



# R Series Balances

Innovative Technology - Even More Possibilities

## R series balances

Examine the enhanced possibilities of the innovative high-tech R series balances when it comes to balance operation and presentation of measurement results.

R series balances represent the standard level of precision balances. The series has been equipped with an easily readable LCD display providing you with even clearer result presentation. To maximize comfort of operation, the display has been enriched with an extra text line supplying you with either information or prompts on the weighing process (product name, tare value, etc.).

A pioneering innovation of R series balances is a set of symbols showing you a current working mode, type of connection with a computer, battery state, weighing and service functions. Additionally now there are even more weighing units at your disposal (g, mg, etc.). Weighing results are recorded in ALIBI memory.

The new series features plastic housing and a stainless steel weighing pan. With the possibility of weighbridge-free weighing (so called, under-pan weighing), wherein the load is suspended under the balance, the R series balances are an indispensable tool for any user.

## Home screen

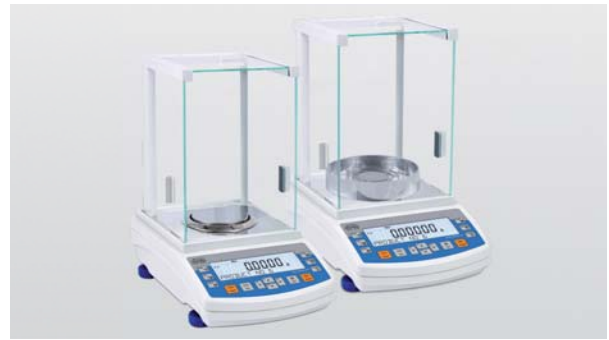
- A** Symbols
- B** Extra text line
- C** Direct access to databases
- D** Access to a particular working mode functions
- E** Working mode selection
- F** Direct start-up of balance adjustment procedure
- G** Transfer of display state to a peripheral device
- H** Navigation buttons



RSE



# RIES



AS.R2 analytical balances

Max: up to 310 g  
 d: from 0,01 mg  
 Weighing pan: ø90, ø100 mm



PS.R1&R2 precision balances

Max: up to 6000 g  
 d: from 1 mg  
 Weighing pan: 128×128 mm  
 195×195 mm



APP.R2 precision balances

Max: up to 50 kg  
 d: from 0,01 mg  
 Weighing pan: 348×260 mm



MA.R moisture analyzers

Max: up to 210 g  
 d: from 0,1 mg  
 Weighing pan: ø90 mm



# Quality and precision

## Auto-Cal automatic system of adjustment procedure

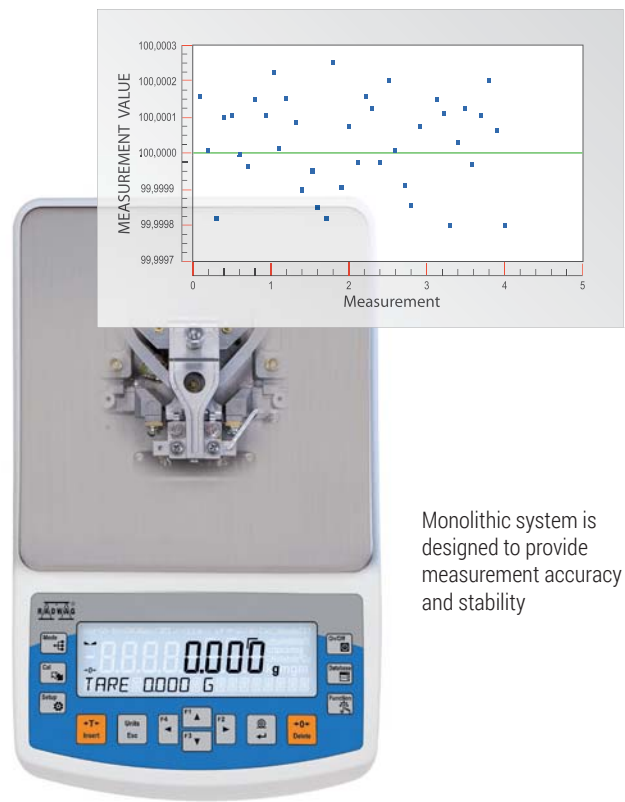
Auto-Cal system is a tool for control and correction. It provides accurate weighing regardless of temperature variation, the position of the balance or changing environmental conditions. This allows the R series balances to offer accuracy in all conditions.



The built-in adjustment weight has been designed to maintain accurate indications. Discover that with our automatic or semi-automatic adjustment procedure, performed periodically, you may grow confident about your weighing results' accuracy. The adjustment system guarantees that accurate weighing results are obtained even for challenging working conditions. It is used for GLP, GMP control procedures.

## Repeatability of indications

The monolithic system ensures even greater accuracy and repeatability of weighing due to consolidation of elements of the balance's mechanical design. Using such technology results in higher quality balances.

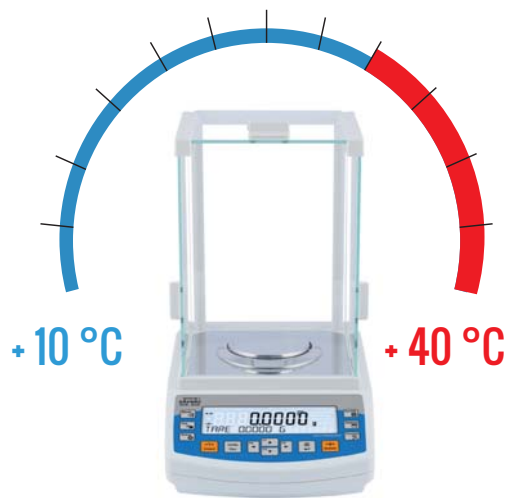


Owing to the monolithic systems, R series balances offer fast measurement and excellent repeatability. These up-to-date design solutions, being highly resistant to transport shocks, are characterized by good metrological parameters.

# Accuracy in all conditions

## Operating temperature range

Now, owing to a wider working temperature range, you don't have to monitor and adjust the room temperature, affecting your balance stability, over and over again.



## Resistance to ambient conditions

Increased resistance to fluctuating ambient conditions such as breezes and changes in humidity provides more accurate measurements.



## Ambient conditions monitoring

Stable ambient temperature is a key factor when it comes to accuracy of balance indications. The R series balances feature an ergonomic diagnostic tool, namely, automatic monitoring of your balance temperature. Dynamics of balance temperature variation is registered online. When limit values have been exceeded, a thermometer symbol is displayed on the balance screen. In these cases, it is advisable to stabilize the balance.

You may find ambient conditions monitoring especially useful when installing the balance at its place of use. This solution may also turn out to be exceptionally valuable when observing ambient temperature variation.



# Functionality and ergonomics

## Direct access to information

Direct access to functions and databases is possible through the quick access buttons on the display.



**Database** - direct access to database,  
**Function** - direct access to basic functions,  
**F1 to F4** - programmable function buttons and menu navigation.

## An extra text line

An extra text line provides you with either information or prompts on the weighing process, e.g. product name or tare value.



## Communication interface



The exchange of database information between the devices has become even easier thanks to two USB ports (type A and B) and Wi-Fi technology.

## Databases ergonomics for your weighing process



You certainly will appreciate information system of R series balances. The system is based on 5 databases: users database (10 different operators), products database (1000 different products), weighments database (1000 different measurements), tares database (10 different packaging weights). When operating the new R series balances you can analyze particular measurements in details, export or import any data and exchange.

# Weighing process visualization

## Symbols and units

The R series offers a priceless set of intuitive symbols signalling current working mode, computer connection type, battery status, function that is in operation and much more. The symbols add to readout clarity, they provide maximum comfort of operation and increase of ergonomics. These symbols are not only helpful but offer a wider choice of units.



## Bar Graph visual representation of load capacity

The bar graph indicates the load capacity change in real time. The bar graph can be operated for various working modes with

threshold markers, e.g. parts counting, dosing, percent weighing, animal weighing, statistics, totaling, peak hold or checkweighing.



Minimum value

Maximum value



Mass value lower than the value of minimum threshold



Minimum value

Maximum value



Mass value contained within thresholds



Minimum value

Maximum value



Mass value higher than the value of maximum threshold

# Databases security

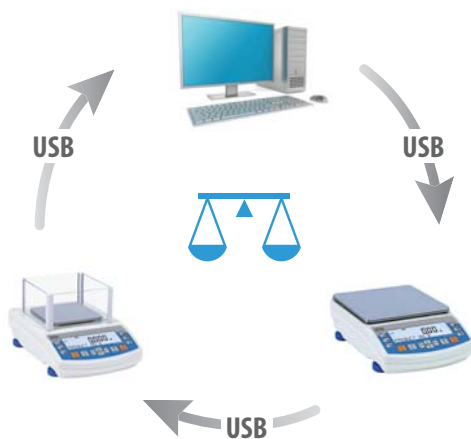
## Data protection

Access to the secured sensitive data is only possible when logged in. The access rights for each operator are set up at the administrator level.



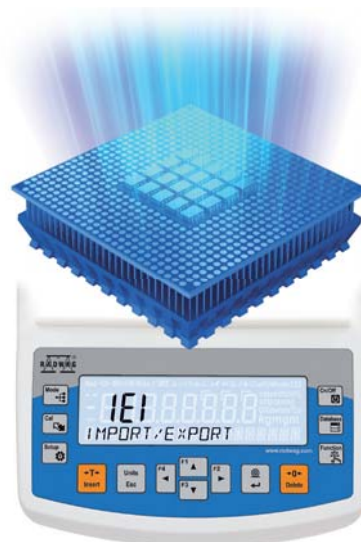
## Archiving and data exchange

Save your data and transfer reports on performed processes and partial measurements to external devices via USB interface. This interface allows you to control the working process. Not only can you restore the data but also copy your settings from one balance to another.



## ALIBI memory

ALIBI memory is non-deletable storage, protecting weighing data. It has the capacity of up to 100 000 weighing records. This ensures both, security and flexibility of storing data over longer periods of time.



Export of data recorded in balance ALIBI memory



Recording data on the USB flash drive.

No	Date and time	Serial number	User code	Product code	Result	Unit	Tare	Precision	Number of last digit number	Last digit hidden	Stability
1111	2014.01.03 12:19:18	12310000		UM824	13.1048	ml	0.0000	4	0	No	No
1112	2014.01.03 12:19:18	12310000		UM824	17.1281	ml	0.0000	4	0	No	No
1113	2014.01.03 12:19:18	12310000		UM824	17.1273	ml	0.0000	4	0	No	No
1114	2014.01.03 12:19:19	12310000		UM824	17.1273	ml	0.0000	4	0	No	Yes
1115	2014.01.03 12:19:20	12310000		UM824	17.1273	ml	0.0000	4	0	No	Yes
1116	2014.01.03 12:19:20	12310000		UM824	5.9885	ml	0.0000	4	0	No	Yes
1117	2014.01.03 12:19:20	12310000		UM824	5.9885	ml	0.0000	4	0	No	Yes
1118	2014.01.03 12:19:21	12310000		UM824	5.9880	ml	0.0000	4	0	No	No
1119	2014.01.03 12:19:22	12310000		UM824	209.50	ml	0.00	2	0	No	No
1120	2014.01.03 12:19:22	12310000		UM824	209.50	ml	0.00	2	0	No	No
1121	2014.01.03 12:19:23	12310000		UM824	209.50	ml	0.00	2	0	No	Yes
1122	2014.01.03 12:19:23	12310000		UM824	209.52	ml	0.00	2	0	No	Yes
1123	2014.01.03 12:19:23	12310000		UM824	209.52	ml	0.00	2	0	No	Yes
1124	2014.01.03 12:19:24	12310000		UM824	199.79	g	0.00	2	0	No	No
1125	2014.01.03 12:19:24	12310000		UM824	199.81	g	0.00	2	0	No	No
1126	2014.01.03 12:19:25	12310000		UM824	199.82	g	0.00	2	0	No	No
1127	2014.01.03 12:19:25	12310000		UM824	199.80	g	0.00	2	0	No	No
1128	2014.01.03 12:21:09	12310000	TSGE	UM824	199.73	g	0.00	2	0	No	No
1129	2014.01.03 12:21:09	12310000	TSGE	UM824	199.78	g	0.00	2	0	No	No
1130	2014.01.03 12:21:09	12310000	TSGE	UM824	199.71	g	0.00	2	0	No	No
1131	2014.01.03 12:21:10	12310000	TSGE	UM824	199.74	g	0.00	2	0	No	No
1132	2014.01.03 12:21:12	12310000	TSGE	UM824	0.19978	kg	0.00000	5	0	No	Yes
1133	2014.01.03 12:21:12	12310000	TSGE	UM824	0.19975	kg	0.00000	5	0	No	Yes
1134	2014.01.03 12:21:13	12310000	TSGE	UM824	0.19978	kg	0.00000	5	0	No	No
1135	2014.01.03 12:21:13	12310000	TSGE	UM824	0.19978	kg	0.00000	5	0	No	No
1136	2014.01.03 12:21:13	12310000	TSGE	UM824	0.19978	kg	0.00000	5	0	No	Yes

Find out how useful ALIBI Reader PC software is. This application offers preview of all measurements recorded in balance ALIBI memory. In addition, the software provides you with an option of printing and exporting selected data and with an option of generating reports in PDF and CSV format (MS Excel).



# Reports and printouts

## Configurable printouts

In the new R series balances the weighing reports are divided into 3 configurable sections, each of which can be fully customized.

Working mode	Weighing
Date	18.02.2015
Time	11:36:36
Balance type	AS 220.R2
Balance ID	2035
Product	PILL
Tare	0.5000 g
Gross weight	1.3020 g
Net weight	0.8020 g
User	Tom Smith
----- Calibration Report -----	
Calibration type	Internal
User	Tom Smith
Project	124/SGW/2015
Date	18.02.2015
Time	12:56:10
Balance ID	1035
Calibration difference	0.0000 g
Signature	

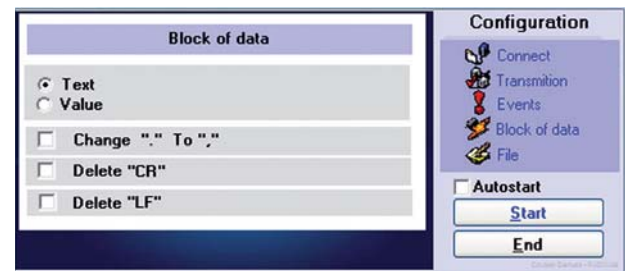
The new R series balances work with the printers that support PCL protocol. The printers are connected with the balances via USB interface.

## Cooperation with PW-WIN / RAD-KEY PC Software

R series balances offer the possibility of sending printouts directly to PW-WIN and RAD-KEY PC Software. The measurements can be transferred via Wi-Fi, RS232 or USB interface. Decide which one suits your needs the best and go.



RAD-KEY PC Software is designed to capture your balance data which is next inserted into a spreadsheet cell, for example.



PW-WIN PC Software provides cooperation with RS232 and Ethernet interfaces, presents measurements in a visual form, produces statistics and exports data to a spreadsheet.

No.	Date	Time	Timer	Readings	Unit	Note
53	2013-08-12	11:53:35	30	93.95760	g	
54	2013-08-12	11:53:35	30	93.95720	g	
55	2013-08-12	11:53:36	31	93.95680	g	
56	2013-08-12	11:53:37	32	93.95680	g	
57	2013-08-12	11:53:37	32	93.95700	g	
58	2013-08-12	11:53:38	33	93.95700	g	
59	2013-08-12	11:53:38	33	93.95700	g	
60	2013-08-12	11:53:39	34	93.95680	g	
61	2013-08-12	11:53:39	34	93.95680	g	
62	2013-08-12	11:53:40	35	94.02260	g	
63	2013-08-12	11:53:40	35	97.30490	g	
64	2013-08-12	11:53:41	36	101.79710	g	
65	2013-08-12	11:53:41	36	101.79720	g	
66	2013-08-12	11:53:42	37	101.79760	g	
67	2013-08-12	11:53:42	37	101.79730	g	
68	2013-08-12	11:53:43	38	101.79720	g	
69	2013-08-12	11:53:43	38	101.79710	g	
70	2013-08-12	11:53:44	39	101.79710	g	

Accept measurements no lower:	<input type="checkbox"/>
Accept measurements no superior:	<input type="checkbox"/>
<input checked="" type="checkbox"/> Current statistic:	
Number of measurements:	70
Minimum value:	0,00000
Maximum value:	101,79760
Average value:	27,36079
Average deviation:	38,11951
Standard deviation:	43,74654
Mean square deviation:	132049,41261
Variance:	1913,79976
Estimated deviation:	1941,49541
Estimated variance:	44,06240
Total:	1957,25510

# Technical specification



**AS.R2**



**PS.R1**



**PS.R2**

Max capacity [Max]	60 g - 310 g	110 g - 6000 g	200 g - 6000 g
Readability [d]	0.01 mg - 0.1 mg	1 mg - 100 mg	1 mg - 100 mg
Weighing pan size	ø90 mm, ø100 mm, ø85 mm (option)	128 × 128 mm, 195 × 195 mm	128 × 128 mm, 195 × 195 mm
Stabilization time	3.5 s - 6 s	1.5 s - 2 s	1.5 s - 2 s
Adjustment	internal (automatic)	external	internal (automatic)
Display	LCD (backlit)	LCD (backlit)	LCD (backlit)
Interfaces	RS 232 (2 ports), USB-A, USB-B, Wi-Fi (option)	RS 232 (2 ports), USB-A, USB-B, Wi-Fi (option)	RS 232 (2 ports), USB-A, USB-B, Wi-Fi (option)
Verification	<b>M</b> ●	○	●



Read QR code  
and view complete  
technical specification  
of all R series balances



## PC Software



**Database Editor**  
Support of R series databases



**PW-WIN**  
Cooperation of balance and computer



**RAD-KEY**  
Capturing data from the balance to a spreadsheet



## APP.R2

10 kg - 50 kg

0.01 g - 5 g

348 × 260 mm

2 s - 3 s

internal (automatic)

LCD (backlit)

RS 232 (2 ports), USB-A,  
USB-B, Wi-Fi (option)



## MA.R

Max capacity [Max]

50 g - 210 g

Readability [d]

0.1 mg - 1 mg

Weighing pan size

ø90 mm, h = 8 mm

Humidity readability

0,0001 % - 0,001 %

Drying temperature

max 160°C (option: max 250°C)

Heating module

IR emitter (option: halogen)

Display

LCD (backlit)

Interfaces

RS 232, USB-A,  
USB-B, Wi-Fi (option)

Not applicable    Selected balance models    All balances

Functions and technical specification of device are subject to change without prior notice

## Optional equipment

- Barcode readers,
- PLC Printers,
- USB keyboards,
- PC Software PW-WIN and RAD-KEY,
- Rack for under-pan weighing,
- Anti-vibration table,
- Anti-draft shield,
- LCD WD-6 display,
- Density determination kit (for solids and liquids).

## Services

In order to support the new R series balances, RADWAG range includes:

- balances adjustment,
- validation IQ/OQ/PQ,
- periodic verification audits.

The availability of optional equipment depends on particular balance models AS.R, APP.R, PS.R and MA.R.



## Features:

Large, easy to read display

Wide temperature range

Bar graph representing load capacity

Ambient conditions monitoring

Databases













Interfaces: RS232, USB and WiFi\*

\*option

ALIBI memory

Configurable reports and printouts

## Functions:

-  Autotest
-  Checkweighing
-  Dosing
-  Pipettes calibration
-  Parts counting
-  Percent weighing
-  GLP Procedures
-  Statistics
-  Totalizing
-  Under-pan weighing
-  Animal weighing
-  Density Determination