

# ENGINEERING INFORMATION - DENSITY AND VISCOSITY OF PURE WATER



# 19.21

Shaded area indicates change Rev. 4-99

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

<i>t</i>	<i>t</i>	$\mu$	$\Delta$	$\rho$	$\Delta$	$\nu$	$\Delta$	$\mu$	$\Delta$	$\rho$	$\Delta$	$\nu$	$\Delta$
° F.	° C.	$\frac{\text{Dyne Sec.}}{\text{Sq. Cm.}}$		$\frac{\text{Grams}}{\text{Cu. Cm.}}$		$\frac{\text{Sq. Cm.}}{\text{Sec.}}$		$\frac{\text{Lb. Sec.}}{\text{Sq. Ft.}}$		$\frac{\text{Slugs}}{\text{Cu. Ft.}}$		$\frac{\text{Sq. Ft.}}{\text{Sec.}}$	
1	2	3		4		5		6		7		8	
68.0	20.0000	10087		2323		10105		21067		1.936906		10877	
68.5	20.2778	10019	68	0.9981747	576	10037	68	20925	142	6794	112	10804	73
69.0	20.5556	0.009951	68	1162	585	0.009970	67	20783	142	6680	114	10731	73
69.5	20.8333	9884	67	0.9980569	593	9903	67	20643	140	6565	115	10660	71
70.0	21.1111	0.009817	67	0.9979969	600	0.009837	66	0.000020503	140	1.936449	116	0.000010588	72
70.5	21.3889	9752	65	9360	609	9772	65	20368	135	6331	118	10519	69
71.0	21.6667	9686	66	0.9978743	617	9707	65	20230	138	6211	120	10448	71
71.5	21.9444	9621	65	8119	624	9642	65	20094	136	6090	121	10379	69
72.0	22.2222	9557	64	0.9977486	633	9579	63	19960	134	1.935967	123	10310	69
72.5	22.5000	9494	63	0.9976846	640	9516	63	19829	131	5843	124	10243	67
73.0	22.7778	0.009431	63	0.9976197	649	0.009454	62	0.000019697	132	1.935717	126	0.000010176	67
73.5	23.0556	9368	63	0.9975542	655	9391	63	19566	131	5590	127	10108	68
74.0	23.3333	9307	61	0.9974879	663	9330	61	19438	128	5461	129	10043	65
74.5	23.6111	9246	61	4208	671	9270	60	19311	127	5331	130	0.000009978	65
75.0	23.8889	9186	60	0.9973520	679	9210	60	19185	126	5199	132	9914	64
75.5	24.1667	9126	60	0.9972843	686	9151	59	19060	125	5066	133	9850	64
76.0	24.4444	0.009067	59	0.9972149	694	0.009092	59	0.000018937	123	1.934932	134	0.000009787	63
76.5	24.7222	9008	59	0.9971448	701	9034	58	18814	123	4796	136	9724	63
77.0	25.0000	0.008949	59	0.9970739	709	0.008975	59	18690	124	4658	138	9661	63
77.5	25.2778	8893	56	0.9970024	715	8920	55	18573	117	4519	139	9601	60
78.0	25.5556	8836	57	0.9969300	724	8863	57	18454	119	4379	140	9540	61
78.5	25.8333	8780	56	0.9968569	731	8808	55	18337	117	4237	142	9480	60
79.0	26.1111	0.008724	56	0.9967831	738	0.008752	56	0.000018221	116	1.934094	143	0.000009421	59
79.5	26.3889	8670	54	7087	744	8699	53	18108	113	1.933950	144	9363	58
80.0	26.6667	8616	54	0.9966334	753	8645	54	17995	113	3803	147	9305	58
80.5	26.9444	8562	54	0.9965574	760	8592	53	17882	113	3656	147	9248	57
81.0	27.2222	8509	53	0.9964807	767	8539	53	17771	111	3507	149	9191	57
81.5	27.5000	8457	52	4033	774	8488	51	17663	108	3357	150	9136	55
82.0	27.7778	0.008405	52	0.9963253	780	0.008436	52	0.000017554	109	1.933205	152	0.000009080	56
82.5	28.0556	8353	52	0.9962465	788	8384	52	17446	108	3053	152	9025	55
83.0	28.3333	8302	51	0.9961670	795	8334	50	17339	107	1.932898	155	0.000008970	55
83.5	28.6111	8252	50	0.9960869	801	8284	50	17235	104	2743	155	8917	53
84.0	28.8889	8201	51	0.9960059	810	8234	50	17128	107	2586	157	8863	54
84.5	29.1667	8151	50	0.9959244	815	8184	50	17024	104	2428	158	8810	53
85.0	29.4444	0.008102	49	0.9958422	822	0.008136	48	0.000016921	103	1.932268	160	0.000008757	53
85.5	29.7222	8053	49	0.9957592	830	8087	49	16819	102	2107	161	8705	52
			49		836		48		102		162		52

These charts have been reprinted from pp. 63-66 of John R. Freeman's book "Experiments upon the Flow of Water in Pipes and Pipe Fittings - Made at Nashua, New Hampshire June 28 to October 22, 1892" with permission of the American Society of Mechanical Engineers.