



Australian Government
**Department of Industry,
Science and Resources**

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4D/399

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.

ESPERA-WERKE Model ES-M 1000 Weighing Instrument

submitted by ESPERA-WERKE GmbH
 Moltkestrasse 17-33
 D-47058 DUISBURG
 GERMANY

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	15/09/23
1	Certificate number typo corrected – certificate issued	27/09/23
2	Pattern (software version numbers) amended – certificate issued	13/11/24

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4D/399' and only by persons authorised by the submitter.

It is the submitter'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.

Special

Certain aspects of this instrument (in particular transaction record printing formats) are able to be configured by the user. Whilst NMI believes that acceptable formats can be achieved for typical basic sales modes, it is also possible for the instrument to be configured to produce unacceptable formats, and use of some formats may be inappropriate for different sales modes. It is the responsibility of the user to ensure that acceptable and appropriate formats are used in any particular situation.

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 6/4D/399

1. Description of Pattern

**approved on 15/09/23
amended on 13/11/24**

An ESPERA-WERKE model ES-M 1000 multiple range class III self-indicating price-computing weighing instrument (Figure 1) with a verification scale interval (e_1) of 0.001 kg and with a minimum capacity of 0.02 kg for the low range which has a maximum capacity of 3 kg, and with a verification scale interval (e_2) of 0.002 kg and with a minimum capacity of 0.04 kg for the middle range which has a maximum capacity of 6 kg, and with a verification scale interval (e_3) of 0.005 kg and with a minimum capacity of 0.1 kg for the high range which has a maximum capacity of 7.5 kg.

Instruments are configured so that the weighing range can change automatically with increasing load and when the indication remains at rest at zero.

Instruments have unit price to \$99999.99/kg, price to \$9999999.99, a product look up (PLU) facility, and may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices.

Instruments are comprised of a model ESC 2205 terminal/indicator fitted with a single-sided touch screen LCD display and keyboard, a model ESW 2125 basework fitted with a model ESI 315 module having a 346040 A/D convertor and a single HBK model SP4M-N-C3MR-15kg load cell, and two printers. The instrument examined utilised model ESD 3005 label printers – alternative printing unit(s) may be used (Refer to the Special Condition of Approval in the certificate).

Instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC', or similar wording.

1.1 Zero

A zero-tracking device may be fitted.

The initial zero-setting device of the pattern has a nominal range of not more than 20% of the maximum capacity of the instrument.

The instrument has automatic and semi-automatic zero-setting devices with a nominal range of not more than 4% of the maximum capacity of the instrument. The automatic zero-setting device operates only when the instrument has been stable below zero for at least 5 seconds.

1.2 Tare

A semi-automatic subtractive tare device and/or a keyboard-entered pre-set subtractive tare device, each of up to Max_1 capacity, may be fitted.

Pre-set tare values may be associated with product look up (PLU) items.

1.3 Power Supply

The instrument operates from mains AC power (95 - 255 V AC, 50/60 Hz).

1.4 Levelling

The instrument is provided with adjustable feet and a level indicator.

The instrument is to be used in a level condition as indicated by the level indicator.

1.5 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 RS232/422/485, USB, Ethernet, EtherCAT and HDMI interfaces.

1.6 Verification Provision

Provision is made for the application of a verification mark.

1.7 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	ESPERA-WERKE GmbH
Indication of accuracy class	
Pattern approval number for the instrument	NMI 6/4D/399
Maximum capacity	<i>Max</i> kg or g #1
Minimum capacity	<i>Min</i> kg or g #1
Verification scale interval	<i>e</i> = kg or g #1
Maximum subtractive tare	<i>T</i> = - kg or g #2
Serial number of the instrument

#1 These markings shall be shown near the display of the result. For multiple range instruments, these markings shall include an indication of the range to which they apply, as shown in the instrument display (e.g. [1])

Range

[1] *Max*₁ kg *Min*₁ kg *e*₁ = kg

[2] *Max*₂ kg *Min*₂ kg *e*₂ = kg

[3] *Max*₃ kg *Min*₂ kg *e*₃ = kg

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

Instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording).

1.8 Software

The scale software version (A/D convertor) is designated 04.10.xxxx; and the terminal software version is designated 20.xxx.xx, where xx or xxx represents non-legally relevant changes.

The software versions and numbers can be seen by pressing the 'i' button at the bottom right of the display.

1.9 Sealing Provision

Access to allow changing of set-up parameters including calibration parameters is protected by a dongle and a specific password of the dongle.

The instrument is sealed by recording the audit trail counters on verification.

The instrument automatically increments a configuration and/or calibration value (audit trail number) each time the instrument is re-configured and/or calibrated.

The value of the counter may be recorded on a destructible adhesive label attached to the instrument (e.g. as Software lock event counter XXX).

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

The instructions for accessing the audit trail and adjustment status are as follows (starting from the normal weighing mode):

- Press the 'i' button at the bottom right of the display. The non-resettable software lock counter and adjustment status are displayed.
- Press the 'Secured parameters' button. The scale secured parameters logbook (audit trail) (Figure 2) is displayed.
- If the adjustment status is in the 'LOCK' position, the instrument will display green status 'saved'. In this case the instrument may be verified.
- Otherwise the instrument will display red status 'not saved' in which case the instrument should not be verified until the instrument has been correctly locked.

2. Description of Variant 1

approved on 15/09/23

The ESPERA-WERKE model ES-M 1000 multiple range instruments in certain other capacities as listed in Table 1 (the pattern is shown in **bold**).

TABLE 1

Maximum Capacity (<i>Max₁ / Max₂ / Max₃</i>)	Minimum Capacity (<i>Min₁ / Min₂ / Min₃</i>)	Verification Scale Interval (<i>e₁ / e₂ / e₃</i>)	Maximum Subtractive Tare Capacity (<i>T = - ...</i>)	Basework Model with HBK SP4M-N-C3MR Load Cell	Platform Size (mm x mm)
6 / 12 kg	40/100 g	2 / 5 g	6 kg	ESW2125 with a 15 kg load cell	275 x 300
3 / 6 / 7.5 kg	20/40/100 g	1 / 2 / 5 g	3 kg	ESW2135 with a 15 kg load cell	275 x 300
15 / 30 kg	100/200 g	5 / 10 g	15 kg	ESW2225 with a 75 kg load cell	500 x 600
30 / 60 kg	200/400 g	10 / 20 g	30 kg	ESW2235 with a 75 kg load cell	500 x 600

TEST PROCEDURE No 6/4D/399

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

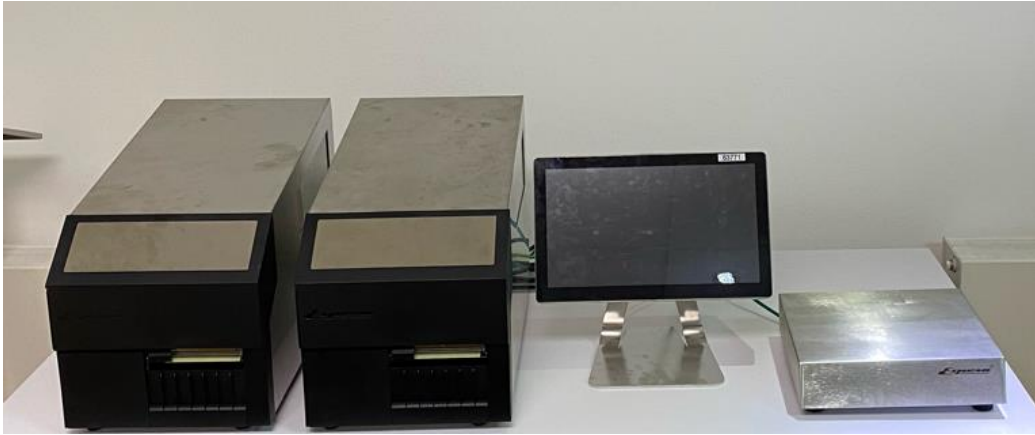
Maximum Permissible Errors

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

Tests

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

FIGURE 6/4D/399 – 1



ESPERA-WERKE Model ES-M 1000 Weighing Instrument

FIGURE 6/4D/399 – 2

Scale secured parameters logbook		
[00641]	19.07.2023 11:58:38	- Scale secured - software lock event counter 50
[00640]	19.07.2023 11:58:31	- Country code changed to 276
[00639]	19.07.2023 11:58:19	- Scale unsecured - software lock event counter 49
[00638]	19.07.2023 11:54:34	- Scale secured - software lock event counter 49
[00637]	19.07.2023 11:52:42	- Scale unsecured - software lock event counter 49
[00636]	19.07.2023 11:42:24	- Scale secured - software lock event counter 49
[00635]	19.07.2023 11:42:02	- Static calibration changed
[00634]	19.07.2023 11:41:10	- Scale type changed to number 1,0
[00633]	19.07.2023 11:40:59	- Scale unsecured - software lock event counter 48
[00632]	19.07.2023 11:16:19	- Scale secured - software lock event counter 48
[00631]	19.07.2023 11:15:30	- Scale unsecured - software lock event counter 48
[00630]	18.07.2023 20:03:59	- Scale secured - software lock event counter 48
[00629]	18.07.2023 20:03:45	- Scale unsecured - software lock event counter 48
[00628]	18.07.2023 20:02:43	- Scale secured - software lock event counter 48
[00627]	18.07.2023 20:02:34	- Country code changed to 36
[00626]	18.07.2023 20:02:22	- Scale unsecured - software lock event counter 47
[00625]	18.07.2023 17:36:15	- Scale secured - software lock event counter 47
[00624]	18.07.2023 10:30:14	- Scale unsecured - software lock event counter 47
[00623]	17.07.2023 13:08:29	- Scale secured - software lock event counter 47
[00622]	17.07.2023 13:01:50	- Static calibration changed
[00621]	17.07.2023 12:55:28	- Static calibration changed

Typical Audit Trail

FIGURE 6/4D/399 – 3

Scale information	
Scale device 1	
Adjustment status:	saved
Non-resettable software lock counter:	50
Last software lock timestamp:	2023-07-19 13:50:09

Typical Sealing Status

~ End of Document ~