



NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/9C/76

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

Toledo Platform Weighing Instrument Model 2295

submitted by Toledo-Berkel Pty Ltd,
525 Graham Street,
Port Melbourne, Victoria, 3207,

are suitable for use for trade.

The approval of the pattern and variants is subject to review on or after 1/9/86.

All instruments purporting to comply with this approval shall be marked NSC No 6/9C/76.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

1. The load cells shall be subject to regular certification by the National Standards Commission.
2. Variant 1 is limited to one instrument, installed at Australian Newsprint Mills, Lavington, NSW.

Signed

Executive Director

Descriptive Advice

Pattern: approved 1/10/81

- . A platform weighing instrument of maximum capacity between 5 t and 10 t, with up to 2000 scale intervals, comprising a four load cell basework with Toledo shear-beam load cells model 11048200A of 4.5 t maximum capacity; and a Toledo indicator model 8132.

Variants: approved 1/10/81

1. Of maximum capacity 2000 kg, with up to 1000 scale intervals.
2. With Toledo Model 8132 indicator in industrial type housing.

Technical Schedule No 6/9C/76 dated 2/11/81 describes the pattern and variants 1 and 2.

2/11/81



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/9C/76

Pattern: Toledo Platform Weighing Instrument Model 2295

Submitter: Toledo-Berkel Pty Ltd,
525 Graham Street,
Port Melbourne, Victoria, 3207.

1. Description of Pattern

1.1

A platform weighing instrument of maximum capacity from 5 t to 10 t with up to 2000 scale intervals, comprising a basework supported by four Toledo Model 11048200A shear beam load cells of capacity 4.5 t (Figures 1 and 2).

The baseworks may be either permanently fixed above ground or let into a pit, in which case the platform is level with the surround. The platform size and configuration may vary.

1.2

The digital indicator is a Toledo Model 8132 as approved in Certificate of Approval No S102, with the following features (Figure 3):

1.2.1 Zero

Pressing the button marked Z zeroes the instrument to within 0.25e; the word ZERO is then illuminated. An automatic zero-correction device resets zero within 0.25e whenever the mass indicator indicates zero.

1.2.2 Tare

- (a) A semi-automatic subtractive taring device allows a mass on the load receptor of up to 2000e to be tared to within 0.25e.
- (b) A non-automatic subtractive taring device is provided so that an operator can enter a tare in 1e increments up to 2000e by using the 0 to 9 keyboard.
- (c) A tare mass indicator indicates the tare mass that has been entered.

1.2.3 Check Button

Pressing the button marked C will cause all indicators to blank. Pressing it again will cause mass and tare mass indicators to display all 8's, and all other indicators to illuminate.

1.3 Markings

The instrument is marked with the following data:

Manufacturer's name or mark
 Serial No. of the instrument
 Accuracy class in the form:
 Maximum capacity in the form:
 Minimum " " " "
 Verification scale interval in the form:
 Maximum subtractive tare in the form:
 NSC approval number in the form:

III
 Max =*
 Min =*
 d = e*#
 T = -
 NSC No 6/9C/76

* These marking are repeated in the vicinity of the reading face,
 # Verification scale interval may be marked $d_d = e = \dots$ until 31/12/81 after which date all new instruments verified shall be marked $d = e = \dots$

Where the Toledo 8132 indicator is used with this pattern the nameplate may be marked in addition with S102.

1.4 Sealing

- (a) The load cell cables are sealed in a junction box.
- (b) The output cable is sealed in the junction box with a lead and wire seal, (Figure 4), or by a similar method, or alternatively the serial numbers of the load cells are sealed to the indicator.
- (c) The indicator is sealed by a lead and wire seal which passes through a retaining screw and a lug on the indicator (Figure 3), or by a similar method.
- (d) One or two output sockets, which may be used to provide information to peripheral devices, are sealed in the manner illustrated in Figure 5, or by a similar method.

1.5 Load Cells

The load cells are Toledo Model 11048200A shear-beam load cells of 4.5 t maximum capacity, mounted as shown in Figure 6 (illustrating one corner of cattle weigh-bridge) and are approved for a maximum of 2000 scale intervals.

1.5.1 Range

Maximum number of verification scale intervals	2000
Minimum dead load	150 kg
Minimum scale interval	1.0 kg
Maximum capacity	4.5 t

1.5.2 Markings

The following is the minimum of data required to be marked on the load cell:

Manufacturer's name or mark	
Model number	
Serial number	
Output in the form:	mV/V
Maximum capacity	

2. Description of Variants

2.1 Variant 1

With a maximum capacity of 2000 kg and with 1000 scale intervals. This variant is confined to one instrument installed at Australian Newprint Mills, Lavington, NSW.

This instrument has a dead load of approximately 3000 kg.

2.2 Variant 2

With Toledo Model 8132 in industrial type housing (Figure 7).

TEST PROCEDURE No 6/9C/76

1. Accuracy Requirements

The maximum permissible errors are:

- ± 0.5e for loads between zero and 500e inclusive; and
- ± 1e for loads between 501e and 2000e inclusive.

2. Load Tests

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

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 instrument should display these loads within the above tolerances.

3. Zero Balance

As the automatic device resets zero when the weighing mechanism is in equilibrium within 0.5 scale interval of zero, zero should be checked as described in the Commission's Test Procedure for the Elimination of Rounding Errors for Weighing Instruments with Digital Indication (Document 104), with a load equivalent to, say, 10 scale intervals on the load receptor. The indications with 0.25e and 0.75e additional weight on the load receptor should then be 10e and 11e respectively.

4. Zero Range

The maximum range of operation of the zero device should not exceed 4% of the capacity of the instrument (± 2% approximately).

5. Range of Indication

- (a) Pressing the button marked C will cause all indicators to blank. Pressing it again will cause mass and tare mass indicators to display all 8's and all other indicators to illuminate.
- (b) The maximum mass indicated should not exceed the maximum capacity (Max) plus 10e, above which the indicator should blank.
- (c) The minimum mass indicated should be zero, below which the indicator may blank or show the mass below zero prefixed by a minus sign.

National Standards Commission



NOTIFICATION OF CHANGE VARIOUS CERTIFICATES OF APPROVAL

The following changes are made to the approval documentation for various approvals

submitted by Toledo Scale (Australia) Ltd
525 Graham Street
Port Melbourne VIC 3207.

In the Certificates and Technical Schedules listed overleaf, the following changes should be made: (Note: Only current approvals are listed.)

1. The submitter should be changed to read;

Mettler Toledo Limited

(the address remains unchanged)
2. All references to 'Toledo' instruments or components should be amended to read 'Toledo (or Mettler or Mettler Toledo)'.

NOTE: Any 'Toledo' instrument or component described in the approval documentation may now also be known as 'Mettler or Mettler Toledo'.

APPROVAL NUMBER	PATTERN
6/4C/65	8214 Weighing Instrument
6/4C/68	8215 Weighing Instrument
6/4D/242	8421 Weighing Instrument
6/9C/2A	2191 Weighing Instrument
6/9C/24A	2503 Weighing Instrument
6/9C/28	2020 Weighing Instrument
6/9C/24A 44A	2985 Weighing Instrument
6/9C/76	2295 Weighing Instrument
6/9C/87	2375 Weighing Instrument
6/9C/97	2155 Weighing Instrument
6/9C/98	9118 Weighing Instrument
6/9C/206	6303 Weighing Instrument
6/9C/231	1938 Weighing Instrument
6/10B/46A	7560 Weighing Instrument
6/14B/9A	2352 Hopper Weighing Instrument
6/18/21	2299 Overhead Weighing Instrument
S253	8530 Digital Indicator
S266	8520 Digital Indicator
S283	8510 Digital Indicator
S111A	0721 Load Cell
S112A	0723 Load Cell
S143	0752 Load Cell
S172	0725 Load Cell
S211	0742 Load Cell
S252	0760 Load Cell
S264	0752 Load Cell
S268	RLC 5000 Load Cell

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

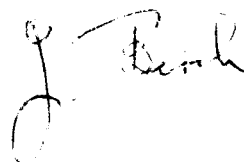
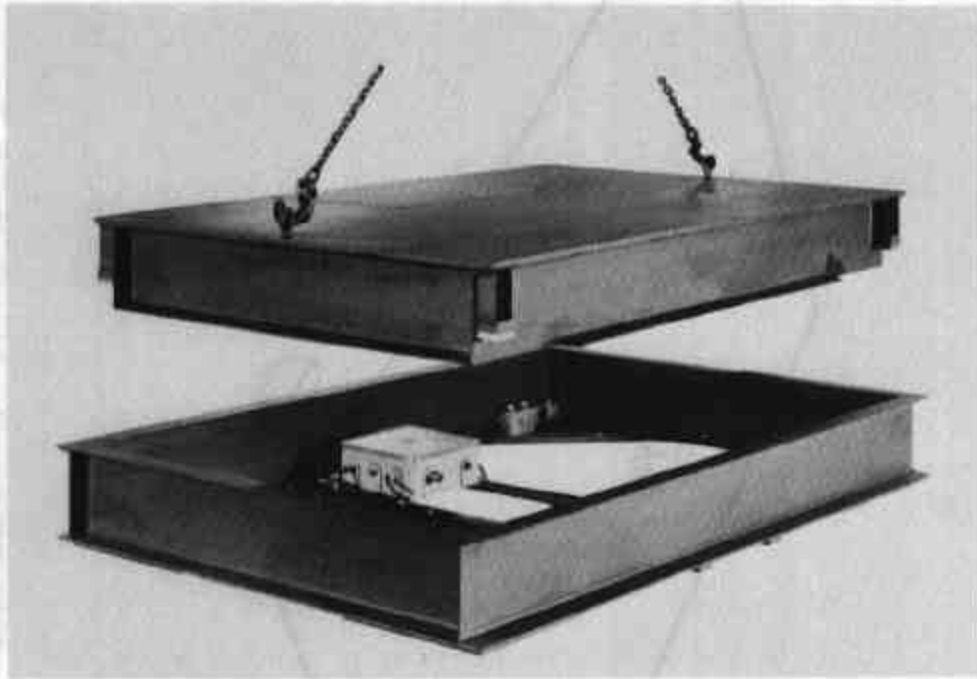


FIGURE 6/9C/76 - 1

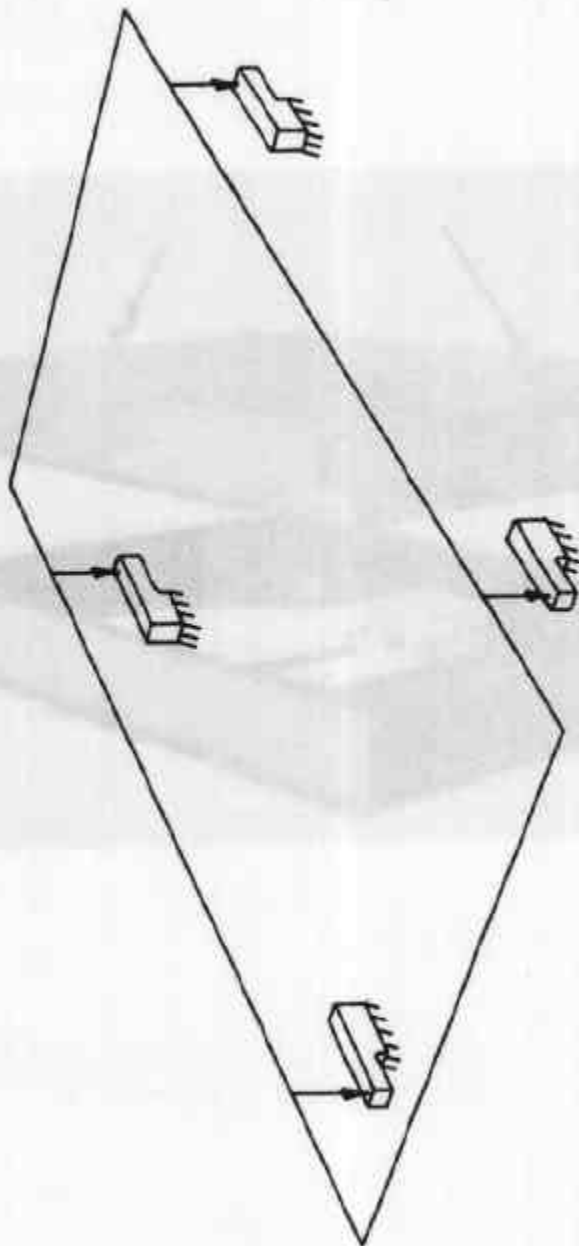


Toledo Model 2295 Baseworks with
Load Receptor removed

2/11/81

10/1/81

FIGURE 6/9C/76 - 2



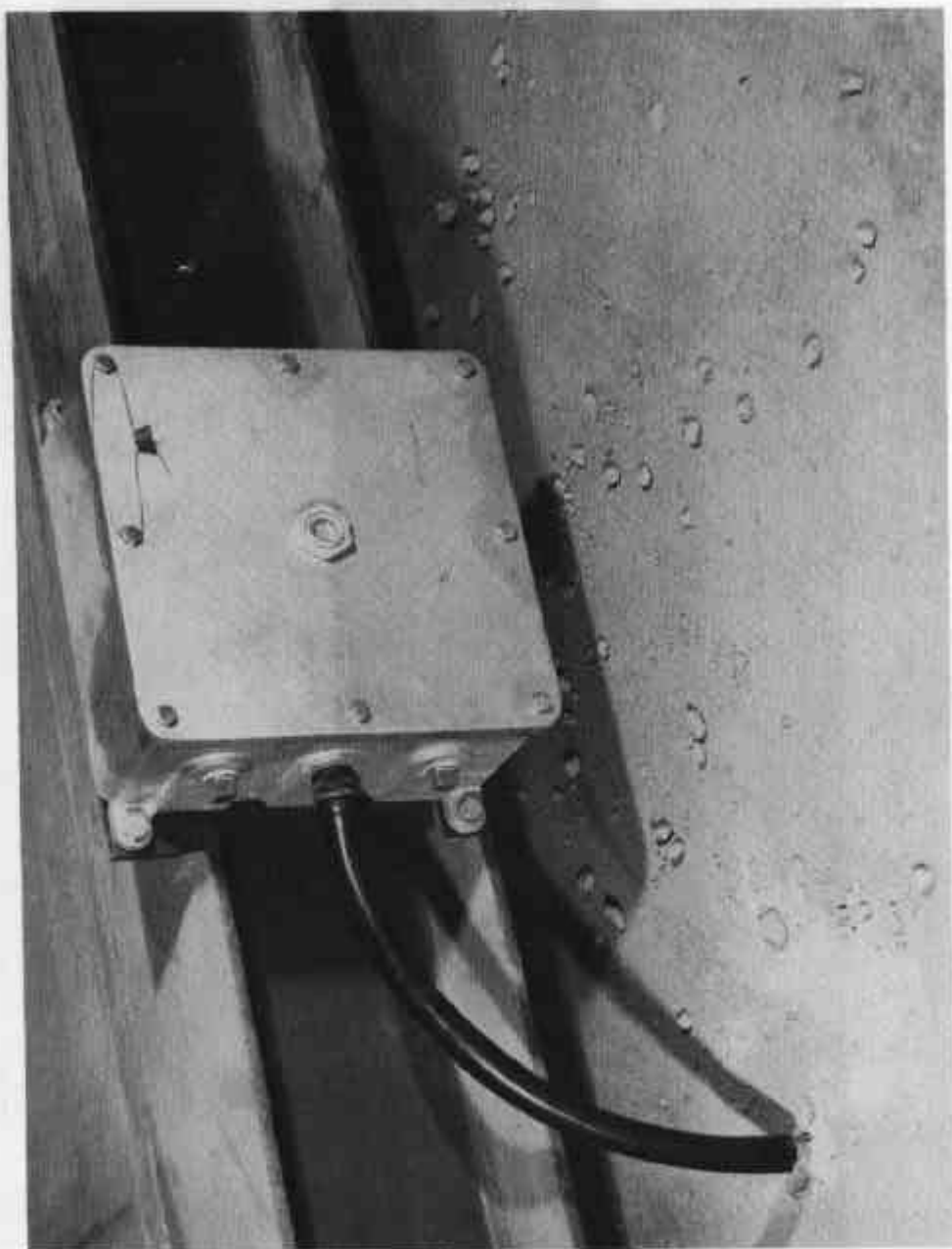
Model 2295 Basework - Schematic Diagram

FIGURE 6/9C/76 - 3



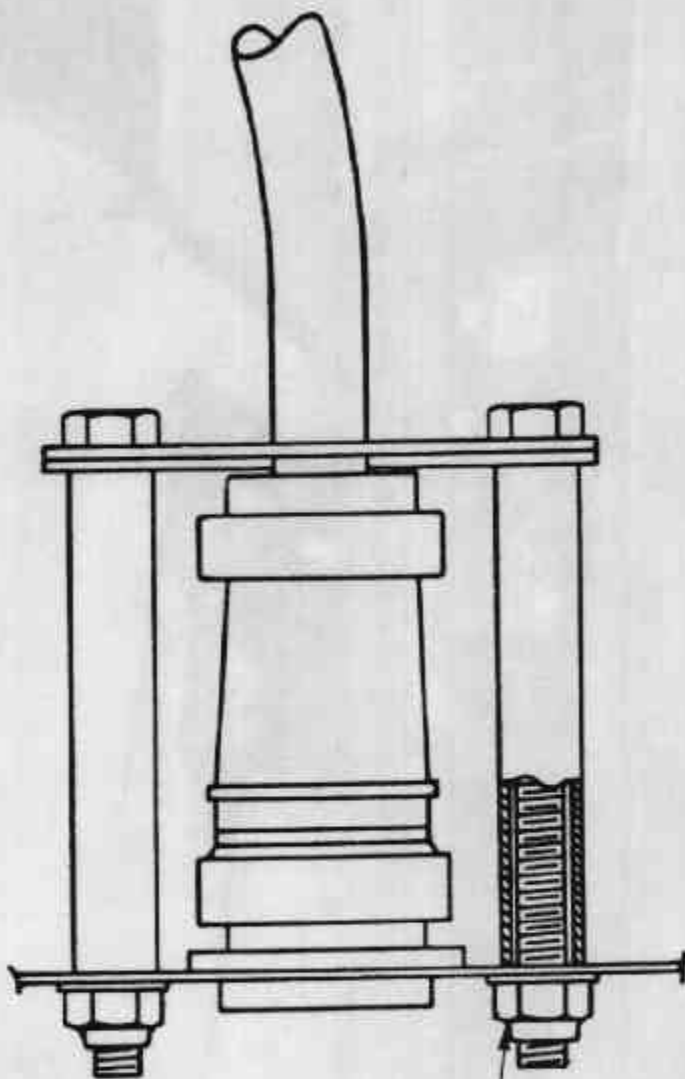
Toledo Indicator Model 8132 showing Sealing

FIGURE 6/9C/76 - 4



Sealing of Output Cable in the Junction Box

FIGURE 6/9C/76 - 5



LOCKING NUTS LOCATED
INSIDE SEALED HOUSING

Example of Sealing of Output Socket

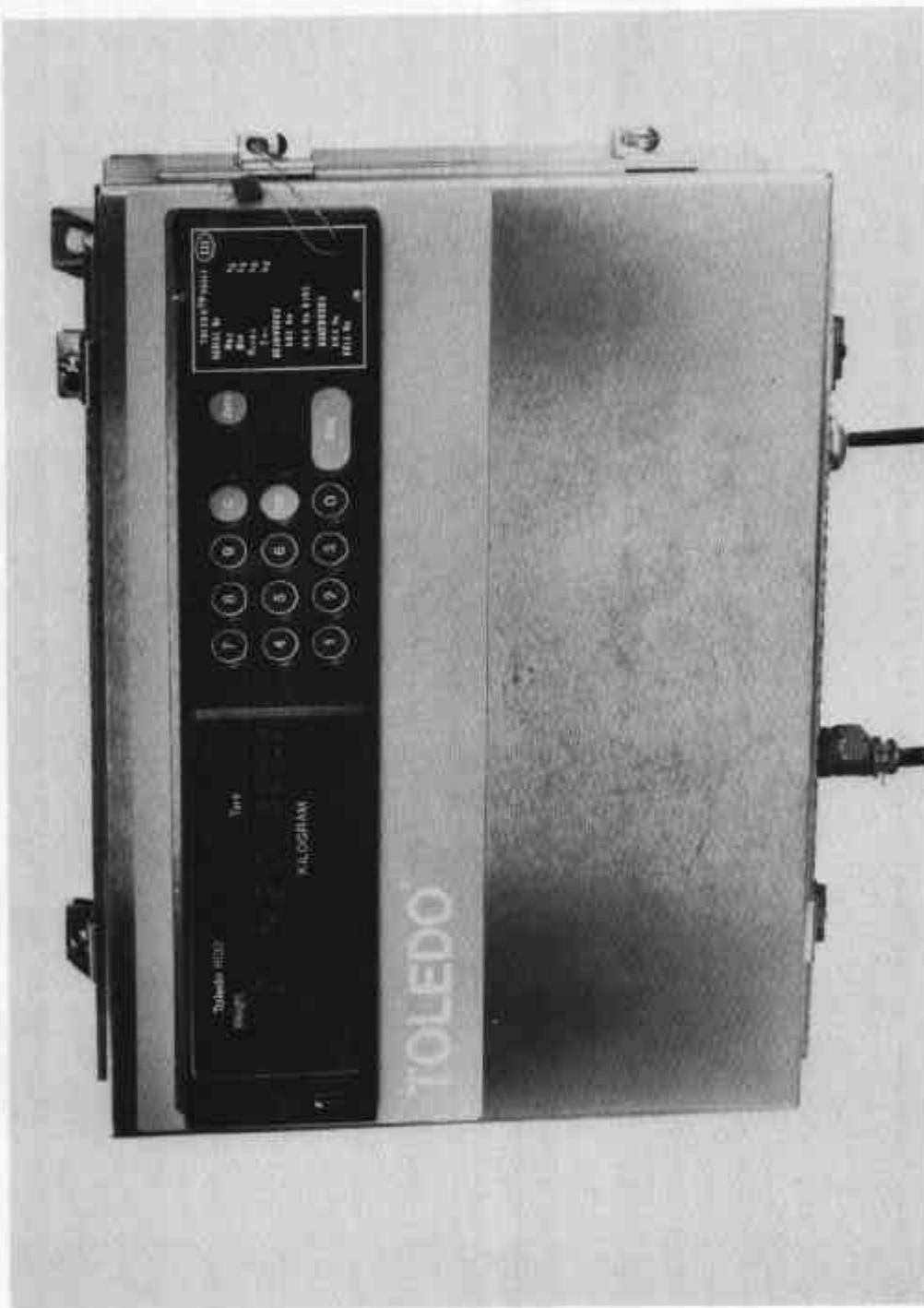
FIGURE 6/9C/76 - 6



Mounting of Load Cell

(This mounting is inverted for greater protection of the load cell which is normally mounted on the base).

FIGURE 6/9C/76 - 7



Model 8132 - Industrial Housing

2/11/81