



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4D/376

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.

Teraoka Model DIGI SM-120 Weighing Instrument

submitted by W W Wedderburn Pty Ltd
101 Williamson Road
Ingleburn NSW 2565

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 July 2004.

This approval becomes subject to review on 1/10/2019, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variants 1 to 8 approved – certificate issued	29/09/14

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4D/376' 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 Certificates No S1/0B.

Special

Certain aspects of this instrument (in particular label and ticket formats) are able to be configured by the user. Whilst NMI believes that acceptable label and ticket 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*.



Dr A Rawlinson

TECHNICAL SCHEDULE No 6/4D/376

1. Description of Pattern

approved on 29/09/14

A Teraoka model DIGI SM-120 class III non-automatic self-indicating price-computing multi-interval weighing instrument (Figure 1 and Table 1) with a verification scale interval (e_1) of 0.002 kg up to 6 kg and a verification scale interval (e_2) of 0.005 kg from 6 kg up to the maximum capacity of 15 kg. Instruments may also be known as model DIGI SM-120B.

Instruments are fitted with an operator keyboard attached to the main instrument housing on the operator side and a customer display integrated into the instrument housing. The operator displays located above operator keyboard for the presentation of tare, weight, unit price and price information, zero and net indicators.

The instrument is fitted with an integrated printer, for printing labels, receipts and tickets.

Instruments have unit price to \$9999.99/kg, price to \$99999.99, and have a product look up (PLU) facility and an image and/or product description relating to PLU items may also be displayed. Additional information and/or images may also be presented on the displays.

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

The instrument operates from mains AC power (240 V AC, 50 Hz).

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 and/or non-automatic keyboard-entered pre-set subtractive tare device, each of up to 5.998 kg maximum tare capacity, may be fitted.

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

A separate display of tare values is provided.

1.3 Display Check

A display check of customer display is initiated whenever power is applied. The display check of the operator display is carried out whenever the ZERO button is pressed.

1.4 Levelling

The instrument is provided with adjustable feet and a level indicator, and adjacent to the level indicator is a notice advising that 'Instrument must be level when in use' (or similar wording).

1.5 Interfaces

Instruments 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 Supplementary Certificate No S1/0B (in particular in regard to the data and its format).

Instruments may be fitted with Ethernet (RJ-45 and wireless), RS232, and cash drawer interfaces.

1.6 Descriptive Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Teraoka
Name or mark of manufacturer's agent	WEDDERBURN
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NMI 6/4D/376
Maximum capacity	Max g or kg # 1
Minimum capacity	Min g or kg # 1
Verification scale interval	e = g or kg # 1
Maximum subtractive tare	T = - g or kg # 2
Serial number of the instrument

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.

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/..... g or kg
Verification scale interval	e =/..... g or kg

1.7 Verification Provision

Provision is made for the application of a verification mark.

1.8 Sealing Provision

Access to the switch, located within the instrument housing, that restricts calibration access is prevented by sealing beneath the instrument (Figure 2).

2. Description of Variant 1

approved on 29/09/14

The pattern or variants as multi-interval instruments of certain other capacities as listed in Table 1 below (the pattern is shown in bold).

Table 1 – Multi-interval instruments

Maximum Capacity (Max_1 / Max_2)	Verification Scale Interval (e_1 / e_2)	Minimum Capacity (Min)	Maximum Subtractive Tare Capacity ($T = - \dots$)
3 / 6kg	1 / 2 g	20 g	2.999 kg
6 / 15 kg	2 / 5 g	40 g	5.998 kg
15 / 30 kg	5 / 10 g	100 g	14.995 kg

3. Description of Variant 2 **approved on 29/09/14**

The pattern or variants as single interval instruments of certain capacities as listed in Table 2 below.

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

Table 2 – Single interval instruments

Maximum Capacity (Max)	Verification Scale Interval (e)	Minimum Capacity (Min)	Maximum Subtractive Tare Capacity ($T = - \dots$)
3 kg	1 g	20 g	2.999 kg
6 kg	1 g	20 g	5.999 kg
6 kg	2 g	40 g	5.998 kg
12kg	2g	40 g	11.998 kg
15 kg	5 g	100 g	14.995 kg
30 kg	5 g	100 g	29.995 kg
30 kg	10 g	200 g	29.99 kg

4. Description of Variant 3 **approved on 29/09/14**

Similar to the pattern but with larger keyboard fitted. The operator display and customer displays now mounted on a column above the instrument housing (Figure 3). These instruments may also be known as a model SM-120P.

5. Description of Variant 4 **approved on 29/09/14**

Similar to the pattern but as an 'elevated' style instruments with the keyboard, the operator and customer display all mounted on a column above the instrument housing (Figure 4). These instruments may also be known as a model SM-120EV.

6. Description of Variant 5 **approved on 29/09/14**

Similar to the pattern but with different raised display housing to that of variants 3 and 4. This different display housing that has within it 27 keyboard for instrument operations and below a selectable PLU board - there are two board versions one with 72 keys and the other with 120 keys (Figure 5). These instruments may also be known as a model SM-120BS.

7. Description of Variant 6 **approved on 29/09/14**

The pattern or variants without a customer display in which case instruments are either:

- (a) NOT FOR TRADING DIRECT WITH THE PUBLIC in which case instruments carry a notice to this effect; or
- (b) Used in a self-service arrangement which provides a product look up (PLU) touch screen display, as well as providing mass, unit price, price displays.

8. Description of Variant 7 **approved on 29/09/14**

The pattern and variants may be connected in a network with compatible approved Teraoka instruments, to share common PLU data, for totalisation across instruments ('floating system'), and to accumulate and retrieve management information.

In addition, the network may be interfaced with a computer for the collection of management data, or the downloading of PLU data.

Note 1: The weighing and price-computing functions of each weighing instrument in the network are independent, and the removal, repair or replacement of a particular weighing instrument does not necessitate re-verification of any other weighing instrument in the network.

Note 2: The use of a totalisation across instruments ('floating system') arrangement in this variant is not approved for use in self-service arrangement.

9. Description of Variant 8 **approved on 29/09/14**

The pattern and variants may have a 'confectionary scoop' (Figure 6a), 'coffee scoop' (Figure 6b), or 'seafood scoop' (Figure 6c) mounted on a modified platter via a support bracket. The size and weight of scoops are listed in Table 3 below.

Table 3 – Scoop details

Scoop Name	Size (mm x mm)	Nominal Scoop weight (g)	Nominal Support Bracket Weight (g)	Total weight (g)
Confectionary	305 (L) x 195 (W)	340	250	590
Coffee	340 (L) x 230 (L)	406	296	702
Seafood	400 (L) x 285 (L)	654	470	1124

The scoop support bracket(s) may be directly mounted upon the instruments weigh platter or in place of the weigh platter of the instrument for the application of a removable shaped scoop. The scoop support bracket when mounted must not extend past the perimeter of the original weigh platter of the instrument.

Note 1: Mounted removable shaped scoops are intended to allow the user to contain the object(s) to be weighed in a way such that the centre of gravity of the object(s) is within the normal area of the weigh platter of the instrument. It is not intended to increase the size of the weigh platter.

Note 2: The raised edge of the removable scoop may extend past the weigh platter perimeter, provided the removable scoop's shape is such that the instrument's performance is satisfactory when eccentricity testing is carried out.

Note 3: The combined weight of the scoop and its support bracket(s) shall not exceed the initial zero setting range of the weighing instrument. This may be ascertained by fully powering off the instrument, and then switching back on – the instrument will re-zero if within the initial zero setting range.

Note 4: The instrument fitted with a scoop shall be verified in its modified form.

TEST PROCEDURE No 6/4D/376

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*.

FIGURE 6/4D/376 – 1

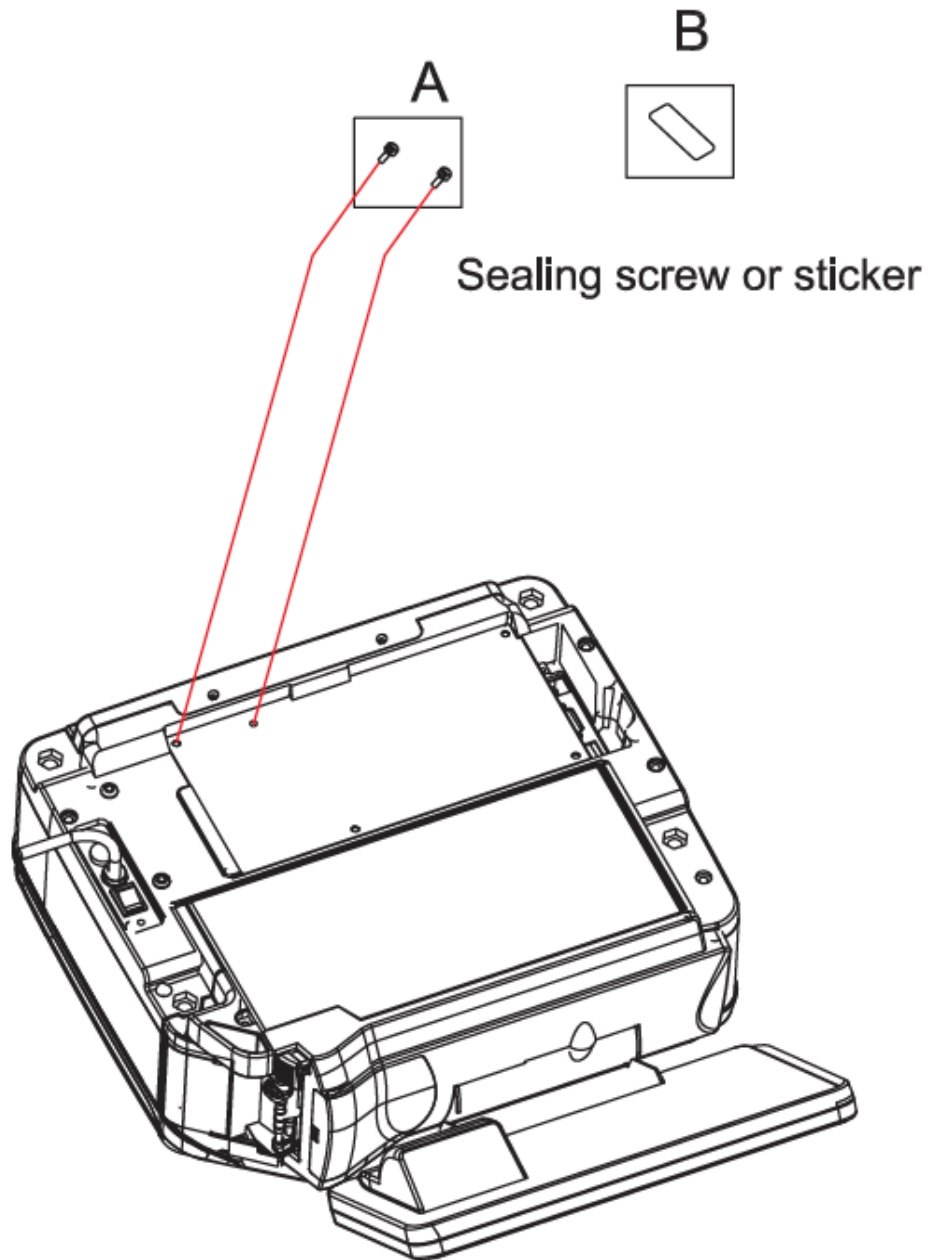


(a) Teraoka Model SM-120 Weighing Instrument (Bench version) (Operator side) – the pattern



(b) Teraoka Model SM-120 Weighing Instrument (Bench version) (Customer side) – the pattern

FIGURE 6/4D/376 – 2



Typical Sealing– the pattern & variants

FIGURE 6/4D/376 – 3



Teraoka Model SM-120 (Column Version) – Variant 3

FIGURE 6/4D/376 – 4



Teraoka Model SM-120 (Elevated Version) – Variant 4

FIGURE 6/4D/376 – 5



Teraoka Model SM-120 (Self Service 120 Preset keys) – Variant 5

FIGURE 6/4D/376 – 6



(a) Confectionary scoop



(b) Coffee bean scoop



(c) Seafood scoop

Various Scoops – Variant 8

~ End of Document ~