National Standards Commission

Certificate of Approval

No 6/4C/53

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

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

Mettler Model TE30/J Weighing Instrument

submitted by FSE
Unit 3, 149 Arthur Street
Homebush NSW 2140.

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

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CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/3/91.
This approval expires in respect of new instruments on 1/3/92.

Instruments purporting to comply with this approval shall be marked NSC No 6/4C/53 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 drawings and specifications 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.

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

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

DESCRIPTIVE ADVICE

Pattern: approved 27/2/86

- A Mettler model TE30/J weighing instrument of 30 kg maximum capacity with a verification scale interval of 0.01 kg.

Variant: approved 27/2/86

1. Various models and capacities as listed in Table 1.

Technical Schedule No 6/4C/53 describes the pattern and variant 1.

Variant: approved 18/7/88

2. With modified initial zero-setting range.

Technical Schedule No 6/4C/53 Variation No 1 describes variant 2.

Variants: approved 17/1/89

3. With a Mettler model ID-2 or ID-5 single-interval indicator.

4. A Mettler model KA15 multi-interval weighing instrument.

Technical Schedule No 6/4C/53 Variation No 2 describes variants 3 and 4.

Variant: approved 15/5/89

5. With a Mettler model ID-1 indicator.

Technical Schedule No 6/4C/53 Variation No 3 describes variant 5.

Variant: approved 9/7/91

6. With a Mettler model ID-3 indicator.

Technical Schedule No 6/4C/53 Variation No 4 describes variant 6.

FILING ADVICE

Certificate of Approval No 6/4C/53 dated 18/8/89 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4C/53 dated 26/9/91
Technical Schedule No 6/4C/53 dated 27/5/86 (incl. Test Procedure)
Technical Schedule No 6/4C/53 Variation No 1 dated 12/9/88 (incl. Test Procedure)
Technical Schedule No 6/4C/53 Variation No 2 dated 24/2/89
Technical Schedule No 6/4C/53 Variation No 3 dated 18/8/89
Technical Schedule No 6/4C/53 Variation No 4 dated 26/9/91
Figure 1 dated 27/5/86
Figures 2 and 3 dated 24/2/89

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4C/53

Pattern: Mettler Model TE30/J Weighing Instrument

Submittor: FSE Scientific
40 Hilly Street
Mortlake Point NSW 2137

1. Description of Pattern

A self-indicating weighing instrument of 30 kg maximum capacity with a verification scale interval of 0.01 kg. The instrument may be fitted with output sockets for the connection of peripheral and/or auxiliary devices.

1.1 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator and repeated on the indicator is a notice advising that the instrument must be level when in use.

1.2 Zero

Zero is automatically corrected to within ± 0.25e whenever the instrument comes to rest within 0.5e of zero. If the instrument comes to rest outside that range but within the zero reset range, zero is reset whenever power is applied to the instrument.

As the instrument has an automatic zero-correction device with dual-circuit self-checking facility, a zero light need not be fitted.

1.3 Display Check

A display check is initiated whenever power is applied to the instrument.

1.4 Tare

A semi-automatic subtractive taring device of up to maximum capacity may be fitted. An LCD segment in the shape of a T indicates that a tare has been acquired.

1.5 Verification Provision

Provision is made for a verification mark to be applied.

1.6 Markings

The instrument is marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number	
NSC approval number	NSC No 6/4C/53
Accuracy class	(III)
Maximum capacity	Max ..... kg *
Minimum capacity	Min ..... kg *
Verification scale interval	e = d = ... kg *
Maximum subtractive tare	T = ... kg

* These markings are repeated close to the reading face if not already in that vicinity.

The indicator is also marked NOT FOR RETAIL COUNTER USE.

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2. Description of Variant 1

Other models and capacities as listed in Table 1.

TABLE 1

Model	TE6/J	TE15/J	TE30/J	TE60/J	TE120/J
Maximum capacity (kg)	6	15	30	60	120
Minimum capacity (kg)	0.04	0.1	0.2	0.4	2.5
Verification scale interval (kg)	0.002	0.005	0.01	0.02	0.05

Approved Models and Capacities

TEST PROCEDURE No 6/4C/53

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors are:

± 0.5e for loads between 0 and 500e;
± 1.0e for loads between 501e and 2000e; and
± 1.5e for loads above 2000e.

1. Zero Test

As the automatic device resets zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked as described in Document 104, with a load equal to, say, 10e on the load receptor. The indications with 0.25e and 0.75e additional mass on the load receptor will be 10e and 11e respectively.

2. Zero Range

The maximum range of operation of the zero setting device should not exceed 4% of the maximum capacity (± 2% approximately). With zero balance indicated apply a load of, say, 2.5% of maximum capacity to the instrument and then turn power off, and back on; the instrument should not rezero.

3. Load Test

Test loads are to be applied to the instrument in not less than 5 approximately equal steps increasing to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load.

4. Range of Indication

(a) The maximum mass indicated should not exceed the marked maximum capacity by more than 10e; above this indicated mass the indication should be blank or show non-numerical characters.

(b) Below zero the indicator may display a negative mass.

5. Taring

The semi-automatic tare function should be able to reset the mass indicator to zero within ± 0.25e; this may be checked as described for Zero Test. Tare should not be able to be acquired above the marked tare capacity.

TECHNICAL SCHEDULE No 6/4C/53

VARIATION No 1

Pattern: Mettler Model TE30/J Weighing Instrument.

Submittor: FSE Pty Limited
Unit 3, 149 Arthur Street
Homebush NSW 2140.

1. Description of Variant 2

With the initial zero-setting device now having a nominal range of 20% of the maximum capacity of the instrument.

TEST PROCEDURE

Initial Zero-setting

Apply a load equal to the nominal initial zero-setting range plus 5%, then turn the power off, and back on; the instrument should not rezero.

Apply a load equal to the nominal initial zero-setting range less 5%, then turn the power off, and back on; the instrument should rezero. From this new zero point, perform a normal load test as per the Inspector's Handbook.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4C/53

VARIATION No 2

Pattern: Mettler Model TE30/J Weighing Instrument.

Submittor: FSE Pty Limited
Unit 3, 149 Arthur Street
Homebush NSW 2140.

1. Description of Variants

1.1 Variant 3

With a Mettler model ID-2 or ID-5 single-interval indicator. The model ID-5 digital indicator (Figure 2) is similar to the ID-2 indicator, but in addition has a keyboard-entered non-automatic taring device of up to maximum capacity and a secondary display for various peripheral functions. This lower display is differentiated from the primary display and shall be marked LOWER DISPLAY NOT FOR TRADE USE.

The model ID-5 indicator is suitable for connection with up to three Commission-approved baseworks, one of which may be either a Mettler PM, PJ or SM series weighing instrument.

1.1.1 Zero

Zero is automatically corrected to within $\pm$ 0.25e whenever the instrument comes to rest within 0.5e of zero. If the instrument comes to rest outside that range but within the zero reset range, zero may be reset by pressing the zero (>0<) button.

The initial zero-setting device has a nominal range of 24% of the maximum capacity of the instrument.

1.1.2 Tare

A semi-automatic subtractive taring device of up to maximum capacity may be fitted.

1.1.3 Display Check

A display check is initiated whenever power is applied to the instument or by pressing the tare (V) button twice.

1.2 Variant 4

A Mettler (or Sauter) model KA15 multi-interval weighing instrument with a verification scale interval of 0.001 kg up to 3 kg, 0.002 kg from 3 kg up to 6 kg, and 0.005 kg from 6 kg up to the maximum capacity of 15 kg.

The instrument uses a Mettler (or Sauter) KA15 basework and a Mettler model ID-2 or ID-5 indicator (Figure 3).

NATIONAL STANDARDS COMMISSION

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VARIATION No 3

Pattern: Mettler Model TE30/J Weighing Instrument.

Submittor: FSE Pty Limited
Unit 3, 149 Arthur Street
Homebush NSW 2140.

1. Description of Variant 5

With a Mettler model ID-1 digital indicator which is similar to the ID-2, and in addition is fitted with a set point facility with an associated "plus/minus" LED display.

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VARIATION No 4

Pattern: Mettler Model TE30/J Weighing Instrument.

Submittor: FSE
Unit 3, 149 Arthur Street
Homebush NSW 2140.

1. Description of Variant 6

With a Mettler model ID-3 multi-interval digital indicator which has the features of the model ID-2 of variants 3 and 4, and in addition may be fitted with a non-automatic keyboard-entered taring device of up to maximum capacity.

National Standards Commission

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4C/53

CHANGE No 1

The following changes are made to the approval documentation for the

Mettler Model TE30/J Weighing Instrument

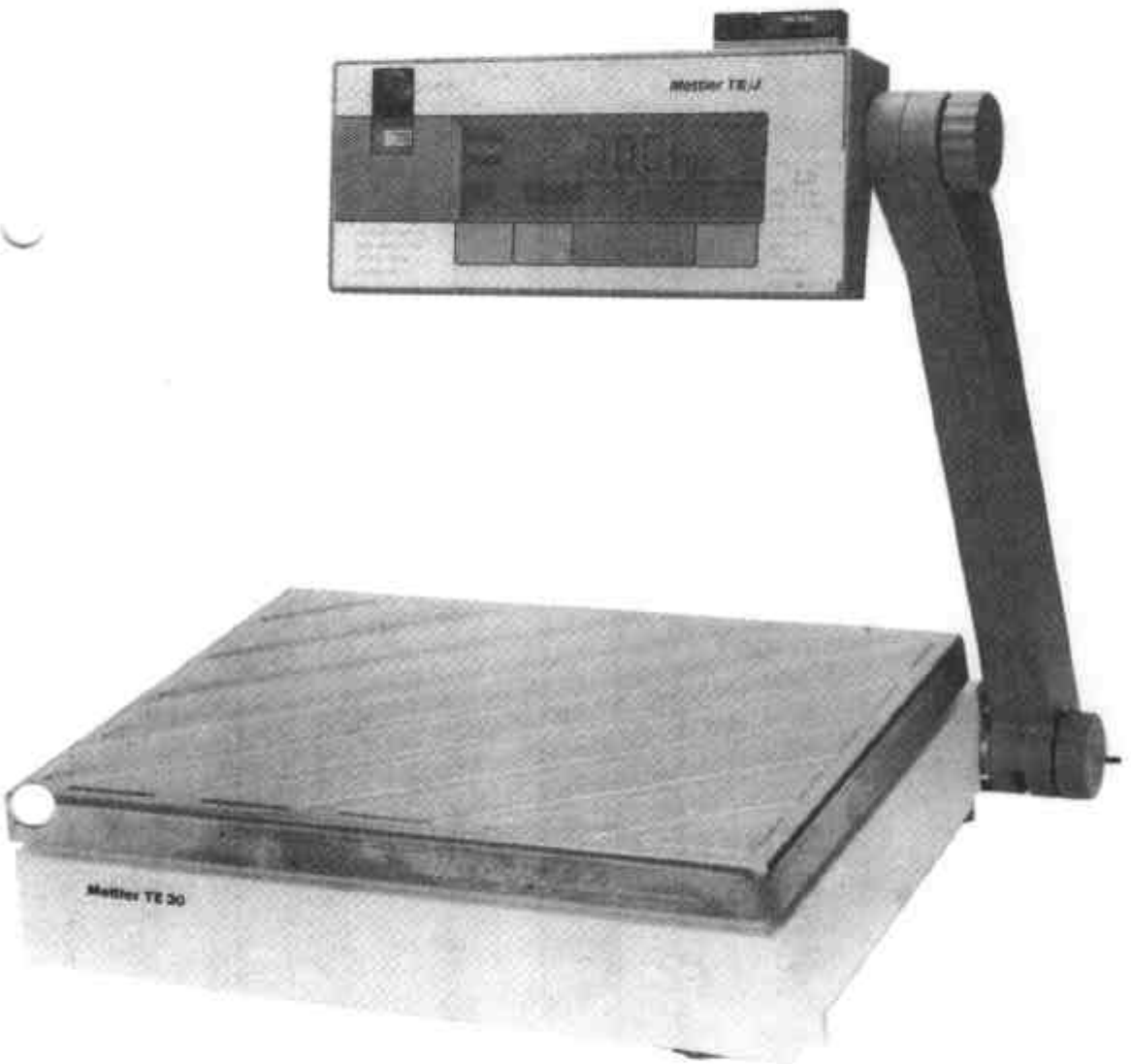
submitted by FSE
Unit 3, 149 Arthur Street
Homebush NSW 2140.

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.

In Certificate No 6/4C/53 dated 26/9/91, the Condition of Approval relating to when the approval expires should be amended to read as follows:

"This approval expires in respect of new instruments on 1/9/94."

FIGURE 6/4C/53 - 1



Mettler Model TE30/J

FIGURE 6/4C/53 - 2

Mettler ID Series Indicator

FIGURE 6/4C/53 - 3

Mettler ID Series Multi-interval Indicator