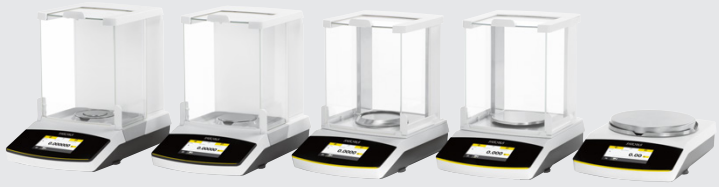
SARTORIUS

Product Datasheet



Secura®

Laboratory Balances

Benefits

- Top Performance
- Intuitive Operation
- Ergonomic Draft Shield
- Automatic Internal Adjustment
- Real-Time Level Support

Product Information

Secura® gives you the security and peace of mind of knowing that you have done everything right. Besides providing highly accurate weighing results and operating convenience, Secura® also features built-in protection systems for complete reliability and regulatory compliance – the safe and secure way.

Real-time guidance prompts for leveling, automatic internal adjustment and 100% traceable, clear documentation with sample and batch identifiers make your lab work more efficient.

First, the new operating concept of Secura® will noticeably ease your daily workload during weighing and, second. its APC function – Advanced Pharma Compliance – will relieve you from tedious and time-consuming documentation and monitoring tasks.

Technical Specifications

AC Adapter	
Sartorius AC adaptor module	YEPS01-15V0W 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 YEPS01-15V0W
Input voltage	12.0 ... 18.0 V DC
Power consumption	2.0 W (typically) 4.5 W (typically), only for 225D-1x, 125-1x and 324-1x

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
Safety of electrical equipment	in accordance with EN 61010-1	IEC 61010-1. Safety requirements for electrical equipment for mea surement, control, and laboratory use – Part 1: General requirements
Electromagnetic compatibility	in accordance with EN 61326-1	IEC 61326-1. Electrical equipment for measurement, control, and laboratory use – EMC requirements - Part 1: General requirements
Defined immunity to interference	Suitable for use in industrial areas
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.

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.

Standard Equipment	
Key Features	▪ Monitoring of compliance with the USP minimum sample weight limits – SQmin ▪ Password protection of set-up settings ▪ Fully automatic temperature- and time-controlled internal calibration and adjustment – isoCAL ▪ 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 ▪ Storage of all data of calibration procedures – Cal Audit Trail
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 [1)]	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 ▪ Automatic recognition of Sartorius printer models YDP30 or YDP40 ▪ PC-direct data transfer to Microsoft® Windows programs ▪ Programmable interval for data output ▪ Data transfer protocols SBI, xBPI, table format, text format
Display	Touch screen with Sartorius graphical user interface

Standard Equipment	
Standard built-in applications	Weighing, Density, Percentage, Checkweighing, Peak Hold, Counting, Unstable Conditions | Animal weighing
Special built-in lab applications	Mixing, Components, Statistics, Conversion
Languages	English, French, German, Hungarian, Italian, Polish, Portuguese, Russian, Spanish, Turkish, Chinese, Japanese, Korean
Protection	▪ Chemical resistant finish of the top housing ▪ Glass parts of the draft shield are coated to reduce electrostatic influences ▪ In-use cover ▪ Dust cover for balances with draft shield
Anti-theft lock	Kensington lock and lockdown capability for cable or chain



Models with internal adjustment feature

Model		26-1x [1]	225D-1x [1]	125-1x [1]	324-1x [1]	224-1x [1]	124-1x [1]
Readability | Scale interval (d)	mg	0.002	0.01 | 0.1	0.01	0.1	0.1	0.1
Maximum capacity (Max)	g	21	120 | 220	120	320	220	120
Weighing system		EMC	EMC	EMC	EMC	EMC	EMC
Repeatability							
At 5% load, typical value	± mg	0.003	0.02 | 0.07	0.02	0.08	0.08	0.08
At approx. maximum load, typical value	± mg	0.004	0.03 | 0.07	0.03	0.1	0.1	0.1
Linearity deviation							
Limits	± mg	0.01	0.1 | 0.1	0.1	0.3	0.2	0.2
Typical value	± mg	0.006	0.06	0.06	0.06	0.06	0.06
Sensitivity drift between + 10°C and +3 0°C	± ppm/K	1	1	1	1	1.5	1.5
Tare maximum capacity (subtractive)		<100% of maximum capacity					
isoCAL:							
Temperature change	K	1.5	1.5	1.5	1.5	1.5	1.5
Time interval	h	4	4	4	4	4	4
For models with approval:							
Accuracy class		I	I	I	I	I	I
Type [2]		SQP-H	SQP-F	SQP-F	SQP-G	SQP-A	SQP-A
Verification scale interval (e)	mg	1	1	1	1	1	1
Minimum load (Min)	mg	1	1	1	10	10	10
"Minimum initial weighing according to USP (United States Pharmacopeia), Chap. 41"							
Optimum minimum initial weighing	g	0.00164	0.0082	0.0082	0.082	0.082	0.082
Typical minimum initial weighing	g	0.006	0.04	0.04	0.16	0.16	0.16
Typical measurement time	s	≤ 8.0	≤ 6.0 | 2.0	≤ 6.0	≤ 2.0	≤ 2.0	≤ 2.0
Typical stabilization time	s	≤ 6.0	≤ 4.0 | 1.5	≤ 4.0	≤ 1.5	≤ 1.5	≤ 1.5
Recommended calibration weight							
External calibrated test weight	g	20	100	100	200	200	100
Accuracy class in accordance with OIML R 111-1		E2	E2	E2	E2	E2	E2
Weighing pan size	mm	Ø 50	Ø 80	Ø 80	Ø 90	Ø 90	Ø 90
Weighing chamber height*	mm	218	218	218	218	209	209
Net weight, approx.	kg	8.80	8.80	8.80	8.90	5.70	5.70
Gross weight, approx.	kg	10.90	10.90	10.90	11.00	7.40	7.40
IP protection class		IP43	IP43	IP43	IP43	-	-

Model		1103-1x [1]	613-1x [1]	513-1x [1]	313-1x [1]	213-1x [1]	6102-1x [1]
Readability | Scale interval (d)	mg	1	1	1	1	1	10
Maximum capacity (Max)	g	1,100	610	510	310	210	6,100
Weighing system		EMC	EMC	EMC	EMC	EMC	EMC
Repeatability							
At 5% load, typical value	± mg	0.5	0.5	0.5	0.5	0.5	5
At approx. maximum load, typical value	± mg	1	1	1	1	1	10
Linearity deviation							
Limits	± mg	2	2	2	2	2	20
Typical value	± mg	0.6	0.6	0.6	0.6	0.6	6
Sensitivity drift between + 10°C and +3 0°C	± ppm/K	1.5	2	2	2	2	2
Tare maximum capacity (subtractive)		<100% of maximum capacity					
isoCAL:							
Temperature change	K	1.5	2	2	2	2	2
Time interval	h	4	6	6	6	6	6
For models with approval:							
Accuracy class		I	II	II	II	II	II
Type [2]		SQP-I	SQP-B	SQP-B	SQP-B	SQP-B	SQP-C
Verification scale interval (e)	mg	10	10	10	10	10	100
Minimum load (Min)	mg	100	20	20	20	20	500
"Minimum initial weighing according to USP (United States Pharmacopeia), Chap. 41"							
Optimum minimum initial weighing	g	0.82	0.82	0.82	0.82	0.82	8.2
Typical minimum initial weighing	g	1	1	1	1	1	10
Typical measurement time	s	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.0
Typical stabilization time	s	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 0.9
Recommended calibration weight							
External calibrated test weight	g	1,000	500	500	200	200	5,000
Accuracy class in accordance with OIML R111-1		E2	F1	F1	F1	F1	F1
Weighing pan size	mm	Ø 120	Ø 120	Ø 120	Ø 120	Ø 120	Ø 180
Weighing chamber height*	mm	209	209	209	209	209	-
Net weight, approx.	kg	5.70	5.70	5.70	5.70	5.70	5.90
Gross weight, approx.	kg	7.40	7.40	7.40	7.40	7.40	6.70
IP protection class		-	-	-	-	-	-

Model		5102-1x [1]	3102-1x [1]	2102-1x [1]	1102-1x [1]	612-1x [1]	6101-1x [1]	3101-1x
Readability | Scale interval (d)	mg	10	10	10	10	10	100	100
Maximum capacity (Max)	g	5,100	3,100	2,100	1,100	610	6,100	3,100
Weighing system		EMC	EMC	EMC	EMC	EMC	EMC	EMC
Repeatability								
At 5% load, typical value	± mg	5	5	5	5	5	50	50
At approx. maximum load, typical value	± mg	10	10	10	10	10	50	50
Linearity deviation								
Limits	± mg	20	20	20	20	20	100	100
Typical value	± mg	6	6	6	6	6	60	60
Sensitivity drift between + 10°C and +3 0°C	± ppm/K	2	2	2	2	2	2	2
Tare maximum capacity (subtractive)								
isoCAL:								
Temperature change	K	2	2	2	2	2	2	2
Time interval	h	6	6	6	6	6	6	6
For models with approval:								
Accuracy class		II	II	II	II	II	II	II
Type [2]		SQP-C	SQP-C	SQP-C	SQP-C	SQP-C	SQP-C	SQP-C
Verification scale interval (e)	mg	100	100	100	100	100	100	100
Minimum load (Min)	mg	500	500	500	500	500	5,000	5,000
"Minimum initial weighing according to USP (United States Pharmacopeia), Chap. 41"								
Optimum minimum initial weighing	g	8.2	8.2	8.2	8.2	8.2	82	82
Typical minimum initial weighing	g	10	10	10	10	10	100	100
Typical measurement time	s	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Typical stabilization time	s	≤ 0.9	≤ 0.9	≤ 0.9	≤ 0.9	≤ 0.9	≤ 0.9	≤ 0.9
Recommended calibration weight								
External calibrated test weight	g	5,000	2,000	2,000	1,000	500	5,000	2,000
Accuracy class in accordance with OIML R111-1		F1	F1	F1	F1	F2	F2	F2
Weighing pan size	mm	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180
Weighing chamber height*	mm	-	-	-	-	-	-	–
Net weight, approx.	kg	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Gross weight, approx.	kg	6.70	6.70	6.70	6.70	6.70	6.70	6.70
IP protection class		-	-	-	-	-	-	–

* upper edge of the weighing pan to the lower edge of the upper draft shield panel
[1] Country-specific marking in model, x =
x = S: Standard balances without country-specific additions
x = SAR: Standard balances with country-specific additions for Argentina
x = SJP: Standard balances with country-specific additions for Japan
x = SKR: Standard balances with country-specific additions for South Korea
x = CN: Balances with approval for China
x = CCH: Conformity-assessed balances with EU type examination certificate only for Switzerland
x = CEU: Conformity-assessed balances with EU type examination certificate without country-specific additions
x = CFR: Conformity-assessed balances with EU type examination certificate only for France
x = CIT: Conformity-assessed balances with EU type examination certificate only for Italy
x = NUS: Balances with approval for Canada and USA
x = OBR: Balances with approval for Brazil
x = OIN: Balances with approval for India
x = OJP: Balances with approval for Japan
x = ORU: Balances with approval for Russia

[2] All models with x = CN: type “SQP”



Optional Accessories

Printers and Communications	
Premium GLP Laboratory Printer ▪ Printer paper for GLP laboratory printer ▪ Endless labels for GLP laboratory printer	YDP30 69Y03285 69Y03286
Standard Laboratory Printer ▪ Printer paper for standard laboratory printer	YDP40 69Y03287
Data communication cable, USB	USB A	YCC04-D09
Data communication cable, mini USB	RS232, 9-pin	YCC03-D09
Data communication cable, mini USB	RS232, 25-pin	YCC03-D25

General	
Battery Pack for Standard Lab Balances	YRB11Z
Draft shield for balances with a readability of 10 mg	YDS01SQP
Round glass draft shield for balances with a readability of 1 mg	YDS02SQP
Glass draft shield for balances with a readability of 0.002 mg, for increasing the weighing performance	YHK01SQP
In-use cover for balances with a readability of 0.01 mg	0.002 mg	6960SE05
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 balances with a readability of 0.1 mg	1 mg	6960SE03
Dust cover for balances with a readability of 0.01 mg	0.002 mg	6960SE04
Certificate of USP minimum weight	84CGNA

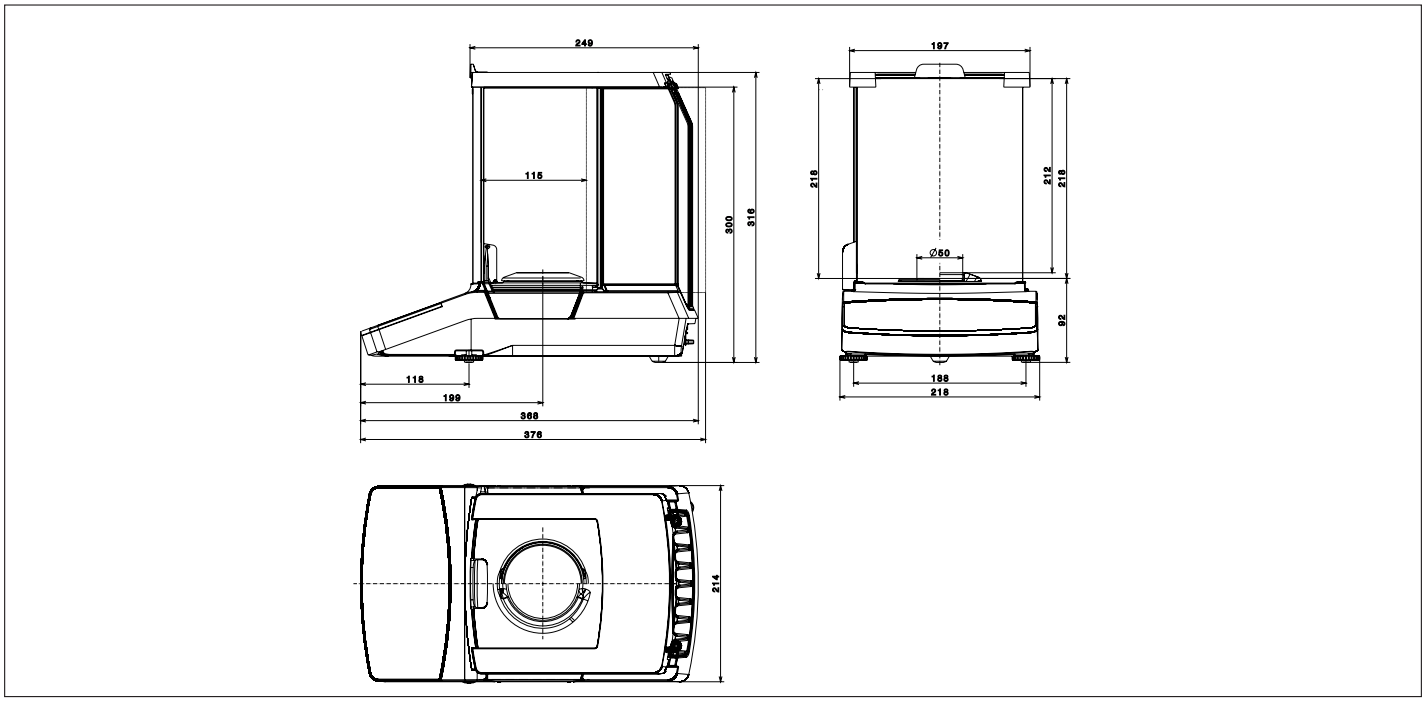
Weighing Pans (for balances design 1)	
Weighing pan, diameter 80 mm, slotted, for increasing the weighing performance	YSP01SQP
Weighing pan, diameter 90 mm; includes conversion kit	YWP01SQP
Filter weighing pan, diameter 130 mm	YFW01SQP
Stainless steel weighing pan set, diameter 50 mm, for balances with a readability of 0.002 mg	VF4589

Density Determination	
Density kit for balances with a readability of 0.01 mg	VF4601
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 weight for lab balance model 26 ▪ Proof Line knob weight 20 g, OIML class E2, with DAkkS certificate	YCW422-AC-02
Calibration weight for lab balance model 225D; 125; 124 ▪ Proof Line knob weight 100 g, OIML class E2, with DAkkS certificate	YCW512-AC-02
Calibration weight for lab balance model 324; 224 ▪ Proof Line knob weight 200 g, OIML class E2, with DAkkS certificate	YCW522-AC-02
Calibration weight for lab balance model 1103 ▪ Proof Line knob weight 1 kg, OIML class E2, with DAkkS certificate	YCW612-AC-02
Calibration weight for lab balance model 613; 513 ▪ Proof Line knob weight 500 g, OIML class F1, with DAkkS certificate	YCW553-AC-02
Calibration weight for lab balance model 313; 213 ▪ Proof Line knob weight 200 g, OIML class F1, with DAkkS certificate	YCW523-AC-02
Calibration weight for lab balance model 6102; 5102 ▪ Proof Line knob weight 5 kg, OIML class F1, with DAkkS certificate	YCW653-AC-02
Calibration weight for lab balance model 3102; 2102 ▪ Proof Line knob weight 2 kg, OIML class F1, with DAkkS certificate	YCW623-AC-02
Calibration weight for lab balance model 1102 ▪ Proof Line knob weight 1 kg, OIML class F1, with DAkkS certificate	YCW613-AC-02
Calibration weight for lab balance model 612 ▪ Proof Line knob weight 500 g, OIML class F2, with DAkkS certificate	YCW554-AC-02
Calibration weight for lab balance model 6101 ▪ Proof Line knob weight 5 kg, OIML class F2, with DAkkS certificate	YCW654-AC-02
Calibration weight for lab balance model 3101 ▪ Proof Line knob weight 2 kg, OIML class F2, with DAkkS certificate	YCW624-AC-02

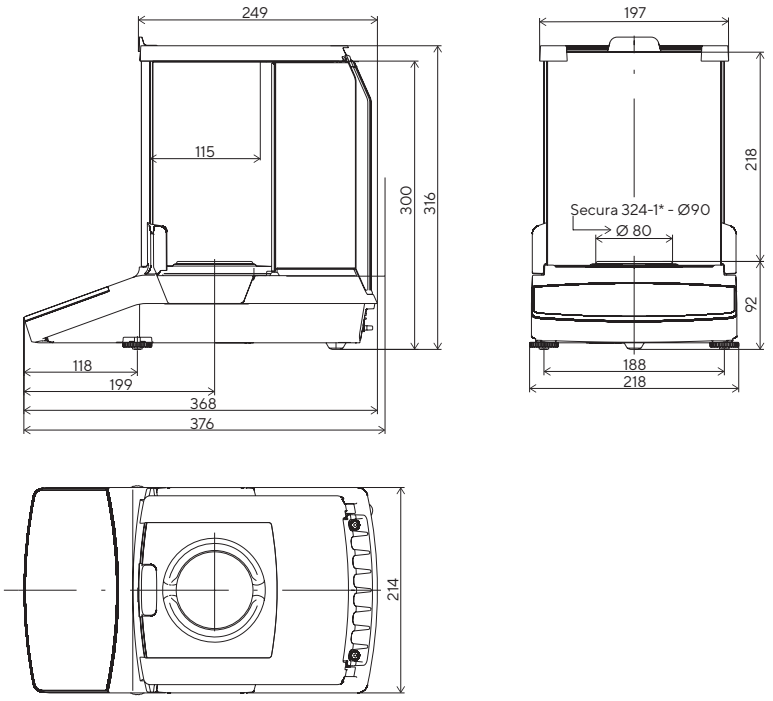
Technical Drawings

Models with a readability of 0.002 mg, in mm

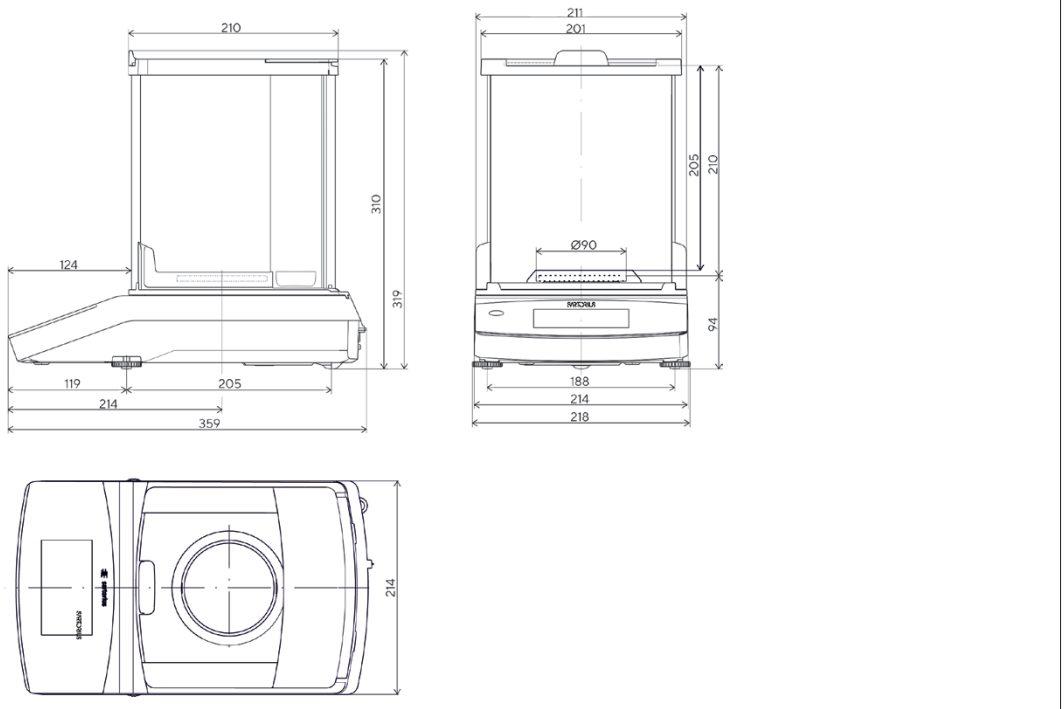


Technical Drawings

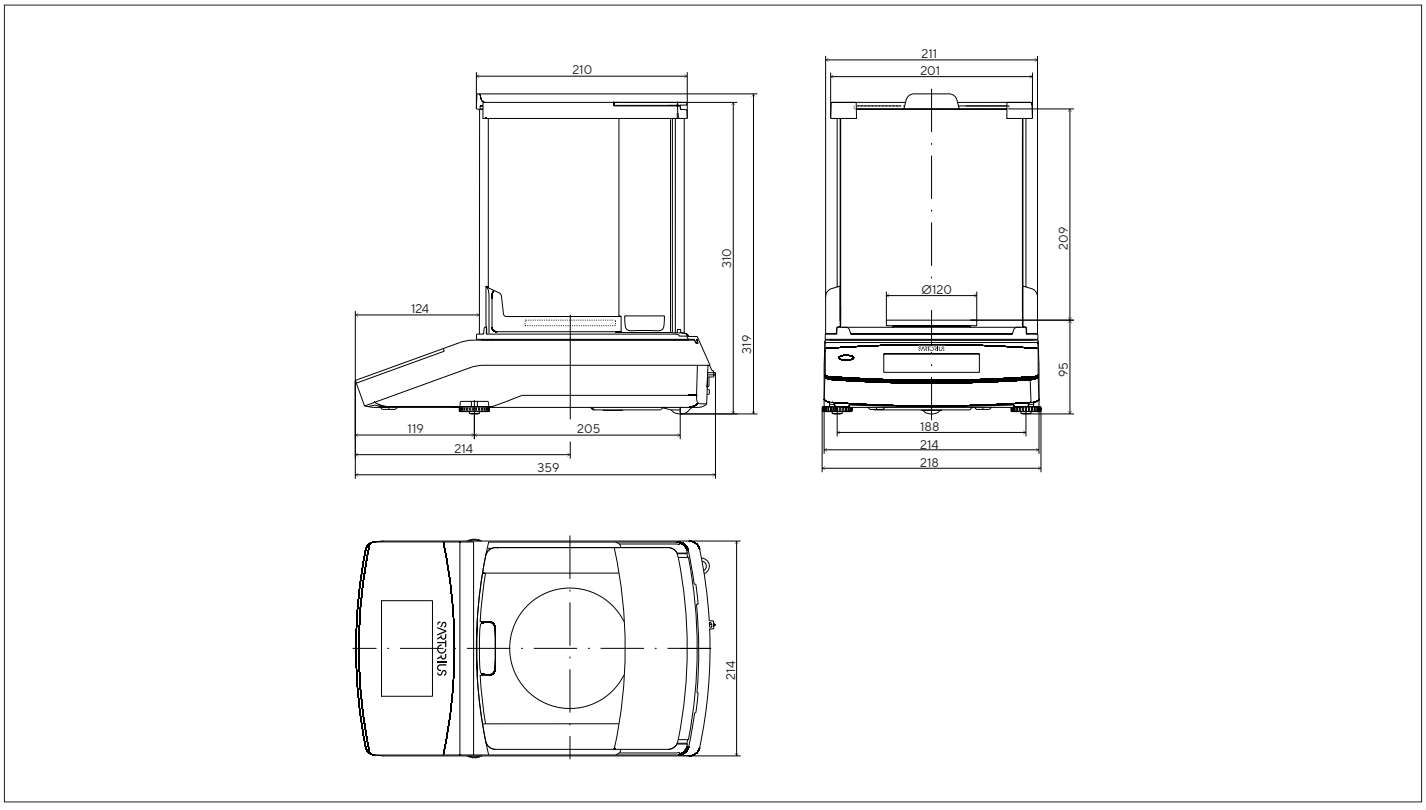
Models with a readability of 0.01 mg and 324-1x, in mm



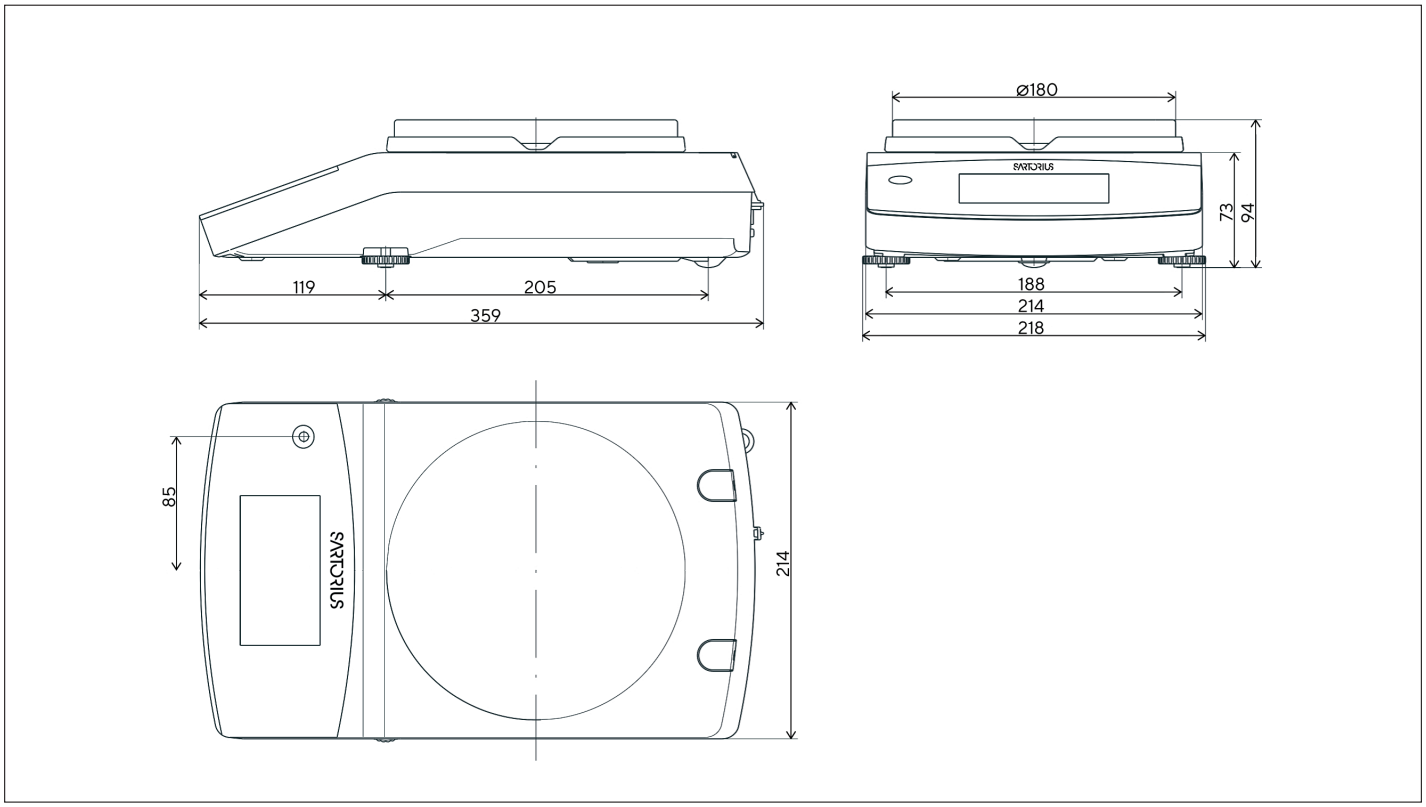
Models with a readability of 0.1 mg (except 324-1x), in mm



Models with a readability of 1 mg, in mm



Models with a readability of ≥ 10 mg, in mm



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Secura-Datasheet-en-L-Sartorius Status: 09 | 2025