Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 6/14G/13
Change No 2

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following changes are made to the approval documentation for the

Ishida Model Carrier Weigh CW-1200 Automatic Catchweighing Instrument

submitted by Scale Components Pty Ltd
now of 4 Dan Street
Slacks Creek QLD 4127.

A. In Certificate of Approval No 6/14G/13 dated 28 February 2006;

1. The Condition of Approval referring to the review of the approval should be amended to read:

   "This approval becomes subject to review on 1 December **2015**, and then every 5 years thereafter."

2. The FILING ADVICE should be amended by adding the following:

   "Notification of Change No 2 dated 6 April 2011"

B. In Certificate of Approval No 6/14G/13 and its Technical Schedule both dated 28 February 2006, all references to the address of the submittor should be amended to read:

   "4 Dan Street
   Slacks Creek QLD 4127."

C. In Technical Schedule No 6/14G/13 dated 28 February 2006, the TEST PROCEDURE should be amended to read:

   "Instruments shall be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

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

   Maximum Permissible Errors

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

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

Australian Government

National Measurement Institute
12 Lyonpark Road, North Ryde NSW 2113

Certificate of Approval

No 6/14G/13

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

Ishida Model Carrier Weigh CW-1200 Automatic Catchweighing Instrument

submitted by Heat and Control Pty Ltd
407 Creek Road
Mt Gravatt QLD 4122.

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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 December 2010, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/14G/13' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI P6/14G/13' may be re-marked 'NMI 6/14G/13' but only by persons authorised by the submittor.

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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.

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

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

DESCRIPTIVE ADVICE

Pattern: provisionally approved 8 November 2005
approved 27 February 2006

- An Ishida model Carrier Weigh CW-1200 single interval class Y(b) automatic catchweighing instrument of 70 kg maximum capacity.

Variant: provisionally approved 8 November 2005
approved 27 February 2006

1. Model Carrier Weigh CW-900.

Technical Schedule No 6/14G/13 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/14G/13 dated 28 February 2006
Technical Schedule No 6/14G/13 dated 28 February 2006 (incl. Test Procedure)
Figures 1 to 6 dated 28 February 2006

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the National Measurement Regulations 1999.

TECHNICAL SCHEDULE No 6/14G/13

Pattern: Ishida Model Carrier Weigh CW-1200 Automatic Catchweighing Instrument

Submittor: Heat and Control Pty Ltd
407 Creek Road
Mt Gravatt QLD 4122

1. Description of Pattern

An Ishida model Carrier Weigh CW-1200 class Y(b) automatic catchweighing instrument (Figure 1) which is approved for use to weigh objects dynamically (package in motion on the weighing receptor).

Instruments may also be known as Shinko Denshi instruments of the same model.

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

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

1.1 Details

The instrument is a single interval class Y(b) automatic catchweighing instrument with a verification scale interval of 0.1 kg, a maximum capacity of 70 kg and a minimum capacity of 1 kg. The instrument is approved with a conveyor speed up to a maximum of 156 m/min and a maximum object length of 1320 mm. The instrument has facilities to detect errors and provide error messages for situations outside the speed and package size limits.

The Ishida Carrier Weigh CW-1200 class Y(b) automatic catchweighing instrument (Figure 1) comprises:

(a) A weighing unit which contains three adjacent weighing modules (Figure 2) each of which comprises a motor driven belt conveyor-type load receptor which is supported by two sensor units (one on each side of the module, and each containing a force reduction mechanism and an HBM model PW2GC3 load cell of 18 kg maximum capacity). The belt width for the model CW-1200 is 1200 mm.

(b) A control/indication unit (Figure 3) which determines and displays a weight value from signals provided by the three weighing modules within the weighing unit (either individually or in combination).

(c) In-feed and out-feed conveyors may be provided at each end of the weighing unit.

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The weighing unit is connected to the control/indication unit which controls the conveyor motor driven belts, monitors the positions of packages on the weighing unit and provides the measurement data results on an indicator or output to peripheral and/or auxiliary devices.

The weighing unit includes optical sensors to detect the package as it travels along the conveyors. The three separate weighing conveyors of the weighing unit (Figures 1 and 2) comprise an incoming and a middle conveyor of the same size (conveyors A and B) and a longer outgoing conveyor (conveyor C).

Note: The instrument is only approved in situations where the weight value determined for each item is actually to be used as the basis of a transaction. This may for example be by the value being printed and affixed to the item, or by association of the weight value with identification from the particular item (e.g. by a barcode which individually identifies the item) for later billing – the latter may be appropriate for use in freight/postal situations.

1.2 Operation

The system is designed to operate in dynamic weighing mode. A static non-automatic weighing mode is available when the conveyor is stopped.

An object to be weighed moves from an infeed conveyor onto the weighing unit conveyors and is weighed while in motion. After weighing, the object continues onto an outfeed conveyor and the weight data is displayed on the control/indication unit.

Optical sensors provide information regarding the position of the package on the conveyor and provide signals to initiate weighing operations once the package arrives on the weighing unit.

1.3 Indicator

The control/indication unit (Figure 3) displays the weight (in kg) on an LCD display. The control/indication unit also includes buttons to control the operation of the weighing conveyor belts and a tri-colour light to indicate the status.

1.3.1 Zero

The initial zero-setting device has a nominal range of approximately 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.

1.4 Weighing and Conveyor System

The weighing unit contains six HBM model PW2GC3 load cells of 18 kg maximum capacity mounted as shown in Figure 4.

The conveyor system comprises separate incoming, centre and outgoing conveyors (Figure 2) and an associated electric motor drive arrangement for each conveyor. Optical sensors are provided, located alongside the conveyors, which signal the position of the item on the conveyors.

1.5 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

1.6 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed by sealing the cover(s) shown in Figure 5 and 6 (located in the control panel and on the side of the weighing unit).

1.7 Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Ishida (or Shinko Denshi)
Model designation	……
Serial number	.....
Accuracy class	Y(b)
Pattern approval mark	6/14G/13
Maximum capacity	*Max* …. kg
Minimum capacity	*Min* ….. kg
Verification scale interval	*e* =……. kg
Maximum conveyor speed	..... m/s
Minimum conveyor speed	..... m/s
Maximum object length	*Max* ..... cm
Special temperature limits	0°C to +40°C

2. Description of Variant 1

A model Carrier Weigh CW-900 class Y(b) automatic catchweighing instrument. This model is the same as the pattern (model CW-1200) except that the belt width for the model CW-900 is 900 mm.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

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

Non-automatic Operation (class 4)

The maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, *m*, expressed in verification scale intervals, *e*, are:

±0.5*e* for loads $0 \leq m \leq 50$;
±1.0*e* for loads $50 < m \leq 200$; and
±1.5*e* for loads $200 < m \leq 1000$.

- With the conveyor switched off, carry out a load test and an eccentricity test.

Automatic Operation

The maximum permissible errors for class Y(b) automatic catchweighing instruments for increasing and decreasing loads on initial verification/certification for loads, *m*, expressed in verification scale intervals, *e*, are:

±1.5*e* for loads $0 \leq m \leq 50$;
±2*e* for loads $50 < m \leq 200$; and
±2.5*e* for loads $200 < m \leq 1000$.

- Prepare two test objects, one close to minimum capacity and the other close to the maximum capacity. The uncertainty of the test masses shall be equal to or better than 0.5*e*.
- The tests shall be conducted at the maximum rate at which the system will operate (i.e. introduce packages immediately after each other).
- Vary the position of the test masses across the load receptor.

TESTS – Use the following tests to determine compliance with the maximum permissible errors – n is a whole number.

TEST 1 – Maximum permissible error = ±1.5*e*

Test load = n*e*

Readings:	A: (n - 2)*e*	reject
	B: (n + 2)*e*	reject
	A < Readings < B	accept

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TEST 2 – Maximum permissible error = ±2e

Test load = (n + 0.5)e

Readings:	A: (n – 2)e	reject
	B: (n + 3)e	reject
	A < Readings < B	accept

TEST 3 – Maximum permissible error = ±2.5e

Test load = ne

Readings:	A: (n – 3)e	eject
	B: (n + 3)e	reject
	A < Readings < B	accept

6/14G/13
22 April 2010

Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 6/14G/13
Change No 1

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following changes are made to the approval documentation for the

Ishida Model Carrier Weigh CW-1200 Automatic Catchweighing Instrument

formerly submitted by Heat and Control Pty Ltd

now submitted by Scale Components Pty Ltd
288 Musgrave Road
COOPERS PLAINS QLD 4108.

A. In Certificate of Approval No 6/14G/13 dated 28 February 2006, the FILING ADVICE should be amended by adding the following:

"Notification of Change No 1 dated 22 April 2009

B. In Certificate of Approval No 6/14G/13 and its Technical Schedule both dated 28 February 2006, all references to the address of the submittor should be amended to read:

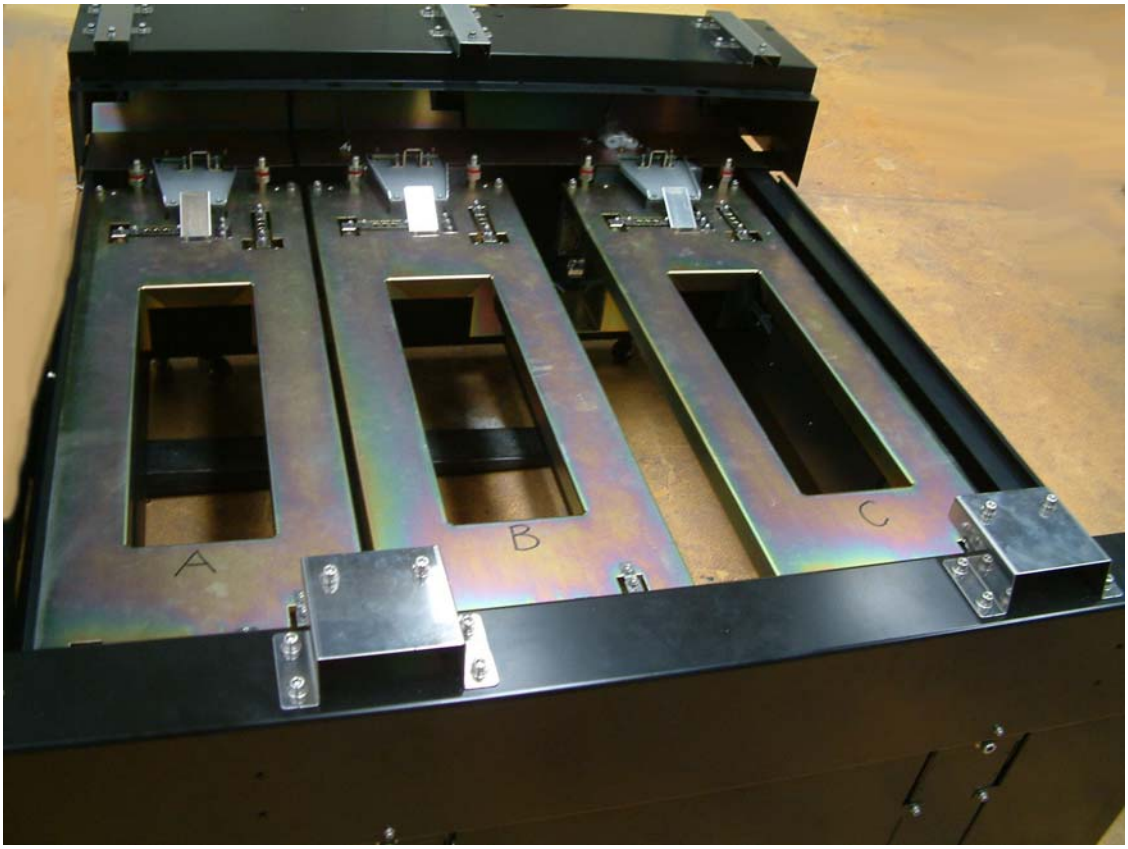
"Scale Components Pty Ltd
288 Musgrave Road
COOPERS PLAINS QLD 4108"

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

FIGURE 6/14G/13 – 1

Ishida Model Carrier Weigh CW-1200 Basework

FIGURE 6/14G/13 – 2



Carrier Weigh CW-1200 Basework With Conveyor Load Receptors Removed

FIGURE 6/14G/13 – 3

Control/Indication Unit

FIGURE 6/14G/13 – 4

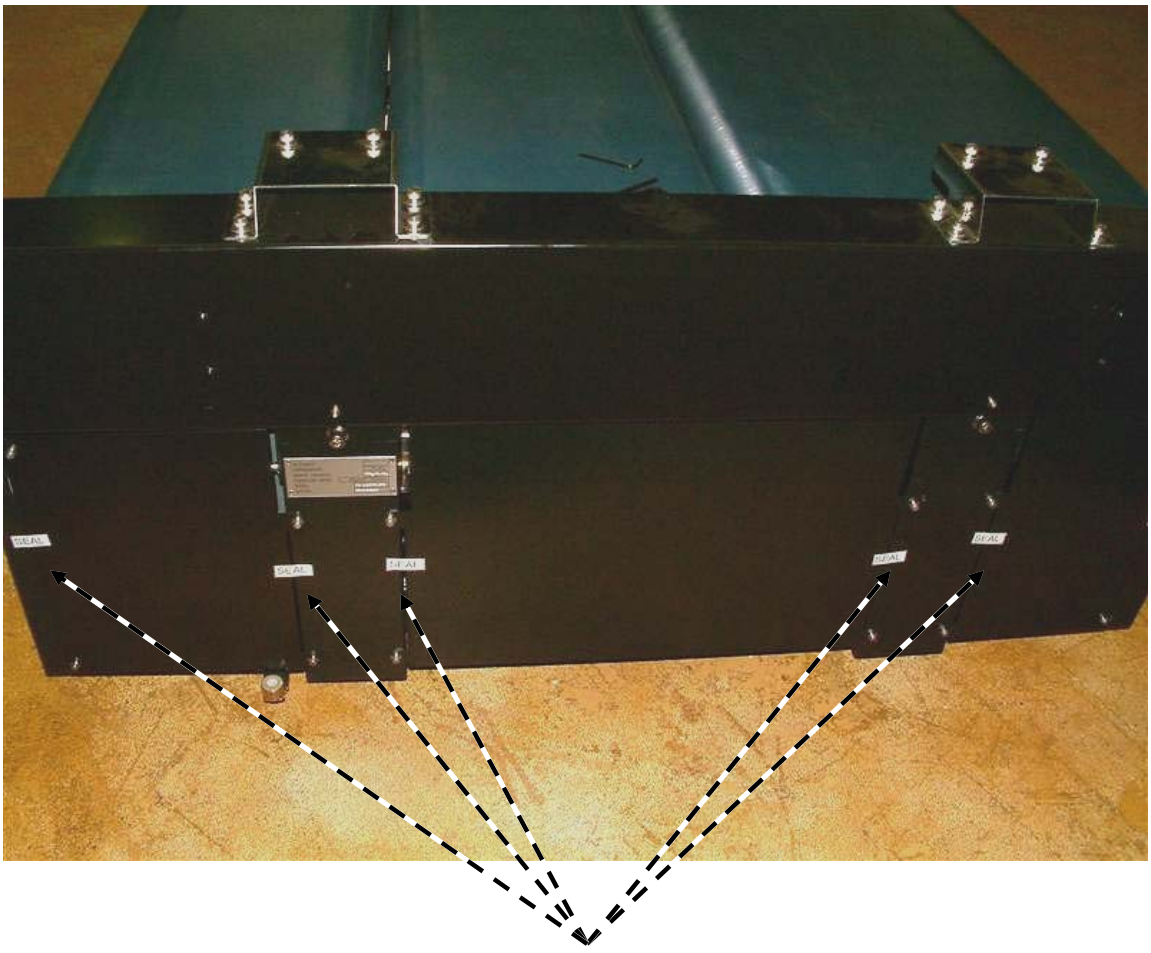
HBM Model PW2GC3 Load Cell and Mounting

FIGURE 6/14G/13 – 5

Typical Sealing

Sealing Inside Control/Indication Unit

FIGURE 6/14G/13 – 6



Typical Sealing

Sealing of Basework Covers