



Australian Government
**Department of Industry, Science,
Energy and Resources**

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 15/1/6

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.

Infratec Model Sofia Grain Protein Measuring Instrument

submitted by Foss Pacific Pty Ltd
Unit 2, 112-118 Talavera Road
North Ryde NSW 2113

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 approved – certificate issued	18/10/13
1	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 15/1/6' 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.

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 15/1/6

1. Description of Pattern **approved on 18/10/12**

An Infratec model Sofia grain protein measuring instrument (Figure 1) used to determine the protein content of a whole grain sample of barley or wheat.

Instruments are approved for use over an operating range of up to 8.5 to 18.0% protein and with a scale interval of 0.1%.

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 Sofia 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 liquid crystal display and may also be exported via a SD memory media.

1.2 Interfaces

Instruments may be fitted with interfaces as follows:

- (a) An Ethernet interface for data communication.
- (b) SD card reader for export and import of results and data.

1.3 Descriptive Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Foss
Pattern approval mark for the instrument	NMI 15/1/6
Model designation	Sofia
Serial number of the instrument
Approved operating range to% protein
Scale interval%
Grain type
Special temperature limits	5°C to 40°C
Power supply	100-240 VAC, 50 Hz or 12 V DC

1.4 Verification Provision

Provision is made for the application of a verification mark.

1.5 Sealing Provision

Provision is made for sealing the calibration adjustments by Foss Mosaic Manager Pro/Lite software and a laptop, and evidence of alteration of the calibration model and configuration is provided by an audit trail.

The verification date may be recorded on a destructible adhesive label attached to the instrument.

Any subsequent alteration to the calibration or configuration will be evident as the recorded date and the current date obtained from audit trail will differ.

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) Retrieve the SD card from the instrument and place it in a card reader.
- b) Insert/connect the card reader to a laptop which having Mosaic Manager Pro/Lite and Mosaic Updater software programs.
- c) Start Mosaic Manager Pro/Lite.
- d) Login to Mosaic Manager Pro/Lite using a user name and a password.
- e) Select the instrument under 'Instruments' menu.
- f) Generate an instrument details report from the drop down Report menu
- g) View the audit trail information (Figure 2).

TEST PROCEDURE No 15/1/6

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 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 15/1/6 – 1



Infracore Model Sofia Grain Protein Measuring Instrument

FIGURE 15/1/6 – 2

Instrument details Report							Network: NMI
FOSS							
Name	Description	Instrument Group	Serial Number	Chassis ID	Installed	Registered	
520047993	Sent to CBH for Calibration development 4/5/2011-SO NM - SO	NMI test	520047993	77314567196	4/05/2011 9:34:06AM	18/06/2013 1:17:09PM	
Extension applied to instrument							
Name	Type	Description	Serial Number	Chassis ID	Hardware Version	Software Version	
	Infracore Sofia Core	Bond core instrument without extensions	1234	0	10.0	5.0.3	
3 Products assigned to instrument							
Name	Description	Path	Sample Type	Code	Modified	Created	
Barley	Barley model		Normal		29/03/2011 6:57:20PM	19/10/2010 12:18:46AM	
Check cell			Check-Sample		19/10/2010 12:22:00AM	19/10/2010 12:20:55AM	
Wheat	Wheat model		Normal		29/03/2011 6:57:12PM	19/10/2010 12:17:23AM	
3 Prediction Models used by instrument							
Name	Description	Type	Version	Engine	Updated	Installed	
Barley Moisture		Infracore Sofia	3.0.0.0	EAF	29/03/2011 6:55:02PM	19/10/2010 12:11:49AM	
Barley Protein Australia DMB	Barley DMB	Infracore Sofia	0.3.0.0	EAF	24/10/2011 5:42:43PM	19/10/2010 12:08:31AM	
Check Cell		Infracore Sofia	3.0.0.0	EAF	19/10/2010 12:20:24AM	19/10/2010 12:20:24AM	
Wheat Moisture	Moisture%	Infracore Sofia	2.0.0.0	EAF	19/10/2010 12:15:02AM	19/10/2010 12:11:10AM	
Wheat Protein Australia 11%mb	Wheat 11%mb	Infracore Sofia	0.3.0.0	EAF	24/10/2011 5:42:47PM	19/10/2010 12:07:46AM	
1/10/2013 5:54:14PM							
Page 1 of 1							
Dedicated Analytical Solutions							

Audit Trail Information

~ End of Document ~