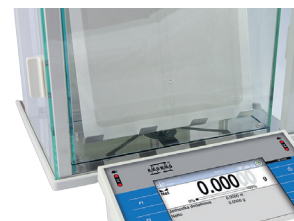# XA 4Y.F Analytical Balances

Excellent quality and accuracy of determining filters absorption capabilities during differential mass measurement

XA 4Y.F can be used as a standard balance

Large filters weighing

Weighing pan for large filters

Functions

Parts counting	Percent weighing	Filters weighing	Under hook weighing	Proximity sensors
Dosing	Statistics	Statistical quality controli	Cooperation with titrators	Replaceable unit
Checkweighing	Animal weighing	Autotest	Ambient conditions measurement	Multilingual menu
Formulations	Differential weighing	Density determination	GLP procedures	

Features

The Most Precise Control over Filters Absorption Capabilities
Professional weighing pan featuring an additional draft-shield made of glass enables accurate measurement of large-size filters.

2 in 1 Functionality
XA 4Y.F balances have been designed to carry out filter weighing, however they are equipped with standard weighing pan for universal mass measurements.

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.

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.F	XA 110 4Y.F
Maximum capacity [Max]	52 g	110 g
Minimum load	1 mg	1 mg
Readability [d]	0.01 mg	0.01 mg
Verification scale interval [e]	1 mg	1 mg
Tare range	−52 g	−110 g
Standard values		
Repeatability(5% Max)*	0.005 mg	0.005 mg
Repeatability(Max)*	0.01 mg	0.02 mg
Minimum weight (USP)	10 mg	10 mg
Minimum weight (U=1%, k=2)	1.0 mg	1.0 mg
Permissible values		
Repeatability(5% Max)*	0.012 mg	0.012 mg
Repeatability(Max)*	0.02 mg	0.03 mg
Linearity	±0.03 mg	±0.06 mg
Eccentric load deviation	0.03 mg	0.06 mg
Stabilization time	~ 5 s (30 s for filters)	~ 5 s (30 s for filters)
Adjustment	internal	internal
Moveable range	—	—
Verification	Yes	Yes
OIML Class	I	I
Indicator fastening	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
Keypad	8 keys	8 keys
Protection class	IP 43	IP 43
Databases	19	19
Touch-free operation	2 programmable proximity sensors	2 programmable proximity sensors
USB-A	2	2
Ethernet	10 / 100 Mbit	10 / 100 Mbit
RS 232	2	2
Wi-Fi®	802.11 b/g/n	802.11 b/g/n
IN/OUT	4 × IN, 4 × OUT	4 × IN, 4 × OUT
Power supply	13.5 ÷ 16 V DC	13.5 ÷ 16 V DC
Power consumption	10 W	10 W
Operating temperature	+10 ÷ +40 ℃	+10 ÷ +40 ℃
Atmospheric humidity****	40 ÷ 80%	40 ÷ 80%
Transport and storage temperature	−20 ÷ +50 ℃	−20 ÷ +50 ℃
Weighing pan dimensions	210 × 254 mm (for filters), ø 90 mm open-work ø 85 mm standard (option)*****	210 × 254 mm (for filters), ø 90 mm open-work ø 85 mm standard (option)*****
Weighing chamber dimensions	160 × 270 × 346 mm	160 × 270 × 346 mm
Weighing device dimensions	542 × 285 × 346 mm	542 × 285 × 346 mm
Net weight	12.7 kg	12.7 kg
Gross weight	25 kg	25 kg
Packaging dimensions	870 × 510 × 685 mm	870 × 510 × 685 mm

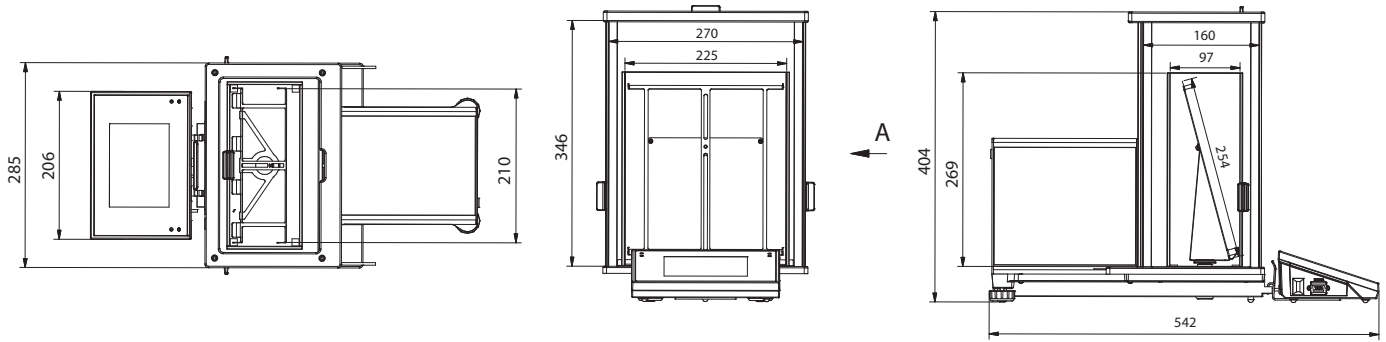|	
*	repeatability is expressed as a standard deviation of 10 mass standard settings
**	parameter determined in the following temperature range: +15 ÷ +35 ℃
***	optional solution on purchase order
****	non-condensing conditions
*****	ø 85 mm standard weighing pan on purchase order

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.

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

Dimensions

Accessories

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

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.

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