Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Notification of Change
Supplementary Certificate of Approval No S462
Change No 1

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following changes are made to the approval documentation for the

Avery Weigh-Tronix Model E1070 Digital Indicator

submitted by Avery Weigh-Tronix Ltd)
Foundry Lane
Smethwick
West Midlands B662LP UNITED KINGDOM.

In Supplementary Certificate of Approval No S462 dated 2 February 2006:

1. The Condition of Approval referring to the review of the approval should be amended to read:

   "This approval becomes subject to review on 1 December **2015**, and then every 5 years thereafter."

2. The FILING ADVICE should be amended by adding the following:

   "Notification of Change No 1 dated 6 April 2011"

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

Australian Government

National Measurement Institute

12 Lyonpark Road, North Ryde NSW 2113

Supplementary Certificate of Approval

No S462

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

Avery Weigh-Tronix Model E1070 Digital Indicator

submitted by Avery Weigh-Tronix Ltd
Foundry Lane
Smethwick
West Midlands B66 2LP UK.

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 becomes subject to review on 1 December 2010, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S462' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S462' in addition to the approval number of the instrument.

…./2

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.

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

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

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.

DESCRIPTIVE ADVICE

Pattern: approved 17 November 2005

- An Avery Weigh-Tronix model E1070 digital mass indicator.

Variant: approved 17 November 2005

1. An Avery Weigh-Tronix model E1065 digital mass indicator.

Technical Schedule No S462 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S462 dated 2 February 2006
Technical Schedule No S462 dated 2 February 2006 (incl. Table 1 and Test Procedure)
Figures 1 and 2 dated 2 February 2006

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

TECHNICAL SCHEDULE No S462

Pattern: Avery Weigh-Tronix Model E1070 Digital Indicator

Submittor: Avery Weigh-Tronix Ltd
Foundry Lane
Smethwick West Midlands B66 2LP UK

1. Description of Pattern

An Avery Weigh-Tronix model E1070 digital mass indicator (Table 1 and Figure 1) which is of stainless steel housing construction and which may be configured to form part of:

- A weighing instrument with a single weighing range of up to 10 000 verification scale intervals; or
- A multi-interval weighing instrument with up to two partial weighing ranges (each with its own verification scale interval) in which case it is approved for use with up to 5000 verification scale intervals per partial weighing range.

Instruments are powered directly by mains AC power adaptor, or by an internal rechargeable battery.

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.

TABLE 1 – Specifications

Maximum number of verification scale intervals	10 000 or 5000 per range
Minimum sensitivity	1.6 µV / scale interval
Excitation voltage	10 V DC
Maximum excitation current	229 mA

1.1 Zero

Zero is automatically corrected to within ±0.25e whenever the instrument comes to rest within 0.5e of zero

The instrument has a semi-automatic zero setting device (to set the instrument to within ±0.25e of zero) 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. A pre-set taring device (keyboard-entered and/or stored) of up to the maximum capacity (or of up to the Max_1 (the maximum capacity of the lower interval range) for multi-interval instruments) may also be fitted.

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1.3 Display Check

A display check is initiated whenever power is applied.

1.4 Linearisation Facility

Instruments are fitted with a programmable five-point linearisation correction facility.

1.5 Power Supply

The instrument operates from mains AC power (110–240 V AC nominal).

1.6 Additional Features

The indicator may also have certain additional functions including setpoints ('cut-offs') and 'under/accept/over' functions. Some functions can be assigned to a function key of the indicator. However, 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.

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.

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 R76-1 *Non-automatic Weighing Instruments. Part 1: Metrological and Technical Requirements — Tests* (2004, third edition, third revision) (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces). Relevant functions (such as tare and zero setting) may be possible via corresponding remote commands – the use of this feature for trade use is subject to the agreement of the applicable trade measurement authority (for example, use of tare or zero from a remote location may be dependent on provision of suitable means for surveillance of the platform).

Any measurement data output from the instrument shall only be used for trade if the data and its format comply with General Supplementary Certificate No S1/0/A.

One or more of the following interface options may be fitted:

- Serial RS 232, RS 485, 20 mA interfaces for the connection of peripheral devices.
- Digital inputs and digital outputs (opto-isolated) for control purposes.
- Analog outputs (voltage or current), pulse inputs.
- Interfaces compatible to various control/communication protocols (e.g. Ethernet, Fieldbus, Profibus, DeviceNet and Interbus).

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1.8 Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Avery Weigh-Tronix Ltd	
Name or mark of manufacturer's agent	……..	
Indication of accuracy class	(III)	
Maximum capacity	*Max*……. kg	#1
Minimum capacity	*Min*…….. kg	#1
Verification scale interval	*e* = …….. kg	#1
Maximum subtractive tare	*T* = - …... kg	#2
Serial number of the instrument	……..	
Pattern approval mark for the indicator	NMI S462	
Pattern approval mark for other components	……..	#3

#1 These markings are also shown near the display of the result if they are not already located there.

#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 shall 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	#1
Verification scale interval	*e* = .../..... kg	#1

1.9 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

1.10 Sealing Provision

Access to the configuration and calibration facility is password protected (note that the passwords required to configure or calibrate the instrument are not the same as the user password shown in the instructions below). The indicator automatically increments a configuration and/or calibration value (audit trail number) each time the indicator is re-configured and/or calibrated.

The value(s) of these counters may be recorded on a destructible adhesive label attached to the instrument (e.g. as CFG x , CAL y).

Any subsequent alteration to the calibration or configuration will be evident as the recorded values and the current counter values will differ.

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The current value can be displayed by using the following sequence (starting from the normal weighing mode):

- enter the user mode by holding the 'Esc' key for approximately 5 seconds.
- Enter the user password '111' and press the 'Enter' key.
- Press the 'Units' key to enter the Audit mode.
- Press the 'Print' key to enter the Configuration Counter display mode.
- Press the 'Print' key. The value displayed is the configuration counter value (CFG). Press 'ESC' once to return to Configuration Counter display mode.
- Press the 'Units' key to enter the Calibration Counter display mode.
- Press the 'Print' key. The value displayed is the calibration counter value (CAL).
- Press 'ESC' twice to return to the normal weighing mode.

2. Description of Variant 1

The Avery Weigh-Tronix model E1065 (Figure 2), which is similar to the pattern (model E1070), and has the same specifications (Table 1), but which has a plastic housing and a reduced set of functions and operator keys. In particular the model E1065 does not have the capability for pre-set tare (keyboard-entered or stored).

2.1 Sealing

The instructions for accessing the configuration and calibration audit trail differ from those of the model E1070, and are as follows (starting from the normal weighing mode):

- enter the user mode by holding the 'Zero' key for approximately 5 seconds.
- Enter the user password '111' by the following set of keystrokes – press 'Select' twice, 'Units', 'Select' twice, 'Units', 'Select' twice and then press the 'F1' key.
- Press the 'Units' key to enter the Audit mode.
- Press the 'Print' key to enter the Configuration Counter display mode.
- Press the 'Print' key. The value displayed for is the configuration counter value (CFG). Press 'F1' key once to return to Configuration Counter display mode.
- Press the 'Units' key to enter the Calibration Counter display mode.

…./5

- Press the ‘Print’ key. The value displayed for is the calibration counter value (CAL).
- Press the ‘Zero’ key twice to return to the normal weighing mode.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Maximum Permissible Errors at Verification/Certification

For single range instruments, the maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, *m*, expressed in verification scale intervals, *e*, are:

± 0.5*e* for loads $0 \leq m \leq 500$;
± 1.0*e* for loads $500 < m \leq 2\,000$; and
± 1.5*e* for loads $2\,000 < m \leq 10\,000$.

For multi-interval 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 S462 – 1

Avery Weigh-Tronix Model E1070 Digital Indicator

S462
2 February 2006

FIGURE S462 – 2

Avery Weigh-Tronix Model E1065 Digital Indicator