National Standards Commission

Supplementary Certificate of Approval

No S266

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 8520 Digital Indicator

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.

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1 June 1995.
This approval expires in respect of new instruments on 1 June 1996.

Instruments purporting to comply with this approval shall be marked NSC No S266 and only by persons authorised by the submittor.

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Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S266 in addition to the approval number of the instrument.

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 values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating the pattern approved herein shall be within the limits specified herein and in any approval documentation for the other components.

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

Special:

Instruments purporting to comply with variant 1 shall only be used with a Commission-approved Mettler Toledo 'DigiTOL' load cell.

DESCRIPTIVE ADVICE

Pattern: approved 21 May 1990

- A Mettler Toledo model 8520 digital mass indicator.

Variant: approved 21 May 1990

1. Without the analog input board.

Technical Schedule No S266 describes the pattern and variant 1.

Variant: approved 11 April 1991

2. With a facility to configure the instrument with another mass unit.

Technical Schedule No S266 Variation No 1 describes variant 2.

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Variant: approved 28 October 1994

3. A model 8525 digital indicator.

Technical Schedule No S266 Variation No 2 describes variant 3.

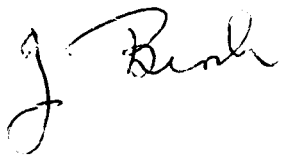
FILING ADVICE

Supplementary Certificate of Approval No S266 dated 23 May 1991 is superseded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Supplementary Certificate of Approval No S266 dated 31 January 1995
Technical Schedule No S266 dated 4 July 1990 (incl. Table 1 and Test Procedure)
Technical Schedule No S266 Variation No 1 dated 23 May 1991
Technical Schedule No S266 Variation No 2 dated 31 January 1995
Figures 1 and 2 dated 4 July 1990

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 S266

Pattern: Toledo Model 8520 Digital Indicator

Submittor: Toledo Scale (Australia) Limited
525 Graham Street
Port Melbourne VIC 3027.

1. Description of Pattern

A Toledo model 8520 single or dual-interval digital mass indicator (Figures 1 and 2) approved for use with up to 10 000 verification scale intervals. (Refer Table 1)

Instruments may be in alternative housings and may also be battery-operated. They may be fitted with output sockets for the connection of auxiliary and/or peripheral devices.

1.1 Zero

Zero is automatically set to within $\pm$0.25e whenever the instrument comes to rest within $\pm$0.5e of zero. If the instrument comes to rest outside that range but within the zero setting range, zero may be set by pressing the zero button.

1.2 Display Check

A display check is initiated whenever power is applied.

1.3 Tare

The instrument may be fitted with a semi-automatic subtractive taring device and/or a non-automatic keyboard-entered taring device. Each device may operate up to maximum capacity.

1.4 Linearisation Facility

Instruments may be fitted with a linearisation facility having 1 fixed intermediate point (mid-point of full capacity) which operates on increasing loads.

1.5 Partial Weighing Ranges

When used as a dual-interval instrument, the limits of the partial weighing ranges are:

(i) A maximum of 10 000 verification scale intervals per range.

(ii) $$\frac{\text{Maximum capacity of the low range}}{\text{Verification scale interval of the high range (e)}} \geq 500$$

(iii) With a minimum value of verification scale interval (e) such that the minimum sensitivity is not less than that specified in Table 1.

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TABLE 1

Type: Toledo 8520	
Maximum number of verification scale intervals	10 000
Minimum sensitivity	0.5 x 10^{-3} mV/scale interval
Excitation voltage	12 V
Minimum load impedance	87.5 ohms
Maximum excitation current	137 mA

1.6 Markings

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

Manufacturer's name or mark		
Serial number		
Accuracy class		(III)
Maximum capacity		Max ..... *
Minimum capacity		Min ..... *
Verification scale interval		e=d=..... *
Maximum subtractive tare		T = -.....
NSC approval numbers	- indicator	NSC No S266
	- other components	..... #

* Repeated in the vicinity of each reading face.
\# May be located separately from the other markings.

1.7 Verification Provision

Provision is made for a verification mark to be applied.

2. Description of Variant 1

Without the analog input circuit board, in which case the indicator shall only be used with a single Commission-approved Toledo "DIGITOL" load cell.

The maximum number of verification scale intervals (VSI) applicable is determined by the number of VSI given in the approval documentation for the load cell used.

2.1 Partial Weighing Ranges

When used as a dual-interval instrument, the limits of the partial weighing ranges are:

$$\frac{\text{Maximum capacity of the low range}}{\text{Verification scale interval of the high range (e)}} \geq 500$$

TEST PROCEDURE

Instruments should be tested 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 $\pm$0.25e at no load, are:

$\pm$0.5e for loads from 0 to 500e;
$\pm$1.0e for loads over 500e up to 2 000e; and
$\pm$1.5e for loads over 2 000e.

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TECHNICAL SCHEDULE No S266

VARIATION No 1

Pattern: Toledo Model 8520 Digital Indicator.

Submittor: Toledo Scale (Australia) Ltd
525 Graham Street
Port Melbourne VIC 3207.

1. Description of Variant 2

With a facility to configure the instrument with another mass unit viz. lb, in which case the instrument must be marked "lb not for trade use" or "lb for export use only". The scale interval, verification scale interval, maximum capacity and minimum capacity when used with this unit shall be marked in the vicinity of the reading face.

Note: The approval of this function relates to the metrological performance only; inspectors are advised that the use of this function must comply with the requirements of other statutory authorities.

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TECHNICAL SCHEDULE No S266

VARIATION No 2

Pattern: Mettler Toledo Model 8520 Digital Indicator.

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

1. Description of Variant 3

The Mettler Toledo model 8525 single or multi-interval digital indicator which is similar to the pattern (Figure 1) but has specifications as listed in Table 2.

The instrument is designed to be suitable for use in hazardous locations using either an AC power supply or a dedicated 12 V battery power supply, according to the manufacturer's specifications.

Note: This model is intended by the manufacturer to be suitable for use in hazardous locations, however this approval does not in any way imply approval or guarantee by the Commission of such suitability.

TABLE 2

Type: Toledo 8525

Maximum number of verification scale intervals	10 000
Minimum sensitivity	0.775×10^{-3} mV/scale interval
Excitation voltage	4 V
Minimum load impedance	87.5 Ω
Maximum excitation current	45.7 mA

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NOTIFICATION OF CHANGE

VARIOUS CERTIFICATES OF APPROVAL

The following changes are made to the approval documentation for various approvals

submitted by Toledo Scale (Australia) Ltd
525 Graham Street
Port Melbourne VIC 3207.

In the Certificates and Technical Schedules listed overleaf, the following changes should be made: (Note: Only current approvals are listed.)

1. The submittor should be changed to read;

   Mettler Toledo Limited

   (the address remains unchanged)

2. All references to 'Toledo' instruments or components should be amended to read 'Toledo (or Mettler or Mettler Toledo)'.

NOTE: Any 'Toledo' instrument or component described in the approval documentation may now also be known as 'Mettler or Mettler Toledo'.

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APPROVAL NUMBER	PATTERN
6/4C/65	8214 Weighing Instrument
6/4C/68	8215 Weighing Instrument
6/4D/242	8421 Weighing Instrument
6/9C/2A	2191 Weighing Instrument
6/9C/24A	2503 Weighing Instrument
6/9C/28	2020 Weighing Instrument
6/9C/~~24A~~ 441	2985 Weighing Instrument
6/9C/76	2295 Weighing Instrument
6/9C/87	2375 Weighing Instrument
6/9C/97	2155 Weighing Instrument
6/9C/98	9118 Weighing Instrument
6/9C/206	6303 Weighing Instrument
6/9C/231	1938 Weighing Instrument
6/10B/46A	7560 Weighing Instrument
6/14B/9A	2352 Hopper Weighing Instrument
6/18/21	2299 Overhead Weighing Instrument
S253	8530 Digital Indicator
S266	8520 Digital Indicator
S283	8510 Digital Indicator
S111A	0721 Load Cell
S112A	0723 Load Cell
S143	0752 Load Cell
S172	0725 Load Cell
S211	0742 Load Cell
S252	0760 Load Cell
S264	0752 Load Cell
S268	RLC 5000 Load Cell

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

Notification of Change

Supplementary Certificate of Approval No S266

Change No 1

The following change is made to the approval documentation for the

Mettler Toledo Model 8520 Digital Indicator

submitted by Mettler Toledo Limited
525 Graham Street
Port Melbourne VIC 3207.

In Supplementary Certificate of Approval No S266 dated 31 January 1995, the Condition of Approval referring to the expiry of the approval should be amended to read:

This approval expires in respect of new instruments on 1 January 1998.

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.

Figure S266 - 1

Toledo Model 8520 Indicator

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Figure S266 - 2

In an Alternative Housing