

TABLE 2. THERMODYNAMIC PROPERTIES OF MOIST AIR* (STANDARD ATMOSPHERIC PRESSURE, 29.921 IN. HG)

FAHR. TEMP. (°F)	HUMIDITY RATIO $W_a \times 10^4$	VOLUME CU FT/LB DRY AIR			ENTHALPY BTU/LB DRY AIR			ENTROPY BTU PER (°F) (LB DRY AIR)			CONDENSED WATER			FAHR. TEMP. (°F)
		v_a	v_{as}	v_s	h_a	h_{as}	h_s	s_a	s_{as}	s_s	Enthalpy Btu/Lb h_w	Entropy Btu/(Lb) (°F) s_w	Vap. Press. In. Hg $p_s \times 10^4$	
-160	0.0002120	7.520	0.000	7.520	-38.504	0.000	-38.504	-0.10300	0.00000	-0.10300	-222.00	-0.4907	0.0001009	-160
-155	0.0003869	7.647	0.000	7.647	-37.296	0.000	-37.296	-0.09901	0.00000	-0.09901	-220.40	-0.4853	0.0001842	-155
-150	0.0006932	7.775	0.000	7.775	-36.088	0.000	-36.088	-0.09508	0.00000	-0.09508	-218.77	-0.4800	0.0003301	-150
-145	0.001219	7.902	0.000	7.902	-34.881	0.000	-34.881	-0.09121	0.00000	-0.09121	-217.12	-0.4747	0.0005807	-145
-140	0.002109	8.029	0.000	8.029	-33.674	0.000	-33.674	-0.08740	0.00000	-0.08740	-215.44	-0.4695	0.001004	-140
-135	0.003586	8.156	0.000	8.156	-32.468	0.000	-32.468	-0.08365	0.00000	-0.08365	-213.75	-0.4642	0.001707	-135
-130	0.006000	8.283	0.000	8.283	-31.262	0.000	-31.262	-0.07997	0.00000	-0.07997	-212.03	-0.4590	0.002858	-130
-125	0.009887	8.411	0.000	8.411	-30.057	0.000	-30.057	-0.07634	0.00000	-0.07634	-210.28	-0.4538	0.004710	-125
-120	0.01606	8.537	0.000	8.537	-28.852	0.000	-28.852	-0.07277	0.00000	-0.07277	-208.52	-0.4485	0.007653	-120
-115	0.02571	8.664	0.000	8.664	-27.648	0.000	-27.648	-0.06924	0.00000	-0.06924	-206.73	-0.4433	0.01226	-115
-110	0.04063	8.792	0.000	8.792	-26.444	0.000	-26.444	-0.06577	0.00000	-0.06577	-204.92	-0.4381	0.01939	-110
-105	0.06340	8.919	0.000	8.919	-25.240	0.001	-25.239	-0.06234	0.00000	-0.06234	-203.09	-0.4329	0.03026	-105
-100	0.09772	9.046	0.000	9.046	-24.037	0.001	-24.036	-0.05897	0.00000	-0.05897	-201.23	-0.4277	0.04666	-100
-95	0.1489	9.173	0.000	9.173	-22.835	0.002	-22.833	-0.05565	0.00000	-0.05565	-199.35	-0.4225	0.07111	-95
-90	0.2242	9.300	0.000	9.300	-21.631	0.002	-21.629	-0.05237	0.00001	-0.05236	-197.44	-0.4173	0.1071	-90
-85	0.3342	9.426	0.000	9.426	-20.428	0.003	-20.425	-0.04913	0.00001	-0.04912	-195.51	-0.4121	0.1597	-85
-80	0.4930	9.553	0.000	9.553	-19.225	0.005	-19.220	-0.04595	0.00001	-0.04594	-193.55	-0.4069	0.2356	-80
-75	0.7196	9.680	0.000	9.680	-18.022	0.007	-18.015	-0.04280	0.00002	-0.04278	-191.57	-0.4017	0.3441	-75
-70	1.040	9.806	0.000	9.806	-16.820	0.011	-16.809	-0.03969	0.00003	-0.03966	-189.56	-0.3965	0.4976	-70
-65	1.491	9.932	0.000	9.932	-15.617	0.015	-15.602	-0.03663	0.00005	-0.03658	-187.53	-0.3913	0.7130	-65
-60	2.118	10.059	0.000	10.059	-14.416	0.022	-14.394	-0.03360	0.00006	-0.03354	-185.47	-0.3861	1.0127	-60
-55	2.982	10.186	0.000	10.186	-13.214	0.031	-13.183	-0.03061	0.00009	-0.03052	-183.39	-0.3810	1.4258	-55
-50	4.163	10.313	0.001	10.314	-12.012	0.043	-11.969	-0.02766	0.00012	-0.02754	-181.29	-0.3758	1.9910	-50
-48	4.747	10.364	0.001	10.365	-11.532	0.049	-11.483	-0.02649	0.00013	-0.02636	-180.44	-0.3738	2.2702	-48
-46	5.408	10.414	0.001	10.415	-11.051	0.056	-10.995	-0.02532	0.00014	-0.02518	-179.59	-0.3717	2.5854	-46
-44	6.149	10.465	0.001	10.466	-10.571	0.064	-10.507	-0.02416	0.00016	-0.02400	-178.73	-0.3696	2.9408	-44
-42	6.985	10.516	0.001	10.517	-10.090	0.073	-10.017	-0.02301	0.00019	-0.02282	-177.87	-0.3675	3.3408	-42
-40	7.925	10.568	0.001	10.567	-9.609	0.083	-9.526	-0.02186	0.00021	-0.02165	-177.01	-0.3653	3.7906	-40
-38	8.980	10.617	0.002	10.619	-9.129	0.094	-9.035	-0.02072	0.00024	-0.02048	-176.14	-0.3634	4.2958	-38
-36	10.16	10.668	0.002	10.670	-8.648	0.106	-8.542	-0.01958	0.00026	-0.01932	-175.27	-0.3614	4.8626	-36
-34	11.49	10.718	0.002	10.720	-8.168	0.121	-8.047	-0.01845	0.00030	-0.01816	-174.40	-0.3593	5.4980	-34
-32	12.98	10.769	0.002	10.771	-7.687	0.136	-7.551	-0.01733	0.00034	-0.01699	-173.52	-0.3573	6.2093	-32

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TABLE 2. THERMODYNAMIC PROPERTIES OF MOIST AIR* (STANDARD ATMOSPHERIC PRESSURE, 29.921 IN. HG) (Continued)

FAHR. TEMP. (°F)	HUMIDITY RATIO $W_a \times 10^4$	VOLUME CU FT/LB DRY AIR			ENTHALPY BTU/LB DRY AIR			ENTROPY BTU PER (°F) (LB DRY AIR)			CONDENSED WATER			FAHR. TEMP. (°F)
		v_a	v_{as}	v_s	h_a	h_{as}	h_s	s_a	s_{as}	s_s	Enthalpy Btu/Lb h_w	Entropy Btu/(Lb) (°F) s_w	Vap. Press. In. Hg $p_s \times 10^4$	
-30	1.464	10.820	0.002	10.822	-7.207	0.154	-7.053	-0.01621	0.00038	-0.01683	-172.64	-0.3552	0.70046	-30
-28	1.640	10.870	0.003	10.873	-6.726	0.173	-6.553	-0.01509	0.00043	-0.01566	-171.75	-0.3531	0.78928	-28
-26	1.856	10.921	0.003	10.924	-6.246	0.198	-6.050	-0.01398	0.00048	-0.01450	-170.86	-0.3511	0.88638	-26
-24	2.087	10.972	0.004	10.976	-5.765	0.219	-5.546	-0.01287	0.00054	-0.01333	-169.97	-0.3490	0.99885	-24
-22	2.344	11.022	0.004	11.026	-5.285	0.246	-5.039	-0.01177	0.00061	-0.01216	-169.07	-0.3469	1.1219	-22
-20	2.630	11.073	0.005	11.078	-4.804	0.277	-4.527	-0.01067	0.00068	-0.01105	-168.17	-0.3449	1.2587	-20
-19	2.785	11.098	0.005	11.103	-4.564	0.293	-4.271	-0.01012	0.00072	-0.01040	-167.72	-0.3439	1.3327	-19
-18	2.948	11.124	0.005	11.129	-4.324	0.310	-4.014	-0.00958	0.00076	-0.00982	-167.26	-0.3428	1.4107	-18
-17	3.120	11.149	0.006	11.155	-4.083	0.328	-3.765	-0.00904	0.00080	-0.00924	-166.81	-0.3418	1.4929	-17
-16	3.301	11.174	0.006	11.180	-3.843	0.348	-3.495	-0.00850	0.00084	-0.00876	-166.35	-0.3408	1.5795	-16
-15	3.491	11.200	0.006	11.206	-3.603	0.368	-3.235	-0.00796	0.00089	-0.00820	-165.90	-0.3398	1.6706	-15
-14	3.692	11.225	0.007	11.232	-3.363	0.389	-2.974	-0.00743	0.00094	-0.00769	-165.44	-0.3387	1.7666	-14
-13	3.903	11.250	0.007	11.257	-3.123	0.412	-2.711	-0.00689	0.00099	-0.00709	-164.98	-0.3377	1.8677	-13
-12	4.125	11.276	0.008	11.283	-2.882	0.436	-2.446	-0.00636	0.00104	-0.00652	-164.52	-0.3367	1.9740	-12
-11	4.359	11.301	0.008	11.309	-2.642	0.461	-2.181	-0.00582	0.00109	-0.00604	-164.06	-0.3357	2.0859	-11
-10	4.606	11.326	0.008	11.334	-2.402	0.487	-1.915	-0.00529	0.00115	-0.00544	-163.60	-0.3346	2.2035	-10
-9	4.865	11.351	0.008	11.359	-2.162	0.514	-1.648	-0.00475	0.00121	-0.00491	-163.14	-0.3336	2.3272	-9
-8	5.137	11.376	0.009	11.385	-1.922	0.543	-1.379	-0.00422	0.00126	-0.00438	-162.67	-0.3326	2.4573	-8
-7	5.423	11.401	0.010	11.411	-1.681	0.574	-1.107	-0.00369	0.00135	-0.00384	-162.21	-0.3316	2.5940	-7
-6	5.724	11.427	0.010	11.437	-1.441	0.606	-0.835	-0.00316	0.00142	-0.00331	-161.74	-0.3305	2.7377	-6
-5	6.040	11.452	0.011	11.463	-1.201	0.639	-0.562	-0.00263	0.00149	-0.00278	-161.28	-0.3295	2.8886	-5
-4	6.371	11.477	0.012	11.489	-0.961	0.675	-0.289	-0.00210	0.00157	-0.00225	-160.81	-0.3285	3.0472	-4
-3	6.720	11.502	0.013	11.515	-0.721	0.712	-0.009	-0.00157	0.00165	-0.00172	-160.34	-0.3275	3.2137	-3
-2	7.085	11.528	0.013	11.541	-0.480	0.751	0.271	-0.00105	0.00174	-0.00119	-159.87	-0.3264	3.3885	-2
-1	7.469	11.553	0.014	11.567	-0.240	0.792	0.552	-0.00052	0.00183	-0.00067	-159.40	-0.3254	3.5720	-1
0	7.872	11.578	0.015	11.593	0.000	0.835	0.835	0.00000	0.00192	-0.00012	-158.93	-0.3244	3.7645	0
1	8.295	11.604	0.015	11.619	0.240	0.880	1.120	0.00052	0.00202	0.00042	-158.46	-0.3234	3.9666	1
2	8.739	11.629	0.016	11.645	0.480	0.928	1.408	0.00104	0.00212	0.00093	-157.99	-0.3223	4.1785	2
3	9.204	11.654	0.017	11.671	0.721	0.977	1.698	0.00156	0.00223	0.00137	-157.52	-0.3213	4.4007	3
4	9.692	11.679	0.018	11.697	0.961	1.030	1.991	0.00208	0.00234	0.00188	-157.04	-0.3203	4.6337	4
5	10.20	11.705	0.019	11.724	1.201	1.085	2.286	0.00260	0.00246	0.00240	-156.57	-0.3193	4.8779	5
6	10.74	11.730	0.020	11.750	1.441	1.142	2.583	0.00312	0.00258	0.00297	-156.09	-0.3182	5.1339	6

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