



**Ministry of Business,  
Innovation & Employment**

Wellington, New Zealand

# **CERTIFICATE OF APPROVAL**

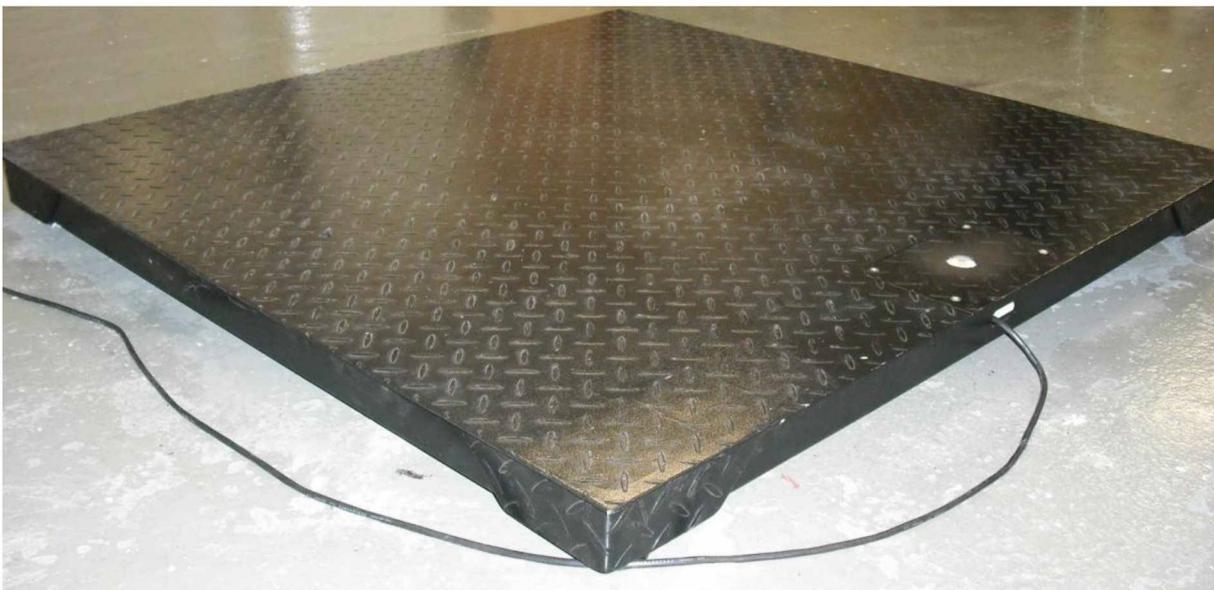
## **Weights and Measures Regulations 1999 Part 1 Regulations 5 and 6**

Current Date of Issue: 23 September 2016  
Original Date of Issue: 16 April 2010

### **Certificate 1979**

This certifies that the Hiweigh FD, Weighing Instrument described overleaf has been approved as suitable for trade use subject to any conditions stated in the schedule:

Figure 1 - Hiweigh model FD weighing instrument



**S R Bobbala**

**J P Crane**

Under delegated authority from the Chief Executive of The Ministry of Business, Innovation & Employment

*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

<b>Pattern:</b>	Weighing Instrument
<b>Make:</b>	Hiweigh
<b>Model:</b>	FD
<b>Submitter:</b>	JNJ Solutions Ltd, Petone
<b>Maximum Capacity (Max):</b>	3000 kg
<b>Minimum Capacity:</b>	20 kg
<b>Verification Scale Interval:</b>	1 kg (n=3000 max)
<b>Class:</b>	III
<b>Load Receptors:</b>	1200 mm x 1200 mm
<b>Conditions of Approval:</b>	<ol style="list-style-type: none"><li>1. The number of verification scale intervals applicable to a complete weighing instrument which includes this pattern, shall not exceed the smaller of:<ol style="list-style-type: none"><li>i) The number of verification scale intervals approved for the indicator</li><li>ii) The number of verification scale intervals approved for this basework</li></ol></li><li>2. The temperature range applicable to a complete weighing instrument which includes this pattern, shall not exceed the smaller of:<ol style="list-style-type: none"><li>i) The temperature range approved for the indicator</li><li>ii) The temperature range approved for this basework</li></ol></li><li>3. Where any other approved compatible indicator is used, the indicator must meet the set Criteria detailed in this certificate</li><li>4. 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 MAPSS and with the relevant Certificate of Approval and Technical Schedule.</li><li>5. MAPSS reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.</li><li>6. This certificate does not imply and should not be construed as guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.</li></ol>

### Description:

A Hiweigh Model FD\* is a self-indicating, Class III weighing instrument with a maximum capacity of 3000 kg x 1 kg.

### Construction:

#### Basework:

The model FD\* basework (Figure 1) is of mild steel construction and has the load receptor directly supported by four load cells fitted with self-aligning supporting feet for uneven floors. The load cells are mounted in the side channels to obtain a lower platform profile.

The deck is a rugged diamond safety tread plate steel deck (6 mm) and has a top access stainless steel junction box. The pattern may have optional ramps on either side, for loads to be driven straight on and off the load receptor.

\* Note: with stainless steel frame, the model is known as "FD-S".

**Load Cells:**

Four Zemic type H8C load cells of 1500 kg capacity each are used. The load cells are certified to OIML R60.

**Levelling:**

Where instruments are liable to be tilted they 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.

**Indicator:**

A Rinstrum model R320\* digital indicator is used. The indicator is described in the certificate of approval TMU/MCA 1736

\*Note: Any other approved compatible digital indicator shall meet the criteria detailed below.

**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  $\leq 1000 \times Ex \times LC\_Sens \times e/N \times Emax$ , 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 ( $\mu V$ )

**ZERO SETTING DEVICES**

Initial zero setting devices – Not more than 20% of the maximum capacity.

Zero tracking device – not more than 4% with corrections  $\leq 0.5d/Second$ .

Accuracy  $\pm 0.25e$

**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 1979**
Max cap*	.....
Temperature Range	
Min cap*	.....
Verification scale interval*	.....
Tare capacity	....

\*These markings shall also be shown near the display.

\*\* Approval number MCA1979 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:**

- Four Zemic type HC8-C3-1.5T-4B load cell
- A Rinstrum model R320 digital indicator (or any approved compatible indicator may be used)

**Sealing:**

- As provided on the approved indicator
- The Junction box shall be sealed by an adhesive destructible label or an approved type seal placed across the joining of both the covers, as shown at locations in the photo.

**Mark of Verification:**

An adhesive destructible label or an approved type seal that inhibits access to calibration on the indicator and the junction box should carry a Mark of Verification. Removal of seal deems the instrument not verified.

**Levelling:**

Four adjustable feet and a level indicator is provided. Adjacent to level indicator a level notice stating "incorrect if not truly level" or a similar wording must be shown.

Figure 2 - Junction Box



Figure 3 - Dimesnions (in mm)

