Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S552

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 instruments herein described.

Mettler-Toledo Model ICS469 Digital Indicator

submitted by Mettler-Toledo Limited
Level 1, 191 Salmon 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 October 2015.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variants 1 & 2 approved – certificate issued	22/08/11
1	Pattern amended & NMI R 76 updated to 2015 edition – certificate issued	14/06/24
2	Variant 3 approved – certificate issued	27/08/24

CONDITIONS OF APPROVAL

General

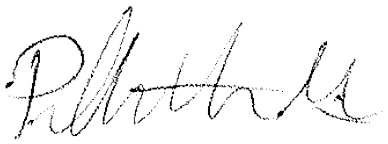
Instruments purporting to comply with this approval shall be marked with approval number 'NMI S552' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S552' in addition to the approval number of the instrument, 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 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.

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

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



Phillip Mitchell
A/g Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No S552

1. Description of Pattern

approved on 22/08/11
amended on 14/06/24

A Mettler Toledo model ICS469 digital mass indicator (Figure 1 and Table 1) which may be configured to form part of:

- A class (III) weighing instrument with a single weighing range of up to 10 000 verification scale intervals; or
- A class (III) weighing instrument with a single weighing range of up to 1000 verification scale intervals; or
- A class (III) multi-interval weighing instrument with three partial weighing ranges (each with its own verification scale interval) in which case it is approved for use with up to 3000 verification scale intervals per partial weighing range; or
- A class (III) multi-interval weighing instrument with up to three partial weighing ranges (each with its own verification scale interval) in which case it is approved for use with up to 1000 verification scale intervals per partial weighing range; or
- A class (III) multiple range weighing instrument with up to three weighing ranges, in which case it is approved for use with up to 3000 verification scale intervals per weighing range.
- A class (III) multiple range weighing instrument with up to three weighing ranges, in which case it is approved for use with up to 1000 verification scale intervals per weighing range.

  The changeover between weighing ranges is automatic.

The instrument has a DigiCell analogue data processing unit fitted within a stainless steel enclosure and having an liquid crystal display (LCD) for indication of the weight value.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices (see clause 1.6 below).

TABLE 1 – Specifications

Maximum number of verification scale intervals	10 000 or 3000 per range (class (III))
	1000 (class (III))
Minimum sensitivity	0.26 µV / scale interval
Excitation voltage	3.3 V DC
Maximum excitation current	41 mA
Fraction of maximum permissible error	$p_i = 0.5$
Minimum load cell impedance	80 Ω
Maximum load cell impedance	3000 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	10 mV
Maximum tare range	−100% Max
Operating temperature range	−10 °C to +40 °C
Load cell connection	4-wire or 6-wire shielded
Maximum value of load cell cable length per wire cross section (*)	4443 m/mm^2 (6-wire only)

(*) Additional connection cable between indicator and load cell or load cell junction box. In case a 4-wire connection is used, the load cells are connected directly without a junction box or lengthening the load cell(s) cable.

This approval does not include the use of the indicator as an automatic weighing instrument, unless specifically mentioned in a certificate of approval for such an instrument.

1.1 Zero

A zero-tracking device may be fitted.

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.

1.2 Tare

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

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

1.3 Display Check

A display check is initiated whenever power is applied.

1.4 Power Supply

The power supply may be 110–240 V AC mains power, an external 12 V AC/DC adaptor or a NiMH rechargeable battery.

1.5 Additional Features

The indicator also has certain additional functions (e.g. counting, over/under functions). The additional functions are not approved for trade use.

1.6 Interfaces

The indicator may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 5.3.6 of document NMI R 76 (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces).

Any measurement data output from the instrument or its interfaces shall only be used for trade in compliance with NMI General Supplementary Certificate of Approval No S1/0B (in particular in regard to the data and its format).

Indications other than the indications of measured mass (i.e. gross, tare, net, totals) displayed either on the indicator or on an auxiliary or peripheral device, are not for trade use.

Instruments may be fitted with RS-232/RS422/RS485 serial data interfaces, Ethernet and USB interfaces, and may also have digital inputs/outputs associated with the set-point facility.

1.7 Linearisation Facility

Instruments are fitted with a linearisation correction facility having up to five correction points.

1.8 Verification Provision

Provision is made for the application of a verification mark.

1.9 Sealing Provision

The instrument is sealed by preventing access to the calibration screw. This may be achieved by applying a destructible adhesive label on top of the hollow cylinder housing the calibration screw as shown Figure 1.

1.10 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Mettler Toledo
Indication of accuracy class	(III) or (IIII)
Maximum capacity (for each range)	*Max* ..... kg #1
Minimum capacity (for each range)	*Min* ..... kg #1
Verification scale interval (for each range)	*e* = ... kg #1
Maximum subtractive tare	*T* = - ..... kg #2
Serial number of the instrument	…….
Pattern approval mark for the indicator	NMI S552
Pattern approval mark for other components	..... #3

#1 These markings are shown in the electronic markings field above the display of the result.

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

#3 May be located separately from the other markings.

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

Note:

For multi-interval instruments the markings shall be as above, with the exception that the 'Maximum capacity' and 'Verification scale interval' shall be marked for both interval ranges, e.g. as follows:

Maximum capacity	Max …. / …. /…. kg
Verification scale interval	*e* = ….. / …../ …. kg

For multiple range instruments, the maximum capacity, minimum capacity and verification scale interval for each range shall be marked, with an indication of the range to which they apply, e.g.

Range	W1	W2	W3
Max	…. kg	…. kg	…. kg
Min	…. kg	…. kg	…. kg
e =	…. kg	…. kg	…. kg

1.11 Software

The software is designated AA-BB-01.dd.ee-FF-GG where 'AA', 'BB', 'FF' and 'G' can be alphanumerical or numerical characters which describe the configuration like

language, application etc. ‘dd.ee’ is status of the non-legally relevant software part, and 01 is the identification of legally relevant software identification.

The software version and number can be seen in the switch-on display sequence (when the power is first applied to the instrument).

2. Description of Variant 1 approved on 22/08/11

The Mettler Toledo models ICS429, ICS439 and ICS449 (Figure 2) which are similar to the pattern but the models ICS429 and ICS449 are without the numeric keypad.

3. Description of Variant 2 approved on 22/08/11

The Mettler Toledo models ICS629, ICS639, ICS649 and ICS669 (Figure 3) which are similar to the pattern and variant 1 but have a TFT colour LCD display, and the models ICS629 and ICS649 are without the numeric keypad.

This approval does not include the use of two scale interfaces and its associated facility.

4. Description of Variant 3 approved on 27/08/24

The Mettler Toledo model ICS689 (Figure 4) which is similar to model ICS669 but having certain additional functions including counting, checkweighing (Over/Under), filling colour bar graph, classifying, statistical summing and formulation. The additional functions are not approved for trade use.

TEST PROCEDURE No S552

Instruments shall be tested in accordance with any relevant tests specified in the national instrument test procedures.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

For multi-interval and multiple range instruments with verification scale intervals of e_1, e_2 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

FIGURE S552 – 1

Apply Seal

Mettler Toledo Model ICS469 Digital Indicator and Typical Sealing Provision

FIGURE S552 – 2

Model ICS429

Model ICS439

Model ICS449

Mettler Toledo Model ICS429, ICS439 and ICS449 Digital Indicators

FIGURE S552 – 3

Model ICS629

Model ICS639

Model ICS649

Model ICS669

Mettler Toledo Model ICS629, ICS639, ICS649 and ICS669 Digital Indicators

FIGURE S552 – 4

Mettler Toledo Model ICS689 Digital Indicator

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