Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S870

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.

Flintec Model FT-10 Fill Digital Indicator

submitted by Flintec Transducers (Private) Limited
Spur Road 02
Phase I, K.E.P.Z.
Katunayake 11420
Sri Lanka

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 variant 1 approved – certificate issued	31/03/25

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S870' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S870' 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.

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.

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

Darryl Hines
Manager
Policy and Regulatory
Services

TECHNICAL SCHEDULE No S870

1. Description of Pattern approved on 31/03/25

A Flintec model FT-10 Fill digital indicator (Figure 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.

The instrument has a metal panel mount enclosure with an LED display for display of the weight value.

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

TABLE 1 – Specifications

Maximum number of verification scale intervals	10 000 (class (III)) 1 000 (class (III))
Minimum sensitivity	0.4 µV / scale interval
Excitation voltage	5 V DC
Maximum excitation current	116 mA
Fraction of maximum permissible error	$p_i = 0.5$
Minimum load cell impedance	43 Ω
Maximum load cell impedance	1100 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	18 mV
Maximum tare range	*-Max*
Operating temperature range	-10°C to +40°C
Load cell connection	4 or 6-wire plus shield
Maximum value of load cell cable length per wire cross section (*)	4824 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 taring device of up to the maximum capacity of the instrument may be fitted.

1.3 Linearisation Facility

Instruments are fitted with a linearisation correction facility having a single correction point.

1.4 Display Check

A display check is initiated whenever power is applied.

1.5 Power Supply

The instrument operates from 12 to 28 V DC power.

1.6 Additional Features

The indicator also has certain additional functions (e.g., filling, filling target, setpoints and totalisation). The additional functions (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 approved for trade use.

Note: In particular circumstances (e.g. in regard to weighbridge or public weighbridge operation), Trade Measurement legislation or other NMI Certificates of Approval may impose requirements in regard to specific features, methods of operation, or records to be provided (and in what form).

Certain features of this instrument are able to be configured by the installer or user. Whilst NMI believes that an acceptable configuration can be achieved for typical basic modes of operation, it may also be possible for the instrument to be configured to produce unacceptable configurations, and use of some configurations may be inappropriate in different situations. It is the responsibility of the installer and user to ensure that the configuration is acceptable and meets relevant requirements for any particular situation.

1.7 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 R76 (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:

- RS232C and RS485
- Digital inputs/outputs
- Ethernet

1.8 Verification Provision

Provision is made for the application of a verification mark.

1.9 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Flintec	
Indication of accuracy class	(III) or (III)	
Maximum capacity	*Max* ..... kg	#1
Minimum capacity	*Min* ..... kg	#1
Verification scale interval	*e* = ... kg	#1
Serial number of the instrument	…….....	
Pattern approval mark for the indicator	NMI S870	
Pattern approval mark for other components	.....	#2

#1 These markings are shown near the display of the result.

#2 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.

1.10 Software

The legally relevant software is designated 2.xx (where 'xx' represents the identification of non-legally relevant software).

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

1.11 Sealing Provision

Provision is made for the calibration to be sealed by means of setting a dip switch located at the rear of the indicator to an OFF position, and then preventing access the switch (Figure 3).

It is possible to determine that the switch status is in the 'OFF' position as follows (starting from the normal weighing mode):

- Press and hold the F key until 'PASSWr' is displayed.
- Press the →0← key three time, '---' is displayed.
- Press the ⊙↵ key, '310' is displayed.
- If the switch is in the 'OFF' position, the instrument will not display 'ZEro.CA'. In this case the instrument may be verified.
- Otherwise the instrument will display 'ZEro.CA' in which case the instrument should not be verified until the switch has been correctly located in the 'OFF' position.

Sealing to prevent access to the dip switch may be achieved by means of a metal cover placed over the switch and destructible adhesive labels placed over the opposite sides of a join in the metal cover as shown in Figure 3.

2. Description of Variant 1 approved on 31/03/25

The Flintec model FT-10 digital indicator which is similar to the pattern but without filling modes (Figure 2).

TEST PROCEDURE No S870

Instruments should 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*.

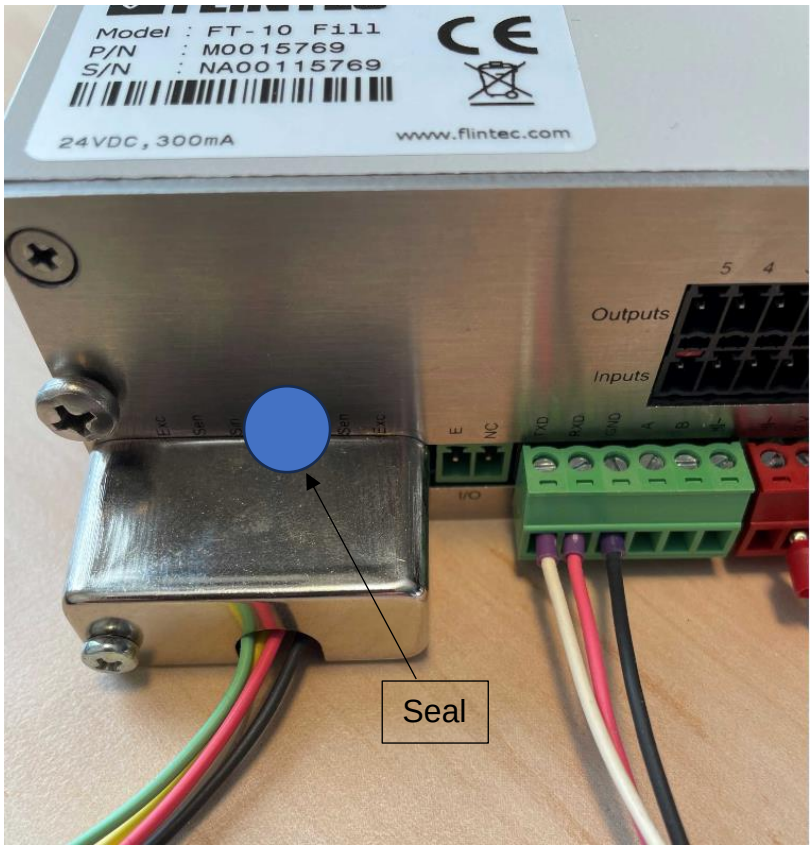
FIGURE S870 – 1

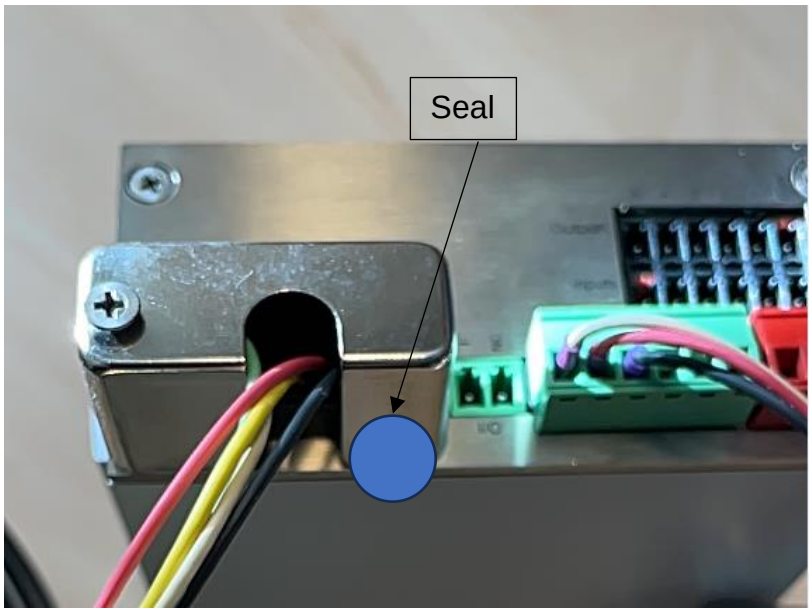
Flintec Model FT-10 Fill Digital Indicator (Pattern)

FIGURE S870 – 2

Flintec Model FT-10 Digital Indicator (Variant 1)

FIGURE S870 – 3





Sealing of Models FT-10 Fill and FT-10 Digital Indicators

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