



Australian Government

**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Cancellation
Certificate of Approval No 6/9C/264

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

This is to certify that the approval for use for trade granted in respect of the

Avery Berkel Model H305 Weighing Instrument

submitted by Avery Berkel International
Foundry Lane
Smethwick
West Midlands B662LP
UNITED KINGDOM

has been cancelled in respect of new instruments as from 1 September 2006.

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

A handwritten signature in black ink, appearing to be 'J. G. T.', written in a cursive style.



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Certificate of Approval

No 6/9C/264

Issued under Regulation 63
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the

Avery Berkel Model H305 Weighing Instrument

submitted by Avery Berkel International
Foundry Lane
Smethwick
West Midlands B662LP
UNITED KINGDOM.

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 September 2005, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/9C/264 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 Commission 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 the Commission's Document 106.

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

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

Special - Variant 2

This approval relates to the suitability of the instrument for use for trade only in respect of its weighing performance and does not relate to safety or any other aspects related to the filling of liquefied petroleum gas (LPG) containers.

DESCRIPTIVE ADVICE

Pattern: approved 23 August 2000

- An Avery Berkel model H305 self-indicating weighing instrument of 300 kg maximum capacity.

Variants: approved 23 August 2000

1. The model H305 basework of this approval with a compatible Commission-approved indicator.
2. The Avery Berkel model R217Ex instrument, intended for the filling of LPG containers.

Technical Schedule No 6/9C/264 describes the pattern and variants 1 & 2.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/9C/264 dated 30 October 2000
Technical Schedule No 6/9C/264 dated 30 October 2000 (incl. Test Procedure)
Figures 1 to 4 dated 30 October 2000

Signed by a person authorised under Regulation 63 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



TECHNICAL SCHEDULE No 6/9C/264

Pattern: Avery Berkel Model H305 Weighing Instrument.

Submittor: Avery Berkel International
Foundry Lane
Smethwick
West Midlands B662LP
UNITED KINGDOM.

1. Description of Pattern

An Avery Berkel model H305 self-indicating platform weighing instrument of 300 kg maximum capacity and approved for use with up to 3000 verification scale intervals.

1.1 Basework

The model H305 basework (Figures 1 and 2) has the load receptor directly supported by a single load cell.

The load receptor has maximum nominal dimensions of 700 x 600 mm.

1.2 Load Cell

An Avery Berkel model T110 load cell of 300 kg capacity is used, mounted as shown in Figure 2.

1.3 Indicator

An Avery Berkel model L225 digital indicator (Figure 3) is used. This indicator is also described in the documentation of NSC approval No S311.

1.3.1 Zero

Zero is automatically corrected to within $\pm 0.25e$ whenever the instrument comes to rest within $0.5e$ of zero.

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 a keyboard-entered pre-set subtractive taring device, each having a capacity of up to the maximum capacity of the instrument, may be fitted.

1.3.3 Display Check

A display check is initiated whenever power is applied or when the test button is pressed.

1.4 Verification/Certification Provision

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

1.5 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed by the method described in the approval documentation for the indicator.

1.6 Markings and Notices

Instruments are marked with the following:

Manufacturer's mark, or name written in full	Avery Berkel
Name or mark of manufacturer's agent
Indication of accuracy class	Ⓜ
Maximum capacity	<i>Max</i> kg *
Minimum capacity	<i>Min</i> kg *
Verification scale interval	<i>e</i> = kg *
Subtractive tare capacity	<i>T</i> = - kg *
Serial number of the instrument
Pattern approval mark for the instrument	NSC No 6/9C/264

- * These markings shall also be shown near the display of the result if they are not already located there. The marking of tare capacity is not required if its value is the same as the maximum capacity.

2. Description of Variants

2.1 Variant 1

The model H305 basework of this approval (Table 1) used with a compatible Commission-approved (by Supplementary Certificate) indicator provided the conditions set out below are met.

The approved basework and its limiting characteristics are given in Table 1.

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 no 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 (nominal) (kg)

e = verification scale interval of the instrument (kg)

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

2.1.1 Markings

- (a) The indicator is marked and carries notices in accordance with its NSC approval documentation. The indicator is also marked with the pattern approval mark (NSC No 6/9C/264) for the basework.
- (b) The basework is marked with the following:

Manufacturer's mark, or name written in full	Avery Berkel
Name or mark of manufacturer's agent
Indication of accuracy class	Ⓜ
Maximum capacity	Max kg
Model number
Serial number of the instrument
Pattern approval mark for the instrument	NSC No 6/9C/264

2.2 Variant 2

The Avery Berkel model R217Ex instrument (Figure 4), intended for the filling of liquefied petroleum gas (LPG) containers (see the Special Condition of Approval relating to this variant).

The instrument uses a basework similar to the 300 kg model H305 (described in the pattern and Table 1), but is configured with a maximum capacity of 150 kg and a verification scale interval of 0.05 kg. The main (floor-level) load receptor has maximum nominal dimensions of 500 mm x 500 mm, while a smaller additional fold-out elevated load receptor may be used instead of the main receptor according to the size of the container being filled. The basework is fitted with an Avery Berkel model T110 load cell of 350 kg maximum capacity.

A GEC Avery model L217Ex digital indicator is used. This indicator is similar to that described in the documentation of NSC approval No S311 and is fitted with special software features and may also be known as an Avery Berkel indicator of the same model. The software features include facilities for entering LPG container types and for associating capacities and tares with each type.

Instruments are intended for the weighing and filling of liquefied petroleum gas (LPG) containers and have special features for this purpose. Filling is controlled by the indicator using pneumatic controls, based on the weight reading of the container and additional data that is entered by the operator.

TEST PROCEDURE

Instruments should be tested in conjunction with any tests specified in the approval documentation for the indicator used, and in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

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

- $\pm 0.5 e$ for loads $0 \leq m \leq 500$;
- $\pm 1.0 e$ for loads $500 < m \leq 2\,000$; and
- $\pm 1.5 e$ for loads $2\,000 < m \leq 10\,000$.

TABLE 1

Basework:

Basework model	H305
Basework maximum capacity	300 kg
Maximum number of verification scale intervals	3000
Minimum value of verification scale interval	0.05 kg
Maximum platform size	700 x 600 mm

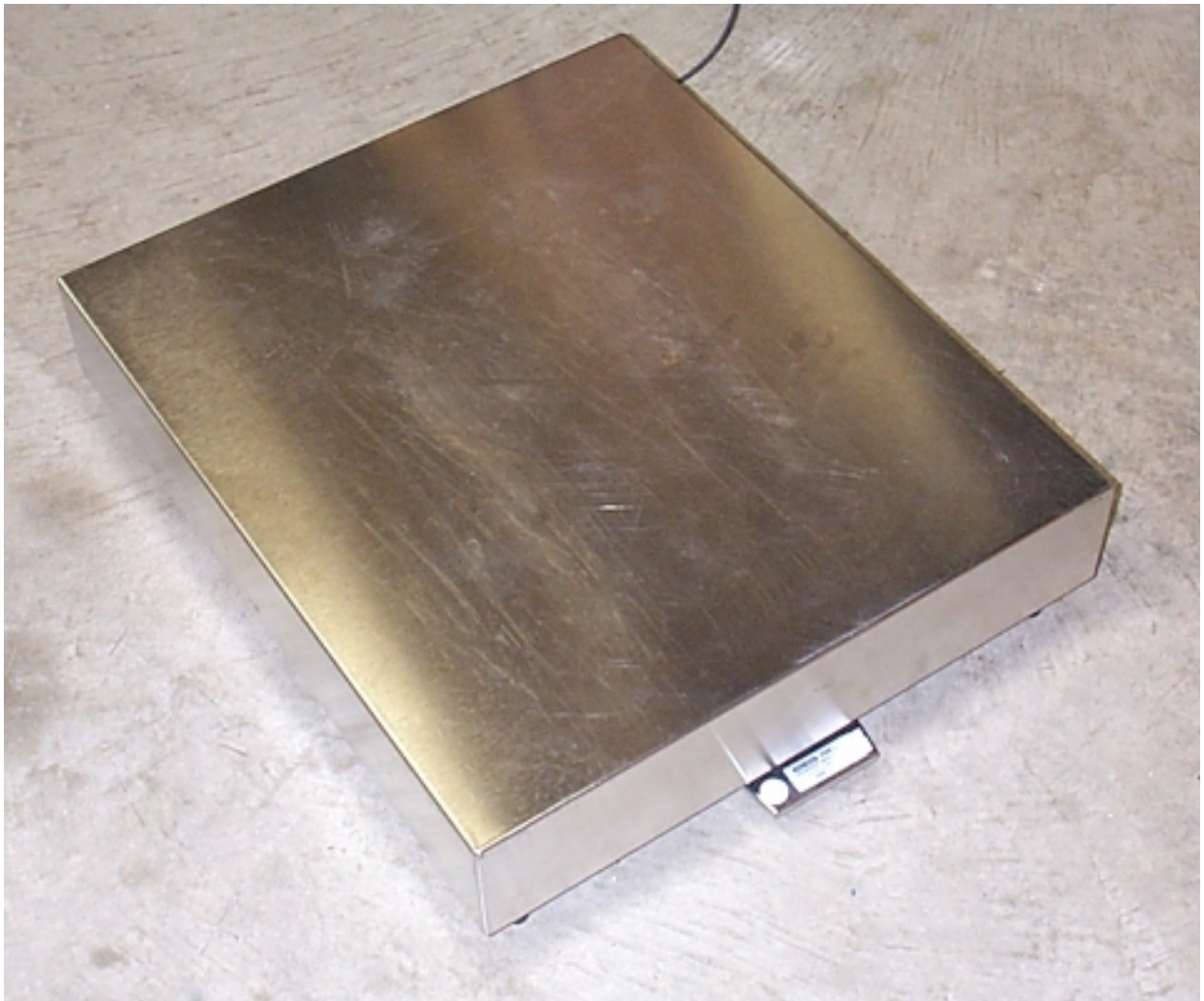
Load cell:

Model number	T110
Load cell maximum capacity E_{max}	350 kg
Number of load cells	1
Load cell sensitivity at E_{max}	1.63 mV/V
Input impedance	405 Ω
Excitation voltage	17 V maximum
Cable length (+0.1m)	3.0 m
Number of leads (plus shield)	4

(#) The load cell cable length supplied with the basework shall not be shortened.

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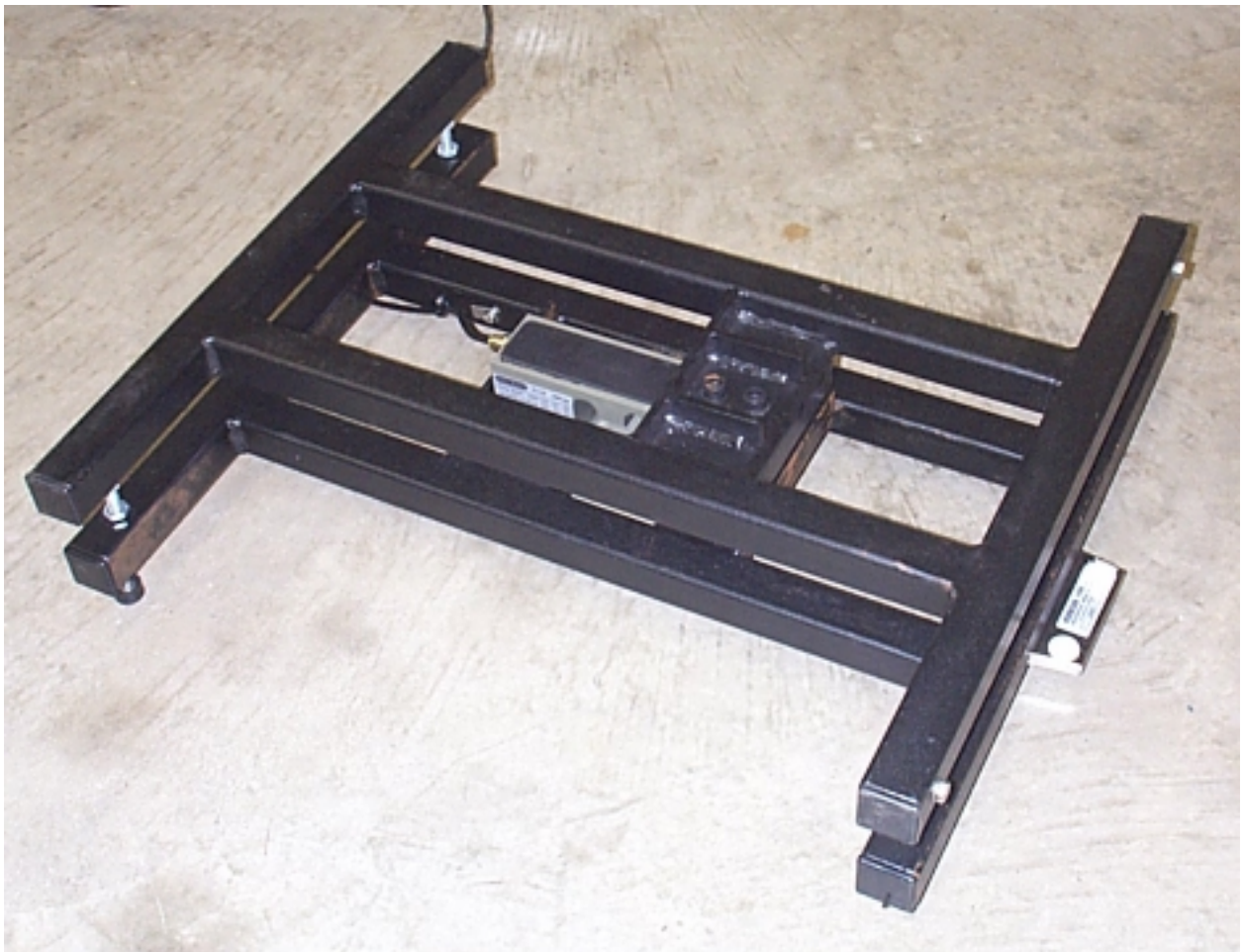
FIGURE 6/9C/264 - 1



Avery Berkel Model H305 Weighing Instrument

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FIGURE 6/9C/264 - 2



Avery Berkel Model H305 Weighing Instrument

FIGURE 6/9C/264 - 3



Avery Berkel Model L225 Digital Indicator

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FIGURE 6/9C/264 - 4



Avery Berkel Model R217Ex Weighing Instrument