DOCUMENT

MA 50.R

Radwag

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Fast and Accurate Measurements
Quick Analysis of Dry Mass and Moisture Content
Automatically Opening Drying Chamber

MA X7.A
Moisture Analyzers

ADVANCED MOISTURE CONTENT ANALYSIS

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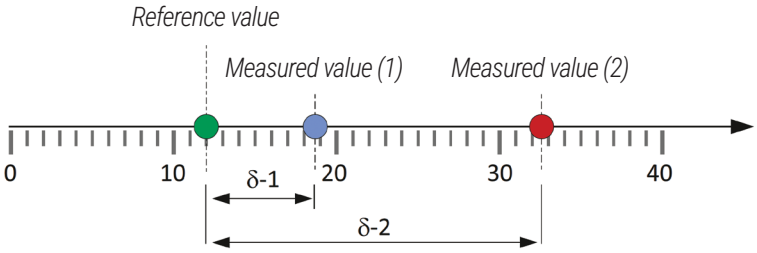
Measurement Accuracy

Definition

Measurement accuracy is the closeness of agreement between a measured value and the true value of the measured quantity. A measurement is considered accurate when the difference between the measured value and the true value (reference value) is very small.



Switch on the moisture analyzer to the mains at least 1 hour before starting the test.

Equipment

Glass fiber filters, pipette, NaCl standard.

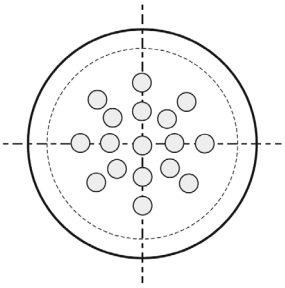
Set the drying parameters

Drying profile	Temperature	Power*	Auto switch off	Result
Standard	105 °C	100%	Auto 2	Dry mass

*only for PMV 5Y

Procedure

- put the filter on the moisture analyzer pan
- start drying after adding approx. 1 g of NaCl on the pan
  note: sodium chloride sould be doses onto the filter in drops
- take 6 measurements and records the results
- calculate the mean value of the series of measurements
- compare the mean value with the value given in the EAN code



Filter view

EAN code structure

04	Week of the year
25	Number of the day
1022	Dry matter content (decimal separator omitted) (1022 = 10.22%)
15	Repeatability value (15 = 0.15%)
08	Two digits as pattern number in the format 01, 02... 99
2	Check digit

Sample calculation

Reference value = 10.22%

Measured value as mean value = 10.15%

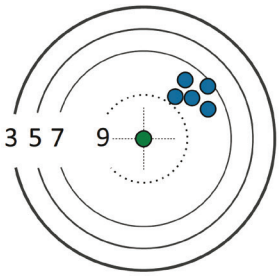
Accuracy of measurements A = 10.15% – 10.22% = 0.07%

Measurement Precision

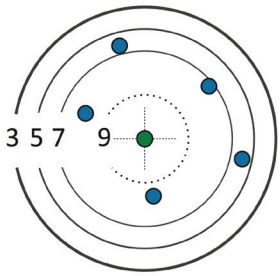
Definition

Measurement precision is the closeness of agreement between results obtained in a series of measurements performed under the same conditions by the same operator.
Measurement precision is usually expressed as a standard deviation.

Precise but inaccurate



Imprecise and inaccurate



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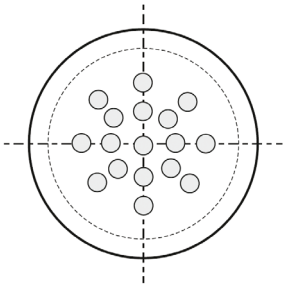
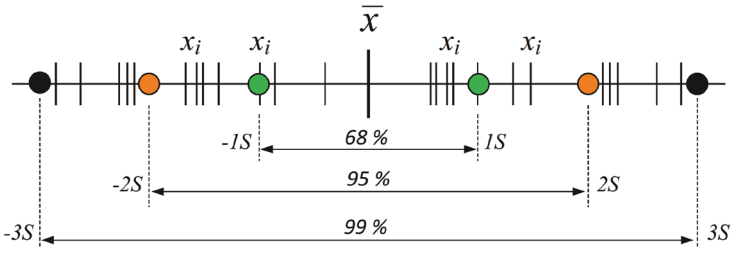


Filter view

Exemplary results

10.1232%	10.1502%	10.1316%	10.1653%	10.1267%	10.1942%	**S = 0.03%**

Using the 3-sigma rule, it is possible to determine with a certain probability the range within which the moisture content result is expected to lie.



3-sigma rule

PMV 5Y

Microwave Moisture Analyzers

HIGHLY PRECISE ANALYSE AND FAST DRYING PROCESS

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