Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

# Certificate of Approval
# NMI 6/4C/261

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 DS-673SS 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 **1/4/21**, and then every 5 years thereafter.

DOCUMENT HISTORY

| Rev | Reason/Details | Date |
|---|---|---|
| 0 | Pattern & variants 1 to 4 approved – interim certificate issued | 26/03/10 |
| 1 | Pattern & variants 1 to 4 approved – certificate issued | 13/05/10 |
| 2 | Pattern & variants 1 to 4 **reviewed** & **updated** (mains adaptor) – certificate issued | 25/08/16 |
| | | |

# CONDITIONS OF APPROVAL

## General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4C/261' 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 Certificates No S1/0/A or 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*.

**Dr A Rawlinson**

TECHNICAL SCHEDULE No 6/4C/261

## 1. Description of Pattern approved on 26/03/10

A Teraoka model Digi DS-673SS class (III) multi-interval self-indicating non-automatic weighing instrument (Figure 1 and Table 1) with a verification scale interval $e_1$ of 0.002 kg up to 6 kg and with a verification scale interval $e_2$ of 0.010 kg from 6 kg up to 15 kg.

Instruments are provided with an LED type display for the operator, and may also be provided with a second display integrated into the body of the instrument (as shown in Figure 3b). Instruments shall be marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording).

Instruments are approved for use over a temperature range of 0°C to +40°C and must be so marked.

Power for the Digi DS-673SS instrument may be supplied by:

- an AC/DC mains adaptor; and/or
- an internal 6v rechargeable battery.

Note: The AC/DC mains adaptor supplied for the instrument was an **ENG switch-mode power supply model 3A – 183WP12(12V DC, 1.5A)** – the submittor should be consulted regarding the acceptability of alternative power supply units.

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

### 1.1 Zero

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.

A zero-tracking device may be fitted.

### 1.2 Tare

A semi-automatic subtractive tare device of up to 5.998 kg may be fitted.

### 1.3 Levelling

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

### 1.4 Display Check

A display check is initiated whenever power is applied.

### 1.5 Verification Provision

Provision is made for the application of a verification mark.

### 1.6 Sealing Provision

Provision is made for access to the calibration switch underneath of the instrument to be sealed by applying a lead and wire (or similar) seal as shown in Figure 2a or with a destructible adhesive label in Figure 2b.

### 1.7 Descriptive Markings and Notices

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 | (III) | |
| Pattern approval number for the instrument | NMI 6/4C/261 | |
| 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 | ……. | |
| Special temperature limits | 0°C to +40°C | #3 |

For single interval instruments (see variants) there is only one range therefore only one value of maximum capacity and verification scale interval to be marked.

#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 This marking is required for DS-673SS only.

## 2. Description of Variant 1 **approved on 26/03/10**

The Teraoka model Digi DS-673SS multi-interval instruments in certain other capacities as listed in Table 1 below (the pattern is shown in **bold**).

TABLE 1

| Maximum Capacity (*Max*$_1$/*Max*) | Verification Scale Interval ($e_1$,$e_2$) | Maximum Subtractive Tare Capacity (*T* = - …) |
|---|---|---|
| 1.5/3 kg | 0.0005/0.001 kg | 1.4995 kg |
| 3/6 kg | 0.001/0.002 kg | 2.999 kg |
| **6/15 kg** | **0.002/0.005 kg** | **5.998 kg** |
| 15/30 kg | 0.005/0.01 kg | 14.995 kg |

## 3. Description of Variant 2 approved on 26/03/10

The Teraoka model Digi DS-673SS single interval instruments in certain capacities as listed in Table 2 below:

TABLE 2

| Maximum Capacity (*Max*) | Verification Scale Interval (*e*) | Maximum Subtractive Tare Capacity (*T* = - …) |
|---|---|---|
| 1.5 kg | 0.0005 kg | 0.7495 kg |
| 3 kg | 0.0005 kg | 1.4995 kg |
| 3 kg | 0.001 kg | 1.999 kg |
| 6 kg | 0.001 kg | 2.999 kg |
| 6 kg | 0.002 kg | 2.998 kg |
| 15 kg | 0.002 kg | 7.498 kg |
| 15 kg | 0.005 kg | 7.495 kg |
| 30 kg | 0.005 kg | 14.995 kg |
| 30 kg | 0.01 kg | 14.99 kg |

## 4. Description of Variant 3 approved on 26/03/10

The Teraoka model Digi DS-673 instruments (Figure 3) which are similar to the model DS-673SS instruments but in a plastic housing. The DS-673 may be powered by mains power (230 V AC) and/or by an internal 6V rechargeable battery.

The model Digi DS-673 instruments may be in any capacity listed for the model Digi DS-673SS (the pattern and variants 1 & 2).

## 5. Description of Variant 4 approved on 26/03/10

The pattern or variants having a configuration of the semi-automatic tare device such that a reduction of tare value is NOT possible and the tare can only be cancelled when there is no load on the load receptor. Provided the instrument has both an operator and a customer display (as shown in Figure 3b), the instrument may be used for trading direct with the public.

Where only an operator display is provided instruments shall be marked ‘NOT FOR TRADING DIRECT WITH THE PUBLIC’ (or similar wording).

# TEST PROCEDURE

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 the *National Trade Measurement Regulations 2009*.

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.

Ensure that instruments are only being used within the special temperature limits stated elsewhere in this Technical Schedule.

FIGURE 6/4C/261 – 1


Teraoka Model Digi DS-673SS Weighing Instrument

FIGURE 6/4C/261 – 2


(a) A lead and wire sealing arrangement


(b) Using a destructible adhesive label

Teraoka Model Digi DS-673SS – Typical Sealing Arrangements

FIGURE 6/4C/261 – 3


(a) Showing operators' display


(b) Showing customers' display

Teraoka Model Digi DS-673 Weighing Instrument

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