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CHARACTERISTICS OF THE STANDARD ATMOSPHERE (ENGLISH UNITS)

Altitude, ft	Temperature T, °R	Pressure p lb/ft²	Density ρ, lb s²/ft⁴	Speed of sound, ft/s	Kinematic viscosity, ft²/s
0	518.69	2116.2	2.3769^{-3}	1116.4	1.5723^{-4}
1,000	515.12	2040.9	2.3081	1112.6	1.6105
2,000	511.56	1967.7	2.2409	1108.7	1.6499
3,000	507.99	1896.7	2.1752	1104.9	1.6905
4,000	504.43	1827.7	2.1110	1101.0	1.7324
5,000	500.86	1760.9	2.0482	1097.1	1.7755
6,000	497.30	1696.0	1.9869^{-3}	1093.2	1.8201^{-4}
7,000	493.73	1633.1	1.9270^{-}	1089.3	1.8661
8,000	490.17	1572.1	1.8685	1085.3	1.9136
9,000	486.61	1512.9	1.8113	1081.4	1.9626
10,000	483.04	1455.6	1.7556	1077.4	2.0132
11,000	479.48	1400.0	1.7011^{-3}	1073.4	2.0655^{-4}
12,000	475.92	1346.2	1.6480	1069.4	2.1196
13,000	472.36	1294.1	1.5961	1065.4	2.1754
14,000	468.80	1243.6	1.5455	1061.4	2.2331
15,000	465.23	1194.8	1.4962	1057.4	2.2927
16,000	461.67	1147.5	1.4480^{-3}	1053.3	2.3541^{-4}
17,000	458.11	1101.7	1.4011	1049.2	2.4183
18,000	454.55	1057.5	1.3553	1045.1	2.4843
19,000	450.99	1014.7	1.3107	1041.0	2.5526
20,000	447.43	973.27	1.2673	1036.9	2.6234
21,000	443.87	933.26	1.2249^{-3}	1032.8	2.6966^{-4}
22,000	440.32	894.59	1.1836	1028.6	2.7724
23,000	436.76	857.24	1.1435	1024.5	2.8510
24,000	433.20	821.16	1.1043	1020.3	2.9324
25,000	429.64	786.33	1.0663	1016.1	3.0168
26,000	426.08	752.71	1.0292^{-3}	1011.9	3.1044^{-4}
27,000	422.53	720.26	9.9311^{-4}	1007.7	3.1951
28,000	418.97	688.96	9.5801	1003.4	3.2893
29,000	415.41	658.77	9.2387	999.13	3.3870
30,000	411.86	629.66	8.9068	994.85	3.4884
31,000	408.30	601.61	8.5841^{-4}	990.54	3.5937^{-4}
32,000	404.75	574.58	8.2704	986.22	3.7030
33,000	401.19	548.54	7.9656	981.88	3.8167
34,000	397.64	523.47	7.6696	977.52	3.9348
35,000	394.08	499.34	7.3820	973.14	4.0575
36,000	390.53	476.12	7.1028^{-4}	968.75	4.1852^{-4}
37,000	389.99	453.86	6.7800	968.08	4.3794
38,000	389.99	432.63	6.4629	968.08	4.5942
39,000	389.99	412.41	6.1608	968.08	4.8196
40,000	389.99	393.12	5.8727	968.08	5.0560
41,000	389.99	374.75	5.5982^{-4}	968.08	5.3039^{-4}
42,000	389.99	357.23	5.3365	968.08	5.5640
43,000	389.99	340.53	5.0871	968.08	5.8368
44,000	389.99	324.62	4.8493	968.08	6.1230
45,000	389.99	309.45	4.6227	968.08	6.4231
46,000	389.99	294.99	4.4067^{-4}	968.08	6.7380^{-4}
47,000	389.99	281.20	4.2008	968.08	7.0682
48,000	389.99	268.07	4.0045	968.08	7.4146
49,000	389.99	255.54	3.8175	968.08	7.7780
50,000	389.99	243.61	3.6391	968.08	8.1591
51,000	389.99	232.23	3.4692^{-4}	968.08	8.5588^{-4}
52,000	389.99	221.38	3.3072	968.08	8.9781
53,000	389.99	211.05	3.1527	968.08	9.4179
54,000	389.99	201.19	3.0055	968.08	9.8792
55,000	389.99	191.80	2.8652	968.08	1.0363^{-3}
56,000	389.99	182.84	2.7314^{-4}	968.08	1.0871^{-3}
57,000	389.99	174.31	2.6039	968.08	1.1403
58,000	389.99	166.17	2.4824	968.08	1.1961
59,000	389.99	158.42	2.3665	968.08	1.2547
60,000	389.99	151.03	2.2561	968.08	1.3161
61,000	389.99	143.98	2.1508^{-4}	968.08	1.3805^{-3}
62,000	389.99	137.26	2.0505	968.08	1.4481
63,000	389.99	130.86	1.9548	968.08	1.5189
64,000	389.99	124.75	1.8336	968.08	1.5932
65,000	389.99	118.93	1.7767	968.08	1.6712
66,000	389.99	113.39	1.6938^{-4}	968.08	1.7530^{-3}
67,000	389.99	108.10	1.6148	968.08	1.8387
68,000	389.99	102.06	1.5395	968.08	1.9236
69,000	389.99	98.253	1.4678	968.08	2.0230
70,000	389.99	93.672	1.3993	968.08	2.1219
71,000	389.99	89.305	1.3341^{-4}	968.08	2.2257^{-3}
72,000	389.99	85.142	1.2719	968.08	2.3345
73,000	389.99	81.174	1.2126	968.08	2.4486
74,000	389.99	77.390	1.1561	968.08	2.5653
75,000	389.99	73.784	1.1022	968.08	2.6938

Sistema Internazionale (SI)

Pressione	p	$\frac{\mathrm{N}}{\mathrm{m}^2}$
Densità	ρ	$\frac{\mathrm{kg}}{\mathrm{m}^3}$
Temperatura	T	K
Costante dei gas	$\mathcal{R}$	$287.05\,\frac{\mathrm{J}}{\mathrm{kg\,K}}$
Acc. di gravità standard	g	$9.8067\,\frac{\mathrm{m}}{\mathrm{s}^2}$

Sistema Tecnico Inglese

Pressione	p	$\frac{\mathrm{lb}}{\mathrm{ft}^2}$
Densità	ρ	$\frac{\mathrm{slug}}{\mathrm{ft}^3}$
Temperatura	T	°R
Costante dei gas	$\mathcal{R}$	$1718\,\frac{\mathrm{lb\,ft}}{\mathrm{slug\,°R}}$
Acc. di gravità standard	g	$32.17\,\frac{\mathrm{ft}}{\mathrm{s}^2}$

NEWTON = $\frac{Kg\,m}{s^2}$; WATT = $N \cdot \frac{m}{s}$

Alcuni fattori di conversione

MASSA:

1 kg = 0.06853 slug

1 slug = 14.592 kg

1 ft = 1,64 57 88 468 · 10^{-4} mm

LUNGHEZZA:

1 m = 3.2808 ft

1 ft = 0.3048 m

1 nm = 6076.115 ft = 1 852 m

FORZA:

1 N = 0.2248 lb

1 lb = 4.4482 N

TEMPERATURA:

1 K = 1.8 °R

1 °R = 0.5556 K

PRESSIONE:

1 Pa = 0.020886 lb/ft^2

1 lb/ft^2 = 47.88 Pa

VELOCITÀ:

1 m/s = 3.281 ft/s = 2.237 mph = 1.942 kts

1 mph = 1.467 ft/s = 0.447 m/s = 0.8683 kts

1 kts = 1.689 ft/s = 0.5147 m/s = 1.852 km/ora = 1.151 mph

POTENZA:

1 W = 0.7375 lb ft/s = 1.3410×10^{-3} hp

1 lb ft/s = 1.3558 W = 1.8181×10^{-3} hp

1 hp = 745.699 W = 550 lb ft/s

TEMPERATURA:

K = 1.8 °R

°R = 1.8 °C + 491.67

°F = 1.8 K − 459, 67

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CHARACTERISTICS OF THE STANDARD ATMOSPHERE (SI UNITS)

Altitude, m	Temperature T, K	Pressure P, N/m²	Density ρ, kg/m³	Speed of sound m/s	Kinematic viscosity, m²/s
0	288.16	1.01325^{+5}	1.2250	340.29	1.4607^{-5}
300	286.21	9.7773^{+4}	1.1901	339.14	1.4956
600	284.26	9.4322	1.1560	337.98	1.5316
900	282.31	9.0971	1.1226	336.82	1.5687
1,200	280.36	8.7718	1.0900	335.66	1.6069
1,500	278.41	8.4560	1.0581	334.49	1.6463
1,800	276.46	8.1494	1.0269	333.32	1.6869
2,100	274.51	7.8520	9.9649^{-1}	332.14	1.7289
2,400	272.57	7.5634	9.6673	330.96	1.7721
2,700	270.62	7.2835	9.3765	329.77	1.8167
3,000	268.67	7.0121	9.0926	328.58	1.8628
3,300	266.72	6.7489	8.8153	327.39	1.9104
3,600	264.77	6.4939	8.5445	326.19	1.9595
3,900	262.83	6.2467	8.2802	324.99	2.0102
4,200	260.88	6.0072	8.0222	323.78	2.0626
4,500	258.93	5.7752	7.7704	322.57	2.1167
4,800	256.98	5.5506	7.5247	321.36	2.1727
5,100	255.04	5.3331	7.2851	320.14	2.2305
5,400	253.09	5.1226	7.0513	318.91	2.2903
5,700	251.14	4.9188^{+4}	6.8234^{-1}	317.69	2.3522^{-5}
6,000	249.20	4.7217	6.6011	316.45	2.4161
6,300	247.25	4.5311	6.3845	315.21	2.4824
6,600	245.30	4.3468	6.1733	313.97	2.5509
6,900	243.36	4.1686^{+4}	5.9676^{-1}	312.72	2.6218^{-5}
7,200	241.41	3.9963	5.7671	311.47	2.6953
7,500	239.47	3.8299	5.5719	310.21	2.7714
7,800	237.52	3.6692	5.3818	308.95	2.8503
8,100	235.58	3.5140	5.1967	307.68	2.9320
8,400	233.63	3.3642	5.0165	306.41	3.0167
8,700	231.69	3.2196	4.8412	305.13	3.1046
9,000	229.74	3.0800	4.6706	303.85	3.1957
9,300	227.80	2.9455	4.5047	302.56	3.2903
9,600	225.85	2.8157	4.3433	301.27	3.3884
9,900	223.91	2.6906	4.1864	299.97	3.4903
10,200	221.97	2.5701	4.0339	298.66	3.5961
10,500	220.02	2.4540	3.8857	297.35	3.7060
10,800	218.08	2.3422	3.7417	296.03	3.8202
11,100	216.66	2.2346	3.5932	295.07	3.9564
11,400	216.66	2.1317	3.4277	295.07	4.1474
11,700	216.66	2.0335^{+4}	3.2699^{-1}	295.07	4.3475^{-5}
12,000	216.66	1.9399	3.1194	295.07	4.5574
12,300	216.66	1.8506	2.9758	295.07	4.7773
12,600	216.66	1.7654	2.8388	295.07	5.0078
12,900	216.66	1.6842	2.7081	295.07	5.2494
13,200	216.66	1.6067	2.5835	295.07	5.5026
13,500	216.66	1.5327	2.4646	295.07	5.7680
13,800	216.66	1.4622	2.3512	295.07	6.0462
14,100	216.66	1.3950	2.2430	295.07	6.3378
14,400	216.66	1.3308	2.1399	295.07	6.6434
14,700	216.66	1.2696	2.0414	295.07	6.9637
15,000	216.66	1.2112	1.9475	295.07	7.2995
15,300	216.66	1.1555	1.8580	295.07	7.6514
15,600	216.66	1.1023	1.7725	295.07	8.0202
15,900	216.66	1.0516	1.6910	295.07	8.4068
16,200	216.66	1.0033	1.6133	295.07	8.8119
16,500	215.66	9.5717^{+3}	1.5391	295.07	9.2366
16,800	216.66	9.1317	1.4683	295.07	9.6816
17,100	216.66	8.7119	1.4009	295.07	1.0148^{-4}
17,400	216.66	8.3115	1.3365	295.07	1.0637
17,700	216.66	7.9295^{+3}	1.2751^{-1}	295.07	1.1149^{-4}
18,000	216.66	7.5652	1.2165	295.07	1.1686
18,300	216.66	7.2175	1.1606	295.07	1.2249
18,600	216.66	6.8859	1.1072	295.07	1.2839
18,900	216.66	6.5696	1.0564	295.07	1.3457


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