NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No 6/4C/54

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

Yamato Model ECS-301 Weighing Instrument

submitted by Yamato Scale (Australia) Pty Ltd
16 Gertrude Street
Arncliffe NSW 2205.

CONDITIONS OF APPROVAL

General:

This approval is subject to review on or after 1/9/91.
This approval expires in respect of new instruments on 1/9/92.

Instruments purporting to comply with this approval shall be marked NSC No 6/4C/54.

This approval may be withdrawn if instruments are constructed other than in accordance with the drawings and specifications lodged with the Commission.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates Nos S1/0 and/or S2/0, as appropriate.

Special:

If fitted with an output socket marked SATELLITE, it shall be covered.
If fitted with a button marked SATELLITE, it shall be rendered inoperative.

Signed

Executive Director

Descriptive Advice

Pattern: approved 20/8/86

- Yamato model ECS-301 weighing instrument of 25 kg maximum capacity with a verification scale interval of 0.005 kg.

Technical Schedule No 6/4C/54 describes the pattern.

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Filing Advice

The documentation for this approval comprises:

Certificate of Approval No 6/4C/54 dated 16/2/87
Technical Schedule No 6/4C/54 dated 16/2/87
Test Procedure No 6/4C/54 dated 16/2/87
Figure 1 dated 16/2/87

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4C/54

Pattern: Yamato Model ECS-301 Weighing Instrument

Submittor: Yamato Scale (Australia) Pty Ltd
16 Gertrude Street
Arncliffe NSW 2205

1. Description of Pattern

A self-indicating weighing instrument (Figure 1) of 25 kg maximum capacity with a verification scale interval of 0.005 kg. The instrument may be fitted with an output socket for the connection of an auxiliary or a peripheral device.

1.1 Zero

Zero is automatically set to within ± 0.25e whenever the instrument comes to rest within ± 0.5e. If the instrument comes to rest outside that range but within the zero setting range, zero may be set by pressing the zero button. The zero light illuminates whenever zero is set within ± 0.25e.

1.2 Display Check

A display check is initiated whenever power is applied to the instrument.

1.3 Tare

A semi-automatic taring device and/or a non-automatic taring device may be fitted, each of up to 9.000 kg capacity.

The semi-automatic device permits setting of tare to within ± 0.25e and the non-automatic device permits setting to within ± 0.5e.

On instruments with more than one taring device an attempt to enter tare by the use of one device, with a tare having already been acquired by use of the other, shall have no effect or shall override or cancel the tare already entered.

1.4 Counting Facility

Instruments incorporate a facility which performs a counting function by electronic calculation.

1.5 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number	
NSC approval number	NSC No 6/4C/54
Accuracy class	(III)
Maximum capacity	Max ... kg *
Minimum capacity	Min ... kg *
Verification scale interval	e = d = ... kg *
Maximum subtractive tare	T = - ... kg

* These markings are repeated in the vicinity of each reading face.

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In addition the instrument is marked NOT FOR RETAIL COUNTER USE.

1.6 Verification Provision

Provision is made for a verification mark to be applied.

1.7 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator is a notice advising that the instrument must be level when in use.

TEST PROCEDURE 6/4C/54

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors are:

± 0.5e for loads between 0 and 500e;
± 1.0e for loads between 501e and 2000e; and
± 1.5e for loads above 2000e.

1. Zero Test

As the automatic device (where fitted) may reset zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked as described in Document 104, with a load equal to , say, 10e on the load receptor. The indications with 0.25e and 0.75e additional mass on the load receptor will be 10e and 11e respectively.

2. Zero Range

The maximum range of operation of the zero setting device should not exceed 4% of the maximum capacity (± 2% approximately). With zero balance indicated apply a load of, say, 2.5% of maximum capacity to the instrument and press the zero button; the instrument should not rezero.

3. Load Test

Test loads are to be applied to the instrument in not less than 5 approximately equal steps increasing to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load.

4. Range of Indication

The maximum mass indicated should not exceed the marked maximum capacity by more than 10e; above this indicated mass the indication should be blank or show non-numerical characters.

The minimum mass indicated should be zero; below this the indication should be blank, show non-numerical characters, or the mass will be indicated prefixed by a minus sign.

5. Taring

The semi-automatic taring device (where fitted) shall permit setting of tare to within ± 0.25e at any load within its capacity. This may be checked as described for Zero Test. The non-automatic taring device (where fitted) shall permit setting of tare to within ± 0.5e at any load within its capacity. A tare should not be able to be acquired above the marked tare capacity.

6. Counting Function

The instrument may be tested for accuracy of count for a unit mass greater than or equal to the verification scale interval, in which case the number counted shall be correct to one count.

FIGURE 6/4C/54 - 1

Yamato ECS-301