

# MA R Moisture Analyzers

Cutting-edge solutions and a high quality measurement in drying process and moisture content analysis



Communication interfaces



Large LCD screen with text information line

## Functions

- 

Moisture content analysis
- 

Drying modes
- 

GLP procedures
- 

Replaceable unit
- 

Multilingual menu
- 

Dry mass determination

## Features

### Measurement Precision Along with High Performance and Productivity

Due to combination of simplicity of operation, great measurement accuracy and high performance, the MA R moisture analysers can be used for vast range of moisture content determination processes.

### Mass Measurement Accuracy and Drying Temperature Optimisation

Smart control of heating modules operation guarantees optimum drying temperature, plus fast and precise measurement. At your disposal there are numerous drying profiles ensuring various methods of obtaining the pre-set temperature.

### Perfect Readability and Clear Information Layout

Large, easy-to-read LCD display offers not only a clear presentation of the weighing result, but also enables displaying messages related to the drying process as well as pictograms of active functions and working modes.

### Quick Access to Selected Functions

Quick access keys located on the operation panel enable you to run a given function with just one click. You can assign some of the keys with a selected function.

### Databases as Drying Processes Support

Possibility to record sample-related information and drying parameters in the database improves managing of measurement processes and makes comfort of operation more advanced.

## Technical Specifications

	MA 50/1.R	MA 50.R
Maximum capacity [Max]	50 g	50 g
Readability [d]	0.1 mg	1 mg
Tare range	-50 g	-50 g
Maximum sample weight	50 g	50 g
Drying temperature range	max. 160°C, max. 250°C (option)*	max. 160°C, max. 250°C (option)*
Moisture content readability	0.0001%	0.001%
Moisture content repeatability	0.05% (ca. 2 g sample), 0.01% (ca. 10 g sample)	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
Adjustment	external	external
Display	LCD (backlit)	LCD (backlit)
Keypad	14 keys	14 keys
Heating module	IR emitter halogen lamp (option)** metal heater (option)**	IR emitter halogen lamp (option)** metal heater (option)**
Databases	6	6
Drying profiles	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Additional functions	sample traceability	sample traceability
USB-A	1	1
USB-B	1	1
RS 232	1	1
Wireless connection (option)***	802.11 b/g/n	802.11 b/g/n
Power supply	230 V	230 V
Power consumption	4 W (during weighing) and max 450 W (during drying)	4 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity****	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	-20 ÷ +50 °C	-20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	333 × 206 × 190 mm	333 × 206 × 190 mm
Net weight	4.8 kg	4.8 kg
Gross weight	6.3 kg	6.3 kg
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm

\* optional design with halogen lamp – max temperature 250° C

\*\* optional design with preferable heating module: halogen lamp – WH version, metal heater – NS version

\*\*\* option: moisture analyzer with a Wireless Connection module

\*\*\*\* non-condensing conditions

	MA 110.R	MA 210.R
Maximum capacity [Max]	110 g	210 g
Readability [d]	1 mg	1 mg
Tare range	-110 g	-210 g
Maximum sample weight	110 g	210 g
Drying temperature range	max. 160°C, max. 250°C (option)*	max. 160°C, max. 250°C (option)*
Moisture content readability	0.001%	0.001%
Moisture content repeatability	0.05% (ca. 2 g sample), 0.01% (ca. 10 g sample)	0.05% (ca. 2 g sample), 0.01% (ca. 10 g sample)
Adjustment	external	external
Display	LCD (backlit)	LCD (backlit)
Keypad	14 keys	14 keys
Heating module	IR emitter halogen lamp (option)** metal heater (option)**	IR emitter halogen lamp (option)** metal heater (option)**
Databases	6	6
Drying profiles	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Additional functions	sample traceability	sample traceability
USB-A	1	1
USB-B	1	1
RS 232	1	1
Wireless connection (option)***	802.11 b/g/n	802.11 b/g/n
Power supply	230 V	230 V
Power consumption	4 W (during weighing) and max 450 W (during drying)	4 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity****	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	-20 ÷ +50 °C	-20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	333 × 206 × 190 mm	333 × 206 × 190 mm
Net weight	4.8 kg	4.8 kg
Gross weight	6.3 kg	6.3 kg
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm

\* optional design with halogen lamp – max temperature 250° C

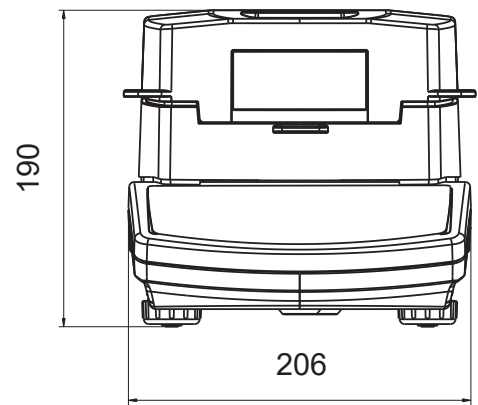
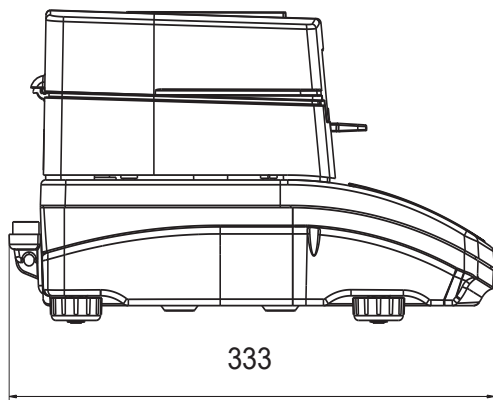
\*\* optional design with preferable heating module: halogen lamp – WH version, metal heater – NS version

\*\*\* option: moisture analyzer with a Wireless Connection module

\*\*\*\* non-condensing conditions

## Dimensions

---



## Accessories

---

### Weighing Tables

- antivibration tables for laboratory balances

### Special Purpose Weighing

- water vapour permeability determination set

### Ambient Conditions

GT105K-12/Z control thermometer

### Peripheral Devices

- Epson dot matrix printer
- barcode scanners

### Consumables

- disposable pans

### Cables, Converters

- P0108: RS 232 cable (balance-computer)
- P0151: RS 232 cable (balance - Epson printer)

## Dedicated Software

---

### R-LAB

- collecting measurements
- carrying out statistical analysis of measurements
- customized graphs and reports

### E2R Moisture Analyzer

- drying programs synchronization
- online preview of the drying process
- drying processes record
- reporting of single and group drying operations

### RAD KEY

- Establishing cooperation between a weighing instrument and a computer

### RADWAG Remote Desktop

- remote operation via computer, mobile phone or tablet
- sending text messages
- version for Windows 10 and Android systems

### Radwag Development Studio

- presentation of functions (and subfunctions) of communication protocol (Common Communication Protocol)
- possibility of connection with weighing equipment on which each function is carried out,
- library with mass control, contained within the development environment
- complete documentation of the communication protocol
- set of user manuals for different solutions addressed for programmers employed in companies using RADWAG-manufactured weighing equipment

### LabView Driver

- operation of RADWAG balances in LabView environment