



Australian Government  
Department of Industry,  
Science and Resources

**National  
Measurement  
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Certificate of Approval**

**NMI 6/9C/330**

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.

Dini Argeo Model TPWLK-7 Pallet Weighing Instrument

submitted by Dini Argeo S.r.l.  
Via della Fisica 20  
41042 Spezzano di Fiorano  
Modena  
Italy

**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 variants 1 to 12 approved – certificate issued	31/01/24

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/9C/330' 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 No S1/0B.

### Special

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

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 6/9C/330

**1. Description of Pattern**

**approved on 31/01/24**

A Dini Argeo model TPWLK-7 (#1) class III non-automatic self-indicating multiple range weighing instrument with a verification scale interval ( $e_1$ ) of 0.5 kg and with a minimum capacity of 10 kg for lower range which has a maximum capacity of 1000 kg; and with a verification scale interval ( $e_2$ ) of 1 kg and with a minimum capacity of 20 kg for the higher range which has a maximum capacity of 2000 fitted to a pallet jack (Figures 1a and 1b). The model TPWLK-7 may also be known as model TPWLK-8.

(#1) An alphanumeric suffix 'xxx' may be added to the model number but these represent features which are non-legally relevant, e.g., keypad and non-legally relevant software functions.

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

The instrument is intended to operate only whilst the pallet jack is stationary.

Instruments are fitted with an LCD display for displaying weight values.

Instruments may be fitted with a printer.

**1.1 Load Receptor**

The load receptor model TPWC consists of two weigh forks as a part of pallet jack as shown in Figure 1a.

Each fork is fitted with two load cells (Figure 1b) and has a nominal blade length of 1150 mm. The nominal distance between two forks is 550 mm.

The load receptor and pallet jack use a mild steel type construction.

**1.2 Load Cells**

Four Dini Argeo model SBX1000-1KL load cells of 1000 kg maximum capacity are used. The load cells are also described in the approval documentation of NMI approval No S834.

**1.2.1 Load Cell connection**

The load cells are connected to the indicator directly without a junction box or lengthening the cable.

**1.3 Levelling**

A Dini Argeo model 14BOLLAE2 tilt sensor module is fitted within the indicator mounting column, and will detect the degree to which the instrument is tilted from its reference (level) condition.

This tilt sensor provides a signal to the indicator. The indicator imposes limits on the level condition in longitudinal or transverse directions, and alternates between a 'tilt' message and weight value if acceptable levels of tilt are exceeded  $\pm 1^\circ$  tilt from horizontal. The printout and/or data transmission are also inhibited.

**1.4 Indicator**

A Dini Argeo model DFWLI digital indicator (Figure 13) is used. The indicator is similar to variant 14 in the Supplementary Certificate of Approval No S788 but with a numeric keypad.

### 1.5 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 (however see note below).

### 1.6 Tare

A semi-automatic subtractive tare device of up to maximum capacity may be fitted.

A pre-set taring device (keyboard-entered and/or stored) of up to the maximum capacity may also be fitted.

### 1.7 Display Check

A display check is initiated whenever power is applied.

### 1.8 Additional Features

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.

Instruments may be fitted with setpoint/batch, weight limits, checkweighing, counting, peak hold, dosing, percentage weighing and over/under functions. These functions are not approved for trade use.

### 1.9 Power Supply

The instrument is powered by a rechargeable 6 V DC battery pack.

### 1.10 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 General Supplementary Certificate of Approval No S1/0B (in particular in regard to the data and its format).


Instruments may be fitted with RS-232/485 interface.

### 1.11 Verification Provision

Provision is made for the application of a verification mark.

### 1.12 Descriptive Markings and Notices

Instruments are marked with the following data:

Manufacturer's mark, or name written in full	Dini Argeo S.r.l.
Indication of accuracy class	
Pattern approval number for the instrument	NMI 6/9C/330
Maximum capacity	Max ..... kg # 1
Minimum capacity	Min ..... kg # 1
Verification scale interval	e = ..... kg # 1
Serial number of the instrument	.....

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

Notes:

For multiple range instruments, the maximum capacity, minimum capacity and verification scale interval for each range shall be marked, with an indication of the range to which they apply, e.g.

Range (*)	W1	W2
<i>Max</i>	.... kg	.... kg
<i>Min</i>	.... kg	.... kg
<i>e =</i>	.... kg	.... kg

### 1.13 Software

The legally relevant software is identified by a number 02.01.

The instrument type number and software version number can be seen by pressing the '↓' key during the switch-on display sequence (when the power is first applied to the instrument).

### 1.14 Sealing Provision

Provision is made for the calibration to be sealed by setting a link on the main board within the instrument to 'OPEN' position, and then preventing access within the protective cover (Figure 21) or within the instrument housing.

It is possible to determine that the link status is in the 'OPEN' position by pressing the '↑' key to enter setup menu when the power is first applied to the indicator.

- If the link is in the 'OPEN' position, the instrument will not allow to change instrument configurations. In this case the instrument may be verified.
- Otherwise the instrument will allow to change instrument configurations in which case the instrument should not be verified until the link has been correctly set to the 'OPEN' position.

Sealing to prevent access within the protective housing may be achieved by using a destructible adhesive label placed over the securing screw in the protective cover within the instrument as shown in Figure 21 or destructible adhesive labels placed over the opposite sides of a join in the instrument housing.

## 2. Description of Variant 1 approved on 31/01/24

A Dini Argeo model TPWLK-7 as single interval weighing instrument with a maximum capacity of 1000 kg and verification scale interval of 0.5 kg, and with a minimum capacity of 10 kg.

## 3. Description of Variant 2 approved on 31/01/24

A Dini Argeo model TPWPM pallet jack weighing instrument (Figure 2) which is similar to the pattern and variant 1 but fitted with a Dini Argeo model DFWXP digital indicator (Figure 14). The indicator is similar to variant 13 in the Supplementary Certificate of Approval No S788 but with a numeric keypad.

Instruments may be fitted with a printer.

## 4. Description of Variant 3 approved on 31/01/24

A Dini Argeo model TPWX2GD20M pallet jack weighing instrument (Figure 3) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo

model DFWATEX2GD digital indicator (Figure 15). The indicator is also described as variant 19 in the approval documentation of NMI approval No S788.

**5. Description of Variant 4** **approved on 31/01/24**

A Dini Argeo model TPWX3GDM pallet jack weighing instrument (Figure 4) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo model DFWATEX3GD digital indicator (Figure 16). The indicator is also described as variant 19 in the approval documentation of NMI approval No S788.

**6. Description of Variant 5** **approved on 31/01/24**

A Dini Argeo model TPWI-LK pallet jack weighing instrument (Figure 5) which is similar to the pattern and variant 1 but without a printer and uses a stainless steel type construction.

**7. Description of Variant 6** **approved on 31/01/24**

A Dini Argeo model TPWIM-PRO pallet jack weighing instrument (Figure 6) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo model DFWKXT digital indicator (Figure 18), and uses a stainless steel type construction. The indicator is also described as variant 18 in the approval documentation of NMI approval No S788.

**8. Description of Variant 7** **approved on 31/01/24**

A Dini Argeo model TPWIM-HGX pallet jack weighing instrument (Figure 7) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo model DFW-IECEX3GD digital indicator (Figure 17), and uses a stainless steel type construction. The indicator is also described as variant 19 in the approval documentation of NMI approval No S788.

**9. Description of Variant 8** **approved on 31/01/24**

A Dini Argeo model TPWIM-PRO-EX2GD pallet jack weighing instrument (Figure 8) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo model DFWATEX2GD digital indicator (Figure 15), and uses a stainless steel type construction. The indicator is also described as variant 19 in the approval documentation of NMI approval No S788.

**10. Description of Variant 9** **approved on 31/01/24**

A Dini Argeo model TPWIM-PRO-EX3GD pallet jack weighing instrument (Figure 9) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo model DFWATEX3GD digital indicator (Figure 16), and uses a stainless steel type construction. The indicator is also described as variant 19 in the approval documentation of NMI approval No S788.

**11. Description of Variant 10** **approved on 31/01/24**

A Dini Argeo model TPWE-FORCE single interval pallet jack weighing instrument with a maximum capacity of 1250 kg and verification scale interval of 0.5 kg, and with a minimum capacity of 10 kg fitted to an electric pallet jack (Figure 10).

Instruments may be fitted with a printer.

**11.1 Load Receptor**

The load receptor model TPWC consists of two weigh forks as a part of pallet jack as shown in Figure 1a.

Each fork is fitted with two Dini Argeo model SBT500-1KL of 500 kg maximum capacity load cells and has a nominal blade length of 1150 mm. The nominal distance between two forks is 550 mm.

The load cells are also described in the approval documentation of NMI approval No S839.

The load receptor and pallet jack use a mild steel type construction.

## 11.2 Indicator

A Dini Argeo model DFWLI digital indicator (Figure 13) is used. The indicator is similar to variant 14 in the Supplementary Certificate of Approval No S788 but with a numeric keypad.

## 12. Description of Variant 11 approved on 31/01/24

A Dini Argeo model TPWNAA-3 (#2) pallet jack weighing instrument (Figure 11) which is similar to the pattern and variant 1 but without a printer and fitted with a Dini Argeo model DFWL digital indicator (Figure 19) and with four Dini Argeo model SBT1000-1KL of 1000 kg maximum capacity load cells.

The indicator is also described as variant 12 in the approval documentation of NMI approval No S788 and the load cells are also described in the approval documentation of NMI approval No S839.

The model TPWNAA-3 may also be known as model TPWNAA-4.

(#2) An alphanumeric suffix 'xxx' may be added to the model number but these represent features which are non-legally relevant, e.g., keypad and non-legally relevant software functions.

## 13. Description of Variant 12 approved on 31/01/24

A Dini Argeo model TPWTSM pallet jack weighing instrument (Figure 12) which is similar to the pattern and variant 1 but fitted with a Dini Argeo model 3590ET digital indicator (Figure 20), and uses a mild steel type construction. The indicator is also described as variant 1 in the approval documentation of NMI approval No S788.

### 13.1 Software

The legally relevant software is identified by a number 01.01.

The instructions for accessing the legally relevant version numbers are as follows (starting from the normal weighing mode):

- Press and hold the 'F4' key until 'PrG.VEr' is displayed.
- Press the 'Enter' key. The legally relevant version is displayed.

### 13.2 Sealing Provision

Provision is made for the calibration to be sealed by setting a link on the main board within the instrument to 'CLOSE' position, and then preventing access within the protective cover (Figure 21) or within the instrument housing.

It is possible to determine that the link status is in the 'CLOSE' position by pressing and holding the 'F4' key until 'PrG.VEr' is displayed and then pressing the 'Enter' key (starting from the normal weighing mode).

- If the link is in the 'CLOSE' position, the instrument will display 'LEGAL FOR TRADE'. In this case the instrument may be verified.

- Otherwise the instrument will display 'HI RESOLUTION' in which case the instrument should not be verified until the link has been correctly set to the 'CLOSE' position.

Sealing to prevent access within the protective housing may be achieved by using a destructible adhesive label placed over the securing screw in the protective cover within the instrument (Figure 21) or using destructible adhesive labels placed over the opposite sides of a join in the instrument housing.

## TEST PROCEDURE No 6/9C/330

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures (NITP), taking into account the following notes.

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.

### Notes:

#### Levelling Arrangements and Stability of Ground

The site chosen for weighing should be firm and within 1.0 degree of level – the tilt sensor imposes limits on the level condition, however the stability of the ground surface should also be considered as well as safety concerns.

Testing shall be carried out with the instrument having zero set using an initial zero-setting or semi-auto zero-setting device with a pallet (1200x800 mm nominal) on the forks and having the instrument tilted to their reference (level) condition.

#### Tests (in addition to those in the NITP)

##### 1) Eccentricity

Using a known load of approximately  $1/3 \text{ Max}$ , carry out tests to determine whether operation is within the maximum permissible errors with this load at the left, right, front and rear of the pallet.

##### 2) Tilting

Carry out tests to determine whether operation is within the maximum permissible errors, with loads of  $1/2 \text{ Max}$  and close to  $\text{Max}$  by having the instrument tilted to its reference (level) condition and then having the instrument tilted forward until the weighing display shows a 'tiLt' message and gradually reducing the degree of tilt until the 'tiLt' message is disappeared.

Repeat the test with the instrument tilted backward, left and right.



FIGURE 6/9C/330 – 1



(a) Dini Argeo Model TPWLK Weighing Instrument (Pattern)



(b) With Load Receptor Plates Removed

FIGURE 6/9C/330 – 2



Dini Argeo Model TPWPM Weighing Instrument (Variant 2)

FIGURE 6/9C/330 – 3



Dini Argeo Model TPWX2GD20M Weighing Instrument (Variant 3)

FIGURE 6/9C/330 – 4



Dini Argeo Model TPWX3GDM Weighing Instrument (Variant 4)

FIGURE 6/9C/330 – 5



Dini Argeo Model TPWI-LK Weighing Instrument (Variant 5)

FIGURE 6/9C/330 – 6



Dini Argeo Model TPWIM-PRO Weighing Instrument (Variant 6)

FIGURE 6/9C/330 – 7



Dini Argeo Model TPWIM-HGX Weighing Instrument (Variant 7)

FIGURE 6/9C/330 – 8



Dini Argeo Model TPWIM-PRO-EX2GD Weighing Instrument (Variant 8)

FIGURE 6/9C/330 – 9



Dini Argeo Model TPWIM-PRO-EX3GD Weighing Instrument (Variant 9)

FIGURE 6/9C/330 – 10



Dini Argeo Model TPWE-FORCE Weighing Instrument (Variant 10)

FIGURE 6/9C/330 – 11



Dini Argeo Model TPWNAA Weighing Instrument (Variant 11)

FIGURE 6/9C/330 – 12



Dini Argeo Model TPWTSM Weighing Instrument (Variant 12)

FIGURE 6/9C/330 – 13



Dini Argeo Model DFWLI Digital Indicator



FIGURE 6/9C/330 – 14



Dini Argeo model DFWXP Digital Indicator

FIGURE 6/9C/330 – 15



Dini Argeo Model DFWATEX2GD Digital Indicator

FIGURE 6/9C/330 – 16



Dini Argeo Model DFWATEX3GD Digital Indicator



FIGURE 6/9C/330 – 17



Dini Argeo Model DFW-IECEX3GD Digital Indicator

FIGURE 6/9C/330 – 18



Dini Argeo Model DFWKXT Digital Indicator

FIGURE 6/9C/330 – 19



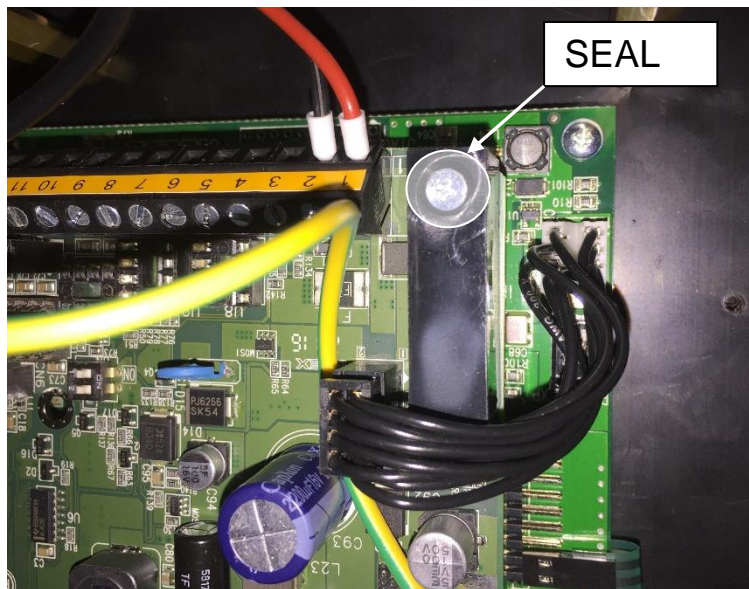
Dini Argeo Model DFWL Digital Indicator

FIGURE 6/9C/330 – 20



Dini Argeo Model 3590ET Digital Indicator

FIGURE 6/9C/330 – 21



Typical Sealing of Protective Cover

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