

TABLA A.4
Propiedades físicas del aire, a 1[atm]

T [°C]	ρ $\left[\frac{kg}{m^3}\right]$	μ $\times 10^{-5}$ $\left[\frac{kg}{m \cdot s}\right]$	C_p $\left[\frac{kcal}{kg \cdot ^\circ C}\right]$	k $\left[\frac{kcal}{mh \cdot ^\circ C}\right]$	β $\times 10^{-3}$ $\left[\frac{1}{^\circ C}\right]$	ν $\times 10^{-5}$ $\left[\frac{m^2}{s}\right]$	α $\times 10^{-5}$ $\left[\frac{m^2}{s}\right]$	Pr
0	1.29300	1.70900	0.23800	0.020800	3.6600	1.3200	1.8800	0.70200
1	1.28900	1.71384	0.23799	0.020864	3.6488	1.3292	1.8938	0.70186
2	1.28500	1.71868	0.23798	0.020928	3.6376	1.3384	1.9076	0.70172
3	1.28100	1.72352	0.23797	0.020992	3.6264	1.3476	1.9214	0.70158
4	1.27700	1.72836	0.23796	0.021056	3.6152	1.3568	1.9352	0.70144
5	1.27300	1.73320	0.23795	0.021120	3.6040	1.3660	1.9490	0.70130
6	1.26900	1.73804	0.23794	0.021184	3.5928	1.3752	1.9628	0.70116
7	1.26500	1.74288	0.23793	0.021248	3.5816	1.3844	1.9766	0.70102
8	1.26100	1.74772	0.23792	0.021312	3.5704	1.3936	1.9904	0.70088
9	1.25700	1.75256	0.23791	0.021376	3.5592	1.4028	2.0042	0.70074
10	1.25300	1.75740	0.23790	0.021440	3.5480	1.4120	2.0180	0.70060
11	1.24900	1.76224	0.23789	0.021504	3.5368	1.4212	2.0318	0.70046
12	1.24500	1.76708	0.23788	0.021568	3.5256	1.4304	2.0456	0.70032
13	1.24100	1.77192	0.23787	0.021632	3.5144	1.4396	2.0594	0.70018
14	1.23700	1.77676	0.23786	0.021696	3.5032	1.4488	2.0732	0.70004
15	1.23300	1.78160	0.23785	0.021760	3.4920	1.4580	2.0870	0.69990
16	1.22900	1.78644	0.23784	0.021824	3.4808	1.4672	2.1008	0.69976
17	1.22500	1.79128	0.23783	0.021888	3.4696	1.4764	2.1146	0.69962
18	1.22100	1.79612	0.23782	0.021952	3.4584	1.4856	2.1284	0.69948
19	1.21700	1.80096	0.23781	0.022016	3.4472	1.4948	2.1422	0.69934
20	1.21300	1.80580	0.23780	0.022080	3.4360	1.5040	2.1560	0.69920
21	1.20900	1.81064	0.23779	0.022144	3.4248	1.5132	2.1698	0.69906
22	1.20500	1.81548	0.23778	0.022208	3.4136	1.5224	2.1836	0.69892
23	1.20100	1.82032	0.23777	0.022272	3.4024	1.5316	2.1974	0.69878
24	1.19700	1.82516	0.23776	0.022336	3.3912	1.5408	2.2112	0.69864
25	1.19300	1.83000	0.23775	0.022400	3.3800	1.5500	2.2250	0.69850
26	1.18900	1.83484	0.23774	0.022464	3.3688	1.5592	2.2388	0.69836
27	1.18500	1.83968	0.23773	0.022528	3.3576	1.5684	2.2526	0.69822
28	1.18100	1.84452	0.23772	0.022592	3.3464	1.5776	2.2664	0.69808
29	1.17700	1.84936	0.23771	0.022656	3.3352	1.5868	2.2802	0.69794
30	1.17300	1.85420	0.23770	0.022720	3.3240	1.5960	2.2940	0.69780
31	1.16900	1.85904	0.23769	0.022784	3.3128	1.6052	2.3078	0.69766
32	1.16500	1.86388	0.23768	0.022848	3.3016	1.6144	2.3216	0.69752
33	1.16100	1.86872	0.23767	0.022912	3.2904	1.6236	2.3354	0.69738
34	1.15700	1.87356	0.23766	0.022976	3.2792	1.6328	2.3492	0.69724
35	1.15300	1.87840	0.23765	0.023040	3.2680	1.6420	2.3630	0.69710
36	1.14900	1.88324	0.23764	0.023104	3.2568	1.6512	2.3768	0.69696
37	1.14500	1.88808	0.23763	0.023168	3.2456	1.6604	2.3906	0.69682
38	1.14100	1.89292	0.23762	0.023232	3.2344	1.6696	2.4044	0.69668
39	1.13700	1.89776	0.23761	0.023296	3.2232	1.6788	2.4182	0.69654
40	1.13300	1.90260	0.23760	0.023360	3.2120	1.6880	2.4320	0.69640
41	1.12900	1.90744	0.23759	0.023424	3.2008	1.6972	2.4458	0.69626
42	1.12500	1.91228	0.23758	0.023488	3.1896	1.7064	2.4596	0.69612
43	1.12100	1.91712	0.23757	0.023552	3.1784	1.7156	2.4734	0.69598
44	1.11700	1.92196	0.23756	0.023616	3.1672	1.7248	2.4872	0.69584
45	1.11300	1.92680	0.23755	0.023680	3.1560	1.7340	2.5010	0.69570
46	1.10900	1.93164	0.23754	0.023744	3.1448	1.7432	2.5148	0.69556
47	1.10500	1.93648	0.23753	0.023808	3.1336	1.7524	2.5286	0.69542
48	1.10100	1.94132	0.23752	0.023872	3.1224	1.7616	2.5424	0.69528
49	1.09700	1.94616	0.23751	0.023936	3.1112	1.7708	2.5562	0.69514

T	ρ	μ $\times 10^{-5}$	C_p	k	β $\times 10^{-3}$	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
50	1.09300	1.95100	0.23750	0.024000	3.1000	1.7800	2.5700	0.69500
51	1.09006	1.95548	0.23749	0.024064	3.0916	1.7904	2.5860	0.69472
52	1.08712	1.95996	0.23748	0.024128	3.0832	1.8008	2.6020	0.69444
53	1.08418	1.96444	0.23747	0.024192	3.0748	1.8112	2.6180	0.69416
54	1.08124	1.96892	0.23746	0.024256	3.0664	1.8216	2.6340	0.69388
55	1.07830	1.97340	0.23745	0.024320	3.0580	1.8320	2.6500	0.69360
56	1.07536	1.97788	0.23744	0.024384	3.0496	1.8424	2.6660	0.69332
57	1.07242	1.98236	0.23743	0.024448	3.0412	1.8528	2.6820	0.69304
58	1.06948	1.98684	0.23742	0.024512	3.0328	1.8632	2.6980	0.69276
59	1.06654	1.99132	0.23741	0.024576	3.0244	1.8736	2.7140	0.69248
60	1.06360	1.99580	0.23740	0.024640	3.0160	1.8840	2.7300	0.69220
61	1.06066	2.00028	0.23739	0.024704	3.0076	1.8944	2.7460	0.69192
62	1.05772	2.00476	0.23738	0.024768	2.9992	1.9048	2.7620	0.69164
63	1.05478	2.00924	0.23737	0.024832	2.9908	1.9152	2.7780	0.69136
64	1.05184	2.01372	0.23736	0.024896	2.9824	1.9256	2.7940	0.69108
65	1.04890	2.01820	0.23735	0.024960	2.9740	1.9360	2.8100	0.69080
66	1.04596	2.02268	0.23734	0.025024	2.9656	1.9464	2.8260	0.69052
67	1.04302	2.02716	0.23733	0.025088	2.9572	1.9568	2.8420	0.69024
68	1.04008	2.03164	0.23732	0.025152	2.9488	1.9672	2.8580	0.68996
69	1.03714	2.03612	0.23731	0.025216	2.9404	1.9776	2.8740	0.68968
70	1.03420	2.04060	0.23730	0.025280	2.9320	1.9880	2.8900	0.68940
71	1.03126	2.04508	0.23729	0.025344	2.9236	1.9984	2.9060	0.68912
72	1.02832	2.04956	0.23728	0.025408	2.9152	2.0088	2.9220	0.68884
73	1.02538	2.05404	0.23727	0.025472	2.9068	2.0192	2.9380	0.68856
74	1.02244	2.05852	0.23726	0.025536	2.8984	2.0296	2.9540	0.68828
75	1.01950	2.06300	0.23725	0.025600	2.8900	2.0400	2.9700	0.68800
76	1.01656	2.06748	0.23724	0.025664	2.8816	2.0504	2.9860	0.68772
77	1.01362	2.07196	0.23723	0.025728	2.8732	2.0608	3.0020	0.68744
78	1.01068	2.07644	0.23722	0.025792	2.8648	2.0712	3.0180	0.68716
79	1.00774	2.08092	0.23721	0.025856	2.8564	2.0816	3.0340	0.68688
80	1.00480	2.08540	0.23720	0.025920	2.8480	2.0920	3.0500	0.68660
81	1.00186	2.08988	0.23719	0.025984	2.8396	2.1024	3.0660	0.68632
82	0.99892	2.09436	0.23718	0.026048	2.8312	2.1128	3.0820	0.68604
83	0.99598	2.09884	0.23717	0.026112	2.8228	2.1232	3.0980	0.68576
84	0.99304	2.10332	0.23716	0.026176	2.8144	2.1336	3.1140	0.68548
85	0.99010	2.10780	0.23715	0.026240	2.8060	2.1440	3.1300	0.68520
86	0.98716	2.11228	0.23714	0.026304	2.7976	2.1544	3.1460	0.68492
87	0.98422	2.11676	0.23713	0.026368	2.7892	2.1648	3.1620	0.68464
88	0.98128	2.12124	0.23712	0.026432	2.7808	2.1752	3.1780	0.68436
89	0.97834	2.12572	0.23711	0.026496	2.7724	2.1856	3.1940	0.68408
90	0.97540	2.13020	0.23710	0.026560	2.7640	2.1960	3.2100	0.68380
91	0.97246	2.13468	0.23709	0.026624	2.7556	2.2064	3.2260	0.68352
92	0.96952	2.13916	0.23708	0.026688	2.7472	2.2168	3.2420	0.68324
93	0.96658	2.14364	0.23707	0.026752	2.7388	2.2272	3.2580	0.68296
94	0.96364	2.14812	0.23706	0.026816	2.7304	2.2376	3.2740	0.68268
95	0.96070	2.15260	0.23705	0.026880	2.7220	2.2480	3.2900	0.68240
96	0.95776	2.15708	0.23704	0.026944	2.7136	2.2584	3.3060	0.68212
97	0.95482	2.16156	0.23703	0.027008	2.7052	2.2688	3.3220	0.68184
98	0.95188	2.16604	0.23702	0.027072	2.6968	2.2792	3.3380	0.68156
99	0.94894	2.17052	0.23701	0.027136	2.6884	2.2896	3.3540	0.68128
100	0.94600	2.17500	0.23700	0.027200	2.6800	2.3000	3.3700	0.68100
101	0.94376	2.17920	0.23699	0.027264	2.6736	2.3112	3.3882	0.68074

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$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
102	0.94152	2.18340	0.23698	0.027328	2.6672	2.3224	3.4064	0.68048
103	0.93928	2.18760	0.23697	0.027392	2.6608	2.3336	3.4246	0.68022
104	0.93704	2.19180	0.23696	0.027456	2.6544	2.3448	3.4428	0.67996
105	0.93480	2.19600	0.23695	0.027520	2.6480	2.3560	3.4610	0.67970
106	0.93256	2.20020	0.23694	0.027584	2.6416	2.3672	3.4792	0.67944
107	0.93032	2.20440	0.23693	0.027648	2.6352	2.3784	3.4974	0.67918
108	0.92808	2.20860	0.23692	0.027712	2.6288	2.3896	3.5156	0.67892
109	0.92584	2.21280	0.23691	0.027776	2.6224	2.4008	3.5338	0.67866
110	0.92360	2.21700	0.23690	0.027840	2.6160	2.4120	3.5520	0.67840
111	0.92136	2.22120	0.23689	0.027904	2.6096	2.4232	3.5702	0.67814
112	0.91912	2.22540	0.23688	0.027968	2.6032	2.4344	3.5884	0.67788
113	0.91688	2.22960	0.23687	0.028032	2.5968	2.4456	3.6066	0.67762
114	0.91464	2.23380	0.23686	0.028096	2.5904	2.4568	3.6248	0.67736
115	0.91240	2.23800	0.23685	0.028160	2.5840	2.4680	3.6430	0.67710
116	0.91016	2.24220	0.23684	0.028224	2.5776	2.4792	3.6612	0.67684
117	0.90792	2.24640	0.23683	0.028288	2.5712	2.4904	3.6794	0.67658
118	0.90568	2.25060	0.23682	0.028352	2.5648	2.5016	3.6976	0.67632
119	0.90344	2.25480	0.23681	0.028416	2.5584	2.5128	3.7158	0.67606
120	0.90120	2.25900	0.23680	0.028480	2.5520	2.5240	3.7340	0.67580
121	0.89896	2.26320	0.23679	0.028544	2.5456	2.5352	3.7522	0.67554
122	0.89672	2.26740	0.23678	0.028608	2.5392	2.5464	3.7704	0.67528
123	0.89448	2.27160	0.23677	0.028672	2.5328	2.5576	3.7886	0.67502
124	0.89224	2.27580	0.23676	0.028736	2.5264	2.5688	3.8068	0.67476
125	0.89000	2.28000	0.23675	0.028800	2.5200	2.5800	3.8250	0.67450
126	0.88776	2.28420	0.23674	0.028864	2.5136	2.5912	3.8432	0.67424
127	0.88552	2.28840	0.23673	0.028928	2.5072	2.6024	3.8614	0.67398
128	0.88328	2.29260	0.23672	0.028992	2.5008	2.6136	3.8796	0.67372
129	0.88104	2.29680	0.23671	0.029056	2.4944	2.6248	3.8978	0.67346
130	0.87880	2.30100	0.23670	0.029120	2.4880	2.6360	3.9160	0.67320
131	0.87656	2.30520	0.23669	0.029184	2.4816	2.6472	3.9342	0.67294
132	0.87432	2.30940	0.23668	0.029248	2.4752	2.6584	3.9524	0.67268
133	0.87208	2.31360	0.23667	0.029312	2.4688	2.6696	3.9706	0.67242
134	0.86984	2.31780	0.23666	0.029376	2.4624	2.6808	3.9888	0.67216
135	0.86760	2.32200	0.23665	0.029440	2.4560	2.6920	4.0070	0.67190
136	0.86536	2.32620	0.23664	0.029504	2.4496	2.7032	4.0252	0.67164
137	0.86312	2.33040	0.23663	0.029568	2.4432	2.7144	4.0434	0.67138
138	0.86088	2.33460	0.23662	0.029632	2.4368	2.7256	4.0616	0.67112
139	0.85864	2.33880	0.23661	0.029696	2.4304	2.7368	4.0798	0.67086
140	0.85640	2.34300	0.23660	0.029760	2.4240	2.7480	4.0980	0.67060
141	0.85416	2.34720	0.23659	0.029824	2.4176	2.7592	4.1162	0.67034
142	0.85192	2.35140	0.23658	0.029888	2.4112	2.7704	4.1344	0.67008
143	0.84968	2.35560	0.23657	0.029952	2.4048	2.7816	4.1526	0.66982
144	0.84744	2.35980	0.23656	0.030016	2.3984	2.7928	4.1708	0.66956
145	0.84520	2.36400	0.23655	0.030080	2.3920	2.8040	4.1890	0.66930
146	0.84296	2.36820	0.23654	0.030144	2.3856	2.8152	4.2072	0.66904
147	0.84072	2.37240	0.23653	0.030208	2.3792	2.8264	4.2254	0.66878
148	0.83848	2.37660	0.23652	0.030272	2.3728	2.8376	4.2436	0.66852
149	0.83624	2.38080	0.23651	0.030336	2.3664	2.8488	4.2618	0.66826
150	0.83400	2.38500	0.23650	0.030400	2.3600	2.8600	4.2800	0.66800
151	0.83224	2.38894	0.23649	0.030464	2.3550	2.8720	4.3004	0.66768
152	0.83048	2.39288	0.23648	0.030528	2.3500	2.8840	4.3208	0.66736
153	0.82872	2.39682	0.23647	0.030592	2.3450	2.8960	4.3412	0.66704

T	ρ	μ $\times 10^{-5}$	C_p	k	β $\times 10^{-3}$	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
154	0.82696	2.40076	0.23646	0.030656	2.3400	2.9080	4.3616	0.66672
155	0.82520	2.40470	0.23645	0.030720	2.3350	2.9200	4.3820	0.66640
156	0.82344	2.40864	0.23644	0.030784	2.3300	2.9320	4.4024	0.66608
157	0.82168	2.41258	0.23643	0.030848	2.3250	2.9440	4.4228	0.66576
158	0.81992	2.41652	0.23642	0.030912	2.3200	2.9560	4.4432	0.66544
159	0.81816	2.42046	0.23641	0.030976	2.3150	2.9680	4.4636	0.66512
160	0.81640	2.42440	0.23640	0.031040	2.3100	2.9800	4.4840	0.66480
161	0.81464	2.42834	0.23639	0.031104	2.3050	2.9920	4.5044	0.66448
162	0.81288	2.43228	0.23638	0.031168	2.3000	3.0040	4.5248	0.66416
163	0.81112	2.43622	0.23637	0.031232	2.2950	3.0160	4.5452	0.66384
164	0.80936	2.44016	0.23636	0.031296	2.2900	3.0280	4.5656	0.66352
165	0.80760	2.44410	0.23635	0.031360	2.2850	3.0400	4.5860	0.66320
166	0.80584	2.44804	0.23634	0.031424	2.2800	3.0520	4.6064	0.66288
167	0.80408	2.45198	0.23633	0.031488	2.2750	3.0640	4.6268	0.66256
168	0.80232	2.45592	0.23632	0.031552	2.2700	3.0760	4.6472	0.66224
169	0.80056	2.45986	0.23631	0.031616	2.2650	3.0880	4.6676	0.66192
170	0.79880	2.46380	0.23630	0.031680	2.2600	3.1000	4.6880	0.66160
171	0.79704	2.46774	0.23629	0.031744	2.2550	3.1120	4.7084	0.66128
172	0.79528	2.47168	0.23628	0.031808	2.2500	3.1240	4.7288	0.66096
173	0.79352	2.47562	0.23627	0.031872	2.2450	3.1360	4.7492	0.66064
174	0.79176	2.47956	0.23626	0.031936	2.2400	3.1480	4.7696	0.66032
175	0.79000	2.48350	0.23625	0.032000	2.2350	3.1600	4.7900	0.66000
176	0.78824	2.48744	0.23624	0.032064	2.2300	3.1720	4.8104	0.65968
177	0.78648	2.49138	0.23623	0.032128	2.2250	3.1840	4.8308	0.65936
178	0.78472	2.49532	0.23622	0.032192	2.2200	3.1960	4.8512	0.65904
179	0.78296	2.49926	0.23621	0.032256	2.2150	3.2080	4.8716	0.65872
180	0.78120	2.50320	0.23620	0.032320	2.2100	3.2200	4.8920	0.65840
181	0.77944	2.50714	0.23619	0.032384	2.2050	3.2320	4.9124	0.65808
182	0.77768	2.51108	0.23618	0.032448	2.2000	3.2440	4.9328	0.65776
183	0.77592	2.51502	0.23617	0.032512	2.1950	3.2560	4.9532	0.65744
184	0.77416	2.51896	0.23616	0.032576	2.1900	3.2680	4.9736	0.65712
185	0.77240	2.52290	0.23615	0.032640	2.1850	3.2800	4.9940	0.65680
186	0.77064	2.52684	0.23614	0.032704	2.1800	3.2920	5.0144	0.65648
187	0.76888	2.53078	0.23613	0.032768	2.1750	3.3040	5.0348	0.65616
188	0.76712	2.53472	0.23612	0.032832	2.1700	3.3160	5.0552	0.65584
189	0.76536	2.53866	0.23611	0.032896	2.1650	3.3280	5.0756	0.65552
190	0.76360	2.54260	0.23610	0.032960	2.1600	3.3400	5.0960	0.65520
191	0.76184	2.54654	0.23609	0.033024	2.1550	3.3520	5.1164	0.65488
192	0.76008	2.55048	0.23608	0.033088	2.1500	3.3640	5.1368	0.65456
193	0.75832	2.55442	0.23607	0.033152	2.1450	3.3760	5.1572	0.65424
194	0.75656	2.55836	0.23606	0.033216	2.1400	3.3880	5.1776	0.65392
195	0.75480	2.56230	0.23605	0.033280	2.1350	3.4000	5.1980	0.65360
196	0.75304	2.56624	0.23604	0.033344	2.1300	3.4120	5.2184	0.65328
197	0.75128	2.57018	0.23603	0.033408	2.1250	3.4240	5.2388	0.65296
198	0.74952	2.57412	0.23602	0.033472	2.1200	3.4360	5.2592	0.65264
199	0.74776	2.57806	0.23601	0.033536	2.1150	3.4480	5.2796	0.65232
200	0.74600	2.58200	0.23600	0.033600	2.1100	3.4600	5.3000	0.65200
201	0.74458	2.58576	0.23599	0.033660	2.1060	3.4728	5.3220	0.65176
202	0.74316	2.58952	0.23598	0.033720	2.1020	3.4856	5.3440	0.65152
203	0.74174	2.59328	0.23597	0.033780	2.0980	3.4984	5.3660	0.65128
204	0.74032	2.59704	0.23596	0.033840	2.0940	3.5112	5.3880	0.65104
205	0.73890	2.60080	0.23595	0.033900	2.0900	3.5240	5.4100	0.65080

T	ρ	μ $\times 10^{-5}$	C_p	k	β $\times 10^{-3}$	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
206	0.73748	2.60456	0.23594	0.033960	2.0860	3.5368	5.4320	0.65056
207	0.73606	2.60832	0.23593	0.034020	2.0820	3.5496	5.4540	0.65032
208	0.73464	2.61208	0.23592	0.034080	2.0780	3.5624	5.4760	0.65008
209	0.73322	2.61584	0.23591	0.034140	2.0740	3.5752	5.4980	0.64984
210	0.73180	2.61960	0.23590	0.034200	2.0700	3.5880	5.5200	0.64960
211	0.73038	2.62336	0.23589	0.034260	2.0660	3.6008	5.5420	0.64936
212	0.72896	2.62712	0.23588	0.034320	2.0620	3.6136	5.5640	0.64912
213	0.72754	2.63088	0.23587	0.034380	2.0580	3.6264	5.5860	0.64888
214	0.72612	2.63464	0.23586	0.034440	2.0540	3.6392	5.6080	0.64864
215	0.72470	2.63840	0.23585	0.034500	2.0500	3.6520	5.6300	0.64840
216	0.72328	2.64216	0.23584	0.034560	2.0460	3.6648	5.6520	0.64816
217	0.72186	2.64592	0.23583	0.034620	2.0420	3.6776	5.6740	0.64792
218	0.72044	2.64968	0.23582	0.034680	2.0380	3.6904	5.6960	0.64768
219	0.71902	2.65344	0.23581	0.034740	2.0340	3.7032	5.7180	0.64744
220	0.71760	2.65720	0.23580	0.034800	2.0300	3.7160	5.7400	0.64720
221	0.71618	2.66096	0.23579	0.034860	2.0260	3.7288	5.7620	0.64696
222	0.71476	2.66472	0.23578	0.034920	2.0220	3.7416	5.7840	0.64672
223	0.71334	2.66848	0.23577	0.034980	2.0180	3.7544	5.8060	0.64648
224	0.71192	2.67224	0.23576	0.035040	2.0140	3.7672	5.8280	0.64624
225	0.71050	2.67600	0.23575	0.035100	2.0100	3.7800	5.8500	0.64600
226	0.70908	2.67976	0.23574	0.035160	2.0060	3.7928	5.8720	0.64576
227	0.70766	2.68352	0.23573	0.035220	2.0020	3.8056	5.8940	0.64552
228	0.70624	2.68728	0.23572	0.035280	1.9980	3.8184	5.9160	0.64528
229	0.70482	2.69104	0.23571	0.035340	1.9940	3.8312	5.9380	0.64504
230	0.70340	2.69480	0.23570	0.035400	1.9900	3.8440	5.9600	0.64480
231	0.70198	2.69856	0.23569	0.035460	1.9860	3.8568	5.9820	0.64456
232	0.70056	2.70232	0.23568	0.035520	1.9820	3.8696	6.0040	0.64432
233	0.69914	2.70608	0.23567	0.035580	1.9780	3.8824	6.0260	0.64408
234	0.69772	2.70984	0.23566	0.035640	1.9740	3.8952	6.0480	0.64384
235	0.69630	2.71360	0.23565	0.035700	1.9700	3.9080	6.0700	0.64360
236	0.69488	2.71736	0.23564	0.035760	1.9660	3.9208	6.0920	0.64336
237	0.69346	2.72112	0.23563	0.035820	1.9620	3.9336	6.1140	0.64312
238	0.69204	2.72488	0.23562	0.035880	1.9580	3.9464	6.1360	0.64288
239	0.69062	2.72864	0.23561	0.035940	1.9540	3.9592	6.1580	0.64264
240	0.68920	2.73240	0.23560	0.036000	1.9500	3.9720	6.1800	0.64240
241	0.68778	2.73616	0.23559	0.036060	1.9460	3.9848	6.2020	0.64216
242	0.68636	2.73992	0.23558	0.036120	1.9420	3.9976	6.2240	0.64192
243	0.68494	2.74368	0.23557	0.036180	1.9380	4.0104	6.2460	0.64168
244	0.68352	2.74744	0.23556	0.036240	1.9340	4.0232	6.2680	0.64144
245	0.68210	2.75120	0.23555	0.036300	1.9300	4.0360	6.2900	0.64120
246	0.68068	2.75496	0.23554	0.036360	1.9260	4.0488	6.3120	0.64096
247	0.67926	2.75872	0.23553	0.036420	1.9220	4.0616	6.3340	0.64072
248	0.67784	2.76248	0.23552	0.036480	1.9180	4.0744	6.3560	0.64048
249	0.67642	2.76624	0.23551	0.036540	1.9140	4.0872	6.3780	0.64024
250	0.67500	2.77000	0.23550	0.036600	1.9100	4.1000	6.4000	0.64000
251	0.67382	2.77352	0.23549	0.036656	1.9066	4.1136	6.4234	0.63984
252	0.67264	2.77704	0.23548	0.036712	1.9032	4.1272	6.4468	0.63968
253	0.67146	2.78056	0.23547	0.036768	1.8998	4.1408	6.4702	0.63952
254	0.67028	2.78408	0.23546	0.036824	1.8964	4.1544	6.4936	0.63936
255	0.66910	2.78760	0.23545	0.036880	1.8930	4.1680	6.5170	0.63920
256	0.66792	2.79112	0.23544	0.036936	1.8896	4.1816	6.5404	0.63904
257	0.66674	2.79464	0.23543	0.036992	1.8862	4.1952	6.5638	0.63888

T	ρ	μ $\times 10^{-5}$	C_p	k	β $\times 10^{-3}$	ν $\times 10^{-5}$	a $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
258	0.66556	2.79816	0.23542	0.037048	1.8828	4.2088	6.5872	0.63872
259	0.66438	2.80168	0.23541	0.037104	1.8794	4.2224	6.6106	0.63856
260	0.66320	2.80520	0.23540	0.037160	1.8760	4.2360	6.6340	0.63840
261	0.66202	2.80872	0.23539	0.037216	1.8726	4.2496	6.6574	0.63824
262	0.66084	2.81224	0.23538	0.037272	1.8692	4.2632	6.6808	0.63808
263	0.65966	2.81576	0.23537	0.037328	1.8658	4.2768	6.7042	0.63792
264	0.65848	2.81928	0.23536	0.037384	1.8624	4.2904	6.7276	0.63776
265	0.65730	2.82280	0.23535	0.037440	1.8590	4.3040	6.7510	0.63760
266	0.65612	2.82632	0.23534	0.037496	1.8556	4.3176	6.7744	0.63744
267	0.65494	2.82984	0.23533	0.037552	1.8522	4.3312	6.7978	0.63728
268	0.65376	2.83336	0.23532	0.037608	1.8488	4.3448	6.8212	0.63712
269	0.65258	2.83688	0.23531	0.037664	1.8454	4.3584	6.8446	0.63696
270	0.65140	2.84040	0.23530	0.037720	1.8420	4.3720	6.8680	0.63680
271	0.65022	2.84392	0.23529	0.037776	1.8386	4.3856	6.8914	0.63664
272	0.64904	2.84744	0.23528	0.037832	1.8352	4.3992	6.9148	0.63648
273	0.64786	2.85096	0.23527	0.037888	1.8318	4.4128	6.9382	0.63632
274	0.64668	2.85448	0.23526	0.037944	1.8284	4.4264	6.9616	0.63616
275	0.64550	2.85800	0.23525	0.038000	1.8250	4.4400	6.9850	0.63600
276	0.64432	2.86152	0.23524	0.038056	1.8216	4.4536	7.0084	0.63584
277	0.64314	2.86504	0.23523	0.038112	1.8182	4.4672	7.0318	0.63568
278	0.64196	2.86856	0.23522	0.038168	1.8148	4.4808	7.0552	0.63552
279	0.64078	2.87208	0.23521	0.038224	1.8114	4.4944	7.0786	0.63536
280	0.63960	2.87560	0.23520	0.038280	1.8080	4.5080	7.1020	0.63520
281	0.63842	2.87912	0.23519	0.038336	1.8046	4.5216	7.1254	0.63504
282	0.63724	2.88264	0.23518	0.038392	1.8012	4.5352	7.1488	0.63488
283	0.63606	2.88616	0.23517	0.038448	1.7978	4.5488	7.1722	0.63472
284	0.63488	2.88968	0.23516	0.038504	1.7944	4.5624	7.1956	0.63456
285	0.63370	2.89320	0.23515	0.038560	1.7910	4.5760	7.2190	0.63440
286	0.63252	2.89672	0.23514	0.038616	1.7876	4.5896	7.2424	0.63424
287	0.63134	2.90024	0.23513	0.038672	1.7842	4.6032	7.2658	0.63408
288	0.63016	2.90376	0.23512	0.038728	1.7808	4.6168	7.2892	0.63392
289	0.62898	2.90728	0.23511	0.038784	1.7774	4.6304	7.3126	0.63376
290	0.62780	2.91080	0.23510	0.038840	1.7740	4.6440	7.3360	0.63360
291	0.62662	2.91432	0.23509	0.038896	1.7706	4.6576	7.3594	0.63344
292	0.62544	2.91784	0.23508	0.038952	1.7672	4.6712	7.3828	0.63328
293	0.62426	2.92136	0.23507	0.039008	1.7638	4.6848	7.4062	0.63312
294	0.62308	2.92488	0.23506	0.039064	1.7604	4.6984	7.4296	0.63296
295	0.62190	2.92840	0.23505	0.039120	1.7570	4.7120	7.4530	0.63280
296	0.62072	2.93192	0.23504	0.039176	1.7536	4.7256	7.4764	0.63264
297	0.61954	2.93544	0.23503	0.039232	1.7502	4.7392	7.4998	0.63248
298	0.61836	2.93896	0.23502	0.039288	1.7468	4.7528	7.5232	0.63232
299	0.61718	2.94248	0.23501	0.039344	1.7434	4.7664	7.5466	0.63216
300	0.61600	2.94600	0.23500	0.039400	1.7400	4.7800	7.5700	0.63200

TABLA A.5
Propiedades físicas del agua, a 1[atm]

T	ρ	μ $\times 10^{-3}$	C_p	k	β $\times 10^{-4}$	λ	ν $\times 10^{-6}$	α $\times 10^{-7}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m \cdot s}\right]$	$\left[\frac{kcal}{kg \cdot ^{\circ}C}\right]$	$\left[\frac{kcal}{m \cdot h \cdot ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{kcal}{kg}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
0	999.80	1.7940	1.00800	0.4910	0.000	596.40	1.7940	1.350	12.2000
1	999.79	1.7456	1.00740	0.4923	0.088	595.85	1.7456	1.355	11.9200
2	999.78	1.6972	1.00680	0.4936	0.176	595.30	1.6972	1.360	11.6400
3	999.77	1.6488	1.00620	0.4949	0.264	594.75	1.6488	1.365	11.3600
4	999.76	1.6004	1.00560	0.4962	0.352	594.20	1.6004	1.370	11.0800
5	999.75	1.5520	1.00500	0.4975	0.440	593.65	1.5520	1.375	10.8000
6	999.74	1.5036	1.00440	0.4988	0.528	593.10	1.5036	1.380	10.5200
7	999.73	1.4552	1.00380	0.5001	0.616	592.55	1.4552	1.385	10.2400
8	999.72	1.4068	1.00320	0.5014	0.704	592.00	1.4068	1.390	9.9600
9	999.71	1.3584	1.00260	0.5027	0.792	591.45	1.3584	1.395	9.6800
10	999.70	1.3100	1.00200	0.5040	0.880	590.90	1.3100	1.400	9.4000
11	999.55	1.2799	1.00175	0.5053	0.999	590.36	1.2801	1.404	9.1620
12	999.40	1.2498	1.00150	0.5066	1.118	589.82	1.2502	1.408	8.9240
13	999.25	1.2197	1.00125	0.5079	1.237	589.28	1.2203	1.412	8.6860
14	999.10	1.1896	1.00100	0.5092	1.356	588.74	1.1904	1.416	8.4480
15	998.95	1.1595	1.00075	0.5105	1.475	588.20	1.1605	1.420	8.2100
16	998.80	1.1294	1.00050	0.5118	1.594	587.66	1.1306	1.424	7.9720
17	998.65	1.0993	1.00025	0.5131	1.713	587.12	1.1007	1.428	7.7340
18	998.50	1.0692	1.00000	0.5144	1.832	586.58	1.0708	1.432	7.4960
19	998.35	1.0391	0.99975	0.5157	1.951	586.04	1.0409	1.436	7.2580
20	998.20	1.0090	0.99950	0.5170	2.070	585.50	1.0110	1.440	7.0200
21	997.95	0.9881	0.99941	0.5183	2.167	584.95	0.9902	1.444	6.8610
22	997.70	0.9672	0.99932	0.5196	2.264	584.40	0.9694	1.448	6.7020
23	997.45	0.9463	0.99923	0.5209	2.361	583.85	0.9486	1.452	6.5430
24	997.20	0.9254	0.99914	0.5222	2.458	583.30	0.9278	1.456	6.3840
25	996.95	0.9045	0.99905	0.5235	2.555	582.75	0.9070	1.460	6.2250
26	996.70	0.8836	0.99896	0.5248	2.652	582.20	0.8862	1.464	6.0660
27	996.45	0.8627	0.99887	0.5261	2.749	581.65	0.8654	1.468	5.9070
28	996.20	0.8418	0.99878	0.5274	2.846	581.10	0.8446	1.472	5.7480
29	995.95	0.8209	0.99869	0.5287	2.943	580.55	0.8238	1.476	5.5890
30	995.70	0.8000	0.99860	0.5300	3.040	580.00	0.8030	1.480	5.4300
31	995.35	0.7854	0.99861	0.5313	3.121	579.45	0.7886	1.484	5.3200
32	995.00	0.7708	0.99862	0.5326	3.202	578.90	0.7742	1.488	5.2100
33	994.65	0.7562	0.99863	0.5339	3.283	578.35	0.7598	1.492	5.1000
34	994.30	0.7416	0.99864	0.5352	3.364	577.80	0.7454	1.496	4.9900
35	993.95	0.7270	0.99865	0.5365	3.445	577.25	0.7310	1.500	4.8800
36	993.60	0.7124	0.99866	0.5378	3.526	576.70	0.7166	1.504	4.7700
37	993.25	0.6978	0.99867	0.5391	3.607	576.15	0.7022	1.508	4.6600
38	992.90	0.6832	0.99868	0.5404	3.688	575.60	0.6878	1.512	4.5500
39	992.55	0.6686	0.99869	0.5417	3.769	575.05	0.6734	1.516	4.4400
40	992.20	0.6540	0.99870	0.5430	3.850	574.50	0.6590	1.520	4.3300
41	991.79	0.6435	0.99865	0.5442	3.925	573.94	0.6487	1.524	4.2530
42	991.38	0.6330	0.99860	0.5454	4.000	573.38	0.6384	1.528	4.1760
43	990.97	0.6225	0.99855	0.5466	4.075	572.82	0.6281	1.532	4.0990
44	990.56	0.6120	0.99850	0.5478	4.150	572.26	0.6178	1.536	4.0220
45	990.15	0.6015	0.99845	0.5490	4.225	571.70	0.6075	1.540	3.9450
46	989.74	0.5910	0.99840	0.5502	4.300	571.14	0.5972	1.544	3.8680
47	989.33	0.5805	0.99835	0.5514	4.375	570.58	0.5869	1.548	3.7910
48	988.92	0.5700	0.99830	0.5526	4.450	570.02	0.5766	1.552	3.7140
49	988.51	0.5595	0.99825	0.5538	4.525	569.46	0.5663	1.556	3.6370

T	ρ	μ $\times 10^{-3}$	C_p	k	β $\times 10^{-4}$	λ	ν $\times 10^{-6}$	a $\times 10^{-7}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{kcal}{kg}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
50	988.10	0.5490	0.99820	0.5550	4.600	568.90	0.5560	1.560	3.5600
51	987.61	0.5411	0.99838	0.5562	4.661	568.33	0.5482	1.564	3.5020
52	987.12	0.5332	0.99856	0.5574	4.722	567.76	0.5404	1.568	3.4440
53	986.63	0.5253	0.99874	0.5586	4.783	567.19	0.5326	1.572	3.3860
54	986.14	0.5174	0.99892	0.5598	4.844	566.62	0.5248	1.576	3.3280
55	985.65	0.5095	0.99910	0.5610	4.905	566.05	0.5170	1.580	3.2700
56	985.16	0.5016	0.99928	0.5622	4.966	565.48	0.5092	1.584	3.2120
57	984.67	0.4937	0.99946	0.5634	5.027	564.91	0.5014	1.588	3.1540
58	984.18	0.4858	0.99964	0.5646	5.088	564.34	0.4936	1.592	3.0960
59	983.69	0.4779	0.99982	0.5658	5.149	563.77	0.4858	1.596	3.0380
60	983.20	0.4700	1.00000	0.5670	5.210	563.20	0.4780	1.600	2.9800
61	982.66	0.4637	1.00010	0.5683	5.275	562.61	0.4718	1.605	2.9350
62	982.12	0.4574	1.00020	0.5696	5.340	562.02	0.4656	1.610	2.8900
63	981.58	0.4511	1.00030	0.5709	5.405	561.43	0.4594	1.615	2.8450
64	981.04	0.4448	1.00040	0.5722	5.470	560.84	0.4532	1.620	2.8000
65	980.50	0.4385	1.00050	0.5735	5.535	560.25	0.4470	1.625	2.7550
66	979.96	0.4322	1.00060	0.5748	5.600	559.66	0.4408	1.630	2.7100
67	979.42	0.4259	1.00070	0.5761	5.665	559.07	0.4346	1.635	2.6650
68	978.88	0.4196	1.00080	0.5774	5.730	558.48	0.4284	1.640	2.6200
69	978.34	0.4133	1.00090	0.5787	5.795	557.89	0.4222	1.645	2.5750
70	977.80	0.4070	1.00100	0.5800	5.860	557.30	0.4160	1.650	2.5300
71	977.20	0.4020	1.00120	0.5812	5.915	556.70	0.4111	1.654	2.4950
72	976.60	0.3970	1.00140	0.5824	5.970	556.10	0.4062	1.658	2.4600
73	976.00	0.3920	1.00160	0.5836	6.025	555.50	0.4013	1.662	2.4250
74	975.40	0.3870	1.00180	0.5848	6.080	554.90	0.3964	1.666	2.3900
75	974.80	0.3820	1.00200	0.5860	6.135	554.30	0.3915	1.670	2.3550
76	974.20	0.3770	1.00220	0.5872	6.190	553.70	0.3866	1.674	2.3200
77	973.60	0.3720	1.00240	0.5884	6.245	553.10	0.3817	1.678	2.2850
78	973.00	0.3670	1.00260	0.5896	6.300	552.50	0.3768	1.682	2.2500
79	972.40	0.3620	1.00280	0.5908	6.355	551.90	0.3719	1.686	2.2150
80	971.80	0.3570	1.00300	0.5920	6.410	551.30	0.3670	1.690	2.1800
81	971.15	0.3530	1.00320	0.5932	6.469	550.70	0.3631	1.694	2.1520
82	970.50	0.3490	1.00340	0.5944	6.528	550.10	0.3592	1.698	2.1240
83	969.85	0.3450	1.00360	0.5956	6.587	549.50	0.3553	1.702	2.0960
84	969.20	0.3410	1.00380	0.5968	6.646	548.90	0.3514	1.706	2.0680
85	968.55	0.3370	1.00400	0.5980	6.705	548.30	0.3475	1.710	2.0400
86	967.90	0.3330	1.00420	0.5992	6.764	547.70	0.3436	1.714	2.0120
87	967.25	0.3290	1.00440	0.6004	6.823	547.10	0.3397	1.718	1.9840
88	966.60	0.3250	1.00460	0.6016	6.882	546.50	0.3358	1.722	1.9560
89	965.95	0.3210	1.00480	0.6028	6.941	545.90	0.3319	1.726	1.9280
90	965.30	0.3170	1.00500	0.6040	7.000	545.30	0.3280	1.730	1.9000
91	964.61	0.3137	1.00530	0.6052	7.048	544.67	0.3248	1.734	1.8770
92	963.92	0.3104	1.00560	0.6064	7.096	544.04	0.3216	1.738	1.8540
93	963.23	0.3071	1.00590	0.6076	7.144	543.41	0.3184	1.742	1.8310
94	962.54	0.3038	1.00620	0.6088	7.192	542.78	0.3152	1.746	1.8080
95	961.85	0.3005	1.00650	0.6100	7.240	542.15	0.3120	1.750	1.7850
96	961.16	0.2972	1.00680	0.6112	7.288	541.52	0.3088	1.754	1.7620
97	960.47	0.2939	1.00710	0.6124	7.336	540.89	0.3056	1.758	1.7390
98	959.78	0.2906	1.00740	0.6136	7.384	540.26	0.3024	1.762	1.7160
99	959.09	0.2873	1.00770	0.6148	7.432	539.63	0.2992	1.766	1.6930
100	958.40	0.2840	1.00800	0.6160	7.480	539.00	0.2960	1.770	1.6700
101	957.66	0.2812	1.00830	0.6172	7.522	538.36	0.2933	1.774	1.6510

T	ρ	μ $\times 10^{-3}$	C_p	k	β $\times 10^{-4}$	λ	ν $\times 10^{-6}$	a $\times 10^{-7}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{kcal}{kg}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
102	956.92	0.2784	1.00860	0.6184	7.564	537.72	0.2906	1.778	1.6320
103	956.18	0.2756	1.00890	0.6196	7.606	537.08	0.2879	1.782	1.6130
104	955.44	0.2728	1.00920	0.6208	7.648	536.44	0.2852	1.786	1.5940
105	954.70	0.2700	1.00950	0.6220	7.690	535.80	0.2825	1.790	1.5750
106	953.96	0.2672	1.00980	0.6232	7.732	535.16	0.2798	1.794	1.5560
107	953.22	0.2644	1.01010	0.6244	7.774	534.52	0.2771	1.798	1.5370
108	952.48	0.2616	1.01040	0.6256	7.816	533.88	0.2744	1.802	1.5180
109	951.74	0.2588	1.01070	0.6268	7.858	533.24	0.2717	1.806	1.4990
110	951.00	0.2560	1.01100	0.6280	7.900	532.60	0.2690	1.810	1.4800
111	950.24	0.2536	1.01130	0.6292	7.950	531.93	0.2667	1.815	1.4640
112	949.48	0.2512	1.01160	0.6304	8.000	531.26	0.2644	1.820	1.4480
113	948.72	0.2488	1.01190	0.6316	8.050	530.59	0.2621	1.825	1.4320
114	947.96	0.2464	1.01220	0.6328	8.100	529.92	0.2598	1.830	1.4160
115	947.20	0.2440	1.01250	0.6340	8.150	529.25	0.2575	1.835	1.4000
116	946.44	0.2416	1.01280	0.6352	8.200	528.58	0.2552	1.840	1.3840
117	945.68	0.2392	1.01310	0.6364	8.250	527.91	0.2529	1.845	1.3680
118	944.92	0.2368	1.01340	0.6376	8.300	527.24	0.2506	1.850	1.3520
119	944.16	0.2344	1.01370	0.6388	8.350	526.57	0.2483	1.855	1.3360
120	943.40	0.2320	1.01400	0.6400	8.400	525.90	0.2460	1.860	1.3200
121	942.58	0.2300	1.01430	0.6412	8.460	525.21	0.2441	1.864	1.3070
122	941.76	0.2280	1.01460	0.6424	8.520	524.52	0.2422	1.868	1.2940
123	940.94	0.2260	1.01490	0.6436	8.580	523.83	0.2403	1.872	1.2810
124	940.12	0.2240	1.01520	0.6448	8.640	523.14	0.2384	1.876	1.2680
125	939.30	0.2220	1.01550	0.6460	8.700	522.45	0.2365	1.880	1.2550
126	938.48	0.2200	1.01580	0.6472	8.760	521.76	0.2346	1.884	1.2420
127	937.66	0.2180	1.01610	0.6484	8.820	521.07	0.2327	1.888	1.2290
128	936.84	0.2160	1.01640	0.6496	8.880	520.38	0.2308	1.892	1.2160
129	936.02	0.2140	1.01670	0.6508	8.940	519.69	0.2289	1.896	1.2030
130	935.20	0.2120	1.01700	0.6520	9.000	519.00	0.2270	1.900	1.1900
131	934.32	0.2104	1.01730	0.6532	9.070	518.29	0.2255	1.905	1.1790
132	933.44	0.2088	1.01760	0.6544	9.140	517.58	0.2240	1.910	1.1680
133	932.56	0.2072	1.01790	0.6556	9.210	516.87	0.2225	1.915	1.1570
134	931.68	0.2056	1.01820	0.6568	9.280	516.16	0.2210	1.920	1.1460
135	930.80	0.2040	1.01850	0.6580	9.350	515.45	0.2195	1.925	1.1350
136	929.92	0.2024	1.01880	0.6592	9.420	514.74	0.2180	1.930	1.1240
137	929.04	0.2008	1.01910	0.6604	9.490	514.03	0.2165	1.935	1.1130
138	928.16	0.1992	1.01940	0.6616	9.560	513.32	0.2150	1.940	1.1020
139	927.28	0.1976	1.01970	0.6628	9.630	512.61	0.2135	1.945	1.0910
140	926.40	0.1960	1.02000	0.6640	9.700	511.90	0.2120	1.950	1.0800
141	925.49	0.1948	1.02040	0.6652	9.770	511.16	0.2109	1.955	1.0720
142	924.58	0.1936	1.02080	0.6664	9.840	510.42	0.2098	1.960	1.0640
143	923.67	0.1924	1.02120	0.6676	9.910	509.68	0.2087	1.965	1.0560
144	922.76	0.1912	1.02160	0.6688	9.980	508.94	0.2076	1.970	1.0480
145	921.85	0.1900	1.02200	0.6700	10.050	508.20	0.2065	1.975	1.0400
146	920.94	0.1888	1.02240	0.6712	10.120	507.46	0.2054	1.980	1.0320
147	920.03	0.1876	1.02280	0.6724	10.190	506.72	0.2043	1.985	1.0240
148	919.12	0.1864	1.02320	0.6736	10.260	505.98	0.2032	1.990	1.0160
149	918.21	0.1852	1.02360	0.6748	10.330	505.24	0.2021	1.995	1.0080
150	917.30	0.1840	1.02400	0.6760	10.400	504.50	0.2010	2.000	1.0000
151	916.32	0.1830	1.02430	0.6772	10.460	503.74	0.2001	2.005	0.9935
152	915.34	0.1820	1.02460	0.6784	10.520	502.98	0.1992	2.010	0.9870
153	914.36	0.1810	1.02490	0.6796	10.580	502.22	0.1983	2.015	0.9805

T	ρ	μ $\times 10^{-3}$	C_p	k	β $\times 10^{-4}$	λ	ν $\times 10^{-6}$	a $\times 10^{-7}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{1}{^{\circ}C}\right]$	$\left[\frac{kcal}{kg}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
154	913.38	0.1800	1.02520	0.6808	10.640	501.46	0.1974	2.020	0.9740
155	912.40	0.1790	1.02550	0.6820	10.700	500.70	0.1965	2.025	0.9675
156	911.42	0.1780	1.02580	0.6832	10.760	499.94	0.1956	2.030	0.9610
157	910.44	0.1770	1.02610	0.6844	10.820	499.18	0.1947	2.035	0.9545
158	909.46	0.1760	1.02640	0.6856	10.880	498.42	0.1938	2.040	0.9480
159	908.48	0.1750	1.02670	0.6868	10.940	497.66	0.1929	2.045	0.9415
160	907.50	0.1740	1.02700	0.6880	11.000	496.90	0.1920	2.050	0.9350

TABLA A.6
Propiedades físicas del vapor de agua, a 1[atm]

T [°C]	ρ $\left[\frac{kg}{m^3}\right]$	μ $\times 10^{-5}$ $\left[\frac{kg}{m\ s}\right]$	C_p $\left[\frac{kcal}{kg\ ^\circ C}\right]$	k $\left[\frac{kcal}{mh\ ^\circ C}\right]$	ν $\times 10^{-5}$ $\left[\frac{m^2}{s}\right]$	α $\times 10^{-5}$ $\left[\frac{m^2}{s}\right]$	Pr
100	0.58000	1.2800	0.5100	0.020800	2.2100	1.9600	1.12000
101	0.57873	1.2839	0.5095	0.020873	2.2247	1.9780	1.11858
102	0.57746	1.2878	0.5090	0.020946	2.2394	1.9960	1.11716
103	0.57619	1.2917	0.5085	0.021019	2.2541	2.0140	1.11574
104	0.57492	1.2956	0.5080	0.021092	2.2688	2.0320	1.11432
105	0.57365	1.2995	0.5075	0.021165	2.2835	2.0500	1.11290
106	0.57238	1.3034	0.5070	0.021238	2.2982	2.0680	1.11148
107	0.57111	1.3073	0.5065	0.021311	2.3129	2.0860	1.11006
108	0.56984	1.3112	0.5060	0.021384	2.3276	2.1040	1.10864
109	0.56857	1.3151	0.5055	0.021457	2.3423	2.1220	1.10722
110	0.56730	1.3190	0.5050	0.021530	2.3570	2.1400	1.10580
111	0.56603	1.3229	0.5045	0.021603	2.3717	2.1580	1.10438
112	0.56476	1.3268	0.5040	0.021676	2.3864	2.1760	1.10296
113	0.56349	1.3307	0.5035	0.021749	2.4011	2.1940	1.10154
114	0.56222	1.3346	0.5030	0.021822	2.4158	2.2120	1.10012
115	0.56095	1.3385	0.5025	0.021895	2.4305	2.2300	1.09870
116	0.55968	1.3424	0.5020	0.021968	2.4452	2.2480	1.09728
117	0.55841	1.3463	0.5015	0.022041	2.4599	2.2660	1.09586
118	0.55714	1.3502	0.5010	0.022114	2.4746	2.2840	1.09444
119	0.55587	1.3541	0.5005	0.022187	2.4893	2.3020	1.09302
120	0.55460	1.3580	0.5000	0.022260	2.5040	2.3200	1.09160
121	0.55333	1.3619	0.4995	0.022333	2.5187	2.3380	1.09018
122	0.55206	1.3658	0.4990	0.022406	2.5334	2.3560	1.08876
123	0.55079	1.3697	0.4985	0.022479	2.5481	2.3740	1.08734
124	0.54952	1.3736	0.4980	0.022552	2.5628	2.3920	1.08592
125	0.54825	1.3775	0.4975	0.022625	2.5775	2.4100	1.08450
126	0.54698	1.3814	0.4970	0.022698	2.5922	2.4280	1.08308
127	0.54571	1.3853	0.4965	0.022771	2.6069	2.4460	1.08166
128	0.54444	1.3892	0.4960	0.022844	2.6216	2.4640	1.08024
129	0.54317	1.3931	0.4955	0.022917	2.6363	2.4820	1.07882
130	0.54190	1.3970	0.4950	0.022990	2.6510	2.5000	1.07740
131	0.54063	1.4009	0.4945	0.023063	2.6657	2.5180	1.07598
132	0.53936	1.4048	0.4940	0.023136	2.6804	2.5360	1.07456
133	0.53809	1.4087	0.4935	0.023209	2.6951	2.5540	1.07314
134	0.53682	1.4126	0.4930	0.023282	2.7098	2.5720	1.07172
135	0.53555	1.4165	0.4925	0.023355	2.7245	2.5900	1.07030
136	0.53428	1.4204	0.4920	0.023428	2.7392	2.6080	1.06888
137	0.53301	1.4243	0.4915	0.023501	2.7539	2.6260	1.06746
138	0.53174	1.4282	0.4910	0.023574	2.7686	2.6440	1.06604
139	0.53047	1.4321	0.4905	0.023647	2.7833	2.6620	1.06462
140	0.52920	1.4360	0.4900	0.023720	2.7980	2.6800	1.06320
141	0.52793	1.4399	0.4895	0.023793	2.8127	2.6980	1.06178
142	0.52666	1.4438	0.4890	0.023866	2.8274	2.7160	1.06036
143	0.52539	1.4477	0.4885	0.023939	2.8421	2.7340	1.05894
144	0.52412	1.4516	0.4880	0.024012	2.8568	2.7520	1.05752
145	0.52285	1.4555	0.4875	0.024085	2.8715	2.7700	1.05610
146	0.52158	1.4594	0.4870	0.024158	2.8862	2.7880	1.05468
147	0.52031	1.4633	0.4865	0.024231	2.9009	2.8060	1.05326
148	0.51904	1.4672	0.4860	0.024304	2.9156	2.8240	1.05184
149	0.51777	1.4711	0.4855	0.024377	2.9303	2.8420	1.05042

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
150	0.51650	1.4750	0.4850	0.024450	2.9450	2.8600	1.04900
151	0.51523	1.4789	0.4845	0.024523	2.9597	2.8780	1.04758
152	0.51396	1.4828	0.4840	0.024596	2.9744	2.8960	1.04616
153	0.51269	1.4867	0.4835	0.024669	2.9891	2.9140	1.04474
154	0.51142	1.4906	0.4830	0.024742	3.0038	2.9320	1.04332
155	0.51015	1.4945	0.4825	0.024815	3.0185	2.9500	1.04190
156	0.50888	1.4984	0.4820	0.024888	3.0332	2.9680	1.04048
157	0.50761	1.5023	0.4815	0.024961	3.0479	2.9860	1.03906
158	0.50634	1.5062	0.4810	0.025034	3.0626	3.0040	1.03764
159	0.50507	1.5101	0.4805	0.025107	3.0773	3.0220	1.03622
160	0.50380	1.5140	0.4800	0.025180	3.0920	3.0400	1.03480
161	0.50253	1.5179	0.4795	0.025253	3.1067	3.0580	1.03338
162	0.50126	1.5218	0.4790	0.025326	3.1214	3.0760	1.03196
163	0.49999	1.5257	0.4785	0.025399	3.1361	3.0940	1.03054
164	0.49872	1.5296	0.4780	0.025472	3.1508	3.1120	1.02912
165	0.49745	1.5335	0.4775	0.025545	3.1655	3.1300	1.02770
166	0.49618	1.5374	0.4770	0.025618	3.1802	3.1480	1.02628
167	0.49491	1.5413	0.4765	0.025691	3.1949	3.1660	1.02486
168	0.49364	1.5452	0.4760	0.025764	3.2096	3.1840	1.02344
169	0.49237	1.5491	0.4755	0.025837	3.2243	3.2020	1.02202
170	0.49110	1.5530	0.4750	0.025910	3.2390	3.2200	1.02060
171	0.48983	1.5569	0.4745	0.025983	3.2537	3.2380	1.01918
172	0.48856	1.5608	0.4740	0.026056	3.2684	3.2560	1.01776
173	0.48729	1.5647	0.4735	0.026129	3.2831	3.2740	1.01634
174	0.48602	1.5686	0.4730	0.026202	3.2978	3.2920	1.01492
175	0.48475	1.5725	0.4725	0.026275	3.3125	3.3100	1.01350
176	0.48348	1.5764	0.4720	0.026348	3.3272	3.3280	1.01208
177	0.48221	1.5803	0.4715	0.026421	3.3419	3.3460	1.01066
178	0.48094	1.5842	0.4710	0.026494	3.3566	3.3640	1.00924
179	0.47967	1.5881	0.4705	0.026567	3.3713	3.3820	1.00782
180	0.47840	1.5920	0.4700	0.026640	3.3860	3.4000	1.00640
181	0.47713	1.5959	0.4695	0.026713	3.4007	3.4180	1.00498
182	0.47586	1.5998	0.4690	0.026786	3.4154	3.4360	1.00356
183	0.47459	1.6037	0.4685	0.026859	3.4301	3.4540	1.00214
184	0.47332	1.6076	0.4680	0.026932	3.4448	3.4720	1.00072
185	0.47205	1.6115	0.4675	0.027005	3.4595	3.4900	0.99930
186	0.47078	1.6154	0.4670	0.027078	3.4742	3.5080	0.99788
187	0.46951	1.6193	0.4665	0.027151	3.4889	3.5260	0.99646
188	0.46824	1.6232	0.4660	0.027224	3.5036	3.5440	0.99504
189	0.46697	1.6271	0.4655	0.027297	3.5183	3.5620	0.99362
190	0.46570	1.6310	0.4650	0.027370	3.5330	3.5800	0.99220
191	0.46443	1.6349	0.4645	0.027443	3.5477	3.5980	0.99078
192	0.46316	1.6388	0.4640	0.027516	3.5624	3.6160	0.98936
193	0.46189	1.6427	0.4635	0.027589	3.5771	3.6340	0.98794
194	0.46062	1.6466	0.4630	0.027662	3.5918	3.6520	0.98652
195	0.45935	1.6505	0.4625	0.027735	3.6065	3.6700	0.98510
196	0.45808	1.6544	0.4620	0.027808	3.6212	3.6880	0.98368
197	0.45681	1.6583	0.4615	0.027881	3.6359	3.7060	0.98226
198	0.45554	1.6622	0.4610	0.027954	3.6506	3.7240	0.98084
199	0.45427	1.6661	0.4605	0.028027	3.6653	3.7420	0.97942
200	0.45300	1.6700	0.4600	0.028100	3.6800	3.7600	0.97800
201	0.45220	1.6735	0.4602	0.028185	3.6973	3.7794	0.97770

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
202	0.45140	1.6770	0.4604	0.028270	3.7146	3.7988	0.97740
203	0.45060	1.6805	0.4606	0.028355	3.7319	3.8182	0.97710
204	0.44980	1.6840	0.4608	0.028440	3.7492	3.8376	0.97680
205	0.44900	1.6875	0.4610	0.028525	3.7665	3.8570	0.97650
206	0.44820	1.6910	0.4612	0.028610	3.7838	3.8764	0.97620
207	0.44740	1.6945	0.4614	0.028695	3.8011	3.8958	0.97590
208	0.44660	1.6980	0.4616	0.028780	3.8184	3.9152	0.97560
209	0.44580	1.7015	0.4618	0.028865	3.8357	3.9346	0.97530
210	0.44500	1.7050	0.4620	0.028950	3.8530	3.9540	0.97500
211	0.44420	1.7085	0.4622	0.029035	3.8703	3.9734	0.97470
212	0.44340	1.7120	0.4624	0.029120	3.8876	3.9928	0.97440
213	0.44260	1.7155	0.4626	0.029205	3.9049	4.0122	0.97410
214	0.44180	1.7190	0.4628	0.029290	3.9222	4.0316	0.97380
215	0.44100	1.7225	0.4630	0.029375	3.9395	4.0510	0.97350
216	0.44020	1.7260	0.4632	0.029460	3.9568	4.0704	0.97320
217	0.43940	1.7295	0.4634	0.029545	3.9741	4.0898	0.97290
218	0.43860	1.7330	0.4636	0.029630	3.9914	4.1092	0.97260
219	0.43780	1.7365	0.4638	0.029715	4.0087	4.1286	0.97230
220	0.43700	1.7400	0.4640	0.029800	4.0260	4.1480	0.97200
221	0.43620	1.7435	0.4642	0.029885	4.0433	4.1674	0.97170
222	0.43540	1.7470	0.4644	0.029970	4.0606	4.1868	0.97140
223	0.43460	1.7505	0.4646	0.030055	4.0779	4.2062	0.97110
224	0.43380	1.7540	0.4648	0.030140	4.0952	4.2256	0.97080
225	0.43300	1.7575	0.4650	0.030225	4.1125	4.2450	0.97050
226	0.43220	1.7610	0.4652	0.030310	4.1298	4.2644	0.97020
227	0.43140	1.7645	0.4654	0.030395	4.1471	4.2838	0.96990
228	0.43060	1.7680	0.4656	0.030480	4.1644	4.3032	0.96960
229	0.42980	1.7715	0.4658	0.030565	4.1817	4.3226	0.96930
230	0.42900	1.7750	0.4660	0.030650	4.1990	4.3420	0.96900
231	0.42820	1.7785	0.4662	0.030735	4.2163	4.3614	0.96870
232	0.42740	1.7820	0.4664	0.030820	4.2336	4.3808	0.96840
233	0.42660	1.7855	0.4666	0.030905	4.2509	4.4002	0.96810
234	0.42580	1.7890	0.4668	0.030990	4.2682	4.4196	0.96780
235	0.42500	1.7925	0.4670	0.031075	4.2855	4.4390	0.96750
236	0.42420	1.7960	0.4672	0.031160	4.3028	4.4584	0.96720
237	0.42340	1.7995	0.4674	0.031245	4.3201	4.4778	0.96690
238	0.42260	1.8030	0.4676	0.031330	4.3374	4.4972	0.96660
239	0.42180	1.8065	0.4678	0.031415	4.3547	4.5166	0.96630
240	0.42100	1.8100	0.4680	0.031500	4.3720	4.5360	0.96600
241	0.42020	1.8135	0.4682	0.031585	4.3893	4.5554	0.96570
242	0.41940	1.8170	0.4684	0.031670	4.4066	4.5748	0.96540
243	0.41860	1.8205	0.4686	0.031755	4.4239	4.5942	0.96510
244	0.41780	1.8240	0.4688	0.031840	4.4412	4.6136	0.96480
245	0.41700	1.8275	0.4690	0.031925	4.4585	4.6330	0.96450
246	0.41620	1.8310	0.4692	0.032010	4.4758	4.6524	0.96420
247	0.41540	1.8345	0.4694	0.032095	4.4931	4.6718	0.96390
248	0.41460	1.8380	0.4696	0.032180	4.5104	4.6912	0.96360
249	0.41380	1.8415	0.4698	0.032265	4.5277	4.7106	0.96330
250	0.41300	1.8450	0.4700	0.032350	4.5450	4.7300	0.96300
251	0.41220	1.8485	0.4702	0.032435	4.5623	4.7494	0.96270
252	0.41140	1.8520	0.4704	0.032520	4.5796	4.7688	0.96240
253	0.41060	1.8555	0.4706	0.032605	4.5969	4.7882	0.96210

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
254	0.40980	1.8590	0.4708	0.032690	4.6142	4.8076	0.96180
255	0.40900	1.8625	0.4710	0.032775	4.6315	4.8270	0.96150
256	0.40820	1.8660	0.4712	0.032860	4.6488	4.8464	0.96120
257	0.40740	1.8695	0.4714	0.032945	4.6661	4.8658	0.96090
258	0.40660	1.8730	0.4716	0.033030	4.6834	4.8852	0.96060
259	0.40580	1.8765	0.4718	0.033115	4.7007	4.9046	0.96030
260	0.40500	1.8800	0.4720	0.033200	4.7180	4.9240	0.96000
261	0.40420	1.8835	0.4722	0.033285	4.7353	4.9434	0.95970
262	0.40340	1.8870	0.4724	0.033370	4.7526	4.9628	0.95940
263	0.40260	1.8905	0.4726	0.033455	4.7699	4.9822	0.95910
264	0.40180	1.8940	0.4728	0.033540	4.7872	5.0016	0.95880
265	0.40100	1.8975	0.4730	0.033625	4.8045	5.0210	0.95850
266	0.40020	1.9010	0.4732	0.033710	4.8218	5.0404	0.95820
267	0.39940	1.9045	0.4734	0.033795	4.8391	5.0598	0.95790
268	0.39860	1.9080	0.4736	0.033880	4.8564	5.0792	0.95760
269	0.39780	1.9115	0.4738	0.033965	4.8737	5.0986	0.95730
270	0.39700	1.9150	0.4740	0.034050	4.8910	5.1180	0.95700
271	0.39620	1.9185	0.4742	0.034135	4.9083	5.1374	0.95670
272	0.39540	1.9220	0.4744	0.034220	4.9256	5.1568	0.95640
273	0.39460	1.9255	0.4746	0.034305	4.9429	5.1762	0.95610
274	0.39380	1.9290	0.4748	0.034390	4.9602	5.1956	0.95580
275	0.39300	1.9325	0.4750	0.034475	4.9775	5.2150	0.95550
276	0.39220	1.9360	0.4752	0.034560	4.9948	5.2344	0.95520
277	0.39140	1.9395	0.4754	0.034645	5.0121	5.2538	0.95490
278	0.39060	1.9430	0.4756	0.034730	5.0294	5.2732	0.95460
279	0.38980	1.9465	0.4758	0.034815	5.0467	5.2926	0.95430
280	0.38900	1.9500	0.4760	0.034900	5.0640	5.3120	0.95400
281	0.38820	1.9535	0.4762	0.034985	5.0813	5.3314	0.95370
282	0.38740	1.9570	0.4764	0.035070	5.0986	5.3508	0.95340
283	0.38660	1.9605	0.4766	0.035155	5.1159	5.3702	0.95310
284	0.38580	1.9640	0.4768	0.035240	5.1332	5.3896	0.95280
285	0.38500	1.9675	0.4770	0.035325	5.1505	5.4090	0.95250
286	0.38420	1.9710	0.4772	0.035410	5.1678	5.4284	0.95220
287	0.38340	1.9745	0.4774	0.035495	5.1851	5.4478	0.95190
288	0.38260	1.9780	0.4776	0.035580	5.2024	5.4672	0.95160
289	0.38180	1.9815	0.4778	0.035665	5.2197	5.4866	0.95130
290	0.38100	1.9850	0.4780	0.035750	5.2370	5.5060	0.95100
291	0.38020	1.9885	0.4782	0.035835	5.2543	5.5254	0.95070
292	0.37940	1.9920	0.4784	0.035920	5.2716	5.5448	0.95040
293	0.37860	1.9955	0.4786	0.036005	5.2889	5.5642	0.95010
294	0.37780	1.9990	0.4788	0.036090	5.3062	5.5836	0.94980
295	0.37700	2.0025	0.4790	0.036175	5.3235	5.6030	0.94950
296	0.37620	2.0060	0.4792	0.036260	5.3408	5.6224	0.94920
297	0.37540	2.0095	0.4794	0.036345	5.3581	5.6418	0.94890
298	0.37460	2.0130	0.4796	0.036430	5.3754	5.6612	0.94860
299	0.37380	2.0165	0.4798	0.036515	5.3927	5.6806	0.94830
300	0.37300	2.0200	0.4800	0.036600	5.4100	5.7000	0.94800
301	0.37244	2.0228	0.4801	0.036707	5.4283	5.7279	0.94728
302	0.37188	2.0256	0.4802	0.036814	5.4466	5.7558	0.94656
303	0.37132	2.0284	0.4803	0.036921	5.4649	5.7837	0.94584
304	0.37076	2.0312	0.4804	0.037028	5.4832	5.8116	0.94512
305	0.37020	2.0340	0.4805	0.037135	5.5015	5.8395	0.94440

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
306	0.36964	2.0368	0.4806	0.037242	5.5198	5.8674	0.94368
307	0.36908	2.0396	0.4807	0.037349	5.5381	5.8953	0.94296
308	0.36852	2.0424	0.4808	0.037456	5.5564	5.9232	0.94224
309	0.36796	2.0452	0.4809	0.037563	5.5747	5.9511	0.94152
310	0.36740	2.0480	0.4810	0.037670	5.5930	5.9790	0.94080
311	0.36684	2.0508	0.4811	0.037777	5.6113	6.0069	0.94008
312	0.36628	2.0536	0.4812	0.037884	5.6296	6.0348	0.93936
313	0.36572	2.0564	0.4813	0.037991	5.6479	6.0627	0.93864
314	0.36516	2.0592	0.4814	0.038098	5.6662	6.0906	0.93792
315	0.36460	2.0620	0.4815	0.038205	5.6845	6.1185	0.93720
316	0.36404	2.0648	0.4816	0.038312	5.7028	6.1464	0.93648
317	0.36348	2.0676	0.4817	0.038419	5.7211	6.1743	0.93576
318	0.36292	2.0704	0.4818	0.038526	5.7394	6.2022	0.93504
319	0.36236	2.0732	0.4819	0.038633	5.7577	6.2301	0.93432
320	0.36180	2.0760	0.4820	0.038740	5.7760	6.2580	0.93360
321	0.36124	2.0788	0.4821	0.038847	5.7943	6.2859	0.93288
322	0.36068	2.0816	0.4822	0.038954	5.8126	6.3138	0.93216
323	0.36012	2.0844	0.4823	0.039061	5.8309	6.3417	0.93144
324	0.35956	2.0872	0.4824	0.039168	5.8492	6.3696	0.93072
325	0.35900	2.0900	0.4825	0.039275	5.8675	6.3975	0.93000
326	0.35844	2.0928	0.4826	0.039382	5.8858	6.4254	0.92928
327	0.35788	2.0956	0.4827	0.039489	5.9041	6.4533	0.92856
328	0.35732	2.0984	0.4828	0.039596	5.9224	6.4812	0.92784
329	0.35676	2.1012	0.4829	0.039703	5.9407	6.5091	0.92712
330	0.35620	2.1040	0.4830	0.039810	5.9590	6.5370	0.92640
331	0.35564	2.1068	0.4831	0.039917	5.9773	6.5649	0.92568
332	0.35508	2.1096	0.4832	0.040024	5.9956	6.5928	0.92496
333	0.35452	2.1124	0.4833	0.040131	6.0139	6.6207	0.92424
334	0.35396	2.1152	0.4834	0.040238	6.0322	6.6486	0.92352
335	0.35340	2.1180	0.4835	0.040345	6.0505	6.6765	0.92280
336	0.35284	2.1208	0.4836	0.040452	6.0688	6.7044	0.92208
337	0.35228	2.1236	0.4837	0.040559	6.0871	6.7323	0.92136
338	0.35172	2.1264	0.4838	0.040666	6.1054	6.7602	0.92064
339	0.35116	2.1292	0.4839	0.040773	6.1237	6.7881	0.91992
340	0.35060	2.1320	0.4840	0.040880	6.1420	6.8160	0.91920
341	0.35004	2.1348	0.4841	0.040987	6.1603	6.8439	0.91848
342	0.34948	2.1376	0.4842	0.041094	6.1786	6.8718	0.91776
343	0.34892	2.1404	0.4843	0.041201	6.1969	6.8997	0.91704
344	0.34836	2.1432	0.4844	0.041308	6.2152	6.9276	0.91632
345	0.34780	2.1460	0.4845	0.041415	6.2335	6.9555	0.91560
346	0.34724	2.1488	0.4846	0.041522	6.2518	6.9834	0.91488
347	0.34668	2.1516	0.4847	0.041629	6.2701	7.0113	0.91416
348	0.34612	2.1544	0.4848	0.041736	6.2884	7.0392	0.91344
349	0.34556	2.1572	0.4849	0.041843	6.3067	7.0671	0.91272
350	0.34500	2.1600	0.4850	0.041950	6.3250	7.0950	0.91200
351	0.34444	2.1628	0.4851	0.042057	6.3433	7.1229	0.91128
352	0.34388	2.1656	0.4852	0.042164	6.3616	7.1508	0.91056
353	0.34332	2.1684	0.4853	0.042271	6.3799	7.1787	0.90984
354	0.34276	2.1712	0.4854	0.042378	6.3982	7.2066	0.90912
355	0.34220	2.1740	0.4855	0.042485	6.4165	7.2345	0.90840
356	0.34164	2.1768	0.4856	0.042592	6.4348	7.2624	0.90768
357	0.34108	2.1796	0.4857	0.042699	6.4531	7.2903	0.90696

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg^{\circ}C}\right]$	$\left[\frac{kcal}{mh^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
358	0.34052	2.1824	0.4858	0.042806	6.4714	7.3182	0.90624
359	0.33996	2.1852	0.4859	0.042913	6.4897	7.3461	0.90552
360	0.33940	2.1880	0.4860	0.043020	6.5080	7.3740	0.90480
361	0.33884	2.1908	0.4861	0.043127	6.5263	7.4019	0.90408
362	0.33828	2.1936	0.4862	0.043234	6.5446	7.4298	0.90336
363	0.33772	2.1964	0.4863	0.043341	6.5629	7.4577	0.90264
364	0.33716	2.1992	0.4864	0.043448	6.5812	7.4856	0.90192
365	0.33660	2.2020	0.4865	0.043555	6.5995	7.5135	0.90120
366	0.33604	2.2048	0.4866	0.043662	6.6178	7.5414	0.90048
367	0.33548	2.2076	0.4867	0.043769	6.6361	7.5693	0.89976
368	0.33492	2.2104	0.4868	0.043876	6.6544	7.5972	0.89904
369	0.33436	2.2132	0.4869	0.043983	6.6727	7.6251	0.89832
370	0.33380	2.2160	0.4870	0.044090	6.6910	7.6530	0.89760
371	0.33324	2.2188	0.4871	0.044197	6.7093	7.6809	0.89688
372	0.33268	2.2216	0.4872	0.044304	6.7276	7.7088	0.89616
373	0.33212	2.2244	0.4873	0.044411	6.7459	7.7367	0.89544
374	0.33156	2.2272	0.4874	0.044518	6.7642	7.7646	0.89472
375	0.33100	2.2300	0.4875	0.044625	6.7825	7.7925	0.89400
376	0.33044	2.2328	0.4876	0.044732	6.8008	7.8204	0.89328
377	0.32988	2.2356	0.4877	0.044839	6.8191	7.8483	0.89256
378	0.32932	2.2384	0.4878	0.044946	6.8374	7.8762	0.89184
379	0.32876	2.2412	0.4879	0.045053	6.8557	7.9041	0.89112
380	0.32820	2.2440	0.4880	0.045160	6.8740	7.9320	0.89040
381	0.32764	2.2468	0.4881	0.045267	6.8923	7.9599	0.88968
382	0.32708	2.2496	0.4882	0.045374	6.9106	7.9878	0.88896
383	0.32652	2.2524	0.4883	0.045481	6.9289	8.0157	0.88824
384	0.32596	2.2552	0.4884	0.045588	6.9472	8.0436	0.88752
385	0.32540	2.2580	0.4885	0.045695	6.9655	8.0715	0.88680
386	0.32484	2.2608	0.4886	0.045802	6.9838	8.0994	0.88608
387	0.32428	2.2636	0.4887	0.045909	7.0021	8.1273	0.88536
388	0.32372	2.2664	0.4888	0.046016	7.0204	8.1552	0.88464
389	0.32316	2.2692	0.4889	0.046123	7.0387	8.1831	0.88392
390	0.32260	2.2720	0.4890	0.046230	7.0570	8.2110	0.88320
391	0.32204	2.2748	0.4891	0.046337	7.0753	8.2389	0.88248
392	0.32148	2.2776	0.4892	0.046444	7.0936	8.2668	0.88176
393	0.32092	2.2804	0.4893	0.046551	7.1119	8.2947	0.88104
394	0.32036	2.2832	0.4894	0.046658	7.1302	8.3226	0.88032
395	0.31980	2.2860	0.4895	0.046765	7.1485	8.3505	0.87960
396	0.31924	2.2888	0.4896	0.046872	7.1668	8.3784	0.87888
397	0.31868	2.2916	0.4897	0.046979	7.1851	8.4063	0.87816
398	0.31812	2.2944	0.4898	0.047086	7.2034	8.4342	0.87744
399	0.31756	2.2972	0.4899	0.047193	7.2217	8.4621	0.87672
400	0.31700	2.3000	0.4900	0.047300	7.2400	8.4900	0.87600
401	0.31658	2.3038	0.4903	0.047473	7.2649	8.5305	0.87501
402	0.31616	2.3076	0.4906	0.047646	7.2898	8.5710	0.87402
403	0.31574	2.3114	0.4909	0.047819	7.3147	8.6115	0.87303
404	0.31532	2.3152	0.4912	0.047992	7.3396	8.6520	0.87204
405	0.31490	2.3190	0.4915	0.048165	7.3645	8.6925	0.87105
406	0.31448	2.3228	0.4918	0.048338	7.3894	8.7330	0.87006
407	0.31406	2.3266	0.4921	0.048511	7.4143	8.7735	0.86907
408	0.31364	2.3304	0.4924	0.048684	7.4392	8.8140	0.86808
409	0.31322	2.3342	0.4927	0.048857	7.4641	8.8545	0.86709

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg^{\circ}C}\right]$	$\left[\frac{kcal}{mh^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
410	0.31280	2.3380	0.4930	0.049030	7.4890	8.8950	0.86610
411	0.31238	2.3418	0.4933	0.049203	7.5139	8.9355	0.86511
412	0.31196	2.3456	0.4936	0.049376	7.5388	8.9760	0.86412
413	0.31154	2.3494	0.4939	0.049549	7.5637	9.0165	0.86313
414	0.31112	2.3532	0.4942	0.049722	7.5886	9.0570	0.86214
415	0.31070	2.3570	0.4945	0.049895	7.6135	9.0975	0.86115
416	0.31028	2.3608	0.4948	0.050068	7.6384	9.1380	0.86016
417	0.30986	2.3646	0.4951	0.050241	7.6633	9.1785	0.85917
418	0.30944	2.3684	0.4954	0.050414	7.6882	9.2190	0.85818
419	0.30902	2.3722	0.4957	0.050587	7.7131	9.2595	0.85719
420	0.30860	2.3760	0.4960	0.050760	7.7380	9.3000	0.85620
421	0.30818	2.3798	0.4963	0.050933	7.7629	9.3405	0.85521
422	0.30776	2.3836	0.4966	0.051106	7.7878	9.3810	0.85422
423	0.30734	2.3874	0.4969	0.051279	7.8127	9.4215	0.85323
424	0.30692	2.3912	0.4972	0.051452	7.8376	9.4620	0.85224
425	0.30650	2.3950	0.4975	0.051625	7.8625	9.5025	0.85125
426	0.30608	2.3988	0.4978	0.051798	7.8874	9.5430	0.85026
427	0.30566	2.4026	0.4981	0.051971	7.9123	9.5835	0.84927
428	0.30524	2.4064	0.4984	0.052144	7.9372	9.6240	0.84828
429	0.30482	2.4102	0.4987	0.052317	7.9621	9.6645	0.84729
430	0.30440	2.4140	0.4990	0.052490	7.9870	9.7050	0.84630
431	0.30398	2.4178	0.4993	0.052663	8.0119	9.7455	0.84531
432	0.30356	2.4216	0.4996	0.052836	8.0368	9.7860	0.84432
433	0.30314	2.4254	0.4999	0.053009	8.0617	9.8265	0.84333
434	0.30272	2.4292	0.5002	0.053182	8.0866	9.8670	0.84234
435	0.30230	2.4330	0.5005	0.053355	8.1115	9.9075	0.84135
436	0.30188	2.4368	0.5008	0.053528	8.1364	9.9480	0.84036
437	0.30146	2.4406	0.5011	0.053701	8.1613	9.9885	0.83937
438	0.30104	2.4444	0.5014	0.053874	8.1862	10.0290	0.83838
439	0.30062	2.4482	0.5017	0.054047	8.2111	10.0695	0.83739
440	0.30020	2.4520	0.5020	0.054220	8.2360	10.1100	0.83640
441	0.29978	2.4558	0.5023	0.054393	8.2609	10.1505	0.83541
442	0.29936	2.4596	0.5026	0.054566	8.2858	10.1910	0.83442
443	0.29894	2.4634	0.5029	0.054739	8.3107	10.2315	0.83343
444	0.29852	2.4672	0.5032	0.054912	8.3356	10.2720	0.83244
445	0.29810	2.4710	0.5035	0.055085	8.3605	10.3125	0.83145
446	0.29768	2.4748	0.5038	0.055258	8.3854	10.3530	0.83046
447	0.29726	2.4786	0.5041	0.055431	8.4103	10.3935	0.82947
448	0.29684	2.4824	0.5044	0.055604	8.4352	10.4340	0.82848
449	0.29642	2.4862	0.5047	0.055777	8.4601	10.4745	0.82749
450	0.29600	2.4900	0.5050	0.055950	8.4850	10.5150	0.82650
451	0.29558	2.4938	0.5053	0.056123	8.5099	10.5555	0.82551
452	0.29516	2.4976	0.5056	0.056296	8.5348	10.5960	0.82452
453	0.29474	2.5014	0.5059	0.056469	8.5597	10.6365	0.82353
454	0.29432	2.5052	0.5062	0.056642	8.5846	10.6770	0.82254
455	0.29390	2.5090	0.5065	0.056815	8.6095	10.7175	0.82155
456	0.29348	2.5128	0.5068	0.056988	8.6344	10.7580	0.82056
457	0.29306	2.5166	0.5071	0.057161	8.6593	10.7985	0.81957
458	0.29264	2.5204	0.5074	0.057334	8.6842	10.8390	0.81858
459	0.29222	2.5242	0.5077	0.057507	8.7091	10.8795	0.81759
460	0.29180	2.5280	0.5080	0.057680	8.7340	10.9200	0.81660
461	0.29138	2.5318	0.5083	0.057853	8.7589	10.9605	0.81561

T	ρ	μ $\times 10^{-5}$	C_p	k	ν $\times 10^{-5}$	α $\times 10^{-5}$	Pr
$[^{\circ}C]$	$\left[\frac{kg}{m^3}\right]$	$\left[\frac{kg}{m\ s}\right]$	$\left[\frac{kcal}{kg\ ^{\circ}C}\right]$	$\left[\frac{kcal}{mh\ ^{\circ}C}\right]$	$\left[\frac{m^2}{s}\right]$	$\left[\frac{m^2}{s}\right]$	
462	0.29096	2.5356	0.5086	0.058026	8.7838	11.0010	0.81462
463	0.29054	2.5394	0.5089	0.058199	8.8087	11.0415	0.81363
464	0.29012	2.5432	0.5092	0.058372	8.8336	11.0820	0.81264
465	0.28970	2.5470	0.5095	0.058545	8.8585	11.1225	0.81165
466	0.28928	2.5508	0.5098	0.058718	8.8834	11.1630	0.81066
467	0.28886	2.5546	0.5101	0.058891	8.9083	11.2035	0.80967
468	0.28844	2.5584	0.5104	0.059064	8.9332	11.2440	0.80868
469	0.28802	2.5622	0.5107	0.059237	8.9581	11.2845	0.80769
470	0.28760	2.5660	0.5110	0.059410	8.9830	11.3250	0.80670
471	0.28718	2.5698	0.5113	0.059583	9.0079	11.3655	0.80571
472	0.28676	2.5736	0.5116	0.059756	9.0328	11.4060	0.80472
473	0.28634	2.5774	0.5119	0.059929	9.0577	11.4465	0.80373
474	0.28592	2.5812	0.5122	0.060102	9.0826	11.4870	0.80274
475	0.28550	2.5850	0.5125	0.060275	9.1075	11.5275	0.80175
476	0.28508	2.5888	0.5128	0.060448	9.1324	11.5680	0.80076
477	0.28466	2.5926	0.5131	0.060621	9.1573	11.6085	0.79977
478	0.28424	2.5964	0.5134	0.060794	9.1822	11.6490	0.79878
479	0.28382	2.6002	0.5137	0.060967	9.2071	11.6895	0.79779
480	0.28340	2.6040	0.5140	0.061140	9.2320	11.7300	0.79680
481	0.28298	2.6078	0.5143	0.061313	9.2569	11.7705	0.79581
482	0.28256	2.6116	0.5146	0.061486	9.2818	11.8110	0.79482
483	0.28214	2.6154	0.5149	0.061659	9.3067	11.8515	0.79383
484	0.28172	2.6192	0.5152	0.061832	9.3316	11.8920	0.79284
485	0.28130	2.6230	0.5155	0.062005	9.3565	11.9325	0.79185
486	0.28088	2.6268	0.5158	0.062178	9.3814	11.9730	0.79086
487	0.28046	2.6306	0.5161	0.062351	9.4063	12.0135	0.78987
488	0.28004	2.6344	0.5164	0.062524	9.4312	12.0540	0.78888
489	0.27962	2.6382	0.5167	0.062697	9.4561	12.0945	0.78789
490	0.27920	2.6420	0.5170	0.062870	9.4810	12.1350	0.78690
491	0.27878	2.6458	0.5173	0.063043	9.5059	12.1755	0.78591
492	0.27836	2.6496	0.5176	0.063216	9.5308	12.2160	0.78492
493	0.27794	2.6534	0.5179	0.063389	9.5557	12.2565	0.78393
494	0.27752	2.6572	0.5182	0.063562	9.5806	12.2970	0.78294
495	0.27710	2.6610	0.5185	0.063735	9.6055	12.3375	0.78195
496	0.27668	2.6648	0.5188	0.063908	9.6304	12.3780	0.78096
497	0.27626	2.6686	0.5191	0.064081	9.6553	12.4185	0.77997
498	0.27584	2.6724	0.5194	0.064254	9.6802	12.4590	0.77898
499	0.27542	2.6762	0.5197	0.064427	9.7051	12.4995	0.77799
500	0.27500	2.6800	0.5200	0.064600	9.7300	12.5400	0.77700