



Bradfield Road, West Lindfield NSW 2070

## Certificate of Approval

### No 6/4C/262

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

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

Mettler Toledo Model BBA211-5BB60 Weighing Instrument

submitted by           Mettler Toledo Limited  
                              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 June 2015, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4C/262' and only by persons authorised by the submitter.

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 28 May 2010

- A Mettler Toledo model BBA211-5BB60 class  $\text{III}$  non-automatic single interval self-indicating mass only weighing instrument of 60 kg maximum capacity.

**Variants:** approved 28 May 2010

1. Certain BBA211-5 series instruments in certain other capacities.
2. Certain BBA221-3 series instruments in certain capacities.
3. Using alternative NMI-approved indicators.

Technical Schedule No 6/4C/262 describes the pattern and variants 1 to 3.

#### FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/4C/262 dated 1 June 2010  
Technical Schedule No 6/4C/262 dated 1 June 2010 (incl. Tables 1 & 2,  
and Test Procedure)  
Figures 1 to 3 dated 1 June 2010

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



## TECHNICAL SCHEDULE No 6/4C/262

**Pattern:** Mettler Toledo Model BBA211-5BB60 Weighing Instrument

**Submitter:** Mettler Toledo Limited  
220 Turner Street  
Port Melbourne VIC 3207

### 1. Description of Pattern

A Mettler Toledo model BBA211-5BB60 class  $\text{III}$  single interval self-indicating non-automatic weighing instrument (Figure 1) with a maximum capacity of 60 kg and verification scale interval of 0.02 kg.

Instruments may be fitted with an RS 232 interface for the connection of peripheral and/or auxiliary devices.

#### 1.1 Basework

The Mettler Toledo model BB60 basework has the load receptor directly supported by a single load cell. The load receptor has maximum nominal dimensions of 300 mm × 400 mm.

#### 1.2 Load Cell

The instrument uses a Mettler Toledo model MT1241-100 load cell of 100 kg maximum capacity.

#### 1.3 Indicator

The instrument uses a Mettler Toledo model IND211 digital indicator (Figure 2) which may be mounted on a column.

The indicator has a check weighing function that can be assigned to a function key of the indicator. This additional function (other than the indications of measured mass, i.e. gross, tare, net, displayed either on the indicator or on an auxiliary or peripheral device) is not approved for trade use.

The power supply used may be either:

- 9 V DC supplied by an AC/DC mains adaptor or other DC power source; or
- Dry cell batteries.

Note: The AC/DC mains adaptor supplied was a PHIHONG model PSM11R-090 Switching power supply (output 9 V DC, 1.12 A maximum) – The submitter should be consulted regarding the acceptability of alternative power supply units or other power source.

##### 1.3.1 Zero

The initial zero-setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

The instrument has a semi-automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument.

A zero-tracking device may be fitted.

### 1.3.2 Tare

A semi-automatic subtractive tare device of up to the maximum capacity of the instrument may be fitted.

### 1.3.3 Display Check

A display check is initiated whenever power is applied.

## 1.4 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator is a notice stating 'Instrument must be level when in use' (or similar wording).

## 1.5 Sealing Provision

Span calibration and other legal metrology related settings can only be assessed by pressing the calibration button located on the main board inside the indicator. To perform the span calibration or change other settings, remove the covering screw of the calibration button access hole and press the calibration button while the instrument is at its initial display checking stage. The instrument should be sealed by means of a destructible adhesive label (Figure 2b).

## 1.6 Verification Provision

Provision is made for the application of a verification mark.

## 1.7 Descriptive Markings and Notices

(a) Instruments carry the following markings:

Manufacturer's mark, or name written in full	Mettler Toledo
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NMI 6/4C/262
Maximum capacity	<i>Max</i> ..... g or kg #1
Minimum capacity	<i>Min</i> ..... g or kg #1
Verification scale interval	<i>e</i> = ..... g or kg #1
Maximum subtractive tare	<i>T</i> = - ..... g or kg #2
Serial number of the instrument	.....

#1 These markings are also shown near the display of the result if they are not already located there.

#2 This marking is required if *T* is not equal to *Max*.

(b) In addition, instruments not greater than 100 kg capacity shall carry a notice stating 'NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC', or similar wording.

## 2. Description of Variants

### 2.1 Variant 1

Certain other Mettler Toledo BBA211-5 series instruments (\*) using baseworks of different models and capacities as listed in Tables 1 and 2. These models have similar specifications to the pattern and use the same model IND211 indicator.

## 2.2 Variant 2

Certain Mettler Toledo BBA221-3 series instruments (\*) using baseworks of certain models and capacities as listed in Tables 1 and 2. These models have similar specifications to the pattern and variant 1 but use the Mettler Toledo model IND221 indicator.

The model IND221 indicator is similar to the model IND211 and is described in the documentation of approval NMI S486.

- (\*) All model numbers for variants 1 and 2 have a BBA prefix followed by either 211-5 or 221-3 depending on whether a model IND211 or model IND221 indicator is fitted. The prefix is followed by the appropriate basework model number as listed in Table 2.

## 2.3 Variant 3

Certain baseworks of this approval used with a compatible NMI-approved (by Supplementary Certificate) indicator provided the conditions set out below are met. In this case instruments model numbers have a PBA210-3 prefix followed by the appropriate basework model number as listed in Table 2, e.g. PBA210-3B60 for a 60 kg platform weighing instrument with a 400 mm × 500 mm load receptor.

In addition to the markings specified in clause **1.7 Descriptive Markings and Notices**, instruments are marked with the NMI approval number for the indicator used, together in the same location.

The approved baseworks and their limiting characteristics are given in Tables 1 and 2.

The conditions to be met are:

- The excitation voltage used is within the range approved for the baseworks.
- The maximum load applied to the basework (live load plus any dead load) does not exceed the load cell maximum capacity.
- The verification scale interval is not less than the minimum value specified.
- The number of verification scale intervals is less than or equal to the  $n_{\max}$  value specified.
- The signal voltage per verification scale interval is not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

$$\text{Indicator Sensitivity} \leq 1000 \times E_x \times LC\_Sens \times e/E_{\max}$$

Where:

$E_x$  = Excitation from indicator (V)

$LC\_Sens$  = Load cell sensitivity (mV/V)

$E_{\max}$  = Load cell maximum capacity (kg)

$E$  = verification scale interval of the instrument (kg)

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator ( $\mu$ V)

### TEST PROCEDURE

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

#### Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 12 of the *National Measurement Regulations 1999*.

TABLE 1 – Specifications Common to All Baseworks

n max	3000
Output rating at E <sub>max</sub> (mV/V)	2
Input Impedance (ohms)	410
Excitation voltage (V AC or DC)	5 – 15
Cable length (+0.1m) (m)	2 (#)
Number of leads (plus shield)	6

(#) The cable length supplied with the basework shall not be shortened.

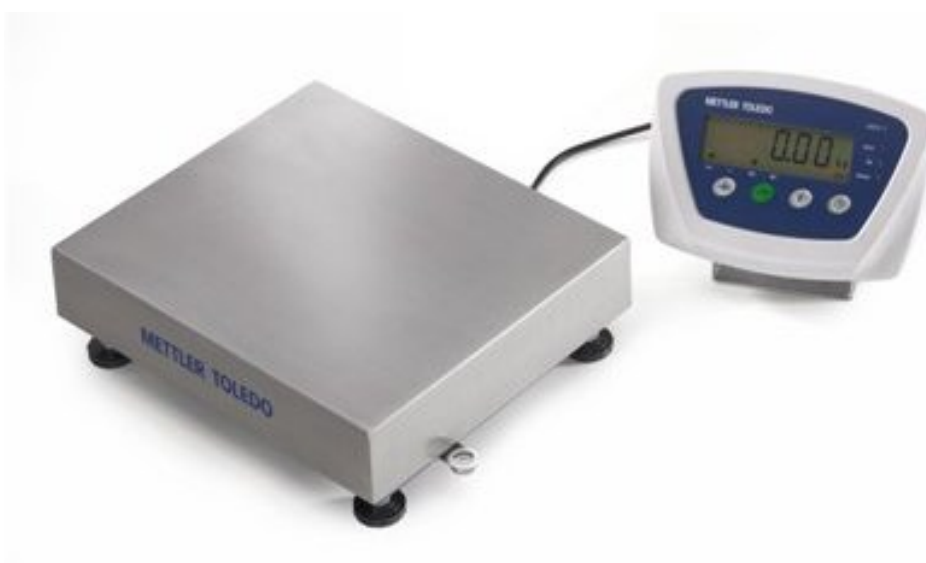
TABLE 2 – Approved Baseworks and Their Limiting Characteristics

Basework Model	A3	A6	A15	BA30	BA60	BB35
Basework Max. Capacity (kg)	3	6	15	30	60	35
Maximum Platform Sizes (mm)	240 x 300	240 x 300	240 x 300	305 x 355	305 x 355	300 x 400
Load Cell Used	MT1022	MT1022	MT1022	MT1241	MT1241	MT1241
Load Cell Maximum Capacity E <sub>max</sub> (kg)	7	10	20	50	100	50
Minimum Verification Scale Interval Value for single interval use (kg)	0.001	0.002	0.005	0.01	0.02	0.01

Basework Model	BB60	B60	B150	BC60	BC150	BC300
Basework Max. Capacity (kg)	60	60	150	60 kg	150 kg	300 kg
Maximum Platform Sizes (mm)	300 x 400	400 x 500	400 x 500	500 x 650	500 x 650	500 x 650
Load Cell Used	MT1241	MT1241	MT1241	MT1260	MT1260	MT1260
Load Cell Maximum Capacity E <sub>max</sub> (kg)	100	100	200	100	300	500
Minimum Verification Scale Interval Value for single interval use (kg)	0.02	0.02	0.05	0.02	0.05	0.1

Basework Model	CA60	CA150	CA300	CC60	CC150	CC300
Basework Max. Capacity (kg)	60	150	300	60	150	300
Maximum Platform Sizes (mm)	420 x 550	420 x 550	420 x 550	600 x 800	600 x 800	600 x 800
Load Cell Used	MT1260	MT1260	MT1260	MT1260	MT1260	MT1260
Load Cell Maximum Capacity E <sub>max</sub> (kg)	100	300	500	100	300	500
Minimum Verification Scale Interval Value for single interval use (kg)	0.02	0.05	0.1	0.05	0.05	0.1

FIGURE 6/4C/262 – 1



Mettler Toledo Model BBA211-5BB60 Weighing Instrument

FIGURE 6/4C/262 – 2



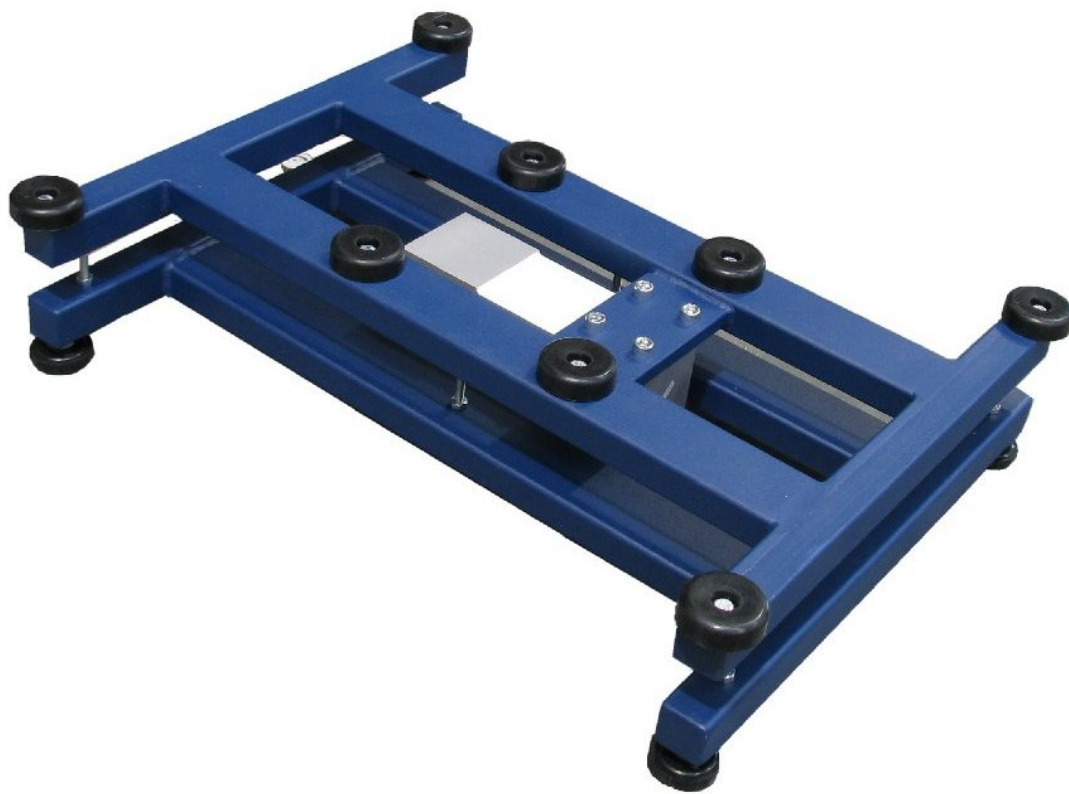
(a) Mettler Toledo Model IND211 Digital Indicator



(b) Destructible adhesive label



FIGURE 6/4C/262 – 3



Typical Basework of This Approval