.69	
5.750	.0181	55.28	146.05	.0094	105.93	
5.875	.0195	51.28	149.23	.0102	98.27	
6.000	.0209	47.75	152.40	.0109	91.50	
6.125	.0224	44.61	155.58	.0117	85.49	
6.250	.0239	41.81	158.75	.0125	80.12	
6.375	.0255	39.29	161.93	.0133	75.29	
6.500	.0270	37.02	165.10	.0141	70.94	
6.625	.0286	34.95	168.28	.0149	66.99	
6.750	.0302	33.08	171.45	.0158	63.39	
6.875	.0319	31.36	174.63	.0166	60.10	
7.000	.0336	29.79	177.80	.0175	57.08	
7.125	.0353	28.34	180.98	.0184	54.31	
7.250	.0370	27.00	184.15	.0193	51.75	
7.375	.0388	25.77	187.33	.0203	49.38	
7.500	.0406	24.62	190.50	.0212	47.18	
7.625	.0425	23.56	193.68	.0222	45.14	
7.750	.0443	22.56	196.85	.0231	43.24	
7.875	.0462	21.64	200.03	.0241	41.47	
8.000	.0481	20.77	203.20	.0251	39.81	
8.125	.0501	19.96	206.38	.0261	38.25	
8.250	.0521	19.20	209.55	.0272	36.79	
8.375	.0541	18.48	212.73	.0282	35.42	
8.500	.0562	17.81	215.90	.0293	34.12	
8.625	.0582	17.17	219.08	.0304	32.91	
8.750	.0603	16.57	222.25	.0315	31.76	
8.875	.0625	16.00	225.43	.0326	30.67	
9.000	.0647	15.47	228.60	.0337	29.64	
9.125	.0669	14.96	231.78	.0349	28.66	
9.250	.0691	14.47	234.95	.0361	27.74	
9.375	.0714	14.02	238.13	.0372	26.86	
9.500	.0736	13.58	241.30	.0384	26.02	
9.625	.0760	13.16	244.48	.0396	25.23	
9.750	.0783	12.77	247.65	.0409	24.47	
9.875	.0807	12.39	250.83	.0421	23.75	
10.000	.0831	12.03	254.00	.0434	23.06	
10.125	.0856	11.69	257.18	.0446	22.40	
10.250	.0880	11.36	260.35	.0459	21.77	
10.375	.0905	11.05	263.53	.0472	21.17	
10.500	.0931	10.74	266.70	.0486	20.59	
10.625	.0956	10.46	269.88	.0499	20.04	
10.750	.0982	10.18	273.05	.0513	19.51	
10.875	.1009	9.91	276.23	.0526	19.00	
11.000	.1035	9.66	279.40	.0540	18.51	
11.125	.1062	9.42	282.58	.0554	18.04	
11.250	.1089	9.18	285.75	.0568	17.59	
11.375	.1117	8.96	288.93	.0583	17.16	
11.500	.1144	8.74	292.10	.0597	16.75	
11.625	.1173	8.53	295.28	.0612	16.34	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 2.063"			Tubing O.D. 52.40 mm		
ONE STRING			ONE STRING		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
2.500	.0019	516.25	63.50	.0010	989.33
2.625	.0026	390.72	66.68	.0013	748.77
2.750	.0032	311.33	69.85	.0017	596.63
2.875	.0039	256.73	73.03	.0020	492.00
3.000	.0046	216.99	76.20	.0024	415.84
3.125	.0054	186.84	79.38	.0028	358.06
3.250	.0061	163.23	82.55	.0032	312.81
3.375	.0069	144.28	85.73	.0036	276.50
3.500	.0078	128.77	88.90	.0041	246.78
3.625	.0086	115.86	92.08	.0045	222.04
3.750	.0095	104.97	95.25	.0050	201.17
3.875	.0105	95.67	98.43	.0055	183.35
4.000	.0114	87.65	101.60	.0060	167.98
4.125	.0124	80.68	104.78	.0065	154.61
4.250	.0134	74.56	107.95	.0070	142.89
4.375	.0145	69.16	111.13	.0075	132.54
4.500	.0155	64.36	114.30	.0081	123.34
4.625	.0166	60.08	117.48	.0087	115.13
4.750	.0178	56.23	120.65	.0093	107.76
4.875	.0190	52.76	123.83	.0099	101.12
5.000	.0202	49.62	127.00	.0105	95.10
5.125	.0214	46.77	130.18	.0112	89.63
5.250	.0226	44.17	133.35	.0118	84.64
5.375	.0239	41.79	136.53	.0125	80.08
5.500	.0253	39.60	139.70	.0132	75.89
5.625	.0266	37.59	142.88	.0139	72.04
5.750	.0280	35.74	146.05	.0146	68.48
5.875	.0294	34.02	149.23	.0153	65.19
6.000	.0308	32.43	152.40	.0161	62.15
6.125	.0323	30.95	155.58	.0169	59.31
6.250	.0338	29.58	158.75	.0176	56.68
6.375	.0353	28.29	161.93	.0184	54.22
6.500	.0369	27.09	165.10	.0193	51.92
6.625	.0385	25.97	168.28	.0201	49.77
6.750	.0401	24.92	171.45	.0209	47.76
6.875	.0418	23.93	174.63	.0218	45.87
7.000	.0435	23.01	177.80	.0227	44.09
7.125	.0452	22.13	180.98	.0236	42.42
7.250	.0469	21.31	184.15	.0245	40.84
7.375	.0487	20.53	187.33	.0254	39.35
7.500	.0505	19.80	190.50	.0264	37.94
7.625	.0523	19.10	193.68	.0273	36.61
7.750	.0542	18.45	196.85	.0283	35.35
7.875	.0561	17.82	200.03	.0293	34.15
8.000	.0580	17.23	203.20	.0303	33.02
8.125	.0600	16.67	206.38	.0313	31.94
8.250	.0620	16.13	209.55	.0323	30.92
8.375	.0640	15.62	212.73	.0334	29.94
8.500	.0661	15.14	215.90	.0345	29.01
8.625	.0681	14.68	219.08	.0356	28.13

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 2.063"			Tubing O.D. 52.40 mm		
TWO STRINGS			TWO STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
4.875	.0148	67.49	123.83	.0077	129.33
5.000	.0160	62.43	127.00	.0084	119.65
5.125	.0172	57.98	130.18	.0090	111.12
5.250	.0185	54.04	133.35	.0097	103.55
5.375	.0198	50.51	136.53	.0103	96.81
5.500	.0211	47.36	139.70	.0110	90.75
5.625	.0225	44.51	142.88	.0117	85.29
5.750	.0238	41.93	146.05	.0124	80.36
5.875	.0253	39.59	149.23	.0132	75.86
6.000	.0267	37.45	152.40	.0139	71.77
6.125	.0282	35.49	155.58	.0147	68.02
6.250	.0297	33.70	158.75	.0155	64.57
6.375	.0312	32.04	161.93	.0163	61.40
6.500	.0328	30.51	165.10	.0171	58.47
6.625	.0344	29.10	168.28	.0179	55.76
6.750	.0360	27.78	171.45	.0188	53.25
6.875	.0376	26.56	174.63	.0196	50.91
7.000	.0393	25.43	177.80	.0205	48.72
7.125	.0410	24.36	180.98	.0214	46.69
7.250	.0428	23.37	184.15	.0223	44.78
7.375	.0446	22.44	187.33	.0233	43.00
7.500	.0464	21.56	190.50	.0242	41.32
7.625	.0482	20.74	193.68	.0252	39.75
7.750	.0501	19.97	196.85	.0261	38.27
7.875	.0520	19.24	200.03	.0271	36.87
8.000	.0539	18.55	203.20	.0281	35.55
8.125	.0559	17.90	206.38	.0291	34.31
8.250	.0578	17.29	209.55	.0302	33.13
8.375	.0599	16.70	212.73	.0312	32.01
8.500	.0619	16.15	215.90	.0323	30.95
8.625	.0640	15.63	219.08	.0334	29.95
8.750	.0661	15.13	222.25	.0345	28.99
8.875	.0682	14.65	225.43	.0356	28.08
9.000	.0704	14.20	228.60	.0367	27.21
9.125	.0726	13.77	231.78	.0379	26.39
9.250	.0748	13.36	234.95	.0391	25.60
9.375	.0771	12.97	238.13	.0402	24.85
9.500	.0794	12.59	241.30	.0414	24.14
9.625	.0817	12.24	244.48	.0426	23.45
9.750	.0841	11.89	247.65	.0439	22.79
9.875	.0865	11.57	250.83	.0451	22.16
10.000	.0889	11.25	254.00	.0464	21.56
10.125	.0913	10.95	257.18	.0477	20.99
10.250	.0938	10.66	260.35	.0489	20.43
10.375	.0963	10.38	263.53	.0502	19.90
10.500	.0988	10.12	266.70	.0516	19.39
10.625	.1014	9.86	269.88	.0529	18.90
10.750	.1040	9.62	273.05	.0543	18.43
10.875	.1066	9.38	276.23	.0556	17.97
11.000	.1093	9.15	279.40	.0570	17.54

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 2.063"			Tubing O.D. 52.40 mm		
THREE STRINGS			THREE STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.250	.0144	69.58	133.35	.0075	133.34
5.375	.0157	63.85	136.53	.0082	122.36
5.500	.0170	58.88	139.70	.0089	112.84
5.625	.0183	54.55	142.88	.0096	104.53
5.750	.0197	50.72	146.05	.0103	97.21
5.875	.0211	47.33	149.23	.0110	90.71
6.000	.0226	44.31	152.40	.0118	84.92
6.125	.0240	41.60	155.58	.0125	79.71
6.250	.0255	39.15	158.75	.0133	75.03
6.375	.0271	36.93	161.93	.0141	70.78
6.500	.0286	34.92	165.10	.0149	66.91
6.625	.0302	33.08	168.28	.0158	63.39
6.750	.0319	31.39	171.45	.0166	60.16
6.875	.0335	29.84	174.63	.0175	57.19
7.000	.0352	28.41	177.80	.0184	54.45
7.125	.0369	27.09	180.98	.0193	51.92
7.250	.0387	25.87	184.15	.0202	49.57
7.375	.0404	24.73	187.33	.0211	47.40
7.500	.0422	23.67	190.50	.0220	45.37
7.625	.0441	22.69	193.68	.0230	43.48
7.750	.0459	21.77	196.85	.0240	41.71
7.875	.0478	20.90	200.03	.0250	40.06
8.000	.0498	20.09	203.20	.0260	38.51
8.125	.0517	19.33	206.38	.0270	37.05
8.250	.0537	18.62	209.55	.0280	35.68
8.375	.0557	17.94	212.73	.0291	34.39
8.500	.0578	17.31	215.90	.0302	33.17
8.625	.0599	16.71	219.08	.0312	32.01
8.750	.0620	16.14	222.25	.0323	30.92
8.875	.0641	15.60	225.43	.0335	29.89
9.000	.0663	15.09	228.60	.0346	28.91
9.125	.0685	14.60	231.78	.0357	27.98
9.250	.0707	14.14	234.95	.0369	27.10
9.375	.0730	13.70	238.13	.0381	26.26
9.500	.0753	13.29	241.30	.0393	25.46
9.625	.0776	12.89	244.48	.0405	24.70
9.750	.0799	12.51	247.65	.0417	23.97
9.875	.0823	12.15	250.83	.0430	23.28
10.000	.0847	11.80	254.00	.0442	22.62
10.125	.0872	11.47	257.18	.0455	21.98
10.250	.0897	11.15	260.35	.0468	21.37
10.375	.0922	10.85	263.53	.0481	20.79
10.500	.0947	10.56	266.70	.0494	20.24
10.625	.0973	10.28	269.88	.0508	19.70
10.750	.0999	10.01	273.05	.0521	19.19
10.875	.1025	9.76	276.23	.0535	18.70
11.000	.1051	9.51	279.40	.0549	18.23
11.125	.1078	9.27	282.58	.0563	17.77
11.250	.1105	9.05	285.75	.0577	17.34
11.375	.1133	8.83	288.93	.0591	16.92

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 2.063"			Tubing O.D. 52.40 mm			
FOUR STRINGS			FOUR STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
5.750	.0156	64.18	146.05	.0081	123.00	
5.875	.0170	58.85	149.23	.0089	112.78	
6.000	.0184	54.25	152.40	.0096	103.96	
6.125	.0199	50.24	155.58	.0104	96.27	
6.250	.0214	46.71	158.75	.0112	89.51	
6.375	.0229	43.59	161.93	.0120	83.53	
6.500	.0245	40.81	165.10	.0128	78.20	
6.625	.0261	38.32	168.28	.0136	73.43	
6.750	.0277	36.07	171.45	.0145	69.13	
6.875	.0294	34.04	174.63	.0153	65.23	
7.000	.0311	32.19	177.80	.0162	61.69	
7.125	.0328	30.51	180.98	.0171	58.47	
7.250	.0345	28.97	184.15	.0180	55.51	
7.375	.0363	27.55	187.33	.0189	52.79	
7.500	.0381	26.24	190.50	.0199	50.29	
7.625	.0399	25.04	193.68	.0208	47.98	
7.750	.0418	23.92	196.85	.0218	45.84	
7.875	.0437	22.88	200.03	.0228	43.85	
8.000	.0456	21.91	203.20	.0238	41.99	
8.125	.0476	21.01	206.38	.0248	40.27	
8.250	.0496	20.17	209.55	.0259	38.65	
8.375	.0516	19.38	212.73	.0269	37.14	
8.500	.0536	18.64	215.90	.0280	35.72	
8.625	.0557	17.94	219.08	.0291	34.39	
8.750	.0578	17.29	222.25	.0302	33.13	
8.875	.0600	16.67	225.43	.0313	31.95	
9.000	.0621	16.09	228.60	.0324	30.84	
9.125	.0643	15.54	231.78	.0336	29.78	
9.250	.0666	15.02	234.95	.0347	28.78	
9.375	.0688	14.53	238.13	.0359	27.84	
9.500	.0711	14.06	241.30	.0371	26.94	
9.625	.0735	13.61	244.48	.0383	26.09	
9.750	.0758	13.19	247.65	.0396	25.28	
9.875	.0782	12.79	250.83	.0408	24.51	
10.000	.0806	12.41	254.00	.0421	23.78	
10.125	.0830	12.04	257.18	.0433	23.08	
10.250	.0855	11.69	260.35	.0446	22.41	
10.375	.0880	11.36	263.53	.0459	21.77	
10.500	.0906	11.04	266.70	.0473	21.16	
10.625	.0931	10.74	269.88	.0486	20.58	
10.750	.0957	10.45	273.05	.0499	20.02	
10.875	.0983	10.17	276.23	.0513	19.49	
11.000	.1010	9.90	279.40	.0527	18.97	
11.125	.1037	9.64	282.58	.0541	18.48	
11.250	.1064	9.40	285.75	.0555	18.01	
11.375	.1092	9.16	288.93	.0570	17.56	
11.500	.1119	8.93	292.10	.0584	17.12	
11.625	.1147	8.72	295.28	.0599	16.70	
11.750	.1176	8.50	298.45	.0614	16.30	
11.875	.1204	8.30	301.63	.0629	15.91	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 2.375"			Tubing O.D. 60.33 mm		
ONE STRING			ONE STRING		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
3.500	.0064	155.75	88.90	.0034	298.48
3.625	.0073	137.26	92.08	.0038	263.03
3.750	.0082	122.23	95.25	.0043	234.24
3.875	.0091	109.80	98.43	.0048	210.43
4.000	.0101	99.37	101.60	.0053	190.43
4.125	.0110	90.50	104.78	.0058	173.43
4.250	.0121	82.87	107.95	.0063	158.81
4.375	.0131	76.25	111.13	.0068	146.13
4.500	.0142	70.46	114.30	.0074	135.03
4.625	.0153	65.36	117.48	.0080	125.25
4.750	.0164	60.83	120.65	.0086	116.58
4.875	.0176	56.80	123.83	.0092	108.84
5.000	.0188	53.17	127.00	.0098	101.90
5.125	.0200	49.91	130.18	.0105	95.65
5.250	.0213	46.96	133.35	.0111	89.99
5.375	.0226	44.28	136.53	.0118	84.85
5.500	.0239	41.83	139.70	.0125	80.16
5.625	.0253	39.59	142.88	.0132	75.88
5.750	.0266	37.54	146.05	.0139	71.94
5.875	.0280	35.65	149.23	.0146	68.32
6.000	.0295	33.91	152.40	.0154	64.98
6.125	.0310	32.30	155.58	.0162	61.89
6.250	.0325	30.80	158.75	.0169	59.03
6.375	.0340	29.41	161.93	.0177	56.36
6.500	.0356	28.12	165.10	.0186	53.89
6.625	.0372	26.91	168.28	.0194	51.58
6.750	.0388	25.79	171.45	.0202	49.42
6.875	.0404	24.73	174.63	.0211	47.39
7.000	.0421	23.74	177.80	.0220	45.50
7.125	.0438	22.81	180.98	.0229	43.72
7.250	.0456	21.94	184.15	.0238	42.04
7.375	.0474	21.12	187.33	.0247	40.47
7.500	.0492	20.34	190.50	.0257	38.98
7.625	.0510	19.61	193.68	.0266	37.58
7.750	.0529	18.92	196.85	.0276	36.25
7.875	.0548	18.26	200.03	.0286	34.99
8.000	.0567	17.64	203.20	.0296	33.80
8.125	.0586	17.05	206.38	.0306	32.68
8.250	.0606	16.49	209.55	.0316	31.60
8.375	.0627	15.96	212.73	.0327	30.59
8.500	.0647	15.45	215.90	.0338	29.62
8.625	.0668	14.97	219.08	.0348	28.69
8.750	.0689	14.51	222.25	.0360	27.82
8.875	.0710	14.08	225.43	.0371	26.98
9.000	.0732	13.66	228.60	.0382	26.18
9.125	.0754	13.26	231.78	.0393	25.41
9.250	.0776	12.88	234.95	.0405	24.68
9.375	.0799	12.52	238.13	.0417	23.98
9.500	.0822	12.17	241.30	.0429	23.32

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 2.375"			Tubing O.D. 60.33 mm			
TWO STRINGS			TWO STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
5.500	.0184	54.27	139.70	.0096	104.00	
5.625	.0198	50.56	142.88	.0103	96.90	
5.750	.0212	47.26	146.05	.0110	90.57	
5.875	.0226	44.31	149.23	.0118	84.91	
6.000	.0240	41.65	152.40	.0125	79.81	
6.125	.0255	39.24	155.58	.0133	75.20	
6.250	.0270	37.05	158.75	.0141	71.01	
6.375	.0285	35.06	161.93	.0149	67.19	
6.500	.0301	33.24	165.10	.0157	63.70	
6.625	.0317	31.57	168.28	.0165	60.50	
6.750	.0333	30.03	171.45	.0174	57.55	
6.875	.0350	28.61	174.63	.0182	54.82	
7.000	.0366	27.29	177.80	.0191	52.30	
7.125	.0384	26.07	180.98	.0200	49.96	
7.250	.0401	24.94	184.15	.0209	47.79	
7.375	.0419	23.88	187.33	.0219	45.76	
7.500	.0437	22.89	190.50	.0228	43.87	
7.625	.0455	21.97	193.68	.0238	42.10	
7.750	.0474	21.10	196.85	.0247	40.44	
7.875	.0493	20.29	200.03	.0257	38.88	
8.000	.0512	19.53	203.20	.0267	37.42	
8.125	.0532	18.81	206.38	.0277	36.04	
8.250	.0552	18.13	209.55	.0288	34.74	
8.375	.0572	17.49	212.73	.0298	33.52	
8.500	.0592	16.88	215.90	.0309	32.36	
8.625	.0613	16.31	219.08	.0320	31.26	
8.750	.0634	15.77	222.25	.0331	30.22	
8.875	.0656	15.25	225.43	.0342	29.23	
9.000	.0677	14.77	228.60	.0353	28.30	
9.125	.0699	14.30	231.78	.0365	27.41	
9.250	.0722	13.86	234.95	.0377	26.56	
9.375	.0744	13.44	238.13	.0388	25.75	
9.500	.0767	13.04	241.30	.0400	24.98	
9.625	.0790	12.65	244.48	.0412	24.25	
9.750	.0814	12.29	247.65	.0425	23.55	
9.875	.0838	11.94	250.83	.0437	22.88	
10.000	.0862	11.60	254.00	.0450	22.24	
10.125	.0886	11.28	257.18	.0462	21.62	
10.250	.0911	10.98	260.35	.0475	21.04	
10.375	.0936	10.68	263.53	.0488	20.47	
10.500	.0961	10.40	266.70	.0502	19.93	
10.625	.0987	10.13	269.88	.0515	19.42	
10.750	.1013	9.87	273.05	.0529	18.92	
10.875	.1039	9.62	276.23	.0542	18.44	
11.000	.1066	9.38	279.40	.0556	17.98	
11.125	.1093	9.15	282.58	.0570	17.54	
11.250	.1120	8.93	285.75	.0584	17.11	
11.375	.1147	8.72	288.93	.0599	16.70	
11.500	.1175	8.51	292.10	.0613	16.31	
11.625	.1203	8.31	295.28	.0628	15.93	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 2.375"			Tubing O.D. 60.33 mm		
THREE STRINGS			THREE STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.875	.0171	58.51	149.23	.0089	112.13
6.000	.0185	53.96	152.40	.0097	103.40
6.125	.0200	49.99	155.58	.0104	95.79
6.250	.0215	46.49	158.75	.0112	89.10
6.375	.0230	43.40	161.93	.0120	83.17
6.500	.0246	40.64	165.10	.0128	77.89
6.625	.0262	38.17	168.28	.0137	73.15
6.750	.0278	35.94	171.45	.0145	68.88
6.875	.0295	33.93	174.63	.0154	65.01
7.000	.0312	32.09	177.80	.0163	61.50
7.125	.0329	30.42	180.98	.0172	58.29
7.250	.0346	28.88	184.15	.0181	55.35
7.375	.0364	27.47	187.33	.0190	52.65
7.500	.0382	26.18	190.50	.0199	50.16
7.625	.0400	24.97	193.68	.0209	47.86
7.750	.0419	23.86	196.85	.0219	45.73
7.875	.0438	22.83	200.03	.0229	43.75
8.000	.0457	21.87	203.20	.0239	41.90
8.125	.0477	20.97	206.38	.0249	40.18
8.250	.0497	20.13	209.55	.0259	38.58
8.375	.0517	19.34	212.73	.0270	37.07
8.500	.0537	18.61	215.90	.0280	35.66
8.625	.0558	17.91	219.08	.0291	34.33
8.750	.0579	17.26	222.25	.0302	33.08
8.875	.0601	16.65	225.43	.0313	31.90
9.000	.0622	16.06	228.60	.0325	30.79
9.125	.0644	15.52	231.78	.0336	29.74
9.250	.0667	15.00	234.95	.0348	28.74
9.375	.0689	14.51	238.13	.0360	27.80
9.500	.0712	14.04	241.30	.0372	26.90
9.625	.0736	13.60	244.48	.0384	26.05
9.750	.0759	13.17	247.65	.0396	25.25
9.875	.0783	12.77	250.83	.0409	24.48
10.000	.0807	12.39	254.00	.0421	23.75
10.125	.0831	12.03	257.18	.0434	23.05
10.250	.0856	11.68	260.35	.0447	22.38
10.375	.0881	11.35	263.53	.0460	21.75
10.500	.0907	11.03	266.70	.0473	21.14
10.625	.0932	10.73	269.88	.0486	20.56
10.750	.0958	10.44	273.05	.0500	20.00
10.875	.0984	10.16	276.23	.0514	19.47
11.000	.1011	9.89	279.40	.0528	18.95
11.125	.1038	9.63	282.58	.0542	18.46
11.250	.1065	9.39	285.75	.0556	17.99
11.375	.1093	9.15	288.93	.0570	17.54
11.500	.1120	8.93	292.10	.0585	17.11
11.625	.1148	8.71	295.28	.0599	16.69
11.750	.1177	8.50	298.45	.0614	16.28
11.875	.1205	8.30	301.63	.0629	15.90
12.000	.1234	8.10	304.80	.0644	15.52

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 2.375"			Tubing O.D. 60.33 mm			
FOUR STRINGS			FOUR STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
6.500	.0191	52.29	165.10	.0100	100.20	
6.625	.0207	48.27	168.28	.0108	92.50	
6.750	.0223	44.76	171.45	.0117	85.77	
6.875	.0240	41.67	174.63	.0125	79.86	
7.000	.0257	38.94	177.80	.0134	74.62	
7.125	.0274	36.50	180.98	.0143	69.95	
7.250	.0291	34.31	184.15	.0152	65.76	
7.375	.0309	32.34	187.33	.0161	61.98	
7.500	.0327	30.56	190.50	.0171	58.56	
7.625	.0346	28.93	193.68	.0180	55.45	
7.750	.0364	27.45	196.85	.0190	52.61	
7.875	.0383	26.09	200.03	.0200	50.00	
8.000	.0403	24.84	203.20	.0210	47.61	
8.125	.0422	23.69	206.38	.0220	45.40	
8.250	.0442	22.62	209.55	.0231	43.36	
8.375	.0462	21.64	212.73	.0241	41.46	
8.500	.0483	20.72	215.90	.0252	39.70	
8.625	.0503	19.86	219.08	.0263	38.06	
8.750	.0525	19.06	222.25	.0274	36.53	
8.875	.0546	18.32	225.43	.0285	35.10	
9.000	.0568	17.62	228.60	.0296	33.76	
9.125	.0590	16.96	231.78	.0308	32.50	
9.250	.0612	16.34	234.95	.0319	31.31	
9.375	.0635	15.76	238.13	.0331	30.20	
9.500	.0658	15.21	241.30	.0343	29.15	
9.625	.0681	14.69	244.48	.0355	28.15	
9.750	.0704	14.20	247.65	.0368	27.21	
9.875	.0728	13.73	250.83	.0380	26.32	
10.000	.0752	13.29	254.00	.0393	25.48	
10.125	.0777	12.88	257.18	.0405	24.67	
10.250	.0801	12.48	260.35	.0418	23.91	
10.375	.0826	12.10	263.53	.0431	23.19	
10.500	.0852	11.74	266.70	.0444	22.50	
10.625	.0877	11.40	269.88	.0458	21.84	
10.750	.0903	11.07	273.05	.0471	21.21	
10.875	.0930	10.76	276.23	.0485	20.61	
11.000	.0956	10.46	279.40	.0499	20.04	
11.125	.0983	10.17	282.58	.0513	19.49	
11.250	.1010	9.90	285.75	.0527	18.97	
11.375	.1038	9.64	288.93	.0542	18.47	
11.500	.1066	9.38	292.10	.0556	17.99	
11.625	.1094	9.14	295.28	.0571	17.52	
11.750	.1122	8.91	298.45	.0585	17.08	
11.875	.1151	8.69	301.63	.0600	16.65	
12.000	.1180	8.48	304.80	.0616	16.25	
12.125	.1209	8.27	307.98	.0631	15.85	
12.250	.1239	8.07	311.15	.0646	15.47	
12.375	.1268	7.88	314.33	.0662	15.11	
12.500	.1299	7.70	317.50	.0678	14.76	
12.625	.1329	7.52	320.68	.0694	14.42	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS Tubing O.D. 2.875"			METRIC UNITS Tubing O.D. 73.03 mm		
<i>ONE STRING</i>			<i>ONE STRING</i>		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
3.500	.0039	258.36	88.90	.0020	495.12
3.625	.0047	211.16	92.08	.0025	404.67
3.750	.0056	177.58	95.25	.0029	340.31
3.875	.0066	152.51	98.43	.0034	292.26
4.000	.0075	133.10	101.60	.0039	255.06
4.125	.0085	117.65	104.78	.0044	225.46
4.250	.0095	105.08	107.95	.0050	201.37
4.375	.0106	94.66	111.13	.0055	181.40
4.500	.0116	85.90	114.30	.0061	164.61
4.625	.0127	78.43	117.48	.0067	150.31
4.750	.0139	72.00	120.65	.0072	137.99
4.875	.0151	66.41	123.83	.0079	127.27
5.000	.0163	61.51	127.00	.0085	117.89
5.125	.0175	57.19	130.18	.0091	109.60
5.250	.0187	53.35	133.35	.0098	102.23
5.375	.0200	49.91	136.53	.0105	95.65
5.500	.0214	46.82	139.70	.0111	89.73
5.625	.0227	44.04	142.88	.0118	84.40
5.750	.0241	41.51	146.05	.0126	79.56
5.875	.0255	39.22	149.23	.0133	75.15
6.000	.0269	37.12	152.40	.0141	71.13
6.125	.0284	35.19	155.58	.0148	67.44
6.250	.0299	33.43	158.75	.0156	64.06
6.375	.0314	31.80	161.93	.0164	60.93
6.500	.0330	30.29	165.10	.0172	58.05
6.625	.0346	28.90	168.28	.0181	55.38
6.750	.0362	27.60	171.45	.0189	52.89
6.875	.0379	26.40	174.63	.0198	50.58
7.000	.0396	25.27	177.80	.0206	48.43
7.125	.0413	24.22	180.98	.0215	46.42
7.250	.0430	23.24	184.15	.0225	44.53
7.375	.0448	22.32	187.33	.0234	42.77
7.500	.0466	21.45	190.50	.0243	41.11
7.625	.0484	20.64	193.68	.0253	39.55
7.750	.0503	19.87	196.85	.0263	38.09
7.875	.0522	19.15	200.03	.0272	36.70
8.000	.0541	18.47	203.20	.0283	35.40
8.125	.0561	17.83	206.38	.0293	34.16
8.250	.0581	17.22	209.55	.0303	32.99
8.375	.0601	16.64	212.73	.0314	31.88
8.500	.0622	16.09	215.90	.0324	30.83
8.625	.0642	15.57	219.08	.0335	29.83
8.750	.0663	15.07	222.25	.0346	28.89
8.875	.0685	14.60	225.43	.0357	27.98
9.000	.0707	14.15	228.60	.0369	27.12
9.125	.0729	13.73	231.78	.0380	26.30
9.250	.0751	13.32	234.95	.0392	25.52
9.375	.0773	12.93	238.13	.0404	24.78
9.500	.0796	12.56	241.30	.0416	24.06

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**						
ENGLISH UNITS			METRIC UNITS			
Tubing O.D. 2.875"			Tubing O.D. 73.03 mm			
TWO STRINGS			TWO STRINGS			
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³	
6.500	.0250	40.03	165.10	.0130	76.71	
6.625	.0266	37.63	168.28	.0139	72.11	
6.750	.0282	35.46	171.45	.0147	67.95	
6.875	.0299	33.49	174.63	.0156	64.19	
7.000	.0315	31.70	177.80	.0165	60.76	
7.125	.0333	30.07	180.98	.0174	57.63	
7.250	.0350	28.57	184.15	.0183	54.75	
7.375	.0368	27.19	187.33	.0192	52.11	
7.500	.0386	25.92	190.50	.0201	49.67	
7.625	.0404	24.74	193.68	.0211	47.41	
7.750	.0423	23.65	196.85	.0221	45.32	
7.875	.0442	22.63	200.03	.0231	43.37	
8.000	.0461	21.69	203.20	.0241	41.56	
8.125	.0481	20.80	206.38	.0251	39.87	
8.250	.0501	19.98	209.55	.0261	38.28	
8.375	.0521	19.20	212.73	.0272	36.80	
8.500	.0541	18.48	215.90	.0282	35.41	
8.625	.0562	17.79	219.08	.0293	34.10	
8.750	.0583	17.15	222.25	.0304	32.86	
8.875	.0605	16.54	225.43	.0315	31.70	
9.000	.0626	15.97	228.60	.0327	30.60	
9.125	.0648	15.43	231.78	.0338	29.56	
9.250	.0671	14.91	234.95	.0350	28.58	
9.375	.0693	14.43	238.13	.0362	27.65	
9.500	.0716	13.96	241.30	.0374	26.76	
9.625	.0739	13.53	244.48	.0386	25.92	
9.750	.0763	13.11	247.65	.0398	25.12	
9.875	.0787	12.71	250.83	.0411	24.36	
10.000	.0811	12.33	254.00	.0423	23.63	
10.125	.0835	11.97	251.18	.0436	22.94	
10.250	.0860	11.63	260.35	.0449	22.28	
10.375	.0885	11.30	263.53	.0462	21.65	
10.500	.0910	10.98	266.70	.0475	21.05	
10.625	.0936	10.68	269.88	.0488	20.47	
10.750	.0962	10.39	213.05	.0502	19.92	
10.875	.0988	10.12	276.23	.0516	19.39	
11.000	.1015	9.85	279.40	.0530	18.88	
11.125	.1042	9.60	282.58	.0544	18.40	
11.250	.1069	9.36	285.75	.0558	17.93	
11.375	.1096	9.12	288.93	.0572	17.48	
11.500	.1124	8.90	292.10	.0587	17.05	
11.625	.1152	8.68	295.28	.0601	16.63	
11.750	.1181	8.47	298.45	.0616	16.23	
11.875	.1209	8.27	301.63	.0631	15.85	
12.000	.1238	8.08	304.80	.0646	15.48	
12.125	.1268	7.89	307.98	.0661	15.12	
12.250	.1297	7.71	311.15	.0677	14.77	
12.375	.1327	7.54	314.33	.0692	14.44	
12.500	.1357	7.37	317.50	.0708	14.12	
12.625	.1388	7.21	320.68	.0724	13.81	

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 2.875"			Tubing O.D. 73.03 mm		
THREE STRINGS			THREE STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
7.000	.0235	42.53	177.80	.0123	81.51
7.125	.0252	39.64	180.98	.0132	75.97
7.250	.0270	37.08	184.15	.0141	71.05
7.375	.0287	34.78	187.33	.0150	66.66
7.500	.0306	32.73	190.50	.0159	62.72
7.625	.0324	30.87	193.68	.0169	59.16
7.750	.0343	29.19	196.85	.0179	55.94
7.875	.0362	27.66	200.03	.0189	53.00
8.000	.0381	26.26	203.20	.0199	50.32
8.125	.0400	24.97	206.38	.0209	47.86
8.250	.0420	23.79	209.55	.0219	45.60
8.375	.0440	22.70	212.73	.0230	43.51
8.500	.0461	21.69	215.90	.0241	41.57
8.625	.0482	20.76	219.08	.0251	39.78
8.750	.0503	19.89	222.25	.0262	38.11
8.875	.0524	19.07	225.43	.0274	36.55
9.000	.0546	18.32	228.60	.0285	35.10
9.125	.0568	17.61	231.78	.0296	33.74
9.250	.0590	16.94	234.95	.0308	32.47
9.375	.0613	16.32	238.13	.0320	31.27
9.500	.0636	15.73	241.30	.0332	30.14
9.625	.0659	15.17	244.48	.0344	29.08
9.750	.0683	14.65	247.65	.0356	28.08
9.875	.0706	14.16	250.83	.0369	27.13
10.000	.0731	13.69	254.00	.0381	26.23
10.125	.0755	13.25	257.18	.0394	25.38
10.250	.0780	12.83	260.35	.0407	24.58
10.375	.0805	12.43	263.53	.0420	23.81
10.500	.0830	12.05	266.70	.0433	23.09
10.625	.0856	11.69	269.88	.0447	22.39
10.750	.0882	11.34	273.05	.0460	21.73
10.875	.0908	11.01	276.23	.0474	21.11
11.000	.0935	10.70	279.40	.0488	20.51
11.125	.0961	10.40	282.58	.0502	19.93
11.250	.0989	10.12	285.75	.0516	19.39
11.375	.1016	9.84	288.93	.0530	18.86
11.500	.1044	9.58	292.10	.0545	18.36
11.625	.1072	9.33	295.28	.0559	17.88
11.750	.1100	9.09	298.45	.0574	17.42
11.875	.1129	8.86	301.63	.0589	16.97
12.000	.1158	8.64	304.80	.0604	16.55
12.125	.1187	8.42	307.98	.0620	16.14
12.250	.1217	8.22	311.15	.0635	15.75
12.375	.1247	8.02	314.33	.0651	15.37
12.500	.1277	7.83	317.50	.0666	15.01
12.625	.1307	7.65	320.68	.0682	14.66
12.750	.1338	7.47	323.85	.0698	14.32
12.875	.1369	7.30	327.03	.0715	13.99
13.000	.1401	7.14	330.20	.0731	13.68
13.125	.1433	6.98	333.38	.0748	13.38

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS Tubing O.D. 2.875" <i>FOUR STRINGS</i>			METRIC UNITS Tubing O.D. 73.03 mm <i>FOUR STRING</i>		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
7.750	.0262	38.13	196.85	.0137	73.07
7.875	.0281	35.55	200.03	.0147	68.14
8.000	.0301	33.27	203.20	.0157	63.77
8.125	.0320	31.24	206.38	.0167	59.87
8.250	.0340	29.41	209.55	.0177	56.36
8.375	.0360	27.76	212.73	.0188	53.21
8.500	.0381	26.27	215.90	.0199	50.34
8.625	.0401	24.91	219.08	.0209	47.73
8.750	.0423	23.66	222.25	.0221	45.35
8.875	.0444	22.52	225.43	.0232	43.16
9.000	.0466	21.47	228.60	.0243	41.15
9.125	.0488	20.50	231.18	.0254	39.30
9.250	.0510	19.61	234.95	.0266	37.58
9.375	.0533	18.78	238.13	.0278	35.98
9.500	.0556	18.00	241.30	.0290	34.50
9.625	.0579	17.28	244.48	.0302	33.11
9.750	.0602	16.60	247.65	.0314	31.82
9.875	.0626	15.97	250.83	.0327	30.61
10.000	.0650	15.38	254.00	.0339	29.47
10.125	.0675	14.82	257.18	.0352	28.40
10.250	.0699	14.30	260.35	.0365	27.40
10.375	.0724	13.80	263.53	.0378	26.45
10.500	.0750	13.34	266.70	.0391	25.56
10.625	.0775	12.90	269.88	.0405	24.71
10.750	.0801	12.48	273.05	.0418	23.91
10.875	.0828	12.08	276.23	.0432	23.15
11.000	.0854	11.71	279.40	.0446	22.43
11.125	.0881	11.35	282.58	.0460	21.75
11.250	.0908	11.01	285.75	.0474	21.10
11.375	.0936	10.69	288.93	.0488	20.48
11.500	.0964	10.38	292.10	.0503	19.89
11.625	.0992	10.08	295.28	.0517	19.33
11.750	.1020	9.80	298.45	.0532	18.79
11.875	.1049	9.54	301.63	.0547	18.27
12.000	.1078	9.28	304.80	.0562	17.78
12.125	.1107	9.03	307.98	.0578	17.31
12.250	.1137	8.80	311.15	.0593	16.86
12.375	.1166	8.57	314.33	.0609	16.43
12.500	.1197	8.36	317.50	.0624	16.01
12.625	.1227	8.15	320.68	.0640	15.62
12.750	.1258	7.95	323.85	.0656	15.23
12.875	.1289	7.76	327.03	.0673	14.87
13.000	.1321	7.57	330.20	.0689	14.51
13.125	.1352	7.40	333.38	.0706	14.17
13.250	.1384	7.22	336.55	.0722	13.84
13.375	.1417	7.06	339.73	.0739	13.53
13.500	.1449	6.90	342.90	.0756	13.22
13.625	.1482	6.75	346.08	.0773	12.93
13.750	.1515	6.60	349.25	.0791	12.65
13.875	.1549	6.46	352.43	.0808	12.37

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 3.500"			Tubing O.D. 88.90 mm		
ONE STRING			ONE STRING		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
4.000	.0036	274.51	101.60	.0019	526.07
4.125	.0046	216.01	104.78	.0024	413.96
4.250	.0056	177.10	107.95	.0029	339.40
4.375	.0067	149.39	111.13	.0035	286.30
4.500	.0078	128.68	114.30	.0041	246.60
4.625	.0089	112.62	117.48	.0046	215.82
4.750	.0100	99.82	120.65	.0052	191.30
4.875	.0112	89.39	123.83	.0058	171.31
5.000	.0124	80.74	127.00	.0065	154.73
5.125	.0136	73.45	130.18	.0071	140.75
5.250	.0149	67.23	133.35	.0078	128.83
5.375	.0162	61.86	136.53	.0084	118.55
5.500	.0175	57.19	139.70	.0091	109.60
5.625	.0188	53.09	142.88	.0098	101.74
5.750	.0202	49.46	146.05	.0105	94.79
5.875	.0216	46.23	149.23	.0113	88.60
6.000	.0231	43.34	152.40	.0120	83.06
6.125	.0245	40.74	155.58	.0128	78.08
6.250	.0260	38.39	158.75	.0136	73.58
6.375	.0276	36.26	161.93	.0144	69.49
6.500	.0291	34.31	165.10	.0152	65.76
6.625	.0307	32.53	168.28	.0160	62.35
6.750	.0324	30.90	171.45	.0169	59.22
6.875	.0340	29.40	174.63	.0177	56.34
7.000	.0357	28.01	177.80	.0186	53.68
7.125	.0374	26.73	180.98	.0195	51.22
7.250	.0392	25.54	184.15	.0204	48.94
7.375	.0409	24.43	187.33	.0214	46.81
7.500	.0427	23.40	190.50	.0223	44.84
7.625	.0446	22.43	193.68	.0233	42.99
7.750	.0464	21.53	196.85	.0242	41.26
7.875	.0483	20.69	200.03	.0252	39.64
8.000	.0503	19.89	203.20	.0262	38.12
8.125	.0522	19.15	206.38	.0273	36.69
8.250	.0542	18.44	209.55	.0283	35.35
8.375	.0562	17.78	212.73	.0293	34.08
8.500	.0583	17.16	215.90	.0304	32.88
8.625	.0604	16.57	219.08	.0315	31.75
8.750	.0625	16.01	222.25	.0326	30.67
8.875	.0646	15.48	225.43	.0337	29.66
9.000	.0668	14.97	228.60	.0348	28.69
9.125	.0690	14.50	231.78	.0360	27.78
9.250	.0712	14.04	234.95	.0372	26.91
9.375	.0735	13.61	238.13	.0383	26.08
9.500	.0758	13.20	241.30	.0395	25.29
9.625	.0781	12.81	244.48	.0408	24.54
9.750	.0804	12.43	247.65	.0420	23.82
9.875	.0828	12.07	250.83	.0432	23.14
10.000	.0852	11.73	254.00	.0445	22.48

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 3.500"			Tubing O.D. 88.90 mm		
TWO STRINGS			TWO STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
7.750	.0345	28.95	196.85	.0180	55.47
7.875	.0364	27.44	200.03	.0190	52.59
8.000	.0384	26.06	203.20	.0200	49.94
8.125	.0403	24.80	206.38	.0210	47.52
8.250	.0423	23.63	209.55	.0221	45.29
8.375	.0443	22.55	212.73	.0231	43.22
8.500	.0464	21.56	215.90	.0242	41.31
8.625	.0485	20.63	219.08	.0253	39.54
8.750	.0506	19.77	222.25	.0264	37.89
8.875	.0527	18.97	225.43	.0275	36.35
9.000	.0549	18.22	228.60	.0286	34.92
9.125	.0571	17.52	231.78	.0298	33.57
9.250	.0593	16.86	234.95	.0310	32.31
9.375	.0616	16.24	238.13	.0321	31.12
9.500	.0639	15.66	241.30	.0333	30.00
9.625	.0662	15.11	244.48	.0345	28.95
9.750	.0685	14.59	247.65	.0358	27.96
9.875	.0709	14.10	250.83	.0370	27.02
10.000	.0733	13.63	254.00	.0383	26.13
10.125	.0758	13.19	257.18	.0395	25.29
10.250	.0783	12.78	260.35	.0408	24.49
10.375	.0808	12.38	263.53	.0421	23.73
10.500	.0833	12.00	266.70	.0435	23.01
10.625	.0859	11.65	269.88	.0448	22.32
10.750	.0885	11.30	273.05	.0462	21.66
10.875	.0911	10.98	276.23	.0475	21.04
11.000	.0937	10.67	279.40	.0489	20.44
11.125	.0964	10.37	282.58	.0503	19.87
11.250	.0991	10.09	285.75	.0517	19.33
11.375	.1019	9.81	288.93	.0532	18.81
11.500	.1047	9.55	292.10	.0546	18.31
11.625	.1075	9.30	295.28	.0561	17.83
11.750	.1103	9.06	298.45	.0576	17.37
11.875	.1132	8.83	301.63	.0591	16.93
12.000	.1161	8.61	304.80	.0606	16.51
12.125	.1190	8.40	307.98	.0621	16.10
12.250	.1220	8.20	311.15	.0636	15.71
12.375	.1250	8.00	314.33	.0652	15.34
12.500	.1280	7.81	317.50	.0668	14.97
12.625	.1310	7.63	320.68	.0684	14.62
12.750	.1341	7.46	323.85	.0700	14.29
12.875	.1372	7.29	327.03	.0716	13.96
13.000	.1404	7.12	330.20	.0732	13.65
13.125	.1435	6.97	333.38	.0749	13.35
13.250	.1467	6.81	336.55	.0766	13.06
13.375	.1500	6.67	339.73	.0783	12.78
13.500	.1532	6.53	342.90	.0800	12.51
13.625	.1565	6.39	346.08	.0817	12.24
13.750	.1599	6.26	349.25	.0834	11.99
13.875	.1632	6.13	352.43	.0852	11.74

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 3.500"			Tubing O.D. 88.90 mm		
THREE STRINGS			THREE STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
8.250	.0304	32.88	209.55	.0159	63.00
8.375	.0324	30.83	212.73	.0169	59.08
8.500	.0345	29.00	215.90	.0180	55.57
8.625	.0366	27.35	219.08	.0191	52.41
8.750	.0387	25.86	222.25	.0202	49.55
8.875	.0408	24.50	225.43	.0213	46.95
9.000	.0430	23.26	228.60	.0224	44.58
9.125	.0452	22.13	231.78	.0236	42.41
9.250	.0474	21.09	234.95	.0247	40.42
9.375	.0497	20.13	238.13	.0259	38.58
9.500	.0520	19.24	241.30	.0271	36.87
9.625	.0543	18.42	244.48	.0283	35.30
9.750	.0566	17.65	247.65	.0296	33.83
9.875	.0590	16.94	250.83	.0308	32.47
10.000	.0614	16.28	254.00	.0321	31.19
10.125	.0639	15.65	257.18	.0333	30.00
10.250	.0664	15.07	260.35	.0346	28.88
10.375	.0689	14.52	263.53	.0359	27.83
10.500	.0714	14.01	266.70	.0373	26.84
10.625	.0740	13.52	269.88	.0386	25.91
10.750	.0766	13.06	273.05	.0400	25.03
10.875	.0792	12.63	276.23	.0413	24.20
11.000	.0818	12.22	279.40	.0427	23.42
11.125	.0845	11.83	282.58	.0441	22.67
11.250	.0872	11.46	285.75	.0455	21.97
11.375	.0900	11.11	288.93	.0470	21.29
11.500	.0928	10.78	292.10	.0484	20.66
11.625	.0956	10.46	295.28	.0499	20.05
11.750	.0984	10.16	298.45	.0514	19.47
11.875	.1013	9.87	301.63	.0529	18.92
12.000	.1042	9.60	304.80	.0544	18.39
12.125	.1071	9.34	307.98	.0559	17.89
12.250	.1101	9.08	311.15	.0574	17.41
12.375	.1131	8.84	314.33	.0590	16.95
12.500	.1161	8.61	317.50	.0606	16.51
12.625	.1191	8.39	320.68	.0622	16.09
12.750	.1222	8.18	323.85	.0638	15.68
12.875	.1253	7.98	327.03	.0654	15.29
13.000	.1285	7.78	330.20	.0670	14.92
13.125	.1316	7.60	333.38	.0687	14.56
13.250	.1348	7.42	336.55	.0704	14.21
13.375	.1381	7.24	339.73	.0721	13.88
13.500	.1413	7.08	342.90	.0738	13.56
13.625	.1446	6.91	346.08	.0755	13.25
13.750	.1480	6.16	349.25	.0772	12.95
13.875	.1513	6.61	352.43	.0790	12.66
14.000	.1547	6.46	355.60	.0807	12.39
14.125	.1581	6.32	358.78	.0825	12.12
14.250	.1616	6.19	361.95	.0843	11.86
14.375	.1650	6.06	365.13	.0861	11.61

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 3.500"			Tubing O.D. 88.90 mm		
FOUR STRINGS			FOUR STRINGS		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
9.250	.0355	28.15	234.95	.0185	53.96
9.375	.0378	26.47	238.13	.0197	50.73
9.500	.0401	24.96	241.30	.0209	47.82
9.625	.0424	23.59	244.48	.0221	45.20
9.750	.0447	22.35	247.65	.0233	42.83
9.875	.0471	21.22	250.83	.0246	40.66
10.000	.0495	20.18	254.00	.0259	38.68
10.125	.0520	19.24	257.18	.0271	36.86
10.250	.0545	18.36	260.35	.0284	35.19
10.375	.0570	17.55	263.53	.0297	33.64
10.500	.0595	16.81	266.70	.0310	32.21
10.625	.0621	16.11	269.88	.0324	30.88
10.750	.0647	15.47	273.05	.0337	29.64
10.875	.0673	14.86	276.23	.0351	28.48
11.000	.0699	14.30	279.40	.0365	27.40
11.125	.0726	13.77	282.58	.0379	26.39
11.250	.0753	13.27	285.75	.0393	25.43
11.375	.0781	12.81	288.93	.0408	24.54
11.500	.0809	12.37	292.10	.0422	23.70
11.625	.0837	11.95	295.28	.0437	22.90
11.750	.0865	11.56	298.45	.0451	22.15
11.875	.0894	11.19	301.63	.0466	21.44
12.000	.0923	10.84	304.80	.0482	20.77
12.125	.0952	10.50	307.98	.0497	20.13
12.250	.0982	10.19	311.15	.0512	19.52
12.375	.1012	9.88	314.33	.0528	18.94
12.500	.1042	9.60	317.50	.0544	18.39
12.625	.1072	9.33	320.68	.0560	17.87
12.750	.1103	9.06	323.85	.0576	17.37
12.875	.1134	8.82	327.03	.0592	16.90
13.000	.1166	8.58	330.20	.0608	16.44
13.125	.1197	8.35	333.38	.0625	16.00
13.250	.1229	8.13	336.55	.0642	15.59
13.375	.1262	7.93	339.73	.0658	15.19
13.500	.1294	7.73	342.90	.0675	14.80
13.625	.1327	7.53	346.08	.0693	14.44
13.750	.1361	7.35	349.25	.0710	14.08
13.875	.1394	7.17	352.43	.0727	13.75
14.000	.1428	7.00	355.60	.0745	13.42
14.125	.1462	6.84	358.78	.0763	13.11
14.250	.1497	6.68	361.95	.0781	12.80
14.375	.1531	6.53	365.13	.0799	12.51
14.500	.1566	6.38	368.30	.0817	12.23
14.625	.1602	6.24	371.48	.0836	11.96
14.750	.1637	6.11	374.65	.0854	11.70
14.875	.1673	5.98	377.83	.0873	11.45
15.000	.1710	5.85	381.00	.0892	11.21
15.125	.1746	5.73	384.18	.0911	10.97
15.250	.1783	5.61	387.35	.0930	10.75
15.375	.1820	5.49	390.53	.0950	10.53

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing O.D. 4.000"			Tubing O.D. 101.60 mm		
ONE STRING			ONE STRING		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
4.250	.0020	499.11	107.95	.0010	956.49
4.375	.0031	327.77	111.13	.0016	628.14
4.500	.0041	242.22	114.30	.0022	464.18
4.625	.0052	190.96	117.48	.0027	365.96
4.750	.0064	156.86	120.65	.0033	300.61
4.875	.0075	132.56	123.83	.0039	254.04
5.000	.0087	114.38	127.00	.0046	219.20
5.125	.0100	100.28	130.18	.0052	192.17
5.250	.0112	89.03	133.35	.0059	170.62
5.375	.0125	79.86	136.53	.0065	153.04
5.500	.0138	72.24	139.70	.0072	138.44
5.625	.0152	65.82	142.88	.0079	126.13
5.750	.0166	60.33	146.05	.0086	115.62
5.875	.0180	55.60	149.23	.0094	106.55
6.000	.0194	51.47	152.40	.0101	98.64
6.125	.0209	47.84	155.58	.0109	91.69
6.250	.0224	44.64	158.75	.0117	85.54
6.375	.0239	41.78	161.93	.0125	80.06
6.500	.0255	39.22	165.10	.0133	75.15
6.625	.0271	36.91	168.28	.0141	70.73
6.750	.0287	34.82	171.45	.0150	66.73
6.875	.0304	32.92	174.63	.0158	63.10
7.000	.0321	31.19	177.80	.0167	59.78
7.125	.0338	29.61	180.98	.0176	56.74
7.250	.0355	28.15	184.15	.0185	53.96
7.375	.0373	26.81	187.33	.0195	51.39
7.500	.0391	25.58	190.50	.0204	49.01
7.625	.0409	24.43	193.68	.0214	46.81
7.750	.0428	23.36	196.85	.0223	44.77
7.875	.0447	22.37	200.03	.0233	42.87
8.000	.0466	21.45	203.20	.0243	41.10
8.125	.0486	20.58	206.38	.0254	39.44
8.250	.0506	19.77	209.55	.0264	37.89
8.375	.0526	19.01	212.73	.0274	36.44
8.500	.0546	18.30	215.90	.0285	35.07
8.625	.0567	17.63	219.08	.0296	33.79
8.750	.0588	17.00	222.25	.0307	32.57
8.875	.0610	16.40	225.43	.0318	31.43
9.000	.0631	15.84	228.60	.0329	30.35
9.125	.0653	15.30	231.78	.0341	29.33
9.250	.0676	14.80	234.95	.0353	28.36
9.375	.0698	14.32	238.13	.0364	27.44
9.500	.0721	13.86	241.30	.0376	26.57
9.625	.0745	13.43	244.48	.0388	25.74
9.750	.0768	13.02	247.65	.0401	24.95
9.875	.0792	12.63	250.83	.0413	24.20
10.000	.0816	12.25	254.00	.0426	23.49

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING OR CASING & HOLE**					
ENGLISH UNITS Tubing or Csg. O.D. 4.500"			METRIC UNITS Tubing or Csg. O.D. 114.30 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.000	.0046	216.72	127.00	.0024	415.32
5.125	.0058	171.12	130.18	.0030	327.94
5.250	.0071	140.77	133.35	.0037	269.78
5.375	.0084	119.14	136.53	.0044	228.31
5.500	.0097	102.94	139.70	.0051	197.28
5.625	.0111	90.37	142.88	.0058	173.19
5.750	.0124	80.34	146.05	.0065	153.97
5.875	.0139	72.16	149.23	.0072	138.29
6.000	.0153	65.36	152.40	.0080	125.25
6.125	.0168	59.62	155.58	.0088	114.26
6.250	.0183	54.72	158.75	.0095	104.86
6.375	.0198	50.48	161.93	.0103	96.75
6.500	.0214	46.79	165.10	.0112	89.67
6.625	.0230	43.54	168.28	.0120	83.45
6.750	.0246	40.67	171.45	.0128	77.94
6.875	.0262	38.10	174.63	.0137	73.02
7.000	.0279	35.81	177.80	.0146	68.62
7.125	.0296	33.73	180.98	.0155	64.65
7.250	.0314	31.86	184.15	.0164	61.05
7.375	.0332	30.15	187.33	.0173	57.78
7.500	.0350	28.59	190.50	.0182	54.80
7.625	.0368	27.17	193.68	.0192	52.06
7.750	.0387	25.86	196.85	.0202	49.55
7.875	.0406	24.65	200.03	.0212	47.23
8.000	.0425	23.53	203.20	.0222	45.09
8.125	.0445	22.49	206.38	.0232	43.11
8.250	.0464	21.53	209.55	.0242	41.26
8.375	.0485	20.63	212.73	.0253	39.54
8.500	.0505	19.80	215.90	.0264	37.94
8.625	.0526	19.01	219.08	.0274	36.44
8.750	.0547	18.28	222.25	.0285	35.03
8.875	.0568	17.59	225.43	.0297	33.71
9.000	.0590	16.95	228.60	.0308	32.47
9.125	.0612	16.34	231.78	.0319	31.31
9.250	.0634	15.76	234.95	.0331	30.20
9.375	.0657	15.22	238.13	.0343	29.17
9.500	.0680	14.71	241.30	.0355	28.18
9.625	.0703	14.22	244.48	.0367	27.25
9.750	.0727	13.76	247.65	.0379	26.37
9.875	.0751	13.32	250.83	.0392	25.53
10.000	.0775	12.91	254.00	.0404	24.74
10.125	.0799	12.51	257.18	.0417	23.98
10.250	.0824	12.14	260.35	.0430	23.26
10.375	.0849	11.78	263.53	.0443	22.57
10.500	.0874	11.44	266.70	.0456	21.92
10.625	.0900	11.11	269.88	.0470	21.29
10.750	.0926	10.80	273.05	.0483	20.70
10.875	.0952	10.50	276.23	.0497	20.13

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING OR CASING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Tubing or Csg. O.D. 4.500"			Tubing or Csg. O.D. 114.30 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
11.000	.0979	10.22	279.40	.0511	19.58
11.125	.1006	9.94	282.58	.0525	19.06
11.250	.1033	9.68	285.75	.0539	18.56
11.375	.1060	9.43	288.93	.0553	18.08
11.500	.1088	9.19	292.10	.0568	17.61
11.625	.1116	8.96	295.28	.0582	17.17
11.750	.1144	8.74	298.45	.0597	16.74
11.875	.1173	8.52	301.63	.0612	16.34
12.000	.1202	8.32	304.80	.0627	15.94
12.125	.1231	8.12	307.98	.0643	15.56
12.250	.1261	7.93	311.15	.0658	15.20
12.375	.1291	7.75	314.33	.0674	14.84
12.500	.1321	7.57	317.50	.0689	14.51
12.625	.1352	7.40	320.68	.0705	14.18
12.750	.1382	7.23	323.85	.0721	13.86
12.875	.1414	7.07	327.03	.0738	13.56
13.000	.1445	6.92	330.20	.0754	13.26
13.125	.1477	6.77	333.38	.0771	12.98
13.250	.1509	6.63	336.55	.0787	12.70
13.375	.1541	6.49	339.73	.0804	12.44
13.500	.1574	6.35	342.90	.0821	12.18
13.625	.1607	6.22	346.08	.0838	11.93
13.750	.1640	6.10	349.25	.0856	11.69
13.875	.1673	5.98	352.43	.0873	11.45
14.000	.1707	5.86	355.60	.0891	11.22
14.125	.1741	5.74	358.78	.0909	11.00
14.250	.1776	5.63	361.95	.0927	10.79
14.375	.1811	5.52	365.13	.0945	10.58
14.500	.1846	5.42	368.30	.0963	10.38
14.625	.1881	5.32	371.48	.0982	10.19
14.750	.1917	5.22	374.65	.1000	10.00
14.875	.1953	5.12	377.83	.1019	9.81
15.000	.1989	5.03	381.00	.1038	9.63
15.125	.2026	4.94	384.18	.1057	9.46
15.250	.2062	4.85	387.35	.1076	9.29
15.375	.2100	4.76	390.53	.1096	9.13
15.500	.2137	4.68	393.70	.1115	8.97
15.625	.2175	4.60	396.88	.1135	8.81
15.750	.2213	4.52	400.05	.1155	8.66
15.875	.2251	4.44	403.23	.1175	8.51
16.000	.2290	4.37	406.40	.1195	8.37

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 4.750"			METRIC UNITS Casing *O.D. 120.65 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.000	.0024	422.32	127.00	.0012	809.34
5.125	.0036	277.99	130.18	.0019	532.73
5.250	.0049	205.88	133.35	.0025	394.55
5.375	.0061	162.67	136.53	.0032	311.74
5.500	.0075	133.91	139.70	.0039	256.62
5.625	.0088	113.40	142.88	.0046	217.31
5.750	.0102	98.04	146.05	.0053	187.88
5.875	.0116	86.12	149.23	.0061	165.04
6.000	.0131	76.61	152.40	.0068	146.81
6.125	.0145	68.84	155.58	.0076	131.93
6.250	.0160	62.39	158.75	.0084	119.56
6.375	.0176	56.94	161.93	.0092	109.12
6.500	.0191	52.29	165.10	.0100	100.20
6.625	.0207	48.27	168.28	.0108	92.50
6.750	.0223	44.76	171.45	.0117	85.77
6.875	.0240	41.67	174.63	.0125	79.86
7.000	.0257	38.94	177.80	.0134	74.62
7.125	.0274	36.50	180.98	.0143	69.95
7.250	.0291	34.31	184.15	.0152	65.76
7.375	.0309	32.34	187.33	.0161	61.98
7.500	.0327	30.56	190.50	.0171	58.56
7.625	.0346	28.93	193.68	.0180	55.45
7.750	.0364	27.45	196.85	.0190	52.61
7.875	.0383	26.09	200.03	.0200	50.00
8.000	.0403	24.84	203.20	.0210	47.61
8.125	.0422	23.69	206.38	.0220	45.40
8.250	.0442	22.62	209.55	.0231	43.36
8.375	.0462	21.64	212.73	.0241	41.46
8.500	.0483	20.72	215.90	.0252	39.70
8.625	.0503	19.86	219.08	.0263	38.06
8.750	.0525	19.06	222.25	.0274	36.53
8.875	.0546	18.32	225.43	.0285	35.10
9.000	.0568	17.62	228.60	.0296	33.76
9.125	.0590	16.96	231.78	.0308	32.50
9.250	.0612	16.34	234.95	.0319	31.31
9.375	.0635	15.76	238.13	.0331	30.20
9.500	.0658	15.21	241.30	.0343	29.15
9.625	.0681	14.69	244.48	.0355	28.15
9.750	.0704	14.20	247.65	.0368	27.21
9.875	.0728	13.73	250.83	.0380	26.32
10.000	.0752	13.29	254.00	.0393	25.48
10.125	.0777	12.88	257.18	.0405	24.67
10.250	.0801	12.48	260.35	.0418	23.91
10.375	.0826	12.10	263.53	.0431	23.19
10.500	.0852	11.74	266.70	.0444	22.50
10.625	.0877	11.40	269.88	.0458	21.84
10.750	.0903	11.07	273.05	.0471	21.21
10.875	.0930	10.76	276.23	.0485	20.61
11.000	.0956	10.46	279.40	.0499	20.04

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 5.000"			METRIC UNITS Casing *O.D. 127.00 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.500	.0051	196.08	139.70	.0027	375.76
5.625	.0065	155.02	142.88	.0034	297.07
5.750	.0078	127.68	146.05	.0041	244.68
5.875	.0092	108.18	149.23	.0048	207.32
6.000	.0107	93.58	152.40	.0056	179.34
6.125	.0122	82.25	155.58	.0063	157.62
6.250	.0137	73.20	158.75	.0071	140.29
6.375	.0152	65.82	161.93	.0079	126.13
6.500	.0168	59.68	165.10	.0087	114.36
6.625	.0184	54.49	168.28	.0096	104.43
6.750	.0200	50.06	171.45	.0104	95.94
6.875	.0216	46.23	174.63	.0113	88.60
7.000	.0233	42.89	177.80	.0122	82.20
7.125	.0250	39.95	180.98	.0131	76.57
7.250	.0268	37.35	184.15	.0140	71.57
7.375	.0286	35.03'	187.33	.0149	67.12
7.500	.0304	32.94	190.50	.0158	63.13
7.625	.0322	31.06	193.68	.0168	59.53
7.750	.0341	29.36	196.85	.0178	56.26
7.875	.0360	27.81	200.03	.0188	53.30
8.000	.0379	26.40	203.20	.0198	50.58
8.125	.0398	25.10	206.38	.0208	48.10
8.250	.0418	23.91	209.55	.0218	45.81
8.375	.0439	22.80	212.73	.0229	43.70
8.500	.0459	21.79	215.90	.0240	41.75
8.625	.0480	20.84	219.08	.0250	39.94
8.750	.0501	19.96	222.25	.0261	38.26
8.875	.0522	19.15	225.43	.0273	36.69
9.000	.0544	18.38	228.60	.0284	35.23
9.125	.0566	17.67	231.78	.0295	33.86
9.250	.0588	17.00	234.95	.0307	32.57
9.375	.0611	16.37	238.13	.0319	31.37
9.500	.0634	15.78	241.30	.0331	30.23
9.625	.0657	15.22	244.48	.0343	29.17
9.750	.0681	14.69	247.65	.0355	28.16
9.875	.0704	14.20	250.83	.0368	27.20
10.000	.0729	13.73	254.00	.0380	26.30
10.125	.0753	13.28	257.18	.0393	25.45
10.250	.0778	12.86	260.35	.0406	24.64
10.375	.0803	12.46	263.53	.0419	23.87
10.500	.0828	12.08	266.70	.0432	23.14
10.625	.0854	11.71	269.88	.0446	22.45
10.750	.0880	11.37	273.05	.0459	21.78
10.875	.0906	11.04	276.23	.0473	21.15
11.000	.0933	10.72	279.40	.0487	20.55
11.125	.0959	10.42	282.58	.0501	19.97
11.250	.0987	10.14	285.75	.0515	19.42
11.375	.1014	9.86	288.93	.0529	18.90
11.500	.1042	9.60	292.10	.0544	18.39

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 5.500"			METRIC UNITS Casing *O.D. 139.70 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.625	.0014	740.25	142.88	.0007	1418.61
5.750	.0027	366.01	146.05	.0014	701.43
5.875	.0041	241.33	149.23	.0022	462.48
6.000	.0056	179.03	152.40	.0029	343.09
6.125	.0071	141.68	155.58	.0037	271.52
6.250	.0086	116.81	158.75	.0045	223.86
6.375	.0101	99.07	161.93	.0053	189.86
6.500	.0117	85.78	165.10	.0061	164.40
6.625	.0133	75.47	168.28	.0069	144.62
6.750	.0149	67.23	171.45	.0078	128.83
6.875	.0165	60.50	174.63	.0086	115.94
7.000	.0182	54.90	177.80	.0095	105.21
7.125	.0199	50.18	180.98	.0104	96.16
7.250	.0217	46.14	184.15	.0113	88.42
7.375	.0235	42.64	187.33	.0122	81.72
7.500	.0253	39.59	190.50	.0132	75.88
7.625	.0271	36.91	193.68	.0141	70.73
7.750	.0290	34.53	196.85	.0151	66.17
7.875	.0309	32.41	200.03	.0161	62.10
8.000	.0328	30.50	203.20	.0171	58.45
8.125	.0347	28.78	206.38	.0181	55.16
8.250	.0367	27.22	209.55	.0192	52.17
8.375	.0388	25.81	212.73	.0202	49.45
8.500	.0408	24.51	215.90	.0213	46.97
8.625	.0429	23.32	219.08	.0224	44.69
8.750	.0450	22.23	222.25	.0235	42.60
8.875	.0471	21.22	225.43	.0246	40.66
9.000	.0493	20.28	228.60	.0257	38.87
9.125	.0515	19.42	231.78	.0269	37.21
9.250	.0537	18.61	234.95	.0280	35.67
9.375	.0560	17.86	238.13	.0292	34.23
9.500	.0583	17.16	241.30	.0304	32.88
9.625	.0606	16.50	244.48	.0316	31.62
9.750	.0630	15.88	247.65	.0329	30.44
9.875	.0653	15.30	250.83	.0341	29.33
10.000	.0678	14.76	254.00	.0354	28.28
10.125	.0702	14.24	257.18	.0366	27.30
10.250	.0727	13.76	260.35	.0379	26.37
10.375	.0752	13.30	263.53	.0392	25.49
10.500	.0777	12.87	266.70	.0406	24.66
10.625	.0803	12.46	269.88	.0419	23.87
10.750	.0829	12.07	273.05	.0432	23.12
10.875	.0855	11.70	276.23	.0446	22.41
11.000	.0882	11.34	279.40	.0460	21.74
11.125	.0908	11.01	282.58	.0474	21.10
11.250	.0936	10.69	285.75	.0488	20.48
11.375	.0963	10.38	288.93	.0503	19.90
11.500	.0991	10.09	292.10	.0517	19.34
11.625	.1019	9.81	295.28	.0532	18.81
11.750	.1047	9.55	298.45	.0547	18.30
11.875	.1076	9.29	301.63	.0561	17.81

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 5.500"			METRIC UNITS Casing *O.D. 139.70 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
12.000	.1105	9.05	304.80	.0577	17.34
12.125	.1134	8.82	307.98	.0592	16.90
12.250	.1164	8.59	311.15	.0607	16.47
12.375	.1194	8.38	314.33	.0623	16.05
12.500	.1224	8.17	317.50	.0639	15.66
12.625	.1255	7.97	320.68	.0655	15.28
12.750	.1285	7.78	323.85	.0671	14.91
12.875	.1316	7.60	327.03	.0687	14.56
13.000	.1348	7.42	330.20	.0703	14.22
13.125	.1380	7.25	333.38	.0720	13.89
13.250	.1412	7.08	336.55	.0737	13.58
13.375	.1444	6.93	339.73	.0753	13.27
13.500	.1477	6.77	342.90	.0770	12.98
13.625	.1510	6.62	346.08	.0788	12.70
13.750	.1543	6.48	349.25	.0805	12.42
13.875	.1576	6.34	352.43	.0823	12.16
14.000	.1610	6.21	355.60	.0840	11.90
14.125	.1644	6.08	358.78	.0858	11.65
14.250	.1679	5.96	361.95	.0876	11.42
14.375	.1714	5.84	365.13	.0894	11.18
14.500	.1749	5.72	368.30	.0912	10.96
14.625	.1784	5.61	371.48	.0931	10.74
14.750	.1820	5.50	374.65	.0949	10.53
14.875	.1856	5.39	377.83	.0968	10.33
15.000	.1892	5.29	381.00	.0987	10.13
15.125	.1928	5.19	384.18	.1006	9.94
15.250	.1965	5.09	387.35	.1026	9.75
15.375	.2003	4.99	390.53	.1045	9.57
15.500	.2040	4.90	393.70	.1064	9.39
15.625	.2078	4.81	396.88	.1084	9.22
15.750	.2116	4.73	400.05	.1104	9.06
15.875	.2154	4.64	403.23	.1124	8.90
16.000	.2193	4.56	406.40	.1144	8.74

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 5.570"			METRIC UNITS Casing *O.D. 146.05 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
6.000	.0029	350.44	152.40	.0015	671.58
6.125	.0043	231.17	155.58	.0023	443.01
6.250	.0058	171.57	158.75	.0030	328.79
6.375	.0074	135.84	161.93	.0038	260.32
6.500	.0089	112.05	165.10	.0047	214.72
6.625	.0105	95.07	168.28	.0055	182.19
6.750	.0121	82.35	171.45	.0063	157.82
6.875	.0138	72.48	174.63	.0072	138.90
7.000	.0155	64.59	177.80	.0081	123.78
7.125	.0172	58.15	180.98	.0090	111.44
7.250	.0189	52.79	184.15	.0099	101.17
7.375	.0207	48.27	187.33	.0108	92.50
7.500	.0225	44.40	190.50	.0118	85.08
7.625	.0244	41.05	193.68	.0127	78.66
7.750	.0262	38.13	196.85	.0137	73.07
7.875	.0281	35.55	200.03	.0147	68.14
8.000	.0301	33.27	203.20	.0157	63.77
8.125	.0320	31.24	206.38	.0167	59.87
8.250	.0340	29.41	209.55	.0177	56.36
8.375	.0360	27.76	212.73	.0188	53.21
8.500	.0381	26.27	215.90	.0199	50.34
8.625	.0401	24.91	219.08	.0209	47.73
8.750	.0423	23.66	222.25	.0221	45.35
8.875	.0444	22.52	225.43	.0232	43.16
9.000	.0466	21.47	228.60	.0243	41.15
9.125	.0488	20.50	231.78	.0254	39.30
9.250	.0510	19.61	234.95	.0266	37.58
9.375	.0533	18.78	238.13	.0278	35.98
9.500	.0556	18.00	241.30	.0290	34.50
9.625	.0579	17.28	244.48	.0302	33.11
9.750	.0602	16.60	247.65	.0314	31.82
9.875	.0626	15.97	250.83	.0327	30.61
10.000	.0650	15.38	254.00	.0339	29.47
10.125	.0675	14.82	257.18	.0352	28.40
10.250	.0699	14.30	260.35	.0365	27.40
10.375	.0724	13.80	263.53	.0378	26.45
10.500	.0750	13.34	266.70	.0391	25.56
10.625	.0775	12.90	269.88	.0405	24.71
10.750	.0801	12.48	273.05	.0418	23.91
10.875	.0828	12.08	276.23	.0432	23.15
11.000	.0854	11.71	279.40	.0446	22.43
11.125	.0881	11.35	282.58	.0460	21.75
11.250	.0908	11.01	285.75	.0474	21.10
11.375	.0936	10.69	288.93	.0488	20.48
11.500	.0964	10.38	292.10	.0503	19.89
11.625	.0992	10.08	295.28	.0517	19.33
11.750	.1020	9.80	298.45	.0532	18.79
11.875	.1049	9.54	301.63	.0547	18.27
12.000	.1078	9.28	304.80	.0562	17.78

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 6.000"			METRIC UNITS Casing *O.D. 152.40 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
6.125	.0015	679.20	155.58	.0008	1301.62
6.250	.0030	336.14	158.75	.0016	644.17
6.375	.0045	221.83	161.93	.0024	425.11
6.500	.0061	164.71	165.10	.0032	315.64
6.625	.0077	130.46	168.28	.0040	250.01
6.750	.0093	107.65	171.45	.0048	206.30
6.875	.0109	91.38	174.63	.0057	175.11
7.000	.0126	79.19	177.80	.0066	151.75
7.125	.0143	69.72	180.98	.0075	133.60
7.250	.0161	62.15	184.15	.0084	119.11
7.375	.0179	55.97	187.33	.0093	107.27
7.500	.0197	50.84	190.50	.0103	97.42
7.625	.0215	46.49	193.68	.0112	89.10
7.750	.0234	42.78	196.85	.0122	81.98
7.875	.0253	39.57	200.03	.0132	75.83
8.000	.0272	36.76	203.20	.0142	70.46
8.125	.0292	34.30	206.38	.0152	65.72
8.250	.0311	32.11	209.55	.0163	61.53
8.375	.0332	30.15	212.73	.0173	57.78
8.500	.0352	28.40	215.90	.0184	54.42
8.625	.0373	26.81	219.08	.0195	51.39
8.750	.0394	25.38	222.25	.0206	48.64
8.875	.0415	24.07	225.43	.0217	46.13
9.000	.0437	22.88	228.60	.0228	43.84
9.125	.0459	21.78	231.78	.0240	41.74
9.250	.0481	20.77	234.95	.0251	39.80
9.375	.0504	19.84	238.13	.0263	38.02
9.500	.0527	18.98	241.30	.0275	36.36
9.625	.0550	18.17	244.48	.0287	34.83
9.750	.0574	17.43	247.65	.0299	33.40
9.875	.0598	16.73	250.83	.0312	32.07
10.000	.0622	16.08	254.00	.0324	30.82
10.125	.0646	15.48	257.18	.0337	29.66
10.250	.0671	14.91	260.35	.0350	28.56
10.375	.0696	14.37	263.53	.0363	27.54
10.500	.0721	13.86	266.70	.0376	26.57
10.625	.0747	13.39	269.88	.0390	25.66
10.750	.0773	12.94	273.05	.0403	24.80
10.875	.0799	12.51	276.23	.0417	23.98
11.000	.0826	12.11	279.40	.0431	23.21
11.125	.0853	11.73	282.58	.0445	22.48
11.250	.0880	11.37	285.75	.0459	21.78
11.375	.0907	11.02	288.93	.0473	21.12
11.500	.0935	10.70	292.10	.0488	20.50
11.625	.0963	10.38	295.28	.0503	19.90
11.750	.0991	10.09	298.45	.0517	19.33
11.875	.1020	9.80	301.63	.0532	18.79
12.000	.1049	9.53	304.80	.0547	18.27

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 6.625"			METRIC UNITS Casing *O.D. 168.28 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
7.000	.0050	201.48	177.80	.0026	386.11
7.125	.0067	149.73	180.98	.0035	286.95
7.250	.0084	118.71	184.15	.0044	227.49
7.375	.0102	98.04	187.33	.0053	187.88
7.500	.0120	83.29	190.50	.0063	159.62
7.625	.0138	72.24	193.68	.0072	138.44
7.750	.0157	63.65	196.85	.0082	121.99
7.875	.0176	56.80	200.03	.0092	108.84
8.000	.0195	51.19	203.20	.0102	98.10
8.125	.0215	46.53	206.38	.0112	89.16
8.250	.0235	42.59	209.55	.0123	81.61
8.375	.0255	39.22	212.73	.0133	75.15
8.500	.0275	36.30	215.90	.0144	69.56
8.625	.0296	33.75	219.08	.0155	64.68
8.750	.0317	31.51	222.25	.0166	60.38
8.875	.0339	29.52	225.43	.0177	56.57
9.000	.0360	27.74	228.60	.0188	53.16
9.125	.0382	26.14	231.78	.0200	50.10
9.250	.0405	24.70	234.95	.0211	47.34
9.375	.0427	23.40	238.13	.0223	44.84
9.500	.0450	22.21	241.30	.0235	42.55
9.625	.0474	21.12	244.48	.0247	40.47
9.750	.0497	20.12	247.65	.0259	38.55
9.875	.0521	19.20	250.83	.0272	36.79
10.000	.0545	18.35	254.00	.0284	35.16
10.125	.0569	17.56	257.18	.0297	33.65
10.250	.0594	16.83	260.35	.0310	32.25
10.375	.0619	16.15	263.53	.0323	30.95
10.500	.0645	15.51	266.70	.0336	29.73
10.625	.0670	14.92	269.88	.0350	28.59
10.750	.0696	14.36	273.05	.0363	27.52
10.875	.0722	13.84	276.23	.0377	26.52
11.000	.0749	13.35	279.40	.0391	25.58
11.125	.0776	12.89	282.58	.0405	24.70
11.250	.0803	12.45	285.75	.0419	23.86
11.375	.0831	12.04	288.93	.0433	23.07
11.500	.0858	11.65	292.10	.0448	22.33
11.625	.0886	11.28	295.28	.0463	21.62
11.750	.0915	10.93	298.45	.0477	20.95
11.875	.0943	10.60	301.63	.0492	20.31
12.000	.0972	10.28	304.80	.0507	19.71
12.125	.1002	9.98	307.98	.0523	19.13
12.250	.1031	9.70	311.15	.0538	18.58
12.375	.1061	9.42	314.33	.0554	18.06
12.500	.1091	9.16	317.50	.0570	17.56
12.625	.1122	8.91	320.68	.0585	17.08
12.750	.1153	8.67	323.85	.0602	16.62
12.875	.1184	8.45	327.03	.0618	16.19
13.000	.1215	8.23	330.20	.0634	15.77

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 7.000"			METRIC UNITS Casing *O.D. 177.80 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
7.125	.0017	583.03	180.98	.0009	1117.32
7.250	.0035	288.96	184.15	.0018	553.76
7.375	.0052	190.96	187.33	.0027	365.96
7.500	.0070	141.99	190.50	.0037	272.11
7.625	.0089	112.62	193.68	.0046	215.82
7.750	.0107	93.05	196.85	.0056	178.33
7.875	.0126	79.09	200.03	.0066	151.57
8.000	.0146	68.63	203.20	.0076	131.52
8.125	.0165	60.50	206.38	.0086	115.94
8.250	.0185	54.00	209.55	.0097	103.49
8.375	.0205	48.69	212.73	.0107	93.32
8.500	.0226	44.28	215.90	.0118	84.85
8.625	.0247	40.54	219.08	.0129	77.70
8.750	.0268	37.35	222.25	.0140	71.57
8.875	.0289	34.58	223.43	.0151	66.28
9.000	.0311	32.17	228.60	.0162	61.65
9.125	.0333	30.04	231.78	.0174	57.57
9.250	.0355	28.15	234.95	.0185	53.96
9.375	.0378	26.47	238.13	.0197	50.73
9.500	.0401	24.96	241.30	.0209	47.82
9.625	.0424	23.59	244.48	.0221	45.20
9.750	.0447	22.35	247.65	.0233	42.83
9.875	.0471	21.22	250.83	.0246	40.66
10.000	.0495	20.18	254.00	.0259	38.68
10.125	.0520	19.24	257.18	.0271	36.86
10.250	.0545	18.36	260.35	.0284	35.19
10.375	.0570	17.55	263.53	.0297	33.64
10.500	.0595	16.81	266.70	.0310	32.21
10.625	.0621	16.11	269.88	.0324	30.88
10.750	.0647	15.47	273.05	.0337	29.64
10.875	.0673	14.86	276.23	.0351	28.48
11.000	.0699	14.30	279.40	.0365	27.40
11.125	.0726	13.77	282.58	.0379	26.39
11.250	.0753	13.27	285.75	.0393	25.43
11.375	.0781	12.81	288.93	.0408	24.54
11.500	.0809	12.37	292.10	.0422	23.70
11.625	.0837	11.95	295.28	.0437	22.90
11.750	.0865	11.56	298.45	.0451	22.15
11.875	.0894	11.19	301.63	.0466	21.44
12.000	.0923	10.84	304.80	.0482	20.77
12.125	.0952	10.50	307.98	.0497	20.13
12.250	.0982	10.19	311.15	.0512	19.52
12.375	.1012	9.88	314.33	.0528	18.94
12.500	.1042	9.60	317.50	.0544	18.39
12.625	.1072	9.33	320.68	.0560	17.87
12.750	.1103	9.06	323.85	.0576	17.37
12.875	.1134	8.82	327.03	.0592	16.90

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing * O.D. 7.000"			METRIC UNITS Casing * O.D. 177.80 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
13.000	.1166	8.58	330.20	.0608	16.44
13.125	.1197	8.35	333.38	.0625	16.00
13.250	.1229	8.13	336.55	.0642	15.59
13.375	.1262	7.93	339.73	.0658	15.19
13.500	.1294	7.73	342.90	.0675	14.80
13.625	.1327	7.53	346.08	.0693	14.44
13.750	.1361	7.35	349.25	.0710	14.08
13.875	.1394	7.17	352.43	.0727	13.75
14.000	.1428	7.00	355.60	.0745	13.42
14.125	.1462	6.84	358.78	.0763	13.11
14.250	.1497	6.68	361.95	.0781	12.80
14.375	.1531	6.53	365.13	.0799	12.51
14.500	.1566	6.38	368.30	.0817	12.23
14.625	.1602	6.24	371.48	.0836	11.96
14.750	.1637	6.11	374.65	.0854	11.70
14.875	.1673	5.98	377.83	.0873	11.45
15.000	.1710	5.85	381.00	.0892	11.21
15.125	.1746	5.73	384.18	.0911	10.97
15.250	.1783	5.61	387.35	.0930	10.75
15.375	.1820	5.49	390.53	.0950	10.53
15.500	.1858	5.38	393.70	.0969	10.32
15.625	.1896	5.28	396.88	.0989	10.11
15.750	.1934	5.17	400.05	.1009	9.91
15.875	.1972	5.07	403.23	.1029	9.72
16.000	.2011	4.97	406.40	.1049	9.53

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 7.625"			METRIC UNITS Casing *O.D. 193.68 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
8.000	.0057	175.69	203.20	.0030	336.68
8.125	.0076	130.72	206.38	.0040	250.51
8.250	.0096	103.75	209.55	.0050	198.83
8.375	.0117	85.78	212.73	.0061	164.40
8.500	.0137	72.96	215.90	.0072	139.82
8.625	.0158	63.35	219.08	.0082	121.40
8.750	.0179	55.88	222.25	.0093	107.09
8.875	.0200	49.91	225.43	.0105	95.65
9.000	.0222	45.03	228.60	.0116	86.30
9.125	.0244	40.97	231.78	.0127	78.52
9.250	.0266	37.54	234.95	.0139	71.94
9.375	.0289	34.60	238.13	.0151	66.31
9.500	.0312	32.06	241.30	.0163	61.44
9.625	.0335	29.84	244.48	.0175	57.18
9.750	.0359	27.88	247.65	.0187	53.43
9.875	.0382	26.14	250.83	.0200	50.10
10.000	.0407	24.59	254.00	.0212	47.13
10.125	.0431	23.20	257.18	.0225	44.46
10.250	.0456	21.94	260.35	.0238	42.04
10.375	.0481	20.80	263.53	.0251	39.85
10.500	.0506	19.75	266.70	.0264	37.86
10.625	.0532	18.80	269.88	.0278	36.03
10.750	.0558	17.93	273.05	.0291	34.36
10.875	.0584	17.12	276.23	.0305	32.81
11.000	.0611	16.38	279.40	.0319	31.38
11.125	.0637	15.69	282.58	.0333	30.06
11.250	.0665	15.05	285.75	.0347	28.83
11.375	.0692	14.45	288.93	.0361	27.69
11.500	.0720	13.89	292.10	.0376	26.62
11.625	.0748	13.37	295.28	.0390	25.62
11.750	.0776	12.88	298.45	.0405	24.68
11.875	.0805	12.42	301.63	.0420	23.80
12.000	.0834	11.99	304.80	.0435	22.98
12.125	.0863	11.58	307.98	.0451	22.20
12.250	.0893	11.20	311.15	.0466	21.46
12.375	.0923	10.84	314.33	.0482	20.77
12.500	.0953	10.49	317.50	.0497	20.11
12.625	.0984	10.17	320.68	.0513	19.48
12.750	.1014	9.86	323.85	.0529	18.89
12.875	.1045	9.56	327.03	.0546	18.33
13.000	.1077	9.29	330.20	.0562	17.80
13.125	.1109	9.02	333.38	.0579	17.29
13.250	.1141	8.77	336.55	.0595	16.80
13.375	.1173	8.53	339.73	.0612	16.34
13.500	.1206	8.29	342.90	.0629	15.90
13.625	.1239	8.07	346.08	.0646	15.47
13.750	.1272	7.86	349.25	.0664	15.07
13.875	.1305	7.66	352.43	.0681	14.68
14.000	.1339	7.47	355.60	.0699	14.31
14.125	.1373	7.28	358.78	.0717	13.95
14.250	.1408	7.10	361.95	.0735	13.61
14.375	.1443	6.93	365.13	.0753	13.28
14.500	.1478	6.77	368.30	.0771	12.97

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 7.750"			METRIC UNITS Casing *O.D. 196.85 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
8.000	.0038	261.44	203.20	.0020	501.02
8.125	.0058	172.92	206.38	.0030	331.38
8.250	.0078	128.68	209.55	.0041	246.60
8.375	.0098	102.14	212.73	.0051	195.75
8.500	.0118	84.46	215.90	.0062	161.87
8.625	.0139	71.85	219.08	.0073	137.68
8.750	.0160	62.39	222.25	.0084	119.56
8.875	.0182	55.04	225.43	.0095	105.48
9.000	.0203	49.17	228.60	.0106	94.22
9.125	.0225	44.37	231.78	.0118	85.02
9.250	.0248	40.37	234.95	.0129	77.36
9.375	.0270	36.99	238.13	.0141	70.89
9.500	.0293	34.10	241.30	.0153	65.35
9.625	.0316	31.60	244.48	.0165	60.55
9.750	.0340	29.41	247.65	.0177	56.36
9.875	.0364	27.49	250.83	.0190	52.67
10.000	.0388	25.78	254.00	.0202	49.40
10.125	.0412	24.25	257.18	.0215	46.47
10.250	.0437	22.88	260.35	.0228	43.84
10.375	.0462	21.64	263.53	.0241	41.46
10.500	.0488	20.51	266.70	.0254	39.31
10.625	.0513	19.49	269.88	.0268	37.34
10.750	.0539	18.55	273.05	.0281	35.55
10.875	.0565	17.69	276.23	.0295	33.89
11.000	.0592	16.89	279.40	.0309	32.37
11.125	.0619	16.16	282.58	.0323	30.97
11.250	.0646	15.48	285.75	.0337	29.67
11.375	.0673	14.85	288.93	.0351	28.46
11.500	.0701	14.26	292.10	.0366	27.33
11.625	.0729	13.71	295.28	.0381	26.28
11.750	.0758	13.20	298.45	.0395	25.29
11.875	.0786	12.72	301.63	.0410	24.37
12.000	.0815	12.26	304.80	.0425	23.50
12.125	.0845	11.84	307.98	.0441	22.69
12.250	.0874	11.44	311.15	.0456	21.92
12.375	.0904	11.06	314.33	.0472	21.19
12.500	.0934	10.70	317.50	.0488	20.51
12.625	.0965	10.36	320.68	.0503	19.86
12.750	.0996	10.04	323.85	.0520	19.25
12.875	.1027	9.74	327.03	.0536	18.66
13.000	.1058	9.45	330.20	.0552	18.11
13.125	.1090	9.17	333.38	.0569	17.58
13.250	.1122	8.91	336.55	.0585	17.08
13.375	.1154	8.66	339.73	.0602	16.60
13.500	.1187	8.42	342.90	.0619	16.15
13.625	.1220	8.20	346.08	.0637	15.71
13.750	.1253	7.98	349.25	.0654	15.29
13.875	.1287	7.77	352.43	.0671	14.89
14.000	.1321	7.57	355.60	.0689	14.51
14.125	.1355	7.38	358.78	.0707	14.15
14.250	.1389	7.20	361.95	.0725	13.80
14.375	.1424	7.02	365.13	.0743	13.46
14.500	.1459	6.85	368.30	.0761	13.14

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 8.000"			METRIC UNITS Casing *O.D. 203.20 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
8.500	.0080	124.78	215.90	.0042	239.12
8.625	.0101	99.07	219.08	.0053	189.86
8.750	.0122	81.94	222.25	.0064	157.04
8.875	.0143	69.72	225.43	.0075	133.60
9.000	.0165	60.55	228.60	.0086	116.04
9.125	.0187	53.43	231.78	.0098	102.40
9.250	.0209	47.74	234.95	.0109	91.49
9.375	.0232	43.09	238.13	.0121	82.57
9.500	.0255	39.22	241.30	.0133	75.15
9.625	.0278	35.94	244.48	.0145	68.88
9.750	.0302	33.14	247.65	.0157	63.51
9.875	.0326	30.71	250.83	.0170	58.86
10.000	.0350	28.59	254.00	.0182	54.80
10.125	.0374	26.73	257.18	.0195	51.22
10.250	.0399	25.07	260.35	.0208	48.04
10.375	.0424	23.59	263.53	.0221	45.20
10.500	.0449	22.26	266.70	.0234	42.65
10.625	.0475	21.06	269.88	.0248	40.35
10.750	.0501	19.96	273.05	.0261	38.26
10.875	.0527	18.97	276.23	.0275	36.35
11.000	.0554	18.06	279.40	.0289	34.61
11.125	.0581	17.22	282.58	.0303	33.01
11.250	.0608	16.45	285.75	.0317	31.53
11.375	.0635	15.74	288.93	.0331	30.17
11.500	.0663	15.08	292.10	.0346	28.90
11.625	.0691	14.47	295.28	.0361	27.73
11.750	.0719	13.90	298.45	.0375	26.64
11.875	.0748	13.37	301.63	.0390	25.62
12.000	.0777	12.87	304.80	.0406	24.66
12.125	.0806	12.40	307.98	.0421	23.76
12.250	.0836	11.96	311.15	.0436	22.92
12.375	.0866	11.55	314.33	.0452	22.13
12.500	.0896	11.16	317.50	.0468	21.38
12.625	.0927	10.79	320.68	.0484	20.68
12.750	.0957	10.44	323.85	.0500	20.02
12.875	.0989	10.12	327.03	.0516	19.39
13.000	.1020	9.80	330.20	.0532	18.79
13.125	.1052	9.51	333.38	.0549	18.22
13.250	.1084	9.23	336.55	.0566	17.68
13.375	.1116	8.96	339.73	.0582	17.17
13.500	.1149	8.71	342.90	.0599	16.68
13.625	.1182	8.46	346.08	.0617	16.22
13.750	.1215	8.23	349.25	.0634	15.77
13.875	.1248	8.01	352.43	.0651	15.35
14.000	.1282	7.80	355.60	.0669	14.95
14.125	.1316	7.60	358.78	.0687	14.56
14.250	.1351	7.40	361.95	.0705	14.19
14.375	.1386	7.22	365.13	.0723	13.83
14.500	.1421	7.04	368.30	.0741	13.49

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 8.125"			METRIC UNITS Casing *O.D. 206.38 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
8.500	.0061	165.12	215.90	.0032	316.43
8.625	.0081	122.92	219.08	.0042	235.55
8.750	.0102	97.60	222.25	.0053	187.05
8.875	.0124	80.74	225.43	.0065	154.73
9.000	.0146	68.70	228.60	.0076	131.65
9.125	.0168	59.68	231.78	.0087	114.36
9.250	.0190	52.66	234.95	.0099	100.92
9.375	.0212	47.06	238.13	.0111	90.18
9.500	.0235	42.48	241.30	.0123	81.40
9.625	.0259	38.66	244.48	.0135	74.09
9.150	.0282	35.44	247.65	.0147	67.92
9.875	.0306	32.68	250.83	.0160	62.63
10.000	.0330	30.29	254.00	.0172	58.05
10.125	.0355	28.20	257.18	.0185	54.05
10.250	.0379	26.36	260.35	.0198	50.52
10.375	.0404	24.73	263.53	.0211	47.39
10.500	.0430	23.27	266.70	.0224	44.60
10.625	.0455	21.96	269.88	.0238	42.09
10.750	.0481	20.78	273.05	.0251	39.82
10.875	.0508	19.70	276.23	.0265	37.76
11.000	.0534	18.72	279.40	.0279	35.88
11.125	.0561	17.83	282.58	.0293	34.16
11.250	.0588	17.00	285.75	.0307	32.58
11.375	.0616	16.24	288.93	.0321	31.13
11.500	.0643	15.54	292.10	.0336	29.78
11.625	.0671	14.89	295.28	.0350	28.54
11.750	.0700	14.29	298.45	.0365	27.38
11.875	.0729	13.73	301.63	.0380	26.30
12.000	.0758	13.20	304.80	.0395	25.30
12.125	.0787	12.71	307.98	.0411	24.36
12.250	.0816	12.25	311.15	.0426	23.47
12.375	.0846	11.82	314.33	.0442	22.64
12.500	.0877	11.41	317.50	.0457	21.86
12.625	.0907	11.02	320.68	.0473	21.13
12.750	.0938	10.66	323.85	.0489	20.43
12.875	.0969	10.32	327.03	.0506	19.78
13.000	.1000	10.00	330.20	.0522	19.16
13.125	.1032	9.69	333.38	.0539	18.57
13.250	.1064	9.40	336.55	.0555	18.01
13.375	.1096	9.12	339.73	.0572	17.48
13.500	.1129	8.86	342.90	.0589	16.97
13.625	.1162	8.61	346.08	.0606	16.49
13.750	.1195	8.37	349.25	.0624	16.03
13.875	.1229	8.14	352.43	.0641	15.59
14.000	.1263	7.92	355.60	.0659	15.18
14.125	.1297	7.71	358.78	.0677	14.78
14.250	.1331	7.51	361.95	.0695	14.39
14.375	.1366	7.32	365.13	.0713	14.03
14.500	.1401	7.14	368.30	.0731	13.68

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 8.625"			METRIC UNITS Casing *O.D. 219.08 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
9.000	.0064	155.75	228.60	.0034	298.48
9.125	.0086	115.99	231.78	.0045	222.28
9.250	.0109	92.14	234.95	.0057	176.58
9.375	.0131	76.25	238.13	.0068	146.13
9.500	.0154	64.91	241.30	.0080	124.39
9.625	.0177	56.41	244.48	.0093	108.10
9.750	.0201	49.80	247.65	.0105	95.43
9.875	.0225	44.52	250.83	.0117	85.31
10.000	.0249	40.20	254.00	.0130	77.03
10.125	.0273	36.60	257.18	.0143	70.14
10.250	.0298	33.56	260.35	.0155	64.32
10.375	.0323	30.96	263.53	.0169	59.33
10.500	.0348	28.71	266.70	.0182	55.01
10.625	.0374	26.74	269.88	.0195	51.24
10.750	.0400	25.00	273.05	.0209	47.92
10.875	.0426	23.46	276.23	.0222	44.96
11.000	.0453	22.09	279.40	.0236	42.33
11.125	.0480	20.85	282.58	.0250	39.95
11.250	.0507	19.73	285.75	.0264	37.81
11.375	.0534	18.72	288.93	.0279	35.87
11.500	.0562	17.79	292.10	.0293	34.10
11.625	.0590	16.95	295.28	.0308	32.47
11.750	.0619	16.17	298.45	.0323	30.98
11.875	.0647	15.45	301.63	.0338	29.61
12.000	.0676	14.79	304.80	.0353	28.34
12.125	.0705	14.17	307.98	.0368	27.16
12.250	.0735	13.60	311.15	.0384	26.07
12.375	.0765	13.07	314.33	.0399	25.05
12.500	.0795	12.58	317.50	.0415	24.10
12.625	.0826	12.11	320.68	.0431	23.21
12.750	.0857	11.68	323.85	.0447	22.37
12.875	.0888	11.27	327.03	.0463	21.59
13.000	.0919	10.88	330.20	.0480	20.85
13.125	.0551	10.52	333.38	.0496	20.16
13.250	.0983	10.17	336.55	.0513	19.50
13.375	.1015	9.85	339.73	.0530	18.88
13.500	.1048	9.54	342.90	.0547	18.29
13.625	.1081	9.25	346.08	.0564	17.73
13.750	.1114	8.98	349.25	.0581	17.20
13.875	.1147	8.71	352.43	.0599	16.70
14.000	.1181	8.46	355.60	.0616	16.22
14.125	.1215	8.23	358.78	.0634	15.77
14.250	.1250	8.00	361.95	.0652	15.33
14.375	.1285	7.78	365.13	.0670	14.92
14.500	.1320	7.58	368.30	.0689	14.52
14.625	.1355	7.38	371.48	.0707	14.14
14.750	.1351	7.19	374.65	.0726	13.78
14.875	.1427	7.01	377.83	.0745	13.43
15.000	.1463	6.83	381.00	.0763	13.10

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 8.750"			METRIC UNITS Casing *O.D. 222.25 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
9.000	.0043	231.98	228.60	.0022	444.57
9.125	.0065	153.57	231.78	.0034	294.30
9.250	.0087	114.38	234.95	.0046	219.20
9.375	.0110	90.87	238.13	.0057	174.15
9.500	.0133	75.21	241.30	.0069	144.13
9.625	.0156	64.03	244.48	.0082	122.70
9.750	.0180	55.64	247.65	.0094	106.64
9.875	.0204	49.13	250.83	.0106	94.15
10.000	.0228	43.92	254.00	.0119	84.17
10.125	.0252	39.66	257.18	.0132	76.01
10.250	.0277	36.12	260.35	.0144	69.22
10.375	.0302	33.12	263.53	.0158	63.48
10.500	.0327	30.56	266.70	.0171	58.56
10.625	.0353	28.34	269.88	.0184	54.30
10.750	.0379	26.40	273.05	.0198	50.58
10.875	.0405	24.68	276.23	.0211	47.30
11.000	.0432	23.17	279.40	.0225	44.39
11.125	.0459	21.81	282.58	.0239	41.79
11.250	.0486	20.59	285.75	.0253	39.46
11.375	.0513	19.49	288.93	.0268	37.34
11.500	.0541	18.49	292.10	.0282	35.43
11.625	.0569	17.57	295.28	.0297	33.68
11.750	.0597	16.74	298.45	.0312	32.08
11.875	.0626	15.97	301.63	.0327	30.61
12.000	.0655	15.26	304.80	.0342	29.25
12.125	.0684	14.61	307.98	.0357	28.00
12.250	.0714	14.01	311.15	.0373	26.84
12.375	.0744	13.44	314.33	.0388	25.76
12.500	.0774	12.92	317.50	.0404	24.76
12.625	.0805	12.43	320.68	.0420	23.82
12.750	.0835	11.97	323.85	.0436	22.94
12.875	.0867	11.54	327.03	.0452	22.12
13.000	.0898	11.14	330.20	.0469	21.34
13.125	.0930	10.76	333.38	.0485	20.61
13.250	.0962	10.40	336.55	.0502	19.93
13.375	.0994	10.06	339.73	.0519	19.28
13.500	.1027	9.74	342.90	.0536	18.67
13.625	.1060	9.44	346.08	.0553	18.09
13.750	.1093	9.15	349.25	.0570	17.54
13.875	.1126	8.88	352.43	.0588	17.01
14.000	.1160	8.62	355.60	.0605	16.52
14.125	.1194	8.37	358.78	.0623	16.04
14.250	.1229	8.14	361.95	.0641	15.59
14.375	.1264	7.91	365.13	.0659	15.17
14.500	.1299	7.70	368.30	.0678	14.76
14.625	.1334	7.50	371.48	.0696	14.37
14.750	.1370	7.30	374.65	.0715	13.99
14.875	.1406	7.11	377.83	.0734	13.63
15.000	.1442	6.94	381.00	.0752	13.29

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 9.000"			METRIC UNITS Casing *O.D. 228.60 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
9.125	.0022	454.36	231.78	.0011	870.74
9.250	.0044	225.63	234.95	.0023	432.39
9.375	.0067	149.39	238.13	.0035	286.30
9.500	.0090	111.29	241.30	.0047	213.27
9.625	.0113	88.43	244.48	.0059	169.47
9.750	.0137	73.20	247.65	.0071	140.29
9.875	.0160	62.33	250.83	.0084	119.45
10.000	.0185	54.18	254.00	.0096	103.83
10.125	.0209	47.84	257.18	.0109	91.69
10.250	.0234	42.78	260.35	.0122	81.98
10.375	.0259	38.64	263.53	.0135	74.05
10.500	.0284	35.19	266.70	.0148	67.44
10.625	.0310	32.28	269.88	.0162	61.86
10.750	.0336	29.78	273.05	.0175	57.08
10.875	.0362	27.62	276.23	.0189	52.94
11.000	.0389	25.74	279.40	.0203	49.32
11.125	.0415	24.07	282.58	.0217	46.13
11.250	.0443	22.59	285.75	.0231	43.30
11.375	.0470	21.27	288.93	.0245	40.77
11.500	.0498	20.09	292.10	.0260	38.49
11.625	.0526	19.01	295.28	.0274	36.44
11.750	.0554	18.04	298.45	.0289	34.57
11.875	.0583	17.15	301.63	.0304	32.87
12.000	.0612	16.34	304.80	.0319	31.31
12.125	.0641	15.59	307.98	.0335	29.88
12.250	.0671	14.91	311.15	.0350	28.56
12.375	.0701	14.27	314.33	.0366	27.35
12.500	.0731	13.68	317.50	.0381	26.22
12.625	.0762	13.13	320.68	.0397	25.17
12.750	.0792	12.62	323.85	.0413	24.19
12.875	.0823	12.14	327.03	.0430	23.27
13.000	.0855	11.70	330.20	.0446	22.42
13.125	.0887	11.28	333.38	.0463	21.62
13.250	.0919	10.89	336.55	.0479	20.86
13.375	.0951	10.52	339.73	.0496	20.15
13.500	.0984	10.17	342.90	.0513	19.48
13.625	.1017	9.84	346.08	.0530	18.85
13.750	.1050	9.53	349.25	.0548	18.26
13.875	.1083	9.23	352.43	.0565	17.69
14.000	.1117	8.95	355.60	.0583	17.15
14.125	.1151	8.69	358.78	.0601	16.65
14.250	.1186	8.43	361.95	.0619	16.16
14.375	.1221	8.19	365.13	.0637	15.70
14.500	.1256	7.96	368.30	.0655	15.26
14.625	.1291	7.75	371.48	.0674	14.84
14.750	.1327	7.54	374.65	.0692	14.45
14.875	.1363	7.34	377.83	.0711	14.06
15.000	.1399	7.15	381.00	.0730	13.70

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 9.625"			METRIC UNITS Casing *O.D. 244.48 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
10.000	.0071	139.88	254.00	.0037	268.06
10.125	.0096	104.24	257.18	.0050	199.77
10.250	.0121	82.87	260.35	.0063	158.81
10.375	.0146	68.63	263.53	.0076	131.52
10.500	.0171	58.46	266.70	.0089	112.03
10.625	.0197	50.84	269.88	.0103	97.42
10.750	.0223	44.91	273.05	.0116	86.06
10.875	.0249	40.17	276.23	.0130	76.99
11.000	.0275	36.30	279.40	.0144	69.56
11.125	.0302	33.07	282.58	.0158	63.38
11.250	.0330	30.35	285.75	.0172	58.16
11.375	.0357	28.01	288.93	.0186	53.68
11.500	.0385	25.99	292.10	.0201	49.81
11.625	.0413	24.22	295.28	.0215	46.42
11.750	.0441	22.66	298.45	.0230	43.43
11.875	.0470	21.28	301.63	.0245	40.78
12.000	.0499	20.04	304.80	.0260	38.41
12.125	.0528	18.93	307.98	.0276	36.28
12.250	.0558	17.93	311.15	.0291	34.36
12.375	.0588	17.02	314.33	.0307	32.61
12.500	.0618	16.18	317.50	.0322	31.01
12.625	.0648	15.42	320.68	.0338	29.55
12.750	.0679	14.72	323.85	.0354	28.21
12.875	.0710	14.08	327.03	.0371	26.98
13.000	.0742	13.48	330.20	.0387	25.84
13.125	.0773	12.93	333.38	.0404	24.78
13.250	.0806	12.41	336.55	.0420	23.79
13.375	.0838	11.94	339.73	.0437	22.87
13.500	.0870	11.49	342.90	.0454	22.02
13.625	.0903	11.07	346.08	.0471	21.21
13.750	.0937	10.68	349.25	.0489	20.46
13.875	.0970	10.31	352.43	.0506	19.75
14.000	.1004	9.96	355.60	.0524	19.09
14.125	.1038	9.63	358.78	.0542	18.46
14.250	.1073	9.32	361.95	.0560	17.87
14.375	.1107	9.03	365.13	.0578	17.30
14.500	.1142	8.75	368.30	.0596	16.77
14.625	.1178	8.49	371.48	.0615	16.27
14.750	.1214	8.24	374.65	.0633	15.79
14.875	.1249	8.00	377.83	.0652	15.34
15.000	.1286	7.78	381.00	.0671	14.90
15.125	.1322	7.56	384.18	.0690	14.49
15.250	.1359	7.36	387.35	.0709	14.10
15.375	.1396	7.16	390.53	.0729	13.72
15.500	.1434	6.97	393.70	.0748	13.36
15.625	.1472	6.79	396.88	.0768	13.02
15.750	.1510	6.62	400.05	.0788	12.69
15.875	.1548	6.46	403.23	.0808	12.38
16.000	.1587	6.30	406.40	.0828	12.08

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 9.750"			METRIC UNITS Casing *O.D. 247.65 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
10.000	.0048	208.49	254.00	.0025	399.55
10.125	.0072	138.12	257.18	.0038	264.69
10.250	.0097	102.94	260.35	.0051	197.28
10.375	.0122	81.84	263.53	.0064	156.84
10.500	.0148	67.78	266.70	.0077	129.89
10.625	.0173	57.74	269.88	.0090	110.65
10.750	.0199	50.22	273.05	.0104	96.23
10.875	.0225	44.37	276.23	.0118	85.02
11.000	.0252	39.69	279.40	.0131	76.06
11.125	.0279	35.86	282.58	.0145	68.73
11.250	.0306	32.68	285.75	.0160	62.63
11.375	.0333	29.99	288.93	.0174	57.47
11.500	.0361	27.68	292.10	.0189	53.05
11.625	.0389	25.69	295.28	.0203	49.22
11.750	.0418	23.94	298.45	.0218	45.88
11.875	.0446	22.40	301.63	.0233	42.93
12.000	.0475	21.04	304.80	.0248	40.31
12.125	.0505	19.81	307.98	.0263	37.97
12.250	.0534	18.72	311.15	.0279	35.87
12.375	.0564	17.72	314.33	.0294	33.97
12.500	.0594	16.82	317.50	.0310	32.24
12.625	.0625	16.00	320.68	.0326	30.67
12.750	.0656	15.25	323.85	.0342	29.23
12.875	.0687	14.56	327.03	.0358	27.90
13.000	.0718	13.92	330.20	.0375	26.68
13.125	.0750	13.33	333.38	.0391	25.55
13.250	.0782	12.79	336.55	.0408	24.51
13.375	.0814	12.28	339.73	.0425	23.53
13.500	.0847	11.81	342.90	.0442	22.63
13.625	.0880	11.36	346.08	.0459	21.78
13.750	.0913	10.95	349.25	.0476	20.99
13.875	.0947	10.56	352.43	.0494	20.24
14.000	.0981	10.20	355.60	.0512	19.54
14.125	.1015	9.86	358.78	.0529	18.89
14.250	.1049	9.53	361.95	.0547	18.27
14.375	.1084	9.23	365.13	.0566	17.68
14.500	.1119	8.94	368.30	.0584	17.13
14.625	.1154	8.66	371.48	.0602	16.60
14.750	.1190	8.40	374.65	.0621	16.10
14.875	.1226	8.16	377.83	.0640	15.63
15.000	.1262	7.92	381.00	.0659	15.18
15.125	.1299	7.70	384.18	.0678	14.75
15.250	.1336	7.49	387.35	.0697	14.35
15.375	.1373	7.28	390.53	.0716	13.96
15.500	.1410	7.09	393.70	.0736	13.59
15.625	.1448	6.91	396.88	.0756	13.23
15.750	.1486	6.73	400.05	.0776	12.89
15.875	.1525	6.56	403.23	.0796	12.57
16.000	.1563	6.40	406.40	.0816	12.26

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 9.875"			METRIC UNITS Casing *O.D. 250.83 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
10.000	.0024	414.36	254.00	.0013	794.07
10.125	.0049	205.88	257.18	.0025	394.55
10.250	.0073	136.40	260.35	.0038	261.40
10.375	.0098	101.67	263.53	.0051	194.84
10.500	.0124	80.84	266.70	.0065	154.92
10.625	.0149	66.95	269.88	.0078	128.31
10.750	.0175	57.04	273.05	.0091	109.31
10.875	.0202	49.61	276.23	.0105	95.07
11.000	.0228	43.83	279.40	.0119	84.00
11.125	.0255	39.22	282.58	.0133	75.15
11.250	.0282	35.44	285.75	.0147	67.92
11.375	.0310	32.30	288.93	.0162	61.89
11.500	.0337	29.64	292.10	.0176	56.80
11.625	.0365	27.36	295.28	.0191	52.43
11.750	.0394	25.39	298.45	.0206	48.65
11.875	.0423	23.66	301.63	.0221	45.35
12.000	.0452	22.15	304.80	.0236	42.44
12.125	.0481	20.80	307.98	.0251	39.85
12.250	.0510	19.59	311.15	.0266	37.54
12.375	.0540	18.51	314.33	.0282	35.47
12.500	.0571	17.53	317.50	.0298	33.59
12.625	.0601	16.64	320.68	.0314	31.88
12.750	.0632	15.83	323.85	.0330	30.33
12.875	.0663	15.08	327.03	.0346	28.90
13.000	.0694	14.40	330.20	.0362	27.60
13.125	.0726	13.77	333.38	.0379	26.39
13.250	.0758	13.19	336.55	.0396	25.28
13.375	.0790	12.65	339.73	.0412	24.24
13.500	.0823	12.15	342.90	.0430	23.28
13.625	.0856	11.68	346.08	.0447	22.39
13.750	.0889	11.24	349.25	.0464	21.55
13.875	.0923	10.84	352.43	.0482	20.77
14.000	.0957	10.45	355.60	.0499	20.03
14.125	.0991	10.09	358.78	.0517	19.34
14.250	.1025	9.75	361.95	.0535	18.69
14.375	.1060	9.43	365.13	.0553	18.08
14.500	.1095	9.13	368.30	.0571	17.50
14.625	.1130	8.85	371.48	.0590	16.95
14.750	.1166	8.58	374.65	.0609	16.43
14.875	.1202	8.32	377.83	.0627	15.94
15.000	.1238	8.07	381.00	.0646	15.47
15.125	.1275	7.84	384.18	.0665	15.03
15.250	.1312	7.62	387.35	.0685	14.61
15.375	.1349	7.41	390.53	.0704	14.21
15.500	.1387	7.21	393.70	.0724	13.82
15.625	.1424	7.02	396.88	.0743	13.45
15.750	.1462	6.84	400.05	.0763	13.10
15.875	.1501	6.66	403.23	.0783	12.77
16.000	.1540	6.50	406.40	.0803	12.45

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 10.000"			METRIC UNITS Casing *O.D. 254.00 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
10.125	.0024	409.21	257.18	.0013	784.20
10.250	.0049	203.34	260.35	.0026	389.68
10.375	.0074	134.73	263.53	.0039	258.19
10.500	.0100	100.43	266.70	.0052	192.46
10.625	.0125	79.86	269.88	.0065	153.04
10.750	.0151	66.15	273.05	.0079	126.76
10.875	.0177	56.36	276.23	.0093	108.00
11.000	.0204	49.02	279.40	.0106	93.94
11.125	.0231	43.32	282.58	.0120	83.01
11.250	.0258	38.75	285.75	.0135	74.27
11.375	.0286	35.03	288.93	.0149	67.12
11.500	.0313	31.92	292.10	.0163	61.17
11.625	.0341	29.29	295.28	.0178	56.14
11.750	.0370	27.05	298.45	.0193	51.83
11.875	.0398	25.10	301.63	.0208	48.10
12.000	.0427	23.40	304.80	.0223	44.84
12.125	.0457	21.90	307.98	.0238	41.96
12.250	.0486	20.56	311.15	.0254	39.41
12.375	.0516	19.37	314.33	.0269	37.12
12.500	.0546	18.30	317.50	.0285	35.07
12.625	.0577	17.33	320.68	.0301	33.22
12.750	.0608	16.45	323.85	.0317	31.53
12.875	.0639	15.65	327.03	.0333	30.00
13.000	.0670	14.92	330.20	.0350	28.59
13.125	.0702	14.24	333.38	.0366	27.30
13.250	.0734	13.62	336.55	.0383	26.11
13.375	.0766	13.05	339.73	.0400	25.01
13.500	.0799	12.52	342.90	.0417	23.98
13.625	.0832	12.02	346.08	.0434	23.04
13.750	.0865	11.56	349.25	.0451	22.15
13.875	.0899	11.13	352.43	.0469	21.32
14.000	.0933	10.72	355.60	.0487	20.55
14.125	.0967	10.34	358.78	.0504	19.82
14.250	.1001	9.99	361.95	.0522	19.14
14.375	.1036	9.65	365.13	.0541	18.50
14.500	.1071	9.34	368.30	.0559	17.89
14.625	.1106	9.04	371.48	.0577	17.32
14.750	.1142	8.76	374.65	.0596	16.78
14.875	.1178	8.49	377.83	.0615	16.27
15.000	.1214	8.24	381.00	.0634	15.78
15.125	.1251	7.99	384.18	.0653	15.32
15.250	.1288	7.77	387.35	.0672	14.88
15.375	.1325	7.55	390.53	.0691	14.46
15.500	.1362	7.34	393.70	.0711	14.07
15.625	.1400	7.14	396.88	.0731	13.69
15.750	.1438	6.95	400.05	.0751	13.32
15.875	.1477	6.77	403.23	.0771	12.98
16.000	.1515	6.60	406.40	.0791	12.65

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 10.750"			METRIC UNITS Casing *O.D. 273.05 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
11.500	.0162	61.69	292.10	.0085	118.22
11.625	.0190	52.58	295.28	.0099	100.76
11.750	.0219	45.75	298.45	.0114	87.68
11.875	.0247	40.44	301.63	.0129	77.51
12.000	.0276	36.20	304.80	.0144	69.37
12.125	.0306	32.73	307.98	.0159	62.72
12.250	.0335	29.84	311.15	.0175	57.18
12.375	.0365	27.39	314.33	.0190	52.50
12.500	.0395	25.30	317.50	.0206	48.49
12.625	.0426	23.49	320.68	.0222	45.01
12.750	.0457	21.90	323.85	.0238	41.97
12.875	.0488	20.50	327.03	.0254	39.30
13.000	.0519	19.26	330.20	.0271	36.92
13.125	.0551	18.15	333.38	.0287	34.79
13.250	.0583	17.16	336.55	.0304	32.88
13.375	.0615	16.26	339.73	.0321	31.15
13.500	.0648	15.44	342.90	.0338	29.58
13.625	.0681	14.69	346.08	.0355	28.15
13.750	.0714	14.01	349.25	.0373	26.84
13.875	.0748	13.38	352.43	.0390	25.64
14.000	.0781	12.80	355.60	.0408	24.53
14.125	.0816	12.26	358.78	.0426	23.50
14.250	.0850	11.76	361.95	.0444	22.55
14.375	.0885	11.30	365.13	.0462	21.66
14.500	.0920	10.87	368.30	.0480	20.83
14.625	.0955	10.47	371.48	.0498	20.06
14.750	.0991	10.09	374.65	.0517	19.34
14.875	.1027	9.74	377.83	.0536	18.66
15.000	.1063	9.41	381.00	.0555	18.03
15.125	.1100	9.09	384.18	.0574	17.43
15.250	.1137	8.80	387.35	.0593	16.86
15.375	.1174	8.52	390.53	.0612	16.33
15.500	.1211	8.26	393.70	.0632	15.82
15.625	.1249	8.01	396.88	.0652	15.34
15.750	.1287	7.77	400.05	.0672	14.89
15.875	.1326	7.54	403.23	.0692	14.46
16.000	.1364	7.33	406.40	.0712	14.05
16.125	.1403	7.13	409.58	.0732	13.66
16.250	.1443	6.93	412.75	.0753	13.28
16.375	.1482	6.75	415.93	.0773	12.93
16.500	.1522	6.57	419.10	.0794	12.59
16.625	.1562	6.40	422.28	.0815	12.27
16.750	.1603	6.24	425.45	.0836	11.96
16.875	.1644	6.08	428.63	.0858	11.66
17.000	.1685	5.94	431.80	.0879	11.37
17.250	.1768	5.66	438.15	.0923	10.84
17.500	.1852	5.40	444.50	.0967	10.35
17.750	.1938	5.16	450.85	.1011	9.89
18.000	.2025	4.94	457.20	.1057	9.46

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 11.750"			METRIC UNITS Casing *O.D. 298.45 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
12.000	.0058	173.38	304.80	.0030	332.25
12.125	.0087	114.98	307.98	.0045	220.34
12.250	.0117	85.78	311.15	.0061	164.40
12.375	.0146	68.27	314.33	.0076	130.84
12.500	.0177	56.60	317.50	.0092	108.47
12.625	.0207	48.27	320.68	.0108	92.50
12.750	.0238	42.02	323.85	.0124	80.52
12.875	.0269	37.16	327.03	.0140	71.21
13.000	.0301	33.27	330.20	.0157	63.77
13.125	.0332	30.10	333.38	.0173	57.68
13.250	.0364	27.45	336.55	.0190	52.61
13.375	.0397	25.21	339.73	.0207	48.32
13.500	.0429	23.30	342.90	.0224	44.65
13.625	.0462	21.64	346.08	.0241	41.46
13.750	.0495	20.18	349.25	.0259	38.68
13.875	.0529	18.90	352.43	.0276	36.23
14.000	.0563	17.77	355.60	.0294	34.05
14.125	.0597	16.75	358.78	.0312	32.10
14.250	.0631	15.84	361.95	.0329	30.35
14.375	.0666	15.01	365.13	.0348	28.77
14.500	.0701	14.26	368.30	.0366	27.33
14.625	.0737	13.58	371.48	.0384	26.02
14.750	.0772	12.95	374.65	.0403	24.81
14.875	.0808	12.37	377.83	.0422	23.71
15.000	.0845	11.84	381.00	.0441	22.69
15.125	.0881	11.35	384.18	.0460	21.75
15.250	.0918	10.89	387.35	.0479	20.88
15.375	.0955	10.47	390.53	.0498	20.06
15.500	.0993	10.07	393.70	.0518	19.31
15.625	.1030	9.70	396.88	.0538	18.60
15.750	.1069	9.36	400.05	.0558	17.93
15.875	.1107	9.03	403.23	.0578	17.31
16.000	.1146	8.73	406.40	.0598	16.73
16.250	.1224	8.17	412.75	.0639	15.66
16.500	.1304	7.67	419.10	.0680	14.70
16.750	.1384	7.22	425.45	.0722	13.84
17.000	.1466	6.82	431.80	.0765	13.07
17.250	.1549	6.45	438.15	.0809	12.37
17.500	.1634	6.12	444.50	.0853	11.73
17.750	.1719	5.82	450.85	.0897	11.15
18.000	.1806	5.54	457.20	.0943	10.61
18.250	.1894	5.28	463.55	.0988	10.12
18.500	.1984	5.04	469.90	.1035	9.66
18.750	.2074	4.82	476.25	.1082	9.24
19.000	.2166	4.62	482.60	.1130	8.85
19.250	.2259	4.43	488.95	.1179	8.48
19.500	.2353	4.25	495.30	.1228	8.15
19.750	.2448	4.08	501.65	.1277	7.83
20.000	.2545	3.93	508.00	.1328	7.53

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 11.875"			METRIC UNITS Casing *O.D. 301.63 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
12.000	.0029	344.93	304.80	.0015	661.03
12.125	.0058	171.57	307.98	.0030	328.79
12.250	.0088	113.79	311.15	.0046	218.06
12.375	.0118	84.90	314.33	.0061	162.70
12.500	.0148	67.57	317.50	.0077	129.49
12.625	.0178	56.02	320.68	.0093	107.36
12.750	.0209	47.78	323.85	.0109	91.56
12.875	.0240	41.59	327.03	.0125	79.71
13.000	.0272	36.79	330.20	.0142	70.50
13.125	.0304	32.94	333.38	.0158	63.13
13.250	.0336	29.80	336.55	.0175	57.10
13.375	.0368	27.18	339.73	.0192	52.09
13.500	.0401	24.96	342.90	.0209	47.84
13.625	.0433	23.07	346.08	.0226	44.21
13.750	.0467	21.43	349.25	.0244	41.06
13.875	.0500	19.99	352.43	.0261	38.31
14.000	.0534	18.72	355.60	.0279	35.88
14.125	.0568	11.60	358.78	.0297	33.72
14.250	.0603	16.59	361.95	.0315	31.79
14.375	.0637	15.69	365.13	.0333	30.06
14.500	.0673	14.87	368.30	.0351	28.49
14.625	.0708	14.13	371.48	.0369	27.07
14.750	.0744	13.45	374.65	.0388	25.77
14.875	.0780	12.83	377.83	.0407	24.58
15.000	.0816	12.26	381.00	.0426	23.49
15.125	.0852	11.73	384.18	.0445	22.48
15.250	.0889	11.24	387.35	.0464	21.55
15.375	.0926	10.79	390.53	.0483	20.68
15.500	.0964	10.37	393.70	.0503	19.88
15.625	.1002	9.98	396.88	.0523	19.13
15.750	.1040	9.62	400.05	.0543	18.43
15.875	.1078	9.27	403.23	.0563	17.77
16.000	.1117	8.95	406.40	.0583	17.16
16.250	.1195	8.37	412.75	.0624	16.03
16.500	.1275	7.84	419.10	.0665	15.03
16.750	.1356	7.38	425.45	.0707	14.14
17.000	.1438	6.96	431.80	.0750	13.33
17.250	.1521	6.58	438.15	.0794	12.60
17.500	.1605	6.23	444.50	.0838	11.94
17.750	.1691	5.91	450.85	.0882	11.33
18.000	.1778	5.63	457.20	.0928	10.78
18.250	.1866	5.36	463.55	.0973	10.27
18.500	.1955	5.12	469.90	.1020	9.80
18.750	.2045	4.89	476.25	.1067	9.37
19.000	.2137	4.68	482.60	.1115	8.97
19.250	.2230	4.48	488.95	.1164	8.59
19.500	.2324	4.30	495.30	.1213	8.25
19.750	.2419	4.13	501.65	.1262	7.92
20.000	.2516	3.97	508.00	.1313	7.62

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 12.000"			METRIC UNITS Casing *O.D. 304.80 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
13.000	.0243	41.18	330.20	.0127	78.91
13.125	.0275	36.42	333.38	.0143	69.79
13.250	.0307	32.62	336.55	.0160	62.50
13.375	.0339	29.50	339.73	.0177	56.54
13.500	.0372	26.91	342.90	.0194	51.58
13.625	.0405	24.72	346.08	.0211	47.38
13.750	.0438	22.84	349.25	.0228	43.78
13.875	.0471	21.22	352.43	.0246	40.66
14.000	.0505	19.80	355.60	.0264	37.94
14.125	.0539	18.54	358.78	.0281	35.54
14.250	.0574	17.43	361.95	.0299	33.40
14.375	.0609	16.43	365.13	.0318	31.49
14.500	.0644	15.54	368.30	.0336	29.78
14.625	.0679	14.73	371.48	.0354	28.23
14.750	.0715	13.99	374.65	.0373	26.82
14.875	.0751	13.32	377.83	.0392	25.53
15.000	.0787	12.71	381.00	.0411	24.36
15.125	.0823	12.14	384.18	.0430	23.27
15.250	.0860	11.62	387.35	.0449	22.28
15.375	.0898	11.14	390.53	.0468	21.35
15.500	.0935	10.70	393.70	.0488	20.50
15.625	.0973	10.28	396.88	.0508	19.70
15.750	.1011	9.89	400.05	.0527	18.96
15.875	.1049	9.53	403.23	.0548	18.26
16.000	.1088	9.19	406.40	.0568	17.61
16.125	.1127	8.87	409.58	.0588	17.00
16.250	.1166	8.57	412.75	.0609	16.43
16.375	.1206	8.29	415.93	.0629	15.89
16.500	.1246	8.03	419.10	.0650	15.38
16.625	.1286	7.78	422.28	.0671	14.90
16.750	.1327	7.54	425.45	.0692	14.45
16.875	.1367	7.31	428.63	.0714	14.01
17.000	.1409	7.10	431.80	.0735	13.61
17.250	.1492	6.70	438.15	.0778	12.85
17.500	.1576	6.34	444.50	.0822	12.16
17.750	.1662	6.02	450.85	.0867	11.53
18.000	.1749	5.72	457.20	.0912	10.96
18.250	.1837	5.44	463.55	.0958	10.43
18.500	.1926	5.19	469.90	.1005	9.95
18.750	.2016	4.96	476.25	.1052	9.50
19.000	.2108	4.74	482.60	.1100	9.09
19.250	.2201	4.54	488.95	.1148	8.71
19.500	.2295	4.36	495.30	.1198	8.35
19.750	.2390	4.18	501.65	.1247	8.02
20.000	.2487	4.02	508.00	.1298	7.71
20.250	.2585	3.87	514.35	.1349	7.41
20.500	.2684	3.73	520.70	.1400	7.14
20.750	.2784	3.59	527.05	.1453	6.88
21.000	.2885	3.47	533.40	.1506	6.64

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 12.750"			METRIC UNITS Casing *O.D. 323.85 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
15.000	.0607	16.49	381.00	.0316	31.60
15.125	.0643	15.55	384.18	.0336	29.80
15.250	.0680	14.71	387.35	.0355	28.18
15.375	.0717	13.94	390.53	.0374	26.72
15.500	.0755	12.25	393.70	.0394	25.39
15.625	.0792	12.62	396.88	.0414	24.18
15.750	.0831	12.04	400.05	.0433	23.07
15.875	.0869	11.51	403.23	.0453	22.05
16.000	.0908	11.02	406.40	.0474	21.11
16.125	.0947	10.56	409.58	.0494	20.24
16.250	.0986	10.14	412.75	.0515	19.44
16.375	.1026	9.75	415.93	.0535	18.69
16.500	.1066	9.38	419.10	.0556	17.99
16.625	.1106	9.04	422.28	.0577	17.33
16.750	.1146	8.72	425.45	.0598	16.72
16.875	.1187	8.42	428.63	.0619	16.14
17.000	.1228	8.14	431.80	.0641	15.60
17.125	.1270	7.88	434.98	.0663	15.09
17.250	.1311	7.63	438.15	.0684	14.61
17.375	.1353	7.39	441.33	.0706	14.16
17.500	.1396	7.16	444.50	.0728	13.73
17.625	.1438	6.95	447.68	.0751	13.32
17.750	.1481	6.75	450.85	.0773	12.94
17.875	.1525	6.56	454.03	.0796	12.57
18.000	.1568	6.38	457.20	.0818	12.22
18.125	.1612	6.20	460.38	.0841	11.89
18.250	.1656	6.04	463.55	.0864	11.57
18.375	.1701	5.88	466.73	.0887	11.27
18.500	.1746	5.73	469.90	.0911	10.98
18.625	.1791	5.58	473.08	.0934	10.70
18.750	.1836	5.45	476.25	.0958	10.44
18.875	.1882	5.31	479.43	.0982	10.18
19.000	.1928	5.19	482.60	.1006	9.94
19.125	.1974	5.07	485.78	.1030	9.71
19.250	.2021	4.95	488.95	.1054	9.48
19.375	.2067	4.84	492.13	.1079	9.27
19.500	.2115	4.73	495.30	.1103	9.06
19.625	.2162	4.62	498.48	.1128	8.86
19.750	.2210	4.52	501.65	.1153	8.67
19.875	.2258	4.43	504.83	.1178	8.49
20.000	.2307	4.34	508.00	.1204	8.31

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 13.000"			METRIC UNITS Casing *O.D. 330.20 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
14.000	.0262	38.13	355.60	.0137	73.07
14.125	.0296	33.73	358.78	.0155	64.65
14.250	.0331	30.22	361.95	.0173	57.92
14.375	.0366	27.35	365.13	.0191	52.41
14.500	.0401	24.96	368.30	.0209	47.82
14.625	.0436	22.93	371.48	.0228	43.95
14.750	.0472	21.20	374.65	.0246	40.62
14.875	.0508	19.70	377.83	.0265	37.74
15.000	.0544	18.38	381.00	.0284	35.23
15.125	.0581	17.22	384.18	.0303	33.01
15.250	.0617	16.20	387.35	.0322	31.04
15.375	.0655	15.28	390.53	.0342	29.27
15.500	.0692	14.45	393.70	.0361	27.69
15.625	.0730	13.70	396.88	.0381	26.25
15.750	.0768	13.02	400.05	.0401	24.95
15.875	.0806	12.40	403.23	.0421	23.76
16.000	.0845	11.83	406.40	.0441	22.68
16.250	.0923	10.83	412.75	.0482	20.75
16.500	.1003	9.97	419.10	.0523	19.11
16.750	.1084	9.23	425.45	.0566	17.68
17.000	.1166	8.58	431.80	.0608	16.44
17.250	.1249	8.01	438.15	.0652	15.34
17.500	.1333	7.50	444.50	.0696	14.37
17.750	.1419	7.05	450.85	.0740	13.51
18.000	.1506	6.64	457.20	.0786	12.73
18.250	.1594	6.27	463.55	.0832	12.02
18.500	.1683	5.94	469.90	.0878	11.39
18.750	.1773	5.64	476.25	.0925	10.81
19.000	.1865	5.36	482.60	.0973	10.27
19.250	.1958	5.11	488.95	.1022	9.79
19.500	.2052	4.87	495.30	.1071	9.34
19.750	.2147	4.66	501.65	.1121	8.92
20.000	.2244	4.46	508.00	.1171	8.54
20.250	.2342	4.27	514.35	.1222	8.18
20.500	.2441	4.10	520.70	.1274	7.85
20.750	.2541	3.94	527.05	.1326	7.54
21.000	.2642	3.78	533.40	.1379	7.25
21.250	.2745	3.64	539.75	.1432	6.98
21.500	.2849	3.51	546.10	.1486	6.73
21.750	.2954	3.39	552.45	.1541	6.49
22.000	.3060	3.27	558.80	.1597	6.26
22.250	.3167	3.16	565.15	.1653	6.05
22.500	.3276	3.05	571.50	.1710	5.85
22.750	.3386	2.95	577.85	.1767	5.66
23.000	.3497	2.86	584.20	.1825	5.48
23.250	.3609	2.77	590.55	.1883	5.31
23.500	.3723	2.69	596.90	.1943	5.15
23.750	.3838	2.61	603.25	.2003	4.99
24.000	.3954	2.53	609.60	.2063	4.85

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 13.375"			METRIC UNITS Casing *O.D. 339.73 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
14.000	.0166	60.17	355.60	.0087	115.30
14.125	.0200	49.91	358.78	.0105	95.65
14.250	.0235	42.59	361.95	.0123	81.61
14.375	.0270	37.10	365.13	.0141	71.09
14.500	.0305	32.83	368.30	.0159	62.91
14.625	.0340	29.41	371.48	.0177	56.36
14.750	.0376	26.62	374.65	.0196	51.01
14.875	.0412	24.29	377.83	.0215	46.55
15.000	.0448	22.33	381.00	.0234	42.78
15.125	.0484	20.64	384.18	.0253	39.55
15.250	.0521	19.18	387.35	.0272	36.76
15.375	.0559	17.90	390.53	.0291	34.31
15.500	.0596	16.78	393.70	.0311	32.15
15.625	.0634	15.78	396.88	.0331	30.23
15.750	.0672	14.88	400.05	.0351	28.52
15.875	.0710	14.08	403.23	.0371	26.98
16.000	.0749	13.35	406.40	.0391	25.58
16.250	.0827	12.09	412.75	.0432	23.16
16.500	.0907	11.03	419.10	.0473	21.13
16.750	.0988	10.12	425.45	.0515	19.40
17.000	.1070	9.35	431.80	.0558	17.92
17.250	.1153	8.67	438.15	.0602	16.62
17.500	.1237	8.08	444.50	.0646	15.49
17.750	.1323	7.56	450.85	.0690	14.49
18.000	.1410	7.09	457.20	.0736	13.59
18.250	.1498	6.68	463.55	.0782	12.80
18.500	.1587	6.30	469.90	.0828	12.08
18.750	.1677	5.96	476.25	.0875	11.42
19.000	.1769	5.65	482.60	.0923	10.83
19.250	.1862	5.37	488.95	.0972	10.29
19.500	.1956	5.11	495.30	.1021	9.80
19.750	.2051	4.87	501.65	.1070	9.34
20.000	.2148	4.66	508.00	.1121	8.92
20.250	.2246	4.45	514.35	.1172	8.53
20.500	.2345	4.27	520.70	.1223	8.17
20.750	.2445	4.09	527.05	.1276	7.84
21.000	.2546	3.93	533.40	.1329	7.53
21.250	.2649	3.78	539.75	.1382	7.23
21.500	.2753	3.63	546.10	.1436	6.96
21.750	.2858	3.50	552.45	.1491	6.71
22.000	.2964	3.37	558.80	.1547	6.47
22.250	.3071	3.26	565.15	.1603	6.24
22.500	.3180	3.14	571.50	.1659	6.03
22.750	.3290	3.04	577.85	.1717	5.82
23.000	.3401	2.94	584.20	.1775	5.63
23.250	.3513	2.85	590.55	.1833	5.45
23.500	.3627	2.76	596.90	.1893	5.28
23.750	.3742	2.67	603.25	.1952	5.12
24.000	.3858	2.59	609.60	.2013	4.97

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 13.500"			METRIC UNITS Casing *O.D. 342.90 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
14.000	.0134	74.87	355.60	.0070	143.47
14.125	.0168	59.62	358.78	.0088	114.26
14.250	.0202	49.46	361.95	.0105	94.79
14.375	.0237	42.21	365.13	.0124	80.88
14.500	.0272	36.76	368.30	.0142	70.46
14.625	.0307	32.53	371.48	.0160	62.35
14.750	.0343	29.15	374.65	.0179	55.87
14.875	.0379	26.38	377.83	.0198	50.56
15.000	.0415	24.08	381.00	.0217	46.15
15.125	.0452	22.13	384.18	.0236	42.41
15.250	.0489	20.46	387.35	.0255	39.21
15.375	.0526	19.01	390.53	.0274	36.44
15.500	.0563	17.75	393.70	.0294	34.01
15.625	.0601	16.63	396.88	.0314	31.87
15.750	.0639	15.64	400.05	.0334	29.98
15.875	.0678	14.76	403.23	.0354	28.28
16.000	.0716	13.96	406.40	.0374	26.75
16.250	.0795	12.58	412.75	.0415	24.11
16.500	.0874	11.44	419.10	.0456	21.92
16.750	.0955	10.47	425.45	.0498	20.07
17.000	.1037	9.64	431.80	.0541	18.48
17.250	.1120	8.93	438.15	.0585	17.11
17.500	.1205	8.30	444.50	.0629	15.91
17.750	.1290	7.75	450.85	.0673	14.85
18.000	.1377	7.26	457.20	.0719	13.92
18.250	.1465	6.83	463.55	.0764	13.08
18.500	.1554	6.43	469.90	.0811	12.33
18.750	.1645	6.08	476.25	.0858	11.65
19.000	.1736	5.76	482.60	.0906	11.04
19.250	.1829	5.47	488.95	.0955	10.48
19.500	.1923	5.20	495.30	.1004	9.96
19.750	.2019	4.95	501.65	.1053	9.49
20.000	.2115	4.73	508.00	.1104	9.06
20.250	.2213	4.52	514.35	.1155	8.66
20.500	.2312	4.33	520.70	.1206	8.29
20.750	.2412	4.15	527.05	.1259	7.94
21.000	.2514	3.98	533.40	.1312	7.62
21.250	.2616	3.82	539.75	.1365	7.33
21.500	.2720	3.68	546.10	.1419	7.05
21.750	.2825	3.54	552.45	.1474	6.78
22.000	.2931	3.41	558.80	.1530	6.54
22.250	.3039	3.29	565.15	.1586	6.31
22.500	.3147	3.18	571.50	.1642	6.09
22.750	.3257	3.07	577.85	.1700	5.88
23.000	.3368	2.97	584.20	.1758	5.69
23.250	.3481	2.87	590.55	.1816	5.51
23.500	.3594	2.78	596.90	.1876	5.33
23.750	.3709	2.70	603.25	.1935	5.17
24.000	.3825	2.61	609.60	.1996	5.01

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 13.625"			METRIC UNITS Casing *O.D. 346.08 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
14.000	.0101	99.37	355.60	.0053	190.43
14.125	.0135	74.19	358.78	.0070	142.18
14.250	.0169	59.09	361.95	.0088	113.23
14.375	.0204	49.02	365.13	.0106	93.94
14.500	.0239	41.83	368.30	.0125	80.16
14.625	.0274	36.44	371.48	.0143	69.83
14.750	.0310	32.25	374.65	.0162	61.80
14.875	.0346	28.90	377.83	.0181	55.38
15.000	.0382	26.15	381.00	.0200	50.12
15.125	.0419	23.87	384.18	.0219	45.75
15.250	.0456	21.94	387.35	.0238	42.04
15.375	.0493	20.28	390.53	.0257	38.87
15.500	.0530	18.85	393.70	.0277	36.12
15.625	.0568	17.60	396.88	.0297	33.72
15.750	.0606	16.49	400.05	.0316	31.60
15.875	.0645	15.51	403.23	.0336	29.72
16.000	.0683	14.63	406.40	.0357	28.04
16.250	.0762	13.13	412.75	.0398	25.16
16.500	.0841	11.89	419.10	.0439	22.78
16.750	.0922	10.84	425.45	.0481	20.78
17.000	.1004	9.96	431.80	.0524	19.09
17.250	.1087	9.20	438.15	.0567	17.63
17.500	.1172	8.54	444.50	.0611	16.36
17.750	.1257	7.95	450.85	.0656	15.24
18.000	.1344	7.44	457.20	.0701	14.26
18.250	.1432	6.98	463.55	.0747	13.38
18.500	.1521	6.57	469.90	.0794	12.60
18.750	.1612	6.20	476.25	.0841	11.89
19.000	.1703	5.87	482.60	.0889	11.25
19.250	.1796	5.57	488.95	.0937	10.67
19.500	.1890	5.29	495.30	.0986	10.14
19.750	.1986	5.04	501.65	.1036	9.65
20.000	.2082	4.80	508.00	.1087	9.20
20.250	.2180	4.59	514.35	.1138	8.79
20.500	.2279	4.39	520.70	.1189	8.41
20.750	.2379	4.20	527.05	.1242	8.05
21.000	.2481	4.03	533.40	.1294	7.73
21.250	.2583	3.87	539.75	.1348	7.42
21.500	.2687	3.72	546.10	.1402	7.13
21.750	.2792	3.58	552.45	.1457	6.86
22.000	.2898	3.45	558.80	.1512	6.61
22.250	.3006	3.33	565.15	.1568	6.38
22.500	.3114	3.21	571.50	.1625	6.15
22.750	.3224	3.10	577.85	.1683	5.94
23.000	.3335	3.00	584.20	.1741	5.75
23.250	.3448	2.90	590.55	.1799	5.56
23.500	.3561	2.81	596.90	.1858	5.38
23.750	.3676	2.72	603.25	.1918	5.21
24.000	.3792	2.64	609.60	.1979	5.05

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 14.000"			METRIC UNITS Casing *O.D. 355.60 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
15.000	.0282	35.50	381.00	.0147	68.03
15.125	.0318	31.42	384.18	.0166	60.21
15.250	.0355	28.15	387.35	.0185	53.96
15.375	.0392	25.49	390.53	.0205	48.84
15.500	.0430	23.26	393.70	.0224	44.58
15.625	.0468	21.38	396.88	.0244	40.98
15.750	.0506	19.77	400.05	.0264	37.89
15.875	.0544	18.38	403.23	.0284	35.22
16.000	.0583	17.16	406.40	.0304	32.88
16.250	.0661	15.12	412.75	.0345	28.98
16.500	.0741	13.50	419.10	.0387	25.87
16.750	.0821	12.17	425.45	.0429	23.33
17.000	.0903	11.07	431.80	.0471	21.21
17.250	.0987	10.14	438.15	.0515	19.42
17.500	.1071	9.34	444.50	.0559	17.89
17.750	.1157	8.65	450.85	.0604	16.57
18.000	.1243	8.04	457.20	.0649	15.41
18.250	.1331	7.51	463.55	.0695	14.39
18.500	.1421	7.04	469.90	.0741	13.49
18.750	.1511	6.62	476.25	.0789	12.68
19.000	.1603	6.24	482.60	.0836	11.96
19.250	.1696	5.90	488.95	.0885	11.30
19.500	.1790	5.59	495.30	.0934	10.71
19.750	.1885	5.30	501.65	.0984	10.17
20.000	.1982	5.05	508.00	.1034	9.67
20.250	.2079	4.81	514.35	.1085	9.22
20.500	.2178	4.59	520.70	.1137	8.80
20.750	.2279	4.39	527.05	.1189	8.41
21.000	.2380	4.20	533.40	.1242	8.05
21.250	.2483	4.03	539.75	.1295	7.72
21.500	.2586	3.87	546.10	.1350	7.41
21.750	.2691	3.72	552.45	.1404	7.12
22.000	.2798	3.57	558.80	.1460	6.85
22.250	.2905	3.44	565.15	.1516	6.60
22.500	.3014	3.32	571.50	.1573	6.36
22.750	.3124	3.20	577.85	.1630	6.13
23.000	.3235	3.09	584.20	.1688	5.92
23.250	.3347	2.99	590.55	.1747	5.73
23.500	.3461	2.89	596.90	.1806	5.54
23.750	.3575	2.80	603.25	.1866	5.36
24.000	.3691	2.71	609.60	.1926	5.19
24.250	.3809	2.63	615.95	.1987	5.03
24.500	.3927	2.55	622.30	.2049	4.88
24.750	.4047	2.47	628.65	.2112	4.74
25.000	.4167	2.40	635.00	.2175	4.60
25.250	.4289	2.33	641.35	.2238	4.47
25.500	.4413	2.27	647.70	.2303	4.34
25.750	.4537	2.20	654.05	.2368	4.22
26.000	.4663	2.14	660.40	.2433	4.11

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 16.000"			METRIC UNITS Casing *O.D. 406.40 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
17.000	.0321	31.19	431.80	.0167	59.78
17.125	.0362	27.62	434.98	.0189	52.94
17.250	.0404	24.77	438.15	.0211	47.46
17.375	.0446	22.43	441.33	.0233	42.99
17.500	.0488	20.49	444.50	.0255	39.26
17.625	.0531	18.84	447.68	.0277	36.10
17.750	.0574	17.43	450.85	.0299	33.40
17.875	.0617	16.21	454.03	.0322	31.06
18.000	.0661	15.14	457.20	.0345	29.01
18.250	.0749	13.36	463.55	.0391	25.60
18.500	.0838	11.94	469.90	.0437	22.87
18.750	.0928	10.77	476.25	.0484	20.64
19.000	.1020	9.80	482.60	.0532	18.79
19.250	.1113	8.99	488.95	.0581	17.22
19.500	.1207	8.29	495.30	.0630	15.88
19.750	.1302	7.68	501.65	.0680	14.72
20.000	.1399	7.15	508.00	.0730	13.70
20.250	.1497	6.68	514.35	.0781	12.80
20.500	.1596	6.27	520.70	.0833	12.01
20.750	.1696	5.90	527.05	.0885	11.30
21.000	.1797	5.56	533.40	.0938	10.66
21.250	.1900	5.26	539.75	.0991	10.09
21.500	.2004	4.99	546.10	.1045	9.56
21.750	.2109	4.74	552.45	.1100	9.09
22.000	.2215	4.51	558.80	.1156	8.65
22.250	.2322	4.31	565.15	.1212	8.25
22.500	.2431	4.11	571.50	.1269	7.88
22.750	.2541	3.94	577.85	.1326	7.54
23.000	.2652	3.77	584.20	.1384	7.23
23.250	.2764	3.62	590.55	.1442	6.93
23.500	.2878	3.47	596.90	.1502	6.66
23.750	.2993	3.34	603.25	.1562	6.40
24.000	.3109	3.22	609.60	.1622	6.16
24.250	.3226	3.10	615.95	.1683	5.94
24.500	.3344	2.99	622.30	.1745	5.73
24.750	.3464	2.89	628.65	.1807	5.53
25.000	.3585	2.79	635.00	.1870	5.35
25.250	.3707	2.70	641.35	.1934	5.17
25.500	.3830	2.61	647.70	.1998	5.00
25.750	.3954	2.53	654.05	.2063	4.85
26.000	.4080	2.45	660.40	.2129	4.70
26.250	.4207	2.38	666.75	.2195	4.56
26.500	.4335	2.31	673.10	.2262	4.42
26.750	.4464	2.24	679.45	.2330	4.29
27.000	.4595	2.18	685.80	.2398	4.17
27.250	.4727	2.12	692.15	.2466	4.05
27.500	.4860	2.06	698.50	.2536	3.94
27.750	.4994	2.00	704.85	.2606	3.84
28.000	.5129	1.95	711.20	.2676	3.74

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 18.625"			METRIC UNITS Casing *O.D. 473.08 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
19.000	.0137	72.96	482.60	.0072	139.82
19.125	.0183	54.54	485.78	.0096	104.52
19.250	.0230	43.49	488.95	.0120	83.34
19.375	.0277	36.12	492.13	.0144	69.22
19.500	.0324	30.86	495.30	.0169	59.14
19.625	.0372	26.91	498.48	.0194	51.58
19.750	.0419	23.84	501.65	.0219	45.70
19.875	.0467	21.39	504.83	.0244	40.99
20.000	.0516	19.38	508.00	.0269	37.15
20.250	.0614	16.30	514.35	.0320	31.23
20.500	.0713	14.03	520.70	.0372	26.89
20.750	.0813	12.30	527.05	.0424	23.58
21.000	.0914	10.94	533.40	.0477	20.96
21.250	.1017	9.83	539.75	.0531	18.85
21.500	.1121	8.92	546.10	.0585	17.10
21.750	.1226	8.16	552.45	.0640	15.64
22.000	.1332	7.51	558.80	.0695	14.39
22.250	.1439	6.95	565.15	.0751	13.31
22.500	.1548	6.46	571.50	.0808	12.38
22.750	.1658	6.03	577.85	.0865	11.56
23.000	.1769	5.65	584.20	.0923	10.83
23.250	.1881	5.32	590.55	.0982	10.19
23.500	.1995	5.01	596.90	.1041	9.61
23.750	.2110	4.74	603.25	.1101	9.08
24.000	.2226	4.49	609.60	.1161	8.61
24.250	.2343	4.27	615.95	.1223	8.18
24.500	.2461	4.06	622.30	.1284	7.79
24.750	.2581	3.87	628.65	.1347	7.43
25.000	.2702	3.70	635.00	.1410	7.09
25.250	.2824	3.54	641.35	.1473	6.79
25.500	.2947	3.39	647.70	.1538	6.50
25.750	.3071	3.26	654.05	.1603	6.24
26.000	.3197	3.13	660.40	.1668	5.99
26.250	.3324	3.01	666.75	.1734	5.77
26.500	.3452	2.90	673.10	.1801	5.55
26.750	.3581	2.79	679.45	.1869	5.35
27.000	.3712	2.69	685.80	.1937	5.16
27.250	.3844	2.60	692.15	.2006	4.99
27.500	.3977	2.51	698.50	.2075	4.82
27.750	.4111	2.43	704.85	.2145	4.66
28.000	.4246	2.36	711.20	.2216	4.51
28.250	.4383	2.28	717.55	.2287	4.37
28.500	.4521	2.21	723.90	.2359	4.24
28.750	.4660	2.15	730.25	.2431	4.11
29.000	.4800	2.08	736.60	.2505	3.99
29.250	.4941	2.02	742.95	.2578	3.88
29.500	.5084	1.97	749.30	.2653	3.77
29.750	.5228	1.91	755.65	.2728	3.67
30.000	.5373	1.86	762.00	.2804	3.57

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 20.000"			METRIC UNITS Casing *O.D. 508.00 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
21.000	.0398	25.11	533.40	.0208	48.12
21.125	.0449	22.25	536.58	.0235	42.64
21.250	.0501	19.96	539.75	.0261	38.26
21.375	.0553	18.09	542.93	.0288	34.68
21.500	.0605	16.54	546.10	.0316	31.69
21.625	.0657	15.22	549.28	.0343	29.17
21.750	.0710	14.09	552.45	.0370	27.00
21.875	.0763	13.11	555.63	.0398	25.13
22.000	.0816	12.25	558.80	.0426	23.49
22.125	.0870	11.50	561.98	.0454	22.04
22.250	.0923	10.83	565.15	.0482	20.75
22.375	.0978	10.23	568.33	.0510	19.60
22.500	.1032	9.69	571.50	.0539	18.57
22.625	.1087	9.20	574.68	.0567	17.63
22.750	.1142	8.76	577.85	.0596	16.78
22.875	.1197	8.35	581.03	.0625	16.00
23.000	.1253	7.98	584.20	.0654	15.29
23.125	.1309	7.64	587.38	.0683	14.64
23.250	.1365	7.32	590.55	.0713	14.03
23.375	.1422	7.03	593.73	.0742	13.48
23.500	.1479	6.76	596.90	.0772	12.96
23.625	.1536	6.51	600.08	.0802	12.47
23.750	.1594	6.27	603.25	.0832	12.02
23.875	.1652	6.05	606.43	.0862	11.60
24.000	.1710	5.85	609.60	.0892	11.21
24.250	.1827	5.47	615.95	.0953	10.49
24.500	.1945	5.14	622.30	.1015	9.85
24.750	.2065	4.84	628.65	.1077	9.28
25.000	.2186	4.58	635.00	.1141	8.77
25.250	.2308	4.33	641.35	.1204	8.30
25.500	.2431	4.11	647.70	.1269	7.88
25.750	.2555	3.91	654.05	.1333	7.50
26.000	.2681	3.73	660.40	.1399	7.15
26.250	.2808	3.56	666.75	.1465	6.82
26.500	.2936	3.41	673.10	.1532	6.53
26.750	.3065	3.26	679.45	.1600	6.25
27.000	.3196	3.13	685.80	.1668	6.00
27.250	.3328	3.01	692.15	.1736	5.76
27.500	.3461	2.89	698.50	.1806	5.54
27.750	.3595	2.78	704.85	.1876	5.33
28.000	.3730	2.68	711.20	.1947	5.14
28.250	.3867	2.59	717.55	.2018	4.96
28.500	.4005	2.50	723.90	.2090	4.79
28.750	.4144	2.41	730.25	.2162	4.62
29.000	.4284	2.33	736.60	.2235	4.47
29.250	.4425	2.26	742.95	.2309	4.33
29.500	.4568	2.19	749.30	.2384	4.20
29.750	.4712	2.12	755.65	.2459	4.07
30.000	.4857	2.06	762.00	.2535	3.95

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 21.500"			METRIC UNITS Casing *O.D. 546.10 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
22.000	.0211	47.33	558.80	.0110	90.70
22.125	.0265	37.76	561.98	.0138	72.35
22.250	.0319	31.37	565.15	.0166	60.12
22.375	.0373	26.81	568.33	.0195	51.39
22.500	.0427	23.40	571.50	.0223	44.84
22.625	.0482	20.74	574.68	.0252	39.74
22.750	.0537	18.61	577.85	.0280	35.67
22.875	.0593	16.87	581.03	.0309	32.33
23.000	.0648	15.42	584.20	.0338	29.55
23.125	.0704	14.20	587.38	.0368	27.20
23.250	.0761	13.14	590.55	.0397	25.19
23.375	.0817	12.23	593.73	.0427	23.45
23.500	.0874	11.44	596.90	.0456	21.92
23.625	.0932	10.74	600.08	.0486	20.57
23.750	.0989	10.11	603.25	.0516	19.38
23.875	.1047	9.55	606.43	.0546	18.31
24.000	.1105	9.05	609.60	.0577	17.34
24.250	.1222	8.18	615.95	.0638	15.68
24.500	.1341	7.46	622.30	.0700	14.30
24.750	.1460	6.85	628.65	.0762	13.12
25.000	.1581	6.33	635.00	.0825	12.12
25.250	.1703	5.87	641.35	.0889	11.25
25.500	.1826	5.48	647.70	.0953	10.49
25.750	.1951	5.13	654.05	.1018	9.82
26.000	.2076	4.82	660.40	.1084	9.23
26.250	.2203	4.54	666.75	.1150	8.70
26.500	.2331	4.29	673.10	.1217	8.22
26.750	.2461	4.06	679.45	.1284	7.79
27.000	.2591	3.86	685.80	.1352	7.40
27.250	.2723	3.67	692.15	.1421	7.04
27.500	.2856	3.50	698.50	.1490	6.71
27.750	.2990	3.34	704.85	.1560	6.41
28.000	.3126	3.20	711.20	.1631	6.13
28.250	.3262	3.07	717.55	.1702	5.87
28.500	.3400	2.94	723.90	.1774	5.64
28.750	.3539	2.83	730.25	.1847	5.42
29.000	.3679	2.72	736.60	.1920	5.21
29.250	.3821	2.62	742.95	.1994	5.02
29.500	.3963	2.52	749.30	.2068	4.84
29.750	.4107	2.43	755.65	.2143	4.67
30.000	.4252	2.35	762.00	.2219	4.51
30.250	.4399	2.27	768.35	.2295	4.36
30.500	.4546	2.20	774.70	.2372	4.22
30.750	.4695	2.13	781.05	.2450	4.08
31.000	.4845	2.06	787.40	.2528	3.96
31.250	.4996	2.00	793.75	.2607	3.84
31.500	.5149	1.94	800.10	.2687	3.72
31.750	.5302	1.89	806.45	.2767	3.61
32.000	.5457	1.83	812.80	.2848	3.51

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 24.000"			METRIC UNITS Casing *O.D. 609.60 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
25.000	.0476	21.01	635.00	.0248	40.26
25.125	.0537	18.63	638.18	.0280	35.70
25.250	.0598	16.72	641.35	.0312	32.04
25.375	.0660	15.16	644.53	.0344	29.06
25.500	.0721	13.86	647.70	.0376	26.57
25.625	.0783	12.77	650.88	.0409	24.46
25.750	.0846	11.82	654.05	.0441	22.66
25.875	.0908	11.01	657.23	.0474	21.10
26.000	.0971	10.29	660.40	.0507	19.73
26.250	.1098	9.10	666.75	.0573	17.45
26.500	.1226	8.15	673.10	.0640	15.63
26.750	.1356	7.38	679.45	.0707	14.14
27.000	.1486	6.73	685.80	.0776	12.89
27.250	.1618	6.18	692.15	.0844	11.84
27.500	.1751	5.71	698.50	.0914	10.94
27.750	.1885	5.30	704.85	.0984	10.17
28.000	.2021	4.95	711.20	.1054	9.48
28.250	.2157	4.64	717.55	.1126	8.88
28.500	.2295	4.36	723.90	.1198	8.35
28.750	.2434	4.11	730.25	.1270	7.87
29.000	.2574	3.88	736.60	.1343	7.44
29.250	.2716	3.68	742.95	.1417	7.06
29.500	.2858	3.50	749.30	.1492	6.70
29.750	.3002	3.33	755.65	.1567	6.38
30.000	.3147	3.18	762.00	.1642	6.09
30.250	.3294	3.04	768.35	.1719	5.82
30.500	.3441	2.91	774.70	.1796	5.57
30.750	.3590	2.79	781.05	.1873	5.34
31.000	.3740	2.67	787.40	.1952	5.12
31.250	.3891	2.57	793.75	.2030	4.92
31.500	.4044	2.47	800.10	.2110	4.74
31.750	.4197	2.38	806.45	.2190	4.57
32.000	.4352	2.30	812.80	.2271	4.40
32.250	.4508	2.22	819.15	.2352	4.25
32.500	.4665	2.14	825.50	.2434	4.11
32.750	.4824	2.07	831.85	.2517	3.97
33.000	.4983	2.01	838.20	.2600	3.85
33.250	.5144	1.94	844.55	.2684	3.73
33.500	.5306	1.88	850.90	.2769	3.61
33.750	.5470	1.83	857.25	.2854	3.50
34.000	.5634	1.77	863.60	.2940	3.40
34.250	.5800	1.72	869.95	.3027	3.30
34.500	.5967	1.68	876.30	.3114	3.21
34.750	.6135	1.63	882.65	.3201	3.12
35.000	.6305	1.59	889.00	.3290	3.04
35.250	.6475	1.54	895.35	.3379	2.96
35.500	.6647	1.50	901.70	.3468	2.88
35.750	.6820	1.47	908.05	.3559	2.81
36.000	.6994	1.43	914.40	.3650	2.74

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 24.500"			METRIC UNITS Casing *O.D. 622.30 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
25.000	.0240	41.59	635.00	.0125	79.71
25.125	.0301	33.19	638.18	.0157	63.61
25.250	.0362	27.59	641.35	.0189	52.87
25.375	.0424	23.59	644.53	.0221	45.20
25.500	.0486	20.59	647.70	.0253	39.46
25.625	.0548	18.26	650.88	.0286	34.98
25.750	.0610	16.39	654.05	.0318	31.41
25.875	.0673	14.86	657.23	.0351	28.48
26.000	.0736	13.59	660.40	.0384	26.04
26.250	.0863	11.59	666.75	.0450	22.21
26.500	.0991	10.09	673.10	.0517	19.34
26.750	.1120	8.93	679.45	.0585	17.11
27.000	.1251	8.00	685.80	.0653	15.32
27.250	.1382	7.23	692.15	.0721	13.86
27.500	.1515	6.60	698.50	.0791	12.65
27.750	.1650	6.06	704.85	.0861	11.62
28.000	.1785	5.60	711.20	.0931	10.74
28.250	.1922	5.20	717.55	.1003	9.97
28.500	.2059	4.86	723.90	.1075	9.31
28.750	.2198	4.55	730.25	.1147	8.72
29.000	.2339	4.28	736.60	.1220	8.19
29.250	.2480	4.03	742.95	.1294	7.73
29.500	.2623	3.81	749.30	.1369	7.31
29.750	.2767	3.61	755.65	.1444	6.93
30.000	.2912	3.43	762.00	.1519	6.58
30.250	.3058	3.27	768.35	.1596	6.27
30.500	.3206	3.12	774.70	.1673	5.98
30.750	.3354	2.98	781.05	.1750	5.71
31.000	.3504	2.85	787.40	.1829	5.47
31.250	.3656	2.74	793.75	.1908	5.24
31.500	.3808	2.63	800.10	.1987	5.03
31.750	.3962	2.52	806.45	.2067	4.84
32.000	.4116	2.43	812.80	.2148	4.66
32.250	.4272	2.34	819.15	.2229	4.49
32.500	.4430	2.26	825.50	.2311	4.33
32.750	.4588	2.18	831.85	.2394	4.18
33.000	.4748	2.11	838.20	.2477	4.04
33.250	.4909	2.04	844.55	.2561	3.90
33.500	.5071	1.97	850.90	.2646	3.78
33.750	.5234	1.91	857.25	.2731	3.66
34.000	.5399	1.85	863.60	.2817	3.55
34.250	.5564	1.80	869.95	.2904	3.44
34.500	.5731	1.74	876.30	.2991	3.34
34.750	.5900	1.70	882.65	.3078	3.25
35.000	.6069	1.65	889.00	.3167	3.16
35.250	.6240	1.60	895.35	.3256	3.07
35.500	.6411	1.56	901.70	.3346	2.99
35.750	.6584	1.52	908.05	.3436	2.91
36.000	.6759	1.48	914.40	.3527	2.84

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN CASING & HOLE**					
ENGLISH UNITS Casing *O.D. 30.000"			METRIC UNITS Casing *O.D. 762.00 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
32.000	.1205	8.30	812.80	.0629	15.91
32.125	.1282	7.80	815.98	.0669	14.94
32.250	.1361	7.35	819.15	.0710	14.08
32.375	.1439	6.95	822.33	.0751	13.32
32.500	.1518	6.59	825.50	.0792	12.63
32.625	.1597	6.26	828.68	.0833	12.00
32.750	.1676	5.97	831.85	.0875	11.43
32.875	.1756	5.69	835.03	.0916	10.91
33.000	.1836	5.45	838.20	.0958	10.44
33.250	.1997	5.01	844.55	.1042	9.60
33.500	.2159	4.63	850.90	.1127	8.88
33.750	.2322	4.31	857.25	.1212	8.25
34.000	.2487	4.02	863.60	.1298	7.71
34.250	.2653	3.77	869.95	.1384	7.22
34.500	.2820	3.55	876.30	.1471	6.80
34.750	.2988	3.35	882.65	.1559	6.41
35.000	.3157	3.17	889.00	.1647	6.07
35.250	.3328	3.01	895.35	.1736	5.76
35.500	.3500	2.86	901.70	.1826	5.48
35.750	.3673	2.72	908.05	.1916	5.22
36.000	.3847	2.60	914.40	.2007	4.98
36.250	.4022	2.49	920.75	.2099	4.76
36.500	.4199	2.38	927.10	.2191	4.56
36.750	.4377	2.28	933.45	.2284	4.38
37.000	.4556	2.19	939.80	.2377	4.21
37.250	.4736	2.11	946.15	.2471	4.05
37.500	.4918	2.03	952.50	.2566	3.90
37.750	.5101	1.96	958.85	.2662	3.76
38.000	.5285	1.89	965.20	.2758	3.63
38.250	.5470	1.83	971.55	.2854	3.50
38.500	.5656	1.77	977.90	.2951	3.39
38.750	.5844	1.71	984.25	.3049	3.28
39.000	.6033	1.66	990.60	.3148	3.18
39.250	.6223	1.61	996.95	.3247	3.08
39.500	.6414	1.56	3.30	.3347	2.99
39.750	.6606	1.51	9.65	.3447	2.90
40.000	.6800	1.47	16.00	.3548	2.82
40.250	.6995	1.43	22.35	.3650	2.74
40.500	.7191	1.39	28.70	.3752	2.66
40.750	.7388	1.35	35.05	.3855	2.59
41.000	.7587	1.32	41.40	.3959	2.53
41.250	.7787	1.28	47.75	.4063	2.46
41.500	.7988	1.25	54.10	.4168	2.40
41.750	.8190	1.22	60.45	.4274	2.34
42.000	.8393	1.19	66.80	.4380	2.28
42.250	.8598	1.16	73.15	.4486	2.23
42.500	.8804	1.14	79.50	.4594	2.18
42.750	.9011	1.11	85.85	.4702	2.13
43.000	.9219	1.08	92.20	.4811	2.08

**NOTE: No allowance made for coupling.

ENGLISH UNITS		VOLUME & HEIGHT	
2.375" OD DRILL PIPE— See 2.375" OD Tubing	Page	22	
2.875" OD DRILL PIPE— See 2.875" OD Tubing	Page	26	
3.500" OD DRILL PIPE— See 3.500" OD Tubing	Page	30	
4.000" OD DRILL PIPE— See 4.000" OD Tubing	Page	34	
4.500" OD DRILL PIPE— See 4.500" OD Tubing	Page	35 & 36	
5.000" OD DRILL PIPE— See 5.000" OD Casing	Page	38	
5.500" OD DRILL PIPE— See 5.500" OD Casing	Page	39 & 40	
5.562" OD DRILL PIPE—	Page	76	
6.625" OD DRILL PIPE— See 6.625" OD Casing	Page	43	
7.625" OD DRILL PIPE— See 7.625" OD Casing	Page	46	
8.625" OD DRILL PIPE— See 8.625" OD Casing	Page	50	

**NOTE: No allowance made for coupling.

METRIC UNITS
BETWEEN DRILL PIPE & HOLE

60.33mm OD DRILL PIPE— See 60.33mm OD Tubing	Page	22
73.03mm OD DRILL PIPE— See 73.03mm OD Tubing	Page	26
88.90mm OD DRILL PIPE— See 88.90mm OD Tubing	Page	30
101.60mm OD DRILL PIPE— See 101.60mm OD Tubing	Page	34
114.30mm OD DRILL PIPE— See 114.30mm OD Tubing	Page	35 & 36
127.00mm OD DRILL PIPE— See 127.00mm OD Casing	Page	38
139.70mm OD DRILL PIPE— See 139.70mm OD Casing	Page	39 & 40
141.28mm OD DRILL PIPE—	Page	76
168.28mm OD DRILL PIPE— See 168.28mm OD Casing	Page	43
193.68mm OD DRILL PIPE— See 193.68mm OD Casing	Page	46
219.08mm OD DRILL PIPE— See 219.08mm OD Casing	Page	50

**NOTE: No allowance made for coupling.

VOLUME & HEIGHT BETWEEN TUBING & HOLE**					
ENGLISH UNITS			METRIC UNITS		
Drill Pipe O.D. 5.562"			Drill Pipe O.D. 141.28 mm		
Diameter of Hole Inches	Barrels Per Lin. Ft.	Lin. Ft. Per Barrel	Diameter of Hole mm	Cu. Meters Per Lin. Meter m ³ /m	Lin. Meters Per Cu. Meter m/m ³
5.750	.0021	484.05	146.05	.0011	927.64
5.875	.0035	287.56	149.23	.0018	551.08
6.000	.0049	203.27	152.40	.0026	389.55
6.125	.0064	156.45	155.58	.0033	299.82
6.250	.0079	126.67	158.75	.0041	242.75
6.375	.0094	106.07	161.93	.0049	203.28
6.500	.0110	90.98	165.10	.0057	174.36
6.625	.0126	79.46	168.28	.0066	152.28
6.750	.0142	70.38	171.45	.0074	134.87
6.875	.0159	63.04	174.63	.0083	120.81
7.000	.0175	56.99	177.80	.0092	109.21
7.125	.0193	51.91	180.98	.0101	99.48
7.250	.0210	47.60	184.15	.0110	91.22
7.375	.0228	43.89	187.33	.0119	84.11
7.500	.0246	40.67	190.50	.0128	77.93
7.625	.0264	37.84	193.68	.0138	72.52
7.750	.0283	35.34	196.85	.0148	67.73
7.875	.0302	33.12	200.03	.0158	63.47
8.000	.0321	31.13	203.20	.0168	59.66
8.125	.0341	29.34	206.38	.0178	56.24
8.250	.0361	27.73	209.55	.0188	53.14
8.375	.0381	26.26	212.73	.0199	50.32
8.500	.0401	24.92	215.90	.0209	47.75
8.625	.0422	23.69	219.08	.0220	45.40
8.750	.0443	22.56	222.25	.0231	43.24
8.875	.0465	21.52	225.43	.0242	41.25
9.000	.0486	20.56	228.60	.0254	39.40
9.125	.0508	19.67	231.78	.0265	37.70
9.250	.0531	18.84	234.95	.0277	36.11
9.375	.0553	18.07	238.13	.0289	34.64
9.500	.0576	17.36	241.30	.0301	33.26
9.625	.0599	16.68	244.48	.0313	31.97
9.750	.0623	16.05	247.65	.0325	30.76
9.875	.0647	15.46	250.83	.0337	29.63
10.000	.0671	14.91	254.00	.0350	28.56
10.125	.0695	14.38	257.18	.0363	27.56
10.250	.0720	13.89	260.35	.0376	26.61
10.375	.0745	13.42	263.53	.0389	25.72
10.500	.0770	12.98	266.70	.0402	24.87
10.625	.0796	12.56	269.88	.0415	24.07
10.750	.0822	12.16	273.05	.0429	23.31
10.875	.0848	11.79	276.23	.0443	22.59
11.000	.0875	11.43	279.40	.0457	21.90
11.125	.0902	11.09	282.58	.0471	21.25
11.250	.0929	10.76	285.75	.0485	20.63
11.375	.0956	10.46	288.93	.0499	20.04
11.500	.0984	10.16	292.10	.0514	19.47
11.625	.1012	9.88	295.28	.0528	18.93
11.750	.1041	9.61	298.45	.0543	18.42
11.875	.1069	9.35	301.63	.0558	17.92
12.000	.1098	9.10	304.80	.0573	17.45

**NOTE: No allowance made for coupling.