



**Australian Government**  

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**National Measurement  
Institute**

12 Lyonpark Road, North Ryde NSW 2113

**Cancellation**  
**Instrument Certificate of Approval**  
**No 6/14B/16**

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

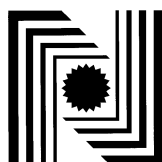
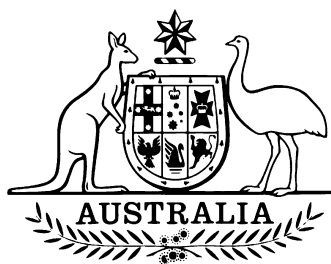
Mettler Toledo Model 9360 Class 0.2 Discontinuous Totalising Automatic Weighing  
Instrument

submitted by Mettler Toledo Ltd  
220 Turner Street  
PORT MELBOURNE VIC 3207

has been cancelled in respect of new instruments as from 1 May 2006.

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.', is located in the bottom right corner of the document.



## National Standards Commission

12 Lyonpark Road, North Ryde NSW

### Instrument Certificate of Approval

**No 6/14B/16**

Issued 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 9360 Class 0.2 Discontinuous Totalising Automatic Weighing  
Instrument

submitted by Mettler Toledo Ltd  
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.

### CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 March 2006, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/14B/16 and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission 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 the Commission's Document NSC P 106.

The Commission 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.

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to the instrument shall be within the limits specified herein and in any approval documentation for the components where they are approved separately.

#### **Special:**

This approval is limited to a single instrument located at the Co-operative Bulk Handling Limited, Metropolitan Grain Centre, Forrestfield WA.

### DESCRIPTIVE ADVICE

**Pattern:** approved 7 February 2001

- A Mettler Toledo model 9360 Class 0.2 discontinuous totalising automatic weighing instrument of 10 000 kg maximum capacity.

Technical Schedule No 6/14B/16 describes the pattern.

### FILING ADVICE


The documentation for this approval comprises:

Certificate of Approval No 6/14B/16 dated 6 August 2001

Technical Schedule No 6/14B/16 dated 6 August 2001 (incl. Test Procedure)

Figures 1 to 4 dated 6 August 2001

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



## TECHNICAL SCHEDULE No 6/14B/16

**Pattern:** Mettler Toledo Model 9360 Class 0.2 Discontinuous Totalising Automatic Weighing Instrument.

**Submittor:** Mettler Toledo Ltd  
220 Turner Street  
PORT MELBOURNE VIC 3207.

### 1. Description of Pattern

A Mettler Toledo model 9360 Class 0.2 discontinuous totalising automatic weighing instrument of 10 000 kg maximum capacity.

#### 1.1 Details

The instrument is a Class 0.2 discontinuous totalising automatic weighing instrument with a maximum capacity of 10 000 kg and a minimum capacity of 5000 kg. The instrument is approved for use with a minimum totalised load ( $\Sigma_{\min}$ ) of 50 000 kg and a totalisation scale interval of 5 kg.

Note: Minimum capacity refers to the smallest discrete load (target) intended to be weighed automatically.

#### 1.2 Weighing System

The pattern (Figures 1 and 2) comprises:

- a) A hopper-type weigh bin directly supported by four symmetrically-located load cells.
- b) Four Philips model PR6201/53C3 load cells of 5000 kg maximum capacity. The load cells are also described in the documentation of NSC approval No S333.

Note: This installation uses the weigh bin and load cells of an installation previously approved in variant 1 of NSC approval No 6/14B/14.

- c) A Mettler Toledo model Panther indicator. The indicator is also described in the documentation of NSC approval No S353.
- d) A Mettler Toledo model 9360 controller.

#### 1.3 Indicator and Controller

The Mettler Toledo model Panther indicator (Figure 3) carries out the measurement, whereas the Mettler Toledo model 9360 controller (Figure 4) controls the measurement functions, totalising, process starting and stopping, upper and lower gate controls, gate limit switches, and alarm functions. The 9360 controller also formats and outputs measurement data for printing.

## 1.4 Operation

A delivery involves the repetition of a number of cycles of weighing of a quantity of material near to a selected target load. Each cycle involves a reading of the weight value with the weigh-bin 'full' and a reading with the weigh-bin 'empty'. The delivery of each cycle ('full' – 'empty' reading), is accumulated by the 9360 controller.

The instrument operating parameters, such as the delivery description, product identification, target load, desired total delivery, and slow fill weight, can be programmed via the 9360 controller. Alternatively these parameters may be entered via the operator's control system interface. The initiation of a delivery sequence may be initiated locally at the 9360 controller, or remotely via the operator's control system interface.

## 1.5 Markings and Notices

(a) Instruments carry the following markings:

Manufacturer's mark, or name written in full	.....
Indication of accuracy class	0.2
Pattern approval mark for the instrument	NSC No 6/14B/16
Model number	9360
Serial number of the instrument	.....
Maximum capacity	<i>Max</i> 10 000 kg
Minimum capacity	<i>Min</i> 5000 kg
Minimum totalised load	$S_{min}$ 50 000 kg
Totalisation scale interval	$d_t =$ 5 kg
Material to be measured	.....

(b) Instruments carry a notice visible to the operator stating TARGET LOAD SHALL BE NO LESS THAN 5000 kg AND NO GREATER THAN 9500 kg, or similar wording.

## 1.6 Verification/Certification Provision

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

## 1.7 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed by means of the method described in the approval documentation for the indicator.

Note: Some parameters of the model 9360 controller (e.g. settling time, motion detection, 'preact') have potential to affect the weighing process. Values of such parameters shall be recorded at verification, and subsequent alteration of them is not allowed.

## TEST PROCEDURE

### Maximum Permissible Errors

For a class 0.2 instrument, the maximum permissible errors (MPE) applicable are the values below as a percentage of the mass of the totalised load rounded to the nearest totalisation scale interval. Maximum permissible errors apply to loads not less than the minimum totalised load ( $\Sigma_{\min}$ ).

- ±0.1% for initial verification; and
- ±0.2% in-service.

### Test Procedure

The test procedures to be used are based on OIML R 107-1, *Discontinuous Totalising Automatic Weighing Instruments, 1997*. However, the test procedure has been the subject of discussions between the National Standards Commission, the Trading Standards Branch of the Western Australian Department of Fair Trading, and Co-operative Bulk Handling Limited (the instrument owner/operator) in regard to some modifications of procedures to suit particular limitations of the installation.

The following is intended to provide a brief summary of special arrangements made regarding the test procedure.

#### 1. Initial Verification

With the instrument operating at its maximum rate of weighing cycles per hour.

For the main product to be measured:

- Carry out three deliveries, each of three cycles with discrete loads (target) of 9500 kg.
- Carry out three deliveries, each of five cycles with discrete loads (target) of 7000 kg.
- Carry out three deliveries, each of seven cycles with discrete loads (target) of 5000 kg.

For other products to be measured:

- Carry out one delivery, of three cycles with discrete loads of 9500 kg.

The relative error is calculated as

$$\text{Error} = \frac{\text{control instrument indication} - \text{instrument totalised load}}{\text{control instrument indication}} \times 100$$

The relative error shall be within the MPE for each delivery.

Note: As part of the special arrangements mentioned, it is recognised that the loads obtained will be below the minimum totalised load marked on the instrument. Despite this the MPE shall apply to the loads obtained.

## **2. Subsequent Verification and Certification**

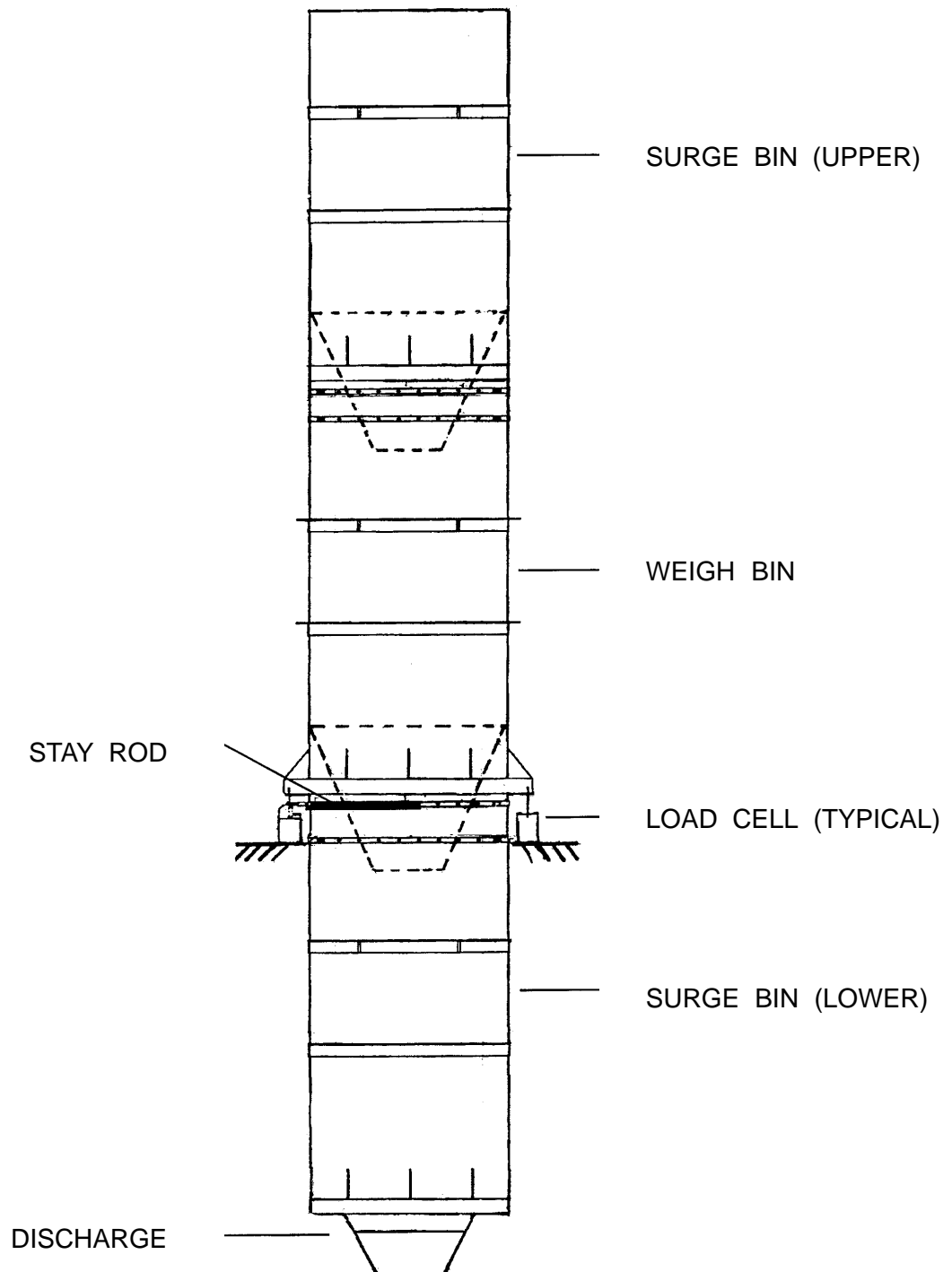
The test procedure is to be similar to that for initial verification, however the number of deliveries at each discrete load may be reduced (at the discretion of the Trading Standards Branch of the Department of Fair Trading WA) if testing consistently proves that the reduced number of deliveries adequately demonstrates the instrument accuracy.

## **3. Control Instrument/Method**

The control method used for verification/certification involves the collection of the delivered material in a surge bin, and the weighing of this material using a control instrument of 9 tonne maximum capacity that is also part of the installation at this location.

In the calibration and use of the control instrument attention should be given to ensuring that the conditions of clause 6.1 of OIML R107-1 are met.

FIGURE 6/14B/16 - 1



Mettler Toledo Model 9360 Hopper Weighing Instrument



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FIGURE 6/14B/16 - 2



Load Cell and Stay Rod

FIGURE 6/14B/16 - 3



Mettler Toledo Model Panther Digital Indicator

FIGURE 6/14B/16 - 4

