PART 3: TEST REPORT FORMAT FOR TYPE EVALUATION

INTRODUCTION

This Report Format applies for any kind of protein measuring instrument for grain (independent of its technology). It presents a standardized format for the results of the various tests and examinations, outlined in Part 2 clause 7 of OIML R xxx (201x), to which a type of protein measuring instrument for grain shall be submitted with a view to its approval based this OIML Recommendation.

It is recommended that all metrology services or laboratories evaluating and/or testing types of protein measuring instrument for grain according to OIML R xxx (201x), or to national or regional regulations based on that Recommendation, use this Report Format, directly or after translation into a language other than English or French. In case of a translation, it is highly recommended to leave the structure and the numbers of the clauses unchanged: in this case most of the contents are also understandable for those who can not read the language of the translation.

It is also recommended that this Report Format in English or in French (or in both languages) be transmitted by the country performing the tests to the relevant authorities of another country, when requested for issuing a national or regional type-approval.

In the practical application of the Report Format, a cover page shall be included by the Issuing Authority, and clauses 1 - 5 shall be included as a minimum.

APPLICABILITY OF THIS TEST REPORT FORMAT

In the framework of the OIML Certificate System for Measuring Instruments applicable to protein measuring instruments for grain in conformity with OIML R xxx (201x), use of this report format is mandatory, in French and/or in English with translation into the national languages of the countries issuing such certificates, if appropriate.

Implementation of this Report Format is informative with regard to the implementation of OIML Recommendation OIML R xxx (201x) in national regulations.

GUIDANCE FOR THE APPLICATION OF THIS TEST REPORT

Refer to Part 1 clause 2 of of OIML R xxx (201x) for definitions of terms, acronyms and symbols used.

The measurement unit is not always stated in the header row or column in the table.
The examiner is not expected to include the measurement unit with each recorded measurement result.
Percent by weight (abbreviated as' % w/w' or '%') is the measurement unit applicable for any values of the following:
- Protein content (P_{MB})
- MPE, error shift limits, maximum fault, etc.
- Basis moisture content (M_B), and
- Actual "as is" moisture content is

The **coloured fields** should always be filled as appropriate.
Where the heading or label of a coloured field indicates "Pass/ fail" or "Pass/ fail/ NA", select the applicable option in the drop-down list that appears when the mouse is placed over the right side of the field.
NOTE: If it is impossible to enter the results in a computer, this Report Form may be printed and completed manually. In this case write "Pass", "fail" or "NA" in the coloured fields as appropriate.

In the Examination Checklist, the optional comments fields have a different colour to the mandatory fields (i.e. fields labelled "Yes/ No", "Pass/ fail" response or details of validation)

The mandatory fields relating to conditions to be specifiec by the national responsible body (within the limits suggested in OIML R xxx) have a different colour to the fields with the result from the assessment of the submitted type and documentation (i.e. fields labelled "Pass/ fail/ NA"). Select "NA" only when the requirement (or a variant of a requirement) is not adopted by the national responsible body.

In case a prescribed test or requirement is not relevant for the type of instrument to be tested or has not been adopted by the national responsible body, the reason why the test is omitted shall be clearly stated in the field "Comments"

In the test reports, the white fields with blue outline contain calculations and/or conditional formatting to highlight a suspect result.

THE EVALUATION REPORT
The format for the report is given on the following pages

To review or revise the formulae for calculated values in the file *20130409 - 4CD Grain Protein Measurement - Part 3 Test Report.xlsx*, select Menu Option 'Review' and then select 'Unprotect Sheet'.

COVER PAGE BY THE ISSUING AUTHORITY (NATIONAL RESPONSIBLE BODY)

CONTENTS OF PART 3: TEST REPORT FORMAT   **Location**

1 AUTHORITY RESPONSIBLE FOR THIS REPORT

Organisation name:

Address:

Report number:

Application number:

Testing period: to

Issue date of this Report:

Approver name:

Approver signature:

Stamp(s) if applicable:

2 SYNOPSIS OF THE RESULTS OF THE EXAMINATION AND TESTS

The tested samples of the type fulfils ALL the applicable requirements in OIML R xxx (201x):

Pass/fail

Comments:

3 SUMMARY OF THE RESULTS OF THE EXAMINATION AND TESTS

3.1 Examinations

(*) Clause also contains recommendations in regard to specifications set by the national responsible body.

R xxx Part 1 - Metrological / technical / software requirements		Result	Location / ref
3*	Units of measurement		
4	Metrological requirements		
4.1*	Applicable grains and P_{MB} measuring ranges – specification		
4.2*	Instrument environmental operating temperature – specification		
4.3*	Grain sample operating temperature – specification		
4.4*	Influence quantities – specification		
4.5*	Maximum permissible error and other accuracy requirements		
4.7	Requirements for calibrations		3.2 Performance Tests Summary and test reports
4.8	Error due to variations in influence quantities		
4.9	Error due to changes in the instrument over time		
5	Technical requirements		
5.1	Checking facilities		
5.2*	Manufacturer's manual		
5.3	Markings		
5.4*	Sample input and calibration selection		
5.5	Instrument construction		
5.6	Level indicating means		
5.7	Presentation of the measured value		
6	Requirements for software-controlled devices and security		
6.1	Specification of software requirements		
6.2	Electronic data storage and transmission		
6.3	Software documentation		
6.4*	Provision for software and calibration security		
9.4*	Maintenance and reconfiguration of the approved software		
9.5	In-field updates to grain calibrations		
R xxx Part 2			
7.1.2	Documentation file		

3.2 Performance Tests

R xxx Annex C: Type evaluation tests		Result	Location
C.4	Tests for time related effects		
C.4.1	Instrument warm-up time		
C.4.2	Instrument drift and instability		
C.5	Tests for influence variations within the rated operating conditions		
C.5.1	Instrument levelling		
C.5.2	Cold		
C.5.3	Dry heat		
C.5.4	Damp heat		
C.5.5	AC mains voltage variation		
C.5.6	Variation in voltage supplied by external road vehicle batteries		
C.6	Tests for disturbances		
C.6.1	AC mains voltage dips, short interruptions and voltage variations		
C.6.2	Bursts (transients) on AC mains		
C.6.3	Radiated radiofrequency, electromagnetic susceptibility		
C.6.4	Conducted radio-frequency fields		
C.6.5	Electrostatic discharges		
C.6.6	Storage temperature (extreme shipping conditions)		
C.6.7	Random vibration		

(continued next page)

R xxx Annex C: Type evaluation tests (continued)		Result	Location
C.7	Assessment of calibrations in the submitted type		
GT1	*		
GT2	*		
GT3	*		
GT4	*		
GT*			
C.7.1	Accuracy and precision at reference conditions		
GT1	*		
GT2	*		
GT3	*		
GT4	*		
GT*			

* Insert Calibration name and version number

4 GENERAL INFORMATION ABOUT THE APPLICATION

4.1 Manufacturer

Name:

Address:

4.2 Applicant

Organisation:

Contact name:

Address:

Email address:

Phone: Fax:

Application date: Ref number:

Applicant is authorised by the manufacturer (documented evidence)   Yes/ no

Comments:

4.3 Testing laboratories involved in the tests

Complete this form for each test laboratory -

Organisation name: [   ]

Address: [   ]

Application number: [   ]

Tests by this laboratory: [   ]

Testing period: [   ] to [   ]

Name(s) of test engineer(s): [   ]

Laboratory accredited by: [   ]

Accreditation number: [   ]   Expiry: [   ]

Accreditation includes R xxx: [   ] Yes/ no   Edition: [   ]

Details of relevant peer assessement or assessment by other means:

[   ]

Details, if any tests have been performed at another location than the laboratory premises:

[   ]

Responsible person - name: [   ]

Date signed: [   ]

Signature: [   ]

Stamp(s) if applicable: [   ]

Comments:

[   ]

4.4 General information concerning type

4.4.1 Description of the instrument (key technical characteristics and intended applications)

e.g. benchtop near infrared (NIR) protein measuring instrument with calibrations for wholegrain wheat and barley

4.4.2 Information indicated on the instrument

Manufacturer trademark:

Year of manufacture:

Type designation:

Model number(s) (if applic):

Electrical power markings:

Software ID (if applic):

Other descriptor/marking:

Comments:

4.4.3 Information on sample units

Serial number	Model number	Manufacture mode (prototype / production)	Year

Add additional rows if over three sample units are submitted.

Comments:

4.4.4 Relevant external/internal photographs taken during the examination and tests

4.5 Accessories supplied by the applicant

Batteries (if applicable):   Type [   ] V_{nom} [   ]   Number required [   ]

Data printer (if applic): [   ]

External data storage (if applic): [   ]

Cables: [   ]

Other accesories: [   ]

4.6 Information on sample instruments

In case the tests and evaluation are valid for more versions, give full details of the ypes, versions, measuring ranges, etc.:

[   ]

Justification for the selection of the sample unit(s):

[   ]

4.7 Adjustments and modifications

Adjustments, modifications and repairs made to the sample unit(s) during the testing:

[   ]

4.8 Results of previous tests that were taken into account

Details:

[   ]

4.9 Additional information concerning type

4.9.1 Instrument limitations of use

Calibration dependent

Sample P_{MB} content (%)   Min: [ ]   Max: [ ]   [ ]

Sample moisture content (%)   Min: [ ]   Max: [ ]   [ ]

Operating temperature (°C)   Min: [ ]   Max: [ ]

Grain sample temperature (°C)   Min: [ ]   Max: [ ]   [ ]

Maximum ΔT (°C) [ ]   or $\Delta T_{C,max}$ [ ]   & $\Delta T_{H,max}$ [ ]   [ ]

If limits are dependent on the grain calibration (i.e. answer is 'Yes') specify values/range in 4.9.2 instead.

Comments:

[ ]

4.9.2 Information on the submitted calibrations

Calibration principle: [ ]

Calibration number	GT1	GT2	etc.*
Calibration name:			
Version number:			
Displayed name:			
Date submitted:			
Calibration limitations of use -			
Applicable type(s) of grain:			
P_{MB} measuring range:			
Min/max moisture content:			
$T_{C,sample}$ and $T_{H,sample}$:			
ΔT_{max} or ΔT_{Cmax} and ΔT_{Hmax}:			
Regression information -			
Approx number of data points:			
Data sources, date range:			
Reference method(s):			
Other validation result: (e.g. SD, SEP)			
Default bias (if applic):			
Default slope (if applic):			
Other characteristic:			

*Copy table into additional pages if more than two calibrations are submitted for examination.

Comments:

[ ]

4.9.3 Additional information (e.g. connection equipment, interfaces, etc.)

[ ]

4.10 Documentation supplied by applicant

Date received	Document title and/or reference number	Description (include version number if applicable)

Insert additional rows as required.

4.11 Test equipment and grain used in type evaluation

4.11.1 Test equipment

Instrument/ equipment	Make/ model	Serial #	Parameter applied/ measured	Calibrated range(s)	Test(s) used

Insert additional rows as required.

Details e.g. ~ equipment set-up for ESD and EMS tests
~ details of simulations
~ confidence intervals for uncertainty estimations

4.11.2 Grain test samples

Information about the grain reference materials (RMs) used in tests:

Reference method used to generate whole-grain certified reference materials (CRMs):

5 EXAMINATION DETAILS

5.1 Examination checklist - metrological and technical requirements

(*) Clause contains requirements to be addressed by the national responsible body.

	Checks on the requirements within R xxx Part 1	Findings	
3	**Units of measurement**		
3.1	The measurement of the protein content in a grain sample is expressed in percentage by mass (% w/w). The percentage symbol alone (%) is also permitted.		Pass/ fail
3.2	For each type of grain, the measured protein content is expressed at one basis moisture content (M_B). The scaling of the protein content at the actual "as is" moisture content (P_M) to the protein content at the basis moisture content (P_{MB}) is in accordance with Equation 1.		Pass/ fail
3.3*	The national responsible body has specified the basis moisture content (M_B) for expressing the protein content of each grain type. Examiner to append and/or reference the national specification.		Yes/ no
4	**Metrological requirements**		
4.1	**Applicable grains and P_{MB} measuring ranges – specification**		
4.1.1*	The national responsible body has specify commercially important P_{MB} ranges for the grains on which P_{MB} measurements are subject to national approval. R xxx Table 3 contains examples of the types of grains that are commercially important in certain countries/ regions. Examiner to append and/or reference the national specification for the P_{MB} measurement ranges on commercially important grains.		Yes/ no
4.1.2	The grain types and the corresponding PMB measuring range that can be analysed by the submitted type of instrument has been declared by the manufacturer. The P_{MB} measuring range includes the range specified by the national responsible body for the grain type. Examiner to append and/or reference the manufacturer's specification.		Pass/ fail
4.2	**Instrument environmental operating temperature – specification**		
4.2.1(a)*	Examiner to indicate whether a limited range for the environmental operating temperature is permitted. If the answer is 'No' the temperatures applied during type testing should include all the possible environmental temperatures in that particular country.		Yes/ no
4.2.1(b)	The following only applies if the previous answer is 'No'- The submitted type provides accurate P_{MB} measurements in all the environmental temperatures possible in the country/region. Examiner response should be based on the relevant performance test(s).		Pass/ fail/ NA
4.2.2*	The following only applies if the answer to 4.2.1 is 'Yes'- The national responsible body has specified the range of ambient temperatures (T_C to T_H) in which the instrument can be used to take P_{MB} measurements for commercial purposes. The temperature range T_C to T_H includes 10 ºC to 30 ºC. Examiner to append the national specification or indicate the values for T_C and T_H.	T_C = T_H =	Yes/ no/ NA
4.2.3(a)	The following only applies if the answers to 4.2.1(a) and 4.2.2 are both 'Yes'- Examiner to indicate whether the manufacturer has specified a wider ambient temperature range than specified by the national responsible body.		Yes/ no/ NA
4.2.3(b)*	If the previous answer is 'Yes', the manufacturer may request for the wider range to be adopted for their type evaluation. Examiner to indicate whether the manufacturer specification has been adopted as T_C to T_H for this particular type evaluation. If the answer is 'Yes', append the manufacturer specification and indicate the revised values for T_C to T_H.	Values adopted for approval of this type: T_C = T_H =	Yes/ no/ NA

Continued - Checks on the requirements within R xxx Part 1		Findings
4.3	**Grain sample operating temperature – specification**	
4.3.1	Specification of the sample temperature range	
4.3.1.1 (a)*	Examiner to indicate whether a limited range for the grain sample temperature is permitted. If the answer is 'No' the temperature of grain samples during type testing should encompass the range 2 ºC to 45 ºC.	Yes/ no
4.3.1.1 (b)	The following only applies if the previous answer is 'No'- The submitted type provides accurate P_{MB} measurements on samples that are between 2 ºC to 45 ºC in temperature. Examiner response should be based on the relevant performance test.	Pass/ fail/ NA
4.3.1.2*	The following only applies if the answer to 4.3.1.1 is 'Yes'- The national responsible body has specified the range of sample temperatures ($T_{C,sample}$ to $T_{H,sample}$) in which the instrument can be used to take P_{MB} measurements for commercial purposes. The temperature range $T_{C,sample}$ to $T_{H,sample}$ includes 10 ºC to 30 ºC. Examiner to append national specification to report or indicate the values for $T_{C,sample}$ and $T_{H,sample}$ for each grain type.	$T_{C,sample}$ = $T_{H,sample}$ = Yes/ no/ NA
4.3.1.3 (a)	The following only applies if the answers to 4.3.1.1(a) and 4.3.1.2 are 'Yes'- Examiner to indicate whether the manufacturer has specified a wider sample temperature range than specified by the national responsible body.	Yes/ no/ NA
4.3.1.3 (b)*	If the previous answer is 'Yes', the manufacturer may request for the wider range to be adopted for their type evaluation. Examiner to indicate whether the manufacturer specification has been adopted as $T_{C,sample}$ to $T_{H,sample}$ for this particular type evaluation. If the answer is 'Yes', append the manufacturer specification and indicate the revised values for $T_{C,sample}$ to $T_{H,sample}$ for each grain type.	Values adopted for approval of this type: $T_{C,sample}$ = $T_{H,sample}$ = Yes/ no/ NA
4.3.2	Specification of the sample and instrument maximum temperature differential (ΔT_{max})	
4.3.2.1 (a)*	Examiner to indicate whether a maximum limit for ΔT (i.e. ΔT_{max}) is permitted. If the answer is 'No' the following values shall be applied during type testing: $\Delta T_{C,max} = T_{ref} - T_{C,sample}$ and $\Delta T_{H,max} = T_{H,sample} - T_{ref}$.	Yes/ no
4.3.2.1 (b)	The following only applies if the previous answer is 'No'- The instrument at reference temperature (T_{ref}), provides accurate P_{MB} measurements on samples within the range $T_{C,sample}$ to $T_{H,sample}$ regardless of the magnitude of the sample and instrument temperature differential (ΔT). Examiner response should be based on the relevant performance test.	Pass/ fail/ NA
4.3.2.2*	The following only applies if the answer to 4.3.2.1 is 'Yes'- The national responsible body has specified a ΔT_{max} in which the instrument can be used to take P_{MB} measurements for commercial purposes. The value of ΔT_{max} (or $\Delta T_{C,max}$ and $\Delta T_{H,max}$, if unequal about T_{ref}) is at least 10 ºC. Examiner to append national specification to report or indicate the values for ΔT_{max} (or $\Delta T_{C,max}$ and $\Delta T_{H,max}$) for each grain type.	ΔT_{max} = $\Delta T_{C,max}$ (if ≠ $\Delta T_{H,max}$): $\Delta T_{H,max}$ (if ≠ $\Delta T_{C,max}$): Yes/ no/ NA
4.3.2.3 (a)	The following only applies if the answers to 4.3.2.1(a) and 4.3.2.2 are 'Yes'- Examiner to indicate whether the manufacturer has specified a larger maximum differential than ΔT_{max} specified by the national responsible body.	Yes/ no/ NA
4.3.2.3 (b)*	If the previous answer is 'Yes', the manufacturer may request for the wider range to be adopted for their type evaluation. Examiner to indicate whether indicate whether the manufacturer specification has been adopted as ΔT_{max} for this particular type evaluation. If the answer is 'Yes', append the manufacturer specification and indicate the revised values for ΔT_{max} (or $\Delta T_{C,max}$ and $\Delta T_{H,max}$) for each grain type.	Values adopted for approval of this type: ΔT_{max} = $\Delta T_{C,max}$ (if ≠ $\Delta T_{H,max}$): $\Delta T_{H,max}$ (if ≠ $\Delta T_{C,max}$): Yes/ no/ NA
4.3.3	Provisions in absence of a manufacturer-specified sample temperature range	
(a)	Examiner to indicate whether the manufacturer has declared a sample temperature operating range or a maximum allowable ΔT. If the answer is 'No' append and/or provide reference the relevant national testing and/or operating procedures.	Yes/ no/ NA

	Continued - Checks on the requirements within R xxx Part 1	Findings
4.3.3 (b)*	The following only applies if the previous answer is 'No'- Testing and/or operating procedures are in place to ensure that accurate P_{MB} measurements are possible within the testing ranges specified for type evaluation (i.e. $T_{C,sample}$ to $T_{H,sample}$ and ΔT_{max}).	Yes/ no/ NA
4.4	**Influence quantities – specification**	
4.4.1*	Rated operating ranges for influence factors specified by the national responsible body conform to the international standard. Examiner to indicate reasons for deviations.	Yes/ no
4.4.2*	Disturbance tests for electronic instruments specified by the national responsible body conform to the international standard. Examiner to indicate reasons for deviations.	Yes/ no
4.5	**Maximum permissible error (MPE) and other accuracy requirements**	
4.5.2*	Accuracy requirements specified by the national responsible body for each grain type conform to the international standard. Examiner to indicate reasons for deviations.	Yes/ no
4.5.3*	The MPE for each grain type has been scaled in accordance with the nationally-specified M_B and the recommended rounding method performed.	Yes/ no
4.5.4*	Reference method specified for the national responsible body for P_{MB} measurements is based on an international standard. Examiner to indicate reasons for deviations and to append and/or reference the test procedure.	Yes/ no
5	**Technical requirements**	
5.1	**Checking facilities**	
5.1.1	Suppression of P_{MB} measured values in the event of a significant fault. There is provision for the instrument to automatically and clearly indicate when a significant fault has occurred by an appropriate error message, unambiguous warning or blanking the display.	Pass/ fail
5.1.2	Suppression of P_{MB} measured values outside of operating ranges	
5.1.2.1	The operator is not required to judge the precise ambient temperature and the temperature of the sample required in order to make an accurate measurement. The instrument automatically and clearly indicates when a type-approved operating range is exceeded by an appropriate error message, unambiguous warning or blanking the display.	Pass/ fail
5.1.2.2	The instrument shall automatically prevent further measurements as long as the respective influence factor or sample characteristic remains outside the type-approved ranges.	Pass/ fail
5.2	**Manufacturer's manual**	
5.2.1	There is a manual to be provided with each protein measuring instrument, that describes the installation, operation, and routine maintenance of the instrument and its accessories.	Pass/ fail
5.2.2	The manual must also include the following information: (a) name and address of the manufacturer; (b) the type of the instrument with which it is intended to be used; (c) date of issue; (d) the types of grain for which the instrument is designed to be used within the scope of national requirements; (e) the limitations of use (refer to OIML R xxx Part 1 for details).	Pass/ fail
5.2.3(a)*	The national responsible body has indicated acceptable language(s). Examiner to note the accepted language(s) if 'Yes' or the official language(s).	Yes/ no
5.2.3(b)	The user/owner manual is supplied in all the accepted or official language(s) and the translations appear to be accurate.	Pass/ fail
5.3	**Markings**	
5.3.1	Instrument is clearly and permanently marked with the following: (a) manufacturer's name or mark; (b) model designation; and (c) serial number given by the manufacturer. Provision is made for application of a type approval mark.	Pass/ fail

	Continued - Checks on the requirements within R xxx Part 1	Findings
5.3.2	Markings are grouped together in a clearly visible location, either on a permanently attached nameplate or on part of the instrument. The required information is readily observable without disassembly.	Pass/ fail
5.4	**Sample input and calibration selection**	
5.4.1	Provisions in absence of a manufacturer-specified sample temperature range	
5.4.1.1	On instruments with different calibrations, the user is able to select the calibration applicable for the sample to be analysed.	Pass/ fail
5.4.1.2	The selection of the calibration on the user interface is unambiguous and visible to all parties present, i.e. during the measurement it can be verified that the selected (displayed) calibration corresponds with the sample analysed.	Pass/ fail
5.4.2	Sampling and minimum sample size	
5.4.2.1	The operator shall not be required to judge the precise volume or weight required by the instrument to make an accurate P_{MB} measurement.	Pass/ fail
5.4.2.2 (a)*	Examiner to indicate whether sample smaller than the international recommendation is permitted by the national responsible body. If the answer is 'Yes', examiner to indicate the smallest sample size permitted.	Yes/ no
5.4.2.2 (b)	The following only applies if the previous answer is 'No'- The size of the sample analysed is no less than 100 g or 400 kernels or seeds which ever is smaller.	Pass/ fail/ NA
5.4.2.3	The national responsible body has specified minimum guidelines for the sampling of cereals for testing based on international standards. Examiner to indicate reasons for deviations.	Pass/ fail
5.5	**Instrument construction**	
5.5.1	Nothing observed in the design and construction of the instrument and accessory equipment should make it prone to inaccuracy, malfunction and fraud under normal service conditions.	Pass/ fail
5.5.2	Day to day forces on the parts of the instruments shall not affect the accuracy of measurements.	Pass/ fail
5.5.3	The instrument housing protects the main components from dust and moisture.	Pass/ fail
5.5.4	The following only applies if the instrument analyses ground/milled samples- The manufacturer of the grain protein measuring instrument has designated the type(s) of mill to be used and included a unit with the submission so its suitability for the measurement process be assessed during type evaluation.	Pass/ fail/ NA
5.6	**Level indicating means**	
5.6.1(a)	The performance of the instrument is changed by an amount greater than the maximum error shift when the instrument is moved from a level position into a position that is out of level in any upright direction by up to 5% (approx. 3º). Examiner response should be based on the relevant performance test.	Yes/ no
5.6.1(b)	The following only applies if the previous answer is 'Yes'- The instrument is equipped with a level indicator and level adjustment means.	Pass/ fail/ NA
5.6.2	The following only applies if the answer to 5.6.1(a) is 'Yes'- The level indicating means is readable without any instrument disassembly.	Pass/ fail/ NA
5.7	**Presentation of the measured value**	
5.7.1	The instrument is equipped with a digital indicating element which does not display any protein content values before the end of the measurement cycle.	Pass/ fail
5.7.2	Measurement results are displayed as percent protein by mass (%) the M_B. Subdivisions of this unit are in terms of decimal subdivisions (not fractions).	Pass/ fail
5.7.3(a)	The display on the type allows the protein content value to be determined with a resolution of at least 0.1% P_{MB}.	Pass/ fail
5.7.3(b)	Units submitted for type evaluation permit 0.01% P_{MB} resolution.	Pass/ fail
5.7.4(a)	The type is multi-constituent measuring instrument (e.g. it measures grain moisture content in addition to grain protein content)	Yes/ no
5.7.4(b)	The following only applies if the previous answer is 'Yes'- Appropriate labels are displayed or recorded to make it clear which constituent is associated the displayed or recorded measured values.	Pass/ fail/ NA
5.7.5	The height for the digits used to display protein content is at least 10 mm. Numbers and symbols of units are presented in accordance with OIML D 2.	Pass/ fail

5.2 Examination checklist - requirements for software-controlled devices and security

	Checks on the requirements within R xxx Part 1		
6.1	**Specification of the software requirements**		
6.1.1	For instruments and modules operated by software, the manufacturer has described or declared how the software is implemented within the instrument or module. Examiner to indicate whether the software is embedded or on an universal computer system.		
	Validation method: AD Provide validation details below-		Pass/ fail
6.1.2	The legally relevant software is clearly identifiable via a unique software version and a checksum. Examiner to indicate whether the software version and the checksum is displayed or printed out on command during operational mode, or displayed during the start-up procedure.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail
6.1.3	The legally relevant measuring algorithms and functions are appropriate and functionally correct. Examiner to conduct further examinations and tests if necessary.		
	Validation method(s): AD + VFTM Provide validation details below-		Pass/ fail
6.1.4	Optional check during type evaluation- Conformity of the legally relevant software (in the submitted units) to that in the approved type has been verified at level (b) described in D 31 clause 5.2.5. This may be confirmed by noting the identity of parts of the legally relevant source code, and for the rest of the legally relevant software, the identity of the legally relevant functions described in the documentation.		Pass/ fail/ NA
6.1.5	There is provision to make further measurements impossible when a significant fault is detected.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail
6.1.6(a)	The software of the instrument is separated in legally relevant part and non-relevant parts.		Yes/ no
6.1.6(b)	The following only applies if the previous answer is 'Yes'- The requirements of D 31 clause 5.2.1.2 regarding *Separation of software parts* have been fulfilled.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.1.7(a)	The instrument uses an internal or external universal computer.		Yes/ no
6.1.7(b)*	Use of the protein measuring instrument in an open network is permitted.		Yes/ no
6.1.7{c}*	Software changes on a verified instrument by a 'Traced Update' is permitted.		Yes/ no
6.1.7(d)	The following applies if the answer to any of the above 6.1.7(a) - 6.1.7(c) is 'Yes'- The legally relevant software can be operated only in the environment specified for its correct functioning. If necessary to secure the correct functioning of the legally relevant software, the operating system has been fixed to a defined invariant configuration.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.1.8(a)*	Regarding industry trading practices in the country where approval is sought: Legally relevant measurement data may leave the measuring instrument and be stored or transmitted before they are used for commercial purposes. The requirements in clauses 6.2.1 - 6.2.5 only apply if the answer is 'Yes'.		Yes/ no
6.1.8(b)*	The national responsible body requires instruments to be equipped with an internal recording element and/or a communication interface that permits interfacing with an external recording element. Examiner to append and/or reference details of this requirement.		Yes/ no
6.1.8(c)	The following only applies if the answer to 6.1.8(b) is 'Yes'- The instrument is equipped with the required recording element(s).		Pass/ fail/ NA
6.1.8(d)*	The following only applies if the answer 6.1.8(a) or 6.1.8(b) is 'Yes'- Data storage and/or transmission is allowed to take place in an insecure environment. NOTE: Ensure consistency with the answer in 6.1.7(b).		Yes/ no/ NA

	Continued - Checks on the requirements within R xxx Part 1	Findings	
6.2.1(e)*	The following only applies if the answer to 6.1.8(d) is 'Yes'- The national responsible body requires data to be protected by cryptographic means where instruments can be used in an open network.		Yes/ no/ NA
6.2	**Electronic data storage and transmission**		
6.2.1	The measurement value stored or transmitted is accompanied by all relevant information necessary for future legally relevant use. Examiner to ensure that the measurement records include: test sample identifier, measurement date and time, unique identification of the instrument, grain type, P_{MB} results and units as displayed, calibration version ID, error messages and constituent labels (on multi-constituent meters).		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.2.2(a)	The following only applies if the answer to 6.2.1(d) is 'Yes'- The data is protected by software means to guarantee the authenticity and integrity. There is provision for the data to be discarded or marked unusable if an irregularity is detected.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.2.2(b)	The following only applies if the answer to 6.2.1(e) is 'Yes'- Data is protected by cryptographic means. A seal is broken if a confidential key is input or read.		
	Validation method(s): AD + VFTSw + SMT Provide validation details below-		Pass/ fail/ NA
6.2.3	The measurement data is stored automatically when the measurement is concluded. No protein content values are recorded before the end of the measurement cycle. The storage device has sufficient permanency to ensure that data are not corrupted. There is sufficient memory for storage of the required measurement data to be used at a later time.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.2.4	There is provision so that the measurement is not inadmissibly influenced by a transmission delay.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.2.5	There is provision to ensure measurement data is not lost if a transmission interruption occurs because the network services become unavailable.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
6.4	**Provision for software and calibration security**		
6.4.1	Sealing: Provision has been made for appropriate sealing by mechanical, electronic and/or cryptographic means, making any change that affects the metrological integrity of the instrument impossible or evident. Calibrations, zero-setting and test point adjustments are sealed.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail
6.4.2	Safeguards against fraudulent use		
6.4.2.1	The legally relevant software has been secured against unauthorised modification, loading or changes by swapping of the memory device. If the instrument has an operating system or an option to load software, additional means to mechanical sealing have been considered.		
6.4.2.2	Only clearly documented functions are allowed to be activated by the user interface, which have been realised in such a way that it does not facilitate fraudulent use.		
6.4.2.3	Parameters that fix the legally relevant characteristics of the measuring instrument shall be secured against unauthorised modification. The current parameter settings can be printed or displayed on demand.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail
6.4.2.4 (a)*	The national responsible body restricts access to device-specific parameters. Examiner to append and/or reference details of any access restrictions.		Yes/ no
6.4.2.4(b)	The instrument complies with access restrictions to adjustable parameters.		Pass/ fail/ NA

Checks on the requirements within R xxx Parts 1 & 2	Findings	
6.3	**Software documentation**		
	The submitted software documentation is complete.		
	Examiner to indicate inclusion of the following information with the submission-		Pass/ fail
	Description of the legally relevant software, incorporating how the requirements are met		Yes/ no
	Description of the operating system security		Yes/ no
	Description of the software sealing method(s)		Yes/ no
	Overview of the system hardware, highlighting any hardware components that are deemed legally relevant or performing legally relevant functions		Yes/ no
	Description of the accuracy of the algorithms		Yes/ no
	Declaration of the hardware and software environment, including minimum resources and configuration necessary for correct functioning of the instrument		Yes/ no
	Description of the user interface, menus and dialogues		Yes/ no
	Description of the software identification which has to be clearly assigned to the legally relevant functions		Yes/ no
	Clear instructions on how to check the actual software identification against the reference number as listed in the type approval certificate		Yes/ no
	List of commands of each hardware interface of the measuring instrument/ electronic device/ sub-assembly		Yes/ no
	List of durability errors that are detected by the software		Yes/ no
	Description of data sets stored or transmitted		Yes/ no
	List of significant faults that are detected and a description of the detecting algorithm		Yes/ no
	Operating manual which clearly identifies all operational controls, indications, and features		Yes/ no
9.4	**Maintenance and reconfiguration of the approved software**		
9.4(a)*	The national responsible body allows for software changes on the instrument by a Traced Update instead or in addition to Verified Updates. NOTE: Ensure consistency with the response to 6.1.7{c}.		Yes/ no
9.4(b)	The following only applies if the previous answer is 'Yes'- Implementation of the software fulfils the requirements for Traced Updates in D 31 clause 5.2.6.2.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail/ NA
9.5	**In-field updates to grain calibrations**		
9.5.1	Seasonal variability of crops and inevitability calibration updates		
9.5.1(a)*	The national responsible body requires that grain P_{MB} calibrations included with the instrument can be updated to accommodate for seasonal variations. The requirements in 9.5.2 and 9.5.3 only apply if the answer is 'Yes'.		Yes/ no
9.5.1(b)	The following only applies if the previous answer is 'Yes'- The submitted type complies with any requirements for adjustable calibrations.		Pass/ fail/ NA
9.5.1(c)*	The national responsible body requires retention of data collected during the current and/or recent years that are used for calibration adjustments.		Yes/ no
9.5.2	Calibration version		
	The calibration constants that are adjustable and unique calibration names, or calibration version numbers can be displayed and printed on demand.		Pass/ fail/ NA
9.5.3	Security of calibrations and reverification		
	There is provision for only authorised persons to change grain calibrations. The security level for updating calibrations is the same as for software installation. There is provision for an error message to be automatically displayed if calibration constants are electronically corrupted.		
	Validation method(s): AD + VFTSw Provide validation details below-		Pass/ fail

5.3 Examination checklist - documentation requirements

Checks on the requirements within R xxx Part 2		Findings
7.1.2	**Documentation file**	
	The submitted documentation file is complete.	
	Examiner to indicate inclusion of the following information with the submission-	Pass/ fail
	General description of the instrument	
		Yes/ no
	General characteristics of the instrument	
		Yes/ no
	Drawings of general arrangement and details of metrological interest	
		Yes/ no
	Description of calibrations submitted for approval	
		Yes/ no
	Descriptions and characteristic data for all devices and sub-assemblies of the instrument	
		Yes/ no
	Technical description, drawings and plans of devices, sub-assemblies	
		Yes/ no
	Declarations of the manufacturer	
		Yes/ no
	Samples of all intended print-outs	
		Yes/ no
	Information concerning special cases	
		Yes/ no
	Results of tests performed by the manufacturer using protocols from Parts 2 and 3	Yes/ no
	Certificates of other type approvals or separate tests	
		Yes/ no
	Drawing or photo of the instrument	
		Yes/ no
	Manufacturer's manual according to OIML R xxx clause 5.2. NOTE: Ensure consistency with the responses in 5.2.1, 5.2.2 and 5.2.3(b).	Yes/ no
	Software documentation according to OIML R xxx clause 6.3	
		Yes/ no
	Other evidence to support the assumption that the design and characteristics of the type comply with the requirements of R xxx	Yes/ no

6 TYPE EVALUATION TESTS

6.1 Tests for time-related effects

6.1.1 Instrument warm-up time [ref. OIML R xxx Annex C clause C.4.1]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

General comments on test:

	Not warm	Warm	
Ambient temp:			°C
Ambient RH:			%
Date commenced:			ddmmyyyy
Time commenced:			hh:mm

Displayed name	Error shift limits		Sample info	Nominal values (%)	
GT	Min	Max	ID	P_{MB}	moisture

Instrument	Mean P_{MB}		Error shift	RESULTS SUMMARY (Pass / fail)		
	Not warm	Warm	Warm	Comments	Instrument	Type
1						
2						

Raw data entry

	P_{MB} (Not warmed-up)			P_{MB} (Warm-up time elapsed)		
	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments
1						
2						
3						
4						
5						
6						

6.1.2 Instrument drift and instability [ref. OIML R xxx Annex C clause C.4.2]

Observer:
Type/ application #:
Instrument 1 ID:
7.1.2 Instrument 2 ID:

General comments on test:

	Before testing	After 4-6 wks	
Ambient temp:			°C
Ambient RH:			%
Date commenced:			ddmmyyyy
Time commenced:			hh:mm

Displayed name	Error shift limits		Sample info		Nominal values (%)	
GT	Min	Max	number	ID	P_{MB}	moisture
			1			
			2			
			3			

Sample number	Instrument	Mean P_{MB}		Error shift	RESULTS SUMMARY (Pass / fail)		
		Start	4 - 6 wks	After 4 - 6 weeks	Comments	Instrument	Type
1	1						
2							
3							
1	2						
2							
3							

Raw data entry

Sample number	P_{MB} (Before testing, except warm-up test)			P_{MB} (After 4 - 6 weeks)		
	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments
1						
2						
3						

6.2 Tests for influence factor variations within the rated operating ranges

6.2.1 Instrument levelling [ref. OIML R xxx Annex C clause C.5.1]

Observer:
Type/ application #:
Instrument 1 ID:
Instrument 2 ID:

Displayed name	Error shift limits		Sample info	Nominal values (%)	
GT	Min	Max	ID	P_{MB}	moisture

	Start - ref	Influence			Recovery	
	Level	1st tilt	2nd tilt	*	Level	
Tilt angle:						° (angluar degrees)
Ambient temp:						°C
Ambient RH:						%
Date commenced:						ddmmyyyy
Time commenced:						hh:mm

* Add other tilt orientations if required

General comments on test (e.g. tilt orientation):

Instrument	Mean P_{MB}					Error shift (at tilt orientation)				RESULTS SUMMARY (Pass / fail)		
	Start - ref	1st	2nd	*	Recovery	1st	2nd	*	Recovery	Comments	Instrument	Type
1												
2												

Raw data entry

P_{MB} (Start -ref)			P_{MB} (1st orientation)			P_{MB} (2nd orientation)			P_{MB} (*)			P_{MB} (Recovery)		
Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments

6.2.2 Cold [ref. OIML R xxx Annex C clause C.5.1]

Observer:
Type/ application #:
Instrument 1 ID:
Instrument 2 ID:
Spare instrument ID:

General comments on test:

	Starf ref	Cold	Recovery	
EUT ambient temp:				°C
EUT ambient RH:				%
Sample temp:				°C
Spare ambient temp:				°C
Spare ambient RH:				%
Date commenced:				ddmmyyyy
Time commenced:				hh:mm

Displayed name	Error shift limits		Sample info		Nominal values (%)		Sample stability	Correct for recov
GT	Min	Max	number	ID	P_{MB}	moisture	Δ P_{MB}	Yes/ No
			1					
			2					
			3					

Sample number	Instrument	Error shift			RESULTS SUMMARY (Pass/fail)		
		Cold	Recovery	Corrected	Comments	Instrument	Type
1	1						
2							
3							
1	2						
2							
3							

Sample number	Mean P_{MB} (Start - ref)			Mean P_{MB} (Cold)		Mean P_{MB} (Recovery)		
	Instr. 1	Instr. 2	Spare-ref	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Spare-ref
1								
2								
3								

Sample number	P_{MB} (Start - ref)			P_{MB} (Cold)		P_{MB} (Recovery)			Comments
	Instr. 1	Instr. 2	Spare-ref	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Spare-ref	
1									
2									
3									
Comments									

6.2.3 Dry heat [ref. OIML R xxx Annex C clause C.5.3]

Observer:
Type/ application #:
Instrument 1 ID:
Instrument 2 ID:
Spare instrument ID:

General comments on test:

	Starf ref	Dry heat	Recovery	
EUT ambient temp:				°C
EUT ambient RH:				%
Sample temp:				°C
Spare ambient temp:				°C
Spare ambient RH:				%
Date commenced:				ddmmyyyy
Time commenced:				hh:mm

Displayed name	Error shift limits		Sample info		Nominal values (%)		Sample stability	Correct for recov
GT	Min	Max	number	ID	P_{MB}	moisture	ΔP_{MB}	Yes/ No
			1					
			2					
			3					

Sample number	Instrument	Error shift			RESULTS SUMMARY (Pass/fail)		
		Dry heat	Recovery	Corrected	Comments	Instrument	Type
1	1						
2							
3							
1	2						
2							
3							

Sample number	Mean P_{MB} (Start - ref)			Mean P_{MB} (Dry H)		Mean P_{MB} (Recovery)		
	Instr. 1	Instr. 2	Spare-ref	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Spare-ref
1								
2								
3								

Sample number	P_{MB} (Start - ref)			P_{MB} (Dry heat)		P_{MB} (Recovery)			Comments
	Instr. 1	Instr. 2	Spare-ref	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Spare-ref	
1									
2									
3									
Comments									

6.2.4 Damp heat [ref. OIML R xxx Annex C clause C.5.4]

Observer: ....
Type/ application #: ....
Instrument 1 ID: ....
7.2.4 Instrument 2 ID: ....
Spare instrument ID: ....

General comments on test:

	Starf ref	Damp H	Recovery	
EUT ambient temp:				°C
EUT ambient RH:				%
Sample temp:				°C
Spare ambient temp:				°C
Spare ambient RH:				%
Date commenced:				ddmmyyyy
Time commenced:				hh:mm

Displayed name	Error shift limits		Sample info		Nominal values (%)		Sample stability	Correct for recov
GT	Min	Max	number	ID	P_{MB}	moisture	Δ P_{MB}	Yes/ No
			1					
			2					
			3					

Sample number	Instrument	Error shift			RESULTS SUMMARY (Pass/fail)		
		Damp H	Recovery	Corrected	Comments	Instrument	Type
1	1						
2							
3							
1	2						
2							
3							

Sample number	Mean P_{MB} (Start - ref)			Mean P_{MB} (Damp H)		Mean P_{MB} (Recovery)		
	Instr. 1	Instr. 2	Spare-ref	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Spare-ref
1								
2								
3								

Sample number	P_{MB} (Start - ref)			P_{MB} (Damp heat)		P_{MB} (Recovery)			Comments
	Instr. 1	Instr. 2	Spare-ref	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Spare-ref	
1									
2									
3									
Comments									

6.2.5 AC mains voltage variations [ref. OIML R xxx Annex C clause C.5.5]

Observer:
Type/ application #:
Instrument 1 ID:
Instrument 2 ID:

Displayed name	Error shift limits		Standard deviation	Sample info	Nominal values (%)	
GT	Min	Max	Max	ID	P_{MB}	moisture
			0.1			

	Start - ref	Influence		Recovery	
	U_{nom}	U_{nom} +10%	U_{nom} -15%	U_{nom}	
Test voltage:					V
Test frequency:					Hz
Ambient temp:					°C
Ambient RH:					%
Date commenced:					ddmmyy
Time commenced:					hh:mm

General comments on test:

Instrument	Standard deviation replicate P_{MB}				Mean P_{MB}				Error shift			RESULTS SUMMARY (Pass / fail)		
	Start - ref	U_{nom} +10%	U_{nom} -15%	Recovery	Start - ref	U_{nom} +10%	U_{nom} -15%	Recovery	U_{nom} +10%	U_{nom} -15%	Recovery	Comments	Instrument	Type
1														
2														

Raw data entry

#	P_{MB} (Start -ref)			P_{MB} (U_{nom} +10%)			P_{MB} (Unom -15%)			P_{MB} (Recovery)		
	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

6.2.6 Variation in voltage supplied by external 12V and 24 V road vehicle batteries [ref. OIML R xxx Annex C clause C.5.6]

Observer: ....
Type/ application #: ....
Instrument 1 ID: ....
Instrument 2 ID: ....

Displayed name	Error shift limits		Sample info	Nominal values (%)	
GT	Min	Max	ID	P_{MB}	moisture

	Start - ref	Influence		Recovery	
	U_{nom}	Low V	High V	U_{nom}	
Test voltage:					V
Test frequency:					Hz
Ambient temp:					°C
Ambient RH:					%
Date commenced:					ddmmyy
Time commenced:					hh:mm

General comments on test:

Instrument	Mean P_{MB}				Error shift			RESULTS SUMMARY (Pass / fail)		
	Start - ref	Low V	High V	Recovery	Low V	High V	Recovery	Comments	Instrument	Type
1										
2										

Raw data entry

#	P_{MB} (Start -ref)			P_{MB} (Low V)			P_{MB} (High V)			P_{MB} (Recovery)		
	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments	Instr. 1	Instr. 2	Comments
1												
2												
3												
4												
5												
6												

7.3 Tests for disturbances

7.3.1 AC mains voltage dips and short interruptions [ref. OIML R xxx Annex C clause C.6.1]

Observer:
Type/ application #:
Instrument 1 ID:
Instrument 2 ID:

	Instrument 1		Instrument 2	
	Start testing	End testing	Start testing	End testing
Test voltage:				
Test frequency:				
Ambient temp:				
Ambient RH:				
Date:				
Time:				
Mean ref P_{MB}:				

Displayed name	Fault limits		Sample info	Nominal values (%)	
GT	Min	Max	ID	P_{MB}	moisture

General comments on test:

1		1
2		2
3		3
4		4
5		5
6		6

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

Instrument	All faults within limits (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Disturbance settings

Test:	A	B	C	D	
Nominal voltage					V
Voltage reduction:	0 × U_{nom}	0 × U_{nom}	0.7 × U_{nom}	0 × U_{nom}	Hz
New voltage:	0	0	fill cell C27	0	V
Duration:	0.5	1	25/30*	250/300*	cycles

*These values are for 50 Hz and 60 Hz respectively

Raw data entry - AC mains voltage dips and short interruptions [ref. OIML R xxx Annex C clause C.6.1]

Instrument 1

Test	A		B		C		D	
	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
All faults within limits								
All faults insignificant								
Comments								

Continued - Raw data entry - AC mains voltage dips and short interruptions [ref. OIML R xxx Annex C clause C.6.1]

Instrument 2

Test	A P_{MB}	A Comments	B P_{MB}	B Comments	C P_{MB}	C Comments	D P_{MB}	D Comments
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
All faults within limits								
All faults insignificant								
Comments (e.g. action details)								

6.3.2 Bursts (transients) on AC mains [ref. OIML R xxx Annex C clause C.6.2]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

Displayed name	Fault limits		Instrument	Sample info	Nominal values (%)	
GT	Min	Max		ID	P_{MB}	moisture
			1			
			2*			

*Use another sample/ batch for other instrument if 1st sample unfit due to overuse.

General comments on test:

	Instrument 1		Instrument 2		
	Start testing	End testing	Start testing	End testing	
Test voltage:					V
Test frequency:					Hz
Ambient temp:					°C
Ambient RH:					%
Date:					ddmmyy
Time:					hh:mm
Mean ref P_{MB}:					
1		1			
2		2			
3		3			
4		4			
5		5			
6		6			

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

Instrument	All faults within limits (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Disturbance severity

Amplitude:	1	kV
Repetition rate:	5	kHz

Raw data entry - Bursts (transients) on AC mains [ref. OIML R xxx Annex C clause C.6.2]

Instrument 1

Connection	L → G				N → G				PE → G			
Polarity	(+)		(-)		(+)		(-)		(+)		(-)	
	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
All faults within limits												
All faults insignificant												
Comments												

Continued - Raw data entry - Bursts (transients) on AC mains [ref. OIML R xxx Annex C clause C.6.2]

Instrument 2

Connection	L → G				N → G				PE → G			
Polarity	(+)		(-)		(+)		(-)		(+)		(-)	
	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments	P_{MB}	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
All faults within limits												
All faults insignificant												
Comments (e.g. action details)												

6.3.3 Radiated, radio-frequency, electromagnetic fields [ref. OIML R xxx Annex C clause C.6.3]

Observer: ....

Type/ application #: ....

Instrument 1 ID: ....

Instrument 2 ID: ....

Displayed name	Fault limits	
GT	Min	Max

General comments on test:

Disturbance settings (indicate values if alternative settings are applied)

Frequency range:		MHz	Frequency range:	26* - 2000 MHz
Modulation:			Modulation:	80% AM, 1 kHz sine wave
Field strength:		V/ m	Field strength:	10 V/ m
Step size:			Step size:	1 %
Rate of sweep:			Rate of sweep:	1.5E-03 decade/ s

*Testing from 80 MHz is permitted.

Antenna:

Circular polarisation (yes / no):

Note: Two orthogonal polarisations shall be tested if the answer is 'No'.

Example radiated EMS testing scheme:

Antenna polarisation:	1 - Vertical				2 - Horizontal			
Facing EUT side:	Front	Left	Right	Back	Front	Left	Right	Back

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

Instrument	All faults within limits (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

**Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]**

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]

Instrument number: [   ]

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

**Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]**

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields
[ref. OIML R xxx Annex C clause C.6.3]

Instrument number:

Before disturbances	
Antenna polarisation:	
Facing EUT side:	
Test voltage:	
Test frequency:	
Ambient temp:	
Ambient RH:	
Date:	
Time:	
Grain sample ID:	
Nominal PMB:	
Nominal moisture:	
Mean ref P_{MB}:	
1	
2	
3	
4	
5	
6	

Use another sample/ batch for other orientations or instrument if 1st sample unfit due to overuse/ exposure.

Comments:

During disturbances					
Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

6.3.4 Conducted, radio-frequency, electromagnetic fields [ref. OIML R xxx Annex C clause C.6.5]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

Displayed name	Fault limits		Instrument	Sample info	Nominal values (%)	
GT	Min	Max		ID	P_{MB}	moisture
			1			
			2*			

*Use another sample/ batch for other instrument if 1st sample unfit due to overuse.

General comments on test:

	Instrument 1		Instrument 2		
	Start testing	End testing	Start testing	End testing	
Test voltage:					V
Test frequency:					Hz
Ambient temp:					°C
Ambient RH:					%
Date:					ddmmyy
Time:					hh:mm
Mean ref P_{MB}:					
1		1			
2		2			
3		3			
4		4			
5		5			
6		6			

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

Instrument	All faults within limit (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Disturbance settings (Indicate values if alternative settings are applied)

Frequency range: ___ MHz

Modulation: ___

RF amplitude (50 Ω): ___ V (e.m.f.)

Frequency range: 0.15 - 80 MHz

Modulation: 80% AM, 1 kHz sine wave

RF amplitude (50 Ω): 10 V (e.m.f.)

Raw data entry - Radiated, radio-frequency, electromagnetic fields [ref. OIML R xxx Annex C clause C.6.3]

Instrument 1

Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Instrument 2

Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Continued - Instrument 1

Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Instrument 2

Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Continued - Raw data entry - Radiated, radio-frequency, electromagnetic fields [ref. OIML R xxx Annex C clause C.6.3]

Continued - Instrument 1
Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Instrument 2
Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Continued - Instrument 1
Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Add additional rows if required.

Continued - Instrument 2
Cable or interface:

Frequency (MHz)	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)	Comments
*					

Copy table to additional pages ir required.

6.3.5 Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

Displayed name	Fault limits		Instrument	Sample info	Nominal values (%)	
GT	Min	Max		ID	P_{MB}	moisture
			1			
			2*			

*Use another sample/ batch for other instrument if 1st sample unfit due to overuse.

General comments on test:

	Instrument 1		Instrument 2		
	Start testing	End testing	Start testing	End testing	
Test voltage:					V
Test frequency:					Hz
Ambient temp:					°C
Ambient RH:					%
Date:					ddmmyy
Time:					hh:mm
Mean ref P_{MB}:					
1		1			
2		2			
3		3			
4		4			
5		5			
6		6			

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

Instrument	All faults within limits (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Direct discharge mode (contact, paint penetration or air)

2 kV

4 kV

6 kV

8 kV

It is permitted to only test one at polarity.
IEC 61000-4-2 specifies to select the most sensitive polarity.

Polarity of indirect discharges (positive / negative):

Notes: H = horizontal, V = vertical
Refer to diagram of coupling plane positions for applying discharges indirectly.

V2

V1   EUT   V3
front

V4

Raw data entry - Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]
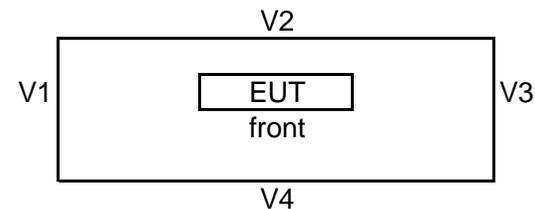
Instrument 1 - P$_{MB}$ - Direct discharge application

Voltage (kV)	2			4			6			8		
Polarity	(+)	(-)	Comments	(+)	(-)	Comments	(+)	(-)	Comments	(+)	(-)	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
All faults within limits												
All faults insignificant												
Comments												

Continued - Raw data entry - Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]

Instrument 1 - P_{MB} - Indirect discharge application

Voltage (kV)	V1				V2				V3			
Polarity	2	4	6	Comments	2	4	6	Comments	2	4	6	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
All faults within limits												
All faults insignificant												
Comments (e.g. action details)												

Continued - Raw data entry - Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]

Continued - Instrument 1 - P_{MB} - Indirect discharge application

Voltage (kV)	V3				H			
Polarity	2	4	6	Comments	2	4	6	Comments
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
All faults within limits								
All faults insignificant								
Comments (e.g. action details)								

Continued - Raw data entry - Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]

Instrument 2 - P_{MB} - Direct discharge application

Voltage (kV)	2			4			6			8		
Polarity	(+)	(-)	Comments	(+)	(-)	Comments	(+)	(-)	Comments	(+)	(-)	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
All faults within limits												
All faults insignificant												
Comments (e.g. action details)												

Continued - Raw data entry - Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]

Instrument 2 - P_{MB} - Indirect discharge application

Voltage (kV)	V1				V2				V3			
Polarity	2	4	6	Comments	2	4	6	Comments	2	4	6	Comments
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
*												
All faults within limits												
All faults insignificant												
Comments (e.g. action details)												

Continued - Raw data entry - Electrostatic discharges [ref. OIML R xxx Annex C clause C.6.5]

Continued - Instrument 2 - P_{MB} - Indirect discharge application

Voltage (kV)	V3				H			
Polarity	2	4	6	Comments	2	4	6	Comments
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
*								
All faults within limits								
All faults insignificant								
Comments (e.g. action details)								

6.3.6 Storage temperature (extreme shipping conditions) [ref. OIML R xxx Annex C clause C.6.6]

Observer:
Type/ application #:
Instrument 1 ID:
Instrument 2 ID:

General comments on test:

	Start testing	End testing	
Ambient temp:			°C
Ambient RH:			%
Date:			ddmmyy
Time:			hh:mm

Displayed name	Fault limits		Sample info	Nominal values (%)	
GT	Min	Max	ID	P_{MB}	moisture

Instrument	All faults within limit (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Disturbance severity

Minimum temp:	-20	°C
Maximum temp:	50	°C

Raw data entry

BEFORE disturbance		
#	P_{MB}	
	Instr. 1	Instr. 2
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Mean P_{MB}		

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

AFTER disturbance									
	Instrument 1					Instrument 2			
	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)		P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
	Comments / details of action					Comments / details of action			

6.3.7 Random vibrations [ref. OIML R xxx Annex C clause C.6.7]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

General comments on test:

	Start testing	End testing	
Ambient temp:			°C
Ambient RH:			%
Date:			ddmmyy
Time:			hh:mm

Displayed name	Fault limits		Sample info	Nominal values (%)	
GT	Min	Max	ID	P_{MB}	moisture

Instrument	All faults within limits (Yes / no)	All insignificant (Yes / no)	RESULTS SUMMARY (Pass / fail)		
			Comments	Instrument	Type
1					
2					

Disturbance severity

Total frequency range:	10 - 150	Hz
Total RMS level:	7	ms^{-2}
ASD level 10 Hz – 20 Hz:	1	m^2s^{-3}
ASD level 20 Hz – 150 Hz	-3	dB/octave
Number of directions:	3	
Duration per axis:	60	minutes

Raw data entry

#	BEFORE disturbance	
	P_{MB}	
	Instr. 1	Instr. 2
1		
2		
3		
4		
5		
6		
Mean P_{MB}		

A fault that exceeds the limit is insignificant if 'acted on' or exempted from the definition of a significant fault.

AFTER disturbance									
	Instrument 1					Instrument 2			
	P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)		P_{MB}	Fault	Within limit (Yes / no)	Insignificant (Yes / no)
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
	Comments / details of action					Comments / details of action			

6.4 Tests to assess the submitted calibrations

6.4.1 Accuracy and precision [ref. OIML R xxx Annex C clause C.7.1]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

General comments on test settings:

	GT1		GT2		GT3		GT4		GT*		
	Start ref	End ref	Start ref	End ref	Start ref	End ref	Start ref	End ref	Start ref	End ref	
Ambient temp:											°C
Ambient RH:											%
Date commenced:											ddmmyyyy
Time commenced:											hh:mm

	Submitted calibrations				RESULTS SUMMARY (Pass/fail)			
Number	Calibration name	Version	Disp. name	M_B (%)	Accuracy	Repeat.	Reprod.	Comments
GT1								
GT2								
GT3								
GT4								
GT*								

	Limits				
Calibration	y(bar)		SEP	Pooled SD	SDD_I
number	Min	Max	Max	Max	Max
GT1					
GT2					
GT3					
GT4					
GT*					

* Add cells for additional calibrations if necessary

Calibration number	Sample info		Reference values		Sample info		Reference values		Sample info		Reference values	
	number	ID	P_{MB}	moisture	number	ID	P_{MB}	moisture	number	ID	P_{MB}	moisture
GT1	1				11				21			
	2				12				22			
	3				13				23			
	4				14				24			
	5				15				25			
	6				16				26			
	7				17				27			
	8				18				28			
	9				19				29			
	10				20				30*			

Calibration number	Sample info		Reference values		Sample info		Reference values		Sample info		Reference values	
GT2	1				11				21			
	2				12				22			
	3				13				23			
	4				14				24			
	5				15				25			
	6				16				26			
	7				17				27			
	8				18				28			
	9				19				29			
	10				20				30*			

* Add cells for additional samples if necessary

Calibration number	Sample info		Reference values		Sample info		Reference values		Sample info		Reference values	
	number	ID	P_{MB}	moisture	number	ID	P_{MB}	moisture	number	ID	P_{MB}	moisture
GT3	1				11				21			
	2				12				22			
	3				13				23			
	4				14				24			
	5				15				25			
	6				16				26			
	7				17				27			
	8				18				28			
	9				19				29			
	10				20				30*			

GT4	1				11				21			
	2				12				22			
	3				13				23			
	4				14				24			
	5				15				25			
	6				16				26			
	7				17				27			
	8				18				28			
	9				19				29			
	10				20				30*			
GT*												

 * Add cells for additional calibrations and/or samples if necessary

GT1 on Instr.1   **GT1 on Instr. 2**

The requirement for y(bar) was fulfilled and all functions operated as designed (Pass or Fail):

Calibration number	Sample number	Mean P_{MB}			Error (y_i)		Pooled y_i, i.e. y(bar)			
		reference	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Instr. 1	Instr. 2	MinLimit	MaxLimit
GT1	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
	26									
	27									
	28									
	29									
	30*									

Add cells for additional samples if necessary

The requirement for y(bar) was fulfilled and all functions operated as designed (Pass or Fail):

GT2 on Instr.1

GT2 on Instr. 2

Calibration number	Sample number	Mean P_{MB}			Error (y_i)		Pooled y_i, i.e. y(bar)			
		reference	Instr. 1	Instr. 2	Instr. 1	Instr. 2	Instr. 1	Instr. 2	MinLimit	MaxLimit
GT2	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
	26									
	27									
	28									
	29									
	30*									
GT*										

* Add cells for additional calibrations and/or samples if necessary

GT1 on Instr.1   **GT1 on Instr. 2**

The requirement for SEP was fulfilled and all functions operated as designed (Pass or Fail):

Calibration number	Sample number	Reference P_{MB}	P_{MB} (j=1) Instr. 1	P_{MB} (j=1) Instr. 2	Error (y,j=1) Instr. 1	Error (y,j=1) Instr. 2	SEP Instr. 1	SEP Instr. 2	SEP MaxLimit
GT1	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
	11								
	12								
	13								
	14								
	15								
	16								
	17								
	18								
	19								
	20								
	21								
	22								
	23								
	24								
	25								
	26								
	27								
	28								
	29								
	30*								

* Add cells for additional samples if necessary

GT2 on Instr.1   **GT2 on Instr. 2**

The requirement for SEP was fulfilled and all functions operated as designed (Pass or Fail):

Calibration number	Sample number	Reference P_{MB}	P_{MB} (j=1) Instr. 1	P_{MB} (j=1) Instr. 2	Error (y,j=1) Instr. 1	Error (y,j=1) Instr. 2	SEP Instr. 1	SEP Instr. 2	SEP MaxLimit
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
	11								
	12								
	13								
	14								
GT2	15								
	16								
	17								
	18								
	19								
	20								
	21								
	22								
	23								
	24								
	25								
	26								
	27								
	28								
	29								
	30*								
GT*									

* Add cells for additional calibrations and/or samples if necessary

GT1 on Instr.1   **GT1 on Instr. 2**

The requirement for repeatability was fulfilled and all functions operated as designed (Pass or Fail):

Calibration number	Sample number	SD		SD^2 (variance)		Pooled SD		
		Instr. 1	Instr. 2	Instr. 1	Instr. 2	Instr. 1	Instr. 2	MaxLimit
GT1	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							
	30*							

* Add cells for additional samples if necessary

GT2 on Instr.1   **GT2 on Instr. 2**

The requirement for repeatability was fulfilled and all functions operated as designed (Pass or Fail):

Calibration number	Sample number	SD		SD^2 (variance)		Pooled SD		
		Instr. 1	Instr. 2	Instr. 1	Instr. 2	Instr. 1	Instr. 2	MaxLimit
GT2	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							
	30*							
GT*								

* Add cells for additional calibrations and/or samples if necessary

GT1 on Instr.1   **GT1 on Instr. 2**

The requirement for reproducibility was fulfilled and all functions operated as designed (Pass or Fail):

Calibration number	Sample number	Mean P_{MB} Instr. 1	Mean P_{MB} Instr. 2	d	SDD_I	SSD_I MaxLimit
GT1	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30*					

* Add cells for additional samples if necessary

	GT2 on Instr.1	**GT2 on Instr. 2**
The requirement for reproducibility was fulfilled and all functions operated as designed (Pass or Fail):		

Calibration number	Sample number	Mean P_{MB} Instr. 1	Mean P_{MB} Instr. 2	d	SDD_I	SSD_I MaxLimit
GT2	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
GT*						

* Add cells for additional calibrations and/or samples if necessary

Raw data entry - Accuracy and precision [ref. OIML R xxx Annex C clause C.7.1]

Calibration number	Sample number	P_{MB} @ ref		Comments	Sample number	P_{MB} @ ref		Comments	Sample number	P_{MB} @ ref		Comments
		Instr. 1	Instr.2			Instr. 1	Instr.2			Instr. 1	Instr.2	
GT1	1				11				21			
	2				12				22			
	3				13				23			
	4				14				24			
	5				15				25			
	6				16				26			
	7				17				27			
	8				18				28			
	9				19				29			
	10				20				30*			

* Add cells for additional samples if necessary

Continued - Raw data entry - Accuracy and precision [ref. OIML R xxx Annex C clause C.7.1]

Calibration number	Sample number	P_{MB} @ ref Instr. 1	P_{MB} @ ref Instr.2	Comments	Sample number	P_{MB} @ ref Instr. 1	P_{MB} @ ref Instr.2	Comments	Sample number	P_{MB} @ ref Instr. 1	P_{MB} @ ref Instr.2	Comments
GT2	1				11				21			
	2				12				22			
	3				13				23			
	4				14				24			
	5				15				25			
	6				16				26			
	7				17				27			
	8				18				28			
	9				19				29			
	10				20				30*			
GT*												

* Add cells for additional calibrations and/or samples if necessary

6.4.2 Sample temperature sensitivity (STS) [OIML Rxxx-2, clause C.7.2]

Observer:

Type/ application #:

Instrument 1 ID:

Instrument 2 ID:

	Start ref	Tref - ΔT_C	Recov 1	Tref + ΔT_H	Recov 2	
Ambient temp:						°C
Ambient RH:						%
Sample temp:						°C
Date commenced:						ddmmyyyy
Time commenced:						hh:mm

General comments on test settings:

					Limits			
	Calibrations submitted and tested				Pooled error shift		RESULTS SUMMARY	
number	Calibration name	Version	Displayed name	M_B (%)	Min	Max	Pass/fail	Comments
GT1								
GT2								
GT3								
GT4								

Calibration	Sample info			Nomimal values (%)	
number	moisture	number	ID	P_{MB}	moisture
GT1	low m	1			
		2			
		3			
	high m	4			
		5			
		6			
GT2	high m	1			
		2			
		3			
	low m	4			
		5			
		6			

Calibration	Sample info			Nomimal values (%)	
number	moisture	number	ID	P_{MB}	moisture
GT3	low m	1			
		2			
		3			
	high m	4			
		5			
		6			
GT4	high m	1			
		2			
		3			
	low m	4			
		5			
		6			

Instrument 1 only

Calibration number	Sample info		Mean P$_{MB}$					Error shift		Pooled error shift		RESULT	Limits pooled e/shift	
	moisture	number	Start ref	Tref - ΔTC	Recov 1	Tref + ΔTH	Recov 2	Tref - ΔTC	Tref + ΔTH	Tref - ΔTC	Tref + ΔTH	Pass/fail	Min	Max
GT1	low m	1												
		2												
		3												
	high m	4												
		5												
		6												
GT2	high m	1												
		2												
		3												
	low m	4												
		5												
		6												
GT3	low m	1												
		2												
		3												
	high m	4												
		5												
		6												
GT4	high m	1												
		2												
		3												
	low m	4												
		5												
		6												

All functions operated as intended: Pass/fail

Instrument 2 only

Calibration number	Sample info		Mean P$_{MB}$					Error shift		Pooled error shift		RESULT	Limits pooled e/shift	
	moisture	number	Start ref	Tref - ΔTC	Recov 1	Tref + ΔTH	Recov 2	Tref - ΔTC	Tref + ΔTH	Tref - ΔTC	Tref + ΔTH	Pass/fail	Min	Max
GT1	low m	1												
		2												
		3												
	high m	4												
		5												
		6												
GT2	high m	1												
		2												
		3												
	low m	4												
		5												
		6												
GT3	low m	1												
		2												
		3												
	high m	4												
		5												
		6												
GT4	high m	1												
		2												
		3												
	low m	4												
		5												
		6												

All functions operated as intended: Pass/fail

Raw data entry - Sample temperature sensitivity (STS) [ref. OIML R xxx Annex C clause C.7.2]

Calibration number	Sample info moisture	number	P_{MB} (start ref) Instr. 1	Instr.2	P_{MB} (Tref - ΔTC) Instr. 1	Instr.2	P_{MB} (recov 1) Instr. 1	Instr.2	P_{MB} (Tref + ΔTH) Instr. 1	Instr.2	P_{MB} (recov 2) Instr. 1	Instr.2	Comments e.g. functionality
GT1	low m	1											
		2											
		3											
	high m	4											
		5											
		6											
GT2	high m	1											
		2											
		3											
	low m	4											
		5											
		6											
*													

* Add cells for additional calibrations if necessary

Continued - Raw data entry - Sample temperature sensitivity (STS) [ref. OIML R xxx Annex C clause C.7.2]

Calibration number	Sample info moisture	number	P_{MB} (start ref) Instr. 1	Instr.2	P_{MB} (Tref - ΔTC) Instr. 1	Instr.2	P_{MB} (recov 1) Instr. 1	Instr.2	P_{MB} (Tref + ΔTH) Instr. 1	Instr.2	P_{MB} (recov 2) Instr. 1	Instr.2	Comments e.g. functionality
GT3	low m	1											
		2											
		3											
	high m	4											
		5											
		6											
GT4	high m	1											
		2											
		3											
	low m	4											
		5											
		6											