



Australian Government
Department of Industry, Science,
Energy and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 15/1/7

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.

Bruins Instruments Model OmegAnalyzer G Grain Protein Measuring Instrument

submitted by ProAnalytics Pty Ltd
U7, 84-90 Old Bathurst Road
Emu Plains NSW 2750

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.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	7/08/14
1	Pattern approved – interim certificate issued	16/10/15
2	Pattern approved – certificate issued	6/04/16
3	Pattern approval NOTE corrected & review date removed – certificate issued	10/11/21

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 15/1/7' and only by persons authorised by the submitter.

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 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.

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

TECHNICAL SCHEDULE No 15/1/7

1. Description of Pattern

**provisionally approved on 7/08/14
approved 16/10/15**

A Bruins Instruments model OmegAnalyzer G grain protein measuring instrument (Figure 1) used to determine the protein content of a whole grain sample of barley or wheat.

The model OmegAnalyzer G is fitted with an LCD touch screen display/keyboard.

Instruments are approved for use over a temperature range of 5°C to 40°C and must be so marked.

1.1 Design

The model OmegAnalyzer G instrument automatically determines the protein content of a sample of grain, and displays the value in increments of 0.1%, by passing a monochromatic light beam through the sample and to a detector; the detected signal is amplified and processed by the internal computer. Results are displayed on the LCD touch screen and may also be printed via a Parallel port output to an external printer.

1.2 Measuring Cell

Instruments may be fitted with a measuring cell:

- (a) With pathlength limiter 18 mm for barley (Figure 2a).
- (b) With pathlength limiter 22 mm for wheat (Figure 2b).

1.3 Interfaces

Instruments may be fitted with interfaces as follows:

- (a) RS 232 serial interface.
- (b) USB interfaces.
- (c) Ethernet interface.
- (d) Parallel printer port.
- (e) Monitor port.
- (f) PS/2 port.

1.4 System Software

Instruments are fitted with Windows 98 software and Bruins Instruments predict application version 3,5,8,2. The measurement software version is displayed at the Functions window.

1.5 Verification Provision

Provision is made for the application of a verification mark.

1.6 Sealing Provision

Provision is made for sealing the calibration adjustments by a password, and evidence of alteration of the calibration model and configuration is provided by an audit trail.

The audit trail records each change to the calibration model/configuration and its parameters, including all information from the creation to the latest modifications.

Access to the audit trail may be obtained by the following procedure:

- a) At the operation window, press 'Functions' button.
- b) At the functions window, select 'Options' button for printing.
- c) In the upper field of the options window, select Report Events from pull down menu, and select **all** in Time selection, **all products** in Product selection and **all samples** in Sample selection. Then press the 'Set options' button to return to the functions window.
- d) At the functions window, select 'Preview' button to generate an Event Report (Figure 3).

1.7 Descriptive Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Bruins Instruments Germany
Name or mark of manufacturer's agent	ProAnalytics Pty Ltd
Pattern approval mark for the instrument	NMI 15/1/7
Model designation
Serial number of the instrument
Approved operating range to% protein
Scale interval%
Grain type
Special temperature limits	5°C to 40°C
Power supply	230 VAC, 50 Hz

TEST PROCEDURE No 15/1/7

Instruments tested for initial verification shall comply with the certificate of approval and technical schedule, and the maximum permissible errors for initial and subsequent verifications/certifications at the operating conditions in effect at the time of verification.

Instruments shall comply with the requirements of, and shall be tested in conjunction with any relevant tests in, the document NMI M8, *Pattern Approval Specifications for Protein Measuring Instruments for Grain*, dated July 2004.

Maximum Permissible Errors at Verification

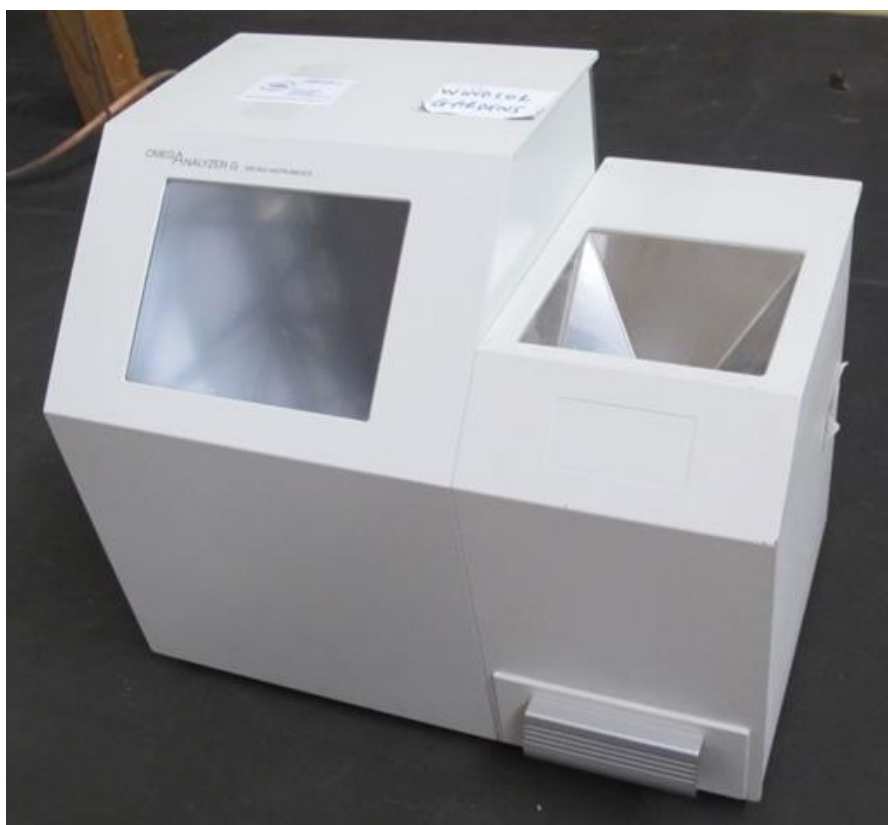
The maximum permissible errors applied during a verification test are:

- ±0.5% of the quantity of barley measured; and
- ±0.4% of the quantity of wheat measured.

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

The serial number of the measuring instrument shall be recorded at the time of any verification.

FIGURE 15/1/7 – 1



Bruins Instruments Model OmegAnalyzer G Grain Protein Measuring Instrument

FIGURE 15/1/7 – 2



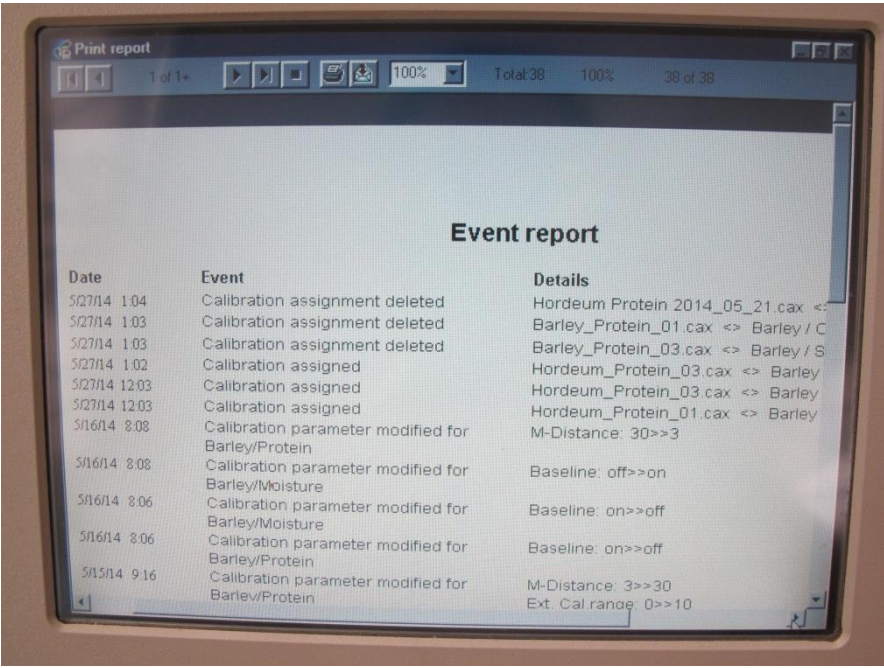
(a) With 18 mm Pathlength Limiter



(b) With 22 mm Pathlength Limiter

Measuring Cells With Different Length Pathlength Limiters

FIGURE 15/1/7 – 3



Date	Event	Details
5/27/14 1:04	Calibration assignment deleted	Hordeum Protein 2014_05_21.cax <>
5/27/14 1:03	Calibration assignment deleted	Barley_Protein_01.cax <> Barley / C
5/27/14 1:03	Calibration assignment deleted	Barley_Protein_03.cax <> Barley / S
5/27/14 1:02	Calibration assigned	Hordeum_Protein_03.cax <> Barley
5/27/14 12:03	Calibration assigned	Hordeum_Protein_03.cax <> Barley
5/27/14 12:03	Calibration assigned	Hordeum_Protein_01.cax <> Barley
5/16/14 8:08	Calibration parameter modified for Barley/Protein	M-Distance: 30>>3
5/16/14 8:08	Calibration parameter modified for Barley/Moisture	Baseline: off>>on
5/16/14 8:06	Calibration parameter modified for Barley/Moisture	Baseline: on>>off
5/16/14 8:06	Calibration parameter modified for Barley/Protein	Baseline: on>>off
5/15/14 9:16	Calibration parameter modified for Barley/Protein	M-Distance: 3>>30 Ext. Cal range: 0>>10

Event Report Information

~ End of Document ~