

Table A: Properties of Air as an Ideal Gas

T (K)	h (kJ/kg)	u (kJ/kg)	s ^o (kJ/kg-K)	p _r	v _r	T (K)	h (kJ/kg)	u (kJ/kg)	s ^o (kJ/kg-K)	p _r	v _r
200	199.97	142.56	1.29559	0.3363	1707	750	767.29	551.99	2.64739	37.35	57.63
210	209.97	149.69	1.34444	0.3987	1512	760	778.18	560.01	2.66176	39.27	55.54
220	219.97	156.82	1.39105	0.469	1346	770	789.11	568.07	2.67598	41.31	53.39
230	230.02	164	1.43557	0.5477	1205	780	800.03	576.12	2.69013	43.35	51.64
240	240.02	171.13	1.47824	0.6355	1084	790	810.99	584.21	2.704	45.55	49.86
250	250.05	178.28	1.51917	0.7329	979	800	821.95	592.3	2.71787	47.75	48.08
260	260.09	185.45	1.55848	0.8405	887.8	820	843.98	608.59	2.74504	52.59	44.84
270	270.11	192.6	1.59634	0.959	808	840	866.08	624.95	2.7717	57.6	41.85
280	280.13	199.75	1.63279	1.0889	738	860	888.27	641.4	2.79783	63.09	39.12
285	285.14	203.33	1.65055	1.1584	706.1	880	910.56	657.95	2.82344	68.98	36.61
290	290.16	206.91	1.66802	1.2311	676.1	900	932.93	674.58	2.84856	75.29	34.31
295	295.17	210.49	1.68515	1.3068	647.9	920	955.38	691.28	2.87324	82.05	32.18
300	300.19	214.07	1.70203	1.386	621.2	940	977.92	708.08	2.89748	89.28	30.22
305	305.22	217.67	1.71865	1.4686	596	960	1000.55	725.02	2.921128	97	28.4
310	310.24	221.25	1.73498	1.5546	572.3	980	1023.25	741.98	2.94468	105.2	26.73
315	315.27	224.85	1.75106	1.6442	549.8	1000	1046.04	758.94	2.9677	114	25.17
320	320.29	228.42	1.7669	1.7375	528.6	1020	1068.89	776.1	2.99034	123.4	23.72
325	325.31	232.02	1.78249	1.8345	508.4	1040	1091.85	793.36	3.0126	133.3	22.39
330	330.34	235.61	1.79783	1.9352	489.4	1060	1114.86	810.62	3.03449	143.9	21.14
340	340.42	242.82	1.8279	2.149	454.1	1080	1137.89	827.88	3.05608	155.2	19.98
350	350.49	250.02	1.85708	2.379	422.2	1100	1161.07	845.33	3.07732	167.1	18.896
360	360.58	257.24	1.88543	2.626	393.4	1120	1184.28	862.79	3.09825	179.7	17.886
370	370.67	264.46	1.91313	2.892	367.2	1140	1207.57	880.35	3.11883	193.1	16.946
380	380.77	271.69	1.94001	3.176	343.4	1160	1230.92	897.91	3.13916	207.2	16.064
390	390.88	278.93	1.96633	3.481	321.5	1180	1254.34	915.57	3.15916	222.2	15.241
400	400.98	286.16	1.99194	3.806	301.6	1200	1277.79	933.33	3.17888	238	14.47
410	411.12	293.43	2.01699	4.153	283.3	1220	1301.31	951.09	3.19834	254.7	13.747
420	421.26	300.69	2.04142	4.522	266.6	1240	1324.93	968.95	3.21751	272.3	13.069
430	431.43	307.99	2.06533	4.915	251.1	1260	1348.55	986.9	3.23638	290.8	12.435
440	441.61	315.3	2.0887	5.332	236.8	1280	1372.24	1004.76	3.2551	310.4	11.835
450	451.8	322.62	2.11161	5.775	223.6	1300	1395.97	1022.82	3.27345	330.9	11.275
460	462.02	329.97	2.13407	6.245	211.4	1320	1419.76	1040.88	3.2916	352.5	10.747
470	472.24	337.32	2.15604	6.742	200.1	1340	1443.6	1058.94	3.30959	375.3	10.247
480	482.49	344.70	2.1776	7.268	189.5	1360	1467.49	1077.1	3.32924	399.1	9.78
490	492.74	352.08	2.19876	7.824	179.7	1380	1491.44	1095.26	3.34474	424.2	9.337
500	503.02	359.49	2.21952	8.411	170.6	1400	1515.42	1113.52	3.362	450.5	8.919
510	513.32	366.92	2.23993	9.031	162.1	1420	1539.44	1131.77	3.37901	478	8.526
520	523.63	374.36	2.25997	9.684	154.1	1440	1563.51	1150.13	3.39586	506.9	8.153
530	533.98	381.84	2.27967	10.37	146.7	1460	1587.63	1168.49	3.41247	537.1	7.801
540	544.35	389.34	2.29906	11.1	139.7	1480	1611.79	1186.95	3.42892	568.8	7.468
550	554.74	396.86	2.31809	11.86	133.1	1500	1635.97	1205.41	3.44516	601.9	7.152
560	565.17	404.42	2.33685	12.66	127	1520	1660.23	1223.87	3.4612	636.5	6.854
570	575.59	411.97	2.35531	13.5	121.2	1540	1684.51	1242.43	3.47712	672.8	6.569
580	586.04	419.55	2.37348	14.38	115.7	1560	1708.82	1260.99	3.45276	710.5	6.301
590	596.52	427.15	2.3914	15.31	110.6	1580	1733.17	1279.65	3.50829	750	6.046
600	607.02	434.78	2.40902	16.28	105.8	1600	1757.57	1298.3	3.52364	791.2	5.804
610	617.53	442.42	2.42644	17.3	101.2	1620	1782	1316.96	3.53879	834.1	5.574
620	628.07	450.09	2.44356	18.36	96.92	1640	1806.46	1335.72	3.55381	878.9	5.355
630	638.63	457.78	2.46048	19.84	92.84	1660	1830.96	1354.48	3.56867	925.6	5.147
640	649.22	465.5	2.47716	20.64	88.99	1680	1855.5	1373.24	3.58335	974.2	4.949
650	659.84	473.25	2.49364	1186	85.34	1700	1880.1	1392.7	35979	1025	4.761
660	670.47	481.01	2.50985	23.13	81.89	1750	1941.6	1439.8	3.6336	1161	4.328
670	681.14	488.81	2.52589	24.46	78.61	1800	2003.3	1487.2	3.6684	1310	3.944
680	691.82	496.62	2.54175	25.85	75.5	1850	2065.3	15349	3.7023	1475	3.601
690	702.52	504.45	2.55731	27.29	72.56	1900	2127.4	1582.6	3.7364	1655	3.295
700	713.27	512.33	2.57277	28.8	69.76	1950	2189.7	1630.6	3.7677	1852	3.022
710	724.04	520.23	2.5881	30.38	67.07	2000	2252.1	1678.7	3.7994	2068	2.776
720	734.82	528.14	2.60319	32.02	64.53	2050	2314.6	1726.8	3.8303	2303	2.555
730	745.62	536.07	2.61803	33.72	62.13	2100	2377.4	1775.3	3.8605	2559	2.356
740	756.44	544.02	2.6328	35.5	59.82	2150	2440.3	1823.8	3.8901	2837	2.175
						2200	2503.2	1872.4	3.9191	3138	2.012
						2250	2566.4	1921.3	3.9474	3464	1.864