Australian Government
Department of Industry, Science and Resources
National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/14G/36

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.

DIBAL model LS4000 Automatic Catchweighing Instrument

submitted by Rollex Australia Pty Ltd
1/51 Overlord Place
Acacia Ridge QLD 4110

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 51, *Automatic Catchweighing Instruments*, dated August 2009.

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 4 approved – certificate issued	08/09/22

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/14G/36' 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.

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

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 6/14G/36

1. Description of Pattern approved on 08/09/22

A DIBAL model LS4000 class Y(a) automatic weigh-price labeller (Figure 1) which is approved for use to weigh objects in dynamic weighing mode or static weighing mode.

1.1 Details

The instrument is a single interval class Y(a) automatic catchweighing instrument with a maximum capacity of 60 kg, a verification scale interval of 0.02 kg and a minimum capacity of 0.4 kg.

The instrument uses an in-feed conveyor to introduce the object to be weighed to the weighing receptor conveyor. The object is weighed either statically (the object stops on the weighing receptor) or dynamically (the object passes through the weighing receptor), and then the object is labelled by the label printer. The maximum belt speed of the weighing receptor conveyor is variable and depends on weight of object and is as shown in the Table 1.

Table 1- Maximum Conveyor Speed

Weight (scale divisions)	Maximum Belt Speed (m/min)	Throughput (packs/min)
$0 \leq m \leq 1000\ e$	61.5	162
$1000\ e < m \leq 2000\ e$	36	95
$2000\ e < m \leq 3000\ e$	19	50

Instruments may be fitted with data sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices, and for the external programming of PLU and labelling data.

The pattern comprises:

- A terminal console with “Qwerty” keypad and backlit graphic LCD display;
- Optional terminal console with 15” TFT touch screen.
- A weighing module and conveyor system with associated controller;
- One or two label printer(s) above and/or below the conveyor.
- An infeed conveyor and an outfeed conveyor.

1.2 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 and a zero tracking device, both only operate whilst the conveyors are stationery, with a nominal range of not more than 4% of the maximum capacity of the instrument.

The instrument has an automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument and must be active and operate once every 99 seconds during automatic operation.

1.3 Tare

A semi-automatic subtractive tare device and a pre-set subtractive taring device, each of up to maximum capacity of the instrument minus 1 *e*, may be fitted.

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

A separate display for tare values is provided.

1.4 Operation

Description of static weighing:

- A product moves from the infeed conveyor onto the weighing receptor conveyor and then the weighing receptor/conveyor stops automatically. The system uses photocells to determine where the product has to be stopped on the weighing receptor/conveyor.
- The product is weighed statically on the weighing receptor/conveyor, and then the terminal console calculates the price and displays the product weight, the unit price and the price of the product.
- After weighing, the product continues onto the outfeed conveyor where a label is then printed and applied to the product.

Description of dynamic weighing:

- A product moves from the infeed conveyor onto the weighing receptor conveyor and continues onto the outfeed conveyor without stopping.
- The product is weighed dynamically when it passes through the weighing receptor conveyor, and the terminal console calculates the price and displays the product weight, the unit price and the price of the product.
- After weighing, the object moves onto the outfeed conveyor where the label is then printed and applied to the product.

If the instrument is unable to obtain an acceptable weight reading, error messages are displayed and the label(s) cannot be printed.

1.5 Terminal Console

The terminal console includes an LCD colour display with keypad. This is used to control the instrument, and to display and store data.

The terminal console with an LCD colour display and keypad may be replaced by a terminal console with 15’ TFT touch screen.

The terminal console displays the weight (kg), tare weight (kg), unit price ($/kg), and price ($).

Instruments have unit price to $9999.99/kg, total (pack) price to $9999.99, a product-look-up (PLU) facility and a separate tare display.

1.6 Weighing Unit

The weighing unit uses two HBM model PW18 load cells of 75 kg maximum capacity supporting a load receptor with belt conveyor of 600 mm × 500 mm.

1.7 Printing Unit

The printing unit is comprised of a printer with associated electronics, utilising compressed air to apply the label to the weighed object.

Please note the Special Condition of Approval regarding printing formats.

1.8 Interfaces

Instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 4.2.4 of document NMI R51 (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 of Approval No S1/0B (in particular in regard to the data and its format).

Instruments may be fitted with serial data interface RS-232 and/or Ethernet TCP/IP.

1.9 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	DIBAL S.A	
Importer's mark, or name written in full	Rollex Australia Pty Ltd	
Model designation	…..	
Serial number	…..	
Accuracy class	Y(a)	
Pattern approval mark	NMI 6/14G/36	
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
Maximum conveyor speed	…….. m/s	
Electrical supply voltage	……. V	
Electrical supply frequency	……. Hz	
Working fluid pressure	……. kPa	

#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*.

1.10 Sealing Provision

The legally relevant calibration and configuration of the instrument shall be secured with a destructible adhesive label at the location shown in Figure 5(a).

The calibration mode is secured by software. The software counter number is displayed from the "Weight Adjustment Initial Screen" by following steps:

- Press "MENU" to enter into the main menu.
- Press the "7" key to enter into Test Mode.
- Press the "6" key to select Weigh Adjust.
- The terminal will display the value of the Legal for Trade Parameter. The value shown in "Legal for Trade" shall be the same value as recorded on the 'legal mark plate' or seal label.

1.11 Software

The metrological relevant software is identified as:

- Weight – V1.02: metrological relevant software on the CPU.

Other non-metrological relevant software are identified as:

- CPU – V1.19A or later: Application software;
- Display - V.1.27 (the software for both Blue Monochrome and Touch Screen display), or
- Display – V1.10A (the software of TFT Touch Screen display).

The software version and identification number are displayed from the initial screen.

- Press the “MENU” key to enter in the main menu.
- Press the key “7” to enter in Test Mode.
- Press the “2” key to select Versions.
- The terminal will display the software versions.

1.12 Verification Provision

Provision is made for the application of a verification mark.

2. Description of Variant 1 approved on 08/09/22

DIBL model LS4000 instruments in certain other capacities as listed in Table 2.

Table 2

Maximum Capacity (*Max*) (kg)	Minimum Capacity (*Min*) (kg)	Verification Scale Interval (*e*) (kg)	Maximum Weighing Belt Dimensions (mm)	HBM PW18 Load Cell, E_{max} (kg)
3	0.020	0.001	600 x 400 (1 load cell construction)	10
6	0.040	0.002		20
10	0.100	0.005		
10	0.100	0.005	600 x 500 800 x 500 (2 load cell construction)	50
15	0.100	0.005		
20	0.200	0.01		75
30	0.200	0.01		
40	0.400	0.02		
60	0.400	0.02		

3. Description of Variant 2 approved on 08/09/22

DIBAL LS-4500 (Figure 2) which is similar to the pattern and variant 1, but in a modular equipment format. The sealing location is as shown in Figure 5(a).

4. Description of Variant 3 approved on 08/09/22

DIBAL WL-4000 (Figure 3) which is similar to the pattern, except it is fitted on a wrapping machine and weighing statically. The object will be weighed at the input belt of the wrapping machine, and then wrapped and labelled. Capacities for this variant are as listed in Table 3. The sealing location is as shown in Figure 5(b).

Table 3

Maximum Capacity (*Max*) (kg)	Minimum Capacity (*Min*) (kg)	Verification Scale Interval (*e*) (kg)	HBM PW18 Load Cell, E_{max} (kg)
6	0.040	0.002	20
10	0.100	0.005	50

5. Description of Variant 4 approved on 08/09/22

DIBAL CLS-4500 (Figure 4) which is similar to the pattern and variant 1, except that the printing unit can print a longer label and wrap the label over the package. The sealing location is as shown in Figure 5(a).

TEST PROCEDURE No 6/14G/36

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

Maximum Permissible Errors

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

FIGURE 6/14G/36 – 1

DIBAL LS-4000 Automatic Catchweighing Instrument

DIBAL LS-4000 Labelling Options

FIGURE 6/14G/36 – 2

DIBAL LS-4500 Automatic Catchweighing Instrument

FIGURE 6/14G/36 – 3

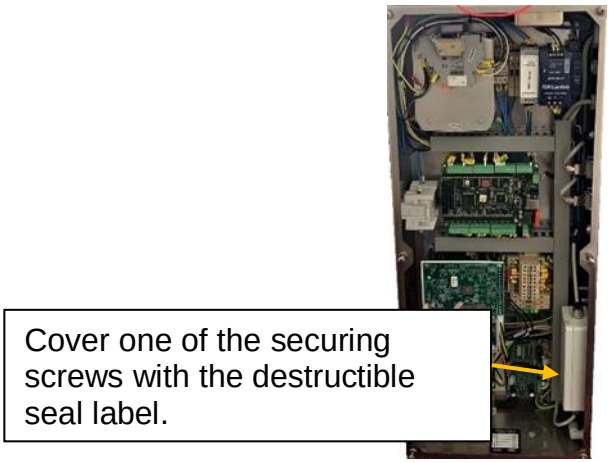
DIBAL WL-4000 Automatic Catchweighing Instrument

FIGURE 6/14G/36 – 4

DIBAL CLS-4500 Automatic Catchweighing Instrument

FIGURE 6/14G/36 – 5

(a) Sealing Location of DIBAL LS-4000, LS-4500, and CLS-4500



(b) Seal Location of DIBAL WL-4000

FIGURE 6/14G/36 – 6

Software identification

Note: In this typical software identification screen, the metrological relevant software is “2 – Weight V-1.02”.

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