

**Australian Government** 

Department of Industry, Innovation and Science



36 Bradfield Road, West Lindfield NSW 2070

# **Certificate of Approval**

## NMI LM 6/9C/318

Issued by the Chief Metrologist under Regulation 60 of the National Measurement Regulations 1999

This is to certify that an approval for use as legal measuring instruments has been granted in respect of the instruments herein described.

Haenni Model WL 108 Weighing Instrument

submitted by Crestspring Pty Ltd trading as Haenni Australia 7/10 Enterprise Street Ashmore QLD 4214

This Certificate does NOT grant approval for use for trade.

**NOTE:** This Certificate relates to the suitability of the pattern of the instrument for use as a legal measuring instrument 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.

This approval has been granted with reference to document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated October 2015.

This approval becomes subject to review on 1/09/23, and then every 5 years thereafter.

#### DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variant 1 approved – certificate issued	10/08/18

#### CONDITIONS OF APPROVAL

#### General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI LM 6/9C/318' 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 National Measurement Institute (NMI) 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 document NMI P 106.

#### Special

This Certificate relates to the suitability of the instrument as a class ID nonautomatic weighing instrument. Instruments complying with this approval and verified as complying with the requirements for a class ID non-automatic weighing instrument may be used for determining the wheel loads of a vehicle for enforcement of legal limits for roads.

This approval shall NOT be used in conjunction with General Certificate of Approval No 6B/0.

Multiple instruments may be used with their indications being summed to provide the mass of an individual axle, an axle group or a total vehicle. When multiple instruments are used, caution should be exercised as the uncertainty of the values obtained by the summation of readings could exceed the maximum permissible errors for class weighing instruments. Use of a single instrument is not permitted for any of these mass determinations.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

**Darryl Hines** Manager Pattern Approval, Policy and Licensing Section

### TECHNICAL SCHEDULE No LM 6/9C/318

#### 1. Description of Pattern

#### approved on 10/08/18

A Haenni model WL 108 non-automatic self-indicating class IDD platform weighing instrument (Figure 1) of 10 000 kg maximum capacity with a verification scale interval of 50 kg.

### 1.1 Weighing Platform

The platform has the weighing area supported by an elastic liquid-filled bourdon tube grid. When the platform is loaded, the elastic tubes are compressed between the moving cover plate and the base plate. The liquid expressed from the bourdon tubes produces a deflection in the spring with attached strain gauge. The electrical signal from the strain gauge together with data from a temperature sensor is used to produce the weighing result.

The weighing platform is especially designed for the vehicles with pneumatic tyres. Use of the instruments for weighing the vehicles with solid rubber wheels or solid objects is not approved.

#### 1.2 Indicator

The instrument is fitted with one LCD display for display of the weight value.

#### 1.3 Zero

A zero-tracking device may be fitted.

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

#### 1.4 Display Check

A display check is initiated whenever power is applied.

#### 1.5 Power Supply

The instrument may be powered by the internal rechargeable battery.

#### 1.6 Interfaces

Instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 5.3.6 of document NMI R76 (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces).

Any measurement data output from the instrument or its interfaces shall only be used for trade in compliance with Supplementary Certificate No S1/0B (in particular in regard to the data and its format).

Instruments may be fitted with CAN bus interfaces and XBee® DigiMesh 2.4 GHz RF module.

#### **1.7 Certification Provision**

Provision is made for the application of a certification mark.

#### 1.8 Sealing Provision

#### **Descriptive Markings and Notices** 1.9

Instruments carry the following markings:

screws provided (Figure 2).

Manufacturer's mark, or name written in full	Haenni Instruments Inc		
Name or mark of manufacturer's agent	Haenni Australia		
Indication of accuracy class			
Pattern approval mark for the instrument	NMI LM 6/9C/318		
Model number			
Maximum capacity	<i>Max</i> kg	#	
Minimum capacity	<i>Min</i> kg	#	
Verification scale interval	e = kg	#	
Serial number of the instrument			

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

#### 1.10 Software

The software is identified by a checksum number 1871 and designated version 01.xx.xxx, where 'xx.xxx' refers to the identification of non-legally relevant software (Figure 3).

The instructions for accessing the software id are as follows (starting from the normal weighing mode):

- Press and hold the red button until the menu is displayed.
- Press the red button three times, then the 'i' icon is selected.
- Press and hold the red button, then the software ID information is displayed.

#### 2. **Description of Variant 1**

Table 1 (the pattern is shown in bold).

approved on 10/08/18 Certain other capacities of the Haenni model WL 108 instruments as listed in

Model	Maximum	Minimum	Verification Scale	Weighing Area
	Capacity	Capacity	Interval	5 5
	(Max)	(Min)	( <i>e</i> )	
\\/  108.2t	2000 ka	50 ka	5 kg	108 v 303 mm
	2000 Kg	JU Kg	5 Kg	490 × 999 1111
WI 108 10t	10 000 ka	200 ka	20 kg	660 x 393 mm
	le eee kg	Loo Kg	_0g	
WL 108 10t	10 000 kg	500 kg	50 kg	660 x 393 mm
VVL 108 15t	15 000 kg	500 kg	50 kg	660 x 393 mm

#### TABLE 1

#### TEST PROCEDURE No LM 6/9C/318

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

#### Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

#### Notes:

Levelling Arrangements and Stability of Ground

The site chosen for weighing should be firm and with inclinations of up to 5% of the instruments. The stability of the ground surface should also be considered as subsidence or compaction may affect accuracy.

#### Tests

- (a) Apply a test load of not less than half the capacity of the instrument to the load receptor at least three times to exercise the instrument.
- (b) Zero the instrument.
- (c) Apply an appropriate zero test using test loads of 0.25 e and 0.75 e.
- (d) Apply an appropriate discrimination test.
- (e) Apply a repeatability test.
- (f) Where practical, apply an eccentricity test.
- (g) With the zero indication correct, apply test loads to the centre of the load receptor in not less than five approximately-equal steps increasing to the maximum capacity.

Ensure that the indications are within the maximum permissible error for the load applied.

Each test load is to be applied at least twice and, where test masses are used and the test load consists of more than one test mass, the test load is to be applied as one mass.

Ensure that after the load test, the zero indication is within ±0.25 e.

## FIGURE LM 6/9C/318 - 1



Haenni Model WL 108 Weighing Instrument

FIGURE LM 6/9C/318 - 2



#### Checksum Legally Relevant Software Checksum Checksum

#### FIGURE LM 6/9C/318 - 3

Haenni Model WL 108 Software Information Display

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