



INTERNATIONAL STANDARD ATMOSPHERE (–2 000 TO 105 000 ft, DATA IN SI UNITS)

H ft	T K	θ	$\sqrt{\theta}$	p N/m ²	δ	$\sqrt{\delta}$	ρ kg/m ³	σ	$\sqrt{\sigma}$	a m/s	a kn	V_e^* m/s	V_e^* kn	q^* N/m ²	$(Re^*/l) \times 10^{-6}$ 1/m
– 2 000	292.11	1.013 75	1.006 85	108 866	1.074 42	1.036 54	1.298 3	1.059 85	1.029 49	342.63	666.01	352.73	685.65	76 206	24.60
– 1 800	291.72	1.012 38	1.006 17	108 092	1.066 78	1.032 85	1.290 8	1.053 74	1.026 52	342.39	665.56	351.47	683.21	75 664	24.46
– 1 600	291.32	1.011 00	1.005 49	107 322	1.059 19	1.029 17	1.283 4	1.047 66	1.023 55	342.16	665.11	350.22	680.77	75 126	24.33
– 1 400	290.92	1.009 63	1.004 80	106 557	1.051 64	1.025 49	1.276 0	1.041 61	1.020 59	341.93	664.65	348.97	678.34	74 590	24.20
– 1 200	290.53	1.008 25	1.004 12	105 797	1.044 13	1.021 83	1.268 6	1.035 59	1.017 64	341.69	664.20	347.72	675.92	74 058	24.07
– 1 000	290.13	1.006 88	1.003 43	105 041	1.036 67	1.018 17	1.261 2	1.029 59	1.014 69	341.46	663.75	346.48	673.50	73 528	23.94
– 800	289.73	1.005 50	1.002 75	104 289	1.029 25	1.014 52	1.253 9	1.023 62	1.011 74	341.23	663.30	345.23	671.08	73 002	23.81
– 600	289.34	1.004 13	1.002 06	103 541	1.021 87	1.010 88	1.246 7	1.017 68	1.008 80	341.00	662.84	344.00	668.67	72 479	23.68
– 400	288.94	1.002 75	1.001 37	102 798	1.014 54	1.007 24	1.239 4	1.011 76	1.005 86	340.76	662.39	342.76	666.27	71 959	23.55
– 200	288.55	1.001 38	1.000 69	102 059	1.007 25	1.003 62	1.232 2	1.005 87	1.002 93	340.53	661.93	341.53	663.87	71 442	23.42
0	288.15	1.000 00	1.000 00	101 325	1.000 00	1.000 00	1.225 0	1.000 00	1.000 00	340.29	661.48	340.29	661.48	70 928	23.30
200	287.75	0.998 62	0.999 31	100 595	0.992 79	0.996 39	1.217 8	0.994 16	0.997 08	340.06	661.02	339.07	659.09	70 416	23.17
400	287.36	0.997 25	0.998 62	99 869	0.985 63	0.992 79	1.210 7	0.988 35	0.994 16	339.83	660.57	339.83	656.71	69 908	23.04
600	286.96	0.995 87	0.997 94	99 147	0.978 51	0.989 20	1.203 6	0.982 56	0.991 24	339.59	660.11	339.59	654.33	69 403	22.92
800	286.57	0.994 50	0.997 25	98 430	0.971 43	0.985 61	1.196 6	0.976 80	0.988 33	339.36	659.66	339.36	651.96	68 901	22.79
1 000	286.17	0.993 12	0.996 56	97 717	0.964 39	0.982 03	1.189 6	0.971 06	0.985 43	339.12	659.20	339.12	649.59	68 402	22.67
1 200	285.77	0.991 75	0.995 87	97 008	0.957 39	0.978 46	1.182 6	0.965 35	0.982 52	338.89	658.74	338.89	647.23	67 905	22.54
1 400	285.38	0.990 37	0.995 18	96 303	0.950 43	0.974 90	1.175 6	0.959 67	0.979 63	338.65	658.29	338.65	644.88	67 412	22.42
1 600	284.98	0.989 00	0.994 48	95 602	0.943 52	0.971 35	1.168 7	0.954 01	0.976 74	338.42	657.83	338.42	642.53	66 921	22.29
1 800	284.58	0.987 62	0.993 79	94 905	0.936 64	0.967 80	1.161 8	0.948 38	0.973 85	338.18	657.37	338.18	640.18	66 434	22.17
2 000	284.19	0.986 25	0.993 10	94 213	0.929 81	0.964 27	1.154 9	0.942 77	0.970 97	337.95	656.91	337.95	637.84	65 949	22.05
2 200	283.79	0.984 87	0.992 41	93 525	0.923 02	0.960 74	1.148 1	0.937 19	0.968 09	337.71	656.46	337.71	635.51	65 467	21.93
2 400	283.40	0.983 50	0.991 71	92 840	0.916 26	0.957 22	1.141 3	0.931 64	0.965 21	337.47	656.00	337.47	633.18	64 988	21.80
2 600	283.00	0.982 12	0.991 02	92 160	0.909 55	0.953 70	1.134 5	0.926 10	0.962 34	337.24	655.54	337.24	630.85	64 512	21.68
2 800	282.60	0.980 75	0.990 33	91 484	0.902 88	0.950 20	1.127 7	0.920 60	0.959 48	337.00	655.08	337.00	628.54	64 039	21.56
3 000	282.21	0.979 37	0.989 63	90 812	0.896 24	0.946 70	1.121 0	0.915 12	0.956 62	336.77	654.62	336.77	626.22	63 568	21.44
3 200	281.81	0.978 00	0.988 94	90 143	0.889 65	0.943 21	1.114 3	0.909 66	0.953 76	336.53	654.16	336.53	623.91	63 100	21.32
3 400	281.41	0.976 62	0.988 24	89 479	0.883 09	0.939 73	1.107 7	0.904 23	0.950 91	336.29	653.70	336.29	621.61	62 636	21.20
3 600	281.02	0.975 25	0.987 55	88 819	0.876 58	0.936 26	1.101 1	0.898 82	0.948 06	336.06	653.24	336.06	619.31	62 173	21.09
3 800	280.62	0.973 87	0.986 85	88 163	0.870 10	0.932 79	1.094 5	0.893 44	0.945 22	335.82	652.78	335.82	617.02	61 714	20.97
4 000	280.23	0.972 50	0.986 15	87 511	0.863 66	0.929 33	1.087 9	0.888 09	0.942 38	335.58	652.32	335.58	614.73	61 257	20.85
4 200	279.83	0.971 12	0.985 46	86 862	0.857 26	0.925 88	1.081 4	0.882 75	0.939 55	335.34	651.86	335.34	612.45	60 803	20.73
4 400	279.43	0.969 75	0.984 76	86 218	0.850 90	0.922 44	1.074 9	0.877 45	0.936 72	335.11	651.40	335.11	610.18	60 352	20.62
4 600	279.04	0.968 37	0.984 06	85 577	0.844 58	0.919 01	1.068 4	0.872 16	0.933 90	334.87	650.93	334.87	607.91	59 904	20.50
4 800	278.64	0.967 00	0.983 36	84 940	0.838 29	0.915 58	1.062 0	0.866 90	0.931 08	334.63	650.47	334.63	605.64	59 458	20.39
5 000	278.24	0.965 62	0.982 66	84 307	0.832 05	0.912 17	1.055 5	0.861 67	0.928 26	334.39	650.01	334.39	603.38	59 015	20.27
5 200	277.85	0.964 25	0.981 96	83 678	0.825 84	0.908 76	1.049 2	0.856 46	0.925 45	334.16	649.55	334.16	601.12	58 575	20.16
5 400	277.45	0.962 87	0.981 26	83 053	0.819 67	0.905 36	1.042 8	0.851 27	0.922 65	333.92	649.08	333.92	598.87	58 137	20.04
5 600	277.06	0.961 50	0.980 56	82 431	0.813 53	0.901 96	1.036 5	0.846 11	0.919 84	333.68	648.62	333.68	596.63	57 702	19.93
5 800	276.66	0.960 12	0.979 86	81 814	0.807 44	0.898 58	1.030 2	0.840 97	0.917 05	333.44	648.15	333.44	594.39	57 270	19.82
6 000	276.26	0.958 75	0.979 16	81 200	0.801 38	0.895 20	1.023 9	0.835 86	0.914 25	333.20	647.69	333.20	592.15	56 840	19.70
6 200	275.87	0.957 37	0.978 45	80 589	0.795 35	0.891 83	1.017 7	0.830 77	0.911 47	332.96	647.23	332.96	589.92	56 413	19.59
6 400	275.47	0.956 00	0.977 75	79 983	0.789 37	0.888 46	1.011 5	0.825 70	0.908 68	332.72	646.76	332.72	587.70	55 988	19.48
6 600	275.07	0.954 62	0.977 05	79 380	0.783 42	0.885 11	1.005 3	0.820 66	0.905 90	332.48	646.30	332.48	585.48	55 566	19.37
6 800	274.68	0.953 25	0.976 34	78 781	0.777 51	0.881 76	0.999 16	0.815 64	0.903 13	332.24	645.83	332.24	583.27	55 147	19.26

72018

Issued May 1972

1

AWA

Documents
Document Sharing Hub



72018

INTERNATIONAL STANDARD ATMOSPHERE

H ft	T K	θ	$\sqrt{\theta}$	p N/m ²	δ	$\sqrt{\delta}$	ρ kg/m ³	σ	$\sqrt{\sigma}$	a m/s	a kn	V_e^* m/s	V_e^* kn	q^* N/m ²	$(Re^*/l) \times 10^{-6}$ 1/m
7 000	274.28	0.951 87	0.975 64	78 185	0.771 63	0.878 42	0.993 04	0.810 64	0.900 36	332.00	645.36	298.92	581.06	54 730	19.15
7 200	273.89	0.950 50	0.974 93	77 594	0.765 79	0.875 09	0.986 95	0.805 67	0.897 59	331.76	644.90	297.79	578.86	54 315	19.04
7 400	273.49	0.949 12	0.974 23	77 005	0.759 98	0.871 77	0.980 89	0.800 72	0.894 83	331.52	644.43	296.66	576.66	53 904	18.93
7 600	273.09	0.947 75	0.973 52	76 421	0.754 21	0.868 45	0.974 85	0.795 80	0.892 08	331.28	643.96	295.53	574.46	53 495	18.82
7 800	272.70	0.946 37	0.972 82	75 840	0.748 48	0.865 15	0.968 85	0.790 90	0.889 32	331.04	643.50	294.40	572.28	53 088	18.71
8 000	272.30	0.945 00	0.972 11	75 262	0.742 78	0.861 85	0.962 87	0.786 02	0.886 58	330.80	643.03	293.28	570.09	52 684	18.61
8 200	271.90	0.943 62	0.971 40	74 689	0.737 12	0.858 56	0.956 92	0.781 16	0.883 83	330.56	642.56	292.16	567.92	52 282	18.50
8 400	271.51	0.942 25	0.970 69	74 118	0.731 49	0.855 27	0.951 00	0.776 33	0.881 09	330.32	642.09	291.04	565.74	51 883	18.39
8 600	271.11	0.940 87	0.969 98	73 551	0.725 90	0.852 00	0.945 11	0.771 52	0.878 36	330.08	641.62	289.93	563.58	51 486	18.29
8 800	270.72	0.939 49	0.969 28	72 988	0.720 34	0.848 73	0.939 24	0.766 73	0.875 63	329.84	641.15	288.82	561.41	51 092	18.18
9 000	270.32	0.938 12	0.968 57	72 428	0.714 81	0.845 47	0.933 41	0.761 96	0.872 91	329.60	640.69	287.71	559.26	50 700	18.08
9 200	269.92	0.936 74	0.967 86	71 872	0.709 32	0.842 21	0.927 60	0.757 22	0.870 18	329.36	640.22	286.60	557.11	50 311	17.97
9 400	269.53	0.935 37	0.967 15	71 319	0.703 87	0.838 97	0.921 82	0.752 50	0.867 47	329.11	639.75	285.50	554.96	49 924	17.87
9 600	269.13	0.933 99	0.966 43	70 770	0.698 45	0.835 73	0.916 06	0.747 81	0.864 76	328.87	639.28	284.39	552.82	49 539	17.76
9 800	268.73	0.932 62	0.965 72	70 224	0.693 06	0.832 50	0.910 34	0.743 13	0.862 05	328.63	638.80	283.30	550.68	49 157	17.66
10 000	268.34	0.931 24	0.965 01	69 682	0.687 70	0.829 28	0.904 64	0.738 48	0.859 35	328.39	638.33	282.20	548.55	48 777	17.56
10 200	267.94	0.929 87	0.964 30	69 143	0.682 38	0.826 07	0.898 97	0.733 85	0.856 65	328.14	637.86	281.10	546.42	48 400	17.45
10 400	267.55	0.928 49	0.963 58	68 607	0.677 10	0.822 86	0.893 32	0.729 24	0.853 96	327.90	637.39	280.01	544.30	48 025	17.35
10 600	267.15	0.927 12	0.962 87	68 074	0.671 84	0.819 66	0.887 70	0.724 66	0.851 27	327.66	636.92	278.93	542.19	47 652	17.25
10 800	266.75	0.925 74	0.962 16	67 545	0.666 62	0.816 47	0.882 11	0.720 09	0.848 58	327.42	636.45	277.84	540.08	47 282	17.15
11 000	266.36	0.924 37	0.961 44	67 020	0.661 43	0.813 29	0.876 55	0.715 55	0.845 90	327.17	635.97	276.76	537.97	46 914	17.05
11 200	265.96	0.922 99	0.960 73	66 497	0.656 28	0.810 11	0.871 01	0.711 03	0.843 23	326.93	635.50	275.68	535.87	46 548	16.95
11 400	265.56	0.921 62	0.960 01	65 978	0.651 16	0.806 94	0.865 51	0.706 53	0.840 56	326.69	635.03	274.60	533.77	46 185	16.85
11 600	265.17	0.920 24	0.959 29	65 463	0.646 07	0.803 78	0.860 02	0.702 06	0.837 89	326.44	634.55	273.52	531.68	45 824	16.75
11 800	264.77	0.918 87	0.958 58	64 950	0.641 01	0.800 63	0.854 57	0.697 61	0.835 23	326.20	634.08	272.45	529.60	45 465	16.65
12 000	264.38	0.917 49	0.957 86	64 441	0.635 98	0.797 48	0.849 14	0.693 17	0.832 57	325.95	633.60	271.38	527.52	45 109	16.55
12 200	263.98	0.916 12	0.957 14	63 935	0.630 99	0.794 35	0.843 73	0.688 76	0.829 92	325.71	633.13	270.31	525.44	44 754	16.45
12 400	263.58	0.914 74	0.956 42	63 432	0.626 03	0.791 22	0.838 36	0.684 37	0.827 27	325.46	632.65	269.25	523.37	44 402	16.35
12 600	263.19	0.913 37	0.955 70	62 932	0.621 09	0.788 10	0.833 01	0.680 01	0.824 62	325.22	632.18	268.18	521.31	44 053	16.26
12 800	262.79	0.911 99	0.954 98	62 436	0.616 20	0.784 98	0.827 68	0.675 66	0.821 98	324.97	631.70	267.12	519.25	43 705	16.16
13 000	262.39	0.910 62	0.954 26	61 943	0.611 33	0.781 87	0.822 38	0.671 33	0.819 35	324.73	631.22	266.07	517.19	43 360	16.06
13 200	262.00	0.909 24	0.953 54	61 453	0.606 49	0.778 78	0.817 11	0.667 03	0.816 72	324.48	630.75	265.01	515.14	43 017	15.97
13 400	261.60	0.907 87	0.952 82	60 966	0.601 69	0.775 68	0.811 87	0.662 75	0.814 09	324.24	630.27	263.96	513.10	42 676	15.87
13 600	261.21	0.906 49	0.952 10	60 482	0.596 91	0.772 60	0.806 64	0.658 49	0.811 47	323.99	629.79	262.91	511.06	42 337	15.78
13 800	260.81	0.905 12	0.951 38	60 001	0.592 17	0.769 52	0.801 45	0.654 24	0.808 85	323.75	629.31	261.86	509.02	42 001	15.68
14 000	260.41	0.903 74	0.950 65	59 524	0.587 45	0.766 46	0.796 28	0.650 02	0.806 24	323.50	628.84	260.82	506.99	41 667	15.59
14 200	260.02	0.902 37	0.949 93	59 049	0.582 77	0.763 39	0.791 14	0.645 83	0.803 63	323.26	628.36	259.78	504.97	41 335	15.50
14 400	259.62	0.900 99	0.949 21	58 578	0.578 12	0.760 34	0.786 02	0.641 65	0.801 03	323.01	627.88	258.74	502.95	41 005	15.40
14 600	259.22	0.899 62	0.948 48	58 110	0.573 50	0.757 30	0.780 93	0.637 49	0.798 43	322.76	627.40	257.70	500.93	40 677	15.31
14 800	258.83	0.898 24	0.947 76	57 644	0.568 90	0.754 26	0.775 86	0.633 35	0.795 84	322.52	626.92	256.67	498.93	40 351	15.22
15 000	258.43	0.896 87	0.947 03	57 182	0.564 34	0.751 23	0.770 82	0.629 24	0.793 24	322.27	626.44	255.64	496.92	40 027	15.13
15 200	258.04	0.895 49	0.946 30	56 723	0.559 81	0.748 20	0.765 80	0.625 14	0.790 66	322.02	625.96	254.61	494.92	39 706	15.03
15 400	257.64	0.894 12	0.945 58	56 266	0.555 31	0.745 19	0.760 81	0.621 07	0.788 08	321.77	625.48	253.58	492.93	39 386	14.94
15 600	257.24	0.892 74	0.944 85	55 813	0.550 83	0.742 18	0.755 84	0.617 01	0.785 50	321.53	625.00	252.56	490.94	39 069	14.85
15 800	256.85	0.891 37	0.944 12	55 363	0.546 39	0.739 18	0.750 90	0.612 98	0.782 93	321.28	624.52	251.54	488.95	38 754	14.76



INTERNATIONAL STANDARD ATMOSPHERE

H ft	T K	θ	$\sqrt{\theta}$	p N/m ²	δ	$\sqrt{\delta}$	ρ kg/m ³	σ	$\sqrt{\sigma}$	a m/s	a kn	V_e^* m/s	V_e^* kn	q^* N/m ²	$(Re^*/l) \times 10^{-6}$ 1/m
16 000	256.45	0.889 99	0.943 39	54 915	0.541 97	0.736 19	0.745 98	0.608 96	0.780 36	321.03	624.03	250.52	486.97	38 441	14.67
16 200	256.05	0.888 62	0.942 66	54 471	0.537 58	0.733 20	0.741 09	0.604 97	0.777 80	320.78	623.55	249.50	485.00	38 129	14.58
16 400	255.66	0.887 24	0.941 93	54 029	0.533 23	0.730 22	0.736 22	0.600 99	0.775 24	320.53	623.07	248.49	483.03	37 820	14.49
16 600	255.26	0.885 87	0.941 20	53 590	0.528 90	0.727 25	0.731 37	0.597 04	0.772 68	320.29	622.59	247.48	481.06	37 513	14.41
16 800	254.87	0.884 49	0.940 47	53 155	0.524 60	0.724 29	0.726 55	0.593 11	0.770 13	320.04	622.10	246.47	479.10	37 208	14.32
17 000	254.47	0.883 12	0.939 74	52 722	0.520 32	0.721 33	0.721 76	0.589 19	0.767 59	319.79	621.62	245.47	477.15	36 905	14.23
17 200	254.07	0.881 74	0.939 01	52 292	0.516 08	0.718 39	0.716 99	0.585 30	0.765 05	319.54	621.13	244.46	475.20	36 604	14.14
17 400	253.68	0.880 36	0.938 28	51 864	0.511 86	0.715 45	0.712 24	0.581 42	0.762 51	319.29	620.65	243.46	473.25	36 305	14.05
17 600	253.28	0.878 99	0.937 54	51 440	0.507 67	0.712 51	0.707 52	0.577 57	0.759 98	319.04	620.17	242.46	471.31	36 008	13.97
17 800	252.88	0.877 61	0.936 81	51 019	0.503 51	0.709 59	0.702 82	0.573 73	0.757 45	318.79	619.68	241.47	469.38	35 713	13.88
18 000	252.49	0.876 24	0.936 08	50 600	0.499 38	0.706 67	0.698 14	0.569 91	0.754 93	318.54	619.19	240.48	467.45	35 420	13.80
18 200	252.09	0.874 86	0.935 34	50 184	0.495 28	0.703 76	0.693 49	0.566 12	0.752 41	318.29	618.71	239.48	465.52	35 129	13.71
18 400	251.70	0.873 49	0.934 61	49 771	0.491 20	0.700 86	0.688 87	0.562 34	0.749 89	318.04	618.22	238.50	463.60	34 839	13.63
18 600	251.30	0.872 11	0.933 87	49 360	0.487 15	0.697 96	0.684 26	0.558 58	0.747 38	317.79	617.74	237.51	461.69	34 552	13.54
18 800	250.90	0.870 74	0.933 13	48 952	0.483 12	0.695 07	0.679 68	0.554 84	0.744 88	317.54	617.25	236.53	459.77	34 267	13.46
19 000	250.51	0.869 36	0.932 40	48 548	0.479 13	0.692 19	0.675 13	0.551 12	0.742 38	317.29	616.76	235.55	457.87	33 983	13.37
19 200	250.11	0.867 99	0.931 66	48 145	0.475 16	0.689 32	0.670 59	0.547 42	0.739 88	317.04	616.27	234.57	455.97	33 702	13.29
19 400	249.71	0.866 61	0.930 92	47 746	0.471 21	0.686 45	0.666 08	0.543 74	0.737 39	316.79	615.78	233.59	454.07	33 422	13.21
19 600	249.32	0.865 24	0.930 18	47 349	0.467 30	0.683 59	0.661 60	0.540 08	0.734 90	316.54	615.30	232.62	452.18	33 144	13.12
19 800	248.92	0.863 86	0.929 44	46 955	0.463 41	0.680 74	0.657 13	0.536 44	0.732 42	316.28	614.81	231.65	450.29	32 868	13.04
20 000	248.53	0.862 49	0.928 70	46 563	0.459 54	0.677 90	0.652 69	0.532 81	0.729 94	316.03	614.32	230.68	448.41	32 594	12.96
20 200	248.13	0.861 11	0.927 96	46 174	0.455 71	0.675 06	0.648 28	0.529 20	0.727 46	315.78	613.83	229.72	446.54	32 322	12.88
20 400	247.73	0.859 74	0.927 22	45 788	0.451 89	0.672 23	0.643 88	0.525 62	0.724 99	315.53	613.34	228.76	444.67	32 052	12.80
20 600	247.34	0.858 36	0.926 48	45 404	0.448 11	0.669 41	0.639 51	0.522 05	0.722 53	315.28	612.85	227.80	442.80	31 783	12.72
20 800	246.94	0.856 99	0.925 74	45 023	0.444 35	0.666 59	0.635 16	0.518 50	0.720 07	315.02	612.35	226.84	440.94	31 516	12.64
21 000	246.54	0.855 61	0.924 99	44 645	0.440 61	0.663 79	0.630 83	0.514 97	0.717 61	314.77	611.86	225.88	439.08	31 252	12.56
21 200	246.15	0.854 24	0.924 25	44 269	0.436 90	0.660 99	0.626 53	0.511 45	0.715 16	314.52	611.37	224.93	437.23	30 988	12.48
21 400	245.75	0.852 86	0.923 51	43 896	0.433 22	0.658 19	0.622 25	0.507 96	0.712 71	314.26	610.88	223.98	435.38	30 727	12.40
21 600	245.36	0.851 49	0.922 76	43 525	0.429 56	0.655 41	0.617 99	0.504 48	0.710 27	314.01	610.39	223.03	433.54	30 468	12.32
21 800	244.96	0.850 11	0.922 02	43 157	0.425 93	0.652 63	0.613 76	0.501 02	0.707 83	313.76	609.89	222.09	431.70	30 210	12.24
22 000	244.56	0.848 74	0.921 27	42 791	0.422 32	0.649 86	0.609 54	0.497 58	0.705 40	313.50	609.40	221.14	429.87	29 954	12.16
22 200	244.17	0.847 36	0.920 52	42 428	0.418 73	0.647 10	0.605 35	0.494 16	0.702 97	313.25	608.91	220.20	428.04	29 700	12.09
22 400	243.77	0.845 99	0.919 78	42 068	0.415 18	0.644 34	0.601 18	0.490 76	0.700 54	312.99	608.41	219.27	426.22	29 447	12.01
22 600	243.37	0.844 61	0.919 03	41 709	0.411 64	0.641 59	0.597 03	0.487 37	0.698 12	312.74	607.92	218.33	424.40	29 197	11.93
22 800	242.98	0.843 24	0.918 28	41 354	0.408 13	0.638 85	0.592 91	0.484 00	0.695 70	312.48	607.42	217.40	422.59	28 948	11.86
23 000	242.58	0.841 86	0.917 53	41 001	0.404 64	0.636 12	0.588 80	0.480 65	0.693 29	312.23	606.93	216.47	420.78	28 700	11.78
23 200	242.19	0.840 49	0.916 78	40 650	0.401 18	0.633 39	0.584 72	0.477 32	0.690 88	311.97	606.43	215.54	418.97	28 455	11.70
23 400	241.79	0.839 11	0.916 03	40 301	0.397 74	0.630 67	0.580 66	0.474 01	0.688 48	311.72	605.93	214.61	417.17	28 211	11.63
23 600	241.39	0.837 74	0.915 28	39 956	0.394 33	0.627 96	0.576 62	0.470 71	0.686 08	311.46	605.44	213.69	415.38	27 969	11.55
23 800	241.00	0.836 36	0.914 53	39 612	0.390 94	0.625 25	0.572 60	0.467 43	0.683 69	311.21	604.94	212.77	413.59	27 728	11.48
24 000	240.60	0.834 99	0.913 78	39 271	0.387 57	0.622 55	0.568 61	0.464 17	0.681 30	310.95	604.44	211.85	411.81	27 490	11.41
24 200	240.20	0.833 61	0.913 02	38 932	0.384 23	0.619 86	0.564 63	0.460 92	0.678 91	310.70	603.95	210.94	410.03	27 253	11.33
24 400	239.81	0.832 24	0.912 27	38 596	0.380 91	0.617 18	0.560 68	0.457 70	0.676 53	310.44	603.45	210.02	408.25	27 017	11.26
24 600	239.41	0.830 86	0.911 52	38 262	0.377 62	0.614 50	0.556 75	0.454 49	0.674 16	310.18	602.95	209.11	406.48	26 783	11.18
24 800	239.02	0.829 49	0.910 76	37 930	0.374 34	0.611 83	0.552 84	0.451 29	0.671 78	309.93	602.45	208.20	404.72	26 551	11.11

72018



INTERNATIONAL STANDARD ATMOSPHERE

H ft	T K	θ	$\sqrt{\theta}$	p N/m ²	δ	$\sqrt{\delta}$	ρ kg/m ³	σ	$\sqrt{\sigma}$	a m/s	a kn	V_e^* m/s	V_e^* kn	q^* N/m ²	$(Re^*/l) \times 10^{-6}$ 1/m
25 000	238.62	0.828 11	0.910 01	37 601	0.371 09	0.609 17	0.548 95	0.448 12	0.669 42	309.67	601.95	207.30	402.95	26 321	11.04
25 200	238.22	0.826 74	0.909 25	37 274	0.367 86	0.606 52	0.545 08	0.444 96	0.667 05	309.41	601.45	206.39	401.20	26 092	10.97
25 400	237.83	0.825 36	0.908 49	36 949	0.364 66	0.603 87	0.541 23	0.441 82	0.664 69	309.15	600.95	205.49	399.45	25 864	10.90
25 600	237.43	0.823 99	0.907 74	36 627	0.361 48	0.601 23	0.537 40	0.438 69	0.662 34	308.90	600.45	204.60	397.70	25 639	10.82
25 800	237.04	0.822 61	0.906 98	36 307	0.358 32	0.598 60	0.533 59	0.435 59	0.659 99	308.64	599.95	203.70	395.96	25 415	10.75
26 000	236.64	0.821 23	0.906 22	35 989	0.355 18	0.595 97	0.529 81	0.432 50	0.657 64	308.38	599.45	202.81	394.22	25 192	10.68
26 200	236.24	0.819 86	0.905 46	35 673	0.352 07	0.593 35	0.526 04	0.429 42	0.655 30	308.12	598.94	201.91	392.49	24 971	10.61
26 400	235.85	0.818 48	0.904 70	35 360	0.348 97	0.590 74	0.522 30	0.426 37	0.652 97	307.86	598.44	201.03	390.76	24 752	10.54
26 600	235.45	0.817 11	0.903 94	35 049	0.345 90	0.588 14	0.518 57	0.423 33	0.650 63	307.61	597.94	200.14	389.04	24 534	10.47
26 800	235.05	0.815 73	0.903 18	34 740	0.342 85	0.585 54	0.514 87	0.420 30	0.648 31	307.35	597.43	199.26	387.32	24 318	10.40
27 000	234.66	0.814 36	0.902 42	34 433	0.339 83	0.582 95	0.511 19	0.417 30	0.645 98	307.09	596.93	198.37	385.61	24 103	10.34
27 200	234.26	0.812 98	0.901 66	34 129	0.336 82	0.580 36	0.507 52	0.414 30	0.643 66	306.83	596.43	197.49	383.90	23 890	10.27
27 400	233.87	0.811 61	0.900 89	33 826	0.333 84	0.577 79	0.503 88	0.411 33	0.641 35	306.57	595.92	196.62	382.19	23 678	10.20
27 600	233.47	0.810 23	0.900 13	33 526	0.330 88	0.575 22	0.500 26	0.408 37	0.639 04	306.31	595.42	195.74	380.50	23 468	10.13
27 800	233.07	0.808 86	0.899 37	33 228	0.327 94	0.572 66	0.496 65	0.405 43	0.636 73	306.05	594.91	194.87	378.80	23 260	10.06
28 000	232.68	0.807 48	0.898 60	32 932	0.325 02	0.570 10	0.493 07	0.402 51	0.634 43	305.79	594.41	194.00	377.11	23 053	9.996
28 200	232.28	0.806 11	0.897 84	32 639	0.322 12	0.567 55	0.489 51	0.399 60	0.632 14	305.53	593.90	193.14	375.43	22 847	9.929
28 400	231.88	0.804 73	0.897 07	32 347	0.319 24	0.565 01	0.485 96	0.396 70	0.629 84	305.27	593.39	192.27	373.74	22 643	9.863
28 600	231.49	0.803 36	0.896 30	32 058	0.316 38	0.562 48	0.482 44	0.393 83	0.627 56	305.01	592.88	191.41	372.07	22 440	9.797
28 800	231.09	0.801 98	0.895 54	31 770	0.313 55	0.559 95	0.478 93	0.390 97	0.625 27	304.75	592.38	190.55	370.40	22 239	9.731
29 000	230.70	0.800 61	0.894 77	31 485	0.310 73	0.557 43	0.475 45	0.388 12	0.622 99	304.48	591.87	189.69	368.73	22 039	9.665
29 200	230.30	0.799 23	0.894 00	31 202	0.307 94	0.554 92	0.471 98	0.385 29	0.620 72	304.22	591.36	188.84	367.07	21 841	9.600
29 400	229.90	0.797 86	0.893 23	30 921	0.305 16	0.552 42	0.468 54	0.382 48	0.618 45	303.96	590.85	187.98	365.41	21 644	9.536
29 600	229.51	0.796 48	0.892 46	30 642	0.302 41	0.549 92	0.465 11	0.379 68	0.616 18	303.70	590.34	187.13	363.76	21 449	9.471
29 800	229.11	0.795 11	0.891 69	30 365	0.299 67	0.547 43	0.461 70	0.376 90	0.613 92	303.44	589.83	186.29	362.11	21 255	9.407
30 000	228.71	0.793 73	0.890 92	30 090	0.296 96	0.544 94	0.458 31	0.374 13	0.611 66	303.17	589.32	185.44	360.47	21 063	9.343
30 200	228.32	0.792 36	0.890 14	29 817	0.294 27	0.542 46	0.454 94	0.371 38	0.609 41	302.91	588.81	184.60	358.83	20 872	9.280
30 400	227.92	0.790 98	0.889 37	29 546	0.291 59	0.539 99	0.451 59	0.368 65	0.607 16	302.65	588.30	183.76	357.19	20 682	9.217
30 600	227.53	0.789 61	0.888 60	29 277	0.288 94	0.537 53	0.448 26	0.365 93	0.604 92	302.38	587.79	182.92	355.56	20 494	9.154
30 800	227.13	0.788 23	0.887 82	29 010	0.286 30	0.535 07	0.444 95	0.363 22	0.602 68	302.12	587.28	182.08	353.94	20 307	9.091
31 000	226.73	0.786 86	0.887 05	28 745	0.283 69	0.532 62	0.441 65	0.360 53	0.600 44	301.86	586.76	181.25	352.32	20 121	9.029
31 200	226.34	0.785 48	0.886 27	28 482	0.281 09	0.530 18	0.438 38	0.357 86	0.598 21	301.59	586.25	180.42	350.70	19 937	8.967
31 400	225.94	0.784 11	0.885 50	28 220	0.278 51	0.527 74	0.435 12	0.355 20	0.595 99	301.33	585.74	179.59	349.09	19 754	8.906
31 600	225.54	0.782 73	0.884 72	27 961	0.275 96	0.525 32	0.431 88	0.352 56	0.593 76	301.07	585.22	178.76	347.49	19 573	8.845
31 800	225.15	0.781 36	0.883 94	27 704	0.273 42	0.522 89	0.428 66	0.349 93	0.591 55	300.80	584.71	177.94	345.88	19 393	8.784
32 000	224.75	0.779 98	0.883 17	27 449	0.270 90	0.520 48	0.425 46	0.347 31	0.589 33	300.54	584.19	177.12	344.29	19 214	8.723
32 200	224.36	0.778 61	0.882 39	27 195	0.268 40	0.518 07	0.422 28	0.344 72	0.587 13	300.27	583.68	176.30	342.69	19 037	8.663
32 400	223.96	0.777 23	0.881 61	26 944	0.265 92	0.515 67	0.419 11	0.342 13	0.584 92	300.01	583.16	175.48	341.10	18 861	8.603
32 600	223.56	0.775 86	0.880 83	26 694	0.263 45	0.513 28	0.415 97	0.339 56	0.582 72	299.74	582.65	174.66	339.52	18 686	8.544
32 800	223.17	0.774 48	0.880 05	26 447	0.261 01	0.510 89	0.412 84	0.337 01	0.580 53	299.47	582.13	173.85	337.94	18 513	8.484
33 000	222.77	0.773 11	0.879 26	26 201	0.258 58	0.508 51	0.409 73	0.334 47	0.578 33	299.21	581.61	173.04	336.37	18 340	8.425
33 200	222.37	0.771 73	0.878 48	25 957	0.256 17	0.506 13	0.406 63	0.331 95	0.576 15	298.94	581.10	172.23	334.80	18 170	8.367
33 400	221.98	0.770 36	0.877 70	25 715	0.253 78	0.503 77	0.403 56	0.329 44	0.573 96	298.68	580.58	171.43	333.23	18 000	8.308
33 600	221.58	0.768 98	0.876 92	25 474	0.251 41	0.501 41	0.400 50	0.326 94	0.571 79	298.41	580.06	170.63	331.67	17 832	8.250
33 800	221.19	0.767 61	0.876 13	25 236	0.249 06	0.499 06	0.397 46	0.324 46	0.569 61	298.14	579.54	169.83	330.11	17 665	8.193

72018