



**Australian Government**

**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

## **Certificate of Approval**

### **NMI 15/1/2**

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.

NIR Technology Model CROPSCAN 2000B Grain Protein Measuring Instrument

submitted by            Stadvis Pty Ltd  
                                  (T/A NIR Technology Systems)  
                                  now of B1, 366 Edgar Street  
                                  Condell Park    NSW    2200.

**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 becomes subject to review on 1/12/15, and then every 5 years thereafter.

#### **DOCUMENT HISTORY**

<b>Rev</b>	<b>Reason/Details</b>	<b>Date</b>
0	Pattern approved – interim certificate issued	8/11/05
1	Pattern – certificate issued	13/1/06
2	Amendments – change notice issued	15/3/07
3	Variant 1 approved – interim certificate issued	5/03/08
4	Variant 1 – certificate issued	16/05/08
5	Pattern and variant 1 reviewed & updated – certificate issued	11/10/11

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 15/1/2' 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 Certificates No S1/0/A or No S1/0B.

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

A handwritten signature in black ink, consisting of a series of loops and flourishes, positioned to the right of the signature text.

## TECHNICAL SCHEDULE No 15/1/2

### 1. Description of Pattern

approved on 8/11/05

The pattern is an NIR Technology model CROPSCAN 2000B measuring instrument (Figure 1) used to determine the protein content of a whole grain sample of barley or wheat grain.

Instruments are approved for use over a temperature range of +10°C to +40°C and must be so marked.

#### 1.1 Design

The NIR Technology model CROPSCAN 2000B instrument automatically determines the protein content of a sample of grain and displays the value in increments of 0.1%, by using a full spectrum spectrophotometer and a linear array detector; the detected signal is processed by the internal computer to measure the intensity of the infrared energy that passes through the grain sample and so determine the protein content. Results are displayed on the liquid crystal display and may also be printed or downloaded via a serial connection to an external personal computer.

#### 1.2 Descriptive Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	.....
Pattern approval mark for the instrument	NMI 15/1/2
Approved operating range	..... to .....% protein
Model designation	.....
Serial number of the instrument	.....
Grain type	.....
Special temperature limits	+10°C to +40°C

#### 1.3 Sealing Provision

Provision is made for sealing the calibration adjustments in the instrument by means of an electronic sealing feature which is password protected. An event counter records every time the electronic seal is opened. By noting the value of the event counter at the time of verification it is possible to verify if the seal has been opened since the previous verification.

Electronic sealing of the calibration of the instrument has two levels. The first allows alteration of the bias and slope of the calibration curve in the field. The second level allows alteration of the curve itself and this can only be done at the factory.

#### 1.4 Verification Provision

Provision is made for a verification mark to be applied.

### 2. Description of Variant 1

approved on 5/03/08

The NIR Technology model CROPSCAN 1000B grain protein measuring instrument (Figure 2) which has similar electronic and optical systems as the pattern but with a 'flow through' sampling system.

## TEST PROCEDURE No 15/1/2

Instruments shall be tested in accordance with any relevant tests specified in the document NMI M8, Pattern Approval Specifications for Protein Measuring Instruments for Grain, dated July 2004..

### **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.

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

FIGURE 15/1/2 – 1



NIR Technology Model CROPSCAN 2000B Grain Protein Measuring

FIGURE 15/1/2 – 2



NIR Technology Model CROPSCAN 1000B Grain Protein Measuring Instrument