ГОСУДАРСТВЕННЫЙ СТАНДАРТ
СОЮЗА ССР

ТАБЛИЦА АЭРОДИНАМИЧЕСКАЯ

ДИНАМИЧЕСКИЕ ДАВЛЕНИЯ И ТЕМПЕРАТУРЫ ТОРМОЖЕНИЯ ВОЗДУХА ЗА ПРЯМОЙ УДАРНОЙ ВОЛНОЙ ДЛЯ СКОРОСТИ ПОЛЕТА ОТ 4000 ДО 7000 км/ч

ГОСТ 22312–77

Издание официальное

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ГОСУДАРСТВЕННЫЙ СТАНДАРТ СОЮЗА ССР

Таблица аэродинамическая

ДИНАМИЧЕСКИЕ ДАВЛЕНИЯ И ТЕМПЕРАТУРЫ ТОРМОЖЕНИЯ ВОЗДУХА ЗА ПРЯМОЙ УДАРНОЙ ВОЛНОЙ ДЛЯ СКОРОСТИ ПОЛЕТА ОТ 4000 ДО 7000 км/ч

Table aerodynamic. Dynamic pressures and temperatures of braking air at straight blast wave for flight velocity from 4000 to 7000 km/h

ГОСТ 22312—77

Постановлением Государственного комитета стандартов Совета Министров СССР от 17.01 1977 г. № 121 срок действия установлен

с 01.01. 1978 г.
до 01.01. 1983 г.

Несоблюдение стандарта преследуется по закону

1. Настоящий стандарт устанавливает числовые значения равновесного динамического давления и температуры торможения воздуха за прямой ударной волной в зависимости от величин истинной скорости и геопотенциальной высоты полета (см. таблицу).

Стандарт предназначен для использования при расчетах, проектировании и изготовлении летательных аппаратов, их элементов и комплектующих изделий, а также для приведения результатов испытаний летательных аппаратов, их элементов и комплектующих изделий, к одинаковым условиям.

2. Стандарт включает диапазон геопотенциальных высот от 10000 до 80000 м и скорости полета от 4000 до 7000 км/ч. В таблице интервал по высоте полета равен 500 м для высот от 10000 до 49500 м и 1000 м — для геопотенциальных высот от 50000 до 80000 м.

Интервал по скорости полета равен 50 км/ч.

3. Основные положения, формулы и значения постоянных, принятых в расчетах, — по обязательному приложению к настоящему стандарту.

Издание официальное ★ Перепечатка воспрещена

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Значения динамического давления и температуры торможения воздуха за прямой ударной волной в зависимости от истинной скорости и геопотенциальной высоты полета в интервале высот от 10000 до 80000 м

v, км/ч	v, м/с	$H=10000$ м		$H=10500$ м		$H=11000$ м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	4.56034+5	817.236	4.28600+5	814.266	4.02441+5	811.294
4050	1125.000	4.67917	831.336	4.39764	828.375	4.12918	825.411
4100	1138.889	4.79951	845.571	4.51069	842.618	4.23529	839.663
4150	1152.778	4.92136	859.941	4.62516	856.996	4.34273	854.049
4200	1166.667	5.04472	874.444	4.74105	871.507	4.45149	868.568
4250	1180.556	5.16968	889.047	4.85843	886.119	4.56161	883.214
4300	1194.444	5.29608	903.808	4.97718	900.889	4.67311	897.968
4350	1208.333	5.42391	918.701	5.09727	915.790	4.78585	912.877
4400	1222.222	5.55332	933.723	5.21884	930.821	4.89993	927.916
4450	1236.111	5.68424	948.876	5.34184	945.981	5.01537	943.085
4500	1250.000	5.81668+5	964.157	5.46626+5	961.270	5.13214+5	958.382
4550	1263.889	5.95063	979.567	5.59210	976.688	5.25025	973.808
4600	1277.778	6.08610	995.106	5.71936	992.234	5.36969	989.362
4650	1291.667	6.22308	1010.77	5.84804	1007.91	5.49047	1005.04
4700	1305.556	6.36158	1026.56	5.97815	1023.71	5.61258	1020.85
4750	1319.444	6.50159	1042.48	6.10968	1039.63	5.73603	1036.78
4800	1333.333	6.64312	1058.53	6.24264	1055.69	5.86082	1052.84
4850	1347.222	6.78616	1074.70	6.37702	1071.86	5.98695	1069.03
4900	1361.111	6.93073	1090.99	6.51283	1088.16	6.11441	1085.34
4950	1375.000	7.07681	1107.41	6.65007	1104.59	6.24322	1101.77
5000	1388.889	7.22441+5	1123.95	6.78873+5	1121.14	6.37336+5	1118.33
5050	1402.778	7.37354	1140.61	6.92882	1137.81	6.50485	1135.01
5100	1416.667	7.52418	1157.40	7.07035	1154.61	6.63767	1151.81
5150	1430.556	7.67635	1174.31	7.21330	1171.52	6.77184	1168.73
5200	1444.444	7.83004	1191.34	7.35768	1188.56	6.90735	1185.77
5250	1458.333	7.98526	1208.49	7.50350	1205.71	7.04421	1202.94
5300	1472.222	8.14200	1225.76	7.65075	1222.99	7.18241	1220.22
5350	1486.111	8.30027	1243.14	7.79943	1240.38	7.32196	1237.62
5400	1500.000	8.46007	1260.65	7.94955	1257.89	7.46286	1255.14
5450	1513.889	8.62140	1278.27	8.10111	1275.52	7.60511	1272.78
5500	1527.778	8.78426+5	1296.01	8.25411+5	1293.27	7.74870+5	1290.53
5550	1541.667	8.94866	1313.86	8.40855	1311.13	7.89365	1308.39
5600	1555.556	9.11459	1331.83	8.56443	1329.10	8.03996	1326.38
5650	1569.444	9.28206	1349.91	8.72176	1347.19	8.18762	1344.47
5700	1583.333	9.45108	1368.10	8.88054	1365.39	8.33664	1362.68
5750	1597.222	9.62163	1386.40	9.04076	1383.70	8.48702	1381.00
5800	1611.111	9.79373	1404.82	9.20244	1402.12	8.63876	1399.43
5850	1625.000	9.96738	1423.34	9.36556	1420.65	8.79186	1417.96
5900	1638.889	1.01426+6	1441.97	9.53015	1439.29	8.94633	1436.61
5950	1652.778	1.03193	1460.71	9.69619	1458.04	9.10217	145..36
6000	1666.667	1.04976+6	1479.56	9.86369+5	1476.89	9.25938+5	1474.23
6050	1680.556	1.06775	1498.51	1.00327+6	1495.85	9.41796	1493.19
6100	1694.444	1.08589	1517.56	1.02031	1514.91	9.57792	1512.26
6150	1708.333	1.10419	1536.72	1.03750	1534.08	9.73925	1531.43
6200	1722.222	1.12264	1555.98	1.05483	1553.35	9.90196	1550.71
6250	1736.111	1.14125	1575.34	1.07232	1572.71	1.00661+6	1570.08
6300	1750.000	1.16002	1594.80	1.08995	1592.18	1.02315	1589.56
6350	1763.889	1.17895	1614.36	1.10773	1611.74	1.03984	1609.13
6400	1777.778	1.19803	1634.01	1.12566	1631.41	1.05667	1628.80
6450	1791.667	1.21727	1653.76	1.14373	1651.16	1.07363	1648.56
6500	1805.556	1.23668+6	1673.61	1.16196+6	1671.01	1.09074+6	1668.42
6550	1819.444	1.25623	1693.54	1.18033	1690.96	1.10798	1688.38
6600	1833.333	1.27595	1713.57	1.19886	1711.00	1.12537	1708.42
6650	1847.222	1.29583	1733.69	1.21753	1731.13	1.14289	1728.56
6700	1861.111	1.31587	1753.91	1.23635	1751.34	1.16056	1748.78
6750	1875.000	1.33606	1774.20	1.25532	1771.65	1.17836	1769.10
6800	1888.889	1.35642	1794.59	1.27445	1792.04	1.19631	1789.50
6850	1902.778	1.37693	1815.06	1.29372	1812.52	1.21440	1809.98
6900	1916.667	1.39761	1835.62	1.31315	1833.09	1.23263	1830.55
6950	1930.556	1.41845	1856.26	1.33272	1853.73	1.25100	1851.21
7000	1944.444	1.43945+6	1876.98	1.35245+6	1874.46	1.26952+6	1871.94

Продолжение

v, км/ч	v, м/с	H=11500 м		H=12000 м		H=12500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	3.71929+5	811.294	3.43732+5	811.294	3.17670+5	811.294
4050	1125.000	3.81613	825.411	3.52681	825.411	3.25941	825.411
4100	1138.889	3.91419	839.663	3.61744	839.663	3.34317	839.663
4150	1152.778	4.01348	854.049	3.70920	854.049	3.42797	854.049
4200	1166.667	4.11400	868.568	3.80210	868.568	3.51383	868.568
4250	1180.556	4.21577	883.214	3.89615	883.214	3.60075	883.214
4300	1194.444	4.31882	897.968	3.99139	897.968	3.68877	897.968
4350	1208.333	4.42301	912.877	4.08768	912.877	3.77776	912.877
4400	1222.222	4.52844	927.916	4.18512	927.916	3.86781	927.916
4450	1236.111	4.63512	943.085	4.28372	943.085	3.95893	943.085
4500	1250.000	4.74304+5	958.382	4.38346+5	958.382	4.05111+5	958.382
4550	1263.889	4.85220	973.808	4.48433	973.808	4.14434	973.808
4600	1277.778	4.96258	989.362	4.58635	989.362	4.23862	989.362
4650	1291.667	5.07421	1005.04	4.68951	1005.04	4.33396	1005.04
4700	1305.556	5.18706	1020.85	4.79381	1020.85	4.43035	1020.85
4750	1319.444	5.30115	1036.78	4.89925	1036.78	4.52780	1036.78
4800	1333.333	5.41648	1052.84	5.00584	1052.84	4.62630	1052.84
4850	1347.222	5.53304	1069.03	5.11356	1069.03	4.72586	1069.03
4900	1361.111	5.65085	1085.34	5.22243	1085.34	4.82647	1085.34
4950	1375.000	5.76988	1101.77	5.33245	1101.77	4.92815	1101.77
5000	1388.889	5.89016+5	1118.33	5.44360+5	1118.33	5.03088+5	1118.33
5050	1402.778	6.01168	1135.01	5.55591	1135.01	5.13466	1135.01
5100	1416.667	6.13443	1151.81	5.66936	1151.81	5.23951	1151.81
5150	1430.556	6.25843	1168.73	5.78395	1168.73	5.34542	1168.73
5200	1444.444	6.38367	1185.77	5.89970	1185.77	5.45239	1185.77
5250	1458.333	6.51015	1202.94	6.01659	1202.94	5.56042	1202.94
5300	1472.222	6.63787	1220.22	6.13463	1220.22	5.66951	1220.22
5350	1486.111	6.76684	1237.62	6.25382	1237.62	5.77966	1237.62
5400	1500.000	6.89706	1255.14	6.37416	1255.14	5.89088	1255.14
5450	1513.889	7.02852	1272.78	6.49566	1272.78	6.00317	1272.78
5500	1527.778	7.16123+5	1290.53	6.61831+5	1290.53	6.11652+5	1290.53
5550	1541.667	7.29519	1308.39	6.74211	1308.39	6.23093	1308.39
5600	1555.556	7.43040	1326.38	6.86708	1326.38	6.34642	1326.38
5650	1569.444	7.56687	1344.47	6.99320	1344.47	6.46298	1344.47
5700	1583.333	7.70459	1362.68	7.12048	1362.68	6.58061	1362.68
5750	1597.222	7.84357	1381.00	7.24892	1381.00	6.69931	1381.00
5800	1611.111	7.98381	1399.43	7.37852	1399.43	6.81909	1399.43
5850	1625.000	8.12530	1417.96	7.50929	1417.96	6.93994	1417.96
5900	1638.889	8.26806	1436.61	7.64123	1436.61	7.06188	1436.61
5950	1652.778	8.41208	1455.36	7.77433	1455.36	7.18489	1455.36
6000	1666.667	8.55737+5	1474.23	7.90860+5	1474.23	7.30898+5	1474.23
6050	1680.556	8.70393	1493.19	8.04405	1493.19	7.43416	1493.19
6100	1694.444	8.85176	1512.26	8.18067	1512.26	7.56042	1512.26
6150	1708.333	9.00086	1531.43	8.31847	1531.43	7.68777	1531.43
6200	1722.222	9.15124	1550.71	8.45745	1550.71	7.81621	1550.71
6250	1736.111	9.30289	1570.08	8.59760	1570.08	7.94574	1570.08
6300	1750.000	9.45583	1589.56	8.73894	1589.56	8.07637	1589.55
6350	1763.889	9.61005	1609.13	8.88147	1609.13	8.20808	1609.13
6400	1777.778	9.76555	1628.80	9.02518	1628.80	8.34090	1628.80
6450	1791.667	9.92234	1648.56	9.17009	1648.56	8.47482	1648.56
6500	1805.556	1.00804+6	1668.42	9.31618+5	1668.42	8.60983+5	1668.42
6550	1819.444	1.02398	1688.37	9.46347	1688.37	8.74596	1688.37
6600	1833.333	1.04006	1708.42	9.61195	1708.42	8.88318	1708.41
6650	1847.222	1.05624	1728.55	9.76164	1728.55	9.02152	1728.55
6700	1861.111	1.07257	1748.78	9.91252	1748.78	9.16096	1748.77
6750	1875.000	1.08902	1769.09	1.00646+6	1769.09	9.30152	1769.08
6800	1888.889	1.10561	1789.49	1.02179	1789.49	9.44318	1789.48
6850	1902.778	1.12233	1809.98	1.03724	1809.97	9.58597	1809.97
6900	1916.667	1.13918	1830.55	1.05281	1830.54	9.72987	1830.54
6950	1930.556	1.15616	1851.20	1.06850	1851.19	9.87489	1851.19
7000	1944.444	1.17327+6	1871.93	1.08432+6	1871.93	1.00210+6	1871.92

Продолжение

v_1, км/ч	v_1, м/с	H=13000 м		H=13500 м		H=14000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	2.93586+5	811.294	2.71327+5	811.294	2.50757+5	811.294
4050	1125.000	3.01230	825.411	2.78391	825.411	2.57285	825.411
4100	1138.889	3.08970	839.663	2.85545	839.663	2.63897	839.663
4150	1152.778	3.16808	854.049	2.92789	854.049	2.70591	854.049
4200	1166.667	3.24743	868.568	3.00122	868.568	2.77368	868.568
4250	1180.556	3.32776	883.214	3.07546	883.214	2.84229	883.214
4300	1194.444	3.40910	897.968	3.15064	897.968	2.91177	897.968
4350	1208.333	3.49135	912.877	3.22665	912.877	2.98202	912.877
4400	1222.222	3.57457	927.916	3.30356	927.916	3.05310	927.916
4450	1236.111	3.65878	943.085	3.38139	943.085	3.12503	943.085
4500	1250.000	3.74397+5	958.382	3.46011+5	958.382	3.19778+5	958.382
4550	1263.889	3.83013	973.808	3.53974	973.808	3.27138	973.808
4600	1277.778	3.91727	989.362	3.62027	989.362	3.34580	989.362
4650	1291.667	4.00538	1005.04	3.70170	1005.04	3.42106	1005.04
4700	1305.556	4.09446	1020.85	3.78403	1020.85	3.49714	1020.85
4750	1319.444	4.18452	1036.78	3.86726	1036.78	3.57406	1036.78
4800	1333.333	4.27556	1052.84	3.95140	1052.84	3.65182	1052.84
4850	1347.222	4.36757	1069.03	4.03643	1069.03	3.73041	1069.03
4900	1361.111	4.46055	1085.34	4.12237	1085.34	3.80983	1085.34
4950	1375.000	4.55452	1101.77	4.20921	1101.77	3.89009	1101.77
5000	1388.889	4.64946+5	1118.33	4.29695+5	1118.33	3.97118+5	1118.33
5050	1402.778	4.74538	1135.01	4.38560	1135.01	4.05310	1135.01
5100	1416.667	4.84228	1151.81	4.47515	1151.81	4.13587	1151.81
5150	1430.556	4.94016	1168.73	4.56561	1168.73	4.21947	1168.73
5200	1444.444	5.03901	1185.77	4.65697	1185.77	4.30390	1185.77
5250	1458.333	5.13885	1202.94	4.74924	1202.94	4.38918	1202.94
5300	1472.222	5.23967	1220.22	4.84242	1220.22	4.47529	1220.22
5350	1486.111	5.34148	1237.62	4.93650	1237.62	4.56224	1237.62
5400	1500.000	5.44426	1255.14	5.03150	1255.14	4.65003	1255.14
5450	1513.889	5.54803	1272.78	5.12740	1272.78	4.73866	1272.78
5500	1527.778	5.65279+5	1290.53	5.22422+5	1290.53	4.82814+5	1290.53
5550	1541.667	5.75854	1308.39	5.32194	1308.39	4.91846	1308.39
5600	1555.556	5.86527	1326.38	5.42058	1326.38	5.00962	1326.38
5650	1569.444	5.97299	1344.47	5.52014	1344.47	5.10162	1344.47
5700	1583.333	6.08170	1362.68	5.62060	1362.68	5.19448	1362.68
5750	1597.222	6.19140	1381.00	5.72199	1381.00	5.28818	1381.00
5800	1611.111	6.30210	1399.42	5.82429	1399.42	5.38272	1399.42
5850	1625.000	6.41379	1417.96	5.92752	1417.96	5.47812	1417.96
5900	1638.889	6.52648	1436.61	6.03166	1436.61	5.57437	1436.61
5950	1652.778	6.64016	1455.36	6.13673	1455.36	5.67147	1455.36
6000	1666.667	6.75485+5	1474.22	6.24272+5	1474.22	5.76942+5	1474.22
6050	1680.556	6.87054	1493.19	6.34963	1493.19	5.86823	1493.19
6100	1694.444	6.98723	1512.26	6.45748	1512.26	5.96790	1512.26
6150	1708.333	7.10492	1531.43	6.56625	1531.43	6.06843	1531.43
6200	1722.222	7.22362	1550.71	6.67595	1550.71	6.16981	1550.71
6250	1736.111	7.34333	1570.08	6.78659	1570.08	6.27206	1570.08
6300	1750.000	7.46405	1589.55	6.89815	1589.55	6.37517	1589.55
6350	1763.889	7.58579	1609.13	7.01066	1609.12	6.47914	1609.12
6400	1777.778	7.70853	1628.79	7.12410	1628.79	6.58398	1628.79
6450	1791.667	7.83230	1648.56	7.23848	1648.56	6.68969	1648.56
6500	1805.556	7.95708+5	1668.42	7.35380+5	1668.42	6.79626+5	1668.41
6550	1819.444	8.08288	1688.37	7.47006	1688.37	6.90371	1688.36
6600	1833.333	8.20970	1708.41	7.58727	1708.41	7.01203	1708.41
6650	1847.222	8.33755	1728.55	7.70542	1728.54	7.12123	1728.54
6700	1861.111	8.46642	1748.77	7.82452	1748.77	7.23130	1748.76
6750	1875.000	8.59632	1769.08	7.94457	1769.08	7.34224	1769.07
6800	1888.889	8.72724	1789.48	8.06557	1789.47	7.45407	1789.47
6850	1902.778	8.85920	1809.96	8.18752	1809.96	7.56678	1809.95
6900	1916.667	8.99219	1830.53	8.31043	1830.52	7.68036	1830.51
6950	1930.556	9.12621	1851.18	8.43429	1851.17	7.79483	1851.16
7000	1944.444	9.26127+5	1871.91	8.55910+5	1871.90	7.91018+5	1871.89

Продолжение

v, км/ч	v, м/с	H=14500 м		H=15000 м		H=15500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	2.31745+5	811.294	2.14175+5	811.294	1.97937+5	811.294
4050	1125.000	2.37778	825.411	2.19751	825.411	2.03090	825.411
4100	1138.889	2.43888	839.663	2.25398	839.663	2.08309	839.663
4150	1152.778	2.50075	854.049	2.31116	854.049	2.13593	854.049
4200	1166.667	2.56339	868.568	2.36904	868.568	2.18943	868.568
4250	1180.556	2.62680	883.214	2.42764	883.214	2.24359	883.214
4300	1194.444	2.69100	897.968	2.48698	897.968	2.29843	897.968
4350	1208.333	2.75593	912.877	2.54698	912.877	2.35388	912.877
4400	1222.222	2.82162	927.916	2.60769	927.916	2.40999	927.916
4450	1236.111	2.88809	943.085	2.66913	943.085	2.46677	943.085
4500	1250.000	2.95534+5	958.382	2.73127+5	958.382	2.52420+5	958.382
4550	1263.889	3.02335	973.808	2.79413	973.808	2.58229	973.808
4600	1277.778	3.09213	989.362	2.85770	989.362	2.64104	989.362
4650	1291.667	3.16168	1005.04	2.92197	1005.04	2.70044	1005.04
4700	1305.556	3.23200	1020.85	2.98696	1020.85	2.76050	1020.85
4750	1319.444	3.30309	1036.78	3.05266	1036.78	2.82122	1036.78
4800	1333.333	3.37495	1052.84	3.11907	1052.84	2.88260	1052.84
4850	1347.222	3.44758	1069.03	3.18620	1069.03	2.94463	1069.03
4900	1361.111	3.52098	1085.34	3.25403	1085.34	3.00732	1085.34
4950	1375.000	3.59515	1101.77	3.32258	1101.77	3.07067	1101.77
5000	1388.889	3.67009+5	1118.33	3.39184+5	1118.33	3.13469+5	1118.33
5050	1402.778	3.74581	1135.01	3.46181	1135.01	3.19935	1135.01
5100	1416.667	3.82229	1151.81	3.53250	1151.81	3.26468	1151.81
5150	1430.556	3.89955	1168.73	3.60391	1168.73	3.33067	1168.73
5200	1444.444	3.97759	1185.77	3.67602	1185.77	3.39732	1185.77
5250	1458.333	4.05640	1202.94	3.74885	1202.94	3.46464	1202.94
5300	1472.222	4.13598	1220.22	3.82241	1220.22	3.53261	1220.22
5350	1486.111	4.21634	1237.62	3.89668	1237.62	3.60125	1237.62
5400	1500.000	4.29748	1255.14	3.97166	1255.14	3.67055	1255.14
5450	1513.889	4.37939	1272.78	4.04736	1272.78	3.74051	1272.78
5500	1527.778	4.46208+5	1290.53	4.12378+5	1290.53	3.81114+5	1290.53
5550	1541.667	4.54555	1308.39	4.20092	1308.39	3.88243	1308.39
5600	1555.556	4.62980	1326.38	4.27879	1326.38	3.95439	1326.38
5650	1569.444	4.71483	1344.47	4.35737	1344.47	4.02701	1344.47
5700	1583.333	4.80064	1362.68	4.43668	1362.68	4.10031	1362.68
5750	1597.222	4.88724	1381.00	4.51671	1381.00	4.17427	1381.00
5800	1611.111	4.97462	1399.42	4.59746	1399.42	4.24890	1399.42
5850	1625.000	5.06278	1417.96	4.67894	1417.96	4.32420	1417.96
5900	1638.889	5.15173	1436.61	4.76115	1436.61	4.40018	1436.61
5950	1652.778	5.24147	1455.36	4.84408	1455.36	4.47683	1455.36
6000	1666.667	5.33200+5	1474.22	4.92775+5	1474.22	4.55415+5	1474.22
6050	1680.556	5.42332	1493.19	5.01214	1493.19	4.63214	1493.19
6100	1694.444	5.51543	1512.26	5.09727	1512.26	4.71082	1512.26
6150	1708.333	5.60833	1531.43	5.18313	1531.43	4.79017	1531.43
6200	1722.222	5.70203	1550.70	5.26972	1550.70	4.87020	1550.70
6250	1736.111	5.79652	1570.08	5.35705	1570.08	4.95090	1570.08
6300	1750.000	5.89181	1589.55	5.44512	1589.55	5.03229	1589.55
6350	1763.889	5.98790	1609.12	5.53393	1609.12	5.11437	1609.12
6400	1777.778	6.08480	1628.79	5.62347	1628.79	5.19712	1628.79
6450	1791.667	6.18249	1648.55	5.71376	1648.55	5.28056	1648.55
6500	1805.556	6.28099+5	1668.41	5.80479+5	1668.41	5.36469+5	1668.41
6550	1819.444	6.38029	1688.36	5.89656	1688.36	5.44950	1688.36
6600	1833.333	6.48039	1708.40	5.98908	1708.40	5.53501	1708.40
6650	1847.222	6.58131	1728.54	6.08234	1728.53	5.62120	1728.53
6700	1861.111	6.68303	1748.76	6.17635	1748.76	5.70808	1748.75
6750	1875.000	6.78557	1769.07	6.27111	1769.06	5.79566	1769.06
6800	1888.889	6.88891	1789.46	6.36662	1789.46	5.88393	1789.45
6850	1902.778	6.99307	1809.94	6.46288	1809.94	5.97289	1809.93
6900	1916.667	7.09805	1830.51	6.55990	1830.50	6.06255	1830.49
6950	1930.556	7.20384	1851.15	6.65766	1851.14	6.15290	1851.13
7000	1944.444	7.31044+5	1871.88	6.75619+5	1871.87	6.24395+5	1871.85

Продолжение

v, км/ч	v, м/с	$H=16000$ м		$H=16500$ м		$H=17000$ м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111,111	1,82930+5	811,294	1,69061+5	811,294	1,56244+5	811,294
4050	1125,000	1,87693	825,411	1,73463	825,411	1,60311	825,411
4100	1138,889	1,92516	839,663	1,77920	839,663	1,64431	839,663
4150	1152,778	1,97399	854,049	1,82433	854,049	1,68602	854,049
4200	1166,667	2,02343	868,568	1,87003	868,568	1,72825	868,568
4250	1180,556	2,07349	883,214	1,91628	883,214	1,77100	883,214
4300	1194,444	2,12417	897,968	1,96313	897,968	1,81429	897,968
4350	1208,333	2,17542	912,877	2,01049	912,877	1,85806	912,877
4400	1222,222	2,22727	927,916	2,05841	927,916	1,90235	927,916
4450	1236,111	2,27974	943,085	2,10690	943,085	1,94717	943,085
4500	1250,000	2,33282+5	958,382	2,15596+5	958,382	1,99250+5	958,382
4550	1263,889	2,38651	973,808	2,20557	973,808	2,03836	973,808
4600	1277,778	2,44080	989,362	2,25575	989,362	2,08473	989,362
4650	1291,667	2,49570	1005,04	2,30649	1005,04	2,13162	1005,04
4700	1305,556	2,55121	1020,85	2,35779	1020,85	2,17903	1020,85
4750	1319,444	2,60733	1036,78	2,40965	1036,78	2,22696	1036,78
4800	1333,333	2,66405	1052,84	2,46207	1052,84	2,27541	1052,84
4850	1347,222	2,72138	1069,03	2,51506	1069,03	2,32437	1069,03
4900	1361,111	2,77932	1085,34	2,56860	1085,34	2,37386	1085,34
4950	1375,000	2,83787	1101,77	2,62271	1101,77	2,42387	1101,77
5000	1388,889	2,89702+5	1118,33	2,67738+5	1118,33	2,47439+5	1118,33
5050	1402,778	2,95679	1135,01	2,73262	1135,01	2,52544	1135,01
5100	1416,667	3,01717	1151,81	2,78842	1151,81	2,57701	1151,81
5150	1430,556	3,07815	1168,73	2,84478	1168,73	2,62910	1168,73
5200	1444,444	3,13975	1185,77	2,90171	1185,77	2,68171	1185,77
5250	1458,333	3,20196	1202,94	2,95920	1202,94	2,73484	1202,94
5300	1472,222	3,26478	1220,22	3,01726	1220,22	2,78850	1220,22
5350	1486,111	3,32821	1237,62	3,07588	1237,62	2,84268	1237,62
5400	1500,000	3,39226	1255,14	3,13507	1255,14	2,89738	1255,14
5450	1513,889	3,45692	1272,78	3,19483	1272,78	2,95261	1272,78
5500	1527,778	3,52219+5	1290,53	3,25515+5	1290,53	3,00836+5	1290,53
5550	1541,667	3,58808	1308,39	3,31604	1308,39	3,06463	1308,39
5600	1555,556	3,65458	1326,38	3,37750	1326,38	3,12143	1326,38
5650	1569,444	3,72170	1344,47	3,43953	1344,47	3,17876	1344,47
5700	1583,333	3,78944	1362,68	3,50214	1362,68	3,23662	1362,68
5750	1597,222	3,85779	1381,00	3,56531	1381,00	3,29500	1381,00
5800	1611,111	3,92676	1399,42	3,62905	1399,42	3,35391	1399,42
5850	1625,000	3,99636	1417,96	3,69337	1417,96	3,41335	1417,96
5900	1638,889	4,06657	1436,61	3,75826	1436,61	3,47332	1436,61
5950	1652,778	4,13741	1455,36	3,82373	1455,36	3,53383	1455,36
6000	1666,667	4,20887+5	1474,22	3,88977+5	1474,22	3,59486+5	1474,22
6050	1680,555	4,28095	1493,19	3,95639	1493,19	3,65643	1493,19
6100	1694,444	4,35366	1512,26	4,02358	1512,26	3,71853	1512,26
6150	1708,333	4,42699	1531,43	4,09136	1531,43	3,78116	1531,43
6200	1722,222	4,50095	1550,70	4,15971	1550,70	3,84434	1550,70
6250	1736,111	4,57554	1570,08	4,22864	1570,08	3,90804	1570,08
6300	1750,000	4,65076	1589,55	4,29816	1589,55	3,97229	1589,55
6350	1763,889	4,72661	1609,12	4,36826	1609,12	4,03707	1609,12
6400	1777,778	4,80309	1628,79	4,43894	1628,79	4,10240	1628,78
6450	1791,667	4,88021	1648,55	4,51021	1648,55	4,16826	1648,55
6500	1805,556	4,95796+5	1668,41	4,58206+5	1668,40	4,23467+5	1668,40
6550	1819,444	5,03634	1688,36	4,65450	1688,35	4,30162	1688,35
6600	1833,333	5,11536	1708,40	4,72753	1708,39	4,36911	1708,39
6650	1847,222	5,19502	1728,53	4,80115	1728,52	4,43714	1728,52
6700	1861,111	5,27531	1748,75	4,87536	1748,74	4,50573	1748,74
6750	1875,000	5,35625	1769,05	4,95016	1769,05	4,57485	1769,04
6800	1888,889	5,43782	1789,45	5,02555	1789,44	4,64453	1789,43
6850	1902,778	5,52004	1809,92	5,10153	1809,92	4,71475	1809,91
6900	1916,667	5,60290	1830,48	5,17811	1830,47	4,78552	1830,46
6950	1930,556	5,68640	1851,12	5,25528	1851,11	4,85684	1851,10
7000	1944,444	5,77055+5	1871,84	5,33304+5	1871,83	4,92871+5	1871,82

Продолжение

$V_{пр}$, км/ч	v, м/с	$H=17500$ м		$H=18000$ м		$H=18500$ м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	1.44398+5	811.294	1.33450+5	811.294	1.23332+5	811.294
4050	1125.000	1.48157	825.411	1.36925	825.411	1.26543	825.411
4100	1138.889	1.51964	839.663	1.40443	839.663	1.29795	839.663
4150	1152.778	1.55819	854.049	1.44006	854.049	1.33088	854.049
4200	1166.667	1.59722	868.568	1.47613	868.568	1.36421	868.568
4250	1180.556	1.63673	883.214	1.51264	883.214	1.39796	883.214
4300	1194.444	1.67674	897.968	1.54961	897.968	1.43213	897.968
4350	1208.333	1.71719	912.877	1.58700	912.877	1.46668	912.877
4400	1222.222	1.75812	927.916	1.62483	927.916	1.50164	927.916
4450	1236.111	1.79954	943.085	1.66311	943.085	1.53702	943.085
4500	1250.000	1.84144+5	958.382	1.70183+5	958.382	1.57280+5	958.382
4550	1263.889	1.88382	973.808	1.74099	973.808	1.60900	973.808
4600	1277.778	1.92667	989.362	1.78060	989.362	1.64560	989.362
4650	1291.667	1.97001	1005.04	1.82065	1005.04	1.68262	1005.04
4700	1305.556	2.01382	1020.85	1.86114	1020.85	1.72004	1020.85
4750	1319.444	2.05812	1036.78	1.90208	1036.78	1.75787	1036.78
4800	1333.333	2.10289	1052.84	1.94346	1052.84	1.79611	1052.84
4850	1347.222	2.14815	1069.03	1.98529	1069.03	1.83477	1069.03
4900	1361.111	2.19388	1085.34	2.02755	1085.34	1.87383	1085.34
4950	1375.000	2.24010	1101.77	2.07026	1101.77	1.91330	1101.77
5000	1388.889	2.28679+5	1118.33	2.11342+5	1118.33	1.95319+5	1118.33
5050	1402.778	2.33397	1135.01	2.15702	1135.01	1.99348	1135.01
5100	1416.667	2.38163	1151.81	2.20107	1151.81	2.03419	1151.81
5150	1430.556	2.42977	1168.73	2.24556	1168.73	2.07531	1168.73
5200	1444.444	2.47839	1185.77	2.29049	1185.77	2.11684	1185.77
5250	1458.333	2.52750	1202.94	2.33588	1202.94	2.15878	1202.94
5300	1472.222	2.57709	1220.22	2.38170	1220.22	2.20113	1220.22
5350	1486.111	2.62716	1237.62	2.42798	1237.62	2.24390	1237.62
5400	1500.000	2.67771	1255.14	2.47470	1255.14	2.28708	1255.14
5450	1513.889	2.72875	1272.78	2.52187	1272.78	2.33067	1272.78
5500	1527.778	2.78027+5	1290.53	2.56949+5	1290.53	2.37468+5	1290.53
5550	1541.667	2.83228	1308.39	2.61755	1308.39	2.41910	1308.39
5600	1555.556	2.88478	1326.38	2.66607	1326.38	2.46393	1326.38
5650	1569.444	2.93776	1344.47	2.71503	1344.47	2.50919	1344.47
5700	1583.333	2.99123	1362.68	2.76445	1362.68	2.55486	1362.68
5750	1597.222	3.04519	1381.00	2.81431	1381.00	2.60094	1381.00
5800	1611.111	3.09963	1399.42	2.86463	1399.42	2.64744	1399.42
5850	1625.000	3.15456	1417.96	2.91540	1417.96	2.69436	1417.96
5900	1638.889	3.20999	1436.61	2.96662	1436.61	2.74170	1436.61
5950	1652.778	3.26590	1455.36	3.01830	1455.36	2.78946	1455.36
6000	1666.667	3.32231+5	1474.22	3.07043+5	1474.22	2.83764+5	1474.22
6050	1680.556	3.37921	1493.19	3.12301	1493.19	2.88624	1493.19
6100	1694.444	3.43660	1512.26	3.17606	1512.26	2.93526	1512.26
6150	1708.333	3.49449	1531.43	3.22955	1531.43	2.98470	1531.43
6200	1722.222	3.55287	1550.70	3.28351	1550.70	3.03456	1550.70
6250	1736.111	3.61175	1570.07	3.33792	1570.07	3.08485	1570.07
6300	1750.000	3.67112	1589.55	3.39280	1589.55	3.13556	1589.55
6350	1763.889	3.73100	1609.12	3.44813	1609.12	3.18670	1609.11
6400	1777.778	3.79137	1628.78	3.50392	1628.78	3.23827	1628.78
6450	1791.667	3.85224	1648.55	3.56018	1648.54	3.29026	1648.54
6500	1805.556	3.91361+5	1668.40	3.61690+5	1668.40	3.34267+5	1668.40
6550	1819.444	3.97548	1688.35	3.67408	1688.35	3.39552	1688.34
6600	1833.333	4.03786	1708.39	3.73172	1708.38	3.44879	1708.38
6650	1847.222	4.10073	1728.52	3.78983	1728.51	3.50250	1728.51
6700	1861.111	4.16412	1748.73	3.84841	1748.73	3.55663	1748.72
6750	1875.000	4.22800	1769.04	3.90745	1769.03	3.61120	1769.03
6800	1888.889	4.29239	1789.43	3.96696	1789.42	3.66619	1789.41
6850	1902.778	4.35729	1809.90	4.02694	1809.89	3.72162	1809.88
6900	1916.667	4.42269	1830.45	4.08738	1830.44	3.77748	1830.43
6950	1930.556	4.48860	1851.09	4.14829	1851.08	3.83378	1851.06
7000	1944.444	4.55502+5	1871.80	4.20968+5	1871.79	3.89051+5	1871.77

Продолжение

v, км/ч	v, м/с	$H=19000$ м		$H=19600$ м		$H=20000$ м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111.111	1.13982+5	811.294	1.05340+5	811.294	9.73537+4	811.294
4050	1125.000	1.16949	825.411	1.08083	825.411	9.98883	825.411
4100	1138.889	1.19954	839.663	1.10860	839.663	1.02455+5	839.663
4150	1152.778	1.22997	854.049	1.13672	854.049	1.05054	854.049
4200	1166.667	1.26078	868.568	1.16519	868.568	1.07685	868.568
4250	1180.556	1.29197	883.214	1.19402	883.214	1.10349	883.214
4300	1194.444	1.32355	897.968	1.22320	897.968	1.13046	897.968
4350	1208.333	1.35548	912.877	1.25271	912.877	1.15774	912.877
4400	1222.222	1.38779	927.916	1.28257	927.916	1.18533	927.916
4450	1236.111	1.42048	943.085	1.31279	943.085	1.21326	943.085
4500	1250.000	1.45356+5	958.382	1.34336+5	958.382	1.24151+5	958.382
4550	1263.889	1.48701	973.808	1.37427	973.808	1.27008	973.808
4600	1277.778	1.52084	989.362	1.40554	989.362	1.29897	989.362
4650	1291.667	1.55505	1005.04	1.43715	1005.04	1.32819	1005.04
4700	1305.556	1.58963	1020.85	1.46911	1020.85	1.35773	1020.85
4750	1319.444	1.62460	1036.78	1.50143	1036.78	1.38759	1036.78
4800	1333.333	1.65994	1052.84	1.53409	1052.84	1.41778	1052.84
4850	1347.222	1.69566	1069.03	1.56710	1069.03	1.44829	1069.03
4900	1361.111	1.73176	1085.34	1.60047	1085.34	1.47913	1085.34
4950	1375.000	1.76824	1101.77	1.63418	1101.77	1.51029	1101.77
5000	1388.889	1.80510+5	1118.33	1.66825+5	1118.33	1.54177+5	1118.33
5050	1402.778	1.84234	1135.01	1.70267	1135.01	1.57358	1135.01
5100	1416.667	1.87996	1151.81	1.73743	1151.81	1.60571	1151.81
5150	1430.556	1.91796	1168.73	1.77255	1168.73	1.63816	1168.73
5200	1444.444	1.95634	1185.77	1.80802	1185.77	1.67095	1185.77
5250	1458.333	1.99511	1202.94	1.84385	1202.94	1.70405	1202.94
5300	1472.222	2.03425	1220.22	1.88002	1220.22	1.73748	1220.22
5350	1486.111	2.07377	1237.62	1.91655	1237.62	1.77124	1237.62
5400	1500.000	2.11368	1255.14	1.95343	1255.14	1.80533	1255.14
5450	1513.889	2.15397	1272.78	1.99066	1272.78	1.83974	1272.78
5500	1527.778	2.19464+5	1290.53	2.02825+5	1290.53	1.87448+5	1290.53
5550	1541.667	2.23569	1308.39	2.06619	1308.39	1.90954	1308.39
5600	1555.556	2.27713	1326.38	2.10449	1326.38	1.94493	1326.38
5650	1569.444	2.31895	1344.47	2.14314	1344.47	1.98065	1344.47
5700	1583.333	2.36116	1362.68	2.18214	1362.68	2.01670	1362.68
5750	1597.222	2.40375	1381.00	2.22151	1381.00	2.05308	1381.00
5800	1611.111	2.44672	1399.42	2.26122	1399.42	2.08979	1399.42
5850	1625.000	2.49009	1417.96	2.30130	1417.96	2.12682	1417.96
5900	1638.889	2.53384	1436.61	2.34173	1436.61	2.16419	1436.61
5950	1652.778	2.57797	1455.36	2.38252	1455.36	2.20189	1455.36
6000	1666.667	2.62250+5	1474.22	2.42367+5	1474.22	2.23992+5	1474.22
6050	1680.556	2.66741	1493.19	2.46518	1493.19	2.27828	1493.19
6100	1694.444	2.71272	1512.26	2.50705	1512.26	2.31698	1512.26
6150	1708.333	2.75841	1531.43	2.54928	1531.43	2.35600	1531.43
6200	1722.222	2.80449	1550.70	2.59187	1550.70	2.39536	1550.70
6250	1736.111	2.85097	1570.07	2.63482	1570.07	2.43506	1570.07
6300	1750.000	2.89784	1589.54	2.67814	1589.54	2.47509	1589.54
6350	1763.889	2.94510	1609.11	2.72181	1609.11	2.51546	1609.11
6400	1777.778	2.99275	1628.78	2.76586	1628.78	2.55616	1628.78
6450	1791.667	3.04080	1648.54	2.81026	1648.54	2.59720	1648.54
6500	1805.556	3.08924+5	1668.39	2.85503+5	1668.39	2.63857+5	1668.39
6550	1819.444	3.13808	1688.34	2.90017	1688.34	2.68029	1688.33
6600	1833.333	3.18732	1708.38	2.94567	1708.37	2.72234	1708.37
6650	1847.222	3.23695	1728.50	2.99154	1728.50	2.76473	1728.50
6700	1861.111	3.28698	1748.72	3.03778	1748.71	2.80746	1748.71
6750	1875.000	3.33741	1769.02	3.08438	1769.01	2.85053	1769.01
6800	1888.889	3.38823	1789.40	3.13135	1789.40	2.89394	1789.39
6850	1902.778	3.43946	1809.87	3.17869	1809.86	2.93769	1809.85
6900	1916.667	3.49109	1830.42	3.22640	1830.41	2.98179	1830.40
6950	1930.556	3.54311	1851.05	3.27448	1851.04	3.02622	1851.02
7000	1944.444	3.59554+5	1871.76	3.32293+5	1871.74	3.07100+5	1871.73

Продолжение

v, км/ч	v, м/с	H=20500 м		H=21000 м		H=21500 м	
		$p_д$, Па	T_0^r, К	$p_д$, Па	T_0^r, К	$p_д$, Па	T_0^r, К
4000	1111.111	8.97683+4	811.752	8.27892+4	812.209	7.63670+4	812.666
4050	1125.000	9.21056	825.867	8.49450	826.323	7.83556	826.779
4100	1138.889	9.44726	840.118	8.71281	840.573	8.03695	841.027
4150	1152.778	9.68692	854.502	8.93335	854.956	8.24086	855.409
4200	1166.667	9.92956	869.021	9.15764	869.473	8.44730	869.925
4250	1180.556	1.01752+5	883.662	9.38423	884.108	8.65636	884.552
4300	1194.444	1.04239	898.418	9.61361	898.867	8.86793	899.317
4350	1208.333	1.06754	913.325	9.84551	913.773	9.08186	914.222
4400	1222.222	1.09299	928.363	1.00803+5	928.810	9.29842	929.257
4450	1236.111	1.11874	943.530	1.03178	943.976	9.51752	944.422
4500	1250.000	1.14479+5	958.826	1.05580+5	959.271	9.73915+4	959.715
4550	1263.889	1.17114	974.251	1.08010	974.694	9.96332	975.137
4600	1277.778	1.19778	989.804	1.10468	990.246	1.01900+5	990.688
4650	1291.667	1.22473	1005.48	1.12953	1005.92	1.04193	1006.36
4700	1305.556	1.25197	1021.29	1.15465	1021.73	1.06510	1022.17
4750	1319.444	1.27950	1037.22	1.18005	1037.66	1.08853	1038.10
4800	1333.333	1.30734	1053.28	1.20573	1053.72	1.11222	1054.16
4850	1347.222	1.33548	1069.46	1.23168	1069.90	1.13616	1070.34
4900	1361.111	1.36391	1085.77	1.25790	1086.21	1.16035	1086.64
4950	1375.000	1.39264	1102.20	1.28440	1102.64	1.18480	1103.07
5000	1388.889	1.42168+5	1118.76	1.31118+5	1119.19	1.20950+5	1119.63
5050	1402.778	1.45101	1135.44	1.33823	1135.87	1.23445	1136.30
5100	1416.667	1.48064	1152.24	1.36556	1152.67	1.25966	1153.10
5150	1430.556	1.51057	1169.16	1.39316	1169.59	1.28513	1170.02
5200	1444.444	1.54080	1186.20	1.42105	1186.63	1.31085	1187.06
5250	1458.333	1.57133	1203.36	1.44920	1203.79	1.33682	1204.22
5300	1472.222	1.60215	1220.65	1.47764	1221.07	1.36305	1221.50
5350	1486.111	1.63328	1238.05	1.50635	1238.47	1.38954	1238.90
5400	1500.000	1.66472	1255.56	1.53534	1255.99	1.41628	1256.41
5450	1513.889	1.69645	1273.20	1.56461	1273.62	1.44328	1274.04
5500	1527.778	1.72848+5	1290.95	1.59415+5	1291.37	1.47053+5	1291.79
5550	1541.667	1.76081	1308.81	1.62397	1309.23	1.49804	1309.66
5600	1555.556	1.79345	1326.79	1.65407	1327.21	1.52581	1327.63
5650	1569.444	1.82639	1344.89	1.68445	1345.31	1.55384	1345.72
5700	1583.333	1.85963	1363.09	1.71511	1363.51	1.58212	1363.93
5750	1597.222	1.89318	1381.41	1.74605	1381.83	1.61066	1382.24
5800	1611.111	1.92703	1399.84	1.77727	1400.25	1.63946	1400.67
5850	1625.000	1.96118	1418.38	1.80877	1418.79	1.66852	1419.20
5900	1638.889	1.99564	1437.02	1.84056	1437.43	1.69784	1437.85
5950	1652.778	2.03040	1455.77	1.87262	1455.18	1.72742	1456.60
6000	1666.667	2.06547+5	1474.63	1.90496+5	1475.04	1.75726+5	1475.45
6050	1680.556	2.10085	1493.60	1.93759	1494.00	1.78735	1494.41
6100	1694.444	2.13653	1512.66	1.97050	1513.07	1.81771	1513.48
6150	1708.333	2.17252	1531.83	2.00369	1532.24	1.84833	1532.65
6200	1722.222	2.20882	1551.10	2.03717	1551.51	1.87921	1551.91
6250	1736.111	2.24542	1570.47	2.07093	1570.88	1.91036	1571.28
6300	1750.000	2.28233	1589.94	2.10498	1590.35	1.94177	1590.75
6350	1763.889	2.31956	1609.51	2.13931	1609.91	1.97344	1610.31
6400	1777.778	2.35709	1629.18	2.17393	1629.57	2.00537	1629.97
6450	1791.667	2.39494	1648.93	2.20883	1649.33	2.03757	1649.73
6500	1805.556	2.43309+5	1668.78	2.24402+5	1669.18	2.07003+5	1669.58
6550	1819.444	2.47156	1688.73	2.27950	1689.12	2.10276	1689.52
6600	1833.333	2.51033	1708.76	2.31527	1709.15	2.13575	1709.55
6650	1847.222	2.54942	1728.89	2.35132	1729.27	2.16901	1729.66
6700	1861.111	2.58883	1749.10	2.38766	1749.48	2.20254	1749.87
6750	1875.000	2.62855	1769.39	2.42429	1769.78	2.23633	1770.16
6800	1888.889	2.66858	1789.77	2.46121	1790.15	2.27039	1790.53
6850	1902.778	2.70892	1810.23	2.49843	1810.61	2.30471	1810.99
6900	1916.667	2.74958	1830.78	2.53593	1831.15	2.33931	1831.53
6950	1930.556	2.79056	1851.40	2.57372	1851.77	2.37417	1852.14
7000	1944.444	2.83184+5	1872.09	2.61180+5	1872.46	2.40930+5	1872.83

Продолжение

v, км/ч	v_0, м/с	H=22000 м		H=22500 м		H=23000 м	
		$p_{\text{ж}}$, Па	T'_0, К	$p_{\text{ж}}$, Па	T'_0, К	$p_{\text{ж}}$, Па	T'_0, К
4000	1111,111	7,04560+4	813,123	6,50144+4	813,581	6,00042+4	814,038
4050	1125,000	7,22908	827,235	6,67076	827,691	6,15571	828,147
4100	1138,889	7,41490	841,482	6,84223	841,936	6,31497	842,391
4150	1152,778	7,60304	855,863	7,01586	856,316	6,47523	856,769
4200	1166,667	7,79351	870,377	7,19163	870,829	6,63747	871,281
4250	1180,556	7,98644	884,993	7,36967	885,443	6,80180	885,894
4300	1194,444	8,18161	899,766	7,54978	900,215	6,96804	900,664
4350	1208,333	8,37899	914,670	7,73193	915,118	7,13616	915,566
4400	1222,222	8,57881	929,704	7,91633	930,150	7,30636	930,597
4450	1236,111	8,78096	944,867	8,10288	945,313	7,47855	945,758
4500	1250,000	8,98546+4	960,160	8,29159+4	960,604	7,65273+4	961,048
4550	1263,889	9,19228	975,581	8,48246	976,024	7,82890	976,467
4600	1277,778	9,40145	991,130	8,67548	991,571	8,00706	992,013
4650	1291,667	9,61295	1006,81	8,87066	1007,25	8,18721	1007,69
4700	1305,556	9,82680	1022,61	9,06801	1023,05	8,36936	1023,49
4750	1319,444	1,00430+5	1038,54	9,26751	1038,98	8,55350	1039,41
4800	1333,333	1,02615	1054,59	9,46917	1055,03	8,73963	1055,47
4850	1347,222	1,04824	1070,77	9,67300	1071,21	8,92776	1071,64
4900	1361,111	1,07056	1087,08	9,87898	1087,51	9,11789	1087,95
4950	1375,000	1,09312	1103,51	1,00871+5	1103,94	9,31001	1104,37
5000	1388,889	1,11591+5	1120,06	1,02975+5	1120,49	9,50414+4	1120,92
5050	1402,778	1,13893	1136,73	1,05099	1137,16	9,70026	1137,60
5100	1416,667	1,16219	1153,53	1,07246	1153,96	9,89838	1154,39
5150	1430,556	1,18569	1170,45	1,09414	1170,88	1,00985+5	1171,31
5200	1444,444	1,20942	1187,49	1,11604	1187,91	1,03006	1188,34
5250	1458,333	1,23338	1204,65	1,13816	1205,07	1,05048	1205,50
5300	1472,222	1,25759	1221,92	1,16049	1222,35	1,07109	1222,78
5350	1486,111	1,28202	1239,32	1,18304	1239,74	1,09191	1240,17
5400	1500,000	1,30670	1256,83	1,20581	1257,26	1,11292	1257,68
5450	1513,889	1,33161	1274,47	1,22880	1274,89	1,13414	1275,31
5500	1527,778	1,35675+5	1292,21	1,25201+5	1292,63	1,15556+5	1293,06
5550	1541,667	1,38214	1310,08	1,27543	1310,50	1,17718	1310,92
5600	1555,556	1,40776	1328,05	1,29907	1328,47	1,19900	1328,89
5650	1569,444	1,43362	1346,14	1,32294	1346,56	1,22103	1346,98
5700	1583,333	1,45971	1364,35	1,34702	1364,76	1,24326	1365,18
5750	1597,222	1,48605	1382,66	1,37132	1383,07	1,26569	1383,49
5800	1611,111	1,51262	1401,08	1,39584	1401,50	1,28832	1401,91
5850	1625,000	1,53943	1419,62	1,42059	1420,03	1,31116	1420,44
5900	1638,889	1,56648	1438,26	1,44555	1438,67	1,33420	1439,08
5950	1652,778	1,59377	1457,01	1,47073	1457,42	1,35744	1457,83
6000	1666,667	1,62130+5	1475,86	1,49614+5	1476,27	1,38089+5	1476,68
6050	1680,556	1,64907	1494,82	1,52177	1495,23	1,40455	1495,64
6100	1694,444	1,67708	1513,89	1,54761	1514,29	1,42841	1514,70
6150	1708,333	1,70534	1533,05	1,57369	1533,46	1,45247	1533,86
6200	1722,222	1,73383	1552,32	1,59998	1552,72	1,47674	1553,13
6250	1736,111	1,76257	1571,69	1,62650	1572,09	1,50122	1572,49
6300	1750,000	1,79154	1591,15	1,65324	1591,55	1,52590	1591,95
6350	1763,889	1,82076	1610,71	1,68021	1611,11	1,55079	1611,51
6400	1777,778	1,85023	1630,37	1,70740	1630,77	1,57589	1631,17
6450	1791,667	1,87994	1650,13	1,73481	1650,52	1,60119	1650,92
6500	1805,556	1,90989+5	1669,97	1,76245+5	1670,37	1,62670+5	1670,76
6550	1819,444	1,94009	1689,91	1,79032	1690,30	1,65242	1690,70
6600	1833,333	1,97053	1709,94	1,81841	1710,33	1,67835	1710,72
6650	1847,222	2,00121	1730,05	1,84673	1730,44	1,70449	1730,83
6700	1861,111	2,03215	1750,26	1,87528	1750,64	1,73084	1751,03
6750	1875,000	2,06332	1770,54	1,90405	1770,93	1,75739	1771,31
6800	1888,889	2,09475	1790,92	1,93305	1791,30	1,78416	1791,68
6850	1902,778	2,12642	1811,37	1,96227	1811,74	1,81113	1812,12
6900	1916,667	2,15834	1831,90	1,99173	1832,27	1,83832	1832,65
6950	1930,556	2,19050	1852,51	2,02141	1852,88	1,86571	1853,25
7000	1944,444	2,22291+5	1873,19	2,05132+5	1873,56	1,89332+5	1873,92

Продолжение

v, км/ч	v, м/с	H=23500 м		H=24000 м		H=24500 м	
		$p_{\text{д}}$, Па	T'_0, К	$p_{\text{д}}$, Па	T'_0, К	$p_{\text{д}}$, Па	T'_0, К
4000	1111.111	5.53900+4	814.495	5.11400+4	814.952	4.72247+4	815.409
4050	1125.000	5.68328	828.603	5.24722	829.058	4.84550	829.514
4100	1138.889	5.82939	842.845	5.38212	843.300	4.97008	843.754
4150	1152.778	5.97733	857.222	5.51872	857.675	5.09623	858.128
4200	1166.667	6.12710	871.733	5.65701	872.185	5.22394	872.636
4250	1180.556	6.27881	886.344	5.79709	886.795	5.35330	887.245
4300	1194.444	6.43228	901.114	5.93879	901.563	5.48417	902.012
4350	1208.333	6.58748	916.014	6.08209	916.462	5.61651	916.909
4400	1222.222	6.74460	931.044	6.22717	931.491	5.75048	931.937
4450	1236.111	6.90356	946.204	6.37394	946.649	5.88603	947.095
4500	1250.000	7.06435+4	961.493	6.52241+4	961.937	6.02314+4	962.381
4550	1263.889	7.22699	976.910	6.67257	977.353	6.16181	977.796
4600	1277.778	7.39146	992.455	6.82444	992.897	6.30206	993.339
4650	1291.667	7.55777	1008.13	6.97800	1008.57	6.44387	1009.01
4700	1305.556	7.72592	1023.93	7.13325	1024.37	6.58725	1024.81
4750	1319.444	7.89591	1039.85	7.29021	1040.29	6.73221	1040.73
4800	1333.333	8.06775	1055.90	7.44887	1056.34	6.87873	1056.78
4850	1347.222	8.24142	1072.08	7.60923	1072.52	7.02682	1072.95
4900	1361.111	8.41694	1088.38	7.77129	1088.82	7.17648	1089.25
4950	1375.000	8.59430	1104.81	7.93506	1105.24	7.32772	1105.67
5000	1388.889	8.77351+4	1121.36	8.10053+4	1121.79	7.48053+4	1122.22
5050	1402.778	8.95456	1138.03	8.26770	1138.46	7.63491	1138.89
5100	1416.667	9.13746	1154.82	8.43658	1155.25	7.79087	1155.68
5150	1430.556	9.32221	1171.73	8.60716	1172.16	7.94841	1172.59
5200	1444.444	9.50881	1188.77	8.77946	1189.20	8.10752	1189.63
5250	1458.333	9.69726	1205.93	8.95346	1206.35	8.26821	1206.78
5300	1472.222	9.88757	1223.20	9.12917	1223.63	8.43049	1224.05
5350	1486.111	1.00797+5	1240.59	9.30660	1241.02	8.59434	1241.44
5400	1500.000	1.02737	1258.11	9.48574	1258.53	8.75978	1258.95
5450	1513.889	1.04696	1275.73	9.66660	1276.16	8.92680	1276.58
5500	1527.778	1.06673+5	1293.48	9.84917+4	1293.90	9.09541+4	1294.32
5550	1541.667	1.08669	1311.34	1.00335+5	1311.76	9.26560	1312.18
5600	1555.556	1.10684	1329.31	1.02195	1329.73	9.43739	1330.15
5650	1569.444	1.12717	1347.40	1.04072	1347.81	9.61077	1348.23
5700	1583.333	1.14769	1365.60	1.05967	1366.01	9.78574	1366.43
5750	1597.222	1.16840	1383.91	1.07879	1384.32	9.96231	1384.74
5800	1611.111	1.18930	1402.33	1.09808	1402.74	1.01405+5	1403.16
5850	1625.000	1.21038	1420.86	1.11755	1421.27	1.03202	1421.68
5900	1638.889	1.23165	1439.50	1.13719	1439.91	1.05016	1440.32
5950	1652.778	1.25311	1458.24	1.15700	1458.65	1.06846	1459.06
6000	1666.667	1.27475+5	1477.09	1.17699+5	1477.50	1.08692+5	1477.91
6050	1680.556	1.29659	1496.05	1.19715	1496.46	1.10554	1496.87
6100	1694.444	1.31862	1515.11	1.21749	1515.52	1.12432	1515.92
6150	1708.333	1.34083	1534.27	1.23800	1534.68	1.14326	1535.08
6200	1722.222	1.36324	1553.53	1.25869	1553.94	1.16237	1554.34
6250	1736.111	1.38583	1572.90	1.27955	1573.30	1.18164	1573.70
6300	1750.000	1.40862	1592.36	1.30059	1592.76	1.20107	1593.16
6350	1763.889	1.43160	1611.91	1.32181	1612.31	1.22066	1612.71
6400	1777.778	1.45477	1631.57	1.34320	1631.97	1.24041	1632.36
6450	1791.667	1.47813	1651.32	1.36477	1651.71	1.26033	1652.11
6500	1805.556	1.50168+5	1671.16	1.38651+5	1671.55	1.28042+5	1671.95
6550	1819.444	1.52542	1691.09	1.40844	1691.48	1.30066	1691.87
6600	1833.333	1.54936	1711.11	1.43054	1711.50	1.32107	1711.89
6650	1847.222	1.57349	1731.22	1.45282	1731.61	1.34165	1731.99
6700	1861.111	1.59781	1751.41	1.47527	1751.80	1.36239	1752.18
6750	1875.000	1.62232	1771.69	1.49791	1772.08	1.38329	1772.46
6800	1888.889	1.64703	1792.05	1.52072	1792.43	1.40436	1792.81
6850	1902.778	1.67194	1812.50	1.54372	1812.87	1.42559	1813.25
6900	1916.667	1.69703	1833.02	1.56689	1833.39	1.44699	1833.76
6950	1930.556	1.72232	1853.61	1.59024	1853.98	1.46855	1854.34
7000	1944.444	1.74781+5	1874.28	1.61377+5	1874.64	1.49028+5	1875.00

Продолжение

v, км/ч	v, м/с	H=25000 м		H=25500 м		H=26000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	4.36168+4	815.866	4.02919+4	816.322	3.72272+4	816.779
4050	1125.000	4.47531	829.970	4.13417	830.425	3.81972	830.881
4100	1138.889	4.59039	844.208	4.24048	844.663	3.91795	845.117
4150	1152.778	4.70691	858.582	4.34812	859.035	4.01741	859.488
4200	1166.667	4.82487	873.088	4.45710	873.540	4.11811	873.992
4250	1180.556	4.94435	887.696	4.56749	888.146	4.22010	888.596
4300	1194.444	5.06523	902.461	4.67915	902.910	4.32328	903.359
4350	1208.333	5.18746	917.357	4.79208	917.805	4.42763	918.253
4400	1222.222	5.31121	932.384	4.90640	932.830	4.53326	933.277
4450	1236.111	5.43641	947.540	5.02206	947.985	4.64013	948.431
4500	1250.000	5.56305+4	962.826	5.13906+4	963.269	4.74824+4	963.713
4550	1263.889	5.69114	978.239	5.25740	978.682	4.85758	979.125
4600	1277.778	5.82068	993.780	5.37707	994.222	4.96815	994.664
4650	1291.667	5.95167	1009.45	5.49808	1009.89	5.07997	1010.33
4700	1305.556	6.08411	1025.25	5.62043	1025.68	5.19302	1026.12
4750	1319.444	6.21799	1041.17	5.74412	1041.61	5.30731	1042.04
4800	1333.333	6.35333	1057.22	5.86914	1057.65	5.42283	1058.09
4850	1347.222	6.49012	1073.39	5.99551	1073.82	5.53960	1074.26
4900	1361.111	6.62836	1089.69	6.12322	1090.12	5.65760	1090.56
4950	1375.000	6.76805	1106.11	6.25227	1106.54	5.77684	1106.98
5000	1388.889	6.90919+4	1122.65	6.38267+4	1123.09	5.89733+4	1123.52
5050	1402.778	7.05179	1139.32	6.51441	1139.75	6.01905	1140.18
5100	1416.667	7.19584	1156.11	6.64749	1156.54	6.14202	1156.97
5150	1430.556	7.34135	1173.02	6.78191	1173.45	6.26623	1173.88
5200	1444.444	7.48832	1190.05	6.91769	1190.48	6.39168	1190.91
5250	1458.333	7.63675	1207.21	7.05481	1207.63	6.51838	1208.06
5300	1472.222	7.78663	1224.48	7.19327	1224.90	6.64632	1225.33
5350	1486.111	7.93798	1241.87	7.33309	1242.29	6.77552	1242.72
5400	1500.000	8.09078	1259.38	7.47426	1259.80	6.90596	1260.22
5450	1513.889	8.24506	1277.00	7.61678	1277.42	7.03764	1277.85
5500	1527.778	8.40079+4	1294.74	7.76066+4	1295.16	7.17059+4	1295.58
5550	1541.667	8.55799	1312.60	7.90588	1313.02	7.30478	1313.44
5600	1555.556	8.71667	1330.57	8.05247	1330.99	7.44022	1331.41
5650	1569.444	8.87681	1348.65	8.20042	1349.07	7.57692	1349.49
5700	1583.333	9.03843	1366.85	8.34973	1367.26	7.71488	1367.68
5750	1597.222	9.20152	1385.15	8.50039	1385.57	7.85410	1385.99
5800	1611.111	9.36609	1403.57	8.65243	1403.99	7.99458	1404.40
5850	1625.000	9.53213	1422.10	8.80583	1422.51	8.13632	1422.92
5900	1638.889	9.69966	1440.73	8.96059	1441.14	8.27933	1441.56
5950	1652.778	9.86867	1459.47	9.11673	1459.88	8.42360	1460.30
6000	1666.667	1.00392+5	1478.32	9.27424+4	1478.73	8.56914+4	1479.14
6050	1680.556	1.02112	1497.27	9.43313	1497.68	8.71595	1498.09
6100	1694.444	1.03846	1516.33	9.59339	1516.74	8.86403	1517.14
6150	1708.333	1.05596	1535.49	9.75504	1535.89	9.01339	1536.30
6200	1722.222	1.07361	1554.75	9.91806	1555.15	9.16403	1555.55
6250	1736.111	1.09140	1574.10	1.00825+5	1574.51	9.31594	1574.91
6300	1750.000	1.10935	1593.56	1.02483	1593.96	9.46914	1594.36
6350	1763.889	1.12745	1613.11	1.04155	1613.51	9.62361	1613.91
6400	1777.778	1.14569	1632.76	1.05840	1633.16	9.77938	1633.56
6450	1791.667	1.16409	1652.51	1.07540	1652.90	9.93643	1653.30
6500	1805.556	1.18264+5	1672.34	1.09254+5	1672.73	1.00948+5	1673.13
6550	1819.444	1.20134	1692.27	1.10981	1692.66	1.02544	1693.05
6600	1833.333	1.22020	1712.28	1.12723	1712.67	1.04153	1713.06
6650	1847.222	1.23920	1732.38	1.14479	1732.77	1.05775	1733.15
6700	1861.111	1.25836	1752.57	1.16248	1752.95	1.07411	1753.34
6750	1875.000	1.27766	1772.84	1.18032	1773.22	1.09059	1773.60
6800	1888.889	1.29712	1793.19	1.19830	1793.57	1.10720	1793.94
6850	1902.778	1.31674	1813.62	1.21641	1813.99	1.12394	1814.37
6900	1916.667	1.33650	1834.13	1.23467	1834.50	1.14081	1834.86
6950	1930.556	1.35642	1854.71	1.25307	1855.07	1.15781	1855.44
7000	1944.444	1.37649+5	1875.36	1.27161+5	1875.72	1.17494+5	1876.08

Продолжение

v, км/ч	v, м/с	H=26500 м		H=27000 м		H=27500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	3.44015+4	817.236	3.17959+4	817.693	2.93930+4	818.150
4050	1125.000	3.52979	831.336	3.26245	831.792	3.01590	832.247
4100	1138.889	3.62057	845.571	3.34636	846.025	3.09348	846.480
4150	1152.778	3.71249	859.941	3.43132	860.393	3.17202	860.846
4200	1166.667	3.80555	874.444	3.51734	874.895	3.25154	875.347
4250	1180.556	3.89981	889.047	3.60447	889.497	3.33209	889.947
4300	1194.444	3.99516	903.808	3.69261	904.257	3.41358	904.706
4350	1208.333	4.09159	918.701	3.78174	919.148	3 49598	919.596
4400	1222.222	4.18922	933.723	3.87197	934.170	3.57940	934.616
4450	1236.111	4.28798	948.876	3.96326	949.321	3.66380	949.766
4500	1250.000	4.38789+4	964.157	4.05561+4	964.601	3.74917+4	965.045
4550	1263.889	4.48893	979.567	4.14901	980.010	3.83552	980.453
4600	1277.778	4.59113	995.106	4.24347	995.547	3.92284	995.989
4650	1291.667	4.69446	1010.77	4.33898	1011.21	4.01114	1011.65
4700	1305.556	4.79893	1026.56	4.43555	1027.00	4.10042	1027.44
4750	1319.444	4.90455	1042.48	4.53318	1042.92	4.19067	1043.36
4800	1333.333	5.01132	1058.53	4.63186	1058.96	4.28191	1059.40
4850	1347.222	5.11923	1074.70	4.73160	1075.13	4.37412	1075.57
4900	1361.111	5.22828	1090.99	4.83240	1091.43	4.46731	1091.86
4950	1375.000	5.33848	1107.41	4.93426	1107.84	4.56147	1108.28
5000	1388.889	5.44983+4	1123.95	5.03718+4	1124.38	4.65662+4	1124.82
5050	1402.778	5.56232	1140.61	5.14116	1141.05	4.75275	1141.48
5100	1416.667	5.67596	1157.40	5.24620	1157.83	4.84986	1158.26
5150	1430.556	5.79075	1174.31	5.35231	1174.74	4.94795	1175.17
5200	1444.444	5.90669	1191.34	5.45947	1191.77	5.04702	1192.19
5250	1458.333	6.02378	1208.49	5.56770	1208.91	5.14708	1209.34
5300	1472.222	6.14202	1225.76	5.67699	1226.18	5.24812	1226.61
5350	1486.111	6.26141	1243.14	5.78735	1243.57	5.35014	1243.99
5400	1500.000	6.38196	1260.65	5.89877	1261.07	5.45315	1261.49
5450	1513.889	6.50366	1278.27	6.01126	1278.69	5.55715	1279.11
5500	1527.778	6.62652+4	1296.01	6.12482+4	1296.43	5.66213+4	1296.85
5550	1541.667	6.75053	1313.86	6.23945	1314.28	5.76811	1314.70
5600	1555.556	6.87570	1331.82	6.35515	1332.24	5.87507	1332.66
5650	1569.444	7.00204	1349.90	6.47193	1350.32	5.98303	1350.74
5700	1583.333	7.12953	1368.10	6.58977	1368.51	6.09197	1368.93
5750	1597.222	7.25819	1386.40	6.70870	1386.82	6.20192	1387.23
5800	1611.111	7.38802	1404.81	6.82870	1405.23	6.31286	1405.64
5850	1625.000	7.51901	1423.34	6.94977	1423.75	6.42479	1424.16
5900	1638.889	7.65117	1441.97	7.07193	1442.38	6.53772	1442.79
5950	1652.778	7.78450	1460.71	7.19517	1461.12	6.65166	1461.53
6000	1666.667	7.91900+4	1479.55	7.31950+4	1479.96	6.76659+4	1480.37
6050	1680.556	8.05468	1498.50	7.44490	1498.91	6.88253	1499.32
6100	1694.444	8.19153	1517.55	7.57140	1517.96	6.99948	1518.36
6150	1708.333	8.32956	1536.70	7.69899	1537.11	7.11743	1537.52
6200	1722.222	8.46877	1555.96	7.82766	1556.36	7.23639	1556.77
6250	1736.111	8.60916	1575.31	7.95743	1575.72	7.35636	1576.12
6300	1750.000	8.75074	1594.76	8.08829	1595.17	7.47734	1595.57
6350	1763.889	8.89350	1614.31	8.22025	1614.71	7.59933	1615.11
6400	1777.778	9.03745	1633.96	8.35330	1634.35	7.72234	1634.75
6450	1791.667	9.18259	1653.69	8.48746	1654.09	7.84636	1654.48
6500	1805.556	9.32892+4	1673.52	8.62272+4	1673.92	7.97140+4	1674.31
6550	1819.444	9.47645	1693.44	8.75908	1693.83	8.09747	1694.22
6600	1833.333	9.62517	1713.45	8.89654	1713.84	8.22455	1714.22
6650	1847.222	9.77508	1733.54	9.03511	1733.93	8.35265	1734.31
6700	1861.111	9.92619	1753.72	9.17478	1754.10	8.48178	1754.48
6750	1875.000	1.00785+5	1773.98	9.31556	1774.36	8.61193	1774.74
6800	1888.889	1.02320	1794.32	9.45745	1794.69	8.74310	1795.07
6850	1902.778	1.03867	1814.74	9.60045	1815.11	8.87530	1815.48
6900	1916.667	1.05426	1835.23	9.74456	1835.60	9.00852	1835.96
6950	1930.556	1.06997	1855.80	9.88978	1856.16	9.14277	1856.52
7000	1944.444	1.08581+5	1876.43	1.00361+5	1876.79	9.27804+4	1877.14

Продолжение

v, км/с	v, м/с	H=28000 м		H=28500 м		H=29000 м	
		p_∞, Па	T'_0, К	p_∞, Па	T'_0, К	p_∞, Па	T'_0, К
4000	1111.111	2.71762+4	818.606	2.51312+4	819.053	2.32439+4	819.519
4050	1125.000	2.78845	832.703	2.57862	833.158	2.38498	833.613
4100	1138.889	2.86018	846.934	2.64496	847.388	2.44633	847.842
4150	1152.778	2.93281	861.299	2.71212	861.752	2.50846	862.205
4200	1166.667	3.00634	875.798	2.78012	876.250	2.57136	876.701
4250	1180.556	3.08082	890.397	2.84900	890.847	2.63507	891.297
4300	1194.444	3.15616	905.155	2.91868	905.604	2.69952	906.053
4350	1208.333	3.23235	920.044	2.98914	920.491	2.76469	920.939
4400	1222.222	3.30949	935.063	3.06048	935.509	2.83068	935.955
4450	1236.111	3.38753	950.211	3.13265	950.657	2.89743	951.102
4500	1250.000	3.46646+4	965.489	3.20565+4	965.933	2.96496+4	966.377
4550	1263.889	3.54631	980.896	3.27949	981.338	3.03325	981.781
4600	1277.778	3.62705	996.430	3.35416	996.872	3.10232	997.313
4650	1291.667	3.70870	1012.09	3.42967	1012.53	3.17217	1012.97
4700	1305.556	3.79125	1027.88	3.50601	1028.32	3.24278	1028.76
4750	1319.444	3.87470	1043.80	3.58319	1044.23	3.31417	1044.67
4800	1333.333	3.95906	1059.84	3.66121	1060.27	3.38633	1060.71
4850	1347.222	4.04432	1076.00	3.74006	1076.44	3.45926	1076.87
4900	1361.111	4.13049	1092.29	3.81975	1092.73	3.53297	1093.16
4950	1375.000	4.21756	1108.71	3.90027	1109.14	3.60745	1109.58
5000	1388.889	4.30554+4	1125.25	3.98163+4	1125.68	3.68271+4	1126.11
5050	1402.778	4.39442	1141.91	4.06383	1142.34	3.75874	1142.77
5100	1416.667	4.48421	1158.69	4.14687	1159.12	3.83555	1159.55
5150	1430.556	4.57491	1175.60	4.23075	1176.03	3.91314	1176.45
5200	1444.444	4.66652	1192.62	4.31547	1193.05	3.99150	1193.48
5250	1458.333	4.75903	1209.77	4.40103	1210.19	4.07064	1210.62
5300	1472.222	4.85246	1227.03	4.48743	1227.46	4.15056	1227.88
5350	1486.111	4.94679	1244.42	4.57467	1244.84	4.23125	1245.27
5400	1500.000	5.04204	1261.92	4.66276	1262.34	4.31273	1262.76
5450	1513.889	5.13820	1279.54	4.75169	1279.96	4.39499	1280.38
5500	1527.778	5.23528+4	1297.27	4.84147+4	1297.69	4.47803+4	1298.11
5550	1541.667	5.33326	1315.12	4.93208	1315.54	4.56184	1315.96
5600	1555.556	5.43217	1333.08	5.02355	1333.50	4.64645	1333.92
5650	1569.444	5.53199	1351.16	5.11587	1351.58	4.73184	1351.99
5700	1583.333	5.63273	1369.35	5.20903	1369.76	4.81801	1370.18
5750	1597.222	5.73438	1387.65	5.30305	1388.06	4.90497	1388.48
5800	1611.111	5.83696	1406.06	5.39791	1406.47	4.99272	1406.89
5850	1625.000	5.94046	1424.58	5.49363	1424.99	5.08125	1425.40
5900	1638.889	6.04489	1443.20	5.59020	1443.62	5.17058	1444.03
5950	1652.778	6.15024	1461.94	5.68763	1462.35	5.26070	1462.76
6000	1666.667	6.25651+4	1480.78	5.78591+4	1481.19	5.35160+4	1481.60
6050	1680.556	6.36371	1499.72	5.88505	1500.13	5.44331	1500.54
6100	1694.444	6.47184	1518.77	5.98506	1519.18	5.53580	1519.58
6150	1708.333	6.58091	1537.92	6.08592	1538.33	5.62910	1538.73
6200	1722.222	6.69090	1557.17	6.18764	1557.57	5.72319	1557.98
6250	1736.111	6.80183	1576.52	6.29023	1576.92	5.81808	1577.32
6300	1750.000	6.91369	1595.97	6.39368	1596.37	5.91377	1596.77
6350	1763.889	7.02649	1615.51	6.49800	1615.91	6.01026	1616.31
6400	1777.778	7.14023	1635.15	6.60319	1635.55	6.10755	1635.94
6450	1791.667	7.25491	1654.88	6.70924	1655.27	6.20565	1655.67
6500	1805.556	7.37053+4	1674.70	6.81617+4	1675.09	6.30455+4	1675.49
6550	1819.444	7.48709	1694.61	6.92396	1695.00	6.40426	1695.39
6600	1833.333	7.60460	1714.61	7.03263	1715.00	6.50477	1715.39
6650	1847.222	7.72304	1734.70	7.14217	1735.08	6.60609	1735.47
6700	1861.111	7.84244	1754.87	7.25259	1755.25	6.70822	1755.63
6750	1875.000	7.96278	1775.11	7.36388	1775.49	6.81116	1775.87
6800	1888.889	8.08407	1795.44	7.47604	1795.82	6.91491	1796.19
6850	1902.778	8.20630	1815.85	7.58908	1816.22	7.01946	1816.58
6900	1916.667	8.32948	1836.33	7.70300	1836.69	7.12483	1837.05
6950	1930.556	8 45361	1856.88	7.81779	1857.23	7.23100	1857.59
7000	1944.444	8.57868+4	1877.49	7.93346+4	1877.84	7.33798+4	1878.19

Продолжение

v, км/ч	v, м/с	H=29500 м		H=30000 м		H=30500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	2.15022+4	819.976	1.98944+4	820.433	1.84099+4	820.889
4050	1125.000	2.20627	834.068	2.04130	834.524	1.88899	834.979
4100	1138.889	2.26304	848.296	2.09382	848.750	1.93760	849.204
4150	1152.778	2.32051	862.657	2.14701	863.110	1.98681	863.563
4200	1166.667	2.37870	877.153	2.20085	877.604	2.03664	878.056
4250	1180.556	2.43764	891.747	2.25539	892.197	2.08711	892.647
4300	1194.444	2.49727	906.501	2.31055	906.950	2.13817	907.399
4350	1208.333	2.55756	921.386	2.36634	921 834	2.18980	922.281
4400	1222.222	2.61850	936.402	2.42283	936.848	2.24207	937.294
4450	1236.111	2.68036	951.547	2.47997	951.992	2.29495	952.437
4500	1250.000	2.74283+4	966.821	2.53777+4	967.265	2.34845+4	967.709
4550	1263.889	2.80601	982.224	2.59624	982.666	2.40255	983.109
4600	1277.778	2.86991	997.755	2.65536	998.196	2.45727	998.637
4650	1291.667	2.93452	1013.41	2.71515	1013.85	2.51259	1014.29
4700	1305.556	2.99985	1029.20	2.77559	1029.64	2.56853	1030.08
4750	1319.444	3.06590	1045.11	2.83670	1045.55	2.62509	1045.99
4800	1333.333	3.13265	1061.15	2.89847	1061.58	2.68225	1062.02
4850	1347.222	3.20013	1077.31	2.96090	1077.75	2.74003	1078.18
4900	1361.111	3.26832	1093.60	3.02400	1094.03	2.79842	1094.47
4950	1375.000	3.33722	1110.01	3.08776	1110.44	2.85743	1110.88
5000	1388.889	3.40685+4	1126.54	3.15218+4	1126.98	2.91704+4	1127.41
5050	1402.778	3.47719	1143.20	3.21726	1143.63	2.97728	1144.06
5100	1416.667	3.54824	1159.98	3.28301	1160.41	3.03812	1160.84
5150	1430.556	3.62002	1176.88	3.34942	1177.31	3.09958	1177.74
5200	1444.444	3.69251	1193.91	3.41650	1194.33	3.16166	1194.76
5250	1458.333	3.76573	1211.05	3.48425	1211.47	3.22436	1211.90
5300	1472.222	3.83966	1228.31	3.55266	1228.73	3.28767	1229.16
5350	1486.111	3.91432	1245.69	3.62174	1246.11	3.35159	1246.54
5400	1500.000	3.98970	1263.19	3.69148	1263.61	3.41614	1264.03
5450	1513.889	4.06579	1280.80	3.76189	1281.22	3.48130	1281.65
5500	1527.778	4.14262+4	1298.53	3.83298+4	1298.95	3.54708+4	1299.38
5550	1541.667	4.22016	1316.38	3.90473	1316.80	3.61348	1317.22
5600	1555.556	4.29843	1334.34	3.97715	1334.76	3.68051	1335.18
5650	1569.444	4.37742	1352.41	4.05024	1352.83	3.74815	1353.25
5700	1583.333	4.45715	1370.60	4.12401	1371.01	3.81642	1371.43
5750	1597.222	4.53760	1388.89	4.19845	1389.31	3.88531	1389.72
5800	1611.111	4.61877	1407.30	4.27356	1407.71	3.95482	1408.13
5850	1625.000	4.70068	1425.82	4.34935	1426.23	4.02496	1426.64
5900	1638.889	4.78332	1444.44	4.42581	1444.85	4.09572	1445.26
5950	1652.778	4.86669	1463.17	4.50295	1463.58	4.16711	1463.99
6000	1666.667	4.95079+4	1482.01	4.58077+4	1482.42	4.23913+4	1482.83
6050	1680.556	5.03563	1500.95	4.65927	1501.36	4.31177	1501.76
6100	1694.444	5.12120	1519.99	4.73845	1520.40	4.38505	1520.80
6150	1708.333	5.20751	1539.14	4.81831	1539.54	4.45895	1539.95
6200	1722.222	5.29455	1558.38	4.89885	1558.79	4.53349	1559.19
6250	1736.111	5.38234	1577.73	4.98008	1578.13	4.60866	1578.53
6300	1750.000	5.47087	1597.17	5.06199	1597.57	4 68447	1597.97
6350	1763.889	5.56013	1616.71	5.14458	1617.10	4.76091	1617.50
6400	1777.778	5.65014	1636.34	5.22787	1636.73	4.83798	1637.13
6450	1791.667	5.74089	1656.06	5.31184	1656.46	4.91569	1656.85
6500	1805.556	5.83239+4	1675.88	5.39650+4	1676.27	4.99404+4	1676.66
6550	1819.444	5.92463	1695.78	5.48185	1696.17	5.07302	1696.56
6600	1833.333	6.01762	1715.77	5.56789	1716.16	5.15265	1716.55
6650	1847.222	6.11135	1735.85	5.65462	1736.23	5.23291	1736.61
6700	1861.111	6.20583	1756.01	5.74204	1756.39	5.31381	1756.76
6750	1875.000	6.30106	1776.24	5.83015	1776.62	5.39535	1776.99
6800	1888.889	6.39704	1796.56	5.91896	1796.93	5.47754	1797.30
6850	1902.778	6.49376	1816.95	6.00845	1817.32	5.56036	1817.68
6900	1916.667	6.59124	1837.41	6.09864	1837.77	5.64382	1838.13
6950	1930.556	6.68946	1857.94	6.18952	1858.30	5.72792	1858.65
7000	1944.444	6.78843+4	1878.54	6.28109+4	1878.88	5.81266+4	1879.23

Продолжение

v, км/ч	v, м/с	H=31000 м		H=31500 м		H=32000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	1.70391+4	821.345	1.57731+4	821.802	1.46036+4	822.258
4050	1125.000	1.74834	835.434	1.61844	835.889	1.49844	836.344
4100	1138.889	1.79333	849.658	1.66009	850.111	1.53701	850.565
4150	1152.778	1.83889	864.015	1.70226	864.468	1.57606	864.921
4200	1166.667	1.88501	878.507	1.74496	878.958	1.61559	879.409
4250	1180.556	1.93172	893.097	1.78821	893.547	1.65563	893.997
4300	1194.444	1.97898	907.847	1.83196	908.296	1.69614	908.745
4350	1208.333	2.02677	922.729	1.87620	923.176	1.73711	923.623
4400	1222.222	2.07515	937.740	1.92099	938.186	1.77858	938.633
4450	1236.111	2.12410	952.882	1.96630	953.327	1.82054	953.771
4500	1250.000	2.17361+4	968.152	2.01214+4	968.596	1.86298+4	969.040
4550	1263.889	2.22369	983.551	2.05850	983.994	1.90590	984.436
4600	1277.778	2.27434	999.079	2.10539	999.520	1.94932	999.961
4650	1291.667	2.32555	1014.73	2.15280	1015.17	1.99321	1015.61
4700	1305.556	2.37733	1030.52	2.20073	1030.95	2.03760	1031.39
4750	1319.444	2.42967	1046.42	2.24919	1046.86	2.08247	1047.30
4800	1333.333	2.48259	1062.46	2.29818	1062.89	2.12782	1063.33
4850	1347.222	2.53607	1078.62	2.34768	1079.05	2.17366	1079.49
4900	1361.111	2.59011	1094.90	2.39772	1095.34	2.21999	1095.77
4950	1375.000	2.64473	1111.31	2.44828	1111.74	2.26680	1112.18
5000	1388.889	2.69991+4	1127.84	2.49936+4	1128.27	2.31411+4	1128.70
5050	1402.778	2.75566	1144.49	2.55098	1144.93	2.36189	1145.36
5100	1416.667	2.81198	1161.27	2.60312	1161.70	2.41017	1162.13
5150	1430.556	2.86887	1178.17	2.65578	1178.60	2.45893	1179.03
5200	1444.444	2.92633	1195.19	2.70898	1195.62	2.50819	1196.04
5250	1458.333	2.98436	1212.33	2.76270	1212.75	2.55793	1213.18
5300	1472.222	3.04296	1229.59	2.81695	1230.01	2.60816	1230.44
5350	1486.111	3.10213	1246.96	2.87172	1247.39	2.65888	1247.81
5400	1500.000	3.16187	1264.46	2.92703	1264.88	2.71009	1265.30
5450	1513.889	3.22219	1282.07	2.98287	1282.49	2.76179	1282.91
5500	1527.778	3.28308+4	1299.80	3.03924+4	1300.22	2.81398+4	1300.64
5550	1541.667	3.34454	1317.64	3.09614	1318.06	2.86666	1318.48
5600	1555.556	3.40658	1335.59	3.15357	1336.01	2.91984	1336.43
5650	1569.444	3.46919	1353.66	3.21153	1354.08	2.97351	1354.50
5700	1583.333	3.53237	1371.85	3.27003	1372.26	3.02767	1372.68
5750	1597.222	3.59614	1390.14	3.32906	1390.56	3.08233	1390.97
5800	1611.111	3.66048	1408.54	3.38862	1408.96	3.13748	1409.37
5850	1625.000	3.72540	1427.06	3.44872	1427.47	3.19313	1427.88
5900	1638.889	3.79090	1445.68	3.50936	1446.09	3.24927	1446.50
5950	1652.778	3.85698	1464.40	3.57053	1464.81	3.30591	1465.22
6000	1666.667	3.92363+4	1483.23	3.63224+4	1483.64	3.36305+4	1484.05
6050	1680.556	3.99088	1502.17	3.69449	1502.58	3.42069	1502.99
6100	1694.444	4.05870	1521.21	3.75728	1521.62	3.47883	1522.02
6150	1708.333	4.12711	1540.35	3.82061	1540.76	3.53747	1541.16
6200	1722.222	4.19610	1559.59	3.88448	1560.00	3.59660	1560.40
6250	1736.111	4.26568	1578.93	3.94889	1579.33	3.65624	1579.74
6300	1750.000	4.33584	1598.37	4.01385	1598.77	3.71639	1599.17
6350	1763.889	4.40659	1617.90	4.07934	1618.30	3.77703	1618.70
6400	1777.778	4.47793	1637.53	4.14539	1637.92	3.83818	1638.32
6450	1791.667	4.54986	1657.24	4.21198	1657.64	3.89984	1658.03
6500	1805.556	4.62238+4	1677.05	4.27911+4	1677.44	3.96200+4	1677.83
6550	1819.444	4.69549	1696.95	4.34679	1697.34	4.02466	1697.72
6600	1833.333	4.76919	1716.93	4.41502	1717.32	4.08784	1717.70
6650	1847.222	4.84348	1737.00	4.48379	1737.38	4.15151	1737.76
6700	1861.111	4.91836	1757.14	4.55311	1757.52	4.21570	1757.90
6750	1875.000	4.99384	1777.37	4.62298	1777.74	4.28039	1778.11
6800	1888.889	5.06990	1797.67	4.69340	1798.04	4.34559	1798.40
6850	1902.778	5.14656	1818.04	4.76436	1818.41	4.41130	1818.77
6900	1916.667	5.22381	1838.49	4.83588	1838.84	4.47751	1839.20
6950	1930.556	5.30165	1859.00	4.90794	1859.35	4.54423	1859.69
7000	1944.444	5.38008+4	1879.57	4.98054+4	1879.91	4.61145+4	1880.25

Продолжение

v, км/ч	v, м/с	H=32500 м		H=33000 м		H=33500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	1.34707+4	823.536	1.24317+4	824.813	1.14785+4	826.090
4050	1125.000	1.38220	837.618	1.27560	838.892	1.17780	840.165
4100	1138.889	1.41778	851.836	1.30844	853.106	1.20812	854.375
4150	1152.778	1.45381	866.187	1.34170	867.454	1.23883	868.720
4200	1166.667	1.49028	880.672	1.37537	881.934	1.26993	883.192
4250	1180.556	1.52723	895.256	1.40947	896.515	1.30142	897.774
4300	1194.444	1.56460	910.000	1.44396	911.256	1.33327	912.511
4350	1208.333	1.60239	924.876	1.47885	926.128	1.36549	927.380
4400	1222.222	1.64066	939.881	1.51417	941.130	1.39811	942.378
4450	1236.111	1.67937	955.017	1.54990	956.262	1.43110	957.507
4500	1250.000	1.71852+4	970.282	1.58604+4	971.523	1.46448+4	972.765
4550	1263.889	1.75813	985.675	1.62260	986.914	1.49824	988.152
4600	1277.778	1.79818	1001.20	1.65957	1002.43	1.53238	1003.67
4650	1291.667	1.83868	1016.85	1.69695	1018.08	1.56690	1019.31
4700	1305.556	1.87963	1032.62	1.73474	1033.85	1.60181	1035.08
4750	1319.444	1.92102	1048.52	1.77295	1049.75	1.63710	1050.98
4800	1333.333	1.96287	1064.55	1.81158	1065.78	1.67277	1067.00
4850	1347.222	2.00516	1080.71	1.85062	1081.93	1.70882	1083.14
4900	1361.111	2.04790	1096.99	1.89007	1098.20	1.74525	1099.42
4950	1375.000	2.09109	1113.39	1.92994	1114.60	1.78207	1115.81
5000	1388.889	2.13473+4	1129.91	1.97022+4	1131.12	1.81927+4	1132.33
5050	1402.778	2.17882	1146.56	2.01091	1147.77	1.85685	1148.98
5100	1416.667	2.22336	1163.33	2.05203	1164.54	1.89482	1165.74
5150	1430.556	2.26835	1180.23	2.09355	1181.43	1.93317	1182.63
5200	1444.444	2.31379	1197.24	2.13550	1198.44	1.97190	1199.63
5250	1458.333	2.35968	1214.37	2.17786	1215.57	2.01102	1216.76
5300	1472.222	2.40602	1231.63	2.22063	1232.82	2.05052	1234.01
5350	1486.111	2.45282	1249.00	2.26383	1250.19	2.09041	1251.37
5400	1500.000	2.50006	1266.49	2.30744	1267.67	2.13068	1268.86
5450	1513.889	2.54776	1284.09	2.35146	1285.28	2.17134	1286.46
5500	1527.778	2.59591+4	1301.82	2.39591+4	1302.99	2.21239+4	1304.17
5550	1541.667	2.64452	1319.65	2.44077	1320.83	2.25382	1322.00
5600	1555.556	2.69358	1337.60	2.48606	1338.78	2.29564	1339.95
5650	1569.444	2.74309	1355.67	2.53176	1356.84	2.33785	1358.01
5700	1583.333	2.79306	1373.85	2.57789	1375.01	2.38045	1376.18
5750	1597.222	2.84349	1392.13	2.62443	1393.30	2.42343	1394.46
5800	1611.111	2.89437	1410.53	2.67140	1411.69	2.46681	1412.85
5850	1625.000	2.94571	1429.04	2.71879	1430.19	2.51057	1431.35
5900	1638.889	2.99751	1447.65	2.76660	1448.81	2.55472	1449.96
5950	1652.778	3.04977	1466.37	2.81484	1467.52	2.59927	1468.67
6000	1666.667	3.10248+4	1485.20	2.86350+4	1486.35	2.64421+4	1487.49
6050	1680.556	3.15566	1504.13	2.91258	1505.27	2.68953	1506.41
6100	1694.444	3.20930	1523.16	2.96209	1524.30	2.73526	1525.44
6150	1708.333	3.26340	1542.30	3.01203	1543.43	2.78137	1544.57
6200	1722.222	3.31796	1561.53	3.06239	1562.66	2.82788	1563.79
6250	1736.111	3.37298	1580.86	3.11318	1581.99	2.87478	1583.12
6300	1750.000	3.42847	1600.29	3.16440	1601.42	2.92208	1602.54
6350	1763.889	3.48442	1619.82	3.21604	1620.94	2.96978	1622.05
6400	1777.778	3.54084	1639.43	3.26812	1640.55	3.01787	1641.66
6450	1791.667	3.59772	1659.14	3.32062	1660.25	3.06636	1661.36
6500	1805.556	3.65507+4	1678.94	3.37356+4	1680.04	3.11524+4	1681.15
6550	1819.444	3.71288	1698.82	3.42692	1699.92	3.16452	1701.02
6600	1833.333	3.77117	1718.79	3.48072	1719.89	3.21420	1720.98
6650	1847.222	3.82991	1738.85	3.53495	1739.93	3.26428	1741.02
6700	1861.111	3.88913	1758.98	3.58960	1760.06	3.31475	1761.14
6750	1875.000	3.94881	1779.19	3.64469	1780.26	3.36563	1781.33
6800	1888.889	4.00896	1799.47	3.70021	1800.53	3.41690	1801.59
6850	1902.778	4.06958	1819.82	3.75616	1820.88	3.46857	1821.93
6900	1916.667	4.13067	1840.24	3.81254	1841.29	3.52063	1842.33
6950	1930.556	4.19222	1860.73	3.86936	1861.76	3.57309	1862.79
7000	1944.444	4.25423+4	1881.27	3.92660+4	1882.29	3.62595+4	1883.31

Продолжение

v, км/ч	v, м/с	H=34000 м		H=34500 м		H=35000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	1.06033+4	827.366	9.79955+3	828.643	9.06093+3	829.918
4050	1125.000	1.08800	841.438	1.00553+4	842.711	9.29748	843.983
4100	1138.889	1.11603	855.645	1.03144	856.914	9.53703	858.183
4150	1152.778	1.14440	869.986	1.05766	871.252	9.77958	872.517
4200	1166.667	1.17314	884.442	1.08423	885.692	1.00253+4	886.953
4250	1180.556	1.20223	899.032	1.11112	900.291	1.02739	901.548
4300	1194.444	1.23165	913.766	1.13831	915.021	1.05254	916.275
4350	1208.333	1.26142	928.631	1.16584	929.882	1.07800	931.133
4400	1222.222	1.29156	943.626	1.19369	944.874	1.10376	946.122
4450	1236.111	1.32204	958.752	1.22187	959.996	1.12982	961.240
4500	1250.000	1.35288+4	974.006	1.25038+4	975.247	1.15618+4	976.488
4550	1263.889	1.38407	989.390	1.27921	990.627	1.18284	991.865
4600	1277.778	1.41562	1004.90	1.30837	1006.14	1.20981	1007.37
4650	1291.667	1.44752	1020.54	1.33785	1021.77	1.23708	1023.00
4700	1305.556	1.47976	1036.31	1.36766	1037.53	1.26465	1038.76
4750	1319.444	1.51237	1052.20	1.39780	1053.42	1.29252	1054.65
4800	1333.333	1.54532	1068.22	1.42826	1069.44	1.32069	1070.66
4850	1347.222	1.57863	1084.36	1.45905	1085.58	1.34916	1086.80
4900	1361.111	1.61229	1100.63	1.49017	1101.85	1.37794	1103.06
4950	1375.000	1.64631	1117.03	1.52161	1118.24	1.40702	1119.45
5000	1388.889	1.68068+4	1133.54	1.55338+4	1134.75	1.43640+4	1135.96
5050	1402.778	1.71540	1150.18	1.58548	1151.39	1.46608	1152.59
5100	1416.667	1.75048	1166.94	1.61791	1168.15	1.49607	1169.35
5150	1430.556	1.78592	1183.83	1.65066	1185.03	1.52636	1186.23
5200	1444.444	1.82170	1200.83	1.68374	1202.03	1.55695	1203.22
5250	1458.333	1.85785	1217.96	1.71715	1219.15	1.58785	1220.34
5300	1472.222	1.89434	1235.20	1.75089	1236.39	1.61905	1237.58
5350	1486.111	1.93120	1252.56	1.78495	1253.75	1.65055	1254.94
5400	1500.000	1.96841	1270.04	1.81935	1271.23	1.68236	1272.41
5450	1513.889	2.00598	1287.64	1.85408	1288.82	1.71448	1290.00
5500	1527.778	2.04390+4	1305.35	1.88913+4	1306.53	1.74690+4	1307.71
5550	1541.667	2.08218	1323.18	1.92452	1324.35	1.77962	1325.53
5600	1555.556	2.12082	1341.12	1.96023	1342.29	1.81265	1343.46
5650	1569.444	2.15982	1359.18	1.99628	1360.34	1.84599	1361.51
5700	1583.333	2.19917	1377.34	2.03266	1378.51	1.87963	1379.67
5750	1597.222	2.23889	1395.62	2.06937	1396.78	1.91358	1397.94
5800	1611.111	2.27896	1414.01	2.10642	1415.17	1.94784	1416.33
5850	1625.000	2.31940	1432.51	2.14379	1433.66	1.98241	1434.82
5900	1638.889	2.36019	1451.11	2.18150	1452.26	2.01728	1453.41
5950	1652.778	2.40135	1469.82	2.21955	1470.97	2.05247	1472.12
6000	1666.667	2.44287+4	1488.64	2.25792+4	1489.78	2.08796+4	1490.93
6050	1680.556	2.48475	1507.56	2.29664	1508.70	2.12376	1509.84
6100	1694.444	2.52699	1526.58	2.33569	1527.72	2.15987	1528.86
6150	1708.333	2.56960	1545.70	2.37507	1546.84	2.19630	1547.97
6200	1722.222	2.61257	1564.92	2.41479	1566.06	2.23303	1567.19
6250	1736.111	2.65591	1584.25	2.45485	1585.37	2.27008	1586.50
6300	1750.000	2.69961	1603.66	2.49525	1604.78	2.30743	1605.91
6350	1763.889	2.74367	1623.17	2.53598	1624.29	2.34510	1625.41
6400	1777.778	2.78811	1642.78	2.57705	1643.89	2.38309	1645.00
6450	1791.667	2.83291	1662.47	2.61846	1663.58	2.42138	1664.68
6500	1805.556	2.87807+4	1682.25	2.66021+4	1683.35	2.45999+4	1684.46
6550	1819.444	2.92360	1702.12	2.70230	1703.22	2.49892	1704.31
6600	1833.333	2.96950	1722.07	2.74473	1723.16	2.53815	1724.25
6650	1847.222	3.01577	1742.10	2.78750	1743.19	2.57770	1744.27
6700	1861.111	3.06241	1762.21	2.83060	1763.29	2.61757	1764.36
6750	1875.000	3.10941	1782.40	2.87405	1783.46	2.65774	1784.53
6800	1888.889	3.15678	1802.65	2.91783	1803.71	2.69824	1804.77
6850	1902.778	3.20451	1822.98	2.96196	1824.03	2.73904	1825.07
6900	1916.667	3.25262	1843.37	3.00642	1844.40	2.78016	1845.44
6950	1930.556	3.30109	1863.82	3.05122	1864.84	2.82159	1865.86
7000	1944.444	3.34992+4	1884.32	3.09636+4	1885.33	2.86333+4	1886.34

Продолжение

v, км/ч	v, м/с	$H=35500$ м		$H=36000$ м		$H=36500$ м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111.111	8.38183+3	831.194	7.75716+3	832.469	7.18228+3	833.744
4050	1125.000	8.60069	845.255	7.95974	846.527	7.36988	847.798
4100	1138.889	8.82232	859.451	8.16490	860.719	7.55987	861.987
4150	1152.778	9.04674	873.782	8.37263	875.047	7.75224	876.311
4200	1166.667	9.27409	888.214	8.58307	889.475	7.94713	890.736
4250	1180.556	9.50410	902.806	8.79599	904.063	8.14430	905.320
4300	1194.444	9.73675	917.529	9.01134	918.783	8.34373	920.036
4350	1208.333	9.97231	932.384	9.22938	933.634	8.54565	934.884
4400	1222.222	1.02107+4	947.369	9.45000	948.616	8.74995	949.862
4450	1236.111	1.04518	962.484	9.67320	963.727	8.95665	964.971
4500	1250.000	1.06957+4	977.728	9.89897+3	978.969	9.16573+3	980.208
4550	1263.889	1.09424	993.102	1.01273+4	994.339	9.37721	995.575
4600	1277.778	1.11919	1008.60	1.03583	1009.84	9.59107	1011.07
4650	1291.667	1.14442	1024.23	1.05918	1025.46	9.80733	1026.69
4700	1305.556	1.16992	1039.99	1.08279	1041.22	1.00260+4	1042.44
4750	1319.444	1.19571	1055.87	1.10666	1057.10	1.02470	1058.32
4800	1333.333	1.22178	1071.88	1.13079	1073.10	1.04704	1074.32
4850	1347.222	1.24812	1088.02	1.15517	1089.23	1.06963	1090.45
4900	1361.111	1.27474	1104.28	1.17982	1105.49	1.09245	1106.70
4950	1375.000	1.30165	1120.66	1.20472	1121.87	1.11551	1123.08
5000	1388.889	1.32883+4	1137.17	1.22988+4	1138.38	1.13882+4	1139.58
5050	1402.778	1.35630	1153.80	1.25531	1155.00	1.16236	1156.21
5100	1416.667	1.38404	1170.55	1.28099	1171.75	1.18614	1172.95
5150	1430.556	1.41207	1187.42	1.30693	1188.62	1.21016	1189.82
5200	1444.444	1.44037	1204.42	1.33313	1205.62	1.23443	1206.81
5250	1458.333	1.46896	1221.53	1.35959	1222.73	1.25893	1223.92
5300	1472.222	1.49783	1238.77	1.38631	1239.96	1.28368	1241.15
5350	1486.111	1.52698	1255.12	1.41329	1257.31	1.30866	1258.50
5400	1500.000	1.55641	1273.59	1.44054	1274.78	1.33389	1275.96
5450	1513.889	1.58612	1291.18	1.46804	1292.36	1.35936	1293.54
5500	1527.778	1.61611+4	1308.88	1.49580+4	1310.06	1.38507+4	1311.24
5550	1541.667	1.64639	1326.70	1.52383	1327.88	1.41103	1329.05
5600	1555.556	1.67695	1344.63	1.55212	1345.81	1.43722	1346.98
5650	1569.444	1.70780	1362.68	1.58067	1363.85	1.46366	1365.02
5700	1583.333	1.73892	1380.84	1.60948	1382.00	1.49035	1383.17
5750	1597.222	1.77034	1399.11	1.63856	1400.27	1.51727	1401.43
5800	1611.111	1.80203	1417.48	1.66790	1418.64	1.54444	1419.80
5850	1625.000	1.83401	1435.97	1.69750	1437.13	1.57186	1438.28
5900	1638.889	1.86628	1454.57	1.72737	1455.72	1.59952	1456.87
5950	1652.778	1.89883	1473.27	1.75750	1474.42	1.62742	1475.56
6000	1666.667	1.93167+4	1492.07	1.78790+4	1493.22	1.65557+4	1494.36
6050	1680.556	1.96480	1510.98	1.81856	1512.12	1.68397	1513.26
6100	1694.444	1.99821	1529.99	1.84949	1531.13	1.71261	1532.27
6150	1708.333	2.03191	1549.10	1.88068	1550.24	1.74150	1551.37
6200	1722.222	2.06590	1568.32	1.91214	1569.44	1.77063	1570.57
6250	1736.111	2.10017	1587.62	1.94387	1588.75	1.80001	1589.87
6300	1750.000	2.13474	1607.03	1.97586	1608.15	1.82964	1609.27
6350	1763.889	2.16959	1626.52	2.00813	1627.64	1.85952	1628.76
6400	1777.778	2.20473	1646.11	2.04065	1647.22	1.88964	1648.33
6450	1791.667	2.24016	1665.79	2.07345	1666.90	1.92001	1668.00
6500	1805.556	2.27589+4	1685.56	2.10652+4	1686.66	1.95063+4	1687.76
6550	1819.444	2.31190	1705.41	2.13985	1706.50	1.98150	1707.59
6600	1833.333	2.34820	1725.34	2.17345	1726.43	2.01262	1727.51
6650	1847.222	2.38479	1745.35	2.20732	1746.43	2.04398	1747.51
6700	1861.111	2.42167	1765.44	2.24146	1766.51	2.07560	1767.58
6750	1875.000	2.45885	1785.60	2.27587	1786.66	2.10746	1787.72
6800	1888.889	2.49631	1805.82	2.31055	1806.88	2.13957	1807.93
6850	1902.778	2.53405	1826.12	2.34549	1827.16	2.17193	1828.20
6900	1916.667	2.57210	1846.47	2.38070	1847.50	2.20453	1848.53
6950	1930.556	2.61043	1866.88	2.41618	1867.90	2.23739	1868.91
7000	1944.444	2.64905+4	1887.34	2.45192+4	1888.34	2.27048+4	1889.34

Продолжение

V, км/ч	v, м/с	H=37000 м		H=37500 м		H=38000 м	
		$p_{\text{д}}$, Па	T_0', К	$p_{\text{д}}$, Па	T_0', К	$p_{\text{д}}$, Па	T_0', К
4000	1111.111	6.65297+3	835.019	6.16533+3	836.293	5.71597+3	837.567
4050	1125.000	6.82678	849.069	6.32643	850.340	5.86536	851.610
4100	1138.889	7.00280	863.255	6.48958	864.522	6.01665	865.789
4150	1152.778	7.18103	877.575	6.65477	878.839	6.16983	880.102
4200	1166.667	7.36159	891.996	6.82213	893.255	6.32502	894.515
4250	1180.556	7.54426	906.577	6.99145	907.833	6.48203	909.089
4300	1194.444	7.72902	921.290	7.16270	922.542	6.64082	923.795
4350	1208.333	7.91610	936.134	7.33609	937.383	6.80161	938.632
4400	1222.222	8.10538	951.109	7.51154	952.355	6.96429	953.600
4450	1236.111	8.29688	966.214	7.68903	967.456	7.12888	968.699
4500	1250.000	8.49059+3	981.448	7.86858+3	982.687	7.29537+3	983.927
4550	1263.889	8.68652	996.812	8.05018	998.048	7.46377	999.283
4600	1277.778	8.88466	1012.30	8.23383	1013.54	7.63406	1014.77
4650	1291.667	9.08501	1027.92	8.41953	1029.15	7.80627	1030.38
4700	1305.556	9.28759	1043.67	8.60729	1044.90	7.98037	1046.12
4750	1319.444	9.49237	1059.54	8.79710	1060.77	8.15638	1061.99
4800	1333.333	9.69938	1075.54	8.98897	1076.76	8.33430	1077.98
4850	1347.222	9.90861	1091.67	9.18289	1092.88	8.51412	1094.10
4900	1361.111	1.01201+4	1107.92	9.37888	1109.13	8.69586	1110.35
4950	1375.000	1.03337	1124.29	9.57692	1125.50	8.87950	1126.71
5000	1388.889	1.05496+4	1140.79	9.77702+3	1142.00	9.06505+3	1143.21
5050	1402.778	1.07677	1157.41	9.97919	1158.62	9.25252	1159.82
5100	1416.667	1.09881	1174.15	1.01834+4	1175.35	9.44189	1176.56
5150	1430.556	1.12106	1191.02	1.03897	1192.22	9.63319	1193.42
5200	1444.444	1.14354	1208.01	1.05981	1209.20	9.82639	1210.40
5250	1458.333	1.16625	1225.11	1.08085	1226.30	1.00215+4	1227.50
5300	1472.222	1.18917	1242.34	1.10210	1243.53	1.02186	1244.71
5350	1486.111	1.21232	1259.68	1.12356	1260.87	1.04175	1262.05
5400	1500.000	1.23569	1277.14	1.14522	1278.33	1.06184	1279.51
5450	1513.889	1.25929	1294.72	1.16709	1295.90	1.08212	1297.08
5500	1527.778	1.28311+4	1312.41	1.18917+4	1313.59	1.10260+4	1314.77
5550	1541.667	1.30716	1330.22	1.21146	1331.40	1.12326	1332.57
5600	1555.556	1.33143	1348.15	1.23395	1349.32	1.14412	1350.49
5650	1569.444	1.35593	1366.18	1.25666	1367.35	1.16518	1368.52
5700	1583.333	1.38065	1384.33	1.27957	1385.49	1.18643	1386.66
5750	1597.222	1.40559	1402.59	1.30270	1403.75	1.20787	1404.91
5800	1611.111	1.43077	1420.96	1.32603	1422.12	1.22950	1423.27
5850	1625.000	1.45617	1439.44	1.34957	1440.59	1.25133	1441.74
5900	1638.889	1.48179	1458.02	1.37332	1459.17	1.27336	1460.32
5950	1652.778	1.50764	1476.71	1.39728	1477.86	1.29558	1479.00
6000	1666.667	1.53372+4	1495.51	1.42146+4	1496.65	1.31799+4	1497.79
6050	1680.556	1.56003	1514.40	1.44584	1515.54	1.34060	1516.68
6100	1694.444	1.58657	1533.40	1.47044	1534.54	1.36341	1535.68
6150	1708.333	1.61333	1552.50	1.49524	1553.64	1.38641	1554.77
6200	1722.222	1.64032	1571.70	1.52026	1572.83	1.40961	1573.96
6250	1736.111	1.66754	1591.00	1.54549	1592.12	1.43301	1593.25
6300	1750.000	1.69499	1610.39	1.57093	1611.51	1.45660	1612.63
6350	1763.889	1.72267	1629.87	1.59659	1630.99	1.48039	1632.10
6400	1777 778	1.75058	1649.44	1.62246	1650.55	1.50438	1651.66
6450	1791.667	1.77872	1669.11	1.64854	1670.21	1.52856	1671.31
6500	1805.556	1.80709+4	1688.85	1.67483+4	1689.95	1.55294+4	1691.05
6550	1819.444	1.83569	1708.68	1.70134	1709.78	1.57752	1710.87
6600	1833.333	1.86452	1728.60	1.72806	1729.68	1.60230	1730.76
6650	1847.222	1.89358	1748.58	1.75499	1749.66	1.62727	1750.73
6700	1861.111	1.92287	1768.65	1.78214	1769.71	1.65245	1770.78
6750	1875.000	1.95238	1788.78	1.80950	1789.84	1.67781	1790.89
6800	1888 889	1.98213	1808.98	1.83707	1810.02	1.70338	1811.07
6850	1902.778	2.01211	1829.24	1.86485	1830.27	1.72914	1831.30
6900	1916.667	2.04232	1849.55	1.89285	1850.57	1.75510	1851.59
6950	1930.556	2.07275	1869.92	1.92106	1870.93	1.78125	1871.93
7000	1944.444	2.10341+4	1890.34	1.94947+4	1891.33	1.80760+4	1892.31

Продолжение

v, км/ч	v, м/с	H=38500 м		H=39000 м		H=39500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	5.30162+3	838.841	4.91940+3	840.114	4.56665+3	841.387
4050	1125.000	5.44021	852.881	5.04802	854.150	4.68607	855.420
4100	1138.889	5.58055	867.056	5.17827	868.322	4.80700	869.588
4150	1152.778	5.72266	881.364	5.31017	882.625	4.92948	883.879
4200	1166.667	5.86663	895.774	5.44377	897.033	5.05351	898.292
4250	1180.556	6.01228	910.345	5.57895	911.600	5·17901	912.855
4300	1194.444	6.15959	925.047	5.71566	926.299	5.30595	927.551
4350	1208.333	6.30875	939.881	5.85409	941.130	5.43448	942.378
4400	1222.222	6.45967	954.846	5.99416	956.091	5.56453	957.336
4450	1236.111	6.61236	969.941	6.13587	971.183	5.69610	972.424
4500	1250.000	6.76681+3	985.165	6.27921+3	986.404	5.82918+3	987.642
4550	1263.889	6.92302	1000.52	6.42419	1001.75	5.96379	1002.99
4600	1277.778	7.08100	1016.00	6.57081	1017.23	6.09992	1018.46
4650	1291.667	7.24075	1031.61	6.71906	1032.84	6.23757	1034.07
4700	1305.556	7.40226	1047.35	6.86896	1048.57	6.37675	1049.80
4750	1319.444	7.56555	1063.21	7.02050	1064.43	6.51745	1065.66
4800	1333.333	7.73060	1079.20	7.17368	1080.42	6.65967	1081.64
4850	1347.222	7.89742	1095.32	7.32850	1096.53	6.80341	1097.75
4900	1361.111	8.06601	1111.56	7.48497	1112.77	6.94869	1113.98
4950	1375.000	8.23637	1127.92	7.64307	1129.13	7.09548	1130.34
5000	1388.889	8.40850+3	1144.41	7.80283+3	1145.62	7.24381+3	1146.83
5050	1402.778	8.58241	1161.02	7.96423	1162.23	7.39366	1163.43
5100	1416.667	8.75809	1177.76	8.12727	1178.96	7.54505	1180.16
5150	1430.556	8.93555	1194.61	8.29197	1195.81	7.69796	1197.01
5200	1444.444	9.11479	1211.59	8.45831	1212.78	7.85240	1213.98
5250	1458.333	9.29580	1228.69	8.62631	1229.88	8.00838	1231.07
5300	1472.222	9.47860	1245.90	8.79596	1247.09	8.16590	1248.28
5350	1486.111	9.66317	1263.24	8.96726	1264.42	8.32494	1265.61
5400	1500.000	9.84954	1280.69	9.14022	1281.87	8.48553	1283.05
5450	1513.889	1.00377+4	1298.26	9.31483	1299.44	8.64765	1300.62
5500	1527.778	1.02276+4	1315.94	9.49110+3	1317.12	8.81131+3	1318.29
5550	1541.667	1.04193	1333.74	9.66904	1334.92	8.97653	1336.09
5600	1555.556	1.06129	1351.66	9.84864	1352.83	9.14328	1354.00
5650	1569.444	1.08082	1369.68	1.00299+4	1370.85	9.31158	1372.02
5700	1583.333	1.10053	1387.82	1.02128	1388.99	9.48142	1390.15
5750	1597.222	1.12042	1406.07	1.03974	1407.23	9.65282	1408.39
5800	1611.111	1.14049	1424.43	1.05837	1425.59	9.82577	1426.74
5850	1625.000	1.16074	1442.90	1.07717	1444.05	1.00003+4	1445.20
5900	1638.889	1.18117	1461.47	1.09613	1462.62	1.01763	1463.77
5950	1652.778	1.20179	1480.15	1.11526	1481.30	1.03540	1482.44
6000	1666.667	1.22258+4	1498.94	1.13456+4	1500.08	1.05331+4	1501.22
6050	1680.556	1.24356	1517.82	1.15403	1518.96	1.07139	1520.10
6100	1694.444	1.26471	1536.81	1.17366	1537.95	1.08962	1539.08
6150	1708.333	1.28605	1555.90	1.19347	1557.03	1.10801	1558.16
6200	1722.222	1.30757	1575.09	1.21344	1576.21	1.12655	1577.34
6250	1736.111	1.32928	1594.37	1.23358	1595.49	1.14525	1596.61
6300	1750.000	1.35116	1613.74	1.25389	1614.86	1.16411	1615.98
6350	1763.889	1.37323	1633.21	1.27438	1634.33	1.18313	1635.44
6400	1777.778	1.39549	1652.77	1.29503	1653.88	1.20230	1654.98
6450	1791.667	1.41792	1672.42	1.31585	1673.52	1.22163	1674.62
6500	1805.556	1.44054+4	1692.14	1.33684+4	1693.24	1.24112+4	1694.33
6550	1819.444	1.46334	1711.95	1.35800	1713.04	1.26077	1714.13
6600	1833.333	1.48632	1731.84	1.37933	1732.92	1.28058	1734.00
6650	1847.222	1.50949	1751.81	1.40083	1752.88	1.30054	1753.95
6700	1861.111	1.53284	1771.84	1.42250	1772.90	1.32066	1773.96
6750	1875.000	1.55638	1791.94	1.44434	1793.00	1.34093	1794.05
6800	1888.889	1.58009	1812.11	1.46635	1813.15	1.36137	1814.19
6850	1902.778	1.60399	1832.33	1.48853	1833.36	1.38196	1834.38
6900	1916.667	1.62807	1852.61	1.51087	1853.62	1.40270	1854.63
6950	1930.556	1.65233	1872.93	1.53339	1873.93	1.42360	1874.92
7000	1944.444	1.67677+4	1893.29	1.55607+4	1894.27	1.44466+4	1895.24

Продолжение

v, км/ч	v, м/с	H=40000 м		H=40500 м		H=41000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	4.24095+3	842.660	3.94010+3	843.932	3.66207+3	845.204
4050	1125.000	4.35187	856.689	4.04317	857.958	3.75788	859.226
4100	1138.889	4.46420	870.854	4.14755	872.119	3.85491	873.384
4150	1152.778	4.57800	885.122	4.25331	886.384	3.95323	887.645
4200	1166.667	4.69317	899.550	4.36032	900.808	4.05271	902.066
4250	1180.556	4.80970	914.110	4.46858	915.365	4.15334	916.619
4300	1194.444	4.92764	928.802	4.57820	930.054	4.25525	931.304
4350	1208.333	5.04703	943.626	4.68914	944.874	4.35838	946.121
4400	1222.222	5.16782	958.581	4.80139	959.825	4.46272	961.069
4450	1236.111	5.29003	973.666	4.91494	974.907	4.56829	976.148
4500	1250.000	5.41365+3	988.880	5.02981+3	990.118	4.67507+3	991.355
4550	1263.889	5.53868	1004.22	5.14600	1005.46	4.78307	1006.69
4600	1277.778	5.66512	1019.70	5.26349	1020.93	4.89230	1022.16
4650	1291.667	5.79298	1035.30	5.38230	1036.52	5.00275	1037.75
4700	1305.556	5.92225	1051.02	5.50243	1052.25	5.11441	1053.47
4750	1319.444	6.05294	1066.88	5.62387	1068.10	5.22730	1069.32
4800	1333.333	6.18504	1082.86	5.74662	1084.08	5.34142	1085.30
4850	1347.222	6.31856	1098.97	5.87069	1100.18	5.45675	1101.40
4900	1361.111	6.45349	1115.20	5.99608	1116.41	5.57331	1117.62
4950	1375.000	6.58985	1131.55	6.12278	1132.76	5.69110	1133.97
5000	1388.889	6.72762+3	1148.03	6.25080+3	1149.24	5.81011+3	1150.44
5050	1402.778	6.86681	1164.63	6.38014	1165.84	5.93034	1167.04
5100	1416.667	7.00742	1181.36	6.51080	1182.56	6.05181	1183.76
5150	1430.556	7.14946	1198.21	6.64279	1199.40	6.17450	1200.60
5200	1444.444	7.29291	1215.17	6.77609	1216.37	6.29842	1217.56
5250	1458.333	7.43779	1232.26	6.91072	1233.45	6.42357	1234.64
5300	1472.222	7.58410	1249.47	7.04667	1250.66	6.54995	1251.84
5350	1486.111	7.73183	1266.79	7.18395	1267.98	6.67756	1269.16
5400	1500.000	7.88099	1284.24	7.32255	1285.42	6.80641	1286.60
5450	1513.889	8.03157	1301.79	7.46248	1302.97	6.93649	1304.15
5500	1527.778	8.18359+3	1319.47	7.60374+3	1320.65	7.06781+3	1321.82
5550	1541.667	8.33705	1337.26	7.74634	1338.43	7.20037	1339.60
5600	1555.556	8.49194	1355.17	7.89027	1356.33	7.33416	1357.50
5650	1569.444	8.64826	1373.18	8.03553	1374.35	7.46920	1375.51
5700	1583.333	8.80602	1391.31	8.18213	1392.47	7.60548	1393.64
5750	1597.222	8.96523	1409.55	8.33006	1410.71	7.74300	1411.87
5800	1611.111	9.12587	1427.90	8.47934	1429.06	7.88177	1430.21
5850	1625.000	9.28796	1446.36	8.62996	1447.51	8.02179	1448.66
5900	1638.889	9.45150	1464.92	8.78192	1466.07	8.16305	1467.22
5950	1652.778	9.61648	1483.59	8.93523	1484.74	8.30557	1485.88
6000	1666.667	9.78291+3	1502.36	9.08988+3	1503.51	8.44934+3	1504.65
6050	1680.556	9.95080	1521.24	9.24589	1522.38	8.59436	1523.52
6100	1694.444	1.01201+4	1540.22	9.40324	1541.35	8.74064	1542.48
6150	1708.333	1.02909	1559.29	9.56195	1560.42	8.88817	1561.55
6200	1722.222	1.04632	1578.47	9.72201	1579.59	9.03697	1580.72
6250	1736.111	1.06369	1597.73	9.88343	1598.86	9.18702	1599.98
6300	1750.000	1.08121	1617.10	1.00462+4	1618.21	9.33834	1619.33
6350	1763.889	1.09887	1636.55	1.02103	1637.66	9.49091	1638.77
6400	1777.778	1.11668	1656.09	1.03758	1657.19	9.64475	1658.30
6450	1791.667	1.13464	1675.72	1.05427	1676.81	9.79986	1677.91
6500	1805.556	1.15274+4	1695.43	1.07109+4	1696.52	9.95622+3	1697.61
6550	1819.444	1.17099	1715.21	1.08805	1716.30	1.01138+4	1717.38
6600	1833.333	1.18938	1735.08	1.10514	1736.16	1.02727	1737.23
6650	1847.222	1.20792	1755.02	1.12237	1756.08	1.04329	1757.15
6700	1861.111	1.22661	1775.02	1.13973	1776.08	1.05943	1777.13
6750	1875.000	1.24544	1795.09	1.15723	1796.14	1.07570	1797.18
6800	1888.889	1.26442	1815.22	1.17486	1816.25	1.09209	1817.28
6850	1902.778	1.28354	1835.40	1.19263	1836.42	1.10861	1837.44
6900	1916.667	1.30281	1855.63	1.21054	1856.64	1.12525	1857.63
6950	1930.556	1.32223	1875.91	1.22857	1876.89	1.14201	1877.87
7000	1944.444	1.34178+4	1896.21	1.24675+4	1897.18	1.15890+4	1898.14

Продолжение

v, км/ч	v, м/с	H=41500 м		H=42000 м		H=42500 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	3.40503+3	846.476	3.16731+3	847.747	2.94732+3	849.018
4050	1125.000	3.49414	860.495	3.25021	861.763	3.02447	863.030
4100	1138.889	3.58438	874.649	3.33417	875.914	3.10261	877.178
4150	1152.778	3.67581	888.906	3.41923	890.166	3.18178	891.427
4200	1166.667	3.76832	903.323	3.50530	904.580	3.26189	905.837
4250	1180.556	3.86191	917.873	3.59237	919.127	3.34293	920.380
4300	1194.444	3.95668	932.555	3.68055	933.805	3.42499	935.055
4350	1208.333	4.05259	947.369	3.76977	948.616	3.50803	949.862
4400	1222.222	4.14963	962.313	3.86005	963.557	3.59206	964.800
4450	1236.111	4.24780	977.388	3.95139	978.628	3.67707	979.868
4500	1250.000	4.34711+3	992.593	4.04378+3	993.830	3.76306+3	995.066
4550	1263.889	4.44755	1007.93	4.13723	1009.16	3.85003	1010.39
4600	1277.778	4.54913	1023.39	4.23173	1024.62	3.93798	1025.85
4650	1291.667	4.65184	1038.98	4.32729	1040.21	4.02692	1041.43
4700	1305.556	4.75569	1054.70	4.42391	1055.92	4.11684	1057.15
4750	1319.444	4.86068	1070.54	4.52158	1071.76	4.20775	1072.98
4800	1333.333	4.96680	1086.51	4.62031	1087.73	4.29964	1088.95
4850	1347.222	5.07406	1102.61	4.72010	1103.82	4.39252	1105.04
4900	1361.111	5.18246	1118.83	4.82095	1120.04	4.48638	1121.25
4950	1375.000	5.29199	1135.18	4.92286	1136.39	4.58123	1137.60
5000	1388.889	5.40267+3	1151.65	5.02583+3	1152.85	4.67706+3	1154.06
5050	1402.778	5.51449	1168.24	5.12986	1169.44	4.77388	1170.65
5100	1416.667	5.62745	1184.96	5.23495	1186.16	4.87169	1187.36
5150	1430.556	5.74155	1201.79	5.34111	1202.99	4.97049	1204.19
5200	1444.444	5.85679	1218.75	5.44832	1219.95	5.07028	1221.14
5250	1458.333	5.97318	1235.83	5.55661	1237.02	5.17105	1238.21
5300	1472.222	6.09071	1253.03	5.66595	1254.22	5.27283	1255.40
5350	1486.111	6.20939	1270.35	5.77637	1271.53	5.37560	1272.71
5400	1500.000	6.32922	1287.78	5.88785	1288.96	5.47936	1290.14
5450	1513.889	6.45019	1305.33	6.00039	1306.51	5.58410	1307.68
5500	1527.778	6.57231+3	1323.00	6.11401+3	1324.17	5.68935+3	1325.34
5550	1541.667	6.69559	1340.78	6.22871	1341.95	5.79660	1343.12
5600	1555.556	6.82002	1358.67	6.34447	1359.84	5.90434	1361.01
5650	1569.444	6.94560	1376.68	6.46131	1377.84	6.01308	1379.01
5700	1583.333	7.07234	1394.80	6.57922	1395.96	6.12282	1397.12
5750	1597.222	7.20023	1413.03	6.69820	1414.19	6.23356	1415.35
5800	1611.111	7.32929	1431.37	6.81827	1432.52	6.34531	1433.68
5850	1625.000	7.45950	1449.81	6.93941	1450.97	6.45805	1452.12
5900	1638.889	7.59087	1468.37	7.06164	1469.52	6.57182	1470.66
5950	1652.778	7.72341	1487.03	7.18495	1488.17	6.68658	1489.32
6000	1666.667	7.85711+3	1505.79	7.30934+3	1506.93	6.80236+3	1508.07
6050	1680.556	7.99198	1524.65	7.43481	1525.79	6.91914	1526.93
6100	1694.444	8.12802	1543.62	7.56138	1544.75	7.03393	1545.88
6150	1708.333	8.26522	1562.68	7.68903	1563.81	7.15574	1564.94
6200	1722.222	8.40360	1581.84	7.81777	1582.97	7.27555	1584.09
6250	1736.111	8.54315	1601.10	7.94759	1602.22	7.39639	1603.33
6300	1750.000	8.68387	1620.44	8.07851	1621.56	7.51823	1622.67
6350	1763.889	8.82576	1639.88	8.21052	1640.99	7.64110	1642.09
6400	1777.778	8.96883	1659.40	8.34362	1660.50	7.76497	1661.61
6450	1791.667	9.11307	1679.01	8.47782	1680.10	7.88937	1681.20
6500	1805.556	9.25848+3	1698.70	8.61310+3	1699.79	8.01577+3	1700.87
6550	1819.444	9.40507	1718.46	8.74948	1719.54	8.14270	1720.62
6600	1833.333	9.55283	1738.30	8.88694	1739.37	8.27033	1740.44
6650	1847.222	9.70176	1758.21	9.02550	1759.27	8.39958	1760.33
6700	1861.111	9.85186	1778.19	9.16514	1779.24	8.52954	1780.28
6750	1875.000	1.00031+4	1798.22	9.30587	1799.26	8.66051	1800.29
6800	1888.889	1.01556	1818.31	9.44767	1819.33	8.79249	1820.35
6850	1902.778	1.03092	1838.45	9.59056	1839.46	8.92546	1840.46
6900	1916.667	1.04639	1858.63	9.73453	1859.62	9.05944	1860.61
6950	1930.556	1.06198	1878.85	9.87956	1879.82	9.19441	1880.78
7000	1944.444	1.07769+4	1899.09	1.00237+4	1900.04	9.33037+3	1900.99

Продолжение

v, км/ч	v, м/с	H=43000 м		H=43500 м		H=44000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	2.74368+3	850.289	2.55509+3	851.559	2.38038+3	852.830
4050	1125.000	2.81552	864.298	2.62201	865.565	2.44273	866.831
4100	1138.889	2.88828	878.442	2.68977	879.705	2.50587	880.968
4150	1152.778	2.96199	892.687	2.75843	893.946	2.56985	895.206
4200	1166.667	3.03658	907.093	2.82791	908.350	2.63458	909.606
4250	1180.556	3.11203	921.633	2.89818	922.886	2.70006	924.138
4300	1194.444	3.18844	936.305	2.96935	937.554	2.76638	938.804
4350	1208.333	3.26576	951.109	3.04137	952.355	2.83349	953.600
4400	1222.222	3.34399	966.043	3.11424	967.286	2.90139	968.528
4450	1236.111	3.42314	981.108	3.18796	982.347	2.97008	983.587
4500	1250.000	3.50321+3	996.303	3.26254+3	997.539	3.03957+3	998.775
4550	1263.889	3.58418	1011.63	3.33796	1012.86	3.10985	1014.09
4600	1277.778	3.66608	1027.08	3.41424	1028.31	3.18092	1029.54
4650	1291.667	3.74889	1042.66	3.49137	1043.89	3.25279	1045.11
4700	1305.556	3.83261	1058.37	3.56936	1059.59	3.32546	1060.82
4750	1319.444	3.91725	1074.20	3.64819	1075.42	3.39892	1076.64
4800	1333.333	4.00281	1090.17	3.72789	1091.38	3.47317	1092.60
4850	1347.222	4.08929	1106.25	3.80843	1107.47	3.54823	1108.68
4900	1361.111	4.17668	1122.47	3.88983	1123.68	3.62407	1124.89
4950	1375.000	4.26499	1138.80	3.97209	1140.01	3.70072	1141.22
5000	1388.889	4.35422+3	1155.26	4.05520+3	1156.47	3.77816+3	1157.67
5050	1402.778	4.44437	1171.85	4.13917	1173.05	3.85640	1174.25
5100	1416.667	4.53544	1188.55	4.22399	1189.75	3.93544	1190.95
5150	1430.556	4.62743	1205.38	4.30968	1206.58	4.01528	1207.77
5200	1444.444	4.72034	1222.33	4.39622	1223.52	4.09592	1224.72
5250	1458.333	4.81417	1239.40	4.48362	1240.59	4.17736	1241.78
5300	1472.222	4.90893	1256.59	4.57188	1257.78	4.25960	1258.96
5350	1486.111	5.00461	1273.90	4.66100	1275.08	4.34264	1276.26
5400	1500.000	5.10122	1291.32	4.75098	1292.50	4.42649	1293.68
5450	1513.889	5.19875	1308.86	4.84182	1310.04	4.51113	1311.22
5500	1527.778	5.29721+3	1326.52	4.93353+3	1327.69	4.59658+3	1328.87
5550	1541.667	5.39660	1344.29	5.02611	1345.46	4.68284	1346.63
5600	1555.556	5.49691	1362.18	5.11954	1363.34	4.76991	1364.51
5650	1569.444	5.59816	1380.17	5.21385	1381.34	4.85778	1382.50
5700	1583.333	5.70034	1398.28	5.30902	1399.44	4.94646	1400.61
5750	1597.222	5.80345	1416.50	5.40505	1417.65	5.03596	1418.82
5800	1611.111	5.90750	1434.83	5.50198	1435.99	5.12626	1437.14
5850	1625.000	6.01248	1453.27	5.59976	1454.42	5.21737	1455.57
5900	1638.889	6.11839	1471.81	5.69841	1472.96	5.30930	1474.11
5950	1652.778	6.22525	1490.46	5.79794	1491.60	5.40204	1492.75
6000	1666.667	6.33304+3	1509.21	5.89835+3	1510.35	5.49559+3	1511.49
6050	1680.556	6.44178	1528.06	5.99962	1529.20	5.58996	1530.34
6100	1694.444	6.55145	1547.02	6.10178	1548.15	5.68515	1549.28
6150	1708.333	6.66207	1566.07	6.20481	1567.19	5.78115	1568.32
6200	1722.222	6.77363	1585.21	6.30872	1586.34	5.87797	1587.46
6250	1736.111	6.88613	1604.45	6.41351	1605.57	5.97562	1606.69
6300	1750.000	6.99958	1623.78	6.51918	1624.89	6.07408	1626.01
6350	1763.889	7.11397	1643.20	6.62573	1644.31	6.17336	1645.41
6400	1777.778	7.22931	1662.71	6.73316	1663.81	6.27346	1664.90
6450	1791.667	7.34560	1682.29	6.84146	1683.39	6.37437	1684.48
6500	1805.556	7.46282+3	1701.96	6.95065+3	1703.04	6.47611+3	1704.13
6550	1819.444	7.58100	1721.70	7.06072	1722.78	6.57867	1723.85
6600	1833.333	7.70011	1741.51	7.17166	1742.58	6.68204	1743.64
6650	1847.222	7.82017	1761.39	7.28348	1762.45	6.78623	1763.50
6700	1861.111	7.94117	1781.33	7.39618	1782.37	6.89123	1783.41
6750	1875.000	8.06310	1801.33	7.50975	1802.36	6.99705	1803.38
6800	1888.889	8.18597	1821.37	7.62418	1822.39	7.10367	1823.40
6850	1902.778	8.30977	1841.46	7.73949	1842.46	7.21110	1843.45
6900	1916.667	8.43451	1861.59	7.85566	1862.57	7.31933	1863.54
6950	1930.556	8.56016	1881.75	7.97268	1882.70	7.42836	1883.66
7000	1944.444	8.68674+3	1901.93	8.09056+3	1902.86	7.53819+3	1903.79

Продолжение

v, км/ч	v, м/с	H=44500 м		H=45000 м		H=45500 м	
		$p_{\text{Д}}$, Па	T'_{0}, К	$p_{\text{Д}}$, Па	T'_{0}, К	$p_{\text{Д}}$, Па	T'_{0}, К
4000	1111.111	2.21845+3	854.099	2.06829+3	855.369	1.92903+3	856.638
4050	1125.000	2.27657	868.098	2.12249	869.364	1.97958	870.630
4100	1138.889	2.33543	882.229	2.17738	883.486	2.03081	884.732
4150	1152.778	2.39507	896.465	2.23298	897.723	2.08266	898.982
4200	1166.667	2.45541	910.861	2.28925	912.116	2.13514	913.372
4250	1180.556	2.51645	925.391	2.34617	926.643	2.18824	927.894
4300	1194.444	2.57827	940.052	2.40381	941.301	2.24201	942.549
4350	1208.333	2.64082	954.846	2.46214	956.091	2.29643	957.336
4400	1222.222	2.70411	969.770	2.52116	971.012	2.35148	972.254
4450	1236.111	2.76814	984.825	2.58087	986.064	2.40718	987.302
4500	1250.000	2.83292+3	1000.01	2.64127+3	1001.25	2.46352+3	1002.48
4550	1263.889	2.89843	1015.32	2.70236	1016.56	2.52051	1017.79
4600	1277.778	2.96468	1030.77	2.76414	1032.00	2.57814	1033.23
4650	1291.667	3.03168	1046.34	2.82661	1047.56	2.63641	1048.79
4700	1305.556	3.09941	1062.04	2.88977	1063.26	2.69533	1064.48
4750	1319.444	3.16789	1077.86	2.95362	1079.08	2.75490	1080.30
4800	1333.333	3.23710	1093.82	3.01817	1095.03	2.81511	1096.25
4850	1347.222	3.30703	1109.89	3.08340	1111.11	2.87596	1112.32
4900	1361.111	3.37776	1126.10	3.14933	1127.31	2.93746	1128.52
4950	1375.000	3.44921	1142.43	3.21595	1143.63	2.99961	1144.84
5000	1388.889	3.52140+3	1158.88	3.28326+3	1160.08	3.06240+3	1161.28
5050	1402.778	3.59433	1175.45	3.35127	1176.65	3.12584	1177.85
5100	1416.667	3.66801	1192.15	3.41997	1193.35	3.18993	1194.54
5150	1430.556	3.74243	1208.97	3.48937	1210.16	3.25466	1211.36
5200	1444.444	3.81759	1225.91	3.55946	1227.10	3.32005	1228.29
5250	1458.333	3.89351	1242.97	3.63025	1244.16	3.38608	1245.35
5300	1472.222	3.97017	1260.15	3.70174	1261.33	3.45277	1262.52
5350	1486.111	4.04757	1277.45	3.77392	1278.63	3.52010	1279.81
5400	1500.000	4.12573	1294.86	3.84680	1296.04	3.58808	1297.22
5450	1513.889	4.20463	1312.39	3.92037	1313.57	3.65672	1314.74
5500	1527.778	4.28429+3	1330.04	3.99465+3	1331.21	3.72600+3	1332.39
5550	1541.667	4.36470	1347.80	4.06963	1348.97	3.79595	1350.14
5600	1555.556	4.44585	1365.68	4.14531	1366.85	3.86655	1368.01
5650	1569.444	4.52776	1383.67	4.22169	1384.83	3.93780	1385.99
5700	1583.333	4.61043	1401.77	4.29877	1402.93	4.00970	1404.09
5750	1597.222	4.69385	1419.98	4.37656	1421.13	4.08227	1422.29
5800	1611.111	4.77802	1438.30	4.45505	1439.45	4.15549	1440.60
5850	1625.000	4.86295	1456.72	4.53424	1457.87	4.22936	1459.02
5900	1638.889	4.94864	1475.25	4.61415	1476.40	4.30390	1477.55
5950	1652.778	5.03509	1493.89	4.69476	1495.03	4.37910	1496.18
6000	1666.667	5.12230+3	1512.63	4.77608+3	1513.77	4.45495+3	1514.91
6050	1680.556	5.21026	1531.47	4.85811	1532.61	4.53147	1533.74
6100	1694.444	5.29899	1550.41	4.94084	1551.54	4.60865	1552.67
6150	1708.333	5.38848	1569.45	5.02429	1570.57	4.68650	1571.70
6200	1722.222	5.47873	1588.58	5.10845	1589.70	4.76500	1590.82
6250	1736.111	5.56975	1607.80	5.19332	1608.92	4.84417	1610.03
6300	1750.000	5.66153	1627.12	5.27890	1628.23	4.92400	1629.34
6350	1763.889	5.75407	1646.52	5.36519	1647.62	5.00450	1648.72
6400	1777.778	5.84738	1666.00	5.45220	1667.10	5.08566	1668.19
6450	1791.667	5.94144	1685.57	5.53991	1686.66	5.16748	1687.74
6500	1805.556	6.03628+3	1705.21	5.62834+3	1706.29	5.24997+3	1707.37
6550	1819.444	6.13187	1724.92	5.71748	1725.99	5.33311	1727.06
6600	1833.333	6.22822	1744.70	5.80732	1745.77	5.41692	1746.82
6650	1847.222	6.32534	1764.55	5.89787	1765.60	5.50139	1766.65
6700	1861.111	6.42321	1784.45	5.98913	1785.49	5.58651	1786.52
6750	1875.000	6.52184	1804.41	6.08110	1805.43	5.67229	1806.45
6800	1888.889	6.62122	1824.41	6.17376	1825.41	5.75873	1826.41
6850	1902.778	6.72135	1844.44	6.26712	1845.43	5.84581	1846.41
6900	1916.667	6.82223	1864.51	6.36118	1865.48	5.93354	1866.44
6950	1930.556	6.92385	1884.60	6.45593	1885.55	6.02191	1886.48
7000	1944.444	7.02621+3	1904.71	6.55136+3	1905.63	6.11092+3	1906.53

Продолжение

v, км/ч	v, м/с	H=46000 м		H=46500 м		H=47000 м	
		p_{Σ}, Па	T_0', К	p_{Σ}, Па	T_0', К	p_{Σ}, Па	T_0', К
4000	1111.111	1.79978+3	857.907	1.67980+3	859.176	1.56838+3	860.444
4050	1125.000	1.84696	871.895	1.72384	873.160	1.60951	874.425
4100	1138.889	1.89476	885.987	1.76847	887.249	1.65118	888.510
4150	1152.778	1.94314	900.240	1.81363	901.498	1.69336	902.755
4200	1166.667	1.99211	914.626	1.85933	915.881	1.73603	917.135
4250	1180.556	2.04167	929.146	1.90561	930.397	1.77925	931.647
4300	1194.444	2.09185	943.797	1.95245	945.045	1.82299	946.292
4350	1208.333	2.14262	958.581	1.99985	959.825	1.86726	961.069
4400	1222.222	2.19400	973.495	2.04781	974.736	1.91204	975.977
4450	1236.111	2.24598	988.541	2.09633	989.778	1.95735	991.016
4500	1250.000	2.29855+3	1003.72	2.14541+3	1004.95	2.00319+3	1006.18
4550	1263.889	2.35173	1019.02	2.19505	1020.25	2.04955	1021.48
4600	1277.778	2.40551	1034.45	2.24526	1035.68	2.09643	1036.91
4650	1291.667	2.45989	1050.02	2.29602	1051.24	2.14383	1052.47
4700	1305.556	2.51487	1065.71	2.34735	1066.93	2.19176	1068.15
4750	1319.444	2.57045	1081.52	2.39923	1082.74	2.24022	1083.96
4800	1333.333	2.62664	1097.46	2.45168	1098.68	2.28920	1099.90
4850	1347.222	2.68343	1113.53	2.50470	1114.75	2.33870	1115.96
4900	1361.111	2.74082	1129.73	2.55827	1130.94	2.38873	1132.15
4950	1375.000	2.79881	1146.05	2.61241	1147.25	2.43929	1148.46
5000	1388.889	2.85741+3	1162.49	2.66711+3	1163.69	2.49037+3	1164.89
5050	1402.778	2.91661	1179.05	2.72237	1180.25	2.54198	1181.45
5100	1416.667	2.97641	1195.74	2.77820	1196.94	2.59411	1198.14
5150	1430.556	3.03682	1212.55	2.83459	1213.75	2.64677	1214.94
5200	1444.444	3.09784	1229.48	2.89155	1230.67	2.69996	1231.87
5250	1458.333	3.15946	1246.53	2.94907	1247.72	2.75368	1248.91
5300	1472.222	3.22168	1263.71	3.00716	1264.89	2.80793	1266.08
5350	1486.111	3.28452	1280.99	3.06582	1282.18	2.86270	1283.36
5400	1500.000	3.34796	1298.40	3.12504	1299.58	2.91800	1300.76
5450	1513.889	3.41200	1315.92	3.18483	1317.10	2.97384	1318.27
5500	1527.778	3.47666+3	1333.56	3.24519+3	1334.73	3.03021+3	1335.90
5550	1541.667	3.54193	1351.31	3.30612	1352.48	3.08711	1353.65
5600	1555.556	3.60781	1369.18	3.36762	1370.35	3.14453	1371.51
5650	1569.444	3.67430	1387.16	3.42968	1388.32	3.20250	1389.48
5700	1583.333	3.74140	1405.25	3.49232	1406.41	3.26099	1407.57
5750	1597.222	3.80912	1423.45	3.55554	1424.60	3.32002	1425.76
5800	1611.111	3.87744	1441.76	3.61932	1442.91	3.37959	1444.05
5850	1625.000	3.94638	1460.17	3.68368	1461.32	3.43968	1462.47
5900	1638.889	4.01594	1478.69	3.74861	1479.84	3.50032	1480.98
5950	1652.778	4.08611	1497.32	3.81411	1498.46	3.56149	1499.60
6000	1666.667	4.15690+3	1516.05	3.88019+3	1517.18	3.62320+3	1518.32
6050	1680.556	4.22830	1534.87	3.94685	1536.01	3.68545	1537.14
6100	1694.444	4.30032	1553.80	4.01408	1554.93	3.74823	1556.06
6150	1708.333	4.37296	1572.82	4.08189	1573.95	3.81156	1575.07
6200	1722.222	4.44622	1591.94	4.15028	1593.06	3.87542	1594.18
6250	1736.111	4.52010	1611.15	4.21924	1612.26	3.93982	1613.37
6300	1750.000	4.59460	1630.44	4.28879	1631.55	4.00476	1632.66
6350	1763.889	4.66971	1649.83	4.35891	1650.93	4.07024	1652.03
6400	1777.778	4.74545	1669.29	4.42960	1670.38	4.13626	1671.47
6450	1791.667	4.82180	1688.83	4.50088	1689.92	4.20281	1691.00
6500	1805.556	4.89877+3	1708.45	4.57273+3	1709.52	4.26991+3	1710.60
6550	1819.444	4.97636	1728.13	4.64515	1729.20	4.33754	1730.26
6600	1833.333	5.05456	1747.88	4.71815	1748.94	4.40571	1749.99
6650	1847.222	5.13338	1767.69	4.79172	1768.73	4.47441	1769.77
6700	1861.111	5.21281	1787.55	4.86587	1788.58	4.54364	1789.60
6750	1875.000	5.29285	1807.46	4.94058	1808.47	4.61340	1809.48
6800	1888.889	5.37350	1827.41	5.01586	1828.40	4.68370	1829.39
6850	1902.778	5.45475	1847.39	5.09170	1848.36	4.75452	1849.33
6900	1916.667	5.53661	1867.39	5.16811	1868.34	4.82586	1869.29
6950	1930.556	5.61906	1887.41	5.24507	1888.34	4.89772	1889.25
7000	1944.444	5.70212+3	1907.44	5.32259+3	1908.34	4.97010+3	1909.23

Продолжение

v, км/ч	v, м/с	$H=47500$ м		$H=48000$ м		$H=48500$ м	
		$p_{\text{д}}$, Па	T_0', К	$p_{\text{д}}$, Па	T_0', К	$p_{\text{д}}$, Па	T_0', К
4000	1111.111	1.47246+3	860.444	1.38240+3	860.444	1.29785+3	860.444
4050	1125.000	1.51107	874.425	1.41865	874.425	1.33188	874.425
4100	1138.889	1.55019	888.510	1.45538	888.510	1.36636	888.510
4150	1152.778	1.58979	902.755	1.49255	902.755	1.40127	902.755
4200	1166.667	1.62985	917.135	1.53017	917.135	1.43658	917.135
4250	1180,556	1.67043	931.647	1.56826	931.647	1.47234	931.647
4300	1194.444	1.71149	946.292	1.60681	946.292	1.50854	946.292
4350	1208.333	1.75305	961.069	1.64583	961.069	1.54517	961.069
4400	1222.222	1.79510	975.977	1.68530	975.977	1.58223	975.977
4450	1236.111	1.83764	991.016	1.72524	991.016	1.61972	991.016
4500	1250.000	1.88067+3	1006.18	1.76564+3	1006.18	1.65765+3	1006.18
4550	1263.889	1.92419	1021.48	1.80650	1021.48	1.69601	1021.48
4600	1277.778	1.96820	1036.91	1.84782	1036.91	1.73481	1036.91
4650	1291.667	2.01271	1052.47	1.88961	1052.47	1.77403	1052.47
4700	1305.556	2.05771	1068.15	1.93185	1068.15	1.81370	1068.15
4750	1319.444	2.10320	1083.96	1.97456	1083.96	1.85379	1083.96
4800	1333.333	2.14918	1099.90	2.01773	1099.90	1.89432	1099.90
4850	1347.222	2.19566	1115.96	2.06137	1115.96	1.93529	1115.96
4900	1361.111	2.24263	1132.15	2.10546	1132.15	1.97669	1132.15
4950	1375.000	2.29009	1148.46	2.15002	1148.46	2.01852	1148.46
5000	1388.889	2.33805+3	1164.89	2.19505+3	1164.89	2.06079+3	1164.89
5050	1402.778	2.38650	1181.45	2.24054	1181.45	2.10350	1181.45
5100	1416.667	2.43545	1198.14	2.28649	1198.14	2.14664	1198.14
5150	1430.556	2.48489	1214.94	2.33291	1214.94	2.19022	1214.94
5200	1444.444	2.53483	1231.87	2.37979	1231.87	2.23424	1231.87
5250	1458.333	2.58526	1248.91	2.42714	1248.91	2.27869	1248.91
5300	1472.222	2.63619	1266.08	2.47495	1266.08	2.32358	1266.08
5350	1486.111	2.68761	1283.36	2.52323	1283.36	2.36890	1283.36
5400	1500.000	2.73953	1300.76	2.57197	1300.76	2.41467	1300.76
5450	1513.889	2.79195	1318.27	2.62119	1318.27	2.46087	1318.27
5500	1527.778	2.84487+3	1335.90	2.67087+3	1335.90	2.50751+3	1335.90
5550	1541.667	2.89829	1353.65	2.72102	1353.65	2.55460	1353.65
5600	1555.556	2.95221	1371.51	2.77164	1371.51	2.60212	1371.51
5650	1569.444	3.00662	1389.48	2.82273	1389.48	2.65008	1389.48
5700	1583.333	3.06154	1407.57	2.87429	1407.57	2.69849	1407.56
5750	1597.222	3.11696	1425.76	2.92632	1425.76	2.74734	1425.76
5800	1611.111	3.17288	1444.06	2.97882	1444.06	2.79663	1444.06
5850	1625.000	3.22930	1462.47	3.03179	1462.47	2.84636	1462.47
5900	1638.889	3.28623	1480.98	3.08523	1480.98	2.89653	1480.98
5950	1652.778	3.34366	1499.60	3.13915	1499.60	2.94715	1499.59
6000	1666.667	3.40159+3	1518.32	3.19354+3	1518.32	2.99822+3	1518.31
6050	1680.556	3.46003	1537.14	3.24841	1537.13	3.04972	1537.13
6100	1694.444	3.51898	1556.05	3.30374	1556.05	3.10168	1556.04
6150	1708.333	3.57843	1575.07	3.35956	1575.06	3.15408	1575.05
6200	1722.222	3.63838	1594.17	3.41585	1594.16	3.20692	1594.15
6250	1736.111	3.69884	1613.36	3.47261	1613.36	3.26021	1613.35
6300	1750.000	3.75981	1632.65	3.52985	1632.63	3.31395	1632.62
6350	1763.889	3.82128	1652.01	3.58756	1652.00	3.36813	1651.98
6400	1777.778	3.88326	1671.46	3.64574	1671.44	3.42276	1671.42
6450	1791.667	3.94575	1690.98	3.70441	1690.96	3.47783	1690.93
6500	1805.556	4.00874+3	1710.57	3.76354+3	1710.54	3.53334+3	1710.52
6550	1819.444	4.07223	1730.23	3.82315	1730.20	3.58930	1730.17
6600	1833.333	4.13622	1749.95	3.88322	1749.91	3.64570	1749.87
6650	1847.222	4.20072	1769.73	3.94377	1769.68	3.70254	1769.63
6700	1861.111	4.26571	1789.55	4.00479	1789.50	3.75982	1789.44
6750	1875.000	4.33121	1809.42	4.06627	1809.35	3.81754	1809.28
6800	1888.889	4.39719	1829.32	4.12822	1829.24	3.87569	1829.16
6850	1902.778	4.46368	1849.24	4.19062	1849.15	3.93428	1849.06
6900	1916.667	4.53065	1869.18	4.25349	1869.08	3.99330	1868.97
6950	1930.556	4.59810	1889.14	4.31682	1889.01	4.05274	1888.88
7000	1944.444	4.66605+3	1909.08	4.38060+3	1908.94	4.11261+3	1908.79

Продолжение

v, км/ч	v, м/с	H=49000 м		H=49600 м		H=50000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	1.21847+3	860.444	1.14394+3	860.444	1.07397+3	860.444
4050	1125.000	1.25042	874.425	1.17394	874.425	1.10214	874.425
4100	1138.889	1.28279	888.510	1.20433	888.510	1.13067	888.510
4150	1152.778	1.31556	902.755	1.23510	902.755	1.15956	902.755
4200	1166.667	1.34871	917.135	1.26622	917.135	1.18878	917.135
4250	1180.556	1.38229	931.647	1.29774	931.647	1.21837	931.647
4300	1194.444	1.41627	946.292	1.32965	946.292	1.24832	946.292
4350	1208.333	1.45066	961.069	1.36193	961.069	1.27863	961.069
4400	1222.222	1.48545	975.977	1.39460	975.977	1.30930	975.977
4450	1236.111	1.52065	991.016	1.42765	991.016	1.34033	991.016
4500	1250.000	1.55626+3	1006.18	1.46108+3	1006.18	1.37171+3	1006.18
4550	1263.889	1.59228	1021.48	1.49489	1021.48	1.40346	1021.48
4600	1277.778	1.62870	1036.91	1.52908	1036.91	1.43556	1036.91
4650	1291.667	1.66553	1052.47	1.56366	1052.47	1.46802	1052.47
4700	1305.556	1.70277	1068.15	1.59862	1068.15	1.50084	1068.15
4750	1319.444	1.74041	1083.96	1.63396	1083.96	1.53402	1083.96
4800	1333.333	1.77846	1099.90	1.66969	1099.90	1.56756	1099.90
4850	1347.222	1.81692	1115.96	1.70579	1115.96	1.60146	1115.96
4900	1361.111	1.85579	1132.15	1.74228	1132.15	1.63572	1132.15
4950	1375.000	1.89506	1148.46	1.77916	1148.46	1.67034	1148.46
5000	1388.889	1.93475+3	1164.89	1.81642+3	1164.89	1.70532+3	1164.89
5050	1402.778	1.97484	1181.45	1.85406	1181.45	1.74066	1181.45
5100	1416.667	2.01535	1198.14	1.89208	1198.14	1.77636	1198.14
5150	1430.556	2.05626	1214.94	1.93049	1214.94	1.81242	1214.94
5200	1444.444	2.09758	1231.87	1.96929	1231.87	1.84884	1231.87
5250	1458.333	2.13931	1248.91	2.00847	1248.91	1.88563	1248.91
5300	1472.222	2.18146	1266.08	2.04804	1266.08	1.92277	1266.08
5350	1486.111	2.22401	1283.36	2.08799	1283.36	1.96028	1283.36
5400	1500.000	2.26698	1300.76	2.12832	1300.76	1.99815	1300.76
5450	1513.889	2.31035	1318.27	2.16905	1318.27	2.03638	1318.27
5500	1527.778	2.35415+3	1335.90	2.21016+3	1335.90	2.07498+3	1335.90
5550	1541.667	2.39835	1353.65	2.25166	1353.65	2.11394	1353.65
5600	1555.556	2.44297	1371.51	2.29355	1371.51	2.15327	1371.51
5650	1569.444	2.48800	1389.48	2.33582	1389.48	2.19296	1389.48
5700	1583.333	2.53344	1407.56	2.37849	1407.56	2.23301	1407.56
5750	1597.222	2.57930	1425.76	2.42154	1425.76	2.27343	1425.75
5800	1611.111	2.62557	1444.06	2.46499	1444.06	2.31422	1444.05
5850	1625.000	2.67226	1462.46	2.50882	1462.46	2.35537	1462.46
5900	1638.889	2.71937	1480.98	2.55305	1480.97	2.39689	1480.97
5950	1652.778	2.76689	1499.59	2.59766	1499.59	2.43878	1499.59
6000	1666.667	2.81483+3	1518.31	2.64267+3	1518.31	2.48104+3	1518.30
6050	1680.556	2.86319	1537.12	2.68807	1537.12	2.52366	1537.12
6100	1694.444	2.91197	1556.04	2.73386	1556.03	2.56665	1556.03
6150	1708.333	2.96116	1575.05	2.78005	1575.04	2.61001	1575.03
6200	1722.222	3.01077	1594.15	2.82662	1594.14	2.65374	1594.13
6250	1736.111	3.06080	1613.34	2.87359	1613.32	2.69783	1613.31
6300	1750.000	3.11125	1632.61	2.92096	1632.60	2.74230	1632.58
6350	1763.889	3.16212	1651.97	2.96871	1651.95	2.78713	1651.93
6400	1777.778	3.21340	1671.40	3.01686	1671.38	2.83233	1671.36
6450	1791.667	3.26510	1690.91	3.06539	1690.89	2.87790	1690.86
6500	1805.556	3.31722+3	1710.49	3.11432+3	1710.46	2.92383+3	1710.43
6550	1819.444	3.36975	1730.13	3.16364	1730.10	2.97013	1730.06
6600	1833.333	3.42270	1749.83	3.21335	1749.79	3.01680	1749.75
6650	1847.222	3.47606	1769.58	3.26344	1769.53	3.06382	1769.48
6700	1861.111	3.52984	1789.38	3.31392	1789.32	3.11121	1789.26
6750	1875.000	3.58402	1809.21	3.36479	1809.14	3.15896	1809.07
6800	1888.889	3.63861	1829.08	3.41604	1828.99	3.20707	1828.90
6850	1902.778	3.69361	1848.96	3.46766	1848.86	3.25554	1848.76
6900	1916.667	3.74901	1868.85	3.51967	1868.74	3.30436	1868.61
6950	1930.556	3.80481	1888.75	3.57205	1888.61	3.35353	1888.47
7000	1944.444	3.86101+3	1908.63	3.62481+3	1908.47	3.40305+3	1908.31

Продолжение

v, км/ч	v, м/с	H=51000 м		H=52000 м		H=53000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	9.46618+2	860.444	8.42814+2	857.907	7.49474+2	855.369
4050	1125.000	9.71440	874.425	8.64906	871.895	7.69112	869.364
4100	1138.889	9.96594	888.510	8.87293	885.987	7.89003	883.486
4150	1152.778	1.02205+3	902.755	9.09949	900.240	8.09152	897.723
4200	1166.667	1.04781	917.135	9.32881	914.626	8.29541	912.116
4250	1180.556	1.07389	931.647	9.56089	929.146	8.50167	926.643
4300	1194.444	1.10029	946.292	9.79586	943.797	8.71054	941.301
4350	1208.333	1.12701	961.069	1.00336+3	958.581	8.92190	956.091
4400	1222.222	1.15404	975.977	1.02742	973.495	9.13577	971.012
4450	1236.111	1.18139	991.016	1.05176	988.541	9.35213	986.064
4500	1250.000	1.20905+3	1006.18	1.07638+3	1003.72	9.57100+2	1001.25
4550	1263.889	1.23703	1021.48	1.10129	1019.02	9.79236	1016.56
4600	1277.778	1.26533	1036.91	1.12647	1034.45	1.00162+3	1032.00
4650	1291.667	1.29394	1052.47	1.15194	1050.02	1.02426	1047.56
4700	1305.556	1.32287	1068.15	1.17768	1065.71	1.04715	1063.26
4750	1319.444	1.35211	1083.96	1.20371	1081.52	1.07028	1079.08
4800	1333.333	1.38168	1099.90	1.23002	1097.46	1.09367	1095.03
4850	1347.222	1.41155	1115.96	1.25661	1113.53	1.11731	1111.11
4900	1361.111	1.44175	1132.15	1.28349	1129.73	1.14120	1127.31
4950	1375.000	1.47226	1148.46	1.31065	1146.05	1.16534	1143.63
5000	1388.889	1.50309+3	1164.89	1.33809+3	1162.49	1.18974+3	1160.08
5050	1402.778	1.53424	1181.45	1.36581	1179.05	1.21438	1176.65
5100	1416.667	1.56571	1198.14	1.39382	1195.74	1.23927	1193.35
5150	1430.556	1.59749	1214.94	1.42211	1212.55	1.26442	1210.16
5200	1444.444	1.62960	1231.87	1.45068	1229.48	1.28982	1227.10
5250	1458.333	1.66202	1248.91	1.47953	1246.53	1.31547	1244.16
5300	1472.222	1.69476	1266.08	1.50867	1263.71	1.34137	1261.33
5350	1486.111	1.72782	1283.36	1.53810	1280.99	1.36753	1278.63
5400	1500.000	1.76120	1300.75	1.56781	1298.40	1.39394	1296.04
5450	1513.889	1.79490	1318.27	1.59780	1315.92	1.42060	1313.57
5500	1527.778	1.82892+3	1335.90	1.62807+3	1333.56	1.44751+3	1331.21
5550	1541.667	1.86326	1353.65	1.65864	1351.31	1.47468	1348.97
5600	1555.556	1.89792	1371.51	1.68949	1369.17	1.50211	1366.84
5650	1569.444	1.93291	1389.48	1.72063	1387.15	1.52978	1384.82
5700	1583.333	1.96821	1407.56	1.75205	1405.24	1.55772	1402.92
5750	1597.222	2.00384	1425.75	1.78376	1423.44	1.58590	1421.12
5800	1611.111	2.03979	1444.05	1.81575	1441.74	1.61434	1439.43
5850	1625.000	2.07606	1462.46	1.84804	1460.15	1.64304	1457.85
5900	1638.889	2.11266	1480.97	1.88061	1478.67	1.67199	1476.37
5950	1652.778	2.14958	1499.58	1.91347	1497.29	1.70120	1494.99
6000	1666.667	2.18682+3	1518.29	1.94661+3	1516.01	1.73067+3	1513.72
6050	1680.556	2.22439	1537.11	1.98005	1534.82	1.76039	1532.54
6100	1694.444	2.26228	1556.02	2.01377	1553.74	1.79036	1551.46
6150	1708.333	2.30050	1575.02	2.04778	1572.75	1.82060	1570.47
6200	1722.222	2.33904	1594.11	2.08208	1591.84	1.85109	1589.57
6250	1736.111	2.37791	1613.29	2.11667	1611.03	1.88183	1608.76
6300	1750.000	2.41710	1632.56	2.15155	1630.29	1.91284	1628.03
6350	1763.889	2.45661	1651.90	2.18672	1649.64	1.94410	1647.38
6400	1777.778	2.49645	1671.32	2.22217	1669.06	1.97561	1666.80
6450	1791.667	2.53661	1690.81	2.25792	1688.56	2.00738	1686.30
6500	1805.556	2.57709+3	1710.37	2.29394+3	1708.11	2.03941+3	1705.85
6550	1819.444	2.61790	1729.99	2.33026	1727.73	2.07168	1725.46
6600	1833.333	2.65902	1749.66	2.36686	1747.39	2.10422	1745.13
6650	1847.222	2.70047	1769.37	2.40374	1767.10	2.13700	1764.83
6700	1861.111	2.74223	1789.13	2.44091	1786.85	2.17003	1784.57
6750	1875.000	2.78432	1808.91	2.47836	1806.63	2.20332	1804.34
6800	1888.889	2.82671	1828.72	2.51608	1826.42	2.23685	1824.12
6850	1902.778	2.86942	1848.54	2.55409	1846.23	2.27062	1843.90
6900	1916.667	2.91244	1868.36	2.59237	1866.03	2.30465	1863.68
6950	1930.556	2.95577	1888.17	2.63092	1885.81	2.33891	1883.45
7000	1944.444	2.99940+3	1907.96	2.66975+3	1905.58	2.37341+3	1903.18

Продолжение

v, км/ч	v, м/с	H=54000 м		H=55000 м		H=56000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	6.65639+2	852.830	5.90430+2	850.289	5.23033+2	847.747
4050	1125.000	6.83074	866.831	6.05889	864.298	5.36723	861.763
4100	1138.889	7.00731	880.968	6.21545	878.442	5.50587	875.914
4150	1152.778	7.18622	895.206	6.37408	892.687	5.64633	890.166
4200	1166.667	7.36724	909.606	6.53460	907.093	5.78847	904.580
4250	1180.556	7.55036	924.138	6.69696	921.633	5.93226	919.127
4300	1194.444	7.73580	938.804	6.86139	936.305	6.07786	933.805
4350	1208.333	7.92345	953.600	7.02778	951.109	6.22520	948.616
4400	1222.222	8.11332	968.528	7.19614	966.043	6.37429	963.557
4450	1236.111	8.30541	983.587	7.36646	981.108	6.52511	978.628
4500	1250.000	8.49973+2	998.775	7.53875+2	996.303	6.67768+2	993.830
4550	1263.889	8.69626	1014.09	7.71302	1011.63	6.83200	1009.16
4600	1277.778	8.89501	1029.54	7.88925	1027.08	6.98805	1024.62
4650	1291.667	9.09598	1045.11	8.06745	1042.66	7.14586	1040.21
4700	1305.556	9.29918	1060.82	8.24762	1058.37	7.30540	1055.92
4750	1319.444	9.50460	1076.64	8.42977	1074.20	7.46670	1071.76
4800	1333.333	9.71225	1092.60	8.61388	1090.17	7.62974	1087.73
4850	1347.222	9.92212	1108.68	8.79997	1106.25	7.79453	1103.82
4900	1361.111	1.01342+3	1124.89	8.98804	1122.47	7.96106	1120.04
4950	1375.000	1.03485	1141.22	9.17808	1138.80	8.12935	1136.39
5000	1388.889	1.05651+3	1157.67	9.37010+2	1155.26	8.29939+2	1152.85
5050	1402.778	1.07839	1174.25	9.56410	1171.85	8.47118	1169.44
5100	1416.667	1.10049	1190.95	9.76008	1188.55	8.64472	1186.16
5150	1430.556	1.12282	1207.77	9.95804	1205.38	8.82002	1202.99
5200	1444.444	1.14537	1224.72	1.01580+3	1222.33	8.99707	1219.95
5250	1458.333	1.16814	1241.78	1.03599	1239.40	9.17589	1237.02
5300	1472.222	1.19114	1258.96	1.05638	1256.59	9.35646	1254.22
5350	1486.111	1.21436	1276.26	1.07697	1273.90	9.53879	1271.53
5400	1500.000	1.23781	1293.68	1.09776	1291.32	9.72288	1288.96
5450	1513.889	1.26147	1311.21	1.11875	1308.86	9.90872	1306.50
5500	1527.778	1.28537+3	1328.86	1.13993+3	1326.51	1.00963+3	1324.16
5550	1541.667	1.30949	1346.63	1.16132	1344.28	1.02857	1341.94
5600	1555.556	1.33384	1364.50	1.18291	1362.17	1.04769	1359.83
5650	1569.444	1.35841	1382.49	1.20470	1380.16	1.06698	1377.83
5700	1583.333	1.38321	1400.59	1.22669	1398.27	1.08645	1395.94
5750	1597.222	1.40823	1418.80	1.24888	1416.48	1.10610	1414.16
5800	1611.111	1.43348	1437.12	1.27126	1434.81	1.12593	1432.49
5850	1625.000	1.45896	1455.54	1.29385	1453.23	1.14593	1450.93
5900	1638.889	1.48466	1474.07	1.31665	1471.77	1.16611	1469.47
5950	1652.778	1.51060	1492.70	1.33964	1490.40	1.18647	1488.11
6000	1666.667	1.53675+3	1511.43	1.36283+3	1509.14	1.20701+3	1506.85
6050	1680.556	1.56314	1530.26	1.38623	1527.97	1.22773	1525.69
6100	1694.444	1.58975	1549.18	1.40983	1546.90	1.24863	1544.62
6150	1708.333	1.61659	1568.20	1.43362	1565.92	1.26970	1563.64
6200	1722.222	1.64366	1587.30	1.45762	1585.03	1.29095	1582.76
6250	1736.111	1.67096	1606.49	1.48183	1604.23	1.31238	1601.95
6300	1750.000	1.69848	1625.77	1.50623	1623.50	1.33399	1621.23
6350	1763.889	1.72623	1645.12	1.53084	1642.85	1.35578	1640.59
6400	1777.778	1.75421	1664.54	1.55564	1662.28	1.37774	1660.02
6450	1791.667	1.78242	1684.04	1.58065	1681.77	1.39989	1679.51
6500	1805.556	1.81085+3	1703.59	1.60585+3	1701.32	1.42221+3	1699.06
6550	1819.444	1.83950	1723.20	1.63126	1720.93	1.44470	1718.66
6600	1833.333	1.86838	1742.86	1.65686	1740.58	1.46737	1738.31
6650	1847.222	1.89748	1762.56	1.68267	1760.27	1.49022	1757.99
6700	1861.111	1.92681	1782.29	1.70866	1779.99	1.51324	1777.70
6750	1875.000	1.95635	1802.04	1.73486	1799.73	1.53643	1797.42
6800	1888.889	1.98612	1821.80	1.76124	1819.48	1.55979	1817.16
6850	1902.778	2.01610	1841.57	1.78782	1839.23	1.58332	1836.88
6900	1916.667	2.04630	1861.33	1.81460	1858.96	1.60702	1856.59
6950	1930.556	2.07671	1881.06	1.84156	1878.67	1.63089	1876.26
7000	1944.444	2.10734+3	1900.76	1.86870+3	1898.34	1.65492+3	1895.89

Продолжение

v, км/ч	v, м/с	H=57000 м		H=58000 м		H=59000 м	
		$p_{\text{д}}$, Па	T'_0, К	$p_{\text{д}}$, Па	T'_0, К	$p_{\text{д}}$, Па	T'_0, К
4000	1111.111	4.62714+2	845.204	4.08794+2	842.660	3.60653+2	840.114
4050	1125.000	4.74821	859.226	4.19486	856.689	3.70083	854.150
4100	1138.889	4.87081	873.384	4.30313	870.854	3.79632	868.322
4150	1152.778	4.99503	887.645	4.41284	885.122	3.89301	882.625
4200	1166.667	5.12073	902.066	4.52384	899.550	3.99096	897.033
4250	1180.556	5.24789	916.619	4.63618	914.110	4.09006	911.600
4300	1194.444	5.37665	931.304	4.74986	928.802	4.19029	926.299
4350	1208.333	5.50695	946.121	4.86494	943.626	4.29178	941.130
4400	1222.222	5.63880	961.069	4.98137	958.581	4.39446	956.091
4450	1236.111	5.77218	976.148	5.09917	973.666	4.49835	971.183
4500	1250.000	5.90711+2	991.355	5.21833+2	988.880	4.60344+2	986.404
4550	1263.889	6.04357	1006.69	5.33885	1004.22	4.70973	1001.75
4600	1277.778	6.18158	1022.16	5.46073	1019.70	4.81722	1017.23
4650	1291.667	6.32114	1037.75	5.58398	1035.30	4.92591	1032.84
4700	1305.556	6.46223	1053.47	5.70859	1051.02	5.03580	1048.57
4750	1319.444	6.60487	1069.32	5.83456	1066.88	5.14690	1064.43
4800	1333.333	6.74906	1085.30	5.96189	1082.86	5.25920	1080.42
4850	1347.222	6.89479	1101.40	6.09060	1098.97	5.37270	1096.53
4900	1361.111	7.04206	1117.62	6.22066	1115.20	5.48741	1112.77
4950	1375.000	7.19089	1133.97	6.35210	1131.55	5.60332	1129.13
5000	1388.889	7.34126+2	1150.44	6.48490+2	1148.03	5.72044+2	1145.62
5050	1402.778	7.49318	1167.04	6.61907	1164.63	5.83877	1162.23
5100	1416.667	7.64666	1183.76	6.75461	1181.36	5.95830	1178.96
5150	1430.556	7.80168	1200.60	6.89151	1198.21	6.07904	1195.81
5200	1444.444	7.95826	1217.56	7.02979	1215.17	6.20099	1212.78
5250	1458.333	8.11639	1234.64	7.16945	1232.26	6.32415	1229.88
5300	1472.222	8.27608	1251.84	7.31047	1249.47	6.44853	1247.09
5350	1486.111	8.43732	1269.16	7.45288	1266.79	6.57411	1264.42
5400	1500.000	8.60013	1286.60	7.59666	1284.24	6.70091	1281.87
5450	1513.889	8.76447	1304.15	7.74179	1301.79	6.82893	1299.44
5500	1527.778	8.93039+2	1321.81	7.88832+2	1319.46	6.95814+2	1317.11
5550	1541.667	9.09789	1339.60	8.03625	1337.25	7.08860	1334.91
5600	1555.556	9.26694	1357.49	8.18555	1355.15	7.22026	1352.81
5650	1569.444	9.43756	1375.50	8.33623	1373.17	7.35315	1370.83
5700	1583.333	9.60975	1393.62	8.48829	1391.29	7.48725	1388.96
5750	1597.222	9.78351	1411.84	8.64174	1409.52	7.62258	1407.20
5800	1611.111	9.95883	1430.18	8.79658	1427.86	7.75913	1425.55
5850	1625.000	1.01357+3	1448.62	8.95281	1446.31	7.89691	1444.00
5900	1638.889	1.03142	1467.16	9.11043	1464.86	8.03592	1462.55
5950	1652.778	1.04943	1485.81	9.26944	1483.51	8.17615	1481.21
6000	1666.667	1.06759+3	1504.55	9.42984+2	1502.26	8.31760+2	1499.97
6050	1680.556	1.08591	1523.40	9.59163	1521.11	8.46029	1518.82
6100	1694.444	1.10439	1542.34	9.75482	1540.05	8.60420	1537.77
6150	1708.333	1.12302	1561.36	9.91940	1559.09	8.74934	1556.80
6200	1722.222	1.14182	1580.48	1.00854+3	1578.21	8.89571	1575.93
6250	1736.111	1.16077	1599.68	1.02527	1597.41	9.04330	1595.14
6300	1750.000	1.17988	1618.96	1.04215	1616.69	9.19212	1614.42
6350	1763.889	1.19915	1638.32	1.05916	1636.05	9.34216	1633.78
6400	1777.778	1.21857	1657.75	1.07632	1655.48	9.49343	1653.20
6450	1791.667	1.23815	1677.24	1.09361	1674.97	9.64590	1672.69
6500	1805.556	1.25789+3	1696.79	1.11103+3	1694.51	9.79959+2	1692.23
6550	1819.444	1.27778	1716.38	1.12860	1714.10	9.95449	1711.82
6600	1833.333	1.29782	1736.02	1.14630	1733.74	1.01106+3	1731.44
6650	1847.222	1.31802	1755.70	1.16414	1753.40	1.02679	1751.10
6700	1861.111	1.33838	1775.39	1.18211	1773.08	1.04263	1770.77
6750	1875.000	1.35888	1795.11	1.20022	1792.78	1.05860	1790.44
6800	1888.889	1.37954	1814.82	1.21846	1812.47	1.07468	1810.12
6850	1902.778	1.40035	1834.52	1.23683	1832.15	1.09088	1829.77
6900	1916.667	1.42130	1854.20	1.25533	1851.80	1.10719	1849.39
6950	1930.556	1.44240	1873.84	1.27396	1871.41	1.12362	1868.96
7000	1944.444	1.46365+3	1893.44	1.29272+3	1890.96	1.14016+3	1888.47

Продолжение

v, км/ч	v, м/с	H=60000 м		H=61000 м		H=62000 м	
		p_x, Па	T'_0, К	p_x, Па	T'_0, К	p_x, Па	T'_0, К
4000	1111.111	3.17728+2	837.567	2.79507+2	835.019	2.45515+2	832.469
4050	1125.000	3.26032	851.610	2.86809	849.069	2.51927	846.527
4100	1138.889	3.34442	865.789	2.94204	863.255	2.58420	860.719
4150	1152.778	3.42956	880.102	3.01692	877.575	2.64995	875.047
4200	1166.667	3.51583	894.515	3.09278	891.996	2.71656	889.475
4250	1180.556	3.60310	909.089	3.16952	906.577	2.78395	904.063
4300	1194.444	3.69137	923.795	3.24715	921.290	2.85210	918.783
4350	1208.333	3.78074	938.632	3.32574	936.134	2.92111	933.634
4400	1222.222	3.87118	953.600	3.40526	951.109	2.99094	948.616
4450	1236.111	3.96266	968.699	3.48572	966.214	3.06158	963.727
4500	1250.000	4.05521+2	983.927	3.56710+2	981.448	3.13304+2	978.969
4550	1263.889	4.14881	999.283	3.64941	996.812	3.20532	994.339
4600	1277.778	4.24347	1014.77	3.73266	1012.30	3.27841	1009.84
4650	1291.667	4.33919	1030.38	3.81683	1027.92	3.35232	1025.46
4700	1305.556	4.43597	1046.12	3.90193	1043.67	3.42705	1041.22
4750	1319.444	4.53381	1061.99	3.98797	1059.54	3.50259	1057.10
4800	1333.333	4.63271	1077.98	4.07494	1075.54	3.57896	1073.10
4850	1347.222	4.73266	1094.10	4.16284	1091.67	3.65614	1089.23
4900	1361.111	4.83368	1110.35	4.25167	1107.92	3.73414	1105.49
4950	1375.000	4.93576	1126.71	4.34144	1124.29	3.81296	1121.87
5000	1388.889	5.03890+2	1143.21	4.43214+2	1140.79	3.89260+2	1138.38
5050	1402.778	5.14311	1159.82	4.52378	1157.41	3.97306	1155.00
5100	1416.667	5.24837	1176.56	4.61635	1174.15	4.05435	1171.75
5150	1430.556	5.35471	1193.42	4.70985	1191.02	4.13645	1188.62
5200	1444.444	5.46210	1210.40	4.80429	1208.01	4.21938	1205.62
5250	1458.333	5.57057	1227.50	4.89967	1225.11	4.30313	1222.73
5300	1472.222	5.68010	1244.71	4.99599	1242.34	4.38770	1239.96
5350	1486.111	5.79069	1262.05	5.09325	1259.68	4.47310	1257.31
5400	1500.000	5.90236	1279.51	5.19145	1277.14	4.55932	1274.78
5450	1513.889	6.01510	1297.08	5.29058	1294.72	4.64637	1292.36
5500	1527.778	6.12888+2	1314.76	5.39065+2	1312.41	4.73423+2	1310.05
5550	1541.667	6.24376	1332.56	5.49166	1330.21	4.82293	1327.86
5600	1555.556	6.35972	1350.47	5.59364	1348.13	4.91247	1345.79
5650	1569.444	6.47675	1368.50	5.69655	1366.16	5.00283	1363.83
5700	1583.333	6.59485	1386.63	5.80040	1384.30	5.09402	1381.97
5750	1597.222	6.71403	1404.88	5.90521	1402.55	5.18604	1400.23
5800	1611.111	6.83428	1423.23	6.01095	1420.91	5.27889	1418.59
5850	1625.000	6.95561	1441.69	6.11765	1439.37	5.37258	1437.06
5900	1638.889	7.07803	1460.25	6.22529	1457.94	5.46710	1455.63
5950	1652.778	7.20152	1478.91	6.33389	1476.61	5.56245	1474.31
6000	1666.667	7.32609+2	1497.67	6.44343+2	1495.38	5.65863+2	1493.08
6050	1680.556	7.45174	1516.53	6.55393	1514.24	5.75565	1511.94
6100	1694.444	7.57848	1535.48	6.66537	1533.19	5.85350	1530.90
6150	1708.333	7.70629	1554.52	6.77777	1552.24	5.95219	1549.95
6200	1722.222	7.83519	1573.65	6.89111	1571.37	6.05171	1569.09
6250	1736.111	7.96516	1592.86	7.00540	1590.58	6.15206	1588.30
6300	1750.000	8.09621	1612.15	7.12064	1609.87	6.25324	1607.59
6350	1763.889	8.22834	1631.50	7.23682	1629.23	6.35525	1626.95
6400	1777.778	8.36154	1650.93	7.35395	1648.65	6.45808	1646.37
6450	1791.667	8.49581	1670.41	7.47201	1668.13	6.56174	1665.85
6500	1805.556	8.63144+2	1689.95	7.59101+2	1687.66	6.66622+2	1685.37
6550	1819.444	8.76754	1709.53	7.71094	1707.24	6.77151	1704.94
6600	1833.333	8.90499	1729.15	7.83179	1726.84	6.87761	1724.54
6650	1847.222	9.04348	1748.79	7.95356	1746.47	6.98452	1744.15
6700	1851.111	9.18302	1768.44	8.07625	1766.11	7.09223	1763.77
6750	1875.000	9.32359	1788.10	8.19984	1785.75	7.20072	1783.39
6800	1888.889	9.46519	1807.75	8.32433	1805.37	7.31001	1802.98
6850	1902.778	9.60780	1827.37	8.44971	1824.97	7.42007	1822.54
6900	1916.667	9.75142	1846.96	8.57597	1844.52	7.53090	1842.06
6950	1930.556	9.89604	1865.49	8.70311	1864.01	7.64250	1861.51
7000	1944.444	1.00417+3	1885.96	8.83111+2	1883.42	7.75486+2	1880.87

Продолжение

v, км/ч	v, м/с	$H=63000$ м		$H=64000$ м		$H=65000$ м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	2.15328+2	829.918	1.88559+2	827.366	1.64853+2	824.813
4050	1125.000	2.20950	843.983	1.93480	841.438	1.69154	838.892
4100	1138.889	2.26643	858.183	1.98463	855.645	1.73509	853.106
4150	1152.778	2.32407	872.517	2.03508	869.986	1.77918	867.454
4200	1166.667	2.38246	886.953	2.08619	884.442	1.82383	881.934
4250	1180.556	2.44154	901.548	2.13791	899.032	1.86905	896.515
4300	1194.444	2.50130	916.275	2.19023	913.766	1.91479	911.256
4350	1208.333	2.56180	931.133	2.24318	928.631	1.96105	926.128
4400	1222.222	2.62302	946.122	2.29677	943.626	2.00789	941.130
4450	1236.111	2.68495	961.240	2.35099	958.752	2.05527	956.262
4500	1250.000	2.74760+2	976.488	2.40583+2	974.006	2.10320+2	971.523
4550	1263.889	2.81097	991.865	2.46129	989.390	2.15167	986.914
4600	1277.778	2.87505	1007.37	2.51739	1004.90	2.20070	1002.43
4650	1291.667	2.93985	1023.00	2.57411	1020.54	2.25027	1018.08
4700	1305.556	3.00537	1038.76	2.63146	1036.31	2.30039	1033.85
4750	1319.444	3.07160	1054.65	2.68944	1052.20	2.35106	1049.75
4800	1333.333	3.13855	1070.66	2.74804	1068.22	2.40228	1065.78
4850	1347.222	3.20622	1086.80	2.80728	1084.36	2.45404	1081.93
4900	1361.111	3.27460	1103.06	2.86714	1100.63	2.50636	1098.20
4950	1375.000	3.34370	1119.45	2.92763	1117.03	2.55923	1114.60
5000	1388.889	3.41353+2	1135.96	2.98875+2	1133.54	2.61264+2	1131.12
5050	1402.778	3.48407	1152.59	3.05050	1150.18	2.66661	1147.77
5100	1416.667	3.55533	1169.35	3.11288	1166.94	2.72113	1164.54
5150	1430.556	3.62731	1186.23	3.17589	1183.83	2.77619	1181.43
5200	1444.444	3.70002	1203.22	3.23953	1200.83	2.83181	1198.44
5250	1458.333	3.77344	1220.34	3.30380	1217.96	2.88799	1215.57
5300	1472.222	3.84759	1237.58	3.36871	1235.20	2.94471	1232.82
5350	1486.111	3.92246	1254.94	3.43424	1252.56	3.00199	1250.19
5400	1500.000	3.99805	1272.41	3.50041	1270.04	3.05982	1267.67
5450	1513.889	4.07437	1290.00	3.56722	1287.64	3.11820	1285.28
5500	1527.778	4.15140+2	1307.70	3.63465+2	1305.34	3.17713+2	1302.98
5550	1541.667	4.22916	1325.51	3.70272	1323.16	3.23662	1320.81
5600	1555.556	4.30767	1343.45	3.77144	1341.10	3.29668	1338.76
5650	1569.444	4.38689	1361.49	3.84078	1359.15	3.35728	1356.81
5700	1583.333	4.46683	1379.64	3.91076	1377.31	3.41844	1374.98
5750	1597.222	4.54751	1397.90	3.98138	1395.58	3.48016	1393.25
5800	1611.111	4.62892	1416.27	4.05264	1413.95	3.54243	1411.63
5850	1625.000	4.71105	1434.75	4.12453	1432.43	3.60527	1430.12
5900	1638.889	4.79391	1453.32	4.19707	1451.02	3.66866	1448.70
5950	1652.778	4.87751	1472.00	4.27024	1469.70	3.73261	1467.39
6000	1666.667	4.96183+2	1490.78	4.34406+2	1488.48	3.79711+2	1486.18
6050	1680.556	5.04689	1509.65	4.41851	1507.36	3.86218	1505.06
6100	1694.444	5.13268	1528.61	4.49360	1526.32	3.92781	1524.03
6150	1708.333	5.21919	1547.67	4.56933	1545.38	3.99399	1543.09
6200	1722.222	5.30644	1566.80	4.64570	1564.52	4.06073	1562.23
6250	1736.111	5.39442	1586.02	4.72270	1583.73	4.12802	1581.45
6300	1750.000	5.48312	1605.31	4.80035	1603.02	4.19587	1600.74
6350	1763.889	5.57255	1624.67	4.87862	1622.38	4.26428	1620.09
6400	1777.778	5.66270	1644.09	4.95753	1641.80	4.33323	1639.51
6450	1791.667	5.75357	1663.56	5.03707	1661.27	4.40274	1658.97
6500	1805.556	5.84515+2	1683.08	5.11723+2	1680.78	4.47279+2	1678.48
6550	1819.444	5.93746	1702.64	5.19801	1700.33	4.54338	1698.01
6600	1833.333	6.03046	1722.22	5.27942	1719.90	4.61451	1717.57
6650	1847.222	6.12418	1741.82	5.36144	1739.48	4.68618	1737.13
6700	1861.111	6.21859	1761.42	5.44406	1759.05	4.75838	1756.69
6750	1875.000	6.31369	1781.01	5.52729	1778.63	4.83110	1776.23
6800	1888.889	6.40948	1800.58	5.61112	1798.17	4.90434	1795.74
6850	1902.778	6.50595	1820.11	5.69554	1817.66	4.97810	1815.19
6900	1916.667	6.60309	1839.58	5.78055	1837.09	5.05237	1834.57
6950	1930.556	6.70090	1858.98	5.86613	1856.44	5.12714	1853.87
7000	1944.444	6.79937+2	1878.29	5.95230+2	1875.69	5.20242+2	1873.07

Продолжение

v, км/ч	v, м/с	H=66020 м		H=67000 м		H=68000 м	
		$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К	$p_д$, Па	T'_0, К
4000	1111.111	1.43892+2	822.258	1.25385+2	819.702	1.09070+2	817.145
4050	1125.000	1.47644	836.344	1.28653	833.795	1.11912	831.245
4100	1138.889	1.51444	850.765	1.31963	848.023	1.14790	845.480
4150	1152.778	1.55291	864.921	1.35314	862.386	1.17705	859.850
4200	1166.667	1.59187	879.409	1.38707	876.882	1.20655	874.353
4250	1180.556	1.63132	893.997	1.42144	891.477	1.23643	888.957
4300	1194.444	1.67124	908.745	1.45621	906.232	1.26667	903.718
4350	1208.333	1.71160	923.623	1.49137	921.118	1.29724	918.611
4400	1222.222	1.75246	938.633	1.52696	936.134	1.32819	933.634
4450	1236.111	1.79380	953.771	1.56297	951.280	1.35950	948.787
4500	1250.000	1.83562+2	969.040	1.59940+2	966.555	1.39118+2	964.069
4550	1263.889	1.87792	984.436	1.63624	981.958	1.42321	979.479
4600	1277.778	1.92069	999.961	1.67350	997.490	1.45561	995.017
4650	1291.667	1.96395	1015.61	1.71118	1013.15	1.48837	1010.68
4700	1305.556	2.00768	1041.39	1.74927	1028.93	1.52150	1026.48
4750	1319.444	2.05189	1047.30	1.78778	1044.85	1.55499	1042.39
4800	1333.333	2.09658	1063.33	1.82670	1060.89	1.58883	1058.44
4850	1347.222	2.14174	1079.49	1.86605	1077.05	1.62305	1074.61
4900	1361.111	2.18739	1095.77	1.90581	1093.34	1.65762	1090.90
4950	1375.000	2.23352	1112.18	1.94599	1109.75	1.69256	1107.32
5000	1388.889	2.28013+2	1128.70	1.98659+2	1126.28	1.72786+2	1123.86
5050	1402.778	2.32721	1145.36	2.02760	1142.94	1.76353	1140.53
5100	1416.667	2.37478	1162.13	2.06904	1159.72	1.79956	1157.32
5150	1430.556	2.42283	1179.03	2.11089	1176.63	1.83595	1174.22
5200	1444.444	2.47136	1196.04	2.15316	1193.65	1.87271	1191.25
5250	1458.333	2.52037	1213.18	2.19585	1210.79	1.90983	1208.40
5300	1472.222	2.56986	1230.44	2.23896	1228.05	1.94732	1225.67
5350	1486.111	2.61984	1247.81	2.28249	1245.43	1.98517	1243.06
5400	1500.000	2.67030	1265.30	2.32645	1262.93	2.02339	1260.56
5450	1513.889	2.72124	1282.91	2.37082	1280.55	2.06198	1278.18
5500	1527.778	2.77265+2	1300.63	2.41561+2	1298.28	2.10093+2	1295.92
5550	1541.667	2.82456	1318.46	2.46082	1316.11	2.14023	1313.76
5600	1555.556	2.87696	1336.41	2.50646	1334.07	2.17991	1331.72
5650	1569.444	2.92984	1354.47	2.55252	1352.13	2.21998	1349.79
5700	1583.333	2.98320	1372.64	2.59900	1370.31	2.26039	1367.97
5750	1597.222	3.03705	1390.92	2.64591	1388.59	2.30118	1386.26
5800	1611.111	3.09139	1409.31	2.69324	1406.99	2.34234	1404.66
5850	1625.000	3.14621	1427.80	2.74099	1425.48	2.38386	1423.16
5900	1638.889	3.20152	1446.39	2.78917	1444.08	2.42575	1441.77
5950	1652.778	3.25731	1465.09	2.83777	1462.78	2.46801	1460.47
6000	1666.667	3.31360+2	1483.88	2.88679+2	1481.57	2.51064+2	1479.27
6050	1680.556	3.37037	1502.76	2.93624	1500.46	2.55364	1498.16
6100	1694.444	3.42763	1521.74	2.98612	1519.44	2.59700	1517.14
6150	1708.333	3.48537	1540.80	3.03641	1538.50	2.64074	1536.21
6200	1722.222	3.54360	1559.94	3.08713	1557.65	2.68484	1555.36
6250	1736.111	3.60231	1579.16	3.13827	1576.87	2.72931	1574.58
6300	1750.000	3.66151	1598.45	3.18983	1596.16	2.77414	1593.86
6350	1763.889	3.72119	1617.80	3.24181	1615.51	2.81933	1613.21
6400	1777.778	3.78135	1637.21	3.29421	1634.91	2.86489	1632.61
6450	1791.667	3.84199	1656.67	3.34702	1654.37	2.91081	1652.06
6500	1805.556	3.90310+2	1676.17	3.40025+2	1673.85	2.95709+2	1671.53
6550	1819.444	3.96469	1695.69	3.45389	1693.36	3.00372	1691.03
6600	1833.333	4.02674	1715.23	3.50793	1712.89	3.05071	1710.54
6650	1847.222	4.08926	1734.78	3.56238	1732.41	3.09804	1730.04
6700	1861.111	4.15224	1754.31	3.61722	1751.92	3.14572	1749.52
6750	1875.000	4.21568	1773.82	3.67247	1771.40	3.19375	1768.96
6800	1888.889	4.27956	1793.29	3.72810	1790.83	3.24211	1788.35
6850	1902.778	4.34390	1812.70	3.78412	1810.20	3.29081	1807.67
6900	1916.667	4.40868	1832.04	3.84053	1829.48	3.33984	1826.90
6950	1930.556	4.47390	1851.28	3.89732	1848.67	3.38920	1846.02
7000	1944.444	4.53955+2	1870.41	3.95448+2	1867.73	3.43889+2	1865.01

Продолжение

v, км/ч	v, м/с	H=69000 м		H=70000 м		H=71000 м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111.111	9.47110+1	814.586	8.20935+1	812.026	7.10249+1	809.465
4050	1125.000	9.71780	828.694	8.42310	826.141	7.28735	823.587
4100	1138.889	9.96763	842.936	8.63957	840.391	7.47456	837.844
4150	1152.778	1.02206+2	857.313	8.85875	854.774	7.66412	852.235
4200	1166.667	1.04767	871.823	9.08065	869.292	7.85603	866.759
4250	1180.556	1.07361	886.435	9.30532	883.930	8.05029	881.415
4300	1194.444	1.09985	901.204	9.53278	898.687	8.24705	896.170
4350	1208.333	1.12639	916.103	9.76273	913.594	8.44603	911.084
4400	1222.222	1.15326	931.133	9.99551	928.631	8.64724	926.128
4450	1236.111	1.18044	946.293	1.02310+2	943.798	8.85092	941.301
4500	1250.000	1.20793+2	961.581	1.04692+2	959.093	9.05695+1	956.604
4550	1263.889	1.23574	976.998	1.07102	974.517	9.26534	972.034
4600	1277.778	1.26386	992.544	1.09539	990.069	9.47608	987.593
4650	1291.667	1.29230	1008.22	1.12003	1005.75	9.68918	1003.28
4700	1305.556	1.32105	1024.02	1.14494	1021.55	9.90463	1019.09
4750	1319.444	1.35012	1039.94	1.17013	1037.49	1.01224+2	1035.03
4800	1333.333	1.37950	1055.99	1.19558	1053.54	1.03426	1051.09
4850	1347.222	1.40920	1072.17	1.22131	1069.73	1.05652	1067.28
4900	1361.111	1.43921	1088.47	1.24732	1086.03	1.07901	1083.60
4950	1375.000	1.46954	1104.89	1.27360	1102.46	1.10173	1100.03
5000	1388.889	1.50018+2	1121.44	1.30015+2	1119.02	1.12469+2	1116.60
5050	1402.778	1.53114	1138.11	1.32697	1135.70	1.14789	1133.28
5100	1416.667	1.56242	1154.91	1.35407	1152.50	1.17133	1150.09
5150	1430.556	1.59401	1171.82	1.38144	1169.42	1.19500	1167.01
5200	1444.444	1.62591	1188.86	1.40909	1186.46	1.21891	1184.06
5250	1458.333	1.65814	1206.01	1.43701	1203.62	1.24306	1201.23
5300	1472.222	1.69068	1223.29	1.46520	1220.90	1.26744	1218.51
5350	1486.111	1.72354	1240.68	1.49367	1238.30	1.29206	1235.92
5400	1500.000	1.75671	1258.19	1.52242	1255.82	1.31692	1253.44
5450	1513.889	1.79020	1275.82	1.55144	1273.45	1.34202	1271.08
5500	1527.778	1.82401+2	1293.56	1.58073+2	1291.20	1.36736+2	1288.84
5550	1541.667	1.85813	1311.40	1.61029	1309.05	1.39292	1306.69
5600	1555.556	1.89258	1329.37	1.64014	1327.02	1.41873	1324.67
5650	1569.444	1.92735	1347.45	1.67027	1345.11	1.44479	1342.76
5700	1583.333	1.96244	1365.64	1.70067	1363.30	1.47108	1360.96
5750	1597.222	1.99784	1383.93	1.73134	1381.60	1.49761	1379.27
5800	1611.111	2.03356	1402.34	1.76229	1400.01	1.52438	1397.68
5850	1625.000	2.06961	1420.84	1.79352	1418.52	1.55139	1416.20
5900	1638.889	2.10597	1439.45	1.82503	1437.14	1.57864	1434.82
5950	1652.778	2.14265	1458.16	1.85681	1455.85	1.60612	1453.54
6000	1666.667	2.17965+2	1476.96	1.88887+2	1474.66	1.63385+2	1472.35
6050	1680.556	2.21697	1495.86	1.92121	1493.56	1.66181	1491.25
6100	1694.444	2.25462	1514.84	1.95382	1512.54	1.69002	1510.24
6150	1708.333	2.29238	1533.91	1.98671	1531.61	1.71846	1529.31
6200	1722.222	2.33085	1553.06	2.01988	1550.76	1.74714	1548.46
6250	1736.111	2.36945	1572.28	2.05332	1569.98	1.77606	1567.68
6300	1750.000	2.40836	1591.57	2.08703	1589.27	1.80522	1586.96
6350	1763.889	2.44759	1610.91	2.12102	1608.61	1.83461	1606.30
6400	1777.778	2.48713	1630.31	2.15528	1627.99	1.86423	1625.68
6450	1791.667	2.52699	1649.74	2.18980	1647.42	1.89409	1645.09
6500	1805.556	2.56715+2	1669.20	2.22460+2	1666.87	1.92418+2	1664.53
6550	1819.444	2.60762	1688.69	2.25966	1686.34	1.95449	1683.98
6600	1833.333	2.64840	1708.17	2.29498	1705.80	1.98504	1703.42
6650	1847.222	2.68948	1727.65	2.33057	1725.25	2.01580	1722.84
6700	1861.111	2.73086	1747.10	2.36641	1744.67	2.04679	1742.22
6750	1875.000	2.77253	1766.51	2.40251	1764.04	2.07800	1761.55
6800	1888.889	2.81450	1785.86	2.43886	1783.34	2.10943	1780.80
6850	1902.778	2.85676	1805.13	2.47546	1802.56	2.14107	1799.96
6900	1916.667	2.89930	1824.30	2.51231	1821.67	2.17293	1819.00
6950	1930.556	2.94213	1843.35	2.54940	1840.65	2.20500	1837.91
7000	1944.444	2.98524+2	1862.26	2.58674+2	1859.48	2.23727+2	1856.65

Продолжение

v, км/ч	v, м/с	H=72000 м		H=73000 м		H=74000 м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111.111	6.11135+1	807.634	5.25103+1	805.803	4.50530+1	803.972
4050	1125.000	6.27037	821.762	5.38763	819.936	4.62247	818.110
4100	1138.889	6.43142	836.024	5.52597	834.203	4.74113	832.382
4150	1152.778	6.59448	850.420	5.66604	848.605	4.86127	846.789
4200	1166.667	6.75956	864.950	5.80785	863.139	4.98291	861.328
4250	1180.556	6.92667	879.612	5.95139	877.807	5.10603	876.001
4300	1194.444	7.09592	894.371	6.09677	892.572	5.23073	890.772
4350	1208.333	7.26710	909.290	6.24381	907.496	5.35686	905.701
4400	1222.222	7.44018	924.339	6.39249	922.550	5.48439	920.760
4450	1236.111	7.61539	939.518	6.54299	937.733	5.61348	935.948
4500	1250.000	7.79262+1	954.825	6.69523+1	953.046	5.74407+1	951.266
4550	1263.889	7.97188	970.261	6.84922	968.486	5.87615	966.711
4600	1277.778	8.15316	985.824	7.00494	984.054	6.00972	982.284
4650	1291.667	8.33648	1001.51	7.16240	999.750	6.14478	997.984
4700	1305.556	8.52182	1017.33	7.32161	1015.57	6.28135	1013.81
4750	1319.444	8.70919	1033.28	7.48256	1031.52	6.41940	1029.76
4800	1333.333	8.89859	1049.34	7.64525	1047.59	6.55895	1045.84
4850	1347.222	9.09001	1065.54	7.80969	1063.79	6.70000	1062.05
4900	1361.111	9.28348	1081.86	7.97588	1080.12	6.84254	1078.37
4950	1375.000	9.47897	1098.30	8.14380	1096.56	6.98658	1094.82
5000	1388.889	9.67650+1	1114.86	8.31348+1	1113.13	7.13212+1	1111.40
5050	1402.778	9.87606	1131.55	8.48490	1129.82	7.27916	1128.10
5100	1416.667	1.00777+2	1148.36	8.65808	1146.64	7.42770	1144.92
5150	1430.556	1.02813	1165.29	8.83300	1163.58	7.57774	1161.86
5200	1444.444	1.04870	1182.35	9.00967	1180.63	7.72929	1178.92
5250	1458.333	1.06947	1199.52	9.18810	1197.81	7.88233	1196.10
5300	1472.222	1.09044	1216.81	9.36828	1215.10	8.03689	1213.40
5350	1486.111	1.11162	1234.22	9.55022	1232.52	8.19294	1230.82
5400	1500.000	1.13301	1251.75	9.73391	1250.05	8.35051	1248.35
5450	1513.889	1.15460	1269.39	9.91937	1267.70	8.50958	1266.01
5500	1527.778	1.17639+2	1287.15	1.01066+2	1285.47	8.67017+1	1283.78
5550	1541.667	1.19839	1305.01	1.02955	1303.33	8.83220	1301.64
5600	1555.556	1.22059	1322.99	1.04862	1321.31	8.99579	1319.63
5650	1569.444	1.24300	1341.09	1.06788	1339.41	9.16095	1337.73
5700	1583.333	1.26562	1359.29	1.08730	1357.62	9.32758	1355.95
5750	1597.222	1.28844	1377.60	1.10691	1375.93	9.49572	1374.26
5800	1611.111	1.31147	1396.02	1.12669	1394.35	9.66538	1392.69
5850	1625.000	1.33470	1414.54	1.14664	1412.88	9.83656	1411.21
5900	1638.889	1.35814	1433.16	1.16677	1431.50	1.00092+2	1429.84
5950	1652.778	1.38178	1451.88	1.18708	1450.22	1.01834	1448.56
6000	1666.667	1.40563+2	1470.69	1.20757+2	1469.04	1.03592+2	1467.38
6050	1680.556	1.42969	1489.60	1.22823	1487.94	1.05364	1486.28
6100	1694.444	1.45395	1508.59	1.24907	1506.93	1.07151	1505.27
6150	1708.333	1.47842	1527.66	1.27009	1526.00	1.08954	1524.34
6200	1722.222	1.50309	1546.80	1.29128	1545.14	1.10771	1543.48
6250	1736.111	1.52796	1566.02	1.31264	1564.35	1.12604	1562.68
6300	1750.000	1.55304	1585.29	1.33418	1583.61	1.14451	1581.93
6350	1763.889	1.57832	1604.62	1.35590	1602.93	1.16313	1601.24
6400	1777.778	1.60380	1623.98	1.37778	1622.28	1.18190	1620.57
6450	1791.667	1.62948	1643.38	1.39983	1641.66	1.20082	1639.94
6500	1805.556	1.65535+2	1662.80	1.42206+2	1661.06	1.21987+2	1659.30
6550	1819.444	1.68143	1682.22	1.44445	1680.45	1.23908	1678.67
6600	1833.333	1.70770	1701.63	1.46701	1699.83	1.25842	1698.01
6650	1847.222	1.73416	1721.01	1.48973	1719.17	1.27790	1717.31
6700	1861.111	1.76081	1740.35	1.51262	1738.46	1.29753	1736.54
6750	1875.000	1.78764	1759.63	1.53566	1757.68	1.31729	1755.70
6800	1888.889	1.81467	1778.82	1.55886	1776.80	1.33718	1774.76
6850	1902.778	1.84187	1797.90	1.58223	1795.81	1.35721	1793.69
6900	1916.667	1.86926	1816.86	1.60574	1814.69	1.37737	1812.47
6950	1930.556	1.89684	1835.68	1.62941	1833.40	1.39767	1831.08
7000	1944.444	1.92459+2	1854.32	1.65324+2	1851.93	1.41809+2	1849.50

Продолжение

v, км/ч	v, м/с	H=75000 м		H=76000 м		H=77000 м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111.111	3.85976+1	802.139	3.30175+1	800.305	2.82007+1	798.472
4050	1125.000	3.96011	816.282	3.38757	814.455	2.89335	812.626
4100	1138.889	4.06174	830.560	3.47448	828.738	2.96756	826.914
4150	1152.778	4.16464	844.972	3.56248	843.154	3.04271	841.336
4200	1166.667	4.26882	859.517	3.65158	857.705	3.11878	855.892
4250	1180.556	4.37428	874.194	3.74176	872.387	3.19579	870.579
4300	1194.444	4.48108	888.971	3.83310	887.170	3.27378	885.368
4350	1208.333	4.58910	903.905	3.92548	902.109	3.35266	900.312
4400	1222.222	4.69833	918.969	4.01889	917.178	3.43242	915.387
4450	1236.111	4.80890	934.163	4.11345	932.377	3.51316	930.590
4500	1250.000	4.92074+1	949.485	4.20910+1	947.704	3.59484+1	945.922
4550	1263.889	5.03387	964.935	4.30584	963.159	3.67745	961.383
4600	1277.778	5.14827	980.513	4.40368	978.742	3.76099	976.970
4650	1291.667	5.26395	996.218	4.50261	994.452	3.84546	992.685
4700	1305.556	5.38091	1012.05	4.60263	1010.29	3.93087	1008.53
4750	1319.444	5.49916	1028.01	4.70376	1026.25	4.01722	1024.49
4800	1333.333	5.61868	1044.09	4.80597	1042.34	4.10450	1040.59
4850	1347.222	5.73948	1060.30	4.90928	1058.55	4.19272	1056.80
4900	1361.111	5.86157	1076.63	5.01369	1074.89	4.28187	1073.14
4950	1375.000	5.98494	1093.09	5.11920	1091.35	4.37196	1089.61
5000	1388.889	6.10959+1	1109.67	5.22580+1	1107.93	4.46299+1	1106.20
5050	1402.778	6.23553	1126.37	5.33350	1124.64	4.55495	1122.91
5100	1416.667	6.36275	1143.19	5.44230	1141.47	4.64785	1139.74
5150	1430.556	6.49126	1160.14	5.55220	1158.42	4.74170	1156.70
5200	1444.444	6.62106	1177.20	5.66320	1175.49	4.83648	1173.77
5250	1458.333	6.75214	1194.39	5.77531	1192.68	4.93220	1190.97
5300	1472.222	6.88451	1211.69	5.88851	1209.99	5.02886	1208.28
5350	1486.111	7.01817	1229.12	6.00282	1227.41	5.12647	1225.71
5400	1500.000	7.15312	1246.66	6.11823	1244.96	5.22502	1243.26
5450	1513.889	7.28937	1264.32	6.23474	1262.62	5.32451	1260.93
5500	1527.778	7.42691+1	1282.09	6.35237+1	1280.40	5.42494+1	1278.71
5550	1541.667	7.56574	1299.98	6.47110	1298.29	5.52632	1296.61
5600	1555.556	7.70579	1317.95	6.59086	1316.27	5.62859	1314.59
5650	1569.444	7.84725	1336.06	6.71184	1334.38	5.73184	1332.70
5700	1583.333	7.98997	1354.27	6.83389	1352.60	5.83611	1350.92
5750	1597.222	8.13398	1372.59	6.95705	1370.92	5.94127	1369.25
5800	1611.111	8.27929	1391.02	7.08131	1389.35	6.04737	1387.69
5850	1625.000	8.42589	1409.55	7.20669	1407.89	6.15443	1406.22
5900	1638.889	8.57379	1428.18	7.33317	1426.52	6.26243	1424.85
5950	1652.778	8.72299	1446.90	7.46076	1445.24	6.37137	1443.58
6000	1666.667	8.87349+1	1465.72	7.58946+1	1464.06	6.48126+1	1462.40
6050	1680.556	9.02528	1484.62	7.71927	1482.96	6.59210	1481.30
6100	1694.444	9.17836	1503.61	7.85017	1501.95	6.70387	1500.28
6150	1708.333	9.33273	1522.67	7.98218	1521.01	6.81658	1519.34
6200	1722.222	9.48838	1541.81	8.11529	1540.14	6.93023	1538.46
6250	1736.111	9.64532	1561.00	8.24948	1559.32	7.04480	1557.64
6300	1750.000	9.80352	1580.25	8.38476	1578.56	7.16030	1576.86
6350	1763.889	9.96299	1599.54	8.52112	1597.83	7.27672	1596.12
6400	1777.778	1.01237+2	1618.86	8.65855	1617.14	7.39405	1615.40
6450	1791.667	1.02857	1638.20	8.79704	1636.45	7.51227	1634.70
6500	1805.556	1.04489+2	1657.54	8.93657+1	1655.77	7.63139+1	1653.98
6550	1819.444	1.06133	1676.87	9.07715	1675.06	7.75140	1673.24
6600	1833.333	1.07789	1696.17	9.21875	1694.32	7.87227	1692.45
6650	1847.222	1.09458	1715.42	9.36137	1713.52	7.99400	1711.60
6700	1861.111	1.11138	1734.61	9.50499	1732.64	8.11659	1730.66
6750	1875.000	1.12829	1753.70	9.64960	1751.67	8.24001	1749.60
6800	1888.889	1.14532	1772.68	9.79519	1770.57	8.36427	1768.42
6850	1902.778	1.16247	1791.52	9.94175	1789.32	8.48936	1787.08
6900	1916.667	1.17973	1810.21	1.00893+2	1807.90	8.61527	1805.55
6950	1930.556	1.19710	1828.71	1.02378	1826.29	8.74200	1823.82
7000	1944.444	1.21459+2	1847.01	1.03873+2	1844.46	8.86957+1	1841.86

Продолжение

v, км/с	v, м/с	H=78000 м		H=79000 м		H=80000 м	
		$p_д$, Па	T_0', К	$p_д$, Па	T_0', К	$p_д$, Па	T_0', К
4000	1111.111	2.40489+1	796.638	2.04756+1	794.803	1.74048+1	792.967
4050	1125.000	2.46736	810.797	2.10074	808.967	1.78568	807.136
4100	1138.889	2.53063	825.090	2.15459	823.266	1.83144	821.441
4150	1152.778	2.59470	839.518	2.20912	837.698	1.87778	835.878
4200	1166.667	2.65955	854.078	2.26433	852.264	1.92469	850.449
4250	1180.556	2.72521	868.771	2.32021	866.962	1.97218	865.152
4300	1194.444	2.79166	883.587	2.37677	881.790	2.02025	879.987
4350	1208.333	2.85895	898.515	2.43405	896.717	2.06892	894.918
4400	1222.222	2.92695	913.594	2.49195	911.801	2.11814	910.008
4450	1236.111	2.99578	928.803	2.55052	927.015	2.16790	925.227
4500	1250.000	3.06542+1	944.140	2.60979+1	942.357	2.21827+1	940.574
4550	1263.889	3.13584	959.605	2.66974	957.827	2.26921	956.049
4600	1277.778	3.20706	975.198	2.73036	973.425	2.32073	971.651
4650	1291.667	3.27908	990.918	2.79166	989.149	2.37282	987.381
4700	1305.556	3.35190	1006.76	2.85365	1005.00	2.42549	1003.24
4750	1319.444	3.42552	1022.74	2.91630	1020.98	2.47874	1019.22
4800	1333.333	3.49993	1038.83	2.97964	1037.08	2.53257	1035.32
4850	1347.222	3.57514	1055.05	3.04366	1053.31	2.58697	1051.56
4900	1361.111	3.65114	1071.40	3.10836	1069.66	2.64195	1067.91
4950	1375.000	3.72795	1087.87	3.17373	1086.13	2.69750	1084.39
5000	1388.889	3.80555+1	1104.46	3.23979+1	1102.73	2.75364+1	1100.99
5050	1402.778	3.88396	1121.18	3.30653	1119.45	2.81035	1117.72
5100	1416.667	3.96316	1138.02	3.37394	1136.29	2.86764	1134.56
5150	1430.556	4.04317	1154.98	3.44204	1153.25	2.92552	1151.53
5200	1444.444	4.12397	1172.05	3.51082	1170.34	2.98397	1168.62
5250	1458.333	4.20558	1189.25	3.58029	1187.54	3.04300	1185.83
5300	1472.222	4.28799	1206.57	3.65043	1204.86	3.10261	1203.16
5350	1486.111	4.37120	1224.01	3.72126	1222.31	3.16280	1220.60
5400	1500.000	4.45522	1241.56	3.79278	1239.86	3.22357	1238.16
5450	1513.889	4.54004	1259.23	3.86498	1257.54	3.28492	1255.84
5500	1527.778	4.62567+1	1277.02	3.93786+1	1275.33	3.34686+1	1273.64
5550	1541.667	4.71210	1294.92	4.01143	1293.24	3.40938	1291.55
5600	1555.556	4.79928	1312.90	4.08564	1311.22	3.47244	1309.54
5650	1569.444	4.88731	1331.02	4.16056	1329.34	3.53611	1327.66
5700	1583.333	4.97620	1349.25	4.23623	1347.57	3.60041	1345.90
5750	1597.222	5.06585	1367.58	4.31254	1365.91	3.66526	1364.23
5800	1611.111	5.15631	1386.02	4.38953	1384.35	3.73069	1382.68
5850	1625.000	5.24758	1404.55	4.46722	1402.89	3.79670	1401.22
5900	1638.889	5.33965	1423.19	4.54559	1421.52	3.86330	1419.85
5950	1652.778	5.43253	1441.92	4.62464	1440.25	3.93048	1438.58
6000	1666.667	5.52621+1	1460.73	4.70438+1	1459.07	3.99824+1	1457.40
6050	1680.556	5.62070	1479.63	4.78480	1477.97	4.06657	1476.30
6100	1694.444	5.71599	1498.61	4.86590	1496.94	4.13549	1495.27
6150	1708.333	5.81207	1517.67	4.94768	1515.99	4.20498	1514.31
6200	1722.222	5.90895	1536.78	5.03014	1535.10	4.27504	1533.41
6250	1736.111	6.00662	1555.95	5.11326	1554.25	4.34567	1552.55
6300	1750.000	6.10508	1575.16	5.19706	1573.45	4.41687	1571.73
6350	1763.889	6.20431	1594.40	5.28151	1592.68	4.48863	1590.94
6400	1777.778	6.30432	1613.66	5.36662	1611.91	4.56094	1610.15
6450	1791.667	6.40509	1632.93	5.45237	1631.15	4.63379	1629.35
6500	1805.556	6.50662+1	1652.18	5.53877+1	1650.36	4.70719+1	1648.53
6550	1819.444	6.60890	1671.39	5.62580	1669.53	4.78113	1667.65
6600	1833.333	6.71191	1690.56	5.71345	1688.64	4.85559	1686.71
6650	1847.222	6.81566	1709.65	5.80173	1707.67	4.93057	1705.67
6700	1861.111	6.92012	1728.64	5.89061	1726.59	5.00606	1724.51
6750	1875.000	7.02530	1747.51	5.98009	1745.38	5.08207	1743.21
6800	1888.889	7.13119	1766.23	6.07017	1764.01	5.15859	1761.73
6850	1902.778	7.23778	1784.79	6.16085	1782.45	5.23560	1780.06
6900	1916.667	7.34507	1803.15	6.25213	1800.69	5.31313	1798.17
6950	1930.556	7.45306	1821.29	6.34400	1818.70	5.39116	1816.04
7000	1944.444	7.56176+1	1839.19	6.43648+1	1836.45	5.46971+1	1833.64

Примечание. Однозначное число со знаком плюс, стоящее справа от значения динамического давления, является показателем степени десяти — сомножителя данного и каждого последующего значений.

ПРИЛОЖЕНИЕ
Обязательное

ОСНОВНЫЕ ПОЛОЖЕНИЯ И РАСЧЕТНЫЕ ФОРМУЛЫ

1. Термодинамические параметры воздуха

При полете на высоте 50000 м со скоростью 7000 км/ч равновесная температура торможения воздуха за прямой ударной волной достигает 1910К. Для расчета параметров воздуха при таких температурах, помимо поступательного движения, вращения и колебаний частиц, необходимо учитывать также электронное возбуждение, образование окиси азота и диссоциацию молекулярного кислорода. При этом термодинамические параметры воздуха зависят не только от температуры, но и от давления (плотности). Физические постоянные и статические параметры воздуха приняты в соответствии с ГОСТ 4401—73, состав воздуха соответствует ГОСТ 5212—74.

Расчет термодинамических параметров воздуха делят на несколько последовательных этапов. Погрешность физических величин, приведенных в таблице, не превышает пяти единиц в четвертой значащей цифре.

1.1. **Вклад колебаний и электронного возбуждения**

Вклад колебаний и электронного возбуждения частиц в термодинамические параметры газа зависит только от температуры. В приведенных единицах для статистической суммы, внутренней энергии, теплоемкости и энтропии гармонических колебаний атомов в двухатомных молекулах записывают:

$$Z_{kj}=\frac{\exp\theta_j}{\exp\theta_j-1},\quad \theta_j=\frac{T_{kj}}{T}, \tag{1}$$

$$U_{kj}=\frac{\theta_j}{\exp\theta_j-1}, \tag{2}$$

$$C_{kj}=\frac{\theta_j^2\cdot\exp\theta_j}{(\exp\theta_j-1)^2}, \tag{3}$$

$$S_{kj}=U_{kj}+\ln Z_{kj}. \tag{4}$$

Здесь $j=1,2,3,4$ — компонент воздуха (1 — молекулярный азот, 2 — молекулярный кислород, 3 — аргон, 4 — окись азота; концентрацию атомарного кислорода выражают через степень диссоциации α_2) и T_{kj} — характеристическая температура колебаний атомов j-го компонента ($T_{k1}=3351{,}72$ К, $T_{k2}=2239{,}30$ К, $T_{k4}=2699{,}58$ К).

Для статистической суммы, внутренней энергии, теплоемкости и энтропии электронного возбуждения частиц в приведенных единицах записывают:

$$Z^e_{kj}=1+(g_{kj1}\cdot\exp\theta_{kj1})^{-1}+(g_{kj2}\cdot\exp\theta_{kj2})^{-1}+\ldots, \tag{5}$$

$$U^e_{kj}=\frac{\theta_{kj1}\cdot(g_{kj1}\cdot\exp\theta_{kj1})^{-1}+\theta_{kj2}\cdot(g_{kj2}\cdot\exp\theta_{kj2})^{-1}+\ldots}{Z^e_{kj}}, \tag{6}$$

$$C^e_{kj}=\frac{\theta^2_{kj1}\cdot(g_{kj1}\cdot\exp\theta_{kj1})^{-1}+\theta^2_{kj2}\cdot(g_{kj2}\cdot\exp\theta_{kj2})^{-1}+\ldots}{(Z^e_{kj})^2}, \tag{7}$$

$$S^e_{kj}=U^e_{kj}+\ln Z^e_{kj}. \tag{8}$$

Здесь k — число атомов в молекуле ($k=2$ — двухатомная молекула, $k=1$ — атом); g_{kjn} — приведенный статистический вес n-го уровня электронного возбуждения; T_{kjn} — соответствующая характеристическая температура;

$$\theta_{kjn}=\frac{T_{kjn}}{T}=\frac{E_{kjn}}{KT}.$$

В расчетах учитывают уровни электронного возбуждения, для которых $\frac{E_{kjn}}{KT}<20$. Для воздуха принимают:

$$Z^e_{21}\equiv 1,\ U^e_{21}=C^e_{21}=S^e_{21}=0, \tag{9}$$

$$Z^e_{22}=1+\left(1{,}500\cdot\exp\frac{11390}{T}\right)^{-1}+\left(3{,}000\cdot\exp\frac{18990}{T}\right)^{-1}, \tag{10}$$

$$Z^e_{12}=1+\left(1{,}800\cdot\exp\frac{22830}{T}\right)^{-1}+\left(9{,}000\cdot\exp\frac{48620}{T}\right)^{-1}, \tag{11}$$

$$Z^e_{13}\equiv 1,\ U^e_{13}=C^e_{13}=S^e_{13}=0, \tag{12}$$

$$Z^e_{24}\equiv 1,\ U^e_{24}=C^e_{24}=S^e_{24}=0. \tag{13}$$

1.2. **Равновесный состав воздуха при температурах до 2000 К**

При вычислении равновесного состава воздуха при температурах до 2000 К учитывают две химические реакции:

$$N_2+O_2 \rightleftarrows 2NO \tag{14}$$

и диссоциацию молекулярного кислорода

$$O_2 \rightleftarrows 2O. \tag{15}$$

Сначала рассчитывают степень диссоциации чистого кислорода

$$\alpha_2 = \left\{1+\frac{C_D \cdot p}{T^{3/2}} \cdot Z_{K2} \cdot \frac{Z_{22}^2}{\left(Z_{12}^e\right)^2} \cdot \exp\left(\frac{T_D}{T}\right)\right\}^{-\frac{1}{2}}, \tag{16}$$

где $C_D = 6{,}102 \cdot 10^{-7} \frac{K^{3/2}}{\text{Па}}$ и $T_D = 59366$ К.

Методом последовательных приближений определяют степень диссоциации кислорода в воздухе

$$\overline{\alpha}_2^{(n)} = -\frac{b^{(n)}}{2}\alpha_2^2 + \sqrt{(1+b^{(n)})\cdot\alpha_2^2 + \left(\frac{b^{(n)}}{2}\cdot\alpha_2^2\right)^2}. \tag{17}$$

n — номер приближения и

$$b^{(n)} = \frac{X_1+X_3+X_4^{(n-1)}}{X_2\cdot(1+X_4^{(n-1)})}, \tag{18}$$

где X_j — объемная концентрация j-го компонента, причем для азота, кислорода и аргона соответственно принимают: $X_1 = 0{,}780840$; $X_2 = 0{,}209476$; $X_3 = 0{,}009684$. Концентрацию окиси азота вычисляют по формуле

$$X_4^{(n-1)} = C_{NO}\cdot\sqrt{1-\overline{\alpha}_2^{(n-1)}}\cdot\frac{1}{Z_{22}^e}\cdot\exp\left(-\frac{T_{NO}}{T}\right), \tag{19}$$

где $C_{NO} = 11{,}00\cdot\sqrt{X_1\cdot X_2}$.

При расчетах термодинамических параметров воздуха по ГОСТ 5212—74 реакция образования окиси азота не принималась во внимание. Учет этой реакции, необходимый при высоких температурах, приводит при скорости полета 4000 км/ч к изменению температуры торможения на величину, не превышающую 0,003%.

Чтобы результаты расчета совпадали с приведенными в ГОСТ 5212—74 с точностью до шестой значащей цифры, принято, что

$$T_{NO} = \begin{cases} 10800\ \text{К} + 800\ \text{К}\ (885-T) & T<885\ \text{К} \\ 10800\ \text{К} & T>885\ \text{К} \end{cases} \tag{20}$$

В нулевом приближении принимают, что $X_4^{(0)} = 0$. Расчет оканчивают на таком $\tilde{n}$-ом приближении, что

$$\left|\overline{\alpha}_2^{(\tilde{n})} - \overline{\alpha}_2^{(\tilde{n}-1)}\right| < 10^{-6}. \tag{21}$$

Значения $\overline{\alpha}_2^{(\tilde{n})}$, $b^{(\tilde{n})}$ и $X_4^{(\tilde{n})}$ далее всюду обозначают соответственно через $\overline{\alpha}_2$, b и X_4.

1.3. **Термодинамические параметры воздуха при температурах до 2000 К**

Термодинамические параметры воздуха при температурах до 2000 К записывают в виде:

молекулярная масса $\left[\frac{\text{кг}}{\text{кмоль}}\right]$

$$\mu = \frac{\mu_0}{\varrho}, \text{ где } \mu_0 = 28{,}9644, \tag{22}$$

$$\sigma = \frac{X_1+X_2\ (1+\overline{\alpha}_2)+X_3+X_4}{1+X_4}, \tag{23}$$

удельная внутренняя энергия $\left[\frac{\text{Дж}}{\text{кг}}\right]$

$$U = \frac{R_{уд}\cdot T}{1+X_4}\cdot\left(\sum_{j=1}^{4} X_j\cdot U_j + \Delta U_2 + \Delta U_4\right) + 748{,}4, \tag{24}$$

удельная энтальпия $\left[\frac{\text{Дж}}{\text{кг}}\right]$

$$I = U + R_{уд}\cdot T\cdot\sigma,\ R_{уд} = 287{,}053\left[\frac{\text{Дж}}{\text{кг}\cdot\text{К}}\right], \tag{25}$$

удельная теплоемкость при постоянном объеме $\left[\frac{\text{Дж}}{\text{кг}\cdot\text{К}}\right]$

$$C_V = \frac{R_{уд}}{1+X_4}\cdot\left(\sum_{j=1}^{4} X_j\cdot C_j + \Delta C_{V2} + \Delta C_{V4}\right), \tag{26}$$

удельная теплоемкость при постоянном давлении $\left[\frac{\text{Дж}}{\text{кг}\cdot\text{К}}\right]$

$$C_p = \frac{R_{уд}}{1+X_4}\cdot\left[\sum_{j=1}^{4}(C_j+1)\,X_j + \Delta C_{p_2} + \Delta C_{p4}\right], \tag{27}$$

скорость звука [м/с]

$$a = \sqrt{\varkappa\cdot R_{уд}\cdot\frac{\sigma}{1+\delta}},\quad \varkappa = \frac{C_p}{C_V}, \tag{28}$$

удельная энтропия $\left[\frac{\text{Дж}}{\text{кг}\cdot\text{К}}\right]$

$$S - S_c = R_{уд}\cdot[\widetilde{S}(T) - \sigma\cdot\ln p] = R_{уд}\cdot\left[\sum_{j=1}^{3} X_j S_j + \Delta S_2 + \Delta S_4 - \sigma\cdot\ln p\right]. \tag{29}$$

В формулах (22—29) для сокращения записи использованы следующие выражения:

$$U_j = \left(k_j + \frac{1}{2}\right) + (k_j - 1)\cdot(U_{kj} + U^{\circ}_{2j}), \tag{30}$$

$$C_j = \left(k_j + \frac{1}{2}\right) + (k_j - 1)\cdot(C_{kj} + C^{\circ}_{2j}), \tag{31}$$

$$S_j = \left(k_j + \frac{3}{2}\right)\ln T + (k_j - 1)\cdot(S_{kj} + S^{\circ}_{2j}), \tag{32}$$

$$\Delta U_2 = X_2\cdot\overline{\alpha}_2(A_2 - 1), \tag{33}$$

$$\Delta C_{V2} = X_2\left\{F_1(\overline{\alpha}_2)\cdot(A_2-1)^2 + \overline{\alpha}_2\left[\frac{1}{2} - (C_{k2} + C^{\circ}_{22}) + 2C^{\circ}_{12}\right]\right\}, \tag{34}$$

$$\Delta C_{p2} = X_2\cdot\left\{F_2(\overline{\alpha}_2)\cdot A_2^2 + \overline{\alpha}_2\left[\frac{1}{2} - (C_{k2} + C^{\circ}_{22}) + 2C^{\circ}_{12}\right]\right\}, \tag{35}$$

$$F_1(\overline{\alpha}_2) = \frac{\overline{\alpha}_2(1-\overline{\alpha}_2)}{2-\overline{\alpha}_2}, \tag{36}$$

$$F_2(\overline{\alpha}_2) = \frac{\alpha_2^2(1-\alpha_2^2)}{2\,\overline{\alpha}_2}\cdot\frac{1 + b\,(1-\overline{\alpha}_2)}{1 + \frac{b}{2}\cdot\frac{\alpha_2^2}{\overline{\alpha}_2}}, \tag{37}$$

$$\delta = X_2\cdot F_2(\overline{\alpha}_2)\cdot\sigma^{-1}, \tag{38}$$

$$A_2 = \frac{T_D}{T} + \frac{3}{2} - (U_{k2} + U^{\circ}_{22}) + 2U^{\circ}_{12}, \tag{39}$$

$$\Delta C_{V4} = \frac{X_4}{1+X_4}\left[\frac{T_{NO}}{2\,T} - X_2\,\overline{\alpha}_2\,(A_2-1)\right]\left[\frac{T_{NO}}{T} - \frac{\overline{\alpha}_2(A_2-1)}{2\,(2-\overline{\alpha}_2)}\right], \tag{40}$$

$$\Delta C_{p4} = \frac{X_4}{1+X_4}\left[\frac{T_{NO}}{2T} - X_2\overline{\alpha}_2 A_2\right]\left[\frac{T_{NO}}{T} - \frac{F_2(\overline{\alpha}_2)\cdot A_2}{2(1-\overline{\alpha}_2)}\right], \tag{41}$$

$$\Delta S_2 = X_2\left\{\overline{\alpha}_2\left[\frac{3}{2}\ln T - (S_{k2} + S^{\circ}_{22}) + 2S^{\circ}_{12}\right] + (1+b+\overline{\alpha}_2)\ln(1+b+\overline{\alpha}_2) - (1+b)\ln(1+b) - (1-\overline{\alpha}_2)\ln(1-\overline{\alpha}_2) - 2\,\overline{\alpha}_2\ln(2\,\overline{\alpha}_2) + \overline{\alpha}_2\cdot S^{(1)}_2\right\}, \tag{42}$$

$$\Delta S_4 = \frac{1}{2}\cdot\frac{X_4}{1+X_4}\cdot\left(\frac{T_{NO}}{T} + 1 - 2\,X_2\overline{\alpha}_2 A_2\right), \tag{43}$$

причем $S^{(1)}_2 = 5{,}669$.

2. Методика расчета

Для заданной геопотенциальной высоты H в соответствии с ГОСТ 4401—73 определяют статическую температуру T и давление p воздуха. Затем для скорости полета v[км/ч] вычисляют число M (число Маха)

$$M = \frac{v}{3{,}6a}, \quad M = \frac{v}{3{,}6\sqrt{\varkappa^0 R_{уд} T}} \tag{44}$$

и полную удельную энтальпию

$$i = \frac{\varkappa^0}{\varkappa^0 - 1} R_{уд}\, T + \frac{1}{2}\left(\frac{v}{3{,}6}\right)^2. \tag{45}$$

Далее методом последовательных приближений рассчитывают статическое давление воздуха за прямой ударной волной

$$\eta^{(m)} = \frac{p_1^{(m)}}{p} = \frac{\varkappa^0 \cdot M^2 + 1}{\overline{\varkappa}_1^{(m)} + 1} \sqrt{\left(\frac{\varkappa^0 \cdot M^2 + 1}{\overline{\varkappa}_1^{(m)} + 1}\right)^2 - \left(\frac{\overline{\varkappa}_1^{(m)} - 1}{\overline{\varkappa}_1^{(m)} + 1}\right) \cdot \left(\frac{2 \cdot \varkappa^0 \cdot M^2}{\varkappa^0 - 1} - 1\right)}, \tag{46}$$

где $m = 1,2,3$ — номер приближения,

и $\overline{\varkappa}_1 = \dfrac{i/T}{U/T} = \dfrac{i}{U}$ — отношение средних теплоемкостей.

Изменение плотности воздуха в прямой ударной волне определяют из уравнения

$$q^{(m)} = \frac{\varrho_1}{\varrho} \cdot \frac{\varkappa^0 \cdot M^2}{\varkappa^0 \cdot M^2 + 1 - \eta^{(m)}}. \tag{47}$$

С помощью формул (46), (47) и уравнения состояния находят статическую температуру воздуха за прямой ударной волной в m-том приближении

$$T_1^{(m)} = T \cdot \frac{\eta^{(m)}}{q^{(m)}} \cdot \frac{\mu\,(p_1^{(m-1)},\ T_1^{(m-1)})}{\mu_0}. \tag{48}$$

Параметр $\overline{\varkappa}_1^{(m)}$ вычисляют по формуле

$$\overline{\varkappa}_1^{(m)} = \frac{i\,(p_1^{(m-1)},\ T_1^{(m-1)})}{U(p_1^{(m-1)},\ T_1^{(m-1)})}, \tag{49}$$

причем в первом приближении принимают

$$\overline{\varkappa}_1^{(1)} = \varkappa^0 = 1{,}40;\ \mu(p_1^{(1)},\ T_1^{(1)}) = \mu_0. \tag{50}$$

Удельную энтальпию i и удельную внутреннюю энергию в выражении (49), а также молекулярную массу воздуха μ в выражении (48) вычисляют по формулам, приведенным в разд. 1. Цикл оканчивают на таком $\widetilde{m}$-том приближении, что

$$|T_1^{(\widetilde{m})} - T_1^{(\widetilde{m}-1)}| < 10^{-4} K. \tag{51}$$

Значения $p_1^{(\widetilde{m})}$ и $T_1^{(\widetilde{m})}$ принимают соответственно за p_1 и T_1.

Температуру торможения за прямой ударной волной T_0' вычисляют по формуле

$$T_0'^{(r+1)} = T_0'^{(r)} + \frac{i_0 - i(p_0'^{(r)},\ T_0'^{(r)})}{C_p\,(p_0'^{(r)},\ T_0'^{(r)})}, \tag{52}$$

где r, $r = 1,2,3,\ldots$ — номер приближения, причем в первом приближении принимают

$$T_0'^{(1)} = T_1, \tag{53}$$

$$p_0'^{(1)} = \frac{\varkappa^0}{2} \cdot \frac{3 + \overline{\varkappa}_1}{1 + \overline{\varkappa}_1} \cdot (M^2 + 0{,}475) \cdot p. \tag{54}$$

Цикл оканчивают на таком $\widetilde{r}$-том приближении, что

$$|T_0'^{(\widetilde{r})} - T_0'^{(\widetilde{r}-1)}| < 10^{-4}\ \text{K}, \tag{55}$$

Полное давление находят из условия изэнтропичности течения за прямой ударной волной

$$p_0'^{(r+1)} = \{p_1 \frac{\varrho_0}{\mu(p_1,\ T_1)} \cdot \exp[\widetilde{S}(T_0'^{(\widetilde{r})}) - \widetilde{S}(T_1)]\}^{\frac{\mu(p_0'^{(r)},\ T_0'^{(\widetilde{r})})}{\mu_0}}. \tag{56}$$

Расчет оканчивают на таком $\tilde{t}$ приближении, что

$$\left|\frac{\tilde{p_0'}^{(t)}-\tilde{p_0'}^{(t-1)}}{\tilde{p_0'}^{(t)}}\right|\leqslant 10^{-7}. \qquad (57)$$

Значения $\tilde{p_0'}^{(t)}$ и соответствующее ему $\tilde{T_0'}^{(t)}$ принимают за параметры торможения p_0' и T_0' за прямой ударной волной.

Динамическое давление при сверхзвуковых скоростях полета определяют как разность между полным давлением p_0' за прямой ударной волной и статическим давлением p воздуха на заданной высоте полета

$$p_д=p_0'-p. \qquad (58)$$

Вследствие влияния физико-химических процессов, протекающих при высоких температурах, динамическое давление воздуха при скорости полета 7000 км/ч максимум на 2% выше, а температура торможения на 13% ниже соответствующих величин для идеального двухатомного газа.

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