CE M 17 | OIML | ISO 9001 CERTIFIED | DPA SYSTEM

APPLICATION

4Y series is a modern weighing device, especially useful when the measurement requires perfect accuracy and high speed.

FEATURES OF 4Y SERIES BALANCES

REPEATABILITY (SD)
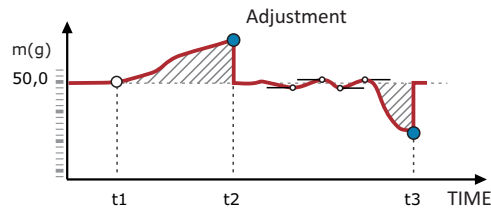$<1d$

MEASUREMENT DURATION
<5 s.

ETHERNET

d = 0,1 mg

d = 0,01 mg

ACCURACY

Measurement accuracy is guaranteed with an adjustment procedure carried out using an internal adjustment weight. This fully automatic process is controlled by a module intended to diagnose ambient conditions change (on-line). Adjustment processes (internal and external) can be performed in accordance with a specially designed schedule.

Adjustment

m(g)
50,0

t1   t2   t3   TIME

FUNCTIONALITY

4Y series balance is an optimized modern device which features an option of automatic level control (LevelSENSING) as one of numerous functions.

The practical effect of balance customization are individual user profiles and gradable permission levels for access to balance menu.

Programmable proximity sensors offer wide range of possibilities: weighing chamber control, zeroing, tarring, printout.

Several functions such as differential weighing facilitate multi-stage mass control of one and the same sample subjected to various processes. Pipettes calibration function is an ergonomic tool designed to calibrate and control piston pipettes with the use of gravimetric method. MEDIA module, as one of the greatest 4Y series assets, provides the user with an on-screen help and support.
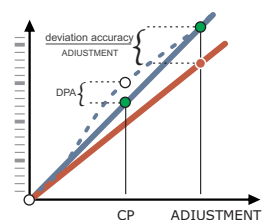
COMPLIANCE WITH REGULATIONS

Owing to security system and possibility to document the process by means of printouts (standard/editable), the 4Y balance meets requirements imposed by GLP/GMP systems for various industries (pharmacy, petrochemistry, environmental protection).

- PARTS COUNTING
- DOSING
- CHECKWEIGHING
- FORMULATION
- PERCENT WEIGHING [%]
- STATYSTICS
- ANIMAL WEIGHING
- DIFFERENTIAL WEIGHING
- PIPETTES CALIBRATION
- SQC STATISTICAL QUALITY CONTROL
- AUTOTEST
- DENSITY
- AIR DENSITY CORRECTION
- AUTOMATIC DOOR
- COOPERATION WITH TITRATORS
- GLP / GMP PROCEDURES
- INFRARED SENSORS
- AMBIENT COND. MONITORING
- UNITS
- MOVABLE RANGE

MECHANICAL DESIGN

The 4Y series features reliable measuring system housed within a tight casing. With this feature, the balance provides accuracy and fast measurement for any working environment. DPA SYSTEM (Dual Point Adiustment), which is the great novelty of RADWAG analytical balances, guarantees perfect linearity even for challenging ambient conditions. DPA is a standard solution of the XA.4Y.A series regardless of the reading unit value.

4Y balances offer modern hardware and software. In-build programs, Windows Embeded Compact 7 operating system, Flash memory, Double Hardware system guarantee fast measurement and reliability when it comes to data acquiring and processing. The 4Y series comprises 5,7'' colour touchscreen providing ever more increased balance operation functionality and even more practical results presentation. Complex databases allow measurement record along with printout and export option. The system supports 13 languages.

deviation accuracy ADIUSTMENT
DPA
CP   ADIUSTMENT

Technical specification:

	XA 52.4Y.A	XA 110.4Y.A	XA 210.4Y.A	XA 82/220.4Y.A**	XA 120/250.4Y.A**
Verification	YES	YES	YES	YES	YES
Maximum capacity	52 g	110 g	210 g	82 g / 220 g	120 g / 250 g
Minimum capacity	1 mg	1 mg	1 mg	1 mg	1 mg
Readability	0,01 mg	0,01 mg	0,01 mg	0,01 mg / 0,1 mg	0,01 mg / 0,1 mg
Tare range	-52 g	-110 g	-210 g	-220 g	-250 g
Operating temperature	+10° ÷ +40°C				
Relative humidity ***	40% ÷ 80% (non-condensing conditions)				
Repeatability *	0,01 mg (Rt≤20g) 0,012 mg (20g<Rt≤52g)	0,01 mg (Rt≤20g) 0,02 mg (20g<Rt≤50g) 0,025 mg (50g<Rt≤82g) 0,03 mg (82g<Rt≤110g)	0,01 mg (Rt≤20g) 0,02 mg (20g<Rt≤50g) 0,025 mg (50g<Rt≤82g) 0,03 mg (82g<Rt≤100g) 0,04 mg (100g<Rt≤210g)	0,01 mg (Rt≤20g) 0,02 mg (20g<Rt≤50g) 0,025 mg (50g<Rt≤82g) 0,08 mg (82g<Rt≤220g)	0,01 mg (Rt≤20g) 0,02 mg (20g<Rt≤50g) 0,025 mg (50g<Rt≤82g) 0,03 mg (82g<Rt≤120g) 0,08 mg (120g<Rt≤250g)
Linearity	±0,03 mg	±0,06 mg	±0,1 mg	±0,06/0,2 mg	±0,06/0,2 mg
Eccentricity	0,03 mg	0,06 mg	0,1 mg	0,2 mg	0,2 mg
Sensitivity offset	$2 \times 10^{-6} \times Rt$				
Sensitivity temperature drift	$1 \times 10^{-6} / °C \times Rt$				
Sensitivity time drift	$1 \times 10^{-6} / Rok \times Rt$				
Minimum smaple weight (USP)	20 mg				
Minimum weight (U = 1%, k = 2)	2 mg				
Stabilization time	~ 4 s				
Interface	2×USB, 2×RS 232, 1×Ethernet, Wi-Fi 802.11 b/g/n, 4 in / 4 out (digital)				
Power supply - balance	13,5 ÷ 16 V DC / 700 mA				
Power supply - terminal ****	13,5 ÷ 16 V DC / 1 A				
Adjustment	internal (automatic)				
Weighing pan	grid pan Ø 90 mm (additional weighing pan Ø 85 mm - option)				
Weighing chamber dimensions	170 × 200 × 220 mm				
Net/Gross weight	14,7 kg / 19,1 kg				
Packaging dimensions	720 × 385 × 485 mm				

Technical specification:

	XA 220.4Y.A	XA 310.4Y.A
Verification	YES	YES
Maximum capacity	220 g	310 g
Minimum capacity	10 mg	10 mg
Readability	0,1 mg	0,1 mg
Tare range	-220 g	-310 g
Operating temperature	+10° ÷ +40°C	
Relative humidity	40% ÷ 80% (non-condensing conditions)	
Repeatability *	0,08 mg (Rt≤100g) 0,12 mg (100g<Rt≤220g)	0,08 mg (Rt≤100g) 0,12 mg (100g<Rt≤220g) 0,2 mg (220g<Rt≤310g)
Linearity	±0,2 mg	±0,3 mg
Eccentricity	0,2 mg	0,3 mg
Sensitivity offset	$2 \times 10^{-6} \times Rt$	
Sensitivity temperature drift	$1 \times 10^{-6} / °C \times Rt$	
Sensitivity time drift	$1 \times 10^{-6} / Rok \times Rt$	
Minimum smaple weight (USP)	160 mg	
Minimum weight (U = 1%, k = 2)	16 mg	
Stabilization time	~ 2,5 sek.	
Interface	2×USB, 2×RS 232, 1×Ethernet, Wi-Fi 802.11 b/g/n, 4 in / 4 out (digital)	
Power supply - balance	13,5 ÷ 16 V DC / 700 mA	
Power supply - terminal ****	13,5 ÷ 16 V DC / 1 A	
Adjustment	internal (automatic)	
Weighing pan	Ø 100 mm	
Weighing chamber dimensions	170×200×220 mm	
Net/Gross weight	14,7 kg / 19,1 kg	
Packaging dimensions	720×385×485 mm	

Rt - net weight, * Repeatability is expressed as a standard deviation from 10 weighing cycles, **Balance with Movable Range function

**** Power supply of terminal for wireless transmission version of XA.4Y.B

The above parameters values have been determined for standard laboratory conditions. Owing to ambient conditions influence or/and balance setup the above parameters may vary for environment other than laboratory.

Mass measurement support

OPENWORK WEIGHING PAN

Recommended for measurements
with d=0.01mg
and wherever
heavy air drafts occur.

DATA EXCHANGE / COLLECTION

Using USB port it is possible to exchange
and archive any information,
besides the port allows you
to copy your balance parameters.

DATA EXCHANGE / COLLECTION

Proximity sensors stand for various
ergonomic solutions, they facilitate
remote control of functions
such as tarring, zeroing, printout.

AMBIENT CONDITIONS MODULE

Air pressure, temperature and
humidity are parameters
measured on-line, signalling system
informs when their maximum and
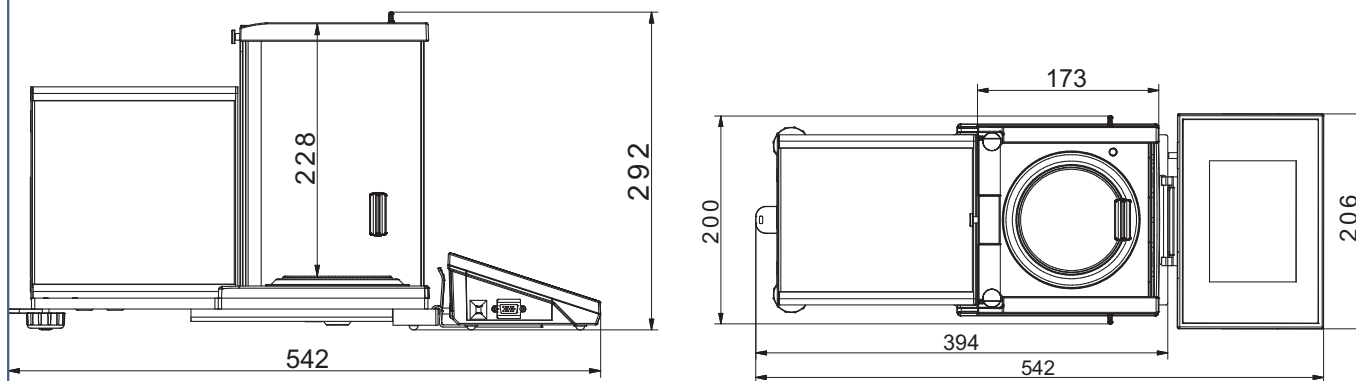minimum values are out of range.

HOLDERS

The holders are especially useful
in course of weighing
oval-shaped objects (bulbs,
measuring vessels,
test tubes etc.)

IONIZER

Application: removing
electrostatic charges from samples,
adjustable operating power,
various options of load emission type
(plus, minus, both).

Dimensions:

Accessories:

Anti-vibration table for microbalances	Density determination kit
Professional weighing table	THB ambient conditions module
Impact printer - Zebra	LCD „WD-5"
Label printer - Citizen	PC USB keyboard
Holders for glass vessels	Adapter for pipettes calibration
"Tare" or "Print" footswitch	ZR-02 power supplier
"R-LAB" PC software	Mass standard
"Pipettes" PC software	Anti-static cable PA 1
DJ-02 Anti-static ioniser	Barcode scanner
	Cable RS 232 (balance - printer: drukarka Epson, Citizen) "P0151"