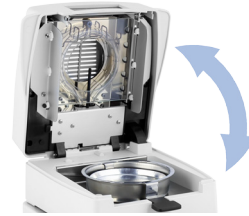


# MA X2.A Moisture Analyzers

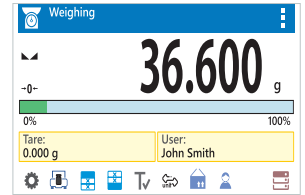
## MA X2.IC.A Moisture Analyzers



Maximum functionality and an 'advanced level' measurement in drying processes and moisture content analysis



Automatic drying chamber's lid opening and closing



Dynamic control of sample mass – maximum capacity bar graph



5" touch screen with customized buttons layout

### Functions

- Moisture content analysis
- Drying modes
- GLP procedures
- Automatic lid opening
- Multilingual menu
- Dry mass determination
- Result forecast
- Proximity sensors
- Replaceable unit

### Features

#### Measurement Precision Along with High Performance and Productivity

Due to ideal measurement parameters and high performance, the MA X2.A 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.

#### Ease of Use and Maximum Comfort of Operation

Thanks to a clear and intuitive menu layout and 5" colour touch screen, maximum comfort and incredibly easy operation are both ensured.

#### Automatic Adjustment System (IC Series Exclusively)

Internal adjustment system guarantees the highest accuracy and reliable measurements results.

#### Drying Result Prognosis

Innovative function, Drying Forecast, allows to shorten duration of moisture content analysis process via forecasting the final result even before drying process completion.

#### Drying Chamber Auto-Control

Automatic system of opening and closing the drying chamber's lid enables handy control either by means of proximity sensors or on-screen buttons.

#### Touch-Free Operation

Two programmable proximity sensors can be assigned with any function or application. The given function when assigned is both run and operated touch-free.

#### 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.X2.A MA 50/1.X2.IC.A	MA 50.X2.A MA 50.X2.IC.A
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 (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A) internal (MA.X2.IC.A)
Display	5" capacitive colour touch screen	5" capacitive colour touch screen
Keypad	6 keys	6 keys
Heating module	IR emitter halogen lamp (option)** metal heater (option)**	IR emitter halogen lamp (option)** metal heater (option)**
Databases	8	8
Drying profiles	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Touch-free operation	2 programmable proximity sensors	2 programmable proximity sensors
Additional functions	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
USB-A	1	1
USB-B	1	1
RS 232	1	1
Wireless connection	802.11 b/g/n	802.11 b/g/n
Ethernet	10 / 100 Mbit	10 / 100 Mbit
Power supply	230 V	230 V
Power consumption	6 W (during weighing) and max 450 W (during drying)	6 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	338 × 206 × 197mm	338 × 206 × 197mm
Net weight	5.2 kg (MA.X2.A) 5.3 kg (MA.X2.IC.A)	5.2 kg (MA.X2.A) 5.3 kg (MA.X2.IC.A)
Gross weight	6.7 kg (MA.X2.A) 6.8 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A) 6.8 kg (MA.X2.IC.A)
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

\*\*\* non-condensing conditions

	<b>MA 110.X2.A</b> <b>MA 110.X2.IC.A</b>	<b>MA 200/1.X2.A</b> <b>MA 200/1.X2.IC.A</b>
<b>Maximum capacity [Max]</b>	110 g	200 g
<b>Readability [d]</b>	1 mg	0.1 mg
<b>Tare range</b>	-110 g	-200 g
<b>Maximum sample weight</b>	110 g	200 g
<b>Drying temperature range</b>	max. 160 °C, max. 250 °C (option)*	max. 160 °C, max. 250 °C (option)*
<b>Moisture content readability</b>	0.001%	0.0001 %
<b>Moisture content repeatability</b>	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
<b>Adjustment</b>	external (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A) internal (MA.X2.IC.A)
<b>Display</b>	5" capacitive colour touch screen	5" capacitive colour touch screen
<b>Keypad</b>	6 keys	6 keys
<b>Heating module</b>	IR emitter halogen lamp (option)** metal heater (option)**	IR emitter halogen lamp (option)** metal heater (option)**
<b>Databases</b>	8	8
<b>Drying profiles</b>	standard, fast, step, mild	standard, fast, step, mild
<b>Finish mode</b>	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
<b>Touch-free operation</b>	2 programmable proximity sensors	2 programmable proximity sensors
<b>Additional functions</b>	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
<b>USB-A</b>	1	1
<b>USB-B</b>	1	1
<b>RS 232</b>	1	1
<b>Wireless Connection</b>	802.11 b/g/n	802.11 b/g/n
<b>Ethernet</b>	10 / 100 Mbit	10 / 100 Mbit
<b>Power supply</b>	230 V	230 V
<b>Power consumption</b>	6 W (during weighing) and max 450 W (during drying)	6 W (during weighing) and max 450 W (during drying)
<b>Heating module power</b>	450 W	450 W
<b>Operating temperature</b>	+10 ÷ +40 °C	+10 ÷ +40 °C
<b>Atmospheric humidity***</b>	40 ÷ 80%	40 ÷ 80%
<b>Transport and storage temperature</b>	-20 ÷ +50 °C	-20 ÷ +50 °C
<b>Maximum sample height</b>	h= 20 mm	h= 20 mm
<b>Weighing pan dimensions</b>	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
<b>Weighing device dimensions</b>	338 × 206 × 197mm	338 × 206 × 197mm
<b>Net weight</b>	5.2 kg (MA.X2.A) 5.3 kg (MA.X2.IC.A)	5.2 kg (MA.X2.A) 5.4 kg (MA.X2.IC.A)
<b>Gross weight</b>	6.7 kg (MA.X2.A) 6.8 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A) 6.9 kg (MA.X2.IC.A)
<b>Packaging dimensions</b>	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

\*\*\* non-condensing conditions

**MA 210.X2.A**  
**MA 210.X2.IC.A**

<b>Maximum capacity [Max]</b>	210 g
<b>Readability [d]</b>	1 mg
<b>Tare range</b>	-210 g
<b>Maximum sample weight</b>	210 g
<b>Drying temperature range</b>	max. 160 °C, max. 250 °C (option)*
<b>Moisture content readability</b>	0.001%
<b>Moisture content repeatability</b>	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
<b>Adjustment</b>	external (MA.X2.A) internal (MA.X2.IC.A)
<b>Display</b>	5" capacitive colour touch screen
<b>Keypad</b>	6 keys
<b>Heating module</b>	IR emitter halogen lamp (option)** metal heater (option)**
<b>Databases</b>	8
<b>Drying profiles</b>	standard, fast, step, mild
<b>Finish mode</b>	manual, automatic, time-defined, user-defined
<b>Touch-free operation</b>	2 programmable proximity sensors
<b>Additional functions</b>	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
<b>USB-A</b>	1
<b>USB-B</b>	1
<b>RS 232</b>	1
<b>Wireless Connection</b>	802.11 b/g/n
<b>Ethernet</b>	10 / 100 Mbit
<b>Power supply</b>	230 V
<b>Power consumption</b>	6 W (during weighing) and max 450 W (during drying)
<b>Heating module power</b>	450 W
<b>Operating temperature</b>	+10 ÷ +40 °C
<b>Atmospheric humidity***</b>	40 ÷ 80%
<b>Transport and storage temperature</b>	-20 ÷ +50 °C
<b>Maximum sample height</b>	h= 20 mm
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<b>Gross weight</b>	6.7 kg (MA.X2.A) 6.9 kg (MA.X2.IC.A)
<b>Packaging dimensions</b>	470 × 380 × 336 mm

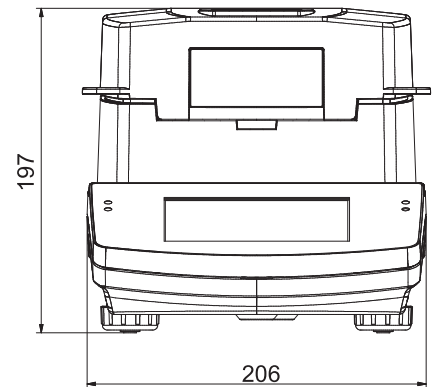
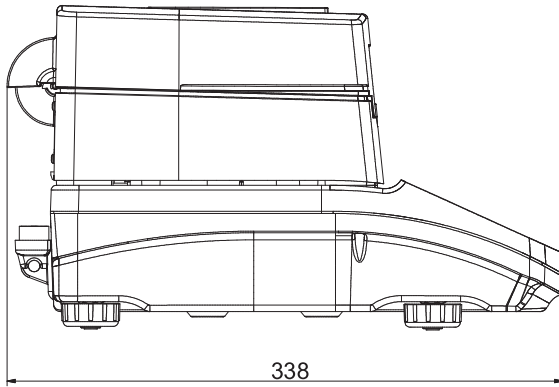
\* optional design with halogen lamp – max temperature 250° C

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

\*\*\* non-condensing conditions

## Dimensions

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## Accessories

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### 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

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### 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