

Specification for

Barometer conventions and tables, their application and use

ICS 17.100

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The following body was also represented in the drafting of the standard:

Meteorological Office

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Foreword

This revision of BS 2520:1967 has been prepared under the direction of the Quantities, Units and Symbols Committee. BS 2520:1967 is withdrawn.

The standard barometric conventions given in BS 2520:1954 were first introduced with the cooperation of the National Physical Laboratory, the former Ministry of Supply and the Meteorological Office. Since that time, British barometer production has been based on those conventions, and barometers have been modified where necessary during repair to accord with them. The National Physical Laboratory tests of barometers, mercury and aneroid, have also been based on those conventions since January 1955 (see Appendix C).

The original object of the 1967 revision was to extend the range and detail of the tables where experience had shown that this would be useful. Whilst this work was in progress, however, the decision was taken to adopt the metric system in the UK in the form of the International System of Units (SI), and the text was modified accordingly.

BS 2520:1983 incorporates changes to make the use of the term “correction” consistent with its definition in BS 5233:1975, i.e. a correction is a value that has to be *added algebraically* to the indicated value (uncorrected result) of a measurement to obtain the measured value (corrected result). The correction is thus equal in magnitude but opposite in sign to the error. The consequence of this is a change of sign of the quantities tabulated in Table 4 to Table 11 inclusive compared with those tables in the 1967 edition. In addition, the equations in general have been amended to conform with the conventions of quantity calculus, outlined in BS 5775-0.

Table headings have also been amended, to achieve algebraic consistency. Each column or series of columns is headed by symbols denoting the quotient of a quantity and the relevant unit, e.g. “ $t/^{\circ}\text{C}$ ” or “ p/kPa ”. If, as in Table 1 for example, a column headed “ p/kPa ” contains an entry “20”, this implies that for that entry

$$p/\text{kPa} = 20 \text{ (i.e. } p = 20 \text{ kPa)}.$$

In other words, the numerical value of p , expressed in the unit kPa, is 20. This convention is equivalent to other, less algebraically rigorous, conventions used for column headings in earlier standards, e.g. “ p (kPa)” or simply “kPa”.

This revision also takes account of two further developments; the acceptance of the pascal as the special name for the SI unit of pressure, the newton per square metre, and the decision by the 8th Congress of the World Meteorological Organization that the hectopascal will from 1 January 1986 onwards be the preferred unit for the measurement of pressure for meteorological purposes. The exclusive use of SI is strongly encouraged, but many existing barometers are scaled in pressure units, such as the millimetre of mercury and the inch of mercury, that do not form part of the International System. These obsolescent units are included in the tables in section 2 to facilitate the continued use of such older barometers.

The tables in section 2 of the standard apply specifically to barometers based on the specified standard conventions and are designed to meet the requirements of barometer users so far as it is practicable to do so. Long-range tables without great detail are given, in addition to detailed tables of restricted range designed to suit the barometers that are most frequently used.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 30, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General and barometric conventions

1 Scope

Section 1 of this British Standard specifies units for use in the expression of barometric pressure, and standard conditions for general purpose mercury barometers. Section 2 includes a set of barometer tables covering the different types of mercury barometer complying with the specified standard conditions and employing the specified pressure units.

Appendix A gives examples of the use of the tables to provide corrected values of barometric pressure.

Appendix B describes the early development of the mercury barometer and the advantages of the conventions specified in this standard.

Appendix C deals with the testing and certification of mercury barometers.

Appendix D gives information regarding the interrelation of units and change of conventions.

NOTE The titles of the publications referred to in this standard are listed on an inside back cover.

2 Pressure units

The unit of pressure in the International System of Units (SI), is the pascal (Pa), this having been accepted in October 1971 by the General Conference of Weights and Measures (CGPM) as the special name for the newton per square metre.

(See BS 5555.) For the purposes of barometric pressure measurement, the preferred multiples are the kilopascal (symbol kPa) and the hectopascal (symbol hPa)¹⁾ which is equal to the millibar.

In 1979 the 8th Congress of the World Meteorological Organization passed a resolution recommending the use of the term "hectopascal" in preference to "millibar" for meteorological purposes after 31 December 1985.

In this standard the symbol "mbar" has been used for the millibar.

The use of the following units, although also currently recognized, is discouraged, and they should not be introduced where they are not in use already:

- a) the conventional millimetre of mercury (symbol mmHg);
- b) the conventional inch of mercury (symbol inHg).

These conventional units are defined in terms of the pressure generated by a mercury column of assigned density **13 595.1 kg/m³** at 0 °C under standard gravity of **9.806 65 m/s²**. The definitive relationships between the units named above are given in the first clause of Appendix D.

NOTE The torr, defined as $\frac{101\,325}{760}$ Pa, differs from the conventional mmHg by about 1 part in 7 million. Although this difference has no practical significance, the use of the expression "torr" as a substitute for mmHg is not recognized for barometric purposes.

3 Conditions for mercury barometers

3.1 Standard conditions for general-purpose mercury barometers. The following standard conditions shall apply to all general-purpose mercury barometers intended for routine pressure measurements.

- a) *Pressure scales.* These scales shall represent pressure in the pressure units recognized in clause 2 and shall measure pressure directly in these units when the whole barometer is at 0 °C and is subject to standard gravity, **9.806 65 m/s²**.
- b) *Altitude scales.* Where altitude scales are also provided, these shall correctly translate the applied pressure into the corresponding conventional altitude (depending on the pressure-altitude relationship adopted)²⁾.

3.2 Non-standard conditions for special-purpose mercury barometers. It is recognized that it may be expedient for barometers intended for instrument calibration purposes to measure pressure directly when used under conditions of temperature and gravity that differ from the standard conditions laid down in 3.1. Such barometers shall comply with the following requirements.

- a) *Pressure scales.* These scales shall represent pressure in the pressure units recognized in clause 2 and shall measure pressure directly in those units when the whole barometer is subject to the non-standard conditions marked on the barometer (see clause 4).

¹⁾ 1 hPa = 100 Pa = 1 mbar.

²⁾ The definition of the various relationships between pressure and altitude in the atmosphere, and of the underlying assumptions, is not within the scope of this British Standard, which is concerned with the conditions of use of barometer scales complying with these relationships. (For altitude scales, see British Standard 3G 115.)

b) *Altitude scales*. Where altitude scales are also provided, they shall correctly translate the applied pressure into the corresponding conventional altitude (depending on the pressure-altitude relationship adopted)³⁾ when the whole barometer is subject to the non-standard conditions marked on the barometer.

Barometers having mechanisms for the automatic application of corrections for temperature and gravity shall be included in this category (i.e. special-purpose mercury barometers for use in non-standard conditions).

4 Application of conventions

The pressure units given in clause 2 are applicable for all barometric purposes. The pressure scales of all barometers and other devices designed to measure barometric pressure shall be inscribed with the name of the unit of measurement, or its symbol. Each altitude scale shall be inscribed with the unit of measurement and shall bear an indication of the pressure-altitude relationship adopted. All fixed cistern (Kew) barometers shall be inscribed with the value of V/A ⁴⁾.

The standard conditions specified in 3.1 shall be applied to all general-purpose mercury barometers intended for routine pressure measurement. Each mercury barometer complying with these requirements shall be inscribed with the legend:

“Standard conditions: 0 °C, $g = 9.806\ 65\ \text{m/s}^2$ ”

NOTE The expression of g as $980.665\ \text{cm/s}^2$ is also acceptable on barometers already in use.

The non-standard conditions in 3.2 may be associated only with barometers intended for instrument calibration purposes. Such barometers shall be inscribed with the legend:

“Non-standard conditions: $X\ ^\circ\text{C}$, $g = Y\ \text{m/s}^2$ ”

where $X\ ^\circ\text{C}$ and $Y\ \text{m/s}^2$ are the specified conditions, X and Y being numbers.

Barometers provided with a correction mechanism operating over a variety of conditions of temperature and gravity shall be inscribed with the legend:

“Temperature and gravity corrections zero at

$X\ ^\circ\text{C}$ and $g = Y\ \text{m/s}^2$ ”

where $X\ ^\circ\text{C}$ and $Y\ \text{m/s}^2$ are the appropriate conditions, X and Y being numbers.

³⁾ The definition of the various relationships between pressure and altitude in the atmosphere, and of the underlying assumptions, is not within the scope of this British Standard, which is concerned with the conditions of use of barometer scales complying with these relationships.

⁴⁾ See 6.3.2 “Correction to 0 °C” for definition of V/A .

⁵⁾ For methods of temperature correction of a mercury column with reference to a brass or steel scale that is a true length standard at 20 °C, see *J. Sci. Instrum.* 1956, **33**, 126.

Section 2. Barometer tables

5 Categories of barometer covered

5.1 General. These tables relate to measurements having the accuracy required for routine aviation and meteorological applications. They cover the ordinary types of mercury barometer described in 5.2 and 5.3 that satisfy the standard conditions of section 1 and have brass scales⁵⁾.

5.2 Fortin category. In barometers of this category the position of both mercury surfaces is observed. For the present purpose this category includes the following individual types of barometer:

- a) *Fortin barometers*: the mercury surface in the cistern is adjusted to a fixed point when taking a reading.
- b) *Newman barometers*: the scale terminates in a fiducial point which is brought into contact with the mercury surface in the cistern when taking a reading.
- c) *U-tube barometers*: the levels of both mercury surfaces are read against a scale.

5.3 Kew category. In barometers of this category only one mercury surface is observed, a contracted scale being used to compensate for the variation with pressure of the level of the mercury in the cistern. In British practice, Kew barometers are mainly of two types.

- a) *MO-pattern barometers*, based on specifications of the British Meteorological Office. These are short-range barometers designed for the measurement of atmospheric pressure and having a value of V/A ⁴⁾ equal to 38 mm.
- b) “*Reference barometers*” whose range extends down to zero pressure, or nearly so. They have various values of V/A ⁴⁾ according to their design and may carry an altitude scale. They are referred to as reference barometers for the purposes of this standard.

6 Purpose and basis of tables

6.1 General. The functions of the various tables, their arrangement and their respective bases, are indicated in 6.2 to 6.4.

No table of capillary depressions is included because appropriate allowance for average capillarity is normally made by the manufacturer in adjusting the barometer.

For an explanation of the convention used in column headings, see the foreword.

Examples of the use of the tables are given in Appendix A.

6.2 Interconversion of barometer pressure units (Table 1 to Table 3). Table 1 to Table 3 give data for converting pressures from one unit to another, and for finding the corresponding readings on the scales of a barometer graduated in terms of more than one pressure unit. These data are based on the pressure units specified in section 1 of this standard, and the definitive relationships connecting the units as given in Appendix D.

6.3 Correction of barometer readings to standard conditions

6.3.1 General. The reading of a mercury barometer, when corrected for its instrumental error under standard conditions ($0\text{ }^{\circ}\text{C}$ and $g = 9.806\ 65\text{ m/s}^2$), requires further correction for any departure of temperature and/or gravity from the standard conditions. Temperature corrections are given in Table 4 to Table 11 and gravity corrections in Table 12 to Table 17. When the barometer measures ambient pressure and is situated above mean sea level, corrections are applicable to the observed reading both for latitude (Table 12 to Table 15) and for height above sea level (Table 16 and Table 17).

Table 4, Table 5, Table 8, Table 11, Table 12, Table 13, Table 16 and Table 17, which are applicable to hectopascal and millibar barometers, may easily be applied to barometers scaled in kilopascals by replacing hPa by kPa in the table headings, and dividing by 10 the numerical values of both barometer readings and tabulated corrections (but not incremental corrections).

6.3.2 Correction to $0\text{ }^{\circ}\text{C}$ (Table 4 to Table 11)

Barometers in the category described in 5.2 (Fortin type, etc.) have a temperature coefficient which depends solely on the thermal expansion of the mercury and of the brass scale. The temperature coefficient of barometers in the category described in 5.3 (Kew type) is slightly larger, by an amount that depends on the design and dimensions of the instrument. Separate temperature correction tables are accordingly included for Fortin and Kew barometers. The tables are based on the following thermal expansion data.

$$\alpha = 0.000\ 018\ 4/^{\circ}\text{C}$$

$$\beta = 0.000\ 181\ 8/^{\circ}\text{C}$$

$$3\eta = 0.000\ 030\ 0/^{\circ}\text{C}$$

where

α is the coefficient of linear expansion of the brass scale;

β is the coefficient of dilatation of mercury;

3η is the coefficient of volume expansion of the cistern, allowing appropriately for the expansion of steel and glass.

The coefficients for mercury and brass are those used in the International Meteorological Tables⁶⁾ on the authority of the Comité Météorologique International and are still accepted internationally for the correction of mercury barometers. The value for the coefficient of volume expansion of the cistern accords with British practice⁷⁾.

Table 4 to Table 7 (Fortin category barometers) are based on the expression:

$$r = r_t - r_t \frac{(\beta - \alpha)t}{(1 + \beta t)} \quad (1)$$

where

r is the barometer reading at $0\text{ }^{\circ}\text{C}$;

r_t is the corresponding barometer reading at Celsius temperature t .

Table 8 to Table 10 (Kew barometers) are based on the expression:

$$r = r_t - r_t \frac{(\beta - \alpha)t}{(1 + \beta t)} - \frac{V}{A} (\beta - 3\eta)t \quad (2)$$

where

r , r_t and t are as defined above;

V is the total volume of mercury in the barometer;

⁶⁾ *International Meteorological Tables*, Paris: Gauthier-Villars et Fils, 1890.

⁷⁾ Gould, F.A. Barometers and manometers. In: Glazebrook (ed.). *A Dictionary of Applied Physics*, London: MacMillan and Co., 1923.

A is the effective area of horizontal cross section of the cistern⁸⁾;

$V/A = 38$ mm for an MO pattern Kew barometer⁹⁾.

It follows from equations (1) and (2) that the correction for a Kew barometer is that for a Fortin barometer algebraically augmented by $(-V/A)(\beta - 3\eta)t$. Table 11 (Kew barometers) tabulates values for this last expression for V/A equal to 100 mm. For other values of V/A the amount to be added is in proportion irrespective of whether the first or second method given in Table 11 is used.

It also follows from equations (1) and (2) that for a Kewpattern barometer a table of corrections for a Fortin-type instrument can be used if it is entered with the uncorrected barometer reading r_t augmented by the amount:

$$\frac{V}{A} \frac{(\beta - 3\eta)(1 + \beta t)}{(\beta - \alpha)}$$

For practical purposes the average value 20°C may be used for t and the expression then becomes:

$$\frac{V}{A} \frac{(\beta - 3\eta)(1 + 20^\circ\text{C} \times \beta)}{(\beta - \alpha)}$$

an amount (k say) which is independent of the barometer reading and temperature. Table 11 also gives values of k for V/A equal to 100 mm.

6.3.3 Correction to standard gravity of **9.806 65** m/s² (Table 12 to Table 17). Since the reading of the mercury barometer depends on gravity, a correction for the departure of local gravity from **9.806 65** m/s² is necessary.

In principle the local value of gravity needs to be ascertained. Normally this can be done quite well enough by reference to the latitude of the locality and (where the barometer is at a considerable altitude) the height of the instrument above mean sea level. The Table 12 to Table 17 give barometer corrections according to this method of gravity assessment. The corrections in Table 12 to Table 15 are based on the following expression, accepted in 1953 by the World Meteorological Organization, for gravity, g_ϕ , in latitude ϕ at mean sea level:

$$g_\phi = 9.806\,16(1 - 0.002\,637\,3 \cos^2 \phi + 0.000\,005\,9 \cos^2 2\phi) \text{ m/s}^2 \quad (3)^a$$

^a This expression gives gravity values on the "Meteorological Gravity System". In 1970 the International Association of Geodesy recommended the use of the following more accurate formula:

$$g_\phi = 9.780\,318\,4(1 + 0.005\,302\,4 \sin^2 \phi - 0.000\,005\,9 \sin^2 2\phi) \text{ m/s}^2$$

For the majority of practical pressure measurements, the difference between this formula and equation (3) is insignificant.

and on the further expression, relating to mean sea level, connecting the reading, r_ϕ , in latitude ϕ with the reading, r_n , at standard gravity:

$$r_n = r_\phi - r_\phi \left(\frac{g_\phi}{9.806\,65 \text{ m/s}^2} - 1 \right) \quad (4)$$

Table 16 and Table 17, for barometers not at sea level, depend on the following expression (based also on the 1953 recommendations of the World Meteorological Organization) for the value of gravity at ground level at a height H above mean sea level in the same latitude:

$$g_{\phi,H} = g_\phi - 3.086 \times 10^{-6} (H/m) \text{ m/s}^2 \quad (5)$$

where g_ϕ is the value of gravity obtained from equation (3).

This leads to the equation:

$$r_\phi = r_{\phi,H} - r_{\phi,H} \frac{3.086 \times 10^{-6}}{g_\phi} (H/m) \text{ m/s}^2 \quad (6)$$

Equations (5) and (6) may conveniently be re-written in the form:

$$g_{\phi,H} = g_\phi - 0.9406 \times 10^{-6} (H/\text{ft}) \text{ m/s}^2 \quad (7)$$

⁸⁾ This is taken to be the total internal horizontal cross-sectional area, at the effective mercury surface level, of the cistern or cisterns subject to pressure, but excluding any area occupied by members projecting through the mercury surface.

⁹⁾ In the first instance, V/A has formally the dimensions of length, and needs to be re-expressed in the same unit as the barometer reading, r . Thus, if V/A is expressed initially in millimetres, this unit may be interpreted as millimetres of mercury and converted to the unit in which r is expressed, using the appropriate conversion factor from Table 19.

and

$$r_{\phi} = r_{\phi, H} - \frac{0.9406 \times 10^{-6} r_{\phi, H}}{g_{\phi}} (H/\text{ft}) \text{ m/s}^2 \quad (8)$$

Table 16 and Table 17 have been derived from these equations using for $r_{\phi, H}$ the values of pressure corresponding to the height H in the standard atmosphere adopted by the International Civil Aviation Organization (ICAO). For g_{ϕ} , standard gravity has been used.

This correction, being negative, has the effect of reducing the reading and is approximately -0.0315 parts per 100 parts of the barometer reading for every 1 000 m that the barometer is above mean sea level, or -0.0096 parts per 100 parts of the barometer reading for every 1 000 ft above mean sea level.

Additional very small gravity corrections are in principle applicable when the surrounding terrain is very irregular, or when barometric observations are made on board ship where the depth of water in the vicinity varies greatly. To accord with decisions of the World Meteorological Organization these corrections are incorporated in equations (9) and (10) respectively.

$$r_{\phi} = r_{\phi, H} - \frac{r_{\phi, H}}{9.806\,65} \{3.086 \times 10^{-6} (H/\text{m}) - 1.118 \times 10^{-6} (H-H')/\text{m}\} \quad (9)$$

where

H is the actual elevation of the barometer above mean sea level;

H' is the mean elevation above mean sea level of the actual surface of the terrain included within a circle of radius 150 km (100 miles approximately) centred at the barometer.

$$r_{\phi} = r_{\phi, H} - \frac{r_{\phi, H}}{9.806\,65} \{3.086 \times 10^{-6} (H/\text{m}) + 0.688 \times 10^{-6} (D - D')/\text{m}\} \quad (10)$$

where

H is the actual elevation of the barometer above mean sea level;

D is the depth of water below the barometer;

D' is the mean depth of water included within a circle of radius 150 km (100 miles approximately) centred at the barometer.

At places on or near a sea coast, equations (9) and (10) may be combined judiciously.

The above procedure ignores local gravity anomalies due to the geological structure of the Earth. In the British Isles these do not affect barometer readings by more than 0.03 hPa except in Northern Ireland, where the effect may be as great as 0.1 hPa. At isolated places elsewhere in the world, the effect may be as large as 0.3 hPa. Where the highest accuracy is necessary, gravity values rather better than those derived on the basis of latitude and height should therefore be used. Such values may be obtained experimentally by means of a gravity meter, or by estimation on the basis of a knowledge of the local Bouguer gravity anomaly. Advice on these matters may be sought from the Institute of Geological Sciences, Applied Geophysics Unit, Nicker Hill, Keyworth, Nottingham NG12 5GG.

Where $g_{\phi, H}$ is the known local acceleration due to gravity, on the Meteorological Gravity System (see the footnote to equation (3) of this clause), the following relation is appropriate for barometric corrections:

$$r_n = \frac{r_{\phi, H} g_{\phi, H}}{9.806\,65 \text{ m/s}^2} \quad (11)$$

where

r_n is the barometer reading after correction to $g = 9.806\,65 \text{ m/s}^2$;

$r_{\phi, H}$ is the barometer reading prior to correction for gravity.

6.4 Conversion of pressure reading from barometer level to another level (Table 18).

If the pressure is required at a point above or below the cistern of the barometer, an allowance has to be made for the hydrostatic pressure exerted by the intervening air column. To allow for small differences of height, such as from floor to floor in a laboratory, the values given in Table 18 may be used. These are derived from an average density of air at 20 °C, and are adequate under normal working conditions if there are no other sources of pressure difference, such as wind, or electric fans. For some meteorological purposes the pressures at a number of stations over a wide area are adjusted to an arbitrary level. If this is below the level of the barometer, the calculated adjustment has to be based on the conventional density of a hypothetical air column. Tables based on the particular conventions used in the British Meteorological Service will be found in *The Handbook of Meteorological Instruments*, M.O. 919, Vol. 1, London: HMSO.

Interconversion of barometric pressure units (see 6.2)

Table 1 — Kilopascals and hectopascals (millibars) to millimetres of mercury and inches of mercury

<i>p</i> /kPa	<i>p</i> /hPa (<i>p</i> /mbar)	<i>p</i> /mmHg	<i>p</i> /inHg
10	100	75.01	2.953
20	200	150.01	5.906
30	300	225.02	8.859
40	400	300.02	11.812
50	500	375.03	14.765
60	600	450.04	17.718
70	700	525.04	20.671
80	800	600.05	23.624
90	900	675.06	26.577
100	1 000	750.06	29.540
101.325	1 013.25 ^a	760.00	29.921
110	1 100	825.07	32.483
120	1 200	900.07	35.436

NOTE 1 For an explanation of the convention used in column headings, see the foreword.

NOTE 2 These relationships apply not only to the units, but also to the readings on the scales of barometers complying with this standard.

^a This is equal to the standard atmosphere defined by the 10th Conférence Générale des Poids et Mesures in 1954.

Interconversion of barometric pressure units (see 6.2)

Table 2 — Millimetres of mercury to kilopascals, hectopascals (millibars) and inches of mercury

<i>p</i> /mmHg	<i>p</i> /kPa	<i>p</i> /hPa (<i>p</i> /mbar)	<i>p</i> /inHg
100	13.332	133.32	3.937
200	26.664	266.64	7.874
300	39.997	399.97	11.811
400	53.329	533.29	15.748
500	66.661	666.61	19.685
600	79.993	799.93	23.622
700	93.326	933.26	27.559
760	101.325	1 013.25 ^a	29.921
800	106.658	1 066.58	31.496
900	119.990	1 199.90	35.433

NOTE 1 For an explanation of the convention used in column headings, see the foreword.

NOTE 2 These relationships apply not only to the units, but also to the readings on the scales of barometers complying with this standard.

^a This is equal to the standard atmosphere defined by the 10th Conférence Générale des Poids et Mesures in 1954.

Interconversion of barometric pressure units (see 6.2)

Table 3 — Inches of mercury to kilopascals, hectopascals (millibars) and millimetres of mercury

<i>p</i> /inHg	<i>p</i> /kPa	<i>p</i> /hPa (<i>p</i> /mbar)	<i>p</i> /mmHg	<i>p</i> /inHg	<i>p</i> /kPa	<i>p</i> /hPa (<i>p</i> /mbar)	<i>p</i> /mmHg
1	3.386	33.86	25.40	19	64.341	643.41	482.60
2	6.773	67.73	50.80	20	67.728	677.28	508.00
3	10.159	101.59	76.20	21	71.114	711.14	533.40
4	13.546	135.46	101.60	22	74.501	745.01	558.80
5	15.932	169.32	127.00	23	77.887	778.87	584.20
6	20.318	203.18	152.40	24	81.273	812.73	609.60
7	23.705	237.05	177.80	25	84.660	846.60	635.00
8	27.091	270.91	203.20	26	88.046	880.46	660.40
9	30.477	304.77	228.60	27	91.432	914.32	685.80
10	33.864	338.64	254.00	28	94.819	948.19	711.20
11	37.250	372.50	279.40	29	98.205	982.05	736.60
12	40.637	406.37	304.80	29.921	101.325	1 013.25 ^a	760.00
13	44.023	440.23	330.20	30	101.592	1 015.92	762.00
14	47.409	474.09	355.60	31	104.978	1 049.78	787.40
15	50.796	507.96	381.00	32	108.364	1 083.64	812.80
16	54.182	541.82	406.40	33	111.751	1 117.51	838.20
17	57.569	575.69	431.80	34	115.137	1 151.37	863.60
18	60.955	609.55	457.20	35	118.524	1 185.24	889.00

NOTE 1 For an explanation of the convention used in column headings, see the foreword.

NOTE 2 These relationships apply not only to the units, but also to the readings on the scales of barometers complying with this standard.

^a This is equal to the standard atmosphere defined by the 10th Conférence Générale des Poids et Mesures in 1954.