Practum®

Benefits

- Unmatched reliability with the world-class weighing instrument
- Overload protection for years of reliability
- Supervisor Lock
- Fast and easy data transfer

Product Information

Get best value for your money, without compromises in precision and reliability. Rely on consistent readings and excellent repeatability ensured by Sartorius quality and technology developed and designed in Germany.

Technical Specifications

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 3,000 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 measurement, 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.

Verified balances in accordance with EU requirements comply with the requirements of Council Directive 2009/23/EC with EN 45501:1992 and OIML R76:2006.

* For verified balances in accordance with EU requirements, refer to the information on the balance.
** For verified balances in accordance with EU requirements, the legal regulations apply.

Standard Equipment	
Levelling	Glass level indicator with air bubble for centering
Calibration	External calibration
Selectable weight units	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 YDP40 – Direct data transfer to Microsoft® Windows programs – Programmable interval for data output – Data transfer protocols SBI, table format, text format
Display	Touch screen with Sartorius graphical user interface
Standard built-in applications	Weighing, Density, Percentage, Checkweighing, Peak Hold, Counting, Unstable Conditions (Animal Weighing)
Languages	English, French, German, Hungarian, Italian, Polish, Portuguese, Russian, Spanish, Turkish, Chinese, Japanese, Korean
Protection	– Rugged, easy-to-clean housing – In-use cover – Dust cover for analytical balances
Password protection	Supervisor lock for protection against unintentional changes
Anti-theft lock	Kensington lock and lockdown capability for cable or chain
Underfloor weighing	Integrated

Design 1

Design 2

Design 3

Standard Models

Model		224-1x[1)]	124-1x[1)]	64-1x[1)]	513-1x[1)]	313-1x[1)]	213-1x[1)]
Design		1	1	1	2	2	2
Weighing capacity	g	220	120	60	510	310	210
Readability	mg	0.1	0.1	0.1	1	1	1
Repeatability (standard deviation)	mg	0.1	0.1	0.1	1	1	1
Linearity deviation	mg	0.2	0.2	0.2	2	2	2
Sensitivity drift between +10 °C and +30 °C	± ppm/K	2	2	2	3	3	3
Typical stabilization time	s	2	2	2	1	1	1
Weighing pan size	mm	∅ 90	∅ 90	∅ 90	∅ 120	∅ 120	∅ 120
Weighing chamber height*	mm	209	209	209	209	209	209
Net weight, approx.	kg	4.5	4.5	4.5	4.9	4.9	4.9
Dimensions, D × W × H	mm Inch	360 × 216 × 320 14.1 × 8.5 × 12.6					

Model		3102-1x[1)]	2102-1x[1)]	1102-1x[1)]	612-1x[1)]	412-1x[1)]	6101-1x[1)]	5101-1x[1)]	2101-1x[1)]	6100-1x[1)]	5100-1x[1)]
Design		3	3	3	3	3	3	3	3	3	3
Weighing capacity	g	3,100	2,100	1,100	610	410	6,100	5,100	2,100	6,100	5,100
Readability	mg	10	10	10	10	10	100	100	100	1,000	1,000
Repeatability (standard deviation)	mg	10	10	10	10	10	100	100	100	500	500
Linearity deviation	mg	30	30	30	30	30	300	300	300	1,000	1,000
Sensitivity drift between +10 °C and +30 °C	± ppm/K	4	4	4	4	4	8	8	8	8	8
Typical stabilization time	s	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1	1
Weighing pan size	mm	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180
Net weight, approx.	kg	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Dimensions, D × W × H	mm Inch	360 × 216 × 95 14.1 × 8.5 × 3.75									

* Upper edge of the weighing pan to the lower edge of the upper draft shield panel

[1)] Possible terms for country-specific models:
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

Verified Models with Country-specific Type Approval Certificate

Model		224-1x[2)]	124-1x[2)]	64-1x[2)]	513-1x[2)]	313-1x[2)]	213-1x[2)]
Design		1	1	1	2	2	2
Accuracy class		Ⓘ	Ⓘ	Ⓘ	Ⓘⅈ	Ⓘⅈ	Ⓘⅈ
Type[3)]		SQP-A	SQP-A	SQP-A	SQP-B	SQP-B	SQP-B
Max	g	220	120	60	510	310	210
Scale interval d	mg	0.1	0.1	0.1	1	1	1
Verification scale interval e	mg	1	1	1	10	10	10
Min	mg	10	10	10	20	20	20
Min (only for Models ...-1OIN)	mg	100	100	100	200	200	200
Tare equalization range (subtractive)		< 100% from max. weighing capacity					
Typical stabilization time	s	2	2	2	1	1	1
Weighing pan size	mm	∅ 90	∅ 90	∅ 90	∅ 120	∅ 120	∅ 120
Weighing chamber height*	mm	209	209	209	209	209	209
Net weight, approx.	kg	4.5	4.5	4.5	4.9	4.9	4.9
Dimensions, D × W × H	mm Inch	360 × 216 × 320 14.1 × 8.5 × 12.6					

Model		3102-1x[2)]	2102-1x[2)]	1102-1x[2)]	612-1x[2)]	6101-1x[2)]	5101-1x[2)]	6100-1x[2)]	5100-1x[2)]
Design		3	3	3	3	3	3	3	3
Accuracy class		Ⓘⅈ	Ⓘⅈ	Ⓘⅈ	Ⓘⅈ	Ⓘⅈ	Ⓘⅈ	Ⓘⅈ	Ⓘⅈ
Type[3)]		SQP-C	SQP-C	SQP-C	SQP-C	SQP-E	SQP-E	SQP-E	SQP-E
Max	g	3,100	2,100	1,100	610	6,100	5,100	6,100	5,100
Scale interval d	mg	10	10	10	10	100	100	1,000	1,000
Verification scale interval e	mg	100	100	100	100	1,000	1,000	1,000	1,000
Min	g	0.5	0.5	0.5	0.5	5	5	50	50
Min (only for Models ...-1OIN)	g	5	5	5	5	50	50	50	50
Tare equalization range (subtractive)		< 100% from max. weighing capacity							
Typical stabilization time	s	1.5	1.5	1.5	1.5	1.5	1.5	1	1
Weighing pan size	mm	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180	∅ 180
Net weight, approx.	kg	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Dimensions, D × W × H	mm Inch	360 × 216 × 95 14.1 × 8.5 × 3.75							

* Upper edge of the weighing pan to the lower edge of the upper draft shield panel

[2)] Possible terms for country-specific models:
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 = ORU: Balance with Type Approval Certificate for Russia
x = OIN: Balance with Type Approval Certificate for India
x = OAU: Balance with Type Approval Certificate for Australia

[3)] All models with "...CN": type "SQP"

Optional Accessories

Printers and Communications	
Standard Laboratory Printer – Printer paper for standard laboratory printer	YDP40 69Y03287
Data Cable Mini USB | USB A	YCC04-D09
Date Cable Mini USB | RS232 9-pin	YCC03-D09
Date Cable Mini USB | RS232 25-pin	YCC03-D25

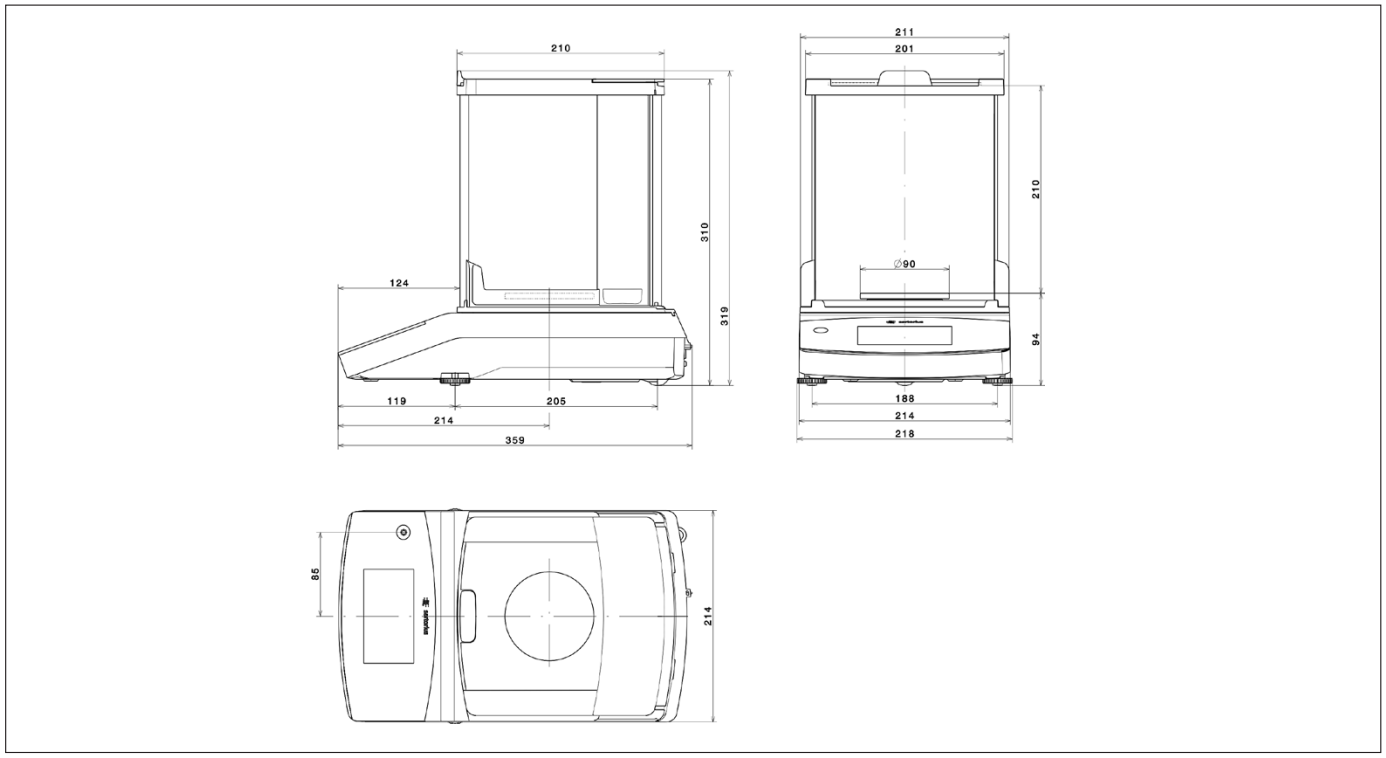
General	
Battery Pack for Standard Lab Balances	YRB11Z
Draft shield for balances with a readability of 0.01 g | 0.1 g | 1 g	YDS01SQP
Draft shield for balances with a readability of 1 mg	YDS02SQP
In-use cover for balances with a readability of 0.1 mg and 1 mg	6960SE01
In-use cover for balances with a readability of 0.01 g | 0.1 g | 1g	6960SE02
Dust cover for balances with a readability of 0.1 mg | 1 mg	6960SE03

Density Determination	
Density kit for balances with a readability of 0.1 mg | 1 mg	YDK03
Density kit for balances with a readability of 0.01 g | 0.1 g | 1g	YDK04

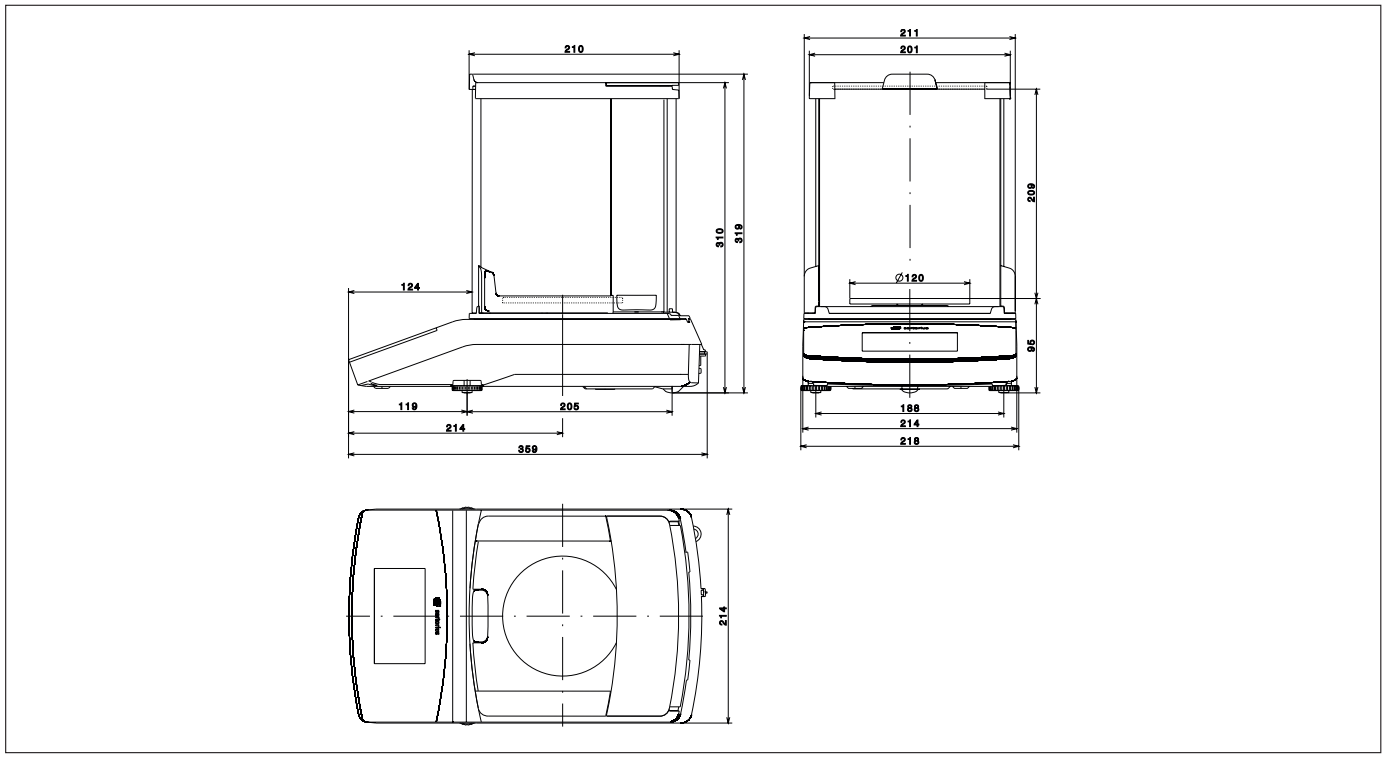
Calibration Weights	
Calibration Weight for lab balance model 224; 313; 213 – Proof Line knob weight 200 g, OIML class E2, with DAkkS certificate	YCW522-AC-02
Calibration Weight for lab balance model 124 – Proof Line knob weight 100 g, OIML class E2, with DAkkS certificate	YCW512-AC-02
Calibration Weight for lab balance model 64 – Proof Line knob weight 50 g, OIML class E2, with DAkkS certificate	YCW452-AC-02
Calibration Weight for lab balance model 513 – Proof Line knob weight 500 g, OIML class E2, with DAkkS certificate	YCW552-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 F1, with DAkkS certificate	YCW553-AC-02
Calibration Weight for lab balance model 412 – Proof Line knob weight 200 g, OIML class F1, with DAkkS certificate	YCW523-AC-02
Calibration Weight for lab balance model 6101; 5101; 6100; 5100 – Proof Line knob weight 5 kg, OIML class F2, with DAkkS certificate	YCW654-AC-02
Calibration Weight for lab balance model 2101 – Proof Line knob weight 2 kg, OIML class F2, with DAkkS certificate	YCW624-AC-02

Technical Drawings

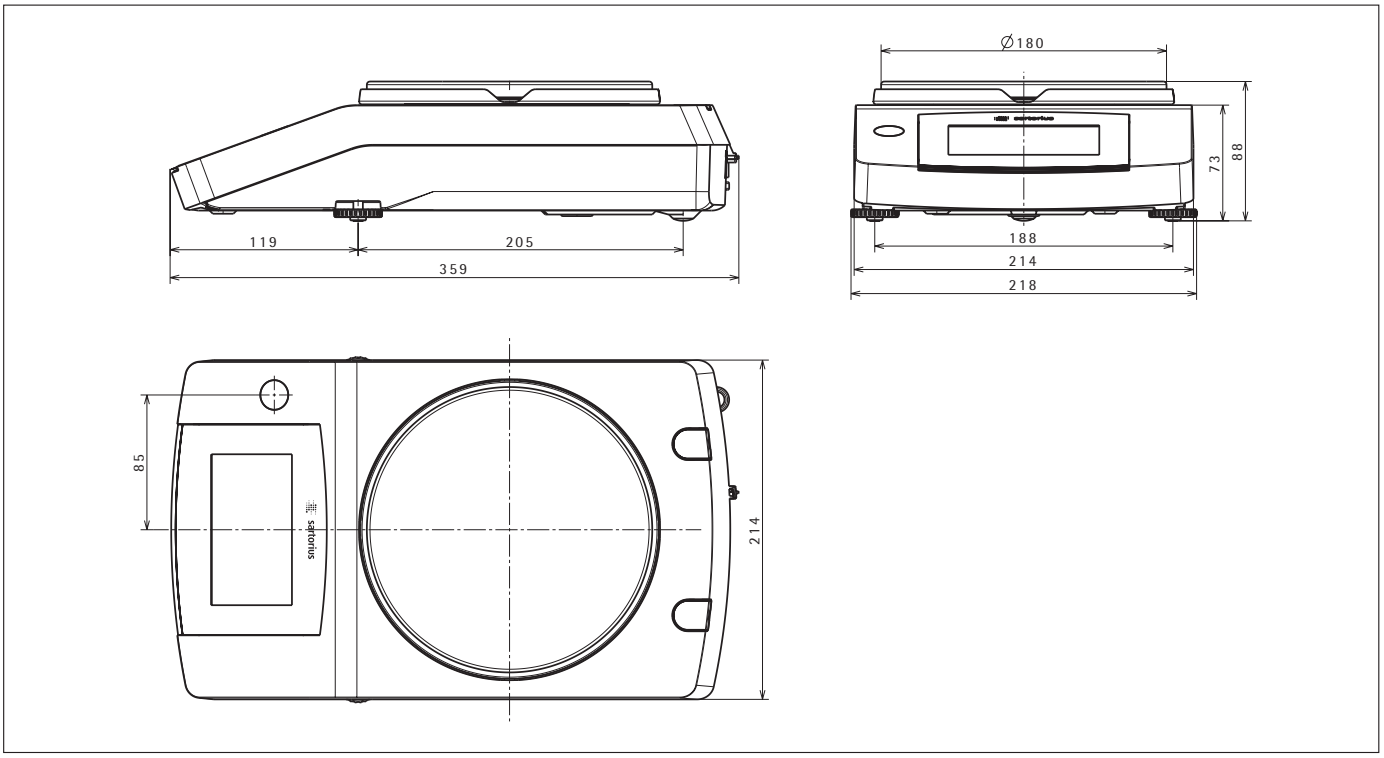
Models with a readability of 0.1 mg,
in mm



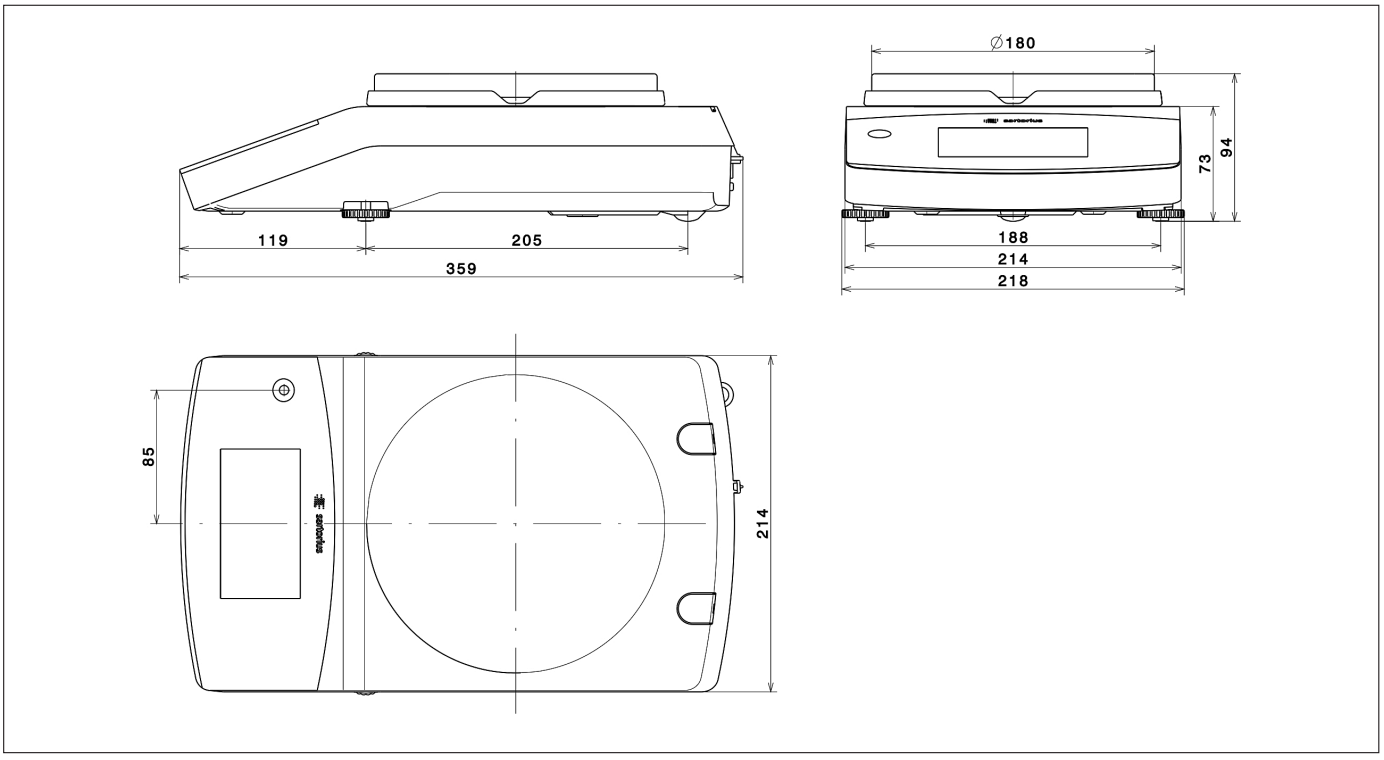
Models with a readability of 1 mg,
in mm



Models with a readability of ≥ 10 mg (exclude 3102),
in mm



Models with a readability of 10 mg and a capacity of ≥ 3,100 g,
in mm



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