



Australian Government

**National Measurement
Institute**

12 Lyonpark Road, North Ryde NSW 2113

Cancellation
Certificate of Approval No 6/4C/202

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 Certificate of Approval No 6/4C/202 issued 27 April 1999 in respect of the

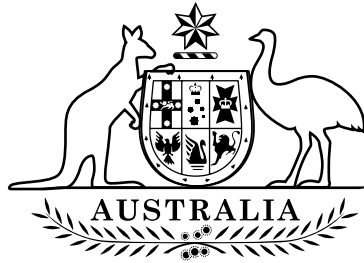
Mettler Toledo Model Spider SP30 Weighing Instrument

submitted by Mettler Toledo Limited
now of 220 Turner Street
Port Melbourne VIC 3207

has been cancelled in respect of new instruments as from 1 October 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.', written in a cursive style.



National Standards Commission

Certificate of Approval

No 6/4C/202

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Mettler Toledo Model Spider SP30 Weighing Instrument

submitted by Mettler Toledo Limited
525 Graham Street
Port Melbourne VIC 3207.

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 October 2003, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/4C/202 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 Commission 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 the Commission's Document 106.

The Commission 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.

DESCRIPTIVE ADVICE

Pattern: approved 14 September 1998

- A Mettler Toledo model Spider SP30 weighing instrument of 30 kg maximum capacity.

Variants: approved 14 September 1998

1. Model Spider SP15 of 15 kg maximum capacity.
2. Models Spider SP60 and Spider SP60L of 60 kg maximum capacity.
3. Certain baseworks of this approval with a compatible Commission-approved indicator.

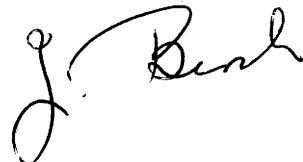
Technical Schedule No 6/4C/202 describes the pattern and variants 1 to 3.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/4C/202 dated 27 April 1999
Technical Schedule No 6/4C/202 dated 27 April 1999 (incl. Table 1 &
Test Procedure)
Figures 1 to 4 dated 27 April 1999

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.



TECHNICAL SCHEDULE No 6/4C/202

Pattern: Mettler Toledo Model Spider SP30 Weighing Instrument.

Submittor: Mettler Toledo Limited
525 Graham Street
Port Melbourne VIC 3207.

1. Description of Pattern

A Mettler Toledo model Spider SP30 weighing instrument (Figure 1 and Table 1) of 30 kg maximum capacity with a verification scale interval of 0.01 kg.

Instruments are comprised of a model Spider GB30 basework and a model Spider 2 digital indicator. Instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' unless the display is located such that all primary indications are displayed clearly and simultaneously to both the vendor and the customer.

Instruments may be fitted with output sockets for the connection of peripheral and/or auxiliary devices, and are either battery-operated or powered by mains supply.

Instruments are approved for use over a temperature range of 0°C to +40°C, and are so marked.

1.1 Basework

The model Spider GB30 basework (Figure 1) has the load receptor directly supported by a single load cell. (Note: The basework need not be marked 'GB30' when fitted with the Spider 2 indicator.)

The load receptor has maximum nominal dimensions of 300 x 500 mm.

1.2 Load Cell

A Mettler Toledo model (part number) 14611500A load cell of 45 kg capacity is used, mounted as shown in Figure 2.

1.3 Indicator

A Mettler Toledo model Spider 2 digital indicator is used. The indicator may be mounted in either of the methods shown in Figures 1 and 4; either configuration may be located remotely.

A display check is initiated whenever the ON/OFF button is pressed.

1.3.1 Zero

Zero is automatically corrected to within $\pm 0.25e$ whenever power is applied and whenever the instrument comes to rest within $0.5e$ of zero.

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.

1.3.2 Tare

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

1.3.3 Management Function Key

The indicator is fitted with a function key which may be configured to initiate one of the following functions which are not approved for trade use (except gross weight display):

- Gross weight display
- Counting facility
- 'Formula' weighing
- Totalisation function
- 'Dynamic' weighing, for obtaining a weight reading for an unstable load.

Note: Other functions (including for a second weighing unit and 'control' mode) are not approved, and are disabled.

1.4 Verification/Certification Provision

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

1.5 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed as shown in Figure 3.

1.6 Levelling

Instruments are provided with adjustable feet and a level indicator. Adjacent to the level indicator is a notice stating 'instrument must be level when in use', or similar wording (Figure 3).

1.7 Markings and Notices

Instruments carry the following markings, in the form shown at right:

Manufacturer's mark, or name written in full	Mettler Toledo
Indication of accuracy class	Ⓜ
Maximum capacity	Max kg *
Minimum capacity	Min kg *
Verification scale interval	e = kg *
Serial number of the instrument
Pattern approval mark for the instrument	NSC No 6/4C/202
Special temperature limits	0°C to +40°C

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

In addition, instruments used with a single display may need to be marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' or similar wording – refer to clause 1. Description of Pattern.

2. Description of Variants

2.1 Variant 1

Model Spider SP15 weighing instrument of 15 kg maximum capacity with a verification scale interval of 0.005 kg.

The model SP15 uses a model GB15 basework (refer to Table 1).

2.2 Variant 2

Model Spider SP60 or SP60L weighing instruments of 60 kg maximum capacity with a verification scale interval of 0.02 kg.

The model SP60 uses a model GB60 basework, while the model SP60L uses a model GB60L basework (refer to Figure 4 and Table 1).

2.3 Variant 3

Certain baseworks of this approval used with a compatible Commission-approved (by Supplementary Certificate) indicator provided the conditions set out below are met.

In addition to the markings specified in clause **1.7 Markings and Notices**, instruments are marked with the NSC approval number for the indicator used, together in the same location.

The approved baseworks and their limiting characteristics are given in Table 1.

The conditions to be met are:

- The excitation voltage used is within the range approved for the baseworks.
- The maximum load applied to the basework (live load plus any dead load) does not exceed the load cell maximum capacity.
- The verification scale interval is not less than the minimum value specified.
- The number of verification scale intervals is less than or equal to the n_{max} value specified.
- The signal voltage per verification scale interval is not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

$$\text{Indicator Sensitivity} \leq 1000 \times E_x \times LC_Sens \times e / E_{max}$$

where E_x = Excitation from indicator (V)

LC_Sens = Load cell sensitivity (mV/V)

E_{max} = Load cell maximum capacity (nominal) (kg)

e = verification scale interval of the instrument (kg).

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (μ V)

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

The maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, m , expressed in verification scale intervals, e , are:

$\pm 0.5 e$ for loads $0 \leq m \leq 500$;

$\pm 1.0 e$ for loads $500 < m \leq 2\,000$; and

$\pm 1.5 e$ for loads $2\,000 < m \leq 10\,000$.

Ensure that instruments are being used within the special temperature limits specified in this approval.

TABLE 1

Baseworks		GB15	GB30	GB60 (GB60L)
Basework Maximum Capacity	(kg)	15	30	60
Maximum Platform Sizes	(mm)	300 x 500	300 x 500	300 x 500 (400 x 500)
Load Cell Used		14612300A	14611500A	14611900A (14654600A)
Load Cell Maximum Capacity E_{max}	(kg)	22	45	100
n_{max}		3000	3000	3000
Minimum Verification Scale Interval Value for single interval use	(kg)	0.005	0.01	0.02
Output Rating	(mV/V)	2	2	2
Input Impedance	(ohms)	350	350	350
Excitation Voltage (DC)	(V)	5 - 15	5 - 15	5 - 15
Cable Lengths ($\pm 0.1m$)	(m)	2	2	2
Number of Leads (plus shield)		6	6	6

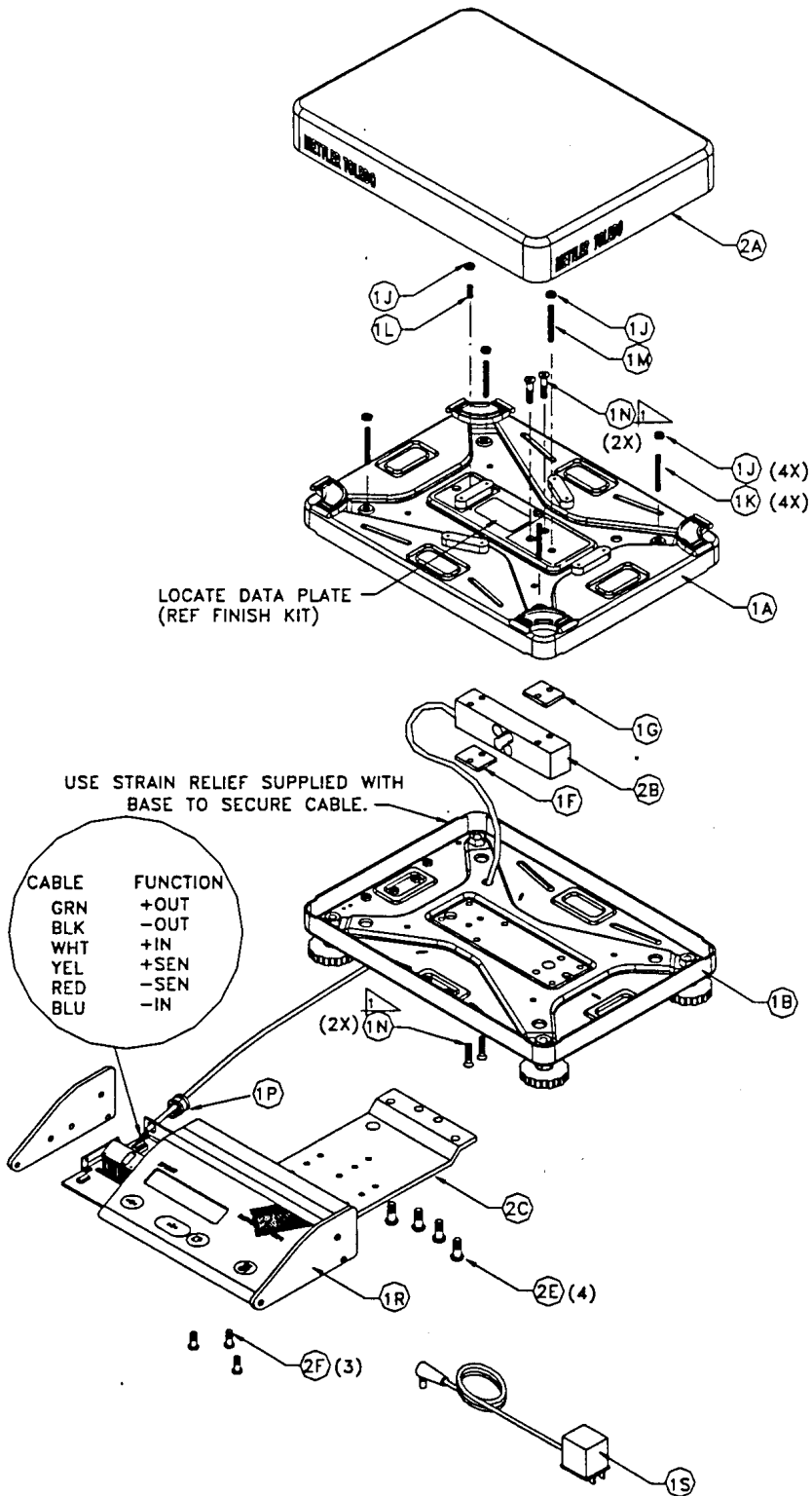
Approved Baseworks and Their Limiting Characteristics

FIGURE 6/4C/202 - 1



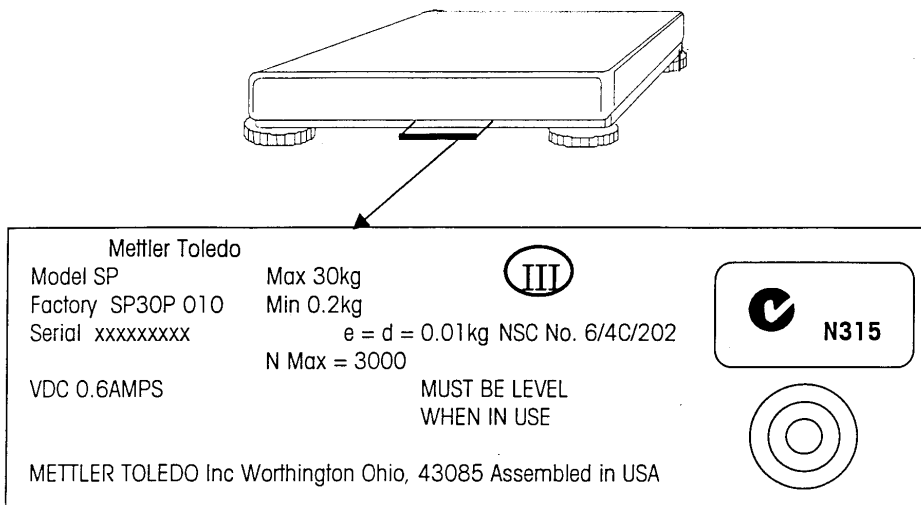
Mettler Toledo Model Spider SP30 Weighing Instrument

FIGURE 6/4C/202 - 2

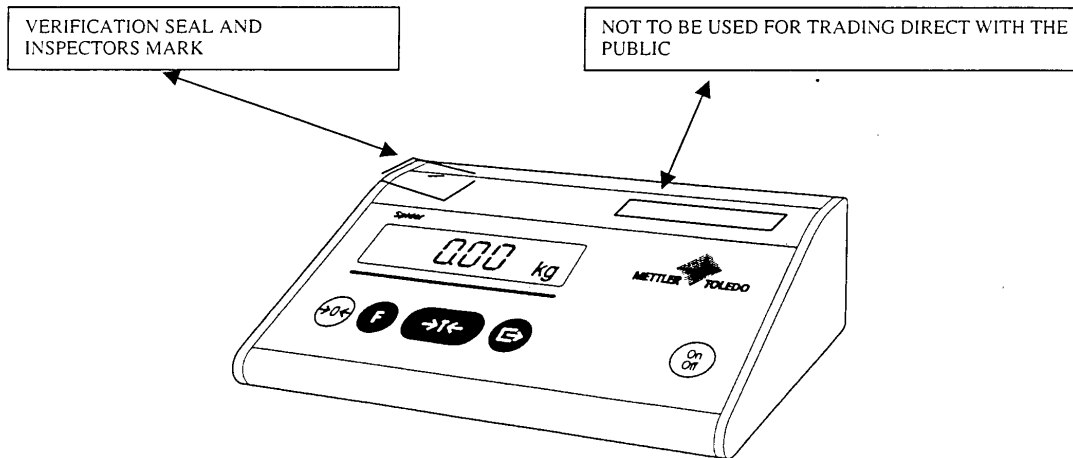


Showing Load Cell Mounting

FIGURE 6/4C/202 - 3



Showing Location of Nameplate and Level Indicator



Showing Sealing Method

FIGURE 6/4C/202 - 4



Model GB60L Basework