Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

No 6/13/3

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

Rinstrum Model HS300A-R320-K305 Weighing Instrument

submitted by Rinstrum Pty Ltd
41 Success Street
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 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated July 2004.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 April 2014, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/13/3' 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.

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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.

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.

DESCRIPTIVE ADVICE

Pattern: approved 12 March 2009

- A Rinstrum Model HS300A-R320-K305 class (III) non-automatic multiple range freely-suspended self-indicating weighing instrument with a maximum capacity of 300 kg.

Variants: approved 12 March 2009

1. In certain other capacities.
2. As single range instruments of certain capacities.
3. The pattern or variants with alternative branding.
4. The pattern or variants with alternative hanger.

Technical Schedule No 6/13/3 describes the pattern and variants 1 to 4.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/13/3 dated 13 March 2009
Technical Schedule No 6/13/3 dated 13 March 2009 (incl. Tables 1 and 2, and Test Procedure)
Figures 1 and 2 dated 13 March 2009

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 6/13/3

Pattern: Rinstrum Model HS300A-R320-K305 Weighing Instrument

Submittor: Rinstrum Pty Ltd
41 Success Street
Acacia Ridge QLD 4110

1. Description of Pattern

A Rinstrum model HS300A-R320-K305 class (III) non-automatic multiple range self-indicating freely-suspended weighing instrument (Figure 1). The pattern has a verification scale interval of 0.05 kg for the low range which has a maximum capacity of 150 kg, and with a verification scale interval of 0.1 kg for the high range which has a maximum capacity of 300 kg.

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

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.

1.1 Resistant Mechanism

The Rinstrum model HS300A-R320-K305 instrument uses a ZEMIC model B3G-500 kg S-type tension load cell of 500 kg maximum capacity, having a Classification of C3 and a 'Y' value (Y = Emax/vmin) of 10 000. A ring for suspension of the instrument is attached to the load cell, and also a ring (which may have self-aligning properties) from which the load may be suspended.

1.2 Indicator

A Rinstrum model R320 digital indicator is used (Figure 1). The indicator is also described in the documentation of approval NMI S420. For the HS300A-R320-K305 instrument, the model suffix '-R320-K305' indicates that the R320 indicator with 'K305' firmware as described in S420 is used. Indicators which are variants of the Rinstrum model R320 and which are described in NMI S420 may also be used (e.g. model R310); this may include alternative firmware versions approved in NMI S420 (including firmware 'K302' which is the firmware used in the pattern of NMI S420 but not specifically mentioned).

1.3 Zero

A zero-tracking device may be fitted.

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.

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1.4 Tare

A semi-automatic subtractive taring device of up to the maximum capacity of the instrument may be fitted.

1.5 Display Check

A display check is initiated whenever power is applied.

1.6 Power Supply

Power supply may be either:

- By a rechargeable battery and circuitry for recharging it, provided within the instrument housing;
- 12 – 24 V DC supplied by an AC/DC mains adaptor or other DC power source; or
- Batteries (4.1 to 6 V DC) – typically 4 x AA (alkaline, NiMH or NiCad).

Note: The AC/DC mains adaptor supplied was a Soanar model SF30-240125X power supply (output 24 V, 1.25 A) which also served to recharge the internal battery – the submittor should be consulted regarding the acceptability of alternative power supply units.

Note: Where power is supplied externally care shall be taken to ensure that any power supply arrangements to not interfere with the ability of the instrument to hang vertically.

1.7 Additional Features

The indicator also has certain additional functions (e.g. hold functions, 'Live Weight', counting) which can be assigned to a function key of the indicator. The additional functions (other than the indications of measured mass, i.e. gross, tare, net, displayed either on the indicator or on an auxiliary or peripheral device), are not approved for trade use.

1.8 Sealing Provision

The calibration and set-up modes of the indicator can be secured with a passcode.

To ensure that a passcode has been set, press the POWER and FUNCTION keys together until the word SETUP appears (about 2 seconds); following display of the software version and the calibration event value, the words ENTER and CODE will appear. This indicates that a passcode has been set (the display will then show 000000 and pressing the tare key will exit this sequence).

In addition, a non-resettable calibration event counter increments each time that any parameter or calibration is changed and saved. The value of the calibration event counter is shown (as C followed by a number) in the display as part of the power-up display sequence, and the value at the time of verification/certification shall be recorded on a destructible adhesive label attached to the instrument.

Any subsequent alteration to the calibration or parameters will be evident as the recorded value and the current calibration event counter value will differ.

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1.9 Verification/Certification Provision

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

1.10 Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Rinstrum Pty Ltd	#1
Indication of accuracy class		
Maximum capacity	*Max* ..... kg	#2
Minimum capacity	*Min* ..... kg	#2
Verification scale interval	*e* = ... kg	#2
Maximum subtractive tare	*T* = - ..... kg	#3
Serial number of the instrument	.....	
Pattern approval mark for the instrument	NMI 6/13/3	
Pattern approval mark for other components	.....	#4

#1 Alternatively, refer to clause **2.3 Variant 3** paragraph (b).

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

#3 This marking is required if *T* is not equal to *Max*.

#4 May be located separately from the other markings.

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.

Note: For multiple range instruments the markings shall be as above, with the exception that 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, as shown in the instrument display (e.g. '←1→').

Range	1	2 (*)
Max	…. kg	…. kg
Min	…. kg	…. kg
e =	…. kg	…. kg

(*) The markings for each weighing range shall be clearly associated with an indication of the corresponding range (i.e. '←1→') to correspond to the weighing range designations shown in the instrument display.

2. Description of Variants

2.1 Variant 1

Certain other instruments in the Rinstrum H series, which are similar to the pattern, but have various capacities and have characteristics as listed in Table 1.

Some of the instruments use ZEMIC model H3 S-type tension load cells of certain capacities.

TABLE 1

Model (#1)	Max Range 2 kg	*e*2 kg	Max Range 1 kg	*e*1 kg	Load Cell (#2)
HS300A	300	0.1	150	0.05	B3G-500kg
HS600A	600	0.2	300	0.1	B3G-1t
HA60A	60	0.02	30	0.01	H3-100kg
HA300A	300	0.1	150	0.05	H3-500kg
HA600A	600	0.2	300	0.1	H3-1t
HA1200A	1200	0.5	600	0.2	H3-1.5t

(#1) The model may include a suffix such as "-R320-K305" which indicates the indicator model (R320) and firmware of the indicator (K305). Note that only firmware versions included in the documentation of approval NMI S420 may be used.

(#2) All load cells are ZEMIC, Class C3 with a 'Y' value (Y = Emax/vmin) of 10 000.

2.2 Variant 2

Certain other instruments in the Rinstrum H series which are similar to the pattern, but have a single range as listed in Table 2.

TABLE 2

Model (*1)	*Max* kg	*E* kg	Load Cell (*2)
HS30A	30	0.01	B3G-50kg †
HS60A	60	0.02	B3G-100kg †
HS150A	150	0.05	B3G-250kg
HS300A	300	0.1	B3G-500kg
HS600A	600	0.2	B3G-1t
HA60A	60	0.02	H3-100kg
HA150A	150	0.05	H3-250kg
HA300A	300	0.1	H3-500kg
HA600A	600	0.2	H3-1t
HA1200A	1200	0.5	H3-1.5t

(*1) The model may include a suffix such as "-R320-K302" which indicates the indicator model (R320) and firmware of the indicator (K302). Note that only firmware versions included in the documentation of approval NMI S420 may be used (and that K302 is the firmware of the pattern for S420).

(*2) All load cells are ZEMIC, Class C3 with a 'Y' value (Y = Emax/vmin) of 10 000, except the model B3G-50kg and B3G-100kg (marked † above) which have a 'Y' value of 7000.

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2.3 Variant 3

The pattern or variants with alternative branding.

This may be provided either:

a) With the model number, NMI approval number and the logo of the manufacturer (Rinstrum) provided on the instrument to enable identification of the instrument – but with the instrument also marked and known according to alternative brands (e.g. Company Name model HS300A-R320-K305).

b) With alternative model numbering and using alternative markings of a suppliers name – without mention of the manufacturer (Rinstrum). The instrument shall be marked with the NMI approval number, the supplier name, and the alternative model number. Responsibility for compliance of the instrument with this certificate shall remain with the manufacturer (Rinstrum).

- Instruments with the supplier name Gilbarco, and having model numbers in the form GI-H… (e.g. GI-HS30A being equivalent to the Rinstrum model HS30A shown in Table 2, an additional suffix such as '–K302' may be present).
- Instruments with the supplier name Sensortronics, and having model numbers in the form SE-H… (e.g. SE-HS30A being equivalent to the Rinstrum model HS30A shown in Table 2, an additional suffix such as '–K302' may be present).
- Instruments with the supplier name Accuweigh, and having model numbers in the form ACC-H… (e.g. ACC-HS30A-K302 being equivalent to the Rinstrum model HS30A shown in Table 2, an additional suffix such as '–K302' may be present).
- Instruments with the supplier name Sasco, and having model numbers in the form S-H… (e.g. S-HS30A-K302 being equivalent to the Rinstrum model HS30A shown in Table 2, an additional suffix such as '–K302' may be present).

2.4 Variant 4

The pattern or variants with alternative hanger, such as shown in Figure 2. Similar alternative hangers are acceptable, provided freedom of movement is provided in both horizontal directions (so that the centre of gravity of the item being weighed self-aligns with the load cell centre line and torsion forces are not applied to the load cell).

TEST PROCEDURE

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

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 12 of the *National Measurement Regulations 1999*.

For multiple range instruments with verification scale intervals of e_1, e_2 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

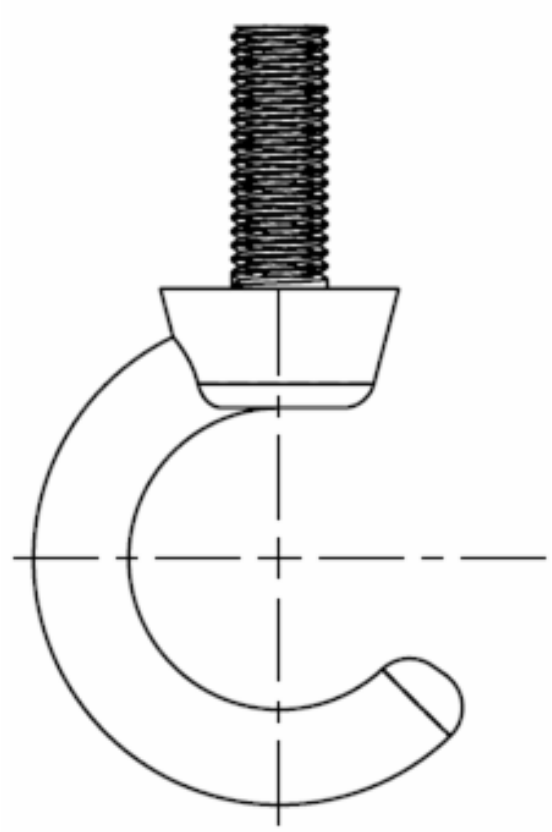
FIGURE 6/13/3 – 1

(a) HS300 instrument shown from front.

(b) Rear View, including alternative ring type.

Rinstrum H Series Weighing Instrument

FIGURE 6/13/3 – 2



Alternative Hanger – Variant 4