



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Cancellation
Certificate of Approval
No 13/1/8

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

Accu-Sort Systems Model DM-3000 Dimensional Measuring Instrument

submitted by AccuSort Australia Pty Ltd
 PO Box 127
 Northmead NSW 2152

has been cancelled in respect of new instruments as from 1 April 2011.

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, consisting of a series of loops and flourishes, positioned to the right of the signature text.



Australian Government

**National Measurement
Institute**

12 Lyonpark Road, North Ryde NSW 2113

Certificate of Approval

No 13/1/8

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

Accu-Sort Systems Model DM-3000 Dimensional Measuring Instrument

submitted by AccuSort Australia Pty Ltd
PO Box 127
NORTHMEAD NSW 2152.

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 July 2008, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NSC 13/1/8' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NSC P13/1/8' may be re-marked 'NSC 13/1/8' but only by persons authorised by the submittor.

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.

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.

Special:

Instruments are only approved for use for determination of the dimensions of a rectangular box and for the calculation of volume and/or 'dimensional weight' value of the item, for the purposes of determining freight or postal charges.

DESCRIPTIVE ADVICE

Pattern: provisionally approved 17 June 2003
approved 1 April 2004

- An Accu-Sort Systems model DM-3000 dimensional measuring instrument.

Technical Schedule No 13/1/8 describes the pattern.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 13/1/8 dated 15 November 2004
Technical Schedule No 13/1/8 dated 15 November 2004 (incl. Test Procedure)
Figures 1 to 4 dated 15 November 2004

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. H. T.', located in the bottom right corner of the page.

TECHNICAL SCHEDULE No 13/1/8

Pattern: Accu-Sort Systems Model DM-3000 Dimensional Measuring Instrument

Submittor: AccuSort Australia Pty Ltd
PO Box 127
NORTHMEAD NSW 2152

1. Description of Pattern

An Accu-Sort Systems model DM-3000 dimensional measuring instrument (Figure 1) which is approved for use for the determination of the linear dimensions of objects while they are in motion.

1.1 Details

The pattern is approved for use for the determination of the linear dimensions of objects having maximum dimensions (i.e. length x width x height) of 121.5 x 90.5 x 91 cm and minimum dimensions 10.5 x 10.5 x 6 cm, with a scale interval of measurement (d) of 5 mm, with a belt speed (V_{max}) from 9.6 to 165 m/min.

The pattern is approved for use in measuring the linear dimensions of opaque rectangular box-shaped objects (rectangular parallelepiped – #) only; the dimensions determined may also be used for the calculation of volume and/or 'dimensional weight' value (*) of the item (refer to the Special Condition of Approval).

- (#) A rectangular box (rectangular parallelepiped) is a polyhedron having six faces that are parallel in pairs; each face is a parallelogram and adjacent edges are perpendicular.
- (*) A '**dimensional weight**' value is a calculated value deemed to be a weight value obtained by applying a conversion factor to the object's volume as calculated from the measured dimensions.

1.2 Dimensioning Head

The pattern includes a dimensioning head (Figure 2) mounted above a belt-conveyor type load receptor. The dimensioning head uses a solid state laser diode and linear charge couple device (CCD) array to capture the width and height of the object.

1.3 Tachometer

The belt-conveyor receptor uses a tachometer (Figure 3) and laser photo eye to measure the length of the object. The tachometer is fitted with a disc and solid state electronics that produce pulses of a frequency proportional to the speed of the disc rotation, and hence the speed of the belt.

1.4 Central Processing Unit

A central processing unit (CPU) in the measuring head converts the detected length, width and height characteristics into the linear dimensions of the object.

1.5 Indications

The pattern may not be fitted with a local display unit however measurement data from the CPU is made available to other systems for indication and/or printing by means on an RS232 serial port.

Printed and displayed information must be made available for verification/certification and must comply with the requirements set out in NSC Document NSC R129, *Multi-dimensional Measuring Instruments*, in particular as per the relevant items from the extract below.

7.9.1 Any printed ticket or displayed indication shall include sufficient information to identify the transaction, for example:

- (a) dimensions: length (L), width (W) and height (H);
- (b) volume (vol);
- (c) weight (Wt) if the instrument includes a weighing instrument;
- (d) dimensional weight (Dim Wt ... kg or DW ... kg);
- (e) dimensional tare (DT ... kg);
- (f) conversion factor (F);
- (g) quantity for charging, for example dimensions, vol or DW ... kg;
- (h) price rate and price; and
- (i) date, transaction number or other identification of the object.

Note 1: Icons may be used to identify indications.

Note 2: When the customer is not present during the measurement process the above information need not be displayed or printed out at the time but shall be available on request.

Note 3: The price interval and the price rate shall comply with the national regulations applicable for trade.

7.9.2 A printed ticket shall also contain the following printed or preprinted information:

- (a) that the dimensions and/or volume shown are those of the smallest rectangular box that fully encloses the object; and
- (b) that the dimensional weight is a calculated value deemed to be a weight value obtained by applying a conversion factor to the object's volume or dimensions.

1.6 Sealing Provision

Provision is made for sealing the calibration adjustments in the indicator/control panel by means of destructible adhesive labels over the modem communication/setup port ('J4') and in certain other locations across housing joins, and also a lead and wire seal, typically as shown in Figure 4.

1.7 Markings and Notices

(a) Instruments carry the following markings:

Manufacturer's mark, or name written in full	Accu-Sort Systems Inc.
Name or mark of manufacturer's agent	Accu-Sort Systems Australia
Model designation	DM3000
Serial number of the instrument
Year of manufacture
Pattern approval mark	NSC 13/1/8
Maximum dimensions for each axis	Max cm
Minimum dimensions for each axis	Min cm
Scale interval	d = cm
Maximum belt speed m/min
Minimum belt speed m/min

(b) Instruments carry one or more notices stating TO BE USED FOR MEASURING RECTANGULAR BOXES ONLY, or similar wording.

1.8 Verification/Certification Provision

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

TEST PROCEDURE

Note: Refer clause **1.5 Indications** – Printed and displayed information must be made available for verification/certification and must comply with the requirements set out in NSC Document NSC R129.

Maximum Permissible Error at Verification/Certification

The maximum permissible error at verification/certification is:

± 1.0 cm for lengths from the minimum length to any value up to and including the maximum length capacity of the instrument.

Instruments shall be tested as follows:

- (a) Test objects shall be used of known lengths such that each axis (i.e. length x width x height) is tested for at least five dimensions between and including the minimum and maximum lengths specified on the instrument nameplate. Each test object shall be rigid and with well-defined edges to simulate the edges of a rectangular box. The lengths shall be known to an uncertainty equal to or better than +3 mm.
- (b) Carry out at least three test runs for each length. Each measurement shall be within the maximum permissible error.
- (c) Check that instruments carry one or more notices stating TO BE USED FOR MEASURING RECTANGULAR BOXES ONLY, or similar wording.

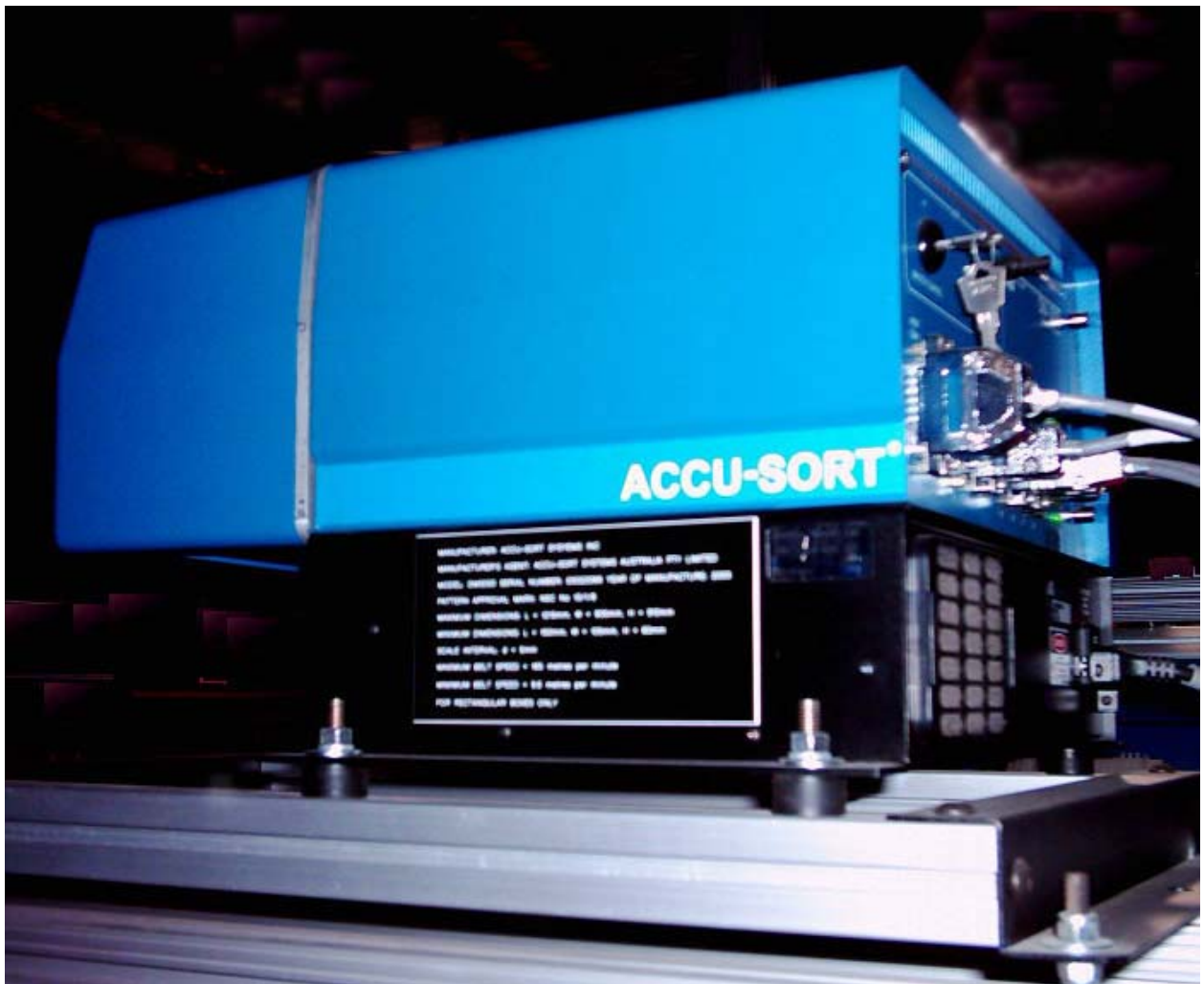
FIGURE 13/1/8 – 1



Accu-Sort Systems Model DM-3000 Dimensional Measuring Instrument

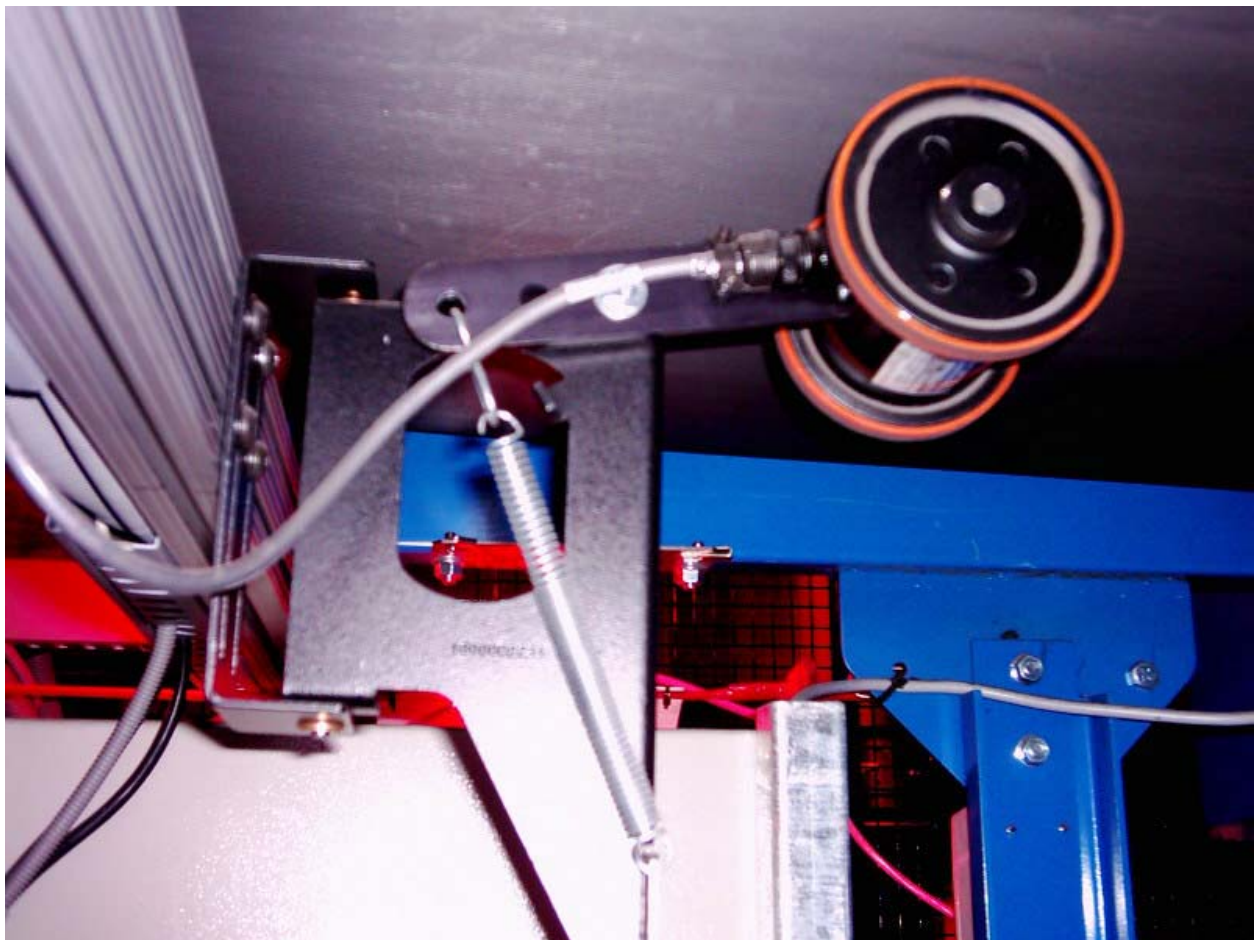
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FIGURE 13/1/8 – 2



Accu-Sort Dimensioning Head Including Central Processing Unit

FIGURE 13/1/8 – 3



Tachometer

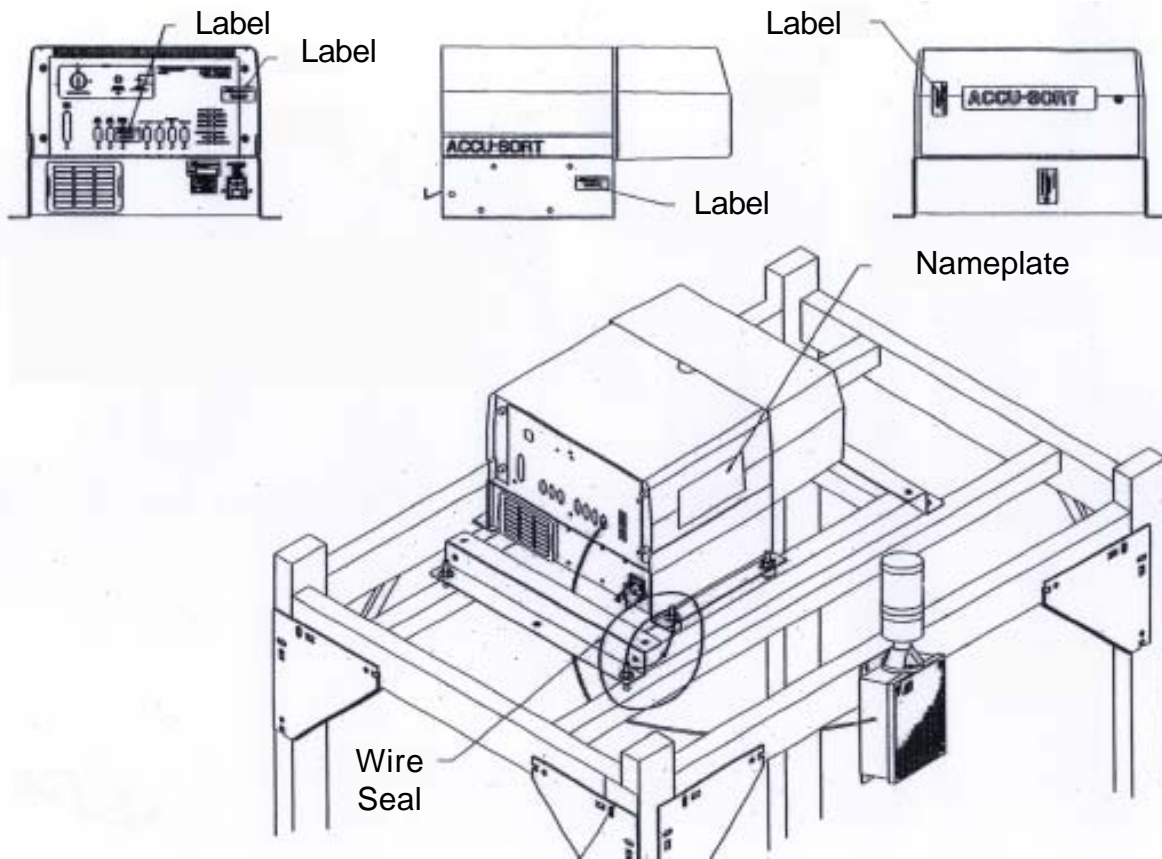
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FIGURE 13/1/8 - 4

Back View

Side View

Front View



Showing Sealing