



Australian Government
Department of Industry,
Innovation and Science

National Measurement Institute

Certificate of Approval NMI 6/4C/234

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.

Ohaus Model CKW-55 Weighing Instrument

submitted by Ohaus Corporation
19A Chapin Road
Pine Brook NJ 07058
USA.

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 **1/12/21**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variants 1 & 2 approved – interim certificate issued	4/05/05
1	Pattern and variants 1 & 2 approved – certificate issued	24/05/05
2	Pattern and variants 1 & 2 reviewed – notification of change issued	15/12/15
3	Pattern and variants 1 & 2 reviewed & updated (technical schedule & test procedure) – certificate issued	30/05/17

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4C/234' 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 S1/0/A or No S1/0B.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to the instrument shall be within the limits specified herein and in any approval documentation for the components where they are approved separately.

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*.



Dr A Rawlinson

TECHNICAL SCHEDULE No 6/4C/234

1. Description of Pattern **approved on 4/05/05**

An Ohaus model CKW-55 single-interval self-indicating weighing instrument (Table 1 and Figure 1) with a maximum capacity of 15 kg and a verification scale interval of 0.005 kg.

Instruments are NOT FOR TRADING DIRECT WITH THE PUBLIC and shall be so marked.

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

The instrument operates from mains AC power (100-240 V AC, 50/60 Hz).

1.1 Basework

The Ohaus model CKW15L basework has the load receptor directly supported by a single load cell. The load receptor has maximum nominal dimensions of 305 x 305 mm.

1.2 Load Cell

A Mettler Toledo model SSP1022 load cell of 30 kg maximum capacity is used.

1.3 Indicator

An Ohaus model CKW-55 digital indicator is used (Figure 2). The indicator may be attached directly to the base or mounted on a column; it may also be located remotely.

The indicator also has additional functions including 'under/accept/over' display, accumulation of statistical information regarding weighings, and a 'library' function to allow storing/recall of 'under/accept/over' values and pre-set tare values against ID numbers. 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.

1.3.1 Zero

A zero-tracking device may be fitted.

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.

The instrument has an initial zero-setting device with a nominal range of not more than 20% of the maximum capacity of the instrument.

1.3.2 Tare

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

In addition, an automatic subtractive taring device of up to the maximum capacity of the instrument may be fitted.

When a taring device is in use, the gross value and tare value may be displayed temporarily by the use of the G/N/T button.

1.3.3 Display Check

A display check is initiated whenever power is applied.

1.4 Levelling

The instrument is provided with adjustable feet and a level indicator.

1.5 Descriptive Markings and Notices

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's mark, or name written in full	Ohaus Corporation
Indication of accuracy class	Ⓜ
Pattern approval number for the instrument	NMI 6/4C/234
Maximum capacity	Max g or kg #1
Minimum capacity	Min g or kg #1
Verification scale interval	e = g or kg #1
Serial number of the instrument

#1 These markings are also shown near the display of the result if they are not already located there.

In addition, instruments not greater than 100 kg capacity shall carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

1.6 Sealing Provision

Provision is made for the calibration adjustments in the Ohaus model CKW-55 digital indicator to be protected by correct setting of the 'cal' switch within the instrument and then sealing to prevent access within the instrument by means of destructible labels over the access screws on each side of the indicator (Figure 3).

The calibration is only protected when the instrument has been configured in 'Legal For Trade' mode and then the 'cal' switch set to protect the calibration. This can be checked by switching the indicator off and then on – in the start up display sequence, 'LFTon' will be shown indicating that the calibration has been set and protected correctly.

1.7 Verification Provision

Provision is made for a verification mark to be applied.

2. Description of Variant 1 approved on 4/05/05

Certain Ohaus CKW-55 series instruments with certain CKW series baseworks, and of specifications as listed in Tables 1 & 2.

3. Description of Variant 2 approved on 4/05/05

Certain baseworks of this approval used with a compatible approved (by Supplementary Certificate) indicator provided the conditions set out below are met. In this case instruments may be known according to the basework model number (model CKW3R, etc.).

In addition to the markings specified in clause **1.5 Markings**, instruments are marked with the approval number for the indicator used, together in the same location.

The approved baseworks and their limiting characteristics are given in Tables 1 & 2.

The conditions to be met are:

- The excitation voltage used is within the range approved for the baseworks.
 - The maximum load applied to the basework (live load plus any dead load) does not exceed the load cell maximum capacity.
- The verification scale interval is not less than the minimum value specified.
- The number of verification scale intervals is less than or equal to the n_{max} value specified.
- The signal voltage per verification scale interval is not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

$$\text{Indicator Sensitivity} \leq 1000 \times E_x \times LC_Sens \times e / E_{max}$$

where E_x = Excitation from indicator (V)

LC_Sens = Load cell sensitivity (mV/V)

E_{max} = Load cell maximum capacity (kg)

e = verification scale interval of the instrument (kg)

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (μV)

Instrument/ Indicator Model (#1)	Instrument Model (#2)	TABLE 1		
		Basework Model (#3)	Maximum Capacity	Maximum Platform Size mm x mm
CKW-55	CKW3R55	CKW3R	3 kg	254 x 254
CKW-55	CKW6R55	CKW6R	6 kg	254 x 254
CKW-55	CKW15L55	CKW15L	15 kg	305 x 305
CKW-55	CKW30L55	CKW30L	30 kg	305 x 305

(#1) The indicator model number by which the instrument may also be known.

(#2) The instrument model (item) number by which the instrument is typically known when used with the corresponding model indicator.

(#3) Instruments may also be known according to the basework model number, typically when used with alternative approved indicators. See variant 2.

TABLE 2

Basework model		CKW3R	CKW6R	CKW15L	CKW30L
Maximum capacity	kg	3	6	15	30
Typical verification scale interval	kg	0.001	0.002	0.005	0.010
Maximum number of verification scale intervals	n_{max}	3000	3000	3000	3000
Load cell model (suffix)					
Mettler Toledo SSP1022 series		-6	-10	-30	
Mettler Toledo SSP1241 series					-50
Load cell maximum capacity					
(E_{max})	kg	6	10	30	50
Number of load cells					
Minimum value of verification scale interval for basework					
(v_{min} of load cell)	kg	0.001	0.0017	0.005	0.0083
Load cell sensitivity					
at E_{max}	mV/V	2	2	2	2
Input impedance					
ohm		387	387	387	410
Excitation voltage					
(maximum)	V	20	20	20	20
Cable length (± 0.1 m)					
m		1 (#4)	1 (#4)	1 (#4)	2 (#5)
Number of leads (plus shield)					
		4	4	4	6

(#4) The load cell cable length supplied with the basework shall not be shortened.
 (#5) The load cell cable length supplied may be shortened to suit the basework.

TEST PROCEDURE

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 6/4C/234 – 1



Note: Additional markings and notices are required – refer to the Technical Schedule.

Ohaus Model CKW-55 Weighing Instrument

FIGURE 6/4C/234 – 2



Note: Additional markings and notices are required – refer to the Technical Schedule.

Ohaus Model CKW-55 Digital Indicator

FIGURE 6/4C/234 – 3



At least one screw on each side of the indicator to be sealed

Note: Additional markings and notices are required – refer to the Technical Schedule.

Sealing of Model CKW-55 Indicator

~ End of Document ~