



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Cancellation
Certificate of Approval
No 6/4C/228

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that the approval for use for trade granted in respect of the

Mettler Toledo Model PB3002-S DR Weighing Instrument

submitted by Mettler Toledo Limited
 220 Turner Street
 Port Melbourne VIC 3207

has been cancelled in respect of new instruments as from 1 April 2011.

Signed by a person authorised by the Chief Metrologist
to exercise his powers under Regulation 60 of the
National Measurement Regulations 1999.

A handwritten signature in black ink, consisting of a series of loops and flourishes, positioned to the right of the signature text.



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Issued by the Chief Metrologist under Regulation 60
of the
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This is to certify that an approval for use for trade has been granted in respect of the

Mettler Toledo Model PB3002-S DR Weighing Instrument

submitted by Mettler Toledo Limited
 Unit 3, 220 Turner Street
 Port Melbourne VIC 3207.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated July 2004.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 November 2009, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4C/228' and only by persons authorised by the submittor.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

DESCRIPTIVE ADVICE

Pattern: approved 8 October 2004

- A Mettler Toledo model PB3002-S DR single interval self-indicating non-automatic weighing instrument high accuracy class II of 3100 g maximum capacity.

Variants: approved 8 October 2004

1. Model PB303-S DR high accuracy class instrument as listed in Table 1.
2. Certain other models of the PB high accuracy instruments as listed in Table 2.
3. Certain models of the AB special accuracy class I instruments as listed in Table 3.
4. Certain models of the JB high accuracy and special accuracy class instruments as listed in Table 4.
5. Model PB8000-S medium accuracy class III instrument.

Technical Schedule No 6/4C/228 describes the pattern and variants 1 to 5.

Variants: approved 14 March 2008

6. Certain additional models of the PB series as listed in Table 5.
7. Certain additional models of the AB series as listed in Table 6.
8. Certain additional models of the JB series high accuracy and special accuracy class instruments as listed in Table 4.

Technical Schedule No 6/4C/228 Variation No 1 describes variants 6 to 8.

FILING ADVICE

Certificate of Approval No 6/4C/228 and Table 4 both dated 19 October 2004 are superseded by this Certificate and Table 4 attached herein, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4C/228 dated 17 March 2008
Technical Schedule No 6/4C/228 dated 19 October 2004 (incl.
Tables 1 to 3, and Test Procedure)
Technical Schedule No 6/4C/228 Variation No 1 dated 17 March 2008
(incl. Tables 4, 5 & 6, and Notification of Change)
Notification of Change No 1 dated 28 October 2005
Figures 1 to 3 dated 19 October 2004

Signed by a person authorised by the Chief Metrologist
to exercise his powers under Regulation 60 of the
National Measurement Regulations 1999.

A handwritten signature in black ink, appearing to be 'J. H. T.', located to the right of the signature text.

TECHNICAL SCHEDULE No 6/4C/228

Pattern: Mettler Toledo Model PB3002-S DR Weighing Instrument

Submittor: Mettler Toledo Limited
220 Turner Street
Port Melbourne VIC 3207

1. Description of Pattern

The Mettler Toledo model PB3002-S DR (#) self-indicating non-automatic weighing instrument of high accuracy class (II) of 3100 g maximum capacity (Figure 1 and Table 1). (# – The instrument model number may include an 'A' suffix.)

Instruments use electromagnetic force compensation technology and have a liquid crystal display (LCD).

These single range instruments have a verification scale interval (e) of 0.1 g. They are fitted with a feature (known as 'DeltaRange' ®) in which a differentiated scale interval (d) of 0.01 g operates within a range of 600 g (plus up to $9e$, i.e. 600.9 g) of the current zero or tare position, i.e. up to 600 g net). Above this range the differentiated scale interval does not appear.

Instruments are approved for use over a temperature range of +10°C to +30°C, and are so marked.

Instruments are not for trading direct with the public, and are so marked.

Some instruments may have a windshield provided over the load receptor.

The AC/DC mains adaptor supplied was an APX Technologies model AP2805EP power supply (12 V DC, 1 A); the submitter should be consulted regarding the acceptability of alternative power supply units.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices.

1.1 Zero and Tare

Instruments have an initial zero-setting device with a nominal range of not more than 20% of the maximum capacity of the instrument.

Instruments have a combined semi-automatic zero-setting and subtractive tare balancing device (operated by the '0/T' key). The subtractive taring device operates up to the maximum capacity of the instrument.

A zero-tracking device may also operate to automatically correct to within $\pm 0.25e$ (or $\pm 0.5d$ where $d < e$) whenever the instrument comes to rest with the display indicating zero (including net zero).

1.2 Other Units

Use of units other than kilograms (kg) or grams (g) are not approved for trade use.

1.3 Management Functions

Instruments may be fitted with a number of additional functions which display values that are not weighing results, including counting, percentage, and 'dynamic weighing'. The displays of such values are identified by symbols, e.g. percentage by '%'.
These functions and displays are not approved for trade use.

1.4 Display Check

A display check is initiated when the instruments are switched on.

1.5 Levelling

Instruments are provided with adjustable feet and a level indicator, adjacent to which is a level notice stating "Instrument must be level when in use", or similar wording.

1.6 Internal Calibration System

Instruments are fitted with an internal 'calibration' system. This comprises an internal calibration mass that may be applied to the instrument in an automatic adjustment cycle that is initiated automatically whenever the instrument is switched on, or manually by pressing the 'Cal/Menu' key.

1.7 Descriptive Markings and Notices

The instrument model number is shown on the instrument nameplate.

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Mettler Toledo
Name or mark of manufacturer's agent
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NMI 6/4C/228
Manufacturer's designation (model number) #
Maximum capacity	<i>Max</i> g *
Minimum capacity	<i>Min</i> g *
Verification scale interval	<i>e</i> = g *
Actual scale interval	<i>d</i> = g *
Serial number of the instrument
Special temperature limits	+10°C to +30°C

The instrument model number may include an '/A' suffix.

* These markings shall also be shown near the display of the result if they are not already located there.

Instruments are not for trading direct with the public, and are so marked.

1.8 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

1.9 Sealing Provision

Sealing of the calibration adjustment is provided by the use of destructible adhesive labels on the rear of the instrument to prevent access to the calibration switch, and to prevent separation of the casing of the instrument (Figure 2).

Sealing of the instrument does not prevent operation of the internal calibration system. However the instrument uses data regarding the value of the internal mass, and alteration of that data is prevented.

2. Description of Variants

2.1 Variant 1

Model PB303-S DR weighing instrument of high accuracy class (II) as listed in Table 1, having the features of the pattern including 'DeltaRange'®.

2.2 Variant 2

Certain other models of the PB series weighing instruments of high accuracy class (II) as listed in Table 2 and which are not fitted with the 'DeltaRange'® feature described for the pattern.

2.3 Variant 3

Certain models of the AB series weighing instruments as listed in Table 3.

Instruments are approved special accuracy class (I) and are so marked.

The models AB135-S and AB265-S as listed in Table 3 are multi-interval instruments with two partial weighing ranges. (Note that these instruments are known by Mettler Toledo as 'DualRange'®).

2.3.1 Sealing Provision

Sealing of the calibration adjustments of special accuracy class (I) instruments is not required.

2.4 Variant 4

Certain models of the JB series weighing instruments as listed in Table 4 and as described below:

- (i) Having the features of the pattern except 'DeltaRange'®.

Instruments are approved as high accuracy class (II) and are so marked.

- (ii) Models JB203-C and JB803-C weighing instruments as listed in Table 4, having the features of the pattern except 'DeltaRange'® and which are approved to operate with metric carat units.

Instruments are approved high accuracy class ② and are so marked.

Instruments may be operated in a mode using units of metric carats (1 metric carat = 0.2 g). This may either be instead of, or in addition to, operation with units of grams (g). The symbol 'ct' indicates when the units are metric carats.

Instruments may operate in kilograms (kg), grams (g), milligrams (mg) or metric carats (ct) units – use of other units is not approved for trade use.

An instrument that can be operated in the metric carat mode shall carry markings in metric carats (in addition to markings in grams if gram units are also available).

- (iii) Models JB1003-C and JB1603-C weighing instruments as listed in Table 4, having the features of the pattern except 'DeltaRange'® and which are approved to operate in metric carat mode as described above.

Instruments are approved as special accuracy class ① when in metric carat mode and as high accuracy class ② when operating with units of grams, and are so marked.

Figure 3 shows a typical JB series instrument with a windshield.

2.4.1 Sealing Provision

For high accuracy class ② instruments, sealing is as described in clause 1.9 Sealing Provision for the pattern.

Sealing of the calibration adjustments of special accuracy class ① instruments is not required.

2.5 Variant 5

Model PB8000-S weighing instrument of 8100 g maximum capacity, with a verification scale interval (e) and scale interval (d) of 1 g. The subtractive taring device operates up to the maximum capacity of the instrument.

Instruments are approved as medium accuracy class ③ and are so marked.

Instruments are approved for use over a temperature range of +10°C to +40°C, and are so marked.

2.5.1 Sealing Provision

Sealing is as described in clause 1.9 Sealing Provision for the pattern.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Maximum Permissible Errors at Verification/Certification

For special accuracy class ① instruments, the maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, m , expressed in verification scale intervals, e , are:

- $\pm 0.5 e$ for loads $0 \leq m \leq 50\,000$;
- $\pm 1.0 e$ for loads $50\,000 < m \leq 200\,000$; and
- $\pm 1.5 e$ for loads $200\,000 < m$.

For high accuracy class ② instruments, the maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, m , expressed in verification scale intervals, e , are:

- $\pm 0.5 e$ for loads $0 \leq m \leq 5\,000$;
- $\pm 1.0 e$ for loads $5\,000 < m \leq 20\,000$; and
- $\pm 1.5 e$ for loads $20\,000 < m \leq 100\,000$.

For medium accuracy class ③ instruments, the maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, m , expressed in verification scale intervals, e , are:

- $\pm 0.5 e$ for loads $0 \leq m \leq 500$;
- $\pm 1.0 e$ for loads $500 < m \leq 2\,000$; and
- $\pm 1.5 e$ for loads $2\,000 < m \leq 10\,000$.

For multi-interval instruments with verification scale intervals of e_1, e_2, \dots , apply e_1 for zero adjustment, and for maximum permissible errors apply e_1, e_2, \dots , as applicable for the load.

For multiple range instruments with verification scale intervals e_1, e_2, \dots , apply e_1 for zero adjustment, and for maximum permissible errors apply e_1, e_2, \dots , as applicable for the load.

Ensure that instruments are only being used within the special temperature limits stated elsewhere in this Technical Schedule.

For instruments with an internal self-calibration facility

Prior to verification/certification ensure that the instrument has been adjusted by the internal self-calibration system by pressing the 'Cal/Menu' key until 'Cal int' appears, and then allow the calibration procedure to proceed to completion (with no load on the platter).

TABLE 1

Model Number	Maximum Capacity (Max) g	Minimum Capacity (Min) g	Verification Scale Interval (e) g	Scale Interval (d) g
PB 303-S DR	60	0.02	0.01	0.001
	310		0.01	0.01
PB 3002-S DR	600	0.5	0.1	0.01
	3100		0.1	0.1

Approved models of the PB series high accuracy class $\text{\textcircled{II}}$
with the 'DeltaRange'® feature

TABLE 2

Model Number	Maximum Capacity (Max) g	Minimum Capacity (Min) g	Verification Scale Interval (e) g	Scale Interval (d) g
PB 153-S	151	0.02	0.01	0.001
PB 303-S	310	0.02	0.01	0.001
PB 403-S	410	0.02	0.01	0.001
PB 602-S	610	0.5	0.1	0.01
PB 603-S	610	0.02	0.01	0.001
PB 1501-S	1510	5	0.1	0.1
PB 1502-S	1510	0.5	0.1	0.01
PB 3001-S	3100	5	0.1	0.1
PB3002-S	3100	0.5	0.1	0.01
PB 4002-S	4100	0.5	0.1	0.01
PB5001-S	5100	5	1	0.1
PB 8001-S	8100	5	1	0.1
PB 8000-S	8100	50	1	1

Approved models of the PB series high accuracy class $\text{\textcircled{II}}$
without the 'DeltaRange'® feature

TABLE 3

Model Number	Maximum Capacity (Max) g	Minimum Capacity (Min) g	Verification Scale Interval (e) g	Scale Interval (d) g
AB 54-S	51	0.01	0.001	0.0001
AB 104-S	110	0.01	0.001	0.0001
AB 204-S	220	0.01	0.001	0.0001
AB 304-S	320	0.01	0.001	0.0001

Approved models of the AB series special accuracy class ①
without DualRange® feature

AB 135-S	31	0.001	0.001	0.00001
	120		0.001	0.0001
AB 265-S	61	0.001	0.001	0.00001
	220		0.001	0.0001

Approved models of the AB series special accuracy class ①
with DualRange® feature

TABLE 4

Model Number	Maximum Capacity (Max)	Minimum Capacity (Min)	Verification Scale Interval (e)	Scale Interval (d)	Accuracy Class (#)
JB 603-G	610 g	0.02 g	0.01 g	0.001 g	high
JB 3002-G	3100 g	0.5 g	0.1 g	0.01 g	high
JB 4002-G	4100 g	0.5 g	0.1 g	0.01 g	high
JB 8001-G	8100 g	5 g	1 g	0.1 g	high

Approved models of the JB series without metric carat mode feature

JB 203-C	51 g	0.02 g	0.01 g	0.001 g	high
	255 ct	0.02 ct	0.01 ct	0.001 ct	high
JB 803-C	162 g	0.02 g	0.01 g	0.001 g	high
	810 ct	0.02 ct	0.01 ct	0.001 ct	high
JB 1003-C	220 g	0.02 g	0.01 g	0.001 g	high
	1100 ct	0.1 ct	0.01 ct	0.001 ct	special
JB 1603-C	320 g	0.02 g	0.01 g	0.001 g	high
	1600 ct	0.1 ct	0.01 ct	0.001 ct	special

Approved models of the JB series with metric carat mode feature

(#) special accuracy class ① – high accuracy class ②

TECHNICAL SCHEDULE No 6/4C/228

VARIATION No 1

Pattern: Mettler Toledo Model PB3002-S DR Weighing Instrument

Submittor: Mettler Toledo Limited
Unit 3, 220 Turner Street
Port Melbourne VIC 3207

1. Description of Variants

1.1 Variant 6

Certain additional models of the PB series weighing instruments of high accuracy class **II** as listed in Table 5 below.

TABLE 5

Model Number	Maximum Capacity (<i>Max</i>) g	Minimum Capacity (<i>Min</i>) g	Verification Scale Interval (<i>e</i>) g	Scale Interval (<i>d</i>) g
PB 3002-S DR/PH	600 3100	0.5	0.1 0.1	0.01 0.1

Approved additional model of the PB series high accuracy class **II** with the 'DeltaRange'® feature

PB 303-S/PH	310	0.02	0.01	0.001
PB 3002-S/PH	3100	0.5	0.1	0.01

Approved additional models of the PB series high accuracy class **II** without the 'DeltaRange'® feature

1.2 Variant 7

Certain additional models of the AB series weighing instruments of special accuracy class **I** as listed in Table 6 below and which are not fitted with the 'DeltaRange'® feature described for the pattern.

TABLE 6

Model Number	Maximum Capacity (<i>Max</i>) g	Minimum Capacity (<i>Min</i>) g	Verification Scale Interval (<i>e</i>) g	Scale Interval (<i>d</i>) g
AB 104-S/PH	110	0.01	0.001	0.0001
AB 204-S/PH	220	0.01	0.001	0.0001

1.3 Variant 8

Certain additional models of the JB series weighing instruments as listed in Table 4 below (which replaces Table 4 dated 19 October 2004) and as described below:

- (i) Models JB 2002-G and JB 6001-G having the features of the pattern except 'DeltaRange'®.

Instruments are approved as high accuracy class II and are so marked.

- (ii) Models JB703-C, JB1203-C and JB1603-C (#) weighing instruments having the features of the pattern except 'DeltaRange'® and which are approved to operate in metric carat mode as described in Technical Schedule No 6/4C/228 dated 19 October 2004, clause **2.4 Variant 4**, sub-clause (ii).

(#) This has different specifications to the same model instrument already approved as part of Variant 4.

Instruments are approved as special accuracy class I when in metric carat mode and as high accuracy class II when operating with units of grams, and are so marked.

Note: The attached Table 4 incorporate special temperature limits for some models. Any existing instruments shall be re-marked to include these temperature limits.

NOTIFICATION OF CHANGE

The following changes are made in Technical Schedule No 6/4C/228 dated 19 October 2004:

1. In clause **2.3 Variant 3** and in Table 3, the following note is added;
"Note: The model AB 304-S has a temperature range of +12.5°C to +27.5 °C and is so marked. (Any existing instruments shall be re-marked to include these temperature limits.)"
2. In clause **2.5 Variant 5**, the third paragraph is amended to read;
"Instruments are approved for use over a temperature range of +5°C to +40°C, and are so marked."
3. In clause **2.5 Variant 5**, the following is added to the first paragraph;
"The minimum capacity is 20 g."

TABLE 4

Model Number	Maximum Capacity (Max) g	Minimum Capacity (Min) g	Verification Scale Interval (e) g	Scale Interval (d) g	Accuracy Class (##)
JB 603-G	610 g	0.02 g	0.01 g	0.001 g	high
JB 2002-G	2100 g	0.5 g	0.1 g	0.01 g	high
JB 3002-G	3100 g	0.5 g	0.1 g	0.01 g	high
JB 4002-G	4100 g	0.5 g	0.1 g	0.01 g	high
JB 6001-G	6100 g	5 g	1 g	0.1 g	high
JB 8001-G	8100 g	5 g	1 g	0.1 g	high

Approved models of the JB series without metric carat mode feature

JB 203-C (*)	51 g	0.02 g	0.01 g	0.001 g	high
	255 ct	0.02 ct	0.01 ct	0.001 ct	high
JB 703-C (*)	140g	0.02 g	0.01 g	0.001 g	high
	700 ct	0.1 ct	0.01 ct	0.001 ct	special
JB 803-C (*)	162 g	0.02 g	0.01 g	0.001 g	high
	810 ct	0.02 g	0.01 g	0.001 g	high
JB 1003-C (*)	220 g	0.02 g	0.01 g	0.001 g	high
	1100 ct	0.1 ct	0.01 ct	0.001 ct	special
JB 1203-C (*)	240 g	0.02 g	0.01 g	0.001 g	high
	1200 ct	0.1 ct	0.01 ct	0.001 ct	special
JB 1603-C (*)	320 g	0.02 g	0.01 g	0.001 g	special
	1600 ct	0.1 ct	0.01 ct	0.001 ct	special
JB 1603-C (*) (#)	320 g	0.02 g	0.001 g	0.0001 g	special
	1600 ct	0.1 ct	0.01 ct	0.001 ct	special

Approved models of the JB series with metric carat mode feature

(##) special accuracy class ① – high accuracy class ②

- (*) These models have a temperature range of +12.5°C to +27.5 °C and are so marked. (Any existing instruments shall be re-marked to include these temperature limits.)
- (#) This version (approved as part of Variant 8) has different specifications to the same model instrument already approved as part of Variant 4.

FIGURE 6/4C/228 – 1



Mettler Toledo Model PB3002-S DR Weighing Instrument

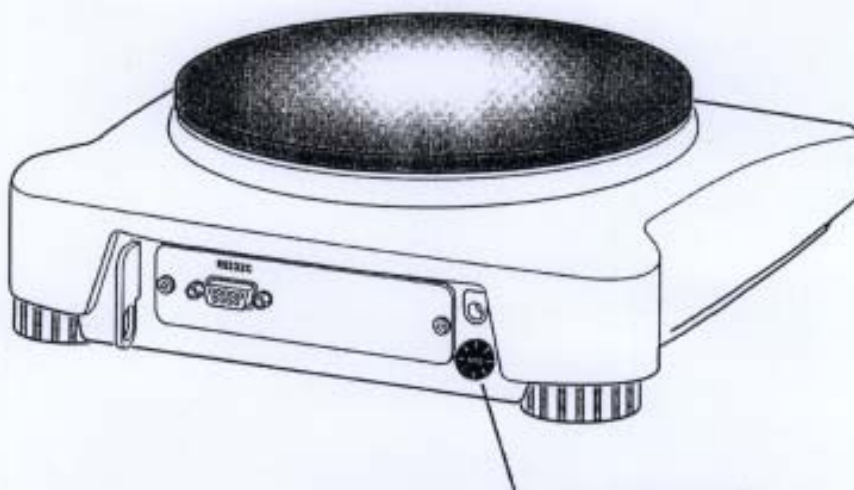
6/4C/228
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FIGURE 6/4C/228 – 2

Destructible Label



Provision for Verification/Certification Mark



Destructible Label

Showing Sealing of Typical High Accuracy Class $\text{\textcircled{II}}$ Instrument

FIGURE 6/4C/228 – 3



Typical Mettler Toledo JB Series Weighing Instrument