National Standards Commission

Certificate of Approval

No 6/9C/97A

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Mettler Toledo Model 2158 Weighing Instrument

submitted by Mettler Toledo Limited
525 Graham 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 Certificate is issued upon completion of a review of NSC approval No 6/9C/97.

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/1/1999.
This approval expires in respect of new instruments on 1/1/2000.

Instruments purporting to comply with this approval shall be marked NSC No 6/9C/97A and only by persons authorised by the submittor.

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

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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 106.

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.

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

The pattern as approved herein or with substitute load cells and/or indicator, and in other capacities, shall comply with General Certificate No 6B/0.

DESCRIPTIVE ADVICE

Pattern: approved 17/12/93

- A Mettler Toledo model 2158 self-indicating weighing instrument of 3000 kg maximum capacity.

Variants: approved 17/12/93

1. With a model 2155 basework.

2. With a model 4100 basework.

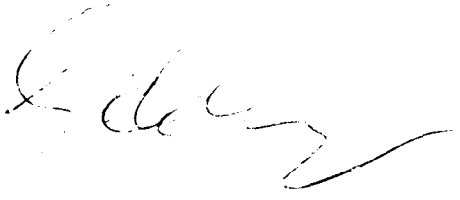
Technical Schedule No 6/9C/97A describes the pattern and variants 1 and 2.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/9C/97A dated 31/1/94
Technical Schedule No 6/9C/97A dated 31/1/94 (incl. Test Procedure)
Figures 1 and 2 dated 31/1/94

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.



National Standards Commission

TECHNICAL SCHEDULE No 6/9C/97A

Pattern: Mettler Toledo Model 2158 Weighing Instrument.

Submittor: Mettler Toledo Limited
525 Graham Street
Port Melbourne VIC 3207.

1. Description of Pattern

A Mettler Toledo model 2158 self-indicating weighing instrument of 3000 kg maximum capacity and approved for use with up to 3000 verification scale intervals.

1.1 Basework

The model 2158 basework (Figure 1) has a load cell mounted at each corner of the simply-supported platform. The basework includes a supplementary base frame and the load cells are fitted with rocker pin assemblies as shown in Figure 2a.

The basework may be permanently fixed above ground, with or without loading ramps, or let into a pit with the platform level with the ground; in such cases no level indicator is required.

If the basework is not permanently fixed then it is fitted with levelling feet and a level indicator.

The basework has a maximum nominal size of 1800 X 1800 mm.

1.2 Load Cells

Four Mettler Toledo model 0744 load cells of 1100 kg capacity are used. The load cells are also described in the documentation of NSC approval No S303.

1.3 Indicator

A Mettler Toledo model 8510 digital indicator is used. It is also described in the documentation of NSC approval No S283.

1.4 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed.

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1.5 Verification/Certification Provision

Provision is made for a verification/certification mark to be applied.

1.6 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark		
Serial number		
NSC approval numbers	- instrument	NSC No 6/9C/97A
	- load cells	NSC No S .....
	- indicator	NSC No S .....
Accuracy class		(III)
Maximum capacity		Max ..... kg *
Minimum capacity		Min ..... kg *
Verification scale interval		e = ... kg *

* These are repeated adjacent to each reading face.

2. Description of Variants

2.1 Variant 1

With a model 2155 basework which is similar to the pattern and has a load cell mounted at each corner of the simply-supported platform.

The model 2155 basework has the platform directly supported by 4 load cells which are connected to the baseframe by means of ball-and-cup assemblies (Figure 2b).

Four Kelba model KA-1000-C3 load cells of 1000 kg capacity are used and mounted as shown in Figure 2b. The load cells are also described in the documentation of NSC approval No S155A.

2.2 Variant 2

With a model 4100 basework with the platform directly supported by 4 load cells which are fitted with swivelling feet assemblies (Figure 2c), in which case no supplementary base frame is needed.

Four Kelba model KA-1000-C3 load cells of 1000 kg capacity are used and mounted as shown in Figure 2c. The load cells are also described in the documentation of NSC approval No S155A.

TEST PROCEDURE

Instruments should be tested in conjunction with any tests specified in the approval documentation for the indicator used, and in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

The maximum permissible errors for increasing and decreasing loads, expressed in terms of verification scale interval (e), with the instrument adjusted to zero within ±0.25e at no load, are:

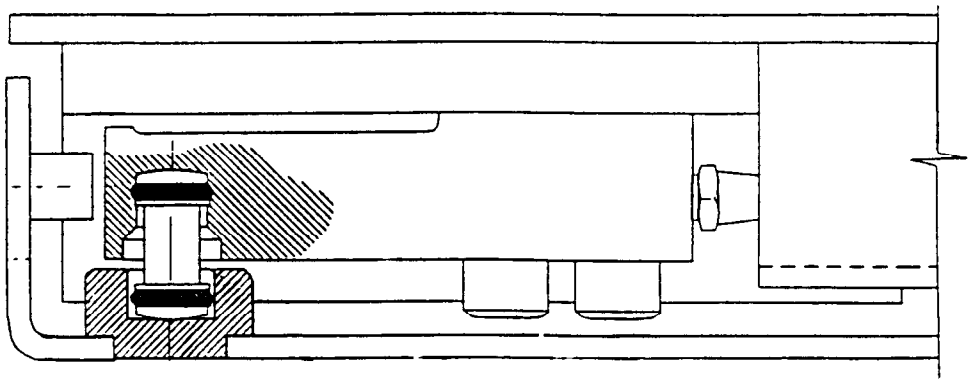
±0.5e for loads from 0 to 500e;
±1.0e for loads over 500e up to 2000e; and
±1.5e for loads over 2000e.

FIGURE 6/9C/97A - 1

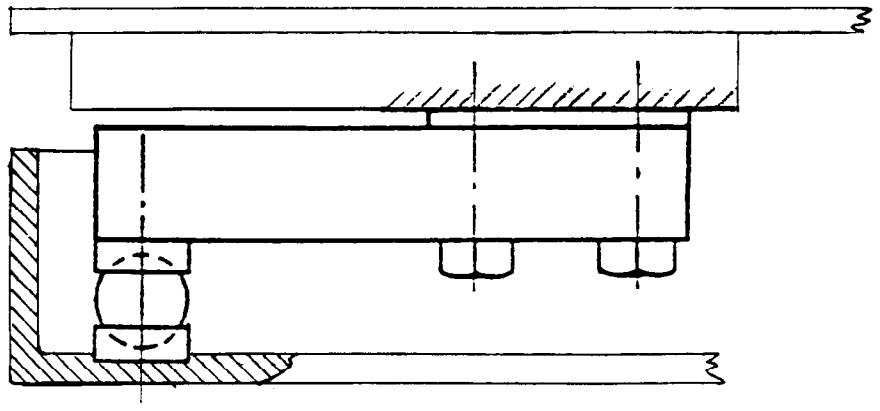
Mettler Toledo Model 2158 Basework

FIGURE 6/9C/97A - 2

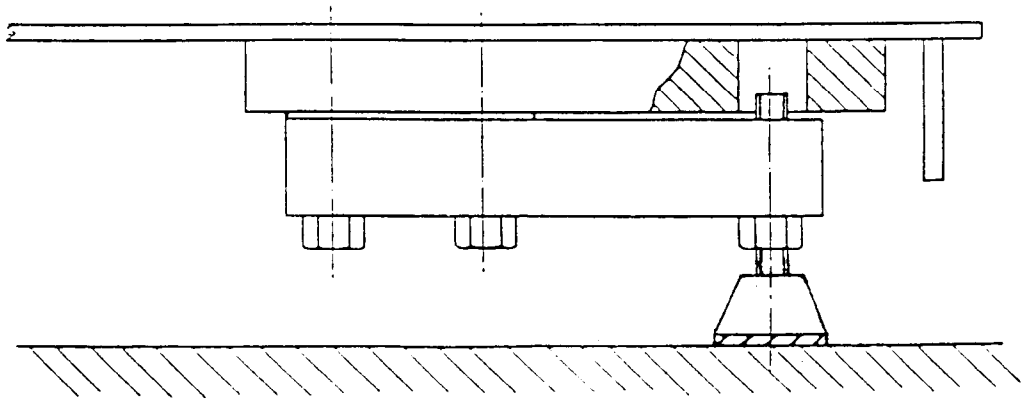
(a) Pattern



(b) Variant 1



(c) Variant 2



Showing Load Cell Mountings