MINISTRY OF CONSUMER AFFAIRS
MANATŪ KAIHOKOHOKO

MINISTRY OF CONSUMER AFFAIRS

Wellington, New Zealand

CERTIFICATE OF APPROVAL

Weights and Measures Regulations 1999
Part 1 Regulations 5 and 6

Current Date of Issue: 20 July 2011
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Certificate 2043

This certifies that the Millennium Mechatronics Limited (Meltrons) MP Series, Weighing Instrument described overleaf has been approved as suitable for trade use subject to any conditions stated in the schedule:

Figure 1 Model MP4252 Weighing Instrument

S R Bobbala **J P Crane**

Under delegated authority from the Chief Executive of The Ministry of Economic Development

Note: This is not an approval to any person but only with respect to the type and pattern of weight, measure, or weighing or measuring instrument.

SCHEDULE

Pattern:	Weighing Instrument
Make:	Millennium Mechatronics Limited (Meltrons)
Model:	MP Series
Manufacturer:	Taiwan Scale Mfg. Co., Ltd. Taipai, Taiwan
Submitter:	Millennium Mechatronics Ltd, Auckland
Maximum Capacity (Max):	60 kg ≤ Max ≤ 300 kg
Minimum Capacity:	20 e
Verification Scale Interval:	See Table 1 (n = 3000 max)
Class:	III
Load Receptors:	See Table 1
Tare:	- Max
Conditions of Approval:	1. Where any other approved compatible indicator is used, the indicator must the Criteria detailed in this certificate 2. Instruments not greater than 100 kg capacity shall carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH PUBLIC, or similar wording 3. Subject to condition '2', instrument when used for trading direct with public must be located such that all primary indications and the weighing platform are clearly and simultaneously visible to both the vendor and the customer. If the display is mounted separately, it shall be located in a clear visual relationship and proximity to the weighing platform 4. 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 MAPSS and with the relevant Certificate of Approval and Technical Schedule. 5. MAPSS reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Description:

The Millennium Mechatronics Limited (Meltrons) model MP Series (*) is a Class III non-automatic, self indicating weighing instrument (see figure1) with a maximum capacity as detailed below in Table 1.

(*) Note: The model number has a prefix of numerical characters that relate to the dimension of the load receptor and is detailed in Table 1.
For example MP4252 has a load receptor size of 420 x 520 mm, Table 1 gives detailed information.

TABLE 1

Max Cap	Min Cap	Verification Scale Interval (e)	ZEMIC Type L6G Loadcell	Tare
60 kg	0.4 kg	0.02 kg	Emax = 100 kg	- 59.98 kg
150 kg	1 kg	0.05 kg	Emax = 200 kg	- 149.95 kg
300 kg	2 kg	0.1 kg	Emax = 500 kg	- 299.9 kg

Construction Details:

Basework:
Model MP4252 has a stainless steel load receptor directly supported by a single point load cell and has a maximum nominal dimension of 420 x 520 mm. The basework is constructed of aluminium casting and is supported on four adjustable rubber feet. The model is as shown in figure 2, and figure 3 gives the layout diagram.

Model MP4660 has a stainless steel load receptor directly supported by a single point load cell and has a maximum nominal dimension of 460 x 600 mm. The basework is constructed of mild steel and is supported on four adjustable rubber feet. The model is as shown in figure 4, and figure 5 gives the layout diagram.

Platform Size: Model MP4252: 420 x 520 mm and Model MP4660: 460 x 600 mm

Load Cells:
A single point Zemic Type L6G load cell of accuracy Class C3 is used. The load cell is tested in accordance to OIML R60, Table 2 gives technical specifications.

Indicator:
A Taiwan Scale Mfg Co. Ltd Model VW digital indicator is used. The indicator is described in the certificate of approval MCA 2042. Note: Any other approved compatible indicator may be used and must meet the criteria detailed in this certificate.
The indicator is mounted on a column or it may also be located separately.

CRITERIA:
Certain combinations of basework with an approved compatible indicator must meet the following:
The conditions to be met are:
a) The excitation voltage used is within the range approved for the basework
b) The maximum load applied to the basework (live load plus any dead load does not exceed the load cell maximum capacity)
c) The verification scale interval is not less than the minimum value specified
d) The number of verification scale intervals is less than or equal to the n max specified
e) 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 document / technical specifications of the indicator).
i.e. Indicator Sensitivity ≤ (1000 x Ex x LC_Sens x e) / (N x Emax), where
Ex = Excitation from indicator (V)
LC_Sens = load cell sensitivity (mV/V)
e = verification scale interval of the instrument (kg)
N = number of load cells
Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (μV)

ZERO SETTING DEVICES:

The Initial zero setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

Semi-automatic zero setting: The Instrument has a semi-automatic zero setting device (zero button) with a nominal range of not more than 4% of the maximum capacity of the instrument.

Zero-tracking:
Zero-tracking operates provided that the instrument is within range of not more than 4% of its capacity.

METROLOGICAL MARKINGS

A plate, which carries the metrological markings, is affixed to the side of the instrument.

Manufacturer's name .....
Serial number
Accuracy class ....
Pattern approval No **MCA 2043****
Max cap* .....
Temperature Range
Min cap* .....
Verification scale interval* .....
Tare capacity ….

*These markings shall also be shown near the display.
** Approval number MCA2043 shall be shown near the display along with approval number of the indicator.

The markings below are to be affixed to the load cell.

Manufacturer's name ……..
Model number …….
Serial number ……..
Pattern approval number ……..
Maximum capacity Emax …….
Class

Components:	• Zemic type L6G load cell • A Taiwan Scale Mfg Co Ltd model VW digital indicator (or any MAPSS approved compatible indicator may be used)
Sealing:	As required on the approved indicator.
Mark of Verification:	The sealing must carry a mark of verification.
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 2 Model MP4252

TABLE 2 - Load cell Technical Specifications

Specifications		
Capacity	kg	50/100/150/200/250/300/500/600
Accuracy		C3
Approvals	nmax	OIML R60 C3
Maximum number of verification intervals	Vmin	3000
Minimum load cell verification interval		Emax/7000
Combined error	(%FS)	⩽ ±0.020
Creep	(%FS/30min)	⩽ ±0.0167
Temperature effect on sensitivity	(%FS/10℃)	⩽ ±0.0175
Temperature effect on zero	(%FS/10℃)	⩽ ±0.020
Output sensitivity	(mv/v)	2.0±0.2
Input resistance	(Ω)	406±6/1065±15
Output resistance	(Ω)	350±3/1000±10
Insulation resistance	(MΩ)	⩾5000(50VDC)
Zero balance	(%FS)	2
Temperature, compensated	(℃)	-10～+40
Temperature, operating	(℃)	-35～+65
Excitation, recommended	(V)	5～12(DC)
Excitation, max	(V)	18(DC)
Safe overload	(%FS)	150
Ultimate overload	(%FS)	300
Corner correction		0.02%load value/100mm

Figure 3 Model MP4252 Layout

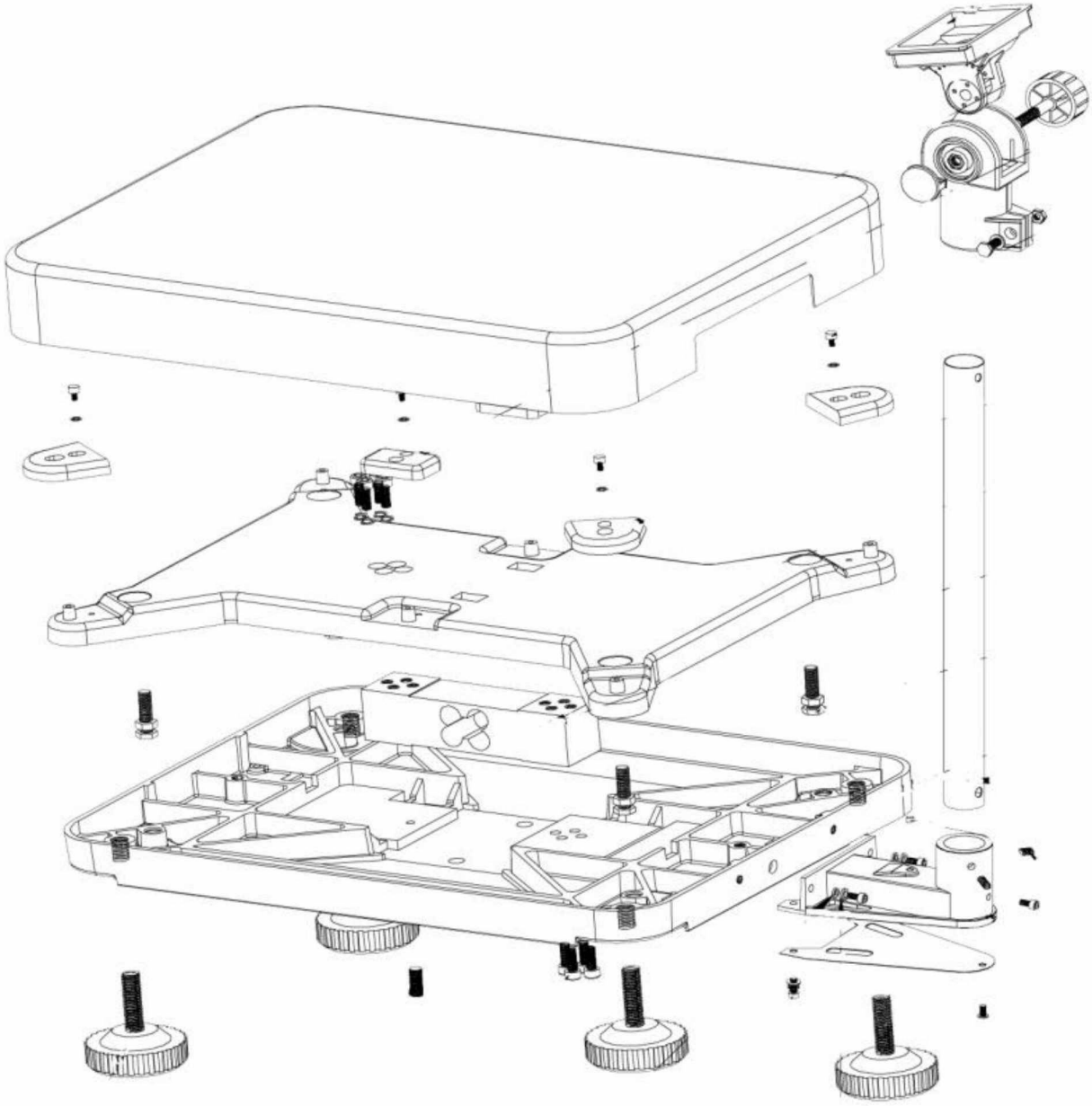

Figure 4 Model MP4660

Figure 5 Model MP4660 Layout