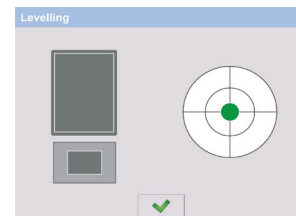RADWAG®

XA 4Y.A Analytical Balances

Perfect weighing conditions, the highest accuracy and comfort of analytical weighing, carried out by using professional-class equipment.
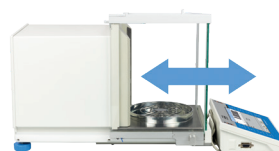
XA 4Y.A, d = 0,01 mg

XA 4Y.A, d = 0,1 mg

Automatic control of the level

Automatic weighing chamber door

Removable weighing chamber

Functions

Parts counting	
Dosing	
Checkweighing	
Formulations	
Percent weighing	

Statistics

Animal weighing

Differential weighing

Pipettes calibration

SQC Statistical quality control

Autotest

Density determination

Under hook weighing

Automatic sliding door

Cooperation with titrators

GLP GLP procedures

Proximity sensors

Ambient conditions measurement

Moveable range

Replaceable unit

Multilingual menu

Features

Reliable Results and Excellent Weighing Parameters
The best weighing parameters enable applying XA 4Y.A 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 Measurement
Powerful processor offers new possibilities of operation assuring short indication stabilization time at a respective repeatability.

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.

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

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.

Large, Automatically Opened Weighing Chamber
Spacious weighing chamber with automatic door enables comfort of the operation with samples and quick access to the weighing pan. Proximity sensors allow you to open and close the weighing chamber touch-free.

Technical Specifications

	XA 52.4Y.A	XA 82/220.4Y.A	XA 110.4Y.A	XA 120/250.4Y.A
Maximum capacity [Max]	52 g	82/220 g	110 g	120/250 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	0.01 mg / 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 mg / ±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	199 × 160 × 228 mm	199 × 160 × 228 mm	199 × 160 × 228 mm	199 × 160 × 228 mm
Weighing device dimensions	564 × 253 × 300 mm	564 × 253 × 300 mm	564 × 253 × 300 mm	564 × 253 × 300 mm
Net weight	14.7 kg	14.7 kg	14.7 kg	14.7 kg
Gross weight	19.1 kg	19.1 kg	19.1 kg	19.1 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.A	XA 220.4Y.A	XA 310.4Y.A
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)* **Repeatability(Max)***	0.007 mg (Rt ≤ 10g) 0.03 mg	0.06 mg (Rt ≤ 10g) 0.1 mg	0.07 mg (Rt ≤ 15g) 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} / °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
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 °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
Weighing pan dimensions	ø 90 mm open-work, ø 85 mm standard (option)*****	ø 100 mm standard	ø 100 mm standard
Weighing chamber dimensions	199 × 160 × 228 mm	199 × 160 × 228 mm	199 × 160 × 228 mm
Weighing device dimensions	564 × 253 × 300 mm	564 × 253 × 300 mm	564 × 253 × 300 mm
Net weight	14.7 kg	14.7 kg	14.7 kg
Gross weight	19.1 kg	19.1 kg	19.1 kg
Packaging dimensions	720 × 385 × 485 mm	720 × 385 × 485 mm	720 × 385 × 485 mm

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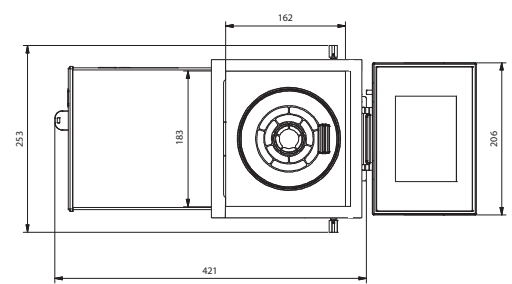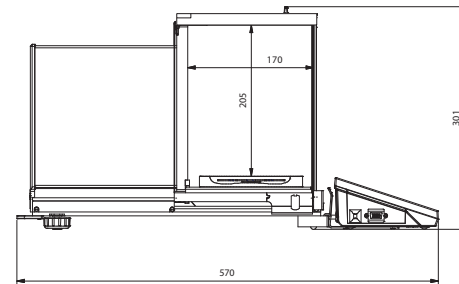
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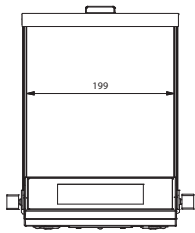
XA 4Y.A, d = 0,1 mg
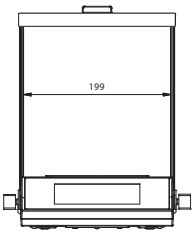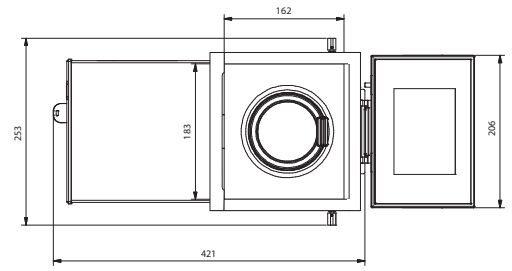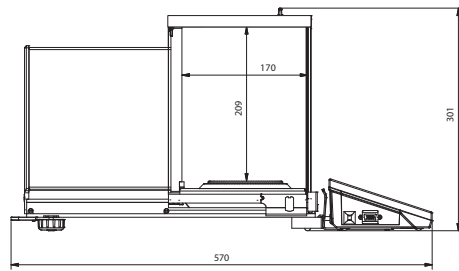
XA 4Y.A, d = 0,01 mg

Accessories

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

Professional Weighing
• Adapter for calibration of XA17 i XA100 series pipettes
• KIT 85 density determination kit
• laboratory ware holders
• automatic feeder
• under-hook weighing rack

Ambient Conditions
• DJ-04 anti-static ioniser
• THB-S or THB-P sensor

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

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

E2R Weighing Records
• complete, automated databases synchronization
• fully supported processes of labelling and parts counting
• record of weighings, weighings archiving
• basic and advanced (with graphs) reports

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

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

Audit Trail Reader
• support of Audit Trail function available for 3Y, 4Y, HY10, WLY, WPY series weighing instruments
• record of operator's activity from the moment of logging in

Parameters Editor
• remote change of parameters
• remote on-line preview of the display
• displaying current mass indication
• software update
• file loading, editing and saving parameters to a file
• import and export of parameters
• interfaces: RS232, Ethernet and Wireless Connection.
• quick and easy edition of balance parameters using computer.

RAD KEY
• Establishing cooperation between a weighing instrument and a computer

R. Barcode
• The basic function software is presentation of the data sent by barcode scanners connected to PC via USB or RS232

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

RADWAG Connect
• establishing communication with all balances, scales and weighing modules using Common Communication Protocol
• communication via local network,
• support of basic functions
• auto searching for devices
• connecting with few devices simultaneously, swapping between them
• clear list of connected platforms
• record of measurements in the program,
• export of carried out measurements to CSV file,
• work performed using freely selected device with Windows 10 operating system

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