Table 6: Density and Viscosity of Pure Water

t	t	μ	Δ	ρ	Δ	ν	Δ	μ	Δ	ρ	Δ	ν	Δ
°F.	°C.	Dyne Sec. / Sq. Cm.		Grams / Cu. Cm.		Sq. Cm. / Sec.		Lb. Sec. / Sq. Ft.		Slugs / Cu. Ft.		Sq. Ft. / Sec.	
1	2	3		4		5		6		7		8	
32.0	0.0000	0.017938	171	0.9998679	181	0.017940	171	0.000037464	357	1.940079	35	0.000019311	185
32.5	0.2778	17767	172	8860	167	17769	172	37107	359	0114	33	19126	185
33.0	0.5556	17595	172	9027	154	17597	173	36748	359	0147	30	18941	186
33.5	0.8333	17423	168	9181	139	17424	168	36389	351	0177	27	18755	181
34.0	1.1111	17255	161	9320	127	17256	161	36038	336	0204	24	18574	173
34.5	1.3889	17094	161	9447	113	17095	161	35702	337	0228	22	18401	173
35.0	1.6667	0.016933	161	0.9999560	100	0.016934	161	0.000035365	336	1.940250	20	0.000018227	173
35.5	1.9444	16772	154	9660	87	16773	155	35029	321	0270	17	18054	166
36.0	2.2222	16618	152	9747	74	16618	152	34708	318	0287	14	17888	164
36.5	2.5000	16466	152	9821	61	16466	152	34390	317	0301	12	17724	164
37.0	2.7778	16314	150	9882	48	16314	152	34073	314	0313	9	17560	161
37.5	3.0556	16164	143	9930	36	16164	143	33759	298	0322	7	17399	154
38.0	3.3333	0.016021	144	0.9999966	23	0.016021	144	0.000033461	301	1.940329	5	0.000017245	155
38.5	3.6111	0.015877	144	9989	11	15877	144	33160	301	0334	2	17090	155
39.0	3.8889	15733	138	1.0000000	3	15733	138	32859	288	0336	1	16935	149
39.5	4.1667	15595	136	0.9999997	14	15595	136	32571	284	0335	3	16786	146
40.0	4.4444	15459	136	9983	26	15459	136	32287	284	0332	5	16640	146
40.5	4.7222	15323	135	9957	38	15323	135	32003	282	0327	7	16494	146
41.0	5.0000	0.015188	128	0.9999919	51	0.015188	128	0.000031721	267	1.940320	10	0.000016348	137
41.5	5.2778	15060	129	9868	62	15060	129	31454	260	0310	12	16211	139
42.0	5.5556	14931	128	9806	75	14931	128	31184	267	0298	15	16072	138
42.5	5.8333	14803	126	9731	86	14803	125	30917	263	0283	16	15934	134
43.0	6.1111	0.014677	122	0.9999645	97	0.014678	121	0.000030654	253	1.940267	19	0.000015799	130
43.5	6.3889	14556	122	9548	108	14557	122	30401	255	0248	21	15669	132
44.0	6.6667	14434	122	9440	120	14435	122	30146	255	0227	23	15537	131
44.5	6.9444	14312	116	9320	131	14313	116	0.000029891	242	0204	26	15406	124
45.0	7.2222	14196	116	9189	143	14197	116	29649	242	0178	27	15282	125
45.5	7.5000	14080	116	9046	154	14081	115	29407	242	0151	30	15157	125
46.0	7.7778	0.013964	114	0.9998892	164	0.013966	114	0.000029165	239	1.940121	32	0.000015032	122
46.5	8.0556	13850	110	8728	176	13852	110	28926	229	0089	34	14910	118
47.0	8.3333	13740	110	8552	186	13742	110	28697	230	0055	36	14792	118
47.5	8.6111	13630	110	8366	196	13632	110	28467	230	0019	38	14674	119
48.0	8.8889	13520	107	8170	208	13522	106	28237	223	1.939981	41	14555	114
48.5	9.1667	13413	106	7962	218	13416	106	28014	222	9940	42	14441	114
49.0	9.4444	0.013307	105	0.9997744	229	0.013310	105	0.000027792	219	1.939898	45	0.000014327	113
49.5	9.7222	13202	105	7515	238	13205	104	27573	219	9853	46	14214	113

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ENGINEERING INFORMATION - DENSITY AND VISCOSITY OF PURE WATER

Table 6: Density and Viscosity of Pure Water (continued)

t	t	μ	Δ	ρ	Δ	ν	Δ	μ	Δ	ρ	Δ	ν	Δ
°F.	°C.	Dyne Sec. / Sq. Cm.		Grams / Cu. Cm.		Sq. Cm. / Sec.		Lb. Sec. / Sq. Ft.		Slugs / Cu. Ft.		Sq. Ft. / Sec.	
1	2	3		4		5		6		7		8	
50.0	10.0000	13097	101	7277	249	13101	101	27354	211	9807	48	14101	108
50.5	10.2778	12996	101	7028	261	13000	101	27143	211	9759	51	13993	108
51.0	10.5556	12895	100	0.9996767	272	12899	100	26932	209	9708	52	13885	108
51.5	10.8333	12795	98	6495	282	12799	97	26723	205	9656	55	13777	105
52.0	11.1111	0.012697	96	0.9996213	290	0.012702	96	0.000026518	200	1.939601	56	0.000013672	103
52.5	11.3889	12601	96	0.9995923	302	12606	96	26318	201	9545	59	13569	103
53.0	11.6667	12505	96	5621	311	12510	95	26117	200	9486	60	13466	103
53.5	11.9444	12409	92	5310	320	12415	92	25917	192	9426	62	13363	98
54.0	12.2222	12317	92	0.9994990	330	12323	91	25725	192	9364	64	13265	99
54.5	12.5000	12225	91	4660	341	12232	91	25533	191	9300	67	13166	98
55.0	12.7778	0.012134	90	0.9994319	350	0.012141	90	0.000025342	187	1.939233	68	0.000013068	96
55.5	13.0556	12044	87	0.9993969	358	12051	86	25155	182	9165	69	12972	93
56.0	13.3333	11957	87	3611	368	11965	87	24973	182	9096	71	12879	94
56.5	13.6111	11870	87	3243	378	11878	86	24791	182	9025	74	12785	93
57.0	13.8889	11783	85	2865	386	11791	84	24609	177	1.938951	75	12692	91
57.5	14.1667	11698	84	2479	396	11707	84	24432	176	8876	77	12601	90
58.0	14.4444	0.011614	83	0.9992083	405	0.011623	82	0.000024256	173	1.938799	78	0.000012511	89
58.5	14.7222	11531	84	0.9991678	413	11541	84	24083	175	8721	80	12422	90
59.0	15.0000	11447	81	1265	423	11457	81	23908	170	8641	82	12332	87
59.5	15.2778	11366	81	0.9990842	432	11376	80	23738	169	8559	84	12245	86
60.0	15.5556	11285	81	0410	441	11296	81	23569	169	8475	86	12159	87
60.5	15.8333	11204	79	0.9989969	449	11215	78	23400	165	8389	87	12072	85
61.0	16.1111	0.011125	78	0.9989520	459	0.011137	78	0.000023235	163	1.938302	89	0.000011987	83
61.5	16.3889	11047	78	9061	467	11059	77	23072	163	8213	90	11904	84
62.0	16.6667	10969	78	0.9988594	476	10982	78	22909	163	8123	93	11820	83
62.5	16.9444	10891	76	8118	484	10904	76	22746	158	8030	94	11737	81
63.0	17.2222	10815	76	0.9987634	493	10828	75	22588	159	1.937936	95	11656	82
63.5	17.5000	10739	76	7141	502	10753	76	22429	159	7841	98	11574	81
64.0	17.7778	0.010663	75	0.9986639	510	0.010677	74	0.000022270	156	7743	99	0.000011493	80
64.5	18.0556	10588	73	6129	519	10603	73	22114	153	7644	100	11413	78
65.0	18.3333	10515	73	5610	526	10530	72	21961	152	7544	103	11335	79
65.5	18.6111	10442	73	5084	536	10458	73	21809	153	7441	104	11256	78
66.0	18.8889	10369	71	4548	544	10385	71	21656	148	7337	105	11178	76
66.5	19.1667	10298	70	4004	552	10314	69	21508	146	7232	107	11102	74
67.0	19.4444	0.010228	71	0.9983452	560	0.010245	71	0.000021362	149	1.937125	109	0.000011028	76
67.5	19.7222	10157	70	0.9982892	569	10174	69	21213	146	7016	110	10952	75

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Table 6: Density and Viscosity of Pure Water (continued)

t	t	μ	Δ	ρ	Δ	ν	Δ	μ	Δ	ρ	Δ	ν	Δ
°F.	°C.	Dyne Sec. / Sq. Cm.		Grams / Cu. Cm.		Sq. Cm. / Sec.		Lb. Sec. / Sq. Ft.		Slugs / Cu. Ft.		Sq. Ft. / Sec.	
1	2	3		4		5		6		7		8	
68.0	20.0000	10087	68	2323	576	10105	68	21067	142	1.936906	112	10877	73
68.5	20.2778	10019	68	0.998174	585	10037	67	20925	142	6794	114	10804	73
69.0	20.5556	0.009951	67	1162	593	0.009970	67	20783	140	6680	115	10731	71
69.5	20.8333	9884	67	0.998056	600	9903	66	20643	140	6565	116	10660	72
70.0	21.1111	0.009817	65	0.997996	609	0.009837	65	0.000020503	135	1.936449	118	0.000010588	69
70.5	21.3889	9752	66	9360	617	9772	65	20368	138	6331	120	10519	71
71.0	21.6667	9686	65	0.997874	624	9707	65	20230	136	6211	121	10448	69
71.5	21.9444	9621	64	8119	633	9642	63	20094	134	6090	123	10379	69
72.0	22.2222	9557	63	0.997748	640	9579	63	19960	131	1.935967	124	10310	67
72.5	22.5000	9494	63	0.997684	649	9516	62	19829	132	5843	126	10243	67
73.0	22.7778	0.009431	63	0.997619	655	0.009454	63	0.000019697	131	1.935717	127	0.000010176	68
73.5	23.0556	9368	61	0.997542	663	9391	61	19566	128	5590	129	10108	65
74.0	23.3333	9307	61	0.997479	671	9330	60	19438	127	5461	130	10043	65
74.5	23.6111	9246	60	4208	679	9270	60	19311	126	5331	132	0.000009978	64
75.0	23.8889	9186	60	0.997352	686	9210	59	19185	125	5199	133	9914	64
75.5	24.1667	9126	59	0.997243	694	9151	59	19060	123	5066	134	9850	63
76.0	24.4444	0.009067	59	0.997149	701	0.009092	58	0.000018937	123	1.934932	136	0.000009787	63
76.5	24.7222	9008	59	0.997144	709	9034	59	18814	124	4796	138	9724	63
77.0	25.0000	0.008949	56	0.997039	715	0.008975	55	18690	117	4658	139	9661	60
77.5	25.2778	8893	57	0.997002	724	8920	57	18573	119	4519	140	9601	61
78.0	25.5556	8836	56	0.996930	731	8863	55	18454	117	4379	142	9540	60
78.5	25.8333	8780	56	0.996856	738	8808	56	18337	116	4237	143	9480	59
79.0	26.1111	0.008724	54	0.996783	744	0.008752	53	0.000018221	113	1.934094	144	0.000009421	58
79.5	26.3889	8670	54	7087	753	8699	54	18108	113	1.933950	147	9363	58
80.0	26.6667	8616	54	0.996633	760	8645	53	17995	113	3803	147	9305	57
80.5	26.9444	8562	53	0.996557	767	8592	53	17882	111	3656	149	9248	57
81.0	27.2222	8509	52	0.996480	774	8539	51	17771	108	3507	150	9191	55
81.5	27.5000	8457	52	4033	780	8488	52	17663	109	3357	152	9136	56
82.0	27.7778	0.008405	52	0.996325	788	0.008436	52	0.000017554	108	1.933205	152	0.000009080	55
82.5	28.0556	8353	51	0.996246	795	8384	50	17446	107	3053	155	9025	55
83.0	28.3333	8302	50	0.996167	801	8334	50	17339	104	1.932898	155	0.000008970	53
83.5	28.6111	8252	51	0.996086	810	8284	50	17235	107	2743	157	8917	54
84.0	28.8889	8201	50	0.996005	815	8234	50	17128	104	2586	158	8863	53
84.5	29.1667	8151	49	0.995924	822	8184	48	17024	103	2428	160	8810	53
85.0	29.4444	0.008102	49	0.995842	830	0.008136	49	0.000016921	102	1.932268	161	0.000008757	52
85.5	29.7222	8053	49	0.995759	836	8087	48	16819	102	2107	162	8705	52

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Table 6: Density and Viscosity of Pure Water (continued)

t	t	μ	Δ	ρ	Δ	ν	Δ	μ	Δ	ρ	Δ	ν	Δ
°F.	°C.	Dyne Sec. / Sq. Cm.		Grams / Cu. Cm.		Sq. Cm. / Sec.		Lb. Sec. / Sq. Ft.		Slugs / Cu. Ft.		Sq. Ft. / Sec.	
1	2	3		4		5		6		7		8	
86.0	30.0000	8004	47	0.9956756	842	8039	47	16717	98	1.931945	164	8653	50
86.5	30.2778	0.007957	47	0.9955914	850	0.007992	46	16619	99	1781	164	8603	50
87.0	30.5556	7910	48	5064	857	7946	48	16520	100	1617	167	8553	52
87.5	30.8333	0.007862	46	0.9954207	862	0.007898	45	0.000016420	96	1.931450	167	0.000008501	49
88.0	31.1111	7816	46	0.9953345	868	7853	46	16324	96	1283	168	8452	49
88.5	31.3889	7770	45	0.9952477	876	7807	44	16228	94	1115	170	8403	47
89.0	31.6667	7725	46	0.9951601	882	7763	46	16134	96	1.930945	171	8356	49
89.5	31.9444	7679	44	0.9950719	889	7717	44	16038	92	0774	173	8307	47
90.0	32.2222	7635	45	0.9949830	895	7673	44	15946	94	0601	174	8260	48
90.5	32.5000	7590	44	0.9948935	902	7629	44	15852	92	0427	175	8212	47
91.0	32.7778	0.007546	44	0.9948033	907	0.007585	43	0.000015760	92	1.930252	176	0.000008165	47
91.5	33.0556	7502	42	0.9947126	915	7542	42	15668	87	1.930076	177	8118	45
92.0	33.3333	7460	43	0.9946211	920	7500	42	15581	90	1.929899	179	8073	46
92.5	33.6111	7417	43	0.9945291	927	7458	43	15491	90	9720	180	8027	45
93.0	33.8889	7374	42	0.9944364	933	7415	41	15401	88	9540	181	0.000007982	45
93.5	34.1667	7332	41	0.9943431	939	7374	41	15313	85	9359	182	7937	44
94.0	34.4444	0.007291	42	0.9942492	946	0.007333	41	0.000015228	88	1.929177	183	0.000007893	44
94.5	34.7222	7249	41	0.9941546	952	7292	41	15140	86	1.928994	185	7849	44
95.0	35.0000	7208	40	0.9940594	957	7251	39	15054	83	8809	186	7805	43
95.5	35.2778	7168	40	0.9939637	964	7212	40	14971	84	8623	187	7762	42
96.0	35.5556	7128	40	0.9938673	970	7172	40	14887	83	8436	188	7720	43
96.5	35.8333	7088	39	0.9937703	975	7132	38	14804	82	8248	189	7677	41
97.0	36.1111	0.007049	39	0.9936728	982	0.007094	39	0.000014722	81	1.928059	191	0.000007636	42
97.5	36.3889	7010	39	0.9935746	988	7055	38	14641	82	1.927868	191	7594	41
98.0	36.6667	0.006971	38	0.9934758	994	7017	38	14559	79	7677	193	7553	41
98.5	36.9444	6933	38	0.9933764	998	0.006979	37	14480	79	7484	194	7512	40
99.0	37.2222	6895	37	0.9932766	1006	6942	37	14401	78	7290	195	7472	39
99.5	37.5000	6858	37	0.9931760	1011	6905	36	14323	77	7095	196	7433	40
100.0	37.7778	0.006821		0.9930749		0.006869		0.000014246		1.926899		0.000007393	
		From "International Critical Tables," Vol. V, 1929. Accuracy estimated at 0.1%. Linear interpolation may be used.		From "International Critical Tables," Vol. III, 1928		Column 5 = Column 3 / Column 4		Col. 6 = Col. 3 × 0.00208855151		Col. 7 = Col. 4 × 1.94033561		Col. 8 = Col. 5 × 0.00107638673 Checked by Col. 8 = Col. 6 / Col. 7	

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