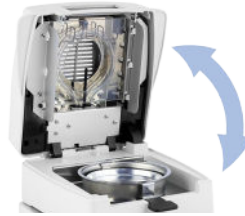


MA X2.A Moisture Analyzers

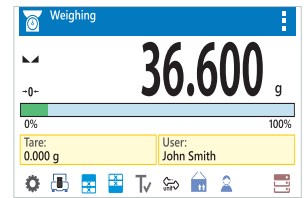
MA X2.IC.A Moisture Analyzers



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 50/1.X2.A.WH MA 50/1.X2.IC.A.WH	MA 50/1.X2.A.NS MA 50/1.X2.IC.A.NS
Maximum capacity [Max]	50 g	50 g	50 g
Readability [d]	0.1 mg	0.1 mg	0.1 mg
Tare range	-50 g	-50 g	-50 g
Maximum sample weight	50 g	50 g	50 g
Drying temperature range	max. 160 °C	max. 250 °C	max. 160 °C
Moisture content readability	0.0001%	0.0001%	0.0001%
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)	0.05% (ca. 2 g sample), 0.01% (ca. 10 g sample)
Recommended moisture content range	0.01 % ÷ 100 %	0.01 % ÷ 100 %	0.01 % ÷ 100 %
Adjustment	external (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A.WH) internal (MA.X2.IC.A.WH)	external (MA.X2.A.NS) internal (MA.X2.IC.A.NS)
Display	5" capacitive colour touch screen	5" capacitive colour touch screen	5" capacitive colour touch screen
Keypad	6 keys	6 keys	6 keys
Heating module	IR emitter	halogen lamp	metal heater
Databases	8	8	8
Drying profiles	standard, fast, step, mild	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Touch-free operation	2 programmable proximity sensors	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	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
USB-A	1	1	1
USB-B	1	1	1
RS 232	1	1	1
Wi-Fi®	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Power supply	230 V	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)	6 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity*	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	338 × 206 × 197mm	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.WH) 5.3 kg (MA.X2.IC.A.WH)	5.2 kg (MA.X2.A.NS) 5.3 kg (MA.X2.IC.A.NS)
Gross weight	6.7 kg (MA.X2.A) 6.8 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A.WH) 6.8 kg (MA.X2.IC.A.WH)	6.7 kg (MA.X2.A.NS) 6.8 kg (MA.X2.IC.A.NS)
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm	470 × 380 × 336 mm

* non-condensing conditions

Wi-Fi® is a registered trademark of Wi-Fi® Alliance.

Technical Specifications

	MA 50.X2.A MA 50.X2.IC.A	MA 50.X2.A.WH MA 50.X2.IC.A.WH	MA 50.X2.A.NS MA 50.X2.IC.A.NS
Maximum capacity [Max]	50 g	50 g	50 g
Readability [d]	1 mg	1 mg	1 mg
Tare range	-50 g	-50 g	-50 g
Maximum sample weight	50 g	50 g	50 g
Drying temperature range	max. 160 °C	max. 250 °C	max. 160 °C
Moisture content readability	0.001%	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)	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
Recommended moisture content range	0.01 % ÷ 100 %	0.01 % ÷ 100 %	0.01 % ÷ 100 %
Adjustment	external (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A.WH) internal (MA.X2.IC.A.WH)	external (MA.X2.A.NS) internal (MA.X2.IC.A.NS)
Display	5" capacitive colour touch screen	5" capacitive colour touch screen	5" capacitive colour touch screen
Keypad	6 keys	6 keys	6 keys
Heating module	IR emitter	halogen lamp	metal heater
Databases	8	8	8
Drying profiles	standard, fast, step, mild	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Touch-free operation	2 programmable proximity sensors	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	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
USB-A	1	1	1
USB-B	1	1	1
RS 232	1	1	1
Wi-Fi®	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Power supply	230 V	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)	6 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity*	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	338 × 206 × 197mm	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.WH) 5.3 kg (MA.X2.IC.A.WH)	5.2 kg (MA.X2.A.NS) 5.3 kg (MA.X2.IC.A.NS)
Gross weight	6.7 kg (MA.X2.A) 6.8 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A.WH) 6.8 kg (MA.X2.IC.A.WH)	6.7 kg (MA.X2.A.NS) 6.8 kg (MA.X2.IC.A.NS)
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm	470 × 380 × 336 mm

* non-condensing conditions

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Technical Specifications

	MA 110.X2.A MA 110.X2.IC.A	MA 110.X2.A.WH MA 110.X2.IC.A.WH	MA 110.X2.A.NS MA 110.X2.IC.A.NS
Maximum capacity [Max]	110 g	110 g	110 g
Readability [d]	1 mg	1 mg	1 mg
Tare range	–110 g	–110 g	–110 g
Maximum sample weight	110 g	110 g	110 g
Drying temperature range	max. 160 °C	max. 250 °C	max. 160 °C
Moisture content readability	0.001%	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)	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
Recommended moisture content range	0.01 % ÷ 100 %	0.01 % ÷ 100 %	0.01 % ÷ 100 %
Adjustment	external (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A.WH) internal (MA.X2.IC.A.WH)	external (MA.X2.A.NS) internal (MA.X2.IC.A.NS)
Display	5" capacitive colour touch screen	5" capacitive colour touch screen	5" capacitive colour touch screen
Keypad	6 keys	6 keys	6 keys
Heating module	IR emitter	halogen lamp	metal heater
Databases	8	8	8
Drying profiles	standard, fast, step, mild	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Touch-free operation	2 programmable proximity sensors	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	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
USB-A	1	1	1
USB-B	1	1	1
RS 232	1	1	1
Wi-Fi®	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Power supply	230 V	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)	6 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity*	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	–20 ÷ +50 °C	–20 ÷ +50 °C	–20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	338 × 206 × 197mm	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.WH) 5.3 kg (MA.X2.IC.A.WH)	5.2 kg (MA.X2.A.NS) 5.3 kg (MA.X2.IC.A.NS)
Gross weight	6.7 kg (MA.X2.A) 6.8 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A.WH) 6.8 kg (MA.X2.IC.A.WH)	6.7 kg (MA.X2.A.NS) 6.8 kg (MA.X2.IC.A.NS)
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm	470 × 380 × 336 mm

* non-condensing conditions

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Technical Specifications

	MA 200/1.X2.A MA 200/1.X2.IC.A	MA 200/1.X2.A.WH MA 200/1.X2.IC.A.WH	MA 200/1.X2.A.NS MA 200/1.X2.IC.A.NS
Maximum capacity [Max]	200 g	200 g	200 g
Readability [d]	0.1 mg	0.1 mg	0.1 mg
Tare range	–200 g	–200 g	–200 g
Maximum sample weight	200 g	200 g	200 g
Drying temperature range	max. 160 °C	max. 250 °C	max. 160 °C
Moisture content readability	0.0001 %	0.0001 %	0.0001 %
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)	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
Recommended moisture content range	0.01 % ÷ 100 %	0.01 % ÷ 100 %	0.01 % ÷ 100 %
Adjustment	external (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A.WH) internal (MA.X2.IC.A.WH)	external (MA.X2.A.NS) internal (MA.X2.IC.A.NS)
Display	5" capacitive colour touch screen	5" capacitive colour touch screen	5" capacitive colour touch screen
Keypad	6 keys	6 keys	6 keys
Heating module	IR emitter	halogen lamp	metal heater
Databases	8	8	8
Drying profiles	standard, fast, step, mild	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Touch-free operation	2 programmable proximity sensors	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	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
USB-A	1	1	1
USB-B	1	1	1
RS 232	1	1	1
Wi-Fi®	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Power supply	230 V	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)	6 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity*	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	–20 ÷ +50 °C	–20 ÷ +50 °C	–20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	338 × 206 × 197mm	338 × 206 × 197mm	338 × 206 × 197mm
Net weight	5.2 kg (MA.X2.A) 5.4 kg (MA.X2.IC.A)	5.2 kg (MA.X2.A.WH) 5.4 kg (MA.X2.IC.A.WH)	5.2 kg (MA.X2.A.NS) 5.4 kg (MA.X2.IC.A.NS)
Gross weight	6.7 kg (MA.X2.A) 6.9 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A.WH) 6.9 kg (MA.X2.IC.A.WH)	6.7 kg (MA.X2.A.NS) 6.9 kg (MA.X2.IC.A.NS)
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm	470 × 380 × 336 mm

* non-condensing conditions

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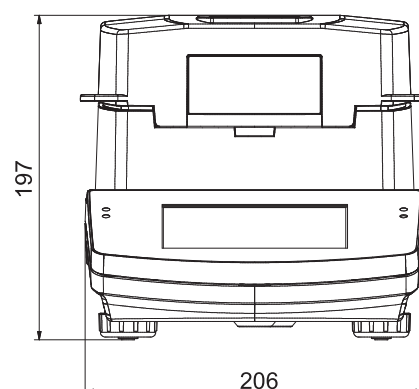
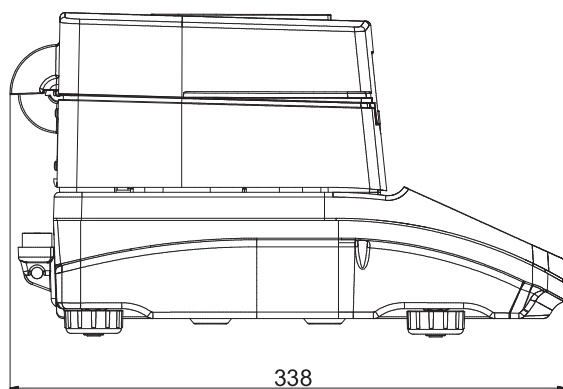
Technical Specifications

	MA 210.X2.A MA 210.X2.IC.A	MA 210.X2.A.WH MA 210.X2.IC.A.WH	MA 210.X2.A.NS MA 210.X2.IC.A.NS
Maximum capacity [Max]	210 g	210 g	210 g
Readability [d]	1 mg	1 mg	1 mg
Tare range	–210 g	–210 g	–210 g
Maximum sample weight	210 g	210 g	210 g
Drying temperature range	max. 160 °C	max. 250 °C	max. 160 °C
Moisture content readability	0.001%	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)	0.05% (ca. 2 g sample) 0.01% (ca. 10 g sample)
Recommended moisture content range	0.01 % ÷ 100 %	0.01 % ÷ 100 %	0.01 % ÷ 100 %
Adjustment	external (MA.X2.A) internal (MA.X2.IC.A)	external (MA.X2.A.WH) internal (MA.X2.IC.A.WH)	external (MA.X2.A.NS) internal (MA.X2.IC.A.NS)
Display	5" capacitive colour touch screen	5" capacitive colour touch screen	5" capacitive colour touch screen
Keypad	6 keys	6 keys	6 keys
Heating module	IR emitter	halogen lamp	metal heater
Databases	8	8	8
Drying profiles	standard, fast, step, mild	standard, fast, step, mild	standard, fast, step, mild
Finish mode	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined	manual, automatic, time-defined, user-defined
Touch-free operation	2 programmable proximity sensors	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	control of sample mass prior the drying process, automatic drying chamber's lid opening and closing
USB-A	1	1	1
USB-B	1	1	1
RS 232	1	1	1
Wi-Fi®	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
Power supply	230 V	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)	6 W (during weighing) and max 450 W (during drying)
Heating module power	450 W	450 W	450 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity*	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	–20 ÷ +50 °C	–20 ÷ +50 °C	–20 ÷ +50 °C
Maximum sample height	h= 20 mm	h= 20 mm	h= 20 mm
Weighing pan dimensions	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm	ø 90 mm, h= 8 mm
Weighing device dimensions	338 × 206 × 197mm	338 × 206 × 197mm	338 × 206 × 197mm
Net weight	5.2 kg (MA.X2.A) 5.4 kg (MA.X2.IC.A)	5.2 kg (MA.X2.A.WH) 5.4 kg (MA.X2.IC.A.WH)	5.2 kg (MA.X2.A.NS) 5.4 kg (MA.X2.IC.A.NS)
Gross weight	6.7 kg (MA.X2.A) 6.9 kg (MA.X2.IC.A)	6.7 kg (MA.X2.A.WH) 6.9 kg (MA.X2.IC.A.WH)	6.7 kg (MA.X2.A.NS) 6.9 kg (MA.X2.IC.A.NS)
Packaging dimensions	470 × 380 × 336 mm	470 × 380 × 336 mm	470 × 380 × 336 mm

* non-condensing conditions

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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