

# XA 4Y.A PLUS analytical balance

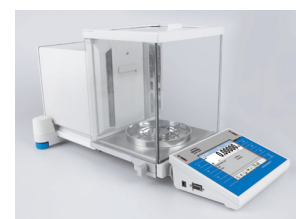
SYNERGY LAB Line – New quality of small mass weighing



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



Fully automatic leveling of the scale



Automatic weighing chamber door



Antistatic ionizer built into the weighings chamber



A completely detachable weighing chamber

## Functions

Parts counting	Statistics	Statistical quality control	Automatic sliding door	Ambient conditions measurement
Dosing	Animal weighing	Autotest	Cooperation with titrators	Moveable range
Checkweighing	Differential weighing	Density determination	GLP procedures	Replaceable unit
Formulations	Pipettes calibration	Under hook weighing	Proximity sensors	Multilingual menu
Percent weighing	Compliance with 21 CFR Part 11			

## Features

### Reliable Results and Excellent Weighing Parameters

The best weighing parameters enable applying XA 4Y.A PLUS analytical balances in majority of demanding laboratory processes.

### 21 CFR Part 11 Compliance Module

XA 4Y.A PLUS balances are compliant with 21 CFR part 11 and EU GMP part 4, annex 11. This means that the XA 4Y series features numerous functions for protecting and monitoring work results of particular operators.

### Smart Min Weight

With use of the „Smart Min Weight“ function, the XA 4Y.A PLUS automatically adjusts resolution of the range to the currently weighed mass. This results with improvement of the minimum sample weight parameter by 30%.

### Innovative 2-Point Adjustment System

Brand new adjustment system guarantees the highest measurement accuracy. It minimizes linearity errors simultaneously providing reliable indications for the whole weighing range.

### Antistatic Weighing Chamber

XA 4Y.A PLUS analytical balance is a device where the influence of electrostatics onto the weighing result has been eliminated due to use of special antistatic coating of the glass panes, and thanks to an in-built ionizer.

### Ergonomic Mechanical Design

Latch-type system of weighing chamber components fastening allows fast and easy tool-free assembly/disassembly. Smart system of pressures equalization guarantees stable measurement. It eliminates errors generated by rapid change of pressure inside the weighing chamber.

# Technical Specifications

	XA 52.4Y.A PLUS	XA 82/220.4Y.A PLUS	XA 110.4Y.A PLUS	XA 120/250.4Y.A PLUS
<b>Maximum capacity [Max]</b>	52 g	82/220 g	110 g	120/250 g
<b>Minimum load</b>	1 mg	1 mg	1 mg	1 mg
<b>Readability [d]</b>	0.01 mg	0.01 mg / 0.1 mg	0.01 mg	0.01 mg / 0.1 mg
<b>Verification scale interval [e]</b>	1 mg	1 mg	1 mg	1 mg
<b>Tare range</b>	-52 g	-220 g	-110 g	-250 g
<b>Standard values</b>				
<b>Repeatability(5% Max)*</b>	0.005 mg	0.005 mg	0.005 mg	0.005 mg
<b>Repeatability(Max)*</b>	0,01 mg	0.06 mg	0.02 mg	0.06 mg
<b>Minimum weight (USP)</b>	10 mg *****	10 mg *****	10 mg *****	10 mg *****
<b>Minimum weight (U=1%, k=2)</b>	1.0 mg *****	1.0 mg *****	1.0 mg *****	1.0 mg *****
<b>Permissible values</b>				
<b>Repeatability(5% Max)*</b>	0.012 mg	0.012 mg	0.012 mg	0.012 mg
<b>Repeatability(Max)*</b>	0.02 mg	0.08 mg	0.03 mg	0.1 mg
<b>Linearity</b>	±0.03 mg	±0.06 mg / ±0.2 mg	±0.06 mg	±0.06 / ±0.2 mg
<b>Eccentric load deviation</b>	0.03 mg	0.2 mg	0.06 mg	0.2 mg
<b>Stabilization time</b>	~ 4 s	~ 4 s	~ 4 s	~ 4 s
<b>Adjustment</b>	internal	internal	internal	internal
<b>Moveable range</b>	—	—	—	—
<b>Verification</b>	Yes	Yes	Yes	Yes
<b>OIML Class</b>	I	I	I	I
<b>Indicator fastening</b>	35 cm cable, wireless connection (option)***	35 cm cable, wireless connection (option)***	35 cm cable, wireless connection (option)***	35 cm cable, wireless connection (option)***
<b>Display</b>	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen	5.7" colour, resistive touch screen
<b>Keypad</b>	8 keys	8 keys	8 keys	8 keys
<b>Protection class</b>	IP 43	IP 43	IP 43	IP 43
<b>Databases</b>	19	19	19	19
<b>Touch-free operation</b>	2 programmable proximity sensors	2 programmable proximity sensors	2 programmable proximity sensors	2 programmable proximity sensors
<b>USB-A</b>	2	2	2	2
<b>Ethernet</b>	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit	10 / 100 Mbit
<b>RS 232</b>	2	2	2	2
<b>Wi-Fi®</b>	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
<b>Power supply</b>	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC
<b>Power consumption</b>	10 W	10 W	10 W	10 W
<b>Operating temperature</b>	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
<b>Atmospheric humidity****</b>	20 ÷ 80 %	20 ÷ 80 %	20 ÷ 80 %	20 ÷ 80%
<b>Transport and storage temperature</b>	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C
<b>Weighing pan dimensions</b>	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)*****
<b>Weighing chamber dimensions</b>	199 × 160 × 228 mm	199 × 160 × 228 mm	199 × 160 × 228 mm	199 × 160 × 228 mm
<b>Weighing device dimensions</b>	564 × 253 × 300 mm	564 × 253 × 300 mm	564 × 253 × 300 mm	564 × 253 × 300 mm
<b>Net weight</b>	14.7 kg	14.7 kg	14.7 kg	14.7 kg
<b>Gross weight</b>	19.1 kg	19.1 kg	19.1 kg	19.1 kg
<b>Packaging dimensions</b>	720 × 385 × 485 mm	720 × 385 × 485 mm	720 × 385 × 485 mm	720 × 385 × 485 mm

\* 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

\*\*\*\*\* Achieved thanks to the Smart Min Weight function

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## Technical Specifications

	XA 210.4Y.A PLUS	XA 220.4Y.A PLUS	XA 310.4Y.A PLUS	XA 520.4Y.A PLUS
<b>Maximum capacity [Max]</b>	210 g	220 g	310 g	520 g
<b>Minimum load</b>	1 mg	10 mg	10 mg	10 mg
<b>Readability [d]</b>	0.01 mg	0.1 mg	0.1 mg	0.1 mg
<b>Verification scale interval [e]</b>	1 mg	1 mg	1 mg	—
<b>Tare range</b>	-210 g	-220 g	-310 g	-520 g
<b>Standard values</b>				
<b>Repeatability(5% Max)*</b>	0.005 mg	0.05mg	0.05 mg	0.07 mg
<b>Repeatability(Max)*</b>	0.025 mg	0.08 mg	0.1 mg	0.18 mg
<b>Minimum weight (USP)</b>	10 mg ****	100 mg *****	100 mg ****	140 mg ****
<b>Minimum weight (U=1%, k=2)</b>	1.0 mg ****	10 mg ****	10 mg ****	14 mg ****
<b>Permissible values</b>				
<b>Repeatability(5% Max)*</b>	0.012 mg	0.07 mg	0.07 mg	0.12 mg
<b>Repeatability(Max)*</b>	0.035 mg	0.1 mg	0.15 mg	0.25 mg
<b>Linearity</b>	±0.1 mg	±0.2 mg	±0.3 mg	±0.5 mg
<b>Eccentric load deviation</b>	0.1 mg	0.2 mg	0.3 mg	0.4 mg
<b>Stabilization time</b>	~ 4 s	~ 2.5 s	~ 2.5 s	~ 2.5 s
<b>Adjustment</b>	internal	internal	internal	internal
<b>Moveable range</b>	—	—	—	—
<b>Verification</b>	Yes	Yes	Yes	—
<b>OIML Class</b>	I	I	I	—
<b>Indicator fastening</b>	35 cm cable, wireless connection (option)**	35 cm cable, wireless connection (option)**	35 cm cable, wireless connection (option)**	35 cm cable, wireless connection (option)**
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<b>Operating temperature</b>	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
<b>Atmospheric humidity***</b>	20 ÷ 80 %	20 ÷ 80%	20 ÷ 80%	20 ÷ 80%
<b>Transport and storage temperature</b>	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C
<b>Weighing pan dimensions</b>	ø 90 mm open-work, ø 85 mm standard (option)****	ø 100 mm standard	ø 100 mm standard	ø 100 mm standard
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\* repeatability is expressed as a standard deviation from 10 weighing cycles

\*\* optional solution on purchase order

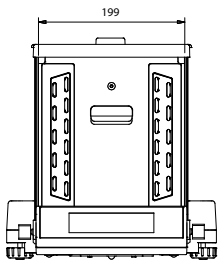
\*\*\* non-condensing conditions

\*\*\*\* ø 85 mm standard weighing pan on purchase order

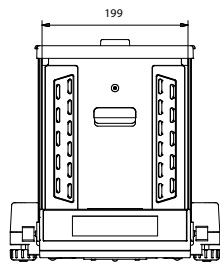
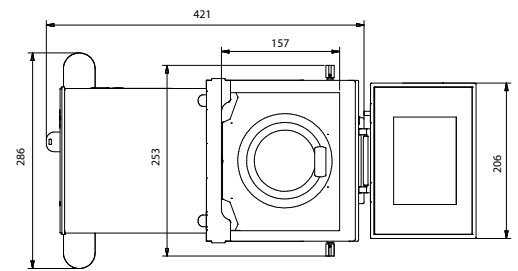
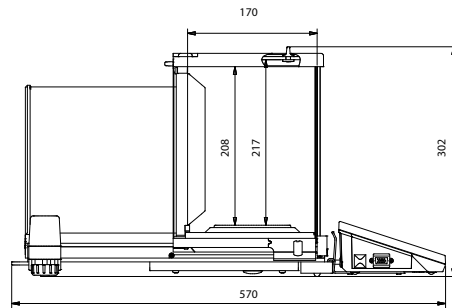
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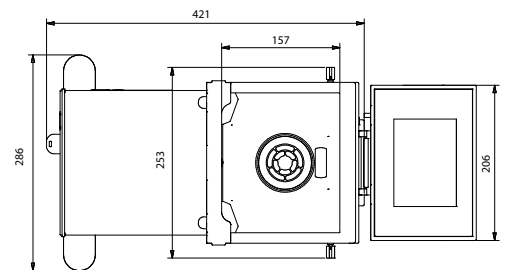
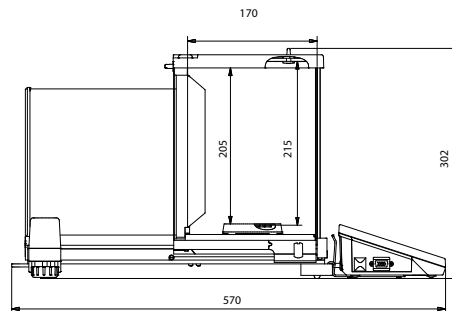
## Dimensions



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



XA 4Y.A PLUS, 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

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### 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