

## NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

## SUPPLEMENTARY CERTIFICATE OF APPROVAL No S152

This is to certify that an approval has been granted by the Commission that the pattern of the

CSI Model 475 Digital Indicator

submitted by Material Control Systems Pty Ltd 26 Banksia Road Caringbah, New South Wales, 2229

is suitable for use for trade when replacing the indicator in a Commission-approved weighing instrument.

The approval is subject to review on or after 1/6/88.

Instruments incorporating a model 475 indicator purporting to comply with this approval, shall be marked NSC No S152 in addition to the approval number of the instrument.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

- 1. The number of scale intervals applicable to the weighing instrument to which this pattern is fitted, shall not be greater than the number of verification scale intervals approved for the basework, or the load cell(s), or this pattern, whichever is the smallest.
- 2. The load cell(s) to be used shall be subject to regular certification by the National Standards Commission.
- 3. Where Commission-approved weighbridges are connected to this pattern, the weighbridges will be of a type known as 'full load cell' or will have been modified by the inclusion of a load cell in accordance with a Commission-approved method specified in this or another Certificate of Approval.

Signed Acting Executive Director

Descriptive Advice

Pattern: approved 5/5/83

CSI model 475 digital indicator (also known as MCS model 475).

Technical Schedule No S152 dated 25/5/83 describes the pattern.

#### Filing Advice

The documentation for this approval comprises:

Certificate of Approval No S152 dated 25/5/83 Technical Schedule No S152 dated 25/5/83 Test Procedure No S152 dated 25/5/83 Figures 1 and 2 dated 25/5/83



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No S152

Pattern: CSI Model 475 Digital Indicator

Submittor: Material Control Systems Pty Ltd 26 Banksia Road Caringbah, New South Wales, 2229.

#### 1. Description of Pattern

An indicating and printing system (Figures 1 and 2) including a visual display unit (VDU), an alpha-numeric keyboard and a printer. The system is known as either a CSI 475 or MCS 475.

The pattern is approved for use with up to 3000 scale intervals and may replace the indicator in a Commission-approved platform weighing instrument, weighbridge or hopper scale.

#### 1.1 Zero

Zero within 0.25e, indicated by the CENTRE ZERO light illuminating, may be obtained using the SET ZERO button when in the TEST mode.

## 1.2 Markings

The instrument is marked with the following data, together in one clearly visible location:

Manufacturer's name or mark NSC approval numbers

Accuracy class Maximum capacity in the form Minimum capacity in the form Verification scale interval in the form CSI 475 NSC No S152 Headwork NSC No S[ ]¶ Basework NSC No .... Load cell(s) NSC No.... III Max .....\* Min .....\* e=d= ....\*

#### 1.3 Provision for verification

A stamping plug or a paper seal is provided for verification purposes.

- ¶ This approval number should only be included where the headwork is retained as part of the modified instrument.
- \* These markings are repeated in the vicinity of all reading faces.

#### TEST PROCEDURE No S152

The following tests should be carried out in conjunction with any test procedures in the Technical Schedule of the instrument to which this pattern is connected.

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 Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity ( $\pm$  2% approximately). Satisfactory setting may be checked by the following method:

With zero balance indicated, apply a load of, say, 2.5% of maximum capacity to the instrument, and adjust the zero adjustment; the instrument should not rezero.

## 2. Zero Test

Check by means of Document 104, that when the CENTRE ZERO light is lit, zero is set within 0.25e.

## 3. Range of Indication

- (a) The maximum mass indicated should not exceed the maximum capacity (Max) by more than 10 scale intervals; above this indicated mass the indicator should be blank.
- (b) Below zero the indication may blank or the mass will be indicated, prefixed by a minus sign.

#### 5. Test Loads

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

## 6. Multiple Indicators

Where the existing headwork is retained and used in conjunction with the pattern, the variation between indications or printings for the same load shall not be greater than the absolute value of the maximum permissible error for that load on the device with the largest verification scale interval.



CSI Model 475

25/5/83

ċ



FIGURE S152 - 2