

The New GL- | GCL-Series

The Highest Precision
“Made in Germany”



Benefits

- Quality and Technology “Made in Germany”
- Overload protection ensures years of reliability
- Integrated Application Programs
- Hybrid display (LED and touch technology)

Technical Specifications

General Technical Data

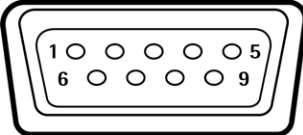
Ambient Conditions		Value
Installation site	For indoor use only, max. height above sea level:	3000 m
Temperature	Environment (metrological data)*: Environment: Storage and transport:	+10 - +30 °C +5 - +40 °C -10 - +60 °C
Relative humidity**	At temperatures up to 31 °C, non-condensing, then linear decrease from max. 80% at 31 °C to max. 50% at 40 °C:	15 - 80%
No heat from heating systems or direct sunlight		
No electromagnetic fields		
Power Supply Device		Value
Input voltage:		15 V _{DC} (±10%)
Power consumption, max:		4 W
Only by Sartorius power supply unit YEPS01-15V0W with interchangeable country-specific plug-in AC adaptors		
Power Supply Unit		Value
Type: Sartorius power supply unit YEPS01-15V0W		
Primary	Voltage: Frequency: Current consumption, maximum:	100 - 240 VAC (±10%) 50 - 60 Hz 0.2 A
Secondary	Voltage: Current consumption, maximum:	15 VDC (±5%) 0.53 A
Short-circuit protection:		Electronic
Protection class according to IEC 60950-1:		II
Pollution level according to IEC 61010-1:		2
Overvoltage category according to IEC 60664-1:		II
Other data: See label on the power supply unit		
Electromagnetic Compatibility		
Interference resistance: Suitable for use in industrial areas		
Transient emissions:	Class B Suitable for use in residential areas and areas that are connected to a low voltage network that also supplies residential buildings.	
Materials		
Housing:	Polybutylene terephthalate (PBT)	
Control module:	Glass	
Draft shield:	Glass polybutylene terephthalate (PBT)	
Weighing pan:	Stainless steel	
Warm-up Time		Value
Device, approx:		2 h

* For conformity-assessed (verified) balances in accordance with EU requirements, refer to the information on the balance.

** For conformity-assessed (verified) balances in accordance with EU requirements, the legal regulations apply.

Interfaces

Specifications of the RS232 Interface

Type of interface:	Serial interface										
Interface operation:	Full duplex										
Level:	RS232										
Connection:	D-sub connector, 9-pin										
Maximum cable length:	10 m										
Pin assignment:	 <table><tr><td>Pin 1: Not assigned</td><td>Pin 6: Not assigned</td></tr><tr><td>Pin 2: Data output (TxD)</td><td>Pin 7: Clear to Send (CTS)</td></tr><tr><td>Pin 3: Data input (RxD)</td><td>Pin 8: Request to Send (RTS)</td></tr><tr><td>Pin 4: Not assigned</td><td>Pin 9: Universal key</td></tr><tr><td>Pin 5: Internal ground</td><td></td></tr></table>	Pin 1: Not assigned	Pin 6: Not assigned	Pin 2: Data output (TxD)	Pin 7: Clear to Send (CTS)	Pin 3: Data input (RxD)	Pin 8: Request to Send (RTS)	Pin 4: Not assigned	Pin 9: Universal key	Pin 5: Internal ground	
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Pin 4: Not assigned	Pin 9: Universal key										
Pin 5: Internal ground											

Specifications for the USB-C Interface

Communication	USB UTL
Connectable devices	Sartorius printers, Sartorius second display or PC

Calibration

Internal calibration isoCAL (models with marking i-1x)

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

Display

Intuitive, wear resistant LED screen with touch technology

Built-in Applications

- Weighing | Dosing
 - Counting
 - Percentage weighing
 - Animal weighing
 - Density determination
 - Underfloor weighing feature for bigger samples
 - Mass unit conversion
-

Languages

English, German, French, Italian, Spanish, Portuguese, Russian, Polish

Protection

- Chemical resistant housing parts
 - Display foil (available as accessory)
 - Dust cover for balances with draft shield
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Anti-theft Lock

Kensington lock and lockdown capability for cable or chain

* The availability of units depends on national legislation and is therefore country-specific.

GL-Series

Standard Models

Model	Unit	GL523-2x ¹⁾	GL323-2x ¹⁾	GL5202-2x ¹⁾	GL4202-2x ¹⁾	GL2202-2x ¹⁾	GL822-2x ¹⁾	GL8201-2x ¹⁾
Weighing system		EMC	EMC	EMC	EMC	Strain gauge	Strain gauge	Strain gauge
Readability Scale interval (d)	mg	1	1	10	10	10	10	100
Weighing range max.	g	520	320	5,200	4,200	2,200	820	8,200
Repeatability at approx. maximum load, typical value	± mg	1	1	10	10	10	10	100
Linearity deviation	± mg	2	2	20	20	20	20	300
Sensitivity drift within +10 °C ... +30 °C	±ppm/K	2	2	2	2	3,5	3,5	7
Typical stabilization time	s	≤1.5	≤1.5	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0
Weighing pan size	mm	Ø 120	Ø 120	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180
Weighing chamber height*	mm	160	160	-	-	-	-	-
Net weight, approx.	kg	4.5	4.5	4.4	4.4	4.1	4.1	3.9
Calibration		External	External	External	External	External	External	External

Modell	Einheit	GL5231-2x ¹⁾	GL3231-2x ¹⁾	GL52021-2x ¹⁾	GL42021-2x ¹⁾	GL22021-2x ¹⁾	GL8221-2x ¹⁾	GL82011-2x ¹⁾
Weighing system		EMC	EMC	EMC	EMC	EMC	EMC	EMC
Readability Scale interval (d)	mg	1	1	10	10	10	10	100
Weighing range max.	g	520	320	5,200	4,200	2,200	820	8,200
Repeatability at approx. maximum load, typical value	± mg	1	1	10	10	10	10	100
Linearity deviation	± mg	2	2	20	20	20	20	100
Sensitivity drift within +10 °C ... +30 °C	±ppm/K	2	2	2	2	2	2	2
Typical stabilization time	s	≤1.5	≤1.5	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0
Weighing pan size	mm	Ø 120	Ø 120	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180
Weighing chamber height*	mm	160	160	-	-	-	-	-
Net weight, approx.	kg	6.2	6.2	6.0	6.0	6.0	6.0	6.0
Calibration		Internal	Internal	Internal	Internal	Internal	Internal	Internal

* 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

Verified Models with Country-specific Type Approval Certificate

Model	Unit	GL523I-2x ¹⁾	GL323I-2x ¹⁾	GL5202I-2x ¹⁾	GL4202I-2x ¹⁾	GL2202I-2x ¹⁾	GL822I-2x ¹⁾	GL820II-2x ¹⁾
Weighing system		EMC	EMC	EMC	EMC	EMC	EMC	EMC
Readability Scale interval (d)	mg	1	1	10	10	10	10	100
Weighing range max.	g	520	320	5,200	4,200	2,200	820	8,200
Repeatability at approx. maximum load, typical value	± mg	1	1	10	10	10	10	100
Linearity deviation	± mg	2	2	20	20	20	20	100
Sensitivity drift within +10 °C ... +30 °C	±ppm/K	2	2	2	2	2	2	2
Accuracy class		II	II	II	II	II	II	II
Verification scale interval (e)	mg	10	10	100	100	100	100	100
Type		BC-ED	BC-ED	BC-EF	BC-EF	BC-EF	BC-EF	BC-EF
Minimum capacity, min.	mg	20	20	500	500	500	500	5,000
Typical stabilization time	s	≤1.5	≤1.5	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0
Weighing pan size	mm	Ø 120	Ø 120	Ø 180	Ø 180	Ø 180	Ø 180	Ø 180
Weighing chamber height*	mm	160	160	-	-	-	-	-
Net weight, approx.	kg	6.2	6.2	6.0	6.0	6.0	6.0	6.0
Calibration		Internal	Internal	Internal	Internal	Internal	Internal	Internal

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

¹⁾ Possible terms for country-specific models:

x = CEU: Conformity-assessed balances with EU type examination certificate without country-specific additions

GCL-Series

Standard Models

Model	Unit	GCL1103I-2x ¹⁾	GCL603I-2x ¹⁾
Weighing system		EMC	EMC
Readability Scale interval (d)	ct	0.001	0.001
Weighing range max.	ct	1,100	600
Repeatability at approx. maximum load, typical value	± ct	0.001	0.001
Linearity deviation	± ct	0.002	0.002
Sensitivity drift within +10 °C ... +30 °C	± ppm/K	1.5	1.5
Typical stabilization time	s	≤2.0	≤2.0
Weighing pan size	mm	Ø 90	Ø 90
Weighing chamber height*	mm	160	160
Net weight, approx.	kg	6.2	6.2
Calibration		Internal	Internal

* 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

Verified Models with Country-specific Type Approval Certificate

Model	Unit	GCL1103I-2x ²⁾	GCL603I-2x ²⁾
Weighing system		EMC	EMC
Readability Scale interval (d)	ct	0.001	0.001
Weighing range max.	ct	1,100	600
Repeatability at approx. maximum load, typical value	± ct	0.001	0.001
Linearity deviation	± ct	0.002	0.002
Sensitivity drift within +10 °C ... +30 °C	± ppm/K	1.5	1.5
Accuracy class		I	I
Type		BC-EB	BC-EB
Verification scale interval (e)	ct	0.01	0.01
Minimum capacity, min.	ct	0.1	0.1
Typical stabilization time	s	≤2.0	≤2.0
Weighing pan size	mm	Ø 90	Ø 90
Weighing chamber height*	mm	160	160
Net weight, approx.	kg	6.2	6.2
Calibration		Internal	Internal

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

²⁾ Possible terms for country-specific models:
x = CEU: Conformity-assessed balances with EU type examination certificate without country-specific additions

Accessories

These tables contain an excerpt of the accessories that can be ordered. For information on other products, contact Sartorius.

Balance Accessories

Item	Quantity	Order number
Display protection film (set of 5)	1	YDC10
Dust cover for balances with an analytical draft shield	1	6960BC02
Density determination set for solids and liquids for balances with a readability of 0,001 ct 1 mg	1	YDK06
“Kensington Lock” anti-theft device	1	YKL01
Pedal button foot switch	1	YFS03
Second display remote display	1	YSD01
Below-balance weighing (not for models in legal metrology)		
Hook M5	1	69EA0039
Weighing table		
Made from wood with natural stone	1	YWT09
Made from natural stone, with vibration dampening	1	YWT03
Wall console made from natural stone	1	YWT04
Weighing pans for gold balances		
1,000 mL, weight ~240 g, Ø 186 mm, h= 77 mm, stainless steel		641211
500 mL, weight ~113 g, Ø 151 mm, h= 60 mm, stainless steel		641212
350 mL, weight ~75 g, Ø 180 mm, h= 22 mm, stainless steel		YWPO4G
Weighing pans for carat balances		
85 mL, weight ~11 g, Ø 83 mm, h= 23 mm, aluminium		YWPO6G

Printer and Accessories for Data Communication

Item	Quantity	Order number
Thermal printer (USB-B)	1	YDP40
Thermal transfer printer (USB-B, RS232)	1	YDP30
Dot matrix printer (RS232)*	1	YDP20-OCE
Data cable USB-C > USB-B (>YDP30, YDP40)	1.5 m	YCC-USB-C-B
Data cable USB-C > USB-A (>PC)	1.5 m	YCC-USB-C-A
Data cable RS232 (9-pin) > USB-A (>PC)	1.5 m	YCC-D09M-USB-A
Data cable RS232 (9-pin) male > RS232 (9-pin) male (> YDP30)	1.5 m	YCC-D09MM
Data cable RS232 (9-pin) male > RS232 (9-pin) female (>YDP20-OCE, YSD01)	1.5 m	YCC-D09MF
Y-adaptor RS232 (9-pin) male > 2x RS232 (9-pin) female	0.5 m	YCC-D09M-2D09F

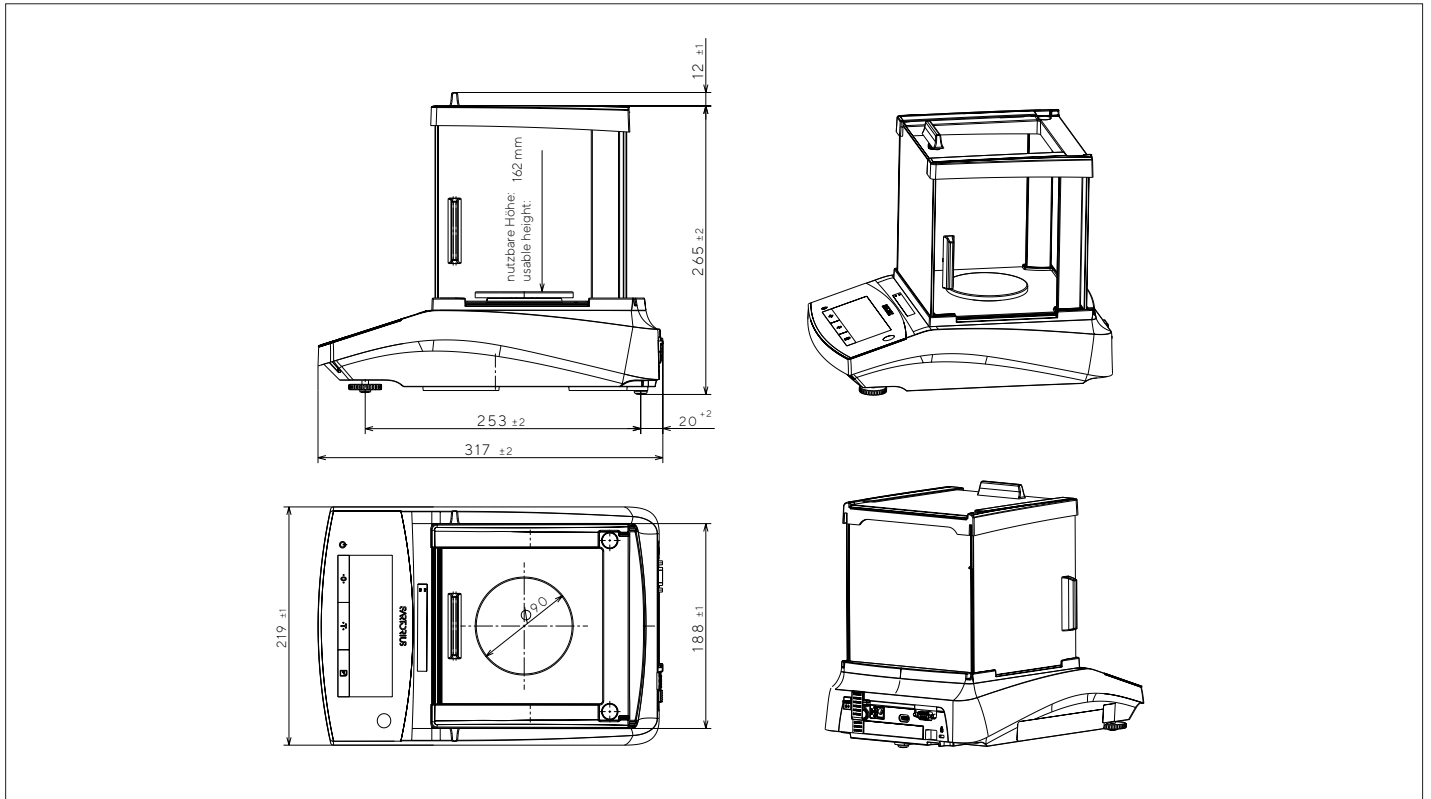
*additional power supply e.g. YEPS01-PS4 or YEPS01-PS5 is required

External Calibration and Adjustment Weights

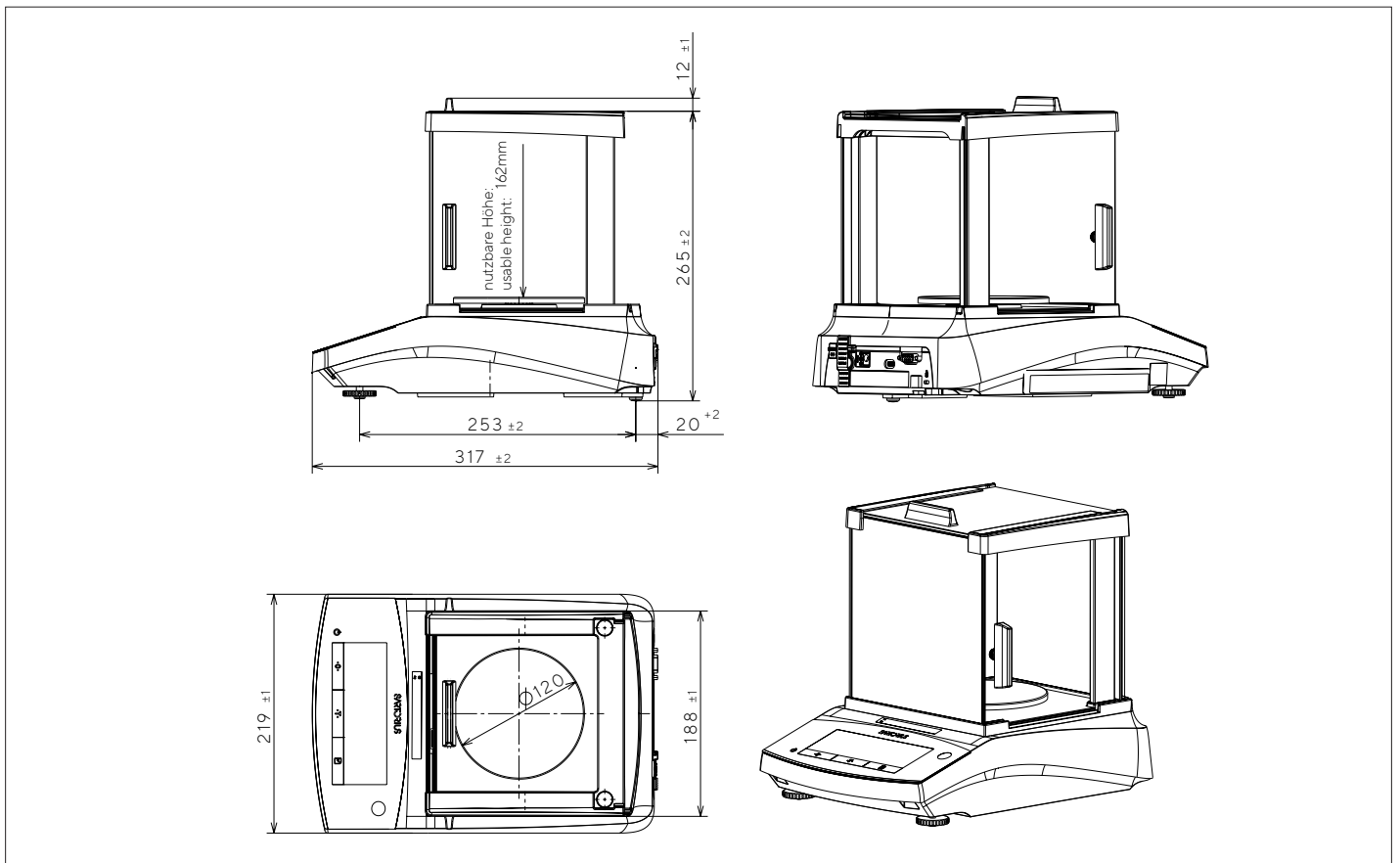
Model	Weight	Accuracy class	Order number Cylindrical weight	Order number Knob weight
GCL1103	200 g	E2	YCW5228-00	YCW522-AC-00
GCL603	100 g	E2	YCW5128-00	YCW512-AC-00
GL523	500 g	F1	YCW5538-00	YCW553-AC-00
GL323	200 g	F1	YCW5238-00	YCW523-AC-00
GL5202	5,000 g	F1	YCW6538-00	YCW653-AC-00
GL4202 GL2202	2,000 g	F1	YCW6238-00	YCW623-AC-00
GL822	500 g	F2	YCW5548-00	YCW554-AC-00
GL8201	5,000 g	F2	YCW6548-00	YCW654-AC-00

Technical Drawings

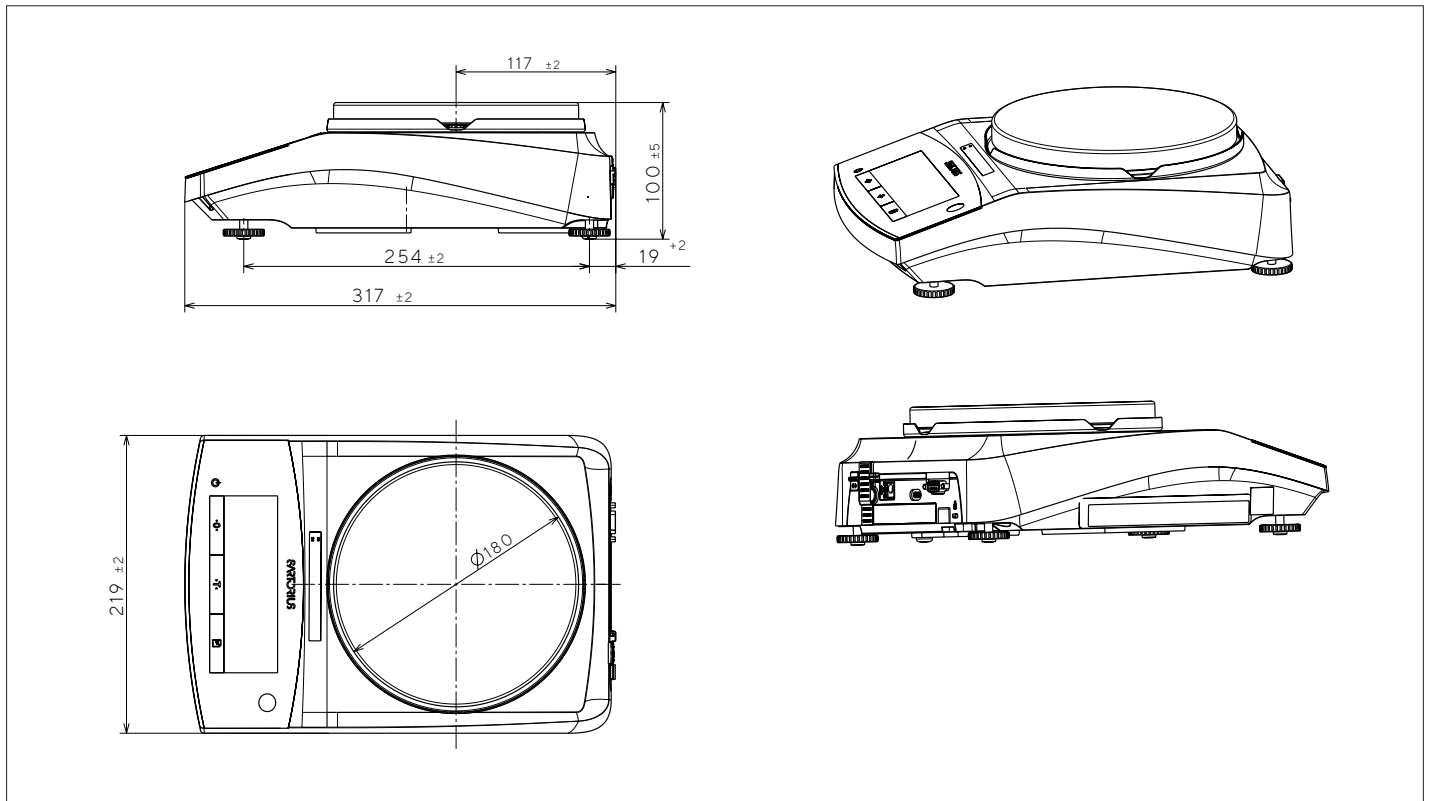
Models with a readability of 0.001 ct, all dimensions are given in millimeters



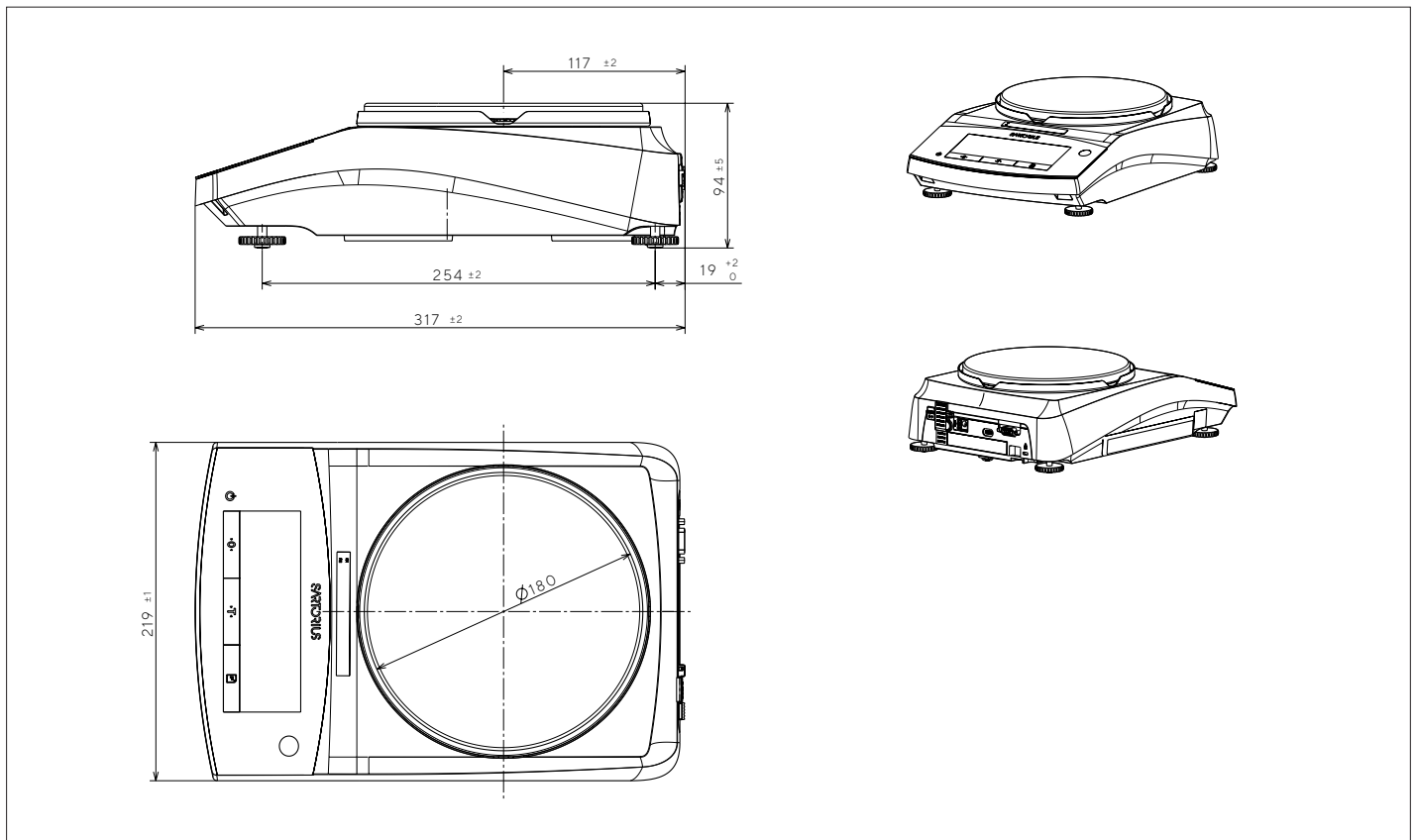
Models with a readability of 1 mg, all dimensions are given in millimeters



Models with a readability of ≥ 10 mg (EMC weighing system), all dimensions are given in millimeters



Models with a readability of ≥ 10 mg (strain gauge weighing system), all dimensions are given in millimeters




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