Australian Government
Department of Industry, Science, Energy and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Interim
Provisional
Certificate of Approval
NMI P15/1/9

VALID FOR VERIFICATION PURPOSES UNTIL 30 June 2022

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

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

Hone Model Hone Lab Red Grain Protein Measuring Instrument

submitted by Rapid Phenotyping Pty Limited
T/A Hone Global
145 Hunter St
Newcastle NSW 2700

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.

This approval has been granted with reference to document NMI M8, *Pattern Approval Specifications for Protein Measuring Instruments for Grain*, dated July 2004.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	22/12/21

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI P15/1/9' 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.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0B.

Special Condition of Approval: (Provisional approval - Pattern)

This approval is limited to one (1) instrument only, the serial number of which may be obtained from the National Measurement Institute. The submittor shall advise NMI in writing of the proposed location or serial number of the instrument prior to it being initially verified.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI P15/1/9' and only by persons authorised by the submittor. (Note: The 'P' in the approval number may be a temporary marking.)

The approval will remain provisional pending completion of satisfactory testing and evaluation.

In the event of unsatisfactory performance the approval may be cancelled (or altered).

The submittor shall implement such modifications as required by NMI. In the event that such modifications (if any are required by NMI) are not made to the satisfaction of NMI, this approval may be withdrawn.

1. Description of Pattern Provisional approved on 22/12/21

A Hone model Hone Lab Red grain protein measuring instrument (Figure 1) used to determine the protein content of a whole grain sample of wheat.

Instruments are approved for use over:

- an operating range of 8 to 18% protein for wheat and with a scale interval of 0.1%
- an operating temperature range of 5 ^{o}C to 40 ^{o}C

which must be so marked.

1.1 Design

The model Hone Lab Red instrument passes a broad band light source through the sample and to a detector; the detected signal is processed by the internal microcontroller and returned to the connected mobile device over Bluetooth Low Energy (BLE).

The model Hone Lab Red communicates with a mobile device (using Android or iOS operating system) which runs the Hone App application that transfers spectral data to the Hone cloud server database and retrieves the measuring result. The

Hone cloud server hosts Hone Create measuring software to process the data and determine the protein content of a whole grain sample. The result in increments of 0.1% is displayed on the mobile device screen.

1.2 Operation

The operation of the Hone Lab Red instrument is as follows:

a) Turn on Hone Lab Red instrument, mobile device and open Hone App application – this will guide user operation. Ensure the mobile Bluetooth is enabled.

b) Within the Hone mobile application, select Rapid Test mode and 'Connect' to begin the Bluetooth connection process.

c) Follow the Hone mobile application prompts to set up and initiate a scan.

d) Follow the Hone mobile application prompts to complete scanning of grain subsamples.

e) After successful scan is complete, spectral data is sent to the Hone cloud platform. If an internet connection is not available at this point the spectral data will be saved to the mobile device and sent to the cloud once an internet connection is established.

f) After the data is uploaded, the Hone cloud platform will analyse the data and deliver the results back to the connected mobile.

1.3 Interfaces

Instruments may be fitted with interfaces as follows:

- Bluetooth interface;
- USB-C.

1.4 Power Supply

The instrument is powered by an internal 7.2 V DC rechargeable battery pack (two 3.6 V DC lithium batteries in series connection). The internal battery is rechargeable via the micro USB-C port using a typical 5 V USB charger supplied with the instrument.

1.5 System Software

The operator interface of the instrument is provided by the Hone mobile application operating on a mobile device (e.g. mobile phone/tablet).

The operating system of the mobile device is Android version 12, or iOS version 15.1, or later versions. Note: consult the mobile device's manufacturer instructions to determine operating system version.

The mobile device communicates with the Hone Lab Red instrument via the Bluetooth protocol (which is designed to ensure error free communications). For communications to occur between a Hone Lab Red instrument and the Hone App, the instrument and mobile device must first be paired.

The cloud-based Hone Create measuring software runs on Hone cloud server and can be accessed by Hone mobile application via the Internet.

1.6 Verification Provision

Provision is made for the application of a verification mark.

1.7 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Hone Global
Pattern approval number for the instrument	NMI P15/1/9
Model designation	Hone Lab Red
Serial number of the instrument	HLR0A-.....
Approved operating range	8 to 18% protein
Scale interval	0.1%
Special temperature limits	5°C to 40°C
Power supply of the instrument	7.2 V DC

1.8 Software Version

The Hone mobile application version is 1.1.14 or later versions.

Hone Create measuring software which contains legally relevant version 20021 software is approved.

Access to the mobile application software and legally relevant software versions may be obtained by the following procedure:

- After logging in, press 'Account' icon on the bottom navigation bar.
- Scroll down to the end of the list to see 'App version';
- Press 'Test' icon on the bottom navigation bar, the Scan Properties list is displayed.
- The legally relevant software version is shown as Model ID in Figure 2.

1.9 Sealing Provision

Provision is made for sealing the calibration adjustments by an authorised account in the Hone Platform and evidence of alteration of the calibration model and configuration is provided by an audit trail.

Any calibration adjustment is controlled by the Hone calibration process and test reports as audit trail are stored within the Hone servers. The test report contains a record of the calibration model/configuration and its parameters and the date the test was conducted and parameters implemented.

Test reports are provided in paper format with the Hone Lab Red instrument and are also readily accessible by contacting a Hone representative.

The manufacturer shall provide the test reports and a historical report of calibration parameters from creation to latest modifications upon request.

TEST PROCEDURE No P15/1/9

Protein Measurement

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

Maximum Permissible Errors

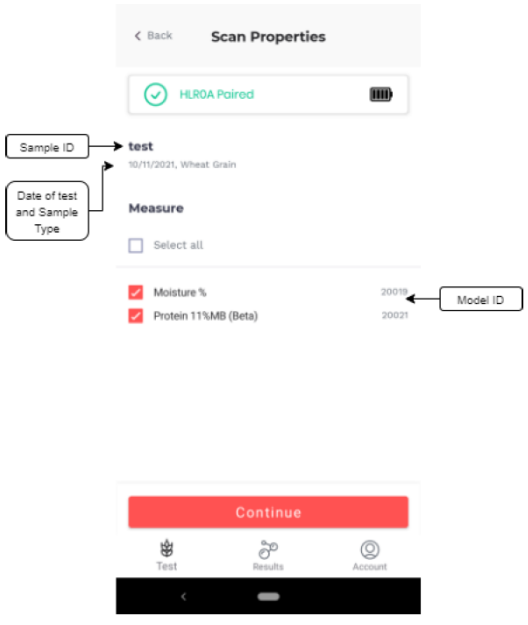
The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

Ensure that instruments are only being used within the special temperature limits stated elsewhere in this Technical Schedule.

FIGURE P15/1/9 – 1

Hone Model Hone Lab Red Grain Protein Measuring Instrument (Pattern)

FIGURE P15/1/9 – 2



Legally Relevant Software Model ID

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
Policy and Regulatory Services

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