



# Ultra-Microbalances and Microbalances

Micro Scale Measurement - Laboratory Applications

# 4Y Series Microbalances

Extraordinary precision and comfort of operation for small mass measurement performed with the highest accuracy

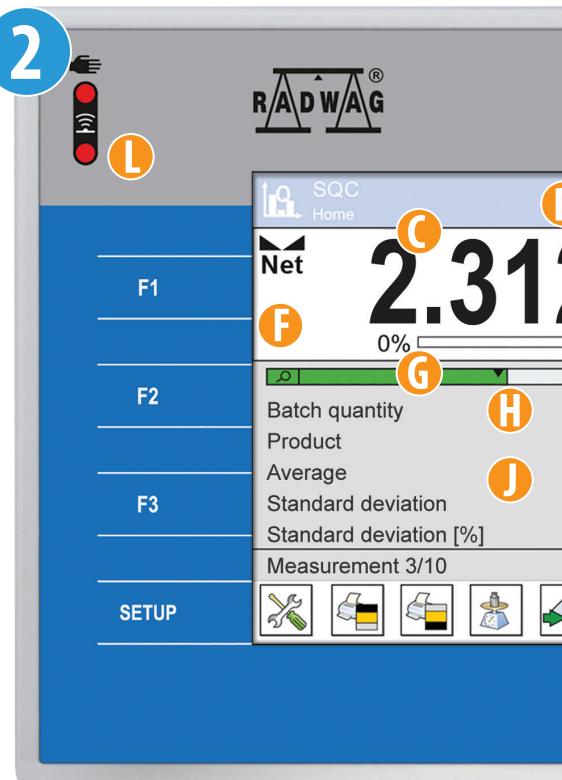
- 5.7" touch screen
- Interactive menu
- Wireless connection
- Conformity with regulations (GLP, GMP System)
- Database (weighing records, samples, operators, reports)
- Dynamic control of sample weight ( bargraph)
- Statistics, SQC
- Printouts, reports (PCL standard)
- Multilingual menu
- Interfaces: Ethernet (network applications), USB, RS 232, IN/OUT
- Wide spectrum of use (industry, laboratories, universities, research and development centres)

1



- 1 Weighing module
- A Automatically opening draft shield
- B Weighing pan
- 2 Terminal
- C Information on a selected working mode and on an adopted profile
- D Information on a logged in operator
- E Area for date, time, connection type information, battery state, etc.
- F Measurement indication area
- G Load bar graph
- H Checkweighing function bar graph (thresholds)
- I Pictograms for ambient conditions monitoring
- J Configurable area for extra information
- K Quick access bar
- L Proximity sensors (optimization of operation)

2





Standard design of UYA 4Y Ultra-microbalance and MYA 4Y Microbalance



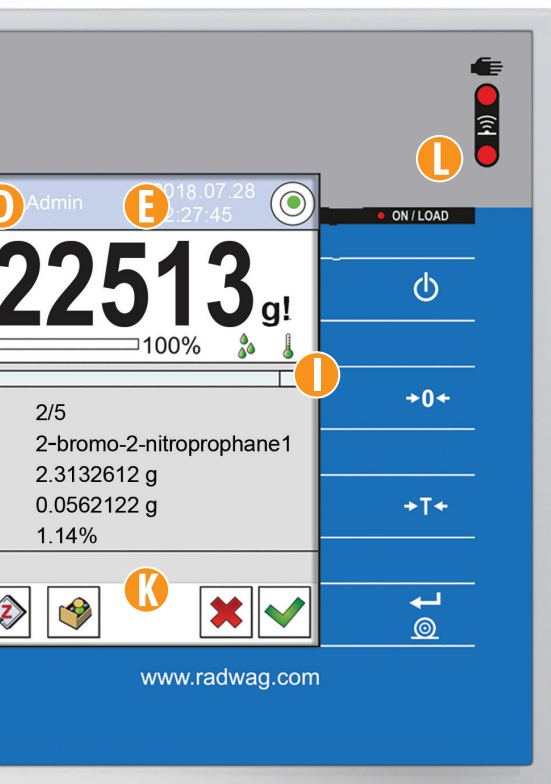
MYA 4Y.P Microbalance for pipettes calibration



MYA 4Y.F Microbalance and Ultra-microbalances UYA 4Y.F for filters weighing



MYA 4Y.F1 Microbalance for weighing filters of large-diameter



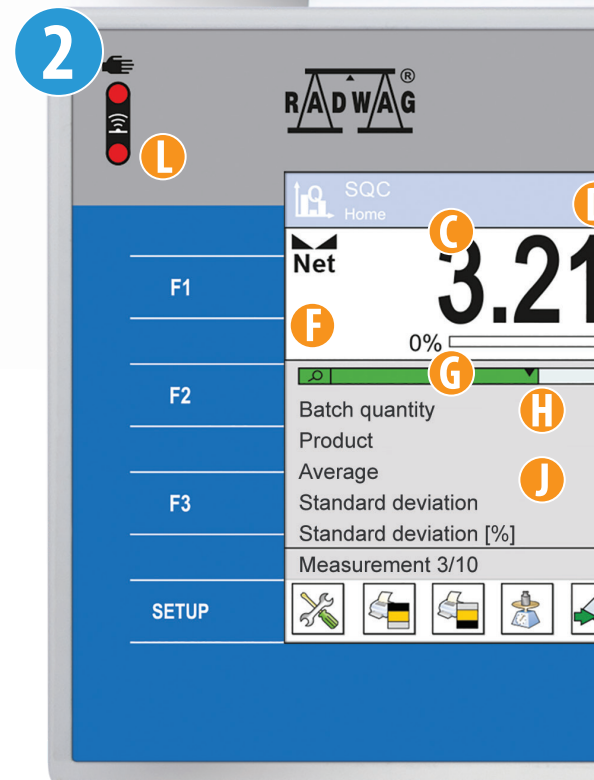


# 4Y M.A.I Microbalances

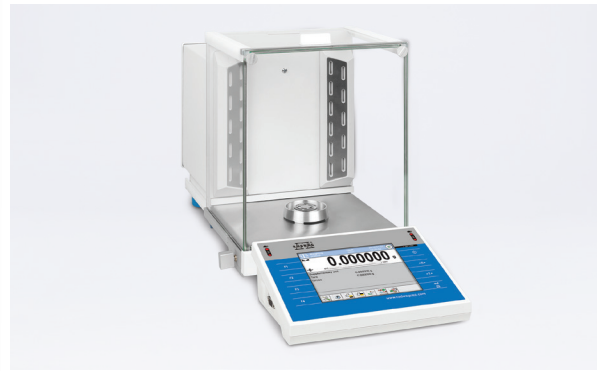
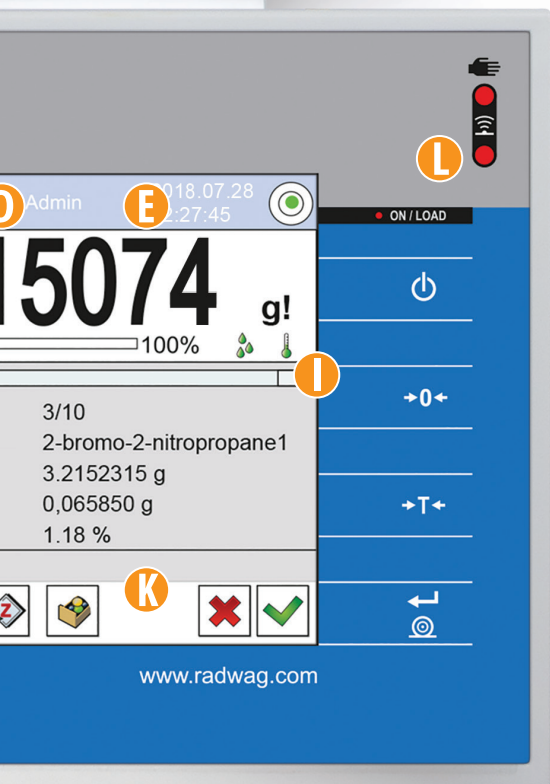
Extraordinary precision and comfort of operation for small mass measurement performed with the highest accuracy

- 5.7" touch screen
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- Wide spectrum of use (industry, laboratories, universities, research and development centres)
- Integrated ionizer

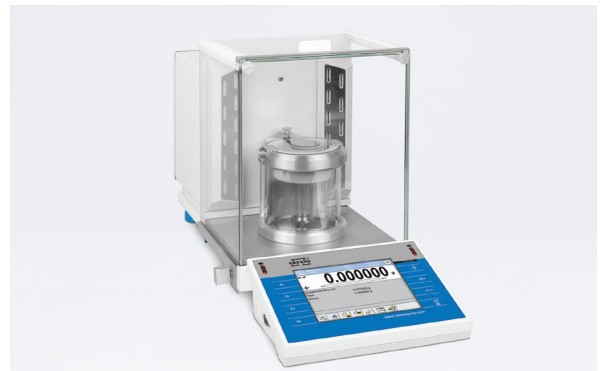
- 1** Weighing module
- A** Automatically opening draft shield
- B** Weighing pan
- 2** Terminal
- C** Information on a selected working mode and on an adopted profile
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- E** Area for date, time, connection type information, battery state, etc.
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- J** Configurable area for extra information
- K** Quick access bar
- L** Proximity sensors (optimization of operation)
- M** Antistatic ionizer







XA 4Y.M.A.I balance with weighing chamber featuring automatic door



XA 4Y.M.A.I.P microbalance for pipette calibration

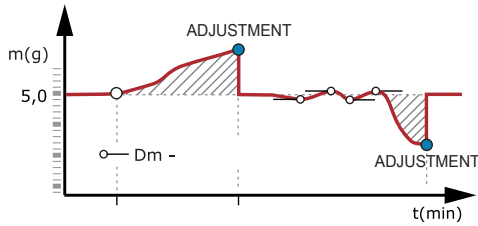


XA 4Y.M microbalance

# Quality Built into the Product

## Adjustment and an Automatic Cycle

Accuracy of indication for MYA 4Y microbalances is guaranteed owing to automatic adjustment process. This process takes into account the dynamics of temperature variation and time flow. It is possible to generate a report upon each completed adjustment.



Principle of operation for an automatic adjustment

----- Adjustment: Internal -----	
Date	2018.07.26
Time	09:12:38
Balance type	MYA 4Y
Balance ID	234986
Operator	Smith
Level status	Yes
Difference	0.000000
Temperature	25 °C
Signature:	



Adjustment history			
	2018.07.26	07:44:28	Triggered by time
240	2018.07.26	08:46:30	Triggered by time
241	2018.07.26	09:12:38	Internal
242	2018.07.26	09:29:07	External
243	2018.07.26	09:53:49	Triggered by temp.
244	2018.07.26	10:14:20	Triggered by temp.

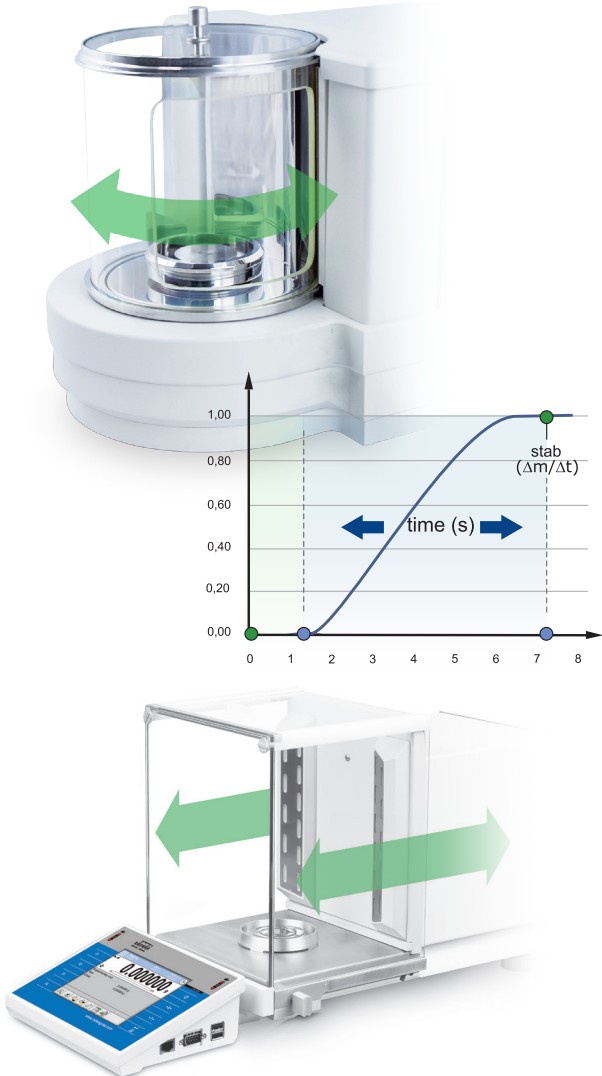
Result of each adjustment is recorded in microbalance memory, it can be previewed

Adjustment history		
1	Date	2018.07.26 09:12:38
2	Adjustment mode	Internal
3	Working mode	Weighing
4	Operator	Smith
5	Level status	Yes
6	Nominal mass	4.897654
7	Current mass	4.897653
8	Difference	0.000000
9	Temperature	25 °C

Printout or export of a report on adjustment

## Fast Measurement for any Sample

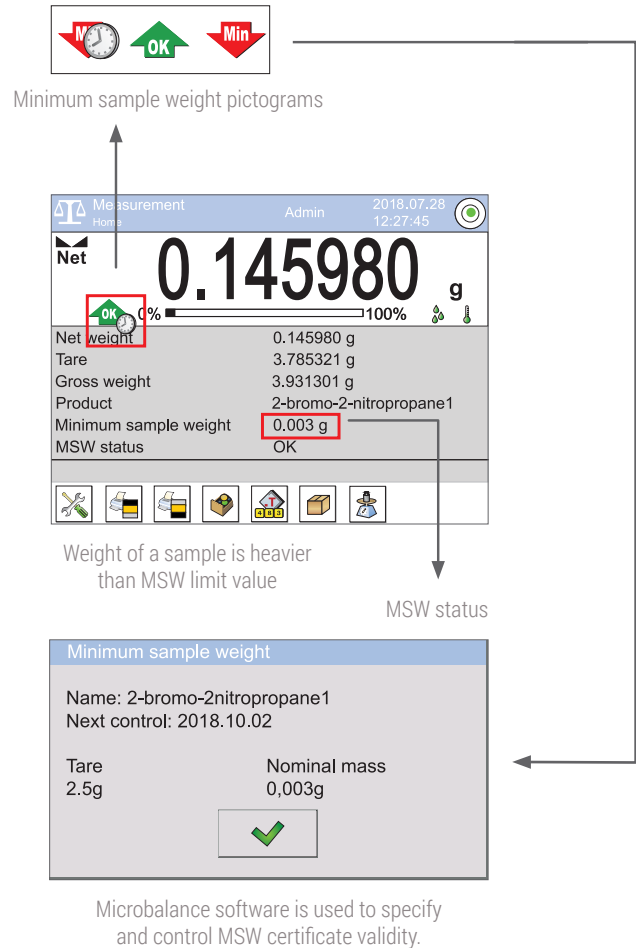
System designed to control process of opening the draft shield provides instant access to the weighing pan. Determining weight of a particular sample takes just a few seconds.



## Conformity with USP Conventions

General Chapters, Apparatus for Tests and Assays <41 „BALANCES“>  
General Information, <1251 „WEIGHING ON AN ANALYTICAL BALANCE“>

Applied design solutions provide the best possible micro scale measurement accuracy. MSW-dedicated software features programmable thresholds for low limit of a weighing range wherein variable tare loads can be used.



## Auto-Level an On-line Control of Balance Level

Each sample requires level control for every single weighing performance, only then precise weighing is guaranteed. Any balance deviation from permissible level tolerance is immediately recorded and signalled by means of respective messages and colour scheme. Monitoring and level recording are fully automatic facilities





# Universal and Specific Solutions

## Micro and Ultra-Micro Scale Measurement

When it comes to standard solutions, RADWAG offers series of microbalances (MYA 4Y) and ultra-microbalances (UYA 4Y) comprising devices varying in terms of max. capacity, readability and weighing pan size. Each balance features glass draft shield comprising automatically opened door.

XA 4Y.M.A.I and XA 4Y.M models are an alternative to standard RADWAG microbalances. The balances are equipped with a spacious weighing chamber, which enables fast and convenient access to the weighing pan. The XA 4Y.M.A.I microbalance features an automatic door and antistatic ionizer.



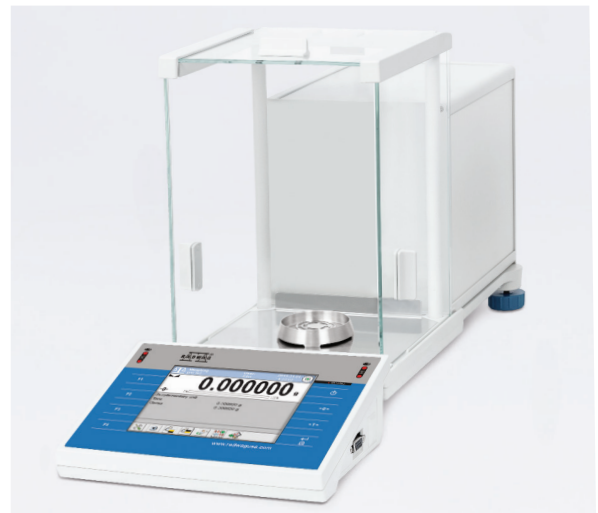
Mass measurement of solids using  
MYA 4Y microbalance



XA 4Y.M.A.I balance with an integrated antistatic ionizer  
and weighing chamber featuring automatic door



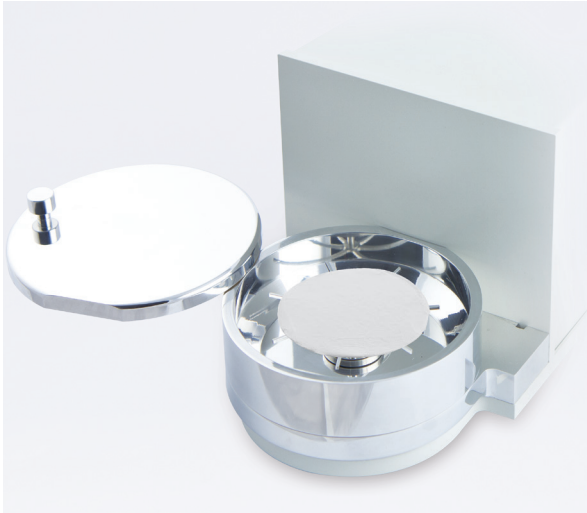
Mass measurement of liquids using MYA 4Y microbalance



XA 4Y.M balance with spacious weighing chamber

## Filters Weight Measurement Differential Weighing

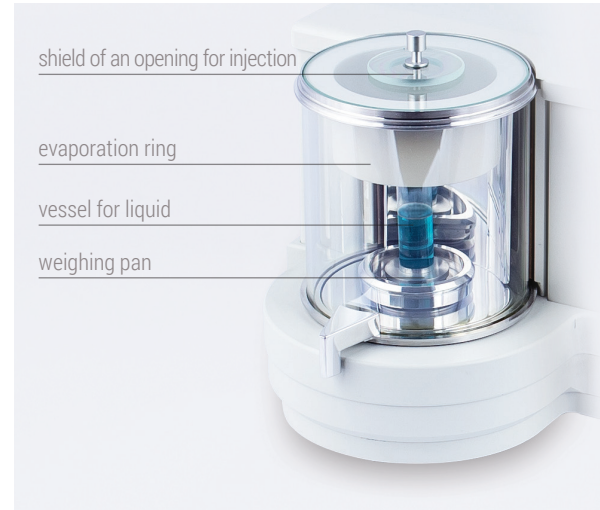
Owing to special design of a weighing chamber, precise absorption level may be determined by means of filter weight measurement. F series balances and ultra-microbalances intended to weigh filters comprise specific weighing chamber characterized by airtightness and featuring an open work weighing pan.



Using MYA 4Y.F microbalance for filters weight measurement

## Pipettes Calibration Gravimetric Method for Control of Volume

Dedicated set, installed inside the weighing chamber, allows a microbalance operator to check piston pipettes volume. The procedure is performed in accordance with the respective standard, ISO 8655. Used evaporation ring limits the effect of particular liquid evaporation, this considerably improves measurement accuracy.



MYA 4Y.P microbalance for pipettes calibration

## Antistatic Ionizer Electrostatic Charge Compensation Inside the Weighing Chamber

The antistatic ionizer, an integrated component of the XA 4Y.A.I microbalance, neutralizes electric charges inside the weighing chamber upon placing the sample in it. The ionizer neutralizes any uncompensated electric charge accumulated on the weighed object. The lower the relative humidity and reading unit of the balance, the more evident the influence of static electricity.

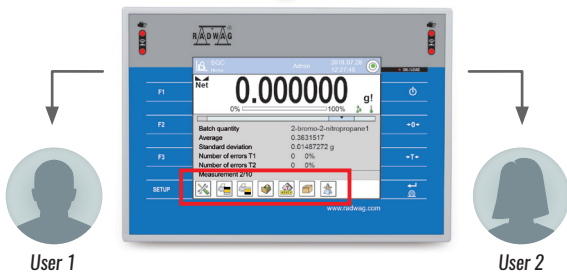


XA 4Y.M.A.I.P microbalance for pipette calibration with automatic cover of the injection opening

# Ergonomics and Comfort of Operation

## Customization of Balance Settings and Access Level

Unique user profiles with modifiable settings and access permissions provide flexibility of balance customization. Each profile comprises information, pre-set settings and a quick access shortcut dedicated for a particular operation. Number of operators and profiles is not limited.

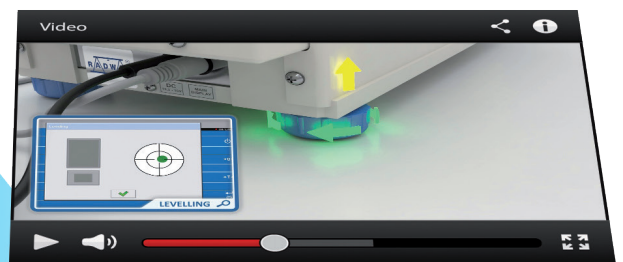
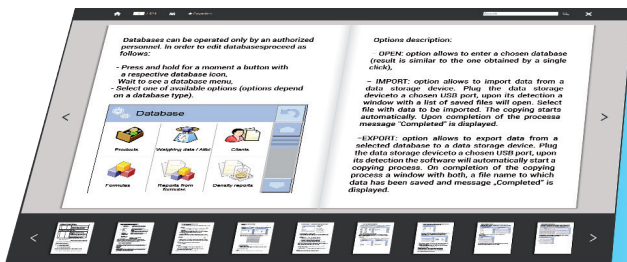


Mode:	Mode:
DIFFERENTIAL WEIGHING	DOSING
<b>Quick launch bar:</b>	<b>Quick launch bar:</b>
Weighing	Weighing
Batch	Header printout
Sample	Product
Weighing A	Tolerance
Weighing B	Checkweighing thresholds

## Databases As Support for the Weighing Process

Complex databases are a distinctive feature of the 4Y series. The databases size is dynamically shared within 32 GB memory.

4Y balances offer unlimited databases management options, plus they enable record of advanced reports and graphs carried out for series of weighings.



## Video-Guidance and an On-screen Manuals

4Y balances feature "Media" module providing you with complex guidance, i.e. direct assistance in operating the device. With easily accessed context help you are fully supported when it comes to operation of particular functions and applications. The help is offered in a form of an on-screen displayed user manual, text and drawing instruction and short video guides.





## Programmable Proximity Sensors

Manual abilities of an operator may be limited by characteristics of a workplace or by a required testing methodology (suit, gloves etc.). Owing to proximity sensors, microbalances and ultra-microbalances can be operated hands-free regardless of the said limitations.

It is possible to assign one of many various operations to a given proximity sensor, e.g. draft shield door opening or closing



## Radwag Connect Cooperation with Portable Devices

Radwag Connect software enables communication between any 4Y series balance and a portable user-owned device. The software allows online transfer of various information, recorded by a balance, to any device featuring iOS or Android system.

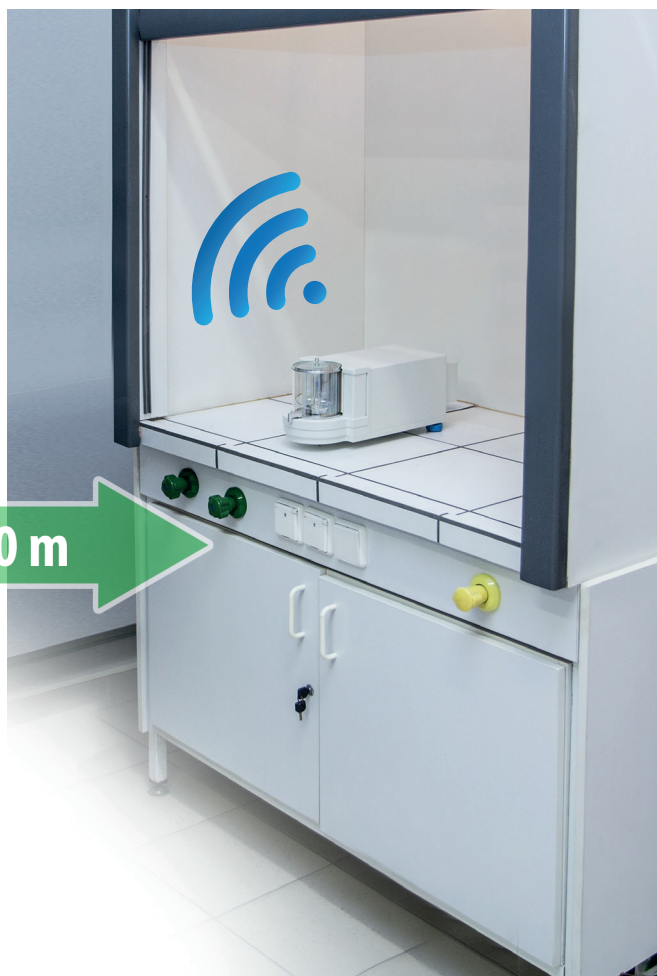
The communication is established via Wireless Module or Ethernet interface.



## Portability: Balance - Terminal Wireless Communication

Wireless communication provides possibility of placing the terminal in the vicinity of up to 10 meters distant from a balance. Battery-powered terminal allows 8-hour-long, continuous operation. This is especially convenient solution when placing a balance inside fume cupboard or Glove Box type of chamber.

Standard cable connection is an optional solution allowing for balance-terminal communication.



# Automatic Cycle Optimization

## Autotest GLP Automatic Control of Accuracy

Auto-test function provides the user with possibility of manual confirmation of the performed measurements quality (record, export). Autotest GLP is a perfect solution used in quality management systems (ISO, GMP, GLP, USP, ICH Q10, SOP).

----- Autotest GLP: Report -----	
Balance type	MYA 4Y
Balance ID	544121
User	Admin
Software revision	L1.4.15 K
Date	2018.07.30
Time	13:42:13
-----	
Number of measurements	10
Reading unit	0.000001 g
Internal weight mass	17.673 52 g
Filter	Slow
Value release	Reliable
Temperature: Start	23.99 °C
Temperature: Stop	23.96 °C
Humidity: Start	58 %
Humidity: Stop	58 %
-----	
Deviation for Max.	0.000004 g
Repeatability	0.0000017 g
-----	
Signature	
-----	

## Autotest Filter Automatically Performed Selection of Working Parameters

Some weighing operations need accuracy, other require speed. An indispensable help for both features, speed and accuracy, is Autotest FILTER application. The Autotest FILTER is offered by every 4Y series laboratory balance.

	Slow	0.00005 g
	Fast	3.179 s
10	Slow	0.00007 g
	Fast and reliable	4.392 s
11	Slow	0.00006 g
	Reliable	8.340 s
12		

Autotest Filter operation consists in determining standard deviation value and weighing time needed for all possible combinations of settings for Filter/Value release parameter. Upon Autotest Filter procedure completion, the balance presents its results, allowing the user to select the most optimal options, i.e. such that provide the shortest time weighing or the best repeatability.

## On-line Monitoring of Ambient Conditions

Mechanisms implemented in a microbalance are used to facilitate automatic monitoring of elementary ambient conditions (temperature, humidity). Specifying limit values and dynamicity of changes for these values, combined with visualization, provide ergonomic and efficient means of operation.

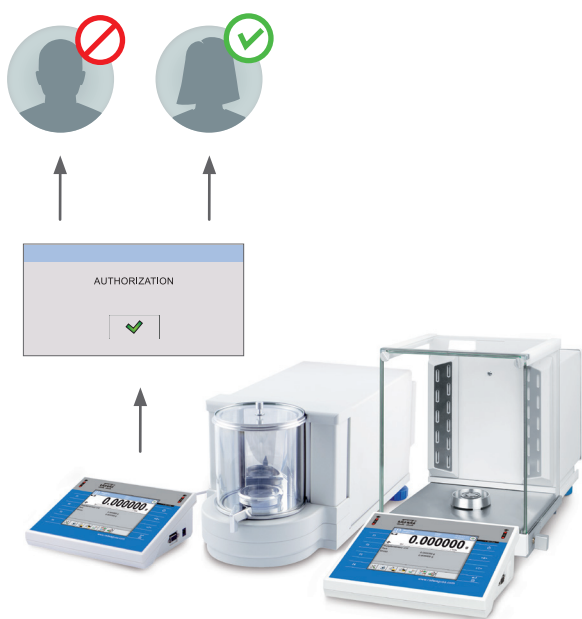
Ambient conditions			
IS T1:	24.26 °C	THB H:	59%
IS T2:	24.26 °C	THB T:	24.26 °C
IS H:	59%	THB P:	994 hPa
ISP:	994 hPa	P:	1.161 kg/m <sup>3</sup>
THB T:	23.9 °C		



# Data Monitoring and Safety

## Protecting Data User Authorization Levels

When there is a need for one balance to be operated by several users, the option of customizing access rights for particular functions may turn out to be indispensable. Four access levels ensure many possibilities of supervision over users and provide important data protection (e.g. formulas).



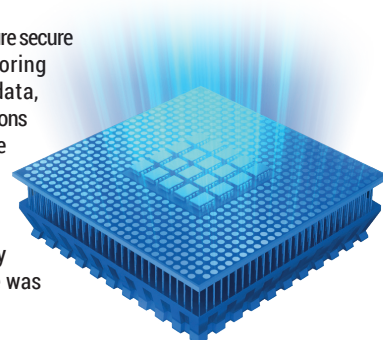
Numerous operations such as defining language of the menu, selecting a desired working mode or personalizing main screen layout may be limited according to the access level, with respective password protection.

Access level		Edit record	
1	Anonymous operator	1	Name
	Guest		Admin EN
2	Date and time	2	Code
	Administrator		
3	Printouts	3	Password
	Administrator		*****
4	Database	4	Access level
			Administrator
		5	Language
			English
		6	Default profile
			Fast filters

Possibility of associating a given profile with a particular user allows such balance personalization, that upon log in, a given working mode and filters are automatically selected

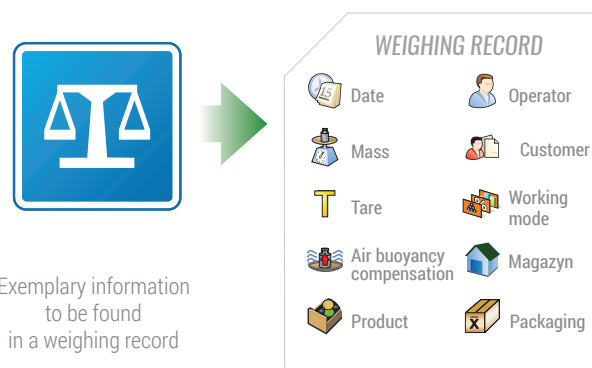
## Alibi Secure Data Storage Partition

4Y series balances feature secure partition for data storing where all weighing data, reports, ambient conditions measurements are recorded and secured for a specified amount of time. All these can be easily restored in case there was such a need.



## Data Archiving and Exchange

The 4Y series offers complex archiving of databases, user profiles and data stored in the memory. All the data can be exported, imported, copied and transferred between balances.



Exemplary information to be found in a weighing record



Exchange of databases between balances via USB port by means of standard storage devices



# Reports and Printouts

## Printouts Flexibility of Configuration

Upon completion of each process, a respective report is generated and recorded in a proper report database. The users have possibility to preview, print, export or archive reports but not only. They can also freely configure them.

There are two printout types for 4Y series balances: standard (generated according to a fixed template) and non-standard, customized ones.

Standard printout comprises three sections: header [A], weighing data [B] and footer [C]. Each section can be freely adjusted by a user, it can also be extended with a non-standard printout.

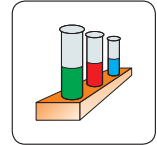
Technology used for 4Y series enables free exchange of printouts and labels (TXT or LB file format) between balances.

Weighing	
Date	2018.07.02
Time	14:07:43
Balance ID	419036
Operator	Admin
Level status	Yes
Product	Calcium
Packaging	Blister
Temperature during measurements: 26.79 °C	
Humidity during measurements: 24 %	
Pressure during measurements: 994 hPa	
Net weight	0.1118376 g
Tare	0.5000000 g
Gross weight	0.6118376 g
Supplementary unit	0.5591880 ct
Minimum sample status	OK
-----	
Net weight	0.1118071 g
Tare	0.5000000 g
Gross weight	0.6118071 g
Supplementary unit	0.5590355 ct
Minimum sample status	OK
-----	
Net weight	0.1118071 g
Tare	0.5000000 g
Gross weight	0.6118071 g
Supplementary unit	0.5590355 ct
Minimum sample status	OK
-----	
Signature	

# Differential Weighing

## Analysis of Sample Weight Variation

"Differential Weighing" module facilitates analysis of weight changes of a particular sample subjected to various processes. Two key components are of significant importance for the module operation, these are databases and methods.



## Measurement Specification

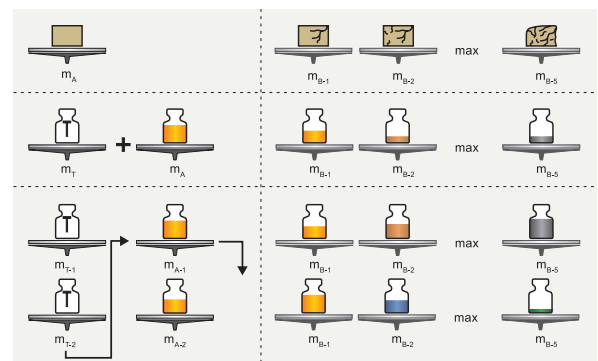
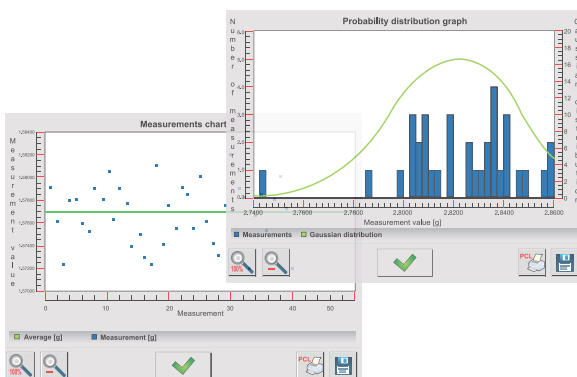
Ambient conditions prevailing in the course of a particular measurement are recorded automatically. Comparison of respective data registered for various cycles lets the user prove conformity with standard guidelines.

## Measuring Methods

Diversity of measuring methods requires maximum flexibility of differential weighing function. The said function has to do with measuring methods used for weighing samples, even those that are grouped within one batch.

## Graphs Measurements Visualization and Statistics

Selected working modes (Statistics, SQC) apart from generating report offer possibility of creating a chart for a particular completed weighing. The balance allows to generate weighing graphs (with mean value calculated) and probability distribution graph out of series of measurements. Each graph can be freely scaled, printed or saved to BMP file.



Methods are understood as sequence of steps. Any batches and samples may be selected and measured and measured using any weighing cycle, e.g. mixed system

# SQC Statistics on a Micro Scale

## SQC Automatic Data Analysis

SQC statistics module is an excellent operating mode for complete control over measurement series of a particular sample. The control may be carried out in the course of a manufacturing process (warning and critical limits) and during other tests.



## SQC Reports Homogeneous and Clear Information

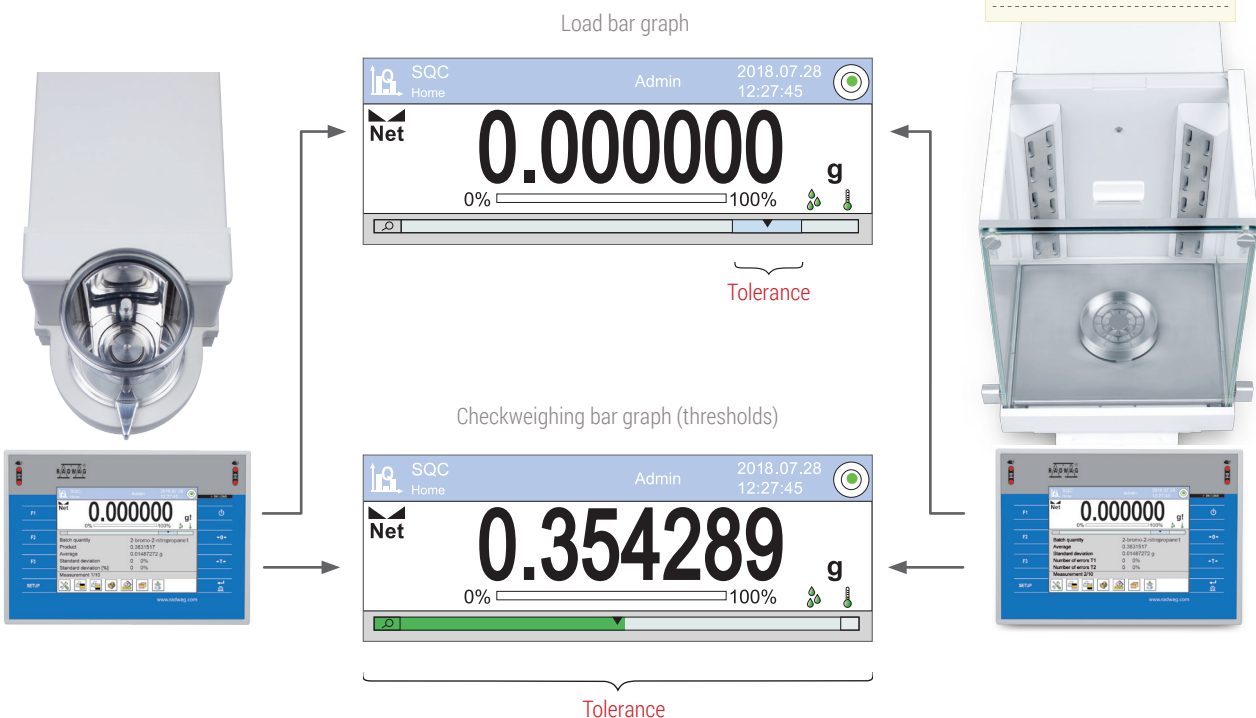
SQC Reports is a modern tool for collecting information on carried out measurements, measurement numbers, names, statistic data, information data etc. The collected data is recorded in a database.



## Viewer Graph Automatic Tolerance Scaling

Viewer graph facilitates automatic scaling of checkweighing thresholds online, thus providing possibility of comparing current sample weight to a reference value. This tool permits safe and quick sampling wherein optimal accuracy is maintained.

SQC		
User		Lab
Product		caps
Start date	2018.07.02	10:10:18
End date	2018.07.02	10:14:41
Batch number		11a
Batch quantity		10
Nominal mass		0.361 g
Limit T2-	0.0361 g	10 %
Limit T1-	0.01805 g	5 %
Limit T1+	0.01805 g	5 %
Limit T2+	0.0361 g	10 %
----- Measurement 1 -----		
Net		0.366185 g
----- Measurement 2 -----		
Net		0.369271 g
----- Measurement 3 -----		
Net		0.385184 g
----- Measurement 4 -----		
Net		0.324771 g
----- Measurement 5 -----		
Net		0.356942 g
----- Measurement 6 -----		
Net		0.368712 g
----- Measurement 7 -----		
Net		0.355558 g
----- Measurement 8 -----		
Net		0.368694 g
----- Measurement 9 -----		
Net		0.368100 g
----- Measurement 10 -----		
Net		0.368100 g
Number of T2- errors	1	10 %
Number of T1- errors	1	10 %
Number of T1+ errors	1	10 %
Number of T2+ errors	0	0 %
Average		0.3631517 g
Standard deviation		0.01487272 g
Signature		



# Technical Specifications



XA 6.4Y.M



XA 6/21.4Y.M



XA 21.4Y.M



XA 21/51.4Y.M



XA 51.4Y.M



XA 6.4Y.M.A.I

	XA 6.4Y.M	XA 6/21.4Y.M	XA 21.4Y.M	XA 21/51.4Y.M	XA 51.4Y.M	XA 6.4Y.M.A.I
Maximum capacity [Max]	6.1 g	6/21 g	21 g	21/51 g	51 g	6.1 g
Readability [d]	1 µg	1/2 µg	2 µg	2/5 µg	5 µg	1 µg
Tare range	-6.1 g	-21 g	-21 g	-51 g	-51 g	-6.1 g
Repeatability *	1.5 µg	1.5 µg	2 µg	3 µg	4 µg	1.5 µg
Linearity	±7 µg	±9 µg	±9 µg	±20 µg	±20 µg	±7 µg
Eccentricity	7 µg	15 µg	15 µg	20 µg	20 µg	7 µg
Sensitivity time drift	1 × 10 <sup>-6</sup> / Year × Rt	1 × 10 <sup>-6</sup> / Year × Rt	1 × 10 <sup>-6</sup> / Year × Rt	1 × 10 <sup>-6</sup> / Year × Rt	1 × 10 <sup>-6</sup> / Year × Rt	1 × 10 <sup>-6</sup> / Year × Rt
Sensitivity temperature drift	1×10 <sup>-6</sup> /°C×Rt	1×10 <sup>-6</sup> /°C×Rt	1×10 <sup>-6</sup> /°C×Rt	1×10 <sup>-6</sup> /°C×Rt	1 × 10 <sup>-6</sup> / °C × Rt	1×10 <sup>-6</sup> /°C×Rt
Minimum sample weight	0.3 mg	0.3 mg	0.4 mg	0.6 mg	0.8 mg	0.3 mg
Minimum sample weight USP	3 mg	3 mg	4 mg	6 mg	8 mg	3 mg
Stabilization time	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s
Adjustment	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)
Display	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen
Communication interfaces	USB-A (×2) RS 232 (×2) Wireless Connect. Ethernet IN (×4) OUT (×4)	USB-A (×2) RS 232 (×2) Wireless Connect. Ethernet IN (×4) OUT (×4)	USB-A (×2) RS 232 (×2) Wireless Connect. Ethernet IN (×4) OUT (×4)	USB-A (×2) RS 232 (×2) Wireless Connect. Ethernet IN (×4) OUT (×4)	USB-A (×2) RS 232 (×2) Wireless Connect. Ethernet IN (×4) OUT (×4)	USB-A (×2) RS 232 (×2) Wireless Connect. Ethernet IN (×4) OUT (×4)
Working temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Relative humidity ***	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%
Weighing pan dimension	ø 30 mm	ø 50 mm	ø 50 mm	ø 50 mm	ø 50 mm	ø 30 mm
Automatic sliding door	-	-	-	-	-	●
Integrated ionizer	-	-	-	-	-	●

## PC Software



### R-Lab

Collecting, presenting and statistical analysis of measurements.



### Label Editor R02

Designing labels for multi-functional scales and for scales operating in labelling, counting, dosing and formulation making systems.



### Pipettes

Determining errors of pipette volume measurement (volumetric instruments) in accordance with the ISO 8655 standard.



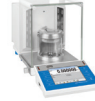
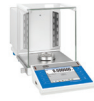
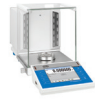
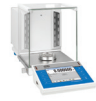
### E2R Weighing Records

Record of weighings carried out on RADWAG-designed workstations.

The full software range is available on the [www.radwag.com](http://www.radwag.com) website

The software is compatible only with RADWAG-designed weighing instruments and is not available as a box version - the presented packages are for information purposes only.





XA 6/21.4Y.M.A.I

XA 21.4Y.M.A.I

XA 21/51.4Y.M.A.I

XA 51.4Y.M.A.I

XA 6/21.4Y.M.A.I.P

XA 21/51.4Y.M.A.I.P

XA 21.4Y.M.A.I.P

XA 51.4Y.M.A.I.P

6/21 g	21 g	21/51 g	51 g	6/21 g	21/51 g	21 g	51 g
1/2 µg	2 µg	2/5 µg	5 µg	1/2 µg	2/5 µg	2 µg	5 µg
-21 g	-21 g	-51 g	-51 g	-21 g	-51 g	-21 g	-51 g
1.5 µg	2 µg	3 µg	4 µg	1.5 µg	3 µg	2 µg	4 µg
±9 µg	±9 µg	±20 µg	±20 µg	±9 µg	±20 µg	±9 µg	±20 µg
15 µg	15 µg	20 µg	20 µg	15 µg	20 µg	15 µg	20 µg
$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$
$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$
0.3 mg	0.4 mg	0.6 mg	0.8 mg	0.3 mg	0.6 mg	0.4 mg	0.8 mg
3 mg	4 mg	6 mg	8 mg	3 mg	6 mg	4 mg	8 mg
~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s	~ 3.5 s
internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)
5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen
USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)
Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)	Wireless Connect. Ethernet IN (× 4) OUT (× 4)
+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%w	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%
ø 50 mm	ø 50 mm	ø 50 mm	ø 50 mm	ø 26 mm	ø 26 mm	ø 26 mm	ø 26 mm
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●

\* Repeatability is expressed as a standard deviation from 10 weighing cycles of a particular load | \*\* Rt - Net weight

● all balances



### E2R PGC

Synchronization of databases and weighing records registering in PGC processes.



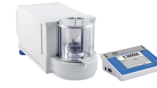
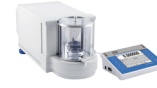
### THB-R

Monitoring and registering of ambient conditions.

RADWAG provides free software to be downloaded from [www.radwag.pl](http://www.radwag.pl) website:

- Parameter Editor
- RADWAG Development Studio
- Lab View
- RADWAG Connect
- RADWAG Remote Desktop
- Rad KEY
- R.Barcode
- Audit Trail Reader

# Technical Specifications



UYA 2.4Y

UYA 6.4Y

UYA 2.4Y.F

MYA 0,8/3.4Y

MYA 2.4Y

MYA 5.4Y


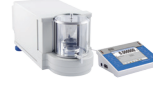






Maximum capacity [Max]	2.1 g	6.1 g	2.1 g	0.8 g / 3 g	2.1 g	5.1 g
Readability [d]	0.1 µg	0.1 µg	0.1 µg	1 µg / 10 µg	1 µg	1 µg
Tare range	-2.1 g	-6.1g	-2.1 g	-3 g	-2.1 g	-5.1 g
Repeatability *	0.25 µg	0.25 µg	0.25 µg	1 µg	0.5 µg	1 µg
Linearity	±1.5 µg	±1.5 µg	±1.5 µg	±3 µg / ±10 µg	±3 µg	±5 µg
Eccentricity	1.5 µg	1.5 µg	1.5 µg	3 µg / 10 µg	3 µg	5 µg
Sensitivity time drift	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$	$1 \times 10^{-6} / \text{Year} \times \text{Rt}$
Sensitivity temperature drift	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$	$1 \times 10^{-6} / ^\circ\text{C} \times \text{Rt}$
Minimum sample weight	0.05 mg	0.05 mg	0.05 mg	0.2 mg	0.1 mg	0.2 mg
Minimum sample weight USP	0.5 mg	0.5 mg	0.5 mg	2 mg	1 mg	2 mg
Stabilization time	10-20 s	10-20 s	10-20 s	max 8 s	max 8 s	max 8 s
Adjustment	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)
Display	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen
Communication interfaces	USB-A (x2) RS 232 (x2) Wireless Connect. Ethernet IN (x 4) OUT (x 4)	USB-A (x2) RS 232 (x2) Wireless Connect. Ethernet IN (x 4) OUT (x 4)	USB-A (x2) RS 232 (x2) Wireless Connect. Ethernet IN (x 4) OUT (x 4)	USB-A (x2) RS 232 (x2) Wireless Connect. Ethernet IN (x 4) OUT (x 4)	USB-A (x2) RS 232 (x2) Wireless Connect. Ethernet IN (x 4) OUT (x 4)	USB-A (x2) RS 232 (x2) Wireless Connect. Ethernet IN (x 4) OUT (x 4)
Working temperature	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
Relative humidity ***	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%
Weighing pan dimension	ø 16 mm	ø 16 mm	ø 50 mm	ø 16 mm (+ 60 mm for filters)	ø 16 mm	ø 26 mm
Automatic sliding door	●	●	-	●	●	●
Integrated ionizer	-	-	-	-	-	-



Read QR code and view complete technical specification



4Y series microbalances

							
MYA 11.4Y	MYA 11/52.4Y	MYA 21.4Y	MYA 21/52.4Y	MYA 31.4Y	MYA 21.4Y.P	MYA 5.4Y.F	MYA 5.4Y.F1
11 g	11 g / 52 g	21 g	21 g / 52 g	31 g	21 g	5.1 g	5.1 g
1 µg	1 µg / 10 µg	1 µg	1 µg / 10 µg	1 µg	1 µg	1 µg	1 µg
-11 g	-52 g	-21 g	-52 g	-31 g	-21 g	-5.1 g	-5.1 g
1.2 µg	2 µg	1.2 µg	2 µg	2 µg	1.2 µg	1 µg	1 µg
±6 µg	±10 µg / ±30 µg	±7 µg	±10 µg / ±30 µg	±8 µg	±7 µg	±5 µg	±5 µg
6 µg	6 µg / 10 µg	7 µg	6 µg / 10 µg	8 µg	7 µg	5 µg	5 µg
$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt	$1 \times 10^{-6}$ / Year × Rt
$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt	$1 \times 10^{-6}$ / °C × Rt
0.24 mg	0.4 mg	0.24 mg	0.4 mg	0.4 mg	0.24 mg	0.2 mg	0.2 mg
2.4 mg	4 mg	2.4 mg	4 mg	4 mg	2.4 mg	2 mg	2 mg
max 10 s	max 10 s	max 10 s	max 10 s	max 10 s	max 10 s	max 8 s	max 8 s
internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)	internal (automatic)
5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen	5.7" colour resistive touchscreen
USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)	USB-A (×2) RS 232 (×2)
Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)	Wireless Connect. Ethernet IN (×4) OUT (×4)
+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C	+10 ÷ +40 °C
40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%	40% ÷ 80%
ø 26 mm	ø 26 mm ø 40 mm	ø 26 mm	ø 26 mm ø 40 mm	ø 26 mm	ø 26 mm	ø 100 mm (for filters) ø 26 mm	ø 160 mm (for filters) ø 26 mm
●	●	●	●	●	●	-	-
-	-	-	-	-	-	-	-

\* Repeatability is expressed as a standard deviation from 10 weighing cycles of a particular load | \*\* Rt - Net weight

● all balances

## Additional equipment

- Antivibration tables,
- Thermal and impact printers,
- Computer cables, printer cables,
- Laboratory ware holders,
- Ambient conditions modules,
- Barcode readers,
- Adapter for pipettes calibration,
- Workstation for pipettes calibration.

Complete range of additional equipment on [www.radwag.com](http://www.radwag.com)

## Additional services

- Calibration of electronic balances,
- Calibration of mass standards,
- PQ/qq/IQ,
- Calibration of piston pipettes.

Complete range of additional services on [www.radwag.com](http://www.radwag.com)







RADWAG Balances and Scales

[www.radwag.com](http://www.radwag.com)