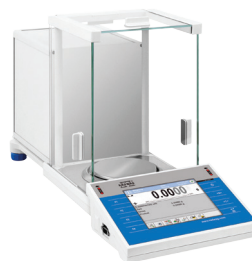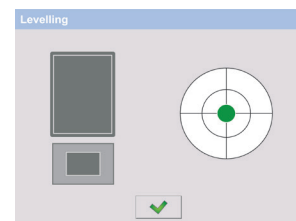RADWAG®

XA 4Y Analytical Balances

Analytical weighing of the highest quality and accuracy using professional balances

XA 4Y d = 0,01 mg

XA 4Y, d = 0,1 mg

Automatic control of the level

Intuitive operation and touch screen

Functions

Parts counting	Percent weighing	Pipettes calibration	Cooperation with titrators	Moveable range
Dosing	Statistics	SQC Statistical quality control	Ambient conditions measurement	Replaceable unit
Checkweighing	Animal weighing	Autotest	GLP procedures	Multilingual menu
Formulations	Differential weighing	Density determination	Proximity sensors	

Features

Reliable Results and Excellent Weighing Parameters
The best weighing parameters enable applying XA 4Y analytical balances in majority of demanding laboratory processes.

Innovative 2-Point Adjustment
The unique 2-point adjustment system guarantees the best accuracy of the weighing results and minimizes linearity errors thus ensuring reliable measurements within the whole measuring range.

Significantly Fast Measurements
Powerful processor offers new possibilities of operation assuring short indication stabilization time at a respective repeatability.

Second to None Repeatability and Compliance with USP
XA 4Y analytical balances feature the highest measurements accuracy, excellent repeatability and are compliant with USP requirements (Chapter 41 and 1251).

Intuitive Operation and Touch Screen
5.7" colour touch screen enables intuitive operation and easy access to numerous applications and functions of the weighing instrument.

Automatic Control of the Level
Levelling system facilitates adjustment of device level, it also uninterruptedly controls the level state, and informs about potential level deviations.

Spacious Weighing Chamber
Large weighing chamber enables convenient operation using laboratory vessels of different dimensions.

Numerous Options of Data Management
Extensive storage capacity allows record of all measurement data in a form of complex reports and statistical graphs.

Technical Specifications

	XA 52.4Y	XA 82/220.4Y	XA 110.4Y	XA 120/250.4Y
Maximum capacity [Max]	52 g	82/220 g	110 g	120 g /250 g
Minimum load	1 mg	1 mg	1 mg	1 mg
Readability [d]	0.01 mg	0.01 mg / 0.1 mg	0.01 mg	0.01g /0.1 mg
Verification scale interval [e]	1 mg	1 mg	1 mg	1 mg
Tare range	−52 g	−220 g	−110 g	−250 g
Repeatability(5% Max)* **Repeatability(Max)***	0.006 mg (Rt ≤ 3g) 0.01 mg	0.007 mg (Rt ≤ 10 g) 0.06 mg	0.007 mg (Rt ≤ 5 g) 0.02 mg	0.007 mg (Rt ≤ 10 g) 0.06 mg
Linearity	±0.03 mg	±0.06 / ±0.2 mg	±0.06 mg	±0.06 / ±0.2 mg
Eccentric load deviation	0.03 mg	0.2 mg	0.06 mg	0.2 mg
Sensitivity temperature drift**	1×10^{-6} / °C × Rt	1×10^{-6} / °C × Rt	1×10^{-6} / °C × Rt	1×10^{-6} / °C × Rt
Sensitivity time drift	1×10^{-6} / Year × Rt	1×10^{-6} / Year × Rt	1×10^{-6} / Year × Rt	1×10^{-6} / Year × Rt
Minimum weight (U=1%, k=2)	1.2 mg	1.4 mg	1.4 mg	1.4 mg
Minimum weight (USP)	12 mg	14 mg	14 mg	14 mg
Stabilization time	~ 4 s	~ 4 s	~ 4 s	~ 4 s
Adjustment	internal	internal	internal	internal
Moveable range	—	Yes	—	Yes
Verification	Yes	Yes	Yes	Yes
OIML Class	I	I	I	I
Indicator fastening	35 cm cable, wireless connection (option)***	35 cm cable, wireless connection (option)***	35 cm cable, wireless connection (option)***	35 cm cable, wireless connection (option)***
Display	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen
Keypad	8 keys	8 keys	8 keys	8 keys
Protection class	IP 43	IP 43	IP 43	IP 43
Databases	19	19	19	19
Touch-free operation	2 programmable proximity sensors	2 programmable proximity sensors	2 programmable proximity sensors	2 programmable proximity sensors
USB-A	2	2	2	2
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
RS 232	2	2	2	2
Wireless connection	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
IN/OUT	4 × IN, 4 × OUT	4 × IN, 4 × OUT	4 × IN, 4 × OUT	4 × IN, 4 × OUT
Power supply	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC
Power consumption	10 W	10 W	10 W	10 W
Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Atmospheric humidity**	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	−20 ÷ +50 °C	−20 ÷ +50 °C	−20 ÷ +50 °C	−20 ÷ +50 °C
Weighing pan dimensions	ø 90 mm open-work ø 85 mm standard (option)*****	ø 90 mm open-work ø 85 mm standard (option)*****	ø 90 mm open-work ø 85 mm standard (option)*****	ø 90 mm open-work ø 85 mm standard (option)*****
Weighing chamber dimensions	168 × 160 × 228 mm	168 × 160 × 228 mm	168 × 160 × 228 mm	168 × 160 × 228 mm
Weighing device dimensions	542 × 206 × 303 mm	542 × 206 × 303 mm	542 × 206 × 303 mm	542 × 206 × 303 mm
Net weight	9.8 kg	9.8 kg	9.8 kg	9.8 kg
Gross weight	14.3 kg	14.3 kg	14.3 kg	14.3 kg
Packaging dimensions	720 × 385 × 485 mm	720 × 385 × 485 mm	720 × 385 × 485 mm	720 × 385 × 485 mm

Rt   net weight
*   repeatability is expressed as a standard deviation from 10 weighing cycles
**   parameter determined in the following temperature range: +15 ÷ +35 °C
***   optional solution on purchase order
****   non-condensing conditions
*****   ø 85 mm standard weighing pan on purchase order
Values of parameters provided in Technical Specifications table have been determined under stable laboratory conditions. Due to ambient conditions impact or/and balance setup, the above parameters may vary for environments other than laboratory.

	XA 210.4Y	XA 220.4Y	XA 310.4Y
Maximum capacity [Max]	210 g	220 g	310 g
Minimum load	1 mg	10 mg	10 mg
Readability [d]	0.01 mg	0.1 mg	0.1 mg
Verification scale interval [e]	1 mg	1 mg	1 mg
Tare range	−210 g	−220 g	−310 g
Repeatability(5% Max)*	0.007 mg (Rt ≤ 10g)	0.06 mg (Rt ≤ 10g)	0.07 mg (Rt ≤ 15g)
Repeatability(Max)*	0.03 mg	0.1 mg	0.15 mg
Linearity	±0.1 mg	±0.2 mg	±0.3 mg
Eccentric load deviation	0.1 mg	0.2 mg	0.3 mg
Sensitivity temperature drift**	1×10^{-6} / ℃ × Rt	1×10^{-6} / ℃ × Rt	1×10^{-6} / ℃ × Rt
Sensitivity time drift	1×10^{-6} / Year × Rt	1×10^{-6} / Year × Rt	1×10^{-6} / Year × Rt
Minimum weight (U=1%, k=2)	1,4 mg	12 mg	14 mg
Minimum weight (USP)	14 mg	120 mg	140 mg
Stabilization time	~ 4 s	~ 2.5 s	~ 2.5 s
Adjustment	internal	internal	internal
Moveable range	—	—	—
Verification	Yes	Yes	Yes
OIML Class	I	I	I
Indicator fastening	35 cm cable. wireless connection (option)***	35 cm cable. wireless connection (option)***	35 cm cable. wireless connection (option)***
Display	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen
Keypad	8 keys	8 keys	8 keys
Protection class	IP 43	IP 43	IP 43
Databases	19	19	19
Touch-free operation	2 programmable proximity sensors	2 programmable proximity sensors	2 programmable proximity sensors
USB-A	2	2	2
Ethernet	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
RS 232	2	2	2
Wireless connection	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
IN/OUT	4 × IN. 4 × OUT	4 × IN. 4 × OUT	4 × IN. 4 × OUT
Power supply	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC
Power consumption	10 W	10 W	10 W
Operating temperature	+10 ÷ +40 ℃	+10 ÷ +40 ℃	+10 ÷ +40 ℃
Atmospheric humidity**	40 ÷ 80%	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	−20 ÷ +50 ℃	−20 ÷ +50 ℃	−20 ÷ +50 ℃
Weighing pan dimensions	ø 90 mm open-work ø 85 mm standard (option)*****	ø 100 mm standard	ø 100 mm standard
Weighing chamber dimensions	168 × 160 × 228 mm	168 × 160 × 228 mm	168 × 160 × 228 mm
Weighing device dimensions	542 × 206 × 303 mm	542 × 206 × 303 mm	542 × 206 × 303 mm
Net weight	9.8 kg	9.8 kg	9.8 kg
Gross weight	14.3 kg	14.3 kg	14.3 kg
Packaging dimensions	720 × 385 × 485 mm	720 × 385 × 485 mm	720 × 385 × 485 mm

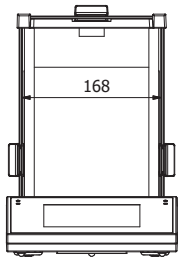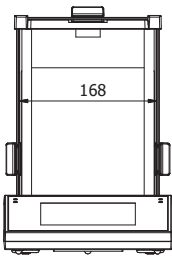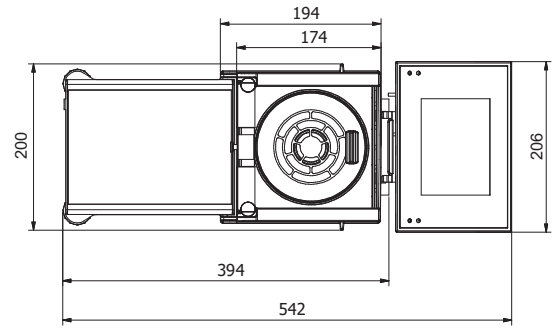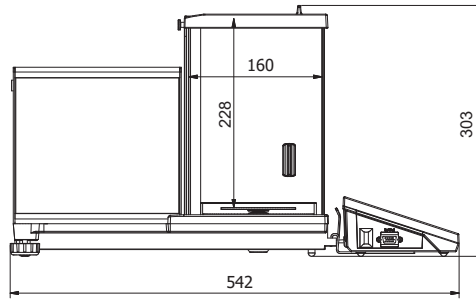|	
Rt	net weight
*	repeatability is expressed as a standard deviation from 10 weighing cycles
**	parameter determined in the following temperature range: +15 ÷ +35 ℃
***	optional solution on purchase order
****	non-condensing conditions
*****	ø 85 mm standard weighing pan on purchase order

Values of parameters provided in Technical Specifications table have been determined under stable laboratory conditions. Due to ambient conditions impact or/and balance setup, the above parameters may vary for environments other than laboratory.
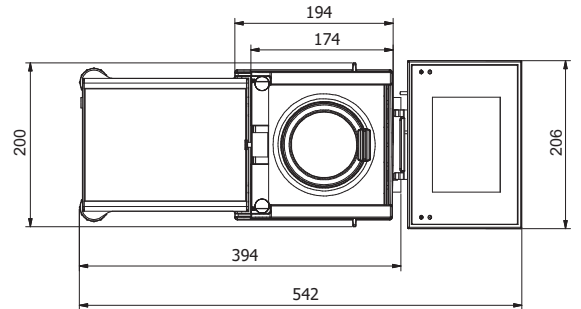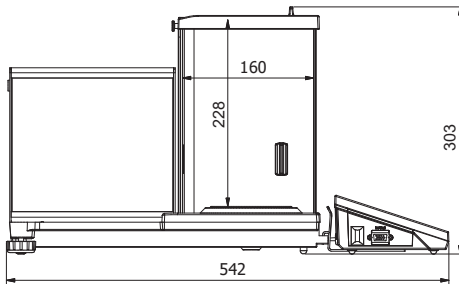
Dimensions

XA 4Y, d = 0.01 mg

XA 4Y, d = 0.1 mg

Accessories

Weighing Tables
• granite antivibration table
• antivibration tables for laboratory balances
• professional weighing table
• workstation for pipettes calibration

Professional Weighing
• Adapter for calibration of XA17 i XA100 series pipettes
• KIT 85 density determination kit

Ambient Conditions
• DJ-04 anti-static ioniser
• THB-Y ambient conditions module

Peripheral Devices
• Epson dot matrix printer
• barcode scanners
• WD-5/3Y LCD display

Cables, Converters
• P0108: RS 232 cable (balance-computer)
• P0167: RS 232 cable (balance-computer)
• P0151: RS 232 cable (balance - Epson printer)

Electrical Accessories
• ZR-02 power supply with battery

Dedicated Software

Label Editor R02
• designing label templates
• sending graphics and fonts to label printers
• printing label templates using connected printers

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

RADWAG Remote Desktop
• remote operation via computer, mobile phone or tablet
• sending text messages
• version for Windows 10 and Android systems

Pipettes
• determining measurement errors of pipettes volume
• accordance with ISO 8655
• calibration of single-channel and multi-channel pipettes
• calibration of fixed-volume and variable-volume pipettes