



## The New Secura®.

Safe & Secure Weighing.



No Risk!

Blocked data transfer to printer or computer if ...

the balance is not leveled correctly

the SQmin value is not observed

the balance is not calibrated correctly

### AC Adapter

Sartorius AC adaptor module	6971790 with interchangeable country-specific plug-in AC adaptors
Primary	100 – 240 V~, -10%   +10%, 50 – 60 Hz, 0.2 A
Secondary	15 V DC, ± 5%, 530 mA (max.)   8 Watt (max.): 0 to +40 °C and 15 V DC, ± 5%, 330 mA (max.)   5 Watt (max.): 0 to +50 °C
Other data	protection class II, in accordance with EN   IEC 60950-1 up to 3000 m above sea level; IP40 as per EN   IEC 60529

### Balance

Power supply	only via Sartorius AC adaptor module 6971790
Input voltage	12.0 ... 18.0 V DC
Power consumption	2 W (typically)

### Ambient Conditions

The specifications apply when the following ambient conditions are in place:	
Environment	for indoor use only
Ambient temperature *	+10 °C to +30 °C
Operational capacity	guaranteed between +5 °C and +45 °C
Storage and shipping	-10 °C to +60 °C
Elevation	up to 3000 m above sea level
Relative humidity**	15% to 80% for temperatures up to 31 °C; non-condensing, decreasing linearly to 50% relative humidity at 40 °C and 20% at 50 °C

<b>Safety of electrical equipment</b>	in accordance with EN 61010-1/IEC 61010-1. Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements
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<b>Electromagnetic compatibility</b>	in accordance with EN 61326-1/IEC 61326-1. Electrical equipment for measurement, control, and laboratory use – EMC requirements – Part 1: General requirements
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Defined immunity to interference	Suitable for use in industrial areas
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Interference emission	Class B (suitable for use in residential areas and areas that are connected to a low voltage network that also supplies residential buildings). The device can therefore be used in both areas.
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Balances verified for use in legal metrology comply with the requirements of Council Directive 2009/23/EC, EN 45501:1992, and OIML R76:2006.

\* For balances verified for use in legal metrology in accordance with EU requirements, refer to the information on the balance.

\*\* For balances verified for use in legal metrology in accordance with EU requirements, the legal regulations apply.

# Technical Specifications

## Standard Equipment

APC Features	<ul style="list-style-type: none"><li>- Monitoring of compliance with the USP minimum sample weight limits – SQmin</li><li>- Password protection of set-up settings</li><li>- Fully automatic temperature- and time-controlled internal calibration and adjustment – isoCAL</li><li>- Temporary blockage of data transfer to a printer or a computer when uncertain weighing results are detected, such as a result is below the USP minimum sample weight limit, the balance is not level or isoCAL calibration   adjustment needs to be performed</li><li>- Storage of all data of calibration procedures – Cal Audit Trail</li></ul>
Safety Level	Three configurable levels of security
Levelling	Intelligent, optoelectronic leveling sensor with alarm function and interactive user guidance for reliable leveling
Calibration	Internal calibration isoCAL, External calibration
Selectable weight units <sup>1</sup>	Gram, kilogram, carat, pound, ounce, troy ounce, Hong Kong tael, Singapore tael, Taiwan tael, grain, pennyweights, milligram, parts per pound, China tael, mommes, Austrian carat, tola, baht, mesghal and Newton
Interface	mini USB <ul style="list-style-type: none"><li>- Automatic recognition of Sartorius printer models YDP30 or YDP40</li><li>- Direct data transfer to Microsoft® Windows programs</li><li>- Programmable interval for data output</li><li>- Data transfer protocols SBI, xBPI, table format, text format</li></ul>
Display	Touch screen with Sartorius graphical user interface optimized for users in pharmaceutical laboratories
Standard built-in applications	Weighing, Density, Percentage, Checkweighing, Peak Hold, Counting, Unstable Conditions
Special built-in lab applications	Mixing, Components, Statistics, Conversion
Languages	English, French, German, Hungarian, Italian, Polish, Portuguese, Russian, Spanish, Turkish, Chinese, Japanese, Korean
Protection	<ul style="list-style-type: none"><li>- Chemical resistant finish of the housing</li><li>- In-use cover</li><li>- Dust cover for analytical balances</li></ul>
Anti-theft lock	Kensington lock and lockdown capability for cable or chain

<sup>1</sup> Limited for verified models



### Analytical Balances Secura®

Model		224	124
Weighing capacity	g	220	120
Readability	mg	0.1	0.1
Repeatability (standard deviation)	mg	0.1	0.1
Linearity deviation	mg	0.2	0.2
Minimum weight as per USP, typical	g	0.12	0.12
Sensitivity drift between +10 °C and +30 °C	± ppm/K	1.5	1.5
Typical stabilization time	s	2	2
isoCAL:			
– Temperature change	K	1.5	1.5
– Time interval	h	4	4
Display result (depending on the set filter level)	s	0.2	0.2
Weighing pan size	mm	Ø 90	Ø 90
Weighing chamber height	mm	209	209
Net weight, approx.	kg	5.1	5.1
Dimensions, D × W × H		mm	360 × 216 × 320
		Inch	14.1 × 8.5 × 12.6

### Precision Balances Secura®

Model		613	513	313	213	6102	5102	3102	2102	1102	612
Weighing capacity	g	610	510	310	210	6100	5100	3100	2100	1100	610
Readability	mg	1	1	1	1	10	10	10	10	10	10
Repeatability (standard deviation)	mg	1	1	1	1	10	10	10	10	10	10
Linearity deviation	mg	2	2	2	2	20	20	20	20	20	20
Minimum weight as per USP, typical	g	1.5	1.5	1.5	1.5	12	12	12	12	12	12
Sensitivity drift between +10 °C and +30 °C	± ppm/K	3	3	3	3	3	3	3	3	3	3
Typical stabilization time	s	1	1	1	1	1	1	1	1	1	1
isoCAL:											
– Temperature change	K	2	2	4	4	2	2	4	4	4	4
– Time interval	h	6	6	12	12	6	6	12	12	24	24
Display result (depending on the set filter level)	s	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2
Weighing pan size	mm	Ø 120	Ø 120	Ø 120	Ø 120	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180
Weighing chamber height	mm	209	209	209	209	–	–	–	–	–	–
Net weight, approx.	kg	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.2
Dimensions, D × W × H		mm	360 × 216 × 320				360 × 216 × 95				
		Inch	14.1 × 8.5 × 12.6				14.1 × 8.5 × 3.75				

## Verified Models with Country-specific Type Approval Certificate

### Analytical Balances Secura®

Model		224-1x <sup>1</sup>	124-1x <sup>1</sup>
Accuracy class		Ⓢ	Ⓢ
Type <sup>2</sup>		SQP-A	SQP-A
Max	g	220	120
Scale interval d	mg	0.1	0.1
Verification scale interval e	mg	1	1
Min	mg	10	10
Tare (subtractive)		<100 % of the max. weighing capacity	
Minimum sample weight as per USP, typical	g	0.12	0.12
Typical stabilization time	s	2	2
isoCAL:			
– Temperature change	K	1.5	1.5
– Time interval	h	4	4
Display result (depending on the set filter level)	s	0.2	0.2
Weighing pan size	mm	∅ 90	∅ 90
Weighing chamber height	mm	209	209
Net weight, approx.	kg	5.1	5.1
Dimensions, D × W × H	mm	360 × 216 × 320	
	Inch	14.1 × 8.5 × 12.6	

### Precision Balances Secura®

Model		613-1x <sup>1</sup>	513-1x <sup>1</sup>	313-1x <sup>1</sup>	213-1x <sup>1</sup>	6102-1x <sup>1</sup>	5102-1x <sup>1</sup>	3102-1x <sup>1</sup>	2102-1x <sup>1</sup>	1102-1x <sup>1</sup>	612-1x <sup>1</sup>	
Accuracy class		Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	
Type <sup>2</sup>		SQP-B	SQP-B	SQP-B	SQP-B	SQP-C	SQP-C	SQP-C	SQP-D	SQP-D	SQP-D	
Max	g	610	510	310	210	6100	5100	3100	2100	1100	610	
Scale interval d	mg	1	1	1	1	10	10	10	10	10	10	
Verification scale interval e	mg	10	10	10	10	100	100	100	100	100	100	
Min	mg	20	20	20	20	500	500	500	500	500	500	
Tare (subtractive)		<100% of the max. weighing capacity										
Minimum sample weight as per USP, typical	g	1.5	1.5	1.5	1.5	12	12	12	12	12	12	
Typical stabilization time	s	1	1	1	1	1	1	1	1	1	1	
isoCAL:												
– Temperature change	K	2	2	2	2	2	2	2	2	2	2	
– Time interval	h	6	6	6	6	6	6	6	6	6	6	
Display result (depending on the set filter level)	s	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	0.1   0.2	
Weighing pan size	mm	∅ 120	∅ 120	∅ 120	∅ 120	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	
Weighing chamber height	mm	209	209	209	209	–	–	–	–	–	–	
Net weight, approx.	kg	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.2	
Dimensions, D × W × H	mm	360 × 216 × 320						360 × 216 × 95				
	Inch	14.1 × 8.5 × 12.6						14.1 × 8.5 × 3.75				

<sup>1</sup> Possible terms for country-specific models:

x = CEU: Verified balances with EC Type Approval Certificate D12-09-014 (for EU except France, Italy, and Switzerland)

x = CFR: Verified balances with EC Type Approval Certificate D12-09-014 for France only

x = CIT: Verified balances with EC Type Approval Certificate D12-09-014 for Italy only

x = CCH: Verified balances with EC Type Approval Certificate D12-09-014 for Switzerland only

x = NUS: NTEP Certificate for USA

x = CN: CMC Type Approval Certificate for China

x = OJP: Balance with Type Approval Certificate for Japan

x = OBR: Balance with Type Approval Certificate for Brazil

x = OAR: Balance with Type Approval Certificate for Argentina

x = OKR: Balance with Type Approval Certificate for South Korea

x = ORU: Balance with Type Approval Certificate for Russia

x = OIN: Balance with Type Approval Certificate for India

x = OCA: Balance with Type Approval Certificate for Canada

<sup>2</sup> All models with "...CN": type "SQP"

## Optional Accessories

### Printers and Communications

Premium GLP Laboratory Printer	YDP30
– Printer paper for GLP laboratory printer	69Y03285
– Endless labels for GLP laboratory printer	69Y03286
Standard Laboratory Printer	YDP40
– Printer paper for standard laboratory printer	69Y03287
Data Cable Mini USB   USB A	YCC04-D09
Date Cable Mini USB / RS232 9-pin	YCC03-D09

### General

Battery Pack for Standard Lab Balances	YRB11Z
Draft shield for balances with a readability of 10 mg	YDS01SQP
In-use cover for balances with a readability of 0.1 mg   1 mg	6960SE01
In-use cover for balances with a readability of 10 mg	6960SE02
Dust cover for analytical balances with draft shield	6960SE03
Certificate of USP minimum weight	84CGNA

### Density Determination

Density kit for balances with a readability of 0.1 mg   1 mg	YDK03
Density kit for balances with a readability of 10 mg	YDK04

### Calibration Weights

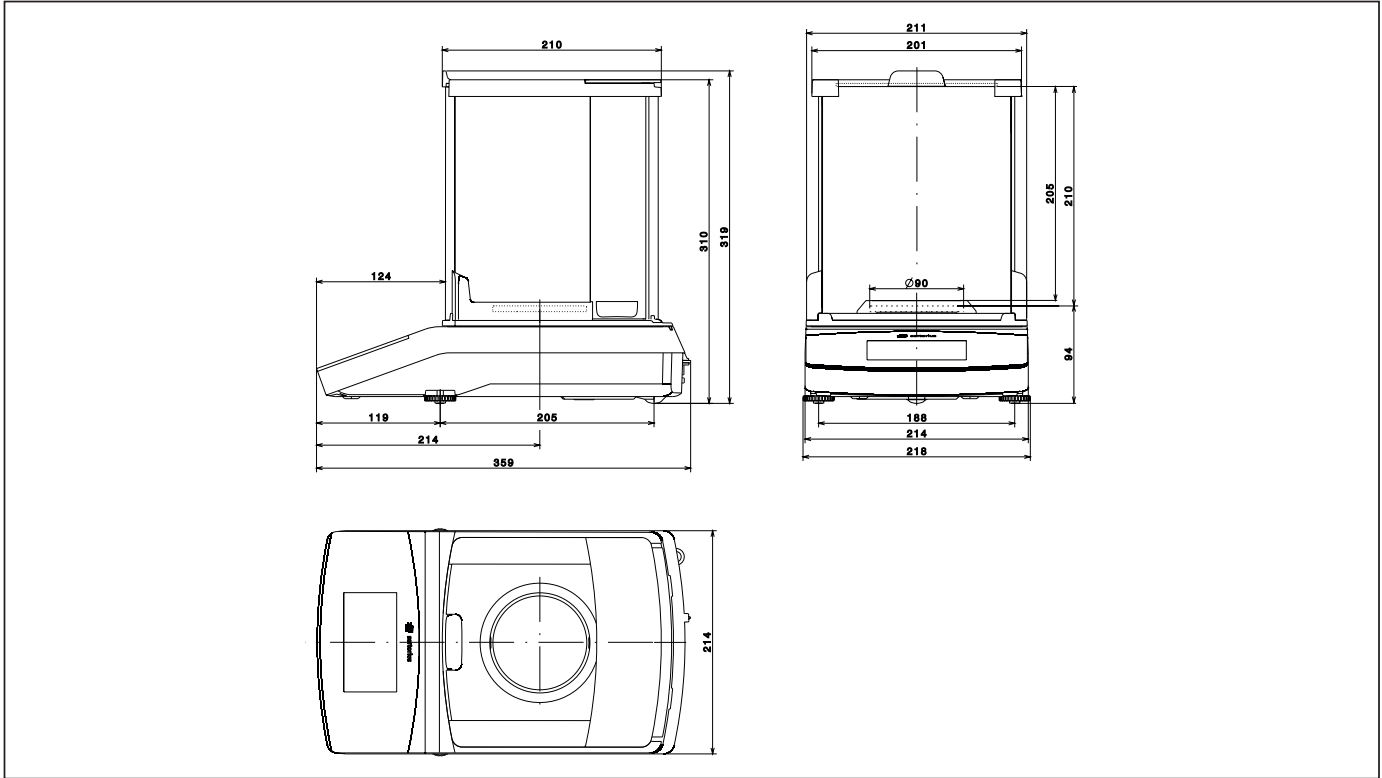
Calibration for lab balance model 224; 313; 213 – Proof Line knob weight 200 g, OIML class E2, with DAkkS certificate	YCW522-AC-02
Calibration for lab balance model 124 – Proof Line knob weight 100 g, OIML class E2, with DAkkS certificate	YCW512-AC-02
Calibration for lab balance model 613; 513; 612 – Proof Line knob weight 500 g, OIML class E2, with DAkkS certificate	YCW552-AC-02
Calibration for lab balance model 6102; 5102 – Proof Line knob weight 5 kg, OIML class E2, with DAkkS certificate	YCW652-AC-02
Calibration for lab balance model 3102; 2102 – Proof Line knob weight 2 kg, OIML class E2, with DAkkS certificate	YCW622-AC-02
Calibration for lab balance model 1102 – Proof Line knob weight 1 kg, OIML class E2, with DAkkS certificate	YCW612-AC-02



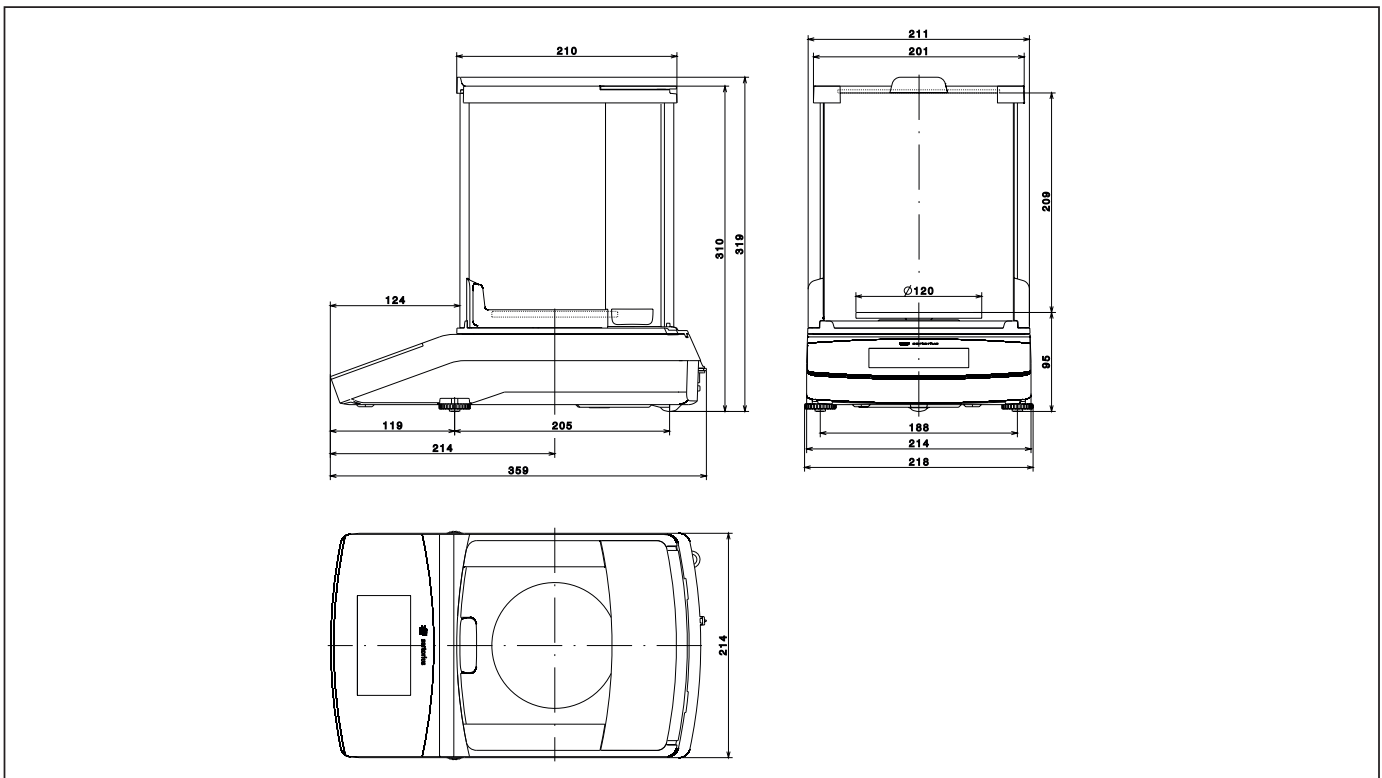
YDP30, Premium GLP Laboratory Printer

# Technical Drawings

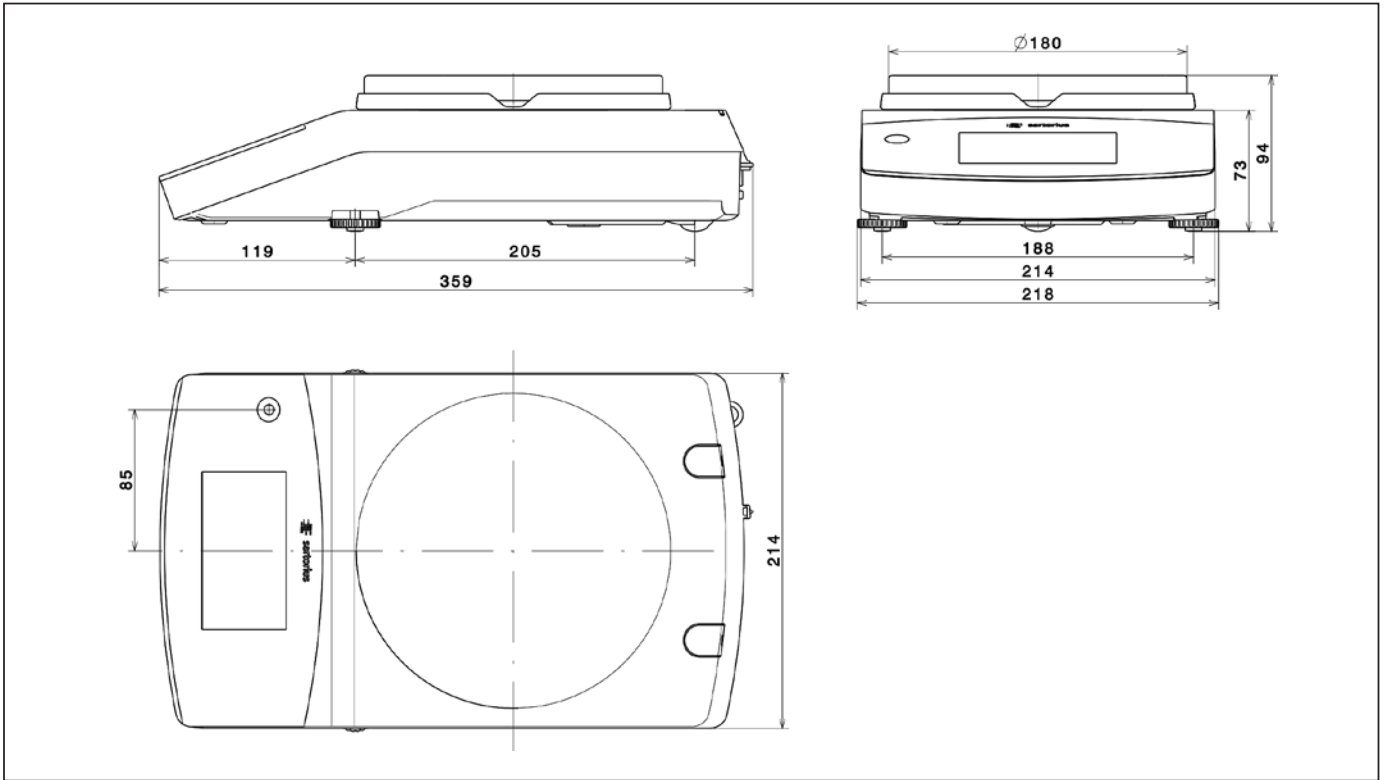
Models with a readability of 0.1 mg, in mm



Models with a readability of 1 mg, in mm



Models with a readability of  $\geq 10$  mg, in mm



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