

# Sartorius Cubis® Series

### Advantages

- Modular design offering the widest variety of customizable versions
- Settings configurable to user-specific requirements
- Customized integration into existing applications
- Motorized leveling function\*
- The highest accuracy, even for the smallest sample quantities
- \* For all models up to a maximum capacity of 6.2 kg, except for models with a readability of 1  $\mu g$  or 0.1  $\mu g$



## **Product Description**

The Cubis® modular system, consisting of display and control units, weighing modules, draft shields and interface modules and an extensive range of accessories, enables the balance to be custom adapted to any weighing tasks. The metrological specifications and equipment features of Cubis® set it apart from other weighing instruments – far beyond the usual standards of premium laboratory balances. With a finely graduated range of weighing capacities of up to 70 kg and readabilities from 0.1 µg to 1 g, Cubis® offers the ideal choice of model for any application.

## **Technical Specifications**

General Specifications	
Power supply	100−240 V~, −15 %/+10 %, 50−60 Hz, 1.0 A
Input voltage	15 VDC, ± 5 %
Power consumption	7W (max.)
Ambient temperature	Operation +5°C to +40°C
Highest relative humidity	80% for temperatures up to 31°C, decreasing linearly to 50% relative humidity for 40°C
Safety of electrical equipment	According to EN 61010-1:2001: Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements
Electromagnetic compatibility	According to EN 61326-1:2006: Electrical equipment for measurement, control, and laboratory use – EMC requirements – Part 1: General requirements
Defined immunity to interference	Suitable for use in industrial areas







Туре	MSA	MSU	MSE		
Operation	Touch screen, keys for central basic functions	Keys	Keys		
Display	High-resolution color TFT, 5.7" graphic display	High-resolution black-and-white, 5.7" graphical display	Liquid crystal display, black-and-white		
Adaptation of the display and control unit	Tiltable display, removable display a	nd control unit	Removable display and control unit		
Standard data interfaces	<ul><li>RS-232C accessory interface, 25-p</li><li>Various data protocols available (c</li></ul>	<ul> <li>USB (integrated into weighing module)</li> <li>RS-232C accessory interface, 25-pin (integrated into weighing module)</li> <li>Various data protocols available (can also be connected to software designed for external manufacturers)</li> <li>Ethernet (integrated into display unit)</li> </ul>			
SD card reader	Integrated as standard into display a	and control unit	-		
Operation of the motorized draft shield (only for DA, DI, DM draft shields)	Activated by side keys or touch-free IR switch (optional); learning capabi	Activated by key or touch- free using IR switch (optional); learning capability			
Applications	Unit conversion, SQmin function for to USP, isoCAL automatic calibration identifiers, density determination, st formulation, weighing in percent, ti DKD measurement uncertainty, second weighing, alibi memory, audit trail	Unit conversion, isoCAL automatic calibration   adjustment function, density determination (buoyancy method only), calculations, averaging, net   total formulation, weighing in percent, counting, totalizing			

Cubis® Weighing Modules
Ultra-Micro Balances 0.0001 mg

Model		2.7\$	2.7S (with DF filter draft shield)
Readability	mg	0.0001	0.0001
Weighing capacity	g	2.1	2.1
Tare range (subtractive)	g	- 2.1	- 2.1
Repeatability	≤±mg	0.00025	0.00025
Linearity	≤±mg	0.0009	0.0009
Off-center loading (eccentricity) (test load [g])	mg	0.0025 (1)	0.0025 (1)
Optimal starting point of the operating range*	mg	0.082	-
Sensitivity drift between +10 to +30°C	±ppm/K	1	1
Typical stabilization time	S	< 7	< 7
Typical measurement time	S	< 10	< 10
External standard calibration value (min. accuracy class)	g	2 (E2)	2 (E2)
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 – 0.4
Weighing pan size $\varnothing$	mm	20	50
Weighing chamber height	mm	70	15
Protection		Protected against dust and	l water

<sup>\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

### Micro Balances 0.001 mg

Model		6.6\$	6.6S (with DF filter draft shield)	3.6P
Readability	mg	0.001	0.001	0.001   0.002   0.005
Weighing capacity	g	6.1	6.1	1.1   2.1   3.1
Tare range (subtractive)	g	- 6.1	- 6.1	- 3.1
Repeatability	≤±mg	0.001	0.001	0.003   0.004   0.005
Linearity	≤±mg	0.004	0.004	0.004
Off-center loading (eccentricity) (test load [g])	mg	0.004 (2)	0.004 (2)**	0.005 (1)
Optimal starting point of the operating range*	mg	0.82	-	0.82
Sensitivity drift between +10 to +30°C	±ppm/K	1	1	1
Typical stabilization time	S	< 5	< 5	< 5
Typical measurement time	S	< 8	< 8	< 8
External standard calibration value (min. accuracy class)	g	5 (E2)	5 (E2)	3 (E2)
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 - 0.4	0.1 – 0.4
Weighing pan size $\varnothing$	mm	30	50	30
Weighing chamber height	mm	70	15	70
Protection		Protected against dust	and water	

### Semi-Micro Balances 0.01 mg

Model		225S	225P	125P
Readability	mg	0.01	0.01   0.02   0.05	0.01   0.1
Weighing capacity	g	220	60   120   220	60   120
Tare range (subtractive)	g	- 220	- 220	- 120
Repeatability	≤±mg	060 g: 0.015 60220 g: 0.025	060 g: 0.015 60220 g: 0.04	060 g: 0.015 60120 g: 0.06
Linearity	≤±mg	0.1	0.15	0.15
Off-center loading (eccentricity) (test load [g])	mg	0.15 (100)	0.2 (100)	0.15 (50)
Optimal starting point of the operating range*	mg	8.2	8.2	8.2
Sensitivity drift between +10 to +30°C	±ppm/K	1	1	1
Typical stabilization time	S	≤ 2	≤ 2	≤ 2
Typical measurement time	S	≤ 6	≤ 6	≤ 6
External standard calibration value (min. accuracy class)	g	200 (E2)	200 (E2)	100 (E2)
Display result (depending on the set filter level)	S	0.2 - 0.4	0.2 – 0.4	0.2 – 0.4
Weighing pan size (W $\times$ D)	mm	85 × 85	85 × 85	85 × 85
Weighing chamber height (draft shield DU	J) mm	261	261	261
Protection		Protected against dust	and water	

<sup>\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

<sup>\*\* =</sup> Measured using a standard pan

### Analytical Balances 0.1 mg

Model		524S	524P	324S	324P	224S	124S
Readability	mg	0.1	0.1   0.2   0.5	0.1	0.1   0.2   0.5	0.1	0.1
Weighing capacity	g	520	120   240   520	320	80   160   320	220	120
Tare range (subtractive)	g	- 520	- 520	- 320	- 320	- 220	- 120
Repeatability	≤±mg	0.1	0.15   0.2   0.4	0.1	0.1   0.2   0.4	0.07	0.1
Linearity	≤±mg	0.4	0.5	0.3	0.5	0.2	0.2
Off-center loading (eccentricity) (test load [g])	mg	0.3 (200)	0.4 (200)	0.3 (200)	0.4 (200)	0.2 (100)	0.2 (50)
Optimal starting point of the operating range*	mg	82	82	82	82	82	82
Sensitivity drift between +10 to +30°C	±ppm/K	1	1	1	1	1	1
Typical stabilization time	S	< 1	< 1	< 1	< 1	< 1	< 1
Typical measurement time	S	< 3	< 3	< 3	< 3	< 3	< 3
External standard calibration value (min. accuracy class)	g	500	500	200+100 (E2)	200+100 (E2)	200 (E2)	100 (E2)
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 – 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4
Weighing pan size (W × D)	mm	$85 \times 85$	85 × 85	$85 \times 85$	$85 \times 85$	$85 \times 85$	$85 \times 85$
Weighing chamber height (draft shield DU)	mm	261	261	261	261	261	261
Protection		IP54 in acco	ordance with IEC	60529			

### **Precision Balances**

Model		5203S	5203P	3203S	2203S	2203P	1203S
Readability	mg	1	1   2   5	1	1	1   10	1
Weighing capacity	g	5,200	1,200   2,400   5,200	3,200	2,200	1,010   2,200	1,200
Tare range (subtractive)	g	- 5,200	- 5,200	- 3,200	- 2,200	- 2,200	- 1,200
Repeatability	≤±mg	1	1	1	1	1   6	0.7
Linearity	≤±mg	5	5	5	3	5	2
Off-center loading (eccentricity) (test load [g])	mg	2 (2,000)	2 (2,000)	2 (1,000)	2 (1,000)	3 (1,000)	2 (500)
Optimal starting point of the operating range*	g	0.82	0.82	0.82	0.82	0.82	0.82
Sensitivity drift between $+10$ to $+30^{\circ}$ C	±ppm/K	1	1	1	1	1	1.5
Typical stabilization time	S	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Typical measurement time	S	≤ 2	≤ 2	≤ 2	≤ 1.5	≤ 1.5	≤ 1.5
External standard calibration value (min. accuracy class)	g	5,000	5,000	2,000	2,000 (E2)	1,000 (E2)	1,000 (E2)
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 - 0.4	0.1 – 0.4	0.1 – 0.4	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W $\times$ D)	mm	140 × 140	140 × 140	140 × 140	140 × 140	140 × 140	140 × 140
Weighing chamber height (draft shield DE)	mm	172	172	172	172	172	172
Protection		Protected a	gainst dust and	water			

<sup>\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

### **Precision Balances**

Model		623S	623P	323\$
Readability	mg	1	1   2   5	1
Weighing capacity	g	620	150   300   620	320
Tare range (subtractive)	g	- 620	- 620	- 320
Repeatability	≤±mg	0.7	1   2   4	0.7
Linearity	≤±mg	2	5	2
Off-center loading (eccentricity) (test load [g])	mg	2 (200)	4 (200)	2 (200)
Optimal starting point of the operating range*	g	0.82	0.82	0.82
Sensitivity drift between +10 to +30°C	±ppm/K	2	2	2
Typical stabilization time	S	≤ 0.8	≤ 0.8	≤ 0.8
Typical measurement time	S	≤ 1	≤ 1	≤ 1
External standard calibration value (min. accuracy class)	g	500 (E2)	500 (F1)	200 (E2)
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 - 0.4	0.1 - 0.4
Weighing pan size (W × D)	mm	140 × 140	140 × 140	140 × 140
Weighing chamber height (draft shield DE)	mm	172	172	172
Protection		Protected agains	t dust and water	

Model		14202S	14202P	10202\$	8202S
Readability	mg	10	10   20   50	10	10
Weighing capacity	g	14,200	3,500   7,000   14,200	10,200	8,200
Tare range (subtractive)	g	- 14,200	- 14,200	- 10,200	- 8,200
Repeatability	≤±mg	10	10   20   40	7	7
Linearity	≤±mg	30	50	20	20
Off-center loading (eccentricity) (test load [g])	mg	20 (5,000)	40 (5,000)	20 (5,000)	20 (5,000)
Optimal starting point of the operating range*	g	8.2	8.2	8.2	8.2
Sensitivity drift between +10 to +30°C	±ppm/K	1.5	1.5	2	2
Typical stabilization time	S	1	1	1	1
Typical measurement time	S	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
External standard calibration value (min. accuracy class)	kg	10 (E2)	10 (E2)	10 (E2)	5 (E2)
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 – 0.4	0.1 – 0.4	0.1 - 0.4
Weighing pan size (W x D)	mm	206 × 206	206 × 206	206 × 206	206 × 206
Protection		IP54 in accordan	ce with IEC 60529		

<sup>\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

### **Precision Balances**

Model		6202S	6202P	5202S	4202S
Readability	mg	10	10   20   50	10	10
Weighing capacity	g	6,200	1,500   3,000   6,200	5,200	4,200
Tare range (subtractive)	g	- 6,200	- 6,200	- 5,200	- 4,200
Repeatability	≤±mg	7	7   20   40	6	7
Linearity	≤±mg	20	50	10	20
Off-center loading (eccentricity) (test load [g])	mg	20 (2,000)	50 (2,000)	10 (2,000)	30 (2,000)
Optimal starting point of the operating range*	g	8.2	8.2	8.2	8.2
Sensitivity drift between +10 to +30°C	±ppm/K	2	2	2	2
Typical stabilization time	S	1	1	0.8	0.8
Typical measurement time	S	≤ 1.5	≤ 1.5	≤ 1	≤ 1
External standard calibration value (min. accuracy class)	kg	5 (E2)	5 (F1)	5	2 (E2)
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 - 0.4	0.1 – 0.4	0.1 - 0.4
Weighing pan size (W x D)	mm	206 × 206	206 × 206	140 × 140	206 × 206
Protection		IP54 in accordan	ce with IEC 60529		

Model		2202S	1202S	12201S	8201S	5201S
Readability	mg	10	10	100	100	100
Weighing capacity	g	2,200	1,200	12,200	8,200	5,200
Tare range (subtractive)	g	- 2,200	- 1,200	- 12,200	- 8,200	- 5,200
Repeatability	≤±mg	7	7	50	50	50
Linearity	≤±mg	20	20	100	100	100
Off-center loading (eccentricity) (test load [g])	mg	20 (1,000)	20 (500)	200 (5,000)	200 (5,000)	200 (2,000)
Optimal starting point of the operating range*	g	8.2	8.2	82	82	82
Sensitivity drift between +10 to +30°C	±ppm/K	2	2	4	4	4
Typical stabilization time	S	0.8	0.8	0.8	0.8	0.8
Typical measurement time	S	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
External standard calibration value (min. accuracy class)	kg	2 (F1)	1 (F1)	10 (F1)	5 (F2)	5 (F2)
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 – 0.4
Weighing pan size (W x D)	mm	$206 \times 206$				
Protection		IP54 in accord	ance with IEC	60529		

<sup>\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

## **Precision High Capacity Balances**

Model		70201S	36201S	36201P	20201S
Readability	mg	100	100	100   1,000	100
Weighing capacity	g	70,200	36,200	10,200   36,200	20,200
Tare range (subtractive)	g	- 70,200	- 36,200	- 36,200	- 20,200
Repeatability	≤±mg	100	100	100   500	100
Linearity	≤±mg	500	200	200	200
Off-center loading (eccentricity) (test load [g])	mg	500 (20,000)	300 (10,000)	300 (10,000)	300 (5,000)
Optimal starting point of the operating range*	g	82	82	82	82
Sensitivity drift between +10 to +30°C	±ppm/K	3	2	2	2
Typical measurement time	S	1.5	1.5	1.5	1.5
External standard calibration value (min. accuracy class)	kg	20 (F1)	10 (F1)	10 (F1)	10 (F1)
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 - 0.4	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W $\times$ D)	mm	400 × 300	400 × 300	400 × 300	400 × 300
Protection		IP54 in accordan	ce with IEC 60529		

Model		70200S	36200S
Readability	mg	1,000	1,000
Weighing capacity	g	70,200	36,200
Tare range (subtractive)	g	- 70,200	- 36,200
Repeatability	≤±mg	500	500
Linearity	≤±mg	1,000	1,000
Off-center loading (eccentricity) (test load [g])	mg	1,000 (20,000)	1,000 (10,000)
Optimal starting point of the operating range*	g	820	820
Sensitivity drift between +10 to +30°C	±ppm/K	2	3
Typical measurement time	S	1	1
External standard calibration value (min. accuracy class)	kg	20 (F1)	10 (F1)
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W x D)	mm	400 × 300	400 × 300
Protection		IP54 in accordan	ce with IEC 60529

<sup>\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

Model		6.6S-xCE	2.7S-xCE	3.6P-xCE		
Accuracy class*	mg					
For verified models: EC type approval certific	ate D09-09-015,	Type: MSX				
Scale interval d*	mg	0.001	0.0001	0.001		
Weighing capacity max*	g	6.1	2.1	3.1		
Calibration value e*	mg	1	1	1		
Minimum capacity min*	mg	0.1	0.01	0.1		
Tare equalization range (subtractive)	g	≤ 100% from max. weighing capacity				
Application range according to DIR*	g	0.001 - 6.1	0.001 - 2.1	0.001 - 3.1		
Optimal starting point of the operating range**	mg	0.82	0.082	0.82		
Typical stabilization time	S	≤ 5	≤ 7	≤ 5		
Typical measurement time	S	≤ 8	≤ 10	≤ 8		
External standard calibration value (min. accuracy class)	g	5	2	3		
Application range (temperature)		With "isoCAL" function:	+5+40°C   Without "isoCAL	" function: +15 +25°C		
Display result (depending on the set filter level)	S	By selection of 1 of 4 op	timized filter levels			
Weighing pan size $\varnothing$	mm	30	20	30		
Weighing chamber height (draft shield DM)	mm	70	70	70		
Protection		Protected against dust a	nd water			

Verified Models with EC Type Approval Certificate: Semi-Micro Balances 0.01 mg

Model		225S-xCE	225P-xCE	125P-xCE
Accuracy class*	mg	I		
For verified models: EC type approval certified	cate D09-09-015	, Type: MSX		
Scale interval d*	mg	0.01	0.01   0.02   0.05	0.01   0.1
Weighing capacity max*	g	220	60   120   220	60   120
Calibration value e*	mg	1	1	1
Minimum capacity min*	mg	1	1	1
Tare equalization range (subtractive)		≤ 100% from max. weig	phing capacity	
Application range according to DIR*	g	0.001 - 220	0.001 - 220	0.001 - 120
Optimal starting point of the operating range**	mg	8.2	8.2	8.2
Typical stabilization time	S	≤ 2	≤ 2	≤ 2
Typical measurement time	S	≤ 6	≤ 6	≤ 6
External standard calibration value (min. accuracy class)	g	200 (E2)	200 (E2)	100 (E2)
Application range (temperature)		With "isoCAL" function:	+5 +40°C   Without "isoCA	AL" function: +15 +25°C
Adaptation to ambient conditions		By selection of 1 of 4 or	otimized filter levels	
Display result (depending on the set filter level)	S	0.2 - 0.4	0.2 - 0.4	0.2 - 0.4
Weighing pan size (W $\times$ D)	mm	85 × 85	$85 \times 85$	85 × 85
Weighing chamber height (draft shield DU)	mm	261	261	261
Protection		Protected against dust a	and water	

<sup>\*</sup> DIR = Directive 90/384/EEC on non-automatic weighing instruments used within the European Economic Area

\*\* = According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity.

Depending on the installation location and environmental conditions, the value could be higher.

Model		524S-xCE	524P-xCE	324S-xCE	224S-xCE	324P-xCE	124S-xCE
Accuracy class*			I		I	I	
For verified models: EC type approval of	ertificate D0	9-09-015, Ty	pe: MSX				
Scale interval d*	mg	0.1	0.1   0.2   0.5	0.1	0.1	0.1   0.2   0.5	0.1
Weighing capacity max*	g	520	120   240   520	320	220	80   160   320	120
Calibration value e*	mg	1	1	1	1	1	1
Minimum capacity min*	mg	10	10	10	10	10	10
Tare equalization range (subtractive)	g	≤ 100 % fro	m max. weighing	g capacity			
Application range according to DIR*	g	0.01-520	0.01-520	0.01-320	0.01-220	0.01-320	0.01-120
Optimal starting point of the operating range**	mg	82	82	82	82	82	82
Typical stabilization time	S	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Typical measurement time	S	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
External standard calibration value (min. accuracy class)	g	500	500 (E2)	200+100 (E2)	200 (E2)	200+100 (E2)	100
Application range (temperature)		With "isoCA	L" function: +5	+40°C   Wi	thout "isoCAL"	function: +15	+25°C
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W $\times$ D)	mm	$85 \times 85$	85 × 85	$85 \times 85$	$85 \times 85$	$85 \times 85$	$85 \times 85$
Weighing chamber height (draft shield DU)	mm	261	261	261	261	261	261
Protection		IP54 in acco	ordance with IEC	60529			

Verified Models with EC Type Approval Certificate: Precision Balances

Model		5203S-xCE	5203P-xCE	3203S-xCE	2203S-xCE	2203P-xCE	1203S-xCE
Accuracy class*				I		I	
For verified models: EC type approval co	ertificate D0	9-09-015, Ty	pe: MSX				
Scale interval d*	mg	1	1   2   5	1	1	1   10	1
Weighing capacity max*	g	5,200	1,200   2,400   5,200	3,200	2,200	1,010   2,200	1,200
Calibration value e*	mg	10	10	10	10	10	10
Minimum capacity min*	mg	100	100	100	100	100	100
Tare equalization range (subtractive)	g	≤ 100 % fro	m max. weighing	capacity			
Application range according to DIR*	g	0,1 - 5,200	0,1 - 5,200	0,1 - 3,200	0,1 - 2,200	0,1 - 2,200	0,1 - 1,200
Optimal starting point of the operating range**	g	0.82	0.82	0.82	0.82	0.82	0.82
Typical stabilization time	S	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Typical measurement time	S	≤ 2	≤ 2	≤ 2	≤ 1.5	≤ 1.5	≤ 1.5
External standard calibration value (min. accuracy class)	g	5,000	5,000	2,000	2,000 (E2)	1,000 (E2)	1,000 (E2)
Application range (temperature)		With "isoCA	L" function: +5 t	to +40°C   Wi	thout "isoCAL"	function: +15	to +25°C
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 – 0.4	0.1 – 0.4	0.1 – 0.4	0.1 - 0.4	0.1 - 0.4
Weighing pan size (W $\times$ D)	mm	140 × 140	140 × 140	140 × 140	140 × 140	140 × 140	140 × 140
Weighing chamber height (draft shield DE)	mm	172	172	172	172	172	172
Protection		Protected a	gainst dust and v	vater			

<sup>\*</sup> DIR = Directive 90/384/EEC on non-automatic weighing instruments used within the European Economic Area

\*\* = According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

Model		623S-xCE	623P-xCE	323S-xCE
Accuracy class*	mg			
For verified models: EC type approval certific	ate D09-09-01	5, Type: MSX		
Scale interval d*	mg	1	1   2   5	1
Weighing capacity max*	g	620	150   300   620	320
Calibration value e*	mg	10	10	10
Minimum capacity min*	mg	20	20	20
Tare equalization range (subtractive)		≤ 100 % from ma	ax. weighing capacity	
Application range according to DIR*	g	0.02 - 620	0.02 - 620	0.02 - 320
Optimal starting point of the operating range**	g	0.82	0.82	0.82
Typical stabilization time	S	≤ 0.8	≤ 0.8	≤ 0.8
Typical measurement time	S	≤ 1	≤ 1	≤ 1
Application range (temperature)			nction: +5 +40°C   " function: +10 +30	°C
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W $\times$ D)	mm	140 × 140	140 × 140	140 × 140
Weighing chamber height (draft shield DE)	mm	172	172	172
Protection		Protected agains	st dust and water	

Model		14202S-xCE	14202P-xCE	10202S-xCE	8202S-xCE
Accuracy class*					
For verified models: EC type approval certific	ate D09-09-01	5, Type: MSX			
Scale interval d*	g	0.01	0.01   0.02   0.05	0.01	0.01
Weighing capacity max*	g	14,200	3,500   7,000   14,200	10,200	8,200
Calibration value e*	g	0.1	0.1	0.1	0.1
Minimum capacity min*	g	1	1	1	0.5
Tare equalization range (subtractive)		≤ 100 % from ma	x. weighing capacity		
Application range according to DIR*	g	1 – 14,200	1 - 14,200	1 – 10,200	0,5 - 8,200
Optimal starting point of the operating range**	g	8.2	8.2	8.2	8.2
Typical measurement time	S	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Application range (temperature): With "isoCAL" function Without "isoCAL" function		+5 +40°C +15 +25°C	+5 +40°C +15 +25°C	+5 +40°C +15 +25°C	+5 +40°C +10 +30°C
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4
Weighing pan size ( $W \times D$ )	mm	206 × 206	206 × 206	206 × 206	206 × 206
Protection		IP54 in accordan	ce with IEC 60529		

<sup>\*</sup> DIR = Directive 90/384/EEC on non-automatic weighing instruments used within the European Economic Area

<sup>\*\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity.

Depending on the installation location and environmental conditions, the value could be higher.

Model		6202S-xCE	6202P-xCE	5202S-xCE	4202S-xCE
Accuracy class*					
For verified models: EC type approval certific	ate D09-09-01	5. Type: MSX			
Scale interval d*	g	0.01	0.01   0.02   0.05	0.01	0.01
Weighing capacity max*	g	6,200	1,500   3,000   6,200	5,200	4,200
Calibration value e*	g	0.1	0.1	0.1	0.1
Minimum capacity min*	g	0.5	0.5	1	0.5
Tare equalization range (subtractive)		≤ 100 % from ma	ax. weighing capacity		
Application range according to DIR*	g	0.5 - 6,200	0.5 - 6,200	1 - 5,200	0.5 - 4,200
Optimal starting point of the operating range**	g	8.2	8.2	8.2	8.2
Typical stabilization time	S	≤ 1	≤ 1	≤ 0.8	≤ 0.8
Typical measurement time	S	≤ 1.5	≤ 1.5	≤ 1	≤ 1
Application range (temperature): With "isoCAL" function Without "isoCAL" function		+5 +40°C +10 +30°C	+5 +40°C +10 +30°C		+5 +40°C +10 +30°C
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 - 0.4	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W $\times$ D)	mm	206 × 206	206 × 206	206 × 206	206 × 206
Protection		IP54 in accordan	ce with IEC 60529		

Model		2202S-xCE	1202S-xCE	12201S-xCE	8201S-xCE	5201S-xCE
Accuracy class*		I				
For verified models: EC type approval certific	ate D09-09-01	5, Type: MSX				
Scale interval d*	mg	10	10	100	100	100
Weighing capacity max*	g	2,200	1,200	12,200	8,200	5,200
Calibration value e*	g	0.1	0.1	1	1	1
Minimum capacity min*	g	0.5	0.5	5	5	5
Tare equalization range (subtractive)		≤ 100 % from	max. weighing	capacity		
Application range according to DIR*	g	0.5 - 2,200	0.5 - 1,200	5 - 12,200	5 - 8,200	5 - 5,200
Optimal starting point of the operating range**	g	8.2	8.2	82	82	82
Typical stabilization time	S	≤ 0.8	≤ 0.8	≤ 0.8	≤ 0.8	≤ 0.8
Typical measurement time	S	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
External standard calibration value (min. accuracy class)	kg	2 (F1)	1 (F1)	10 (F1)	5 (F2)	5 (F2)
Application range (temperature)		With "isoCAL" function: +5 +40°C   Without "isoCAL" function: +10 +30°C				
Display result (depending on the set filter level)	S	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4	0.1 - 0.4
Weighing pan size (W x D)	mm	$206 \times 206$	206 × 206	$206 \times 206$	206 × 206	206 × 206
Protection		IP54 in accord	lance with IEC 6	60529		

<sup>\*</sup> DIR = Directive 90/384/EEC on non-automatic weighing instruments used within the European Economic Area

<sup>\*\* =</sup> According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity. Depending on the installation location and environmental conditions, the value could be higher.

Modelle		36201S-0CE	36201P-0CE	20201S-0CE
Accuracy class*				
For verified models: EC Type-Approval Ce	tificate D09-09	-015, Type: MSX		
Scale interval d*	mg	100	100   1.000	100
Weighing capacity max*	g	36,200	10,200   36,200	20,200
Calibration value e*	g	1	1	1
Minimum capacity min*	g	5	5	5
Tare equalization range (subtractive)		≤ 100% from max. wei	ghing capacity	
Application range according to DIR*	g	5 - 36,200	5 - 36,200	5 - 20,200
Optimal starting point of the operating range**	g	82	82	82
Typical stabilization time	S	≤ 1.5	≤ 1.5	≤ 1.5
Typical measurement time	S	≤ 2	≤ 2	≤ 2
Application range (temperature)		With "isoCAL" function +30 °C	n: +5 to +40 °C   Without "is	soCAL" function: +10 to
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 - 0.4	0.1 - 0.4
Weighing pan size (W $\times$ D)	mm	400 × 300	400 × 300	400 × 300
IP protection		IP54		
Weighing chamber height (DM draft shield)	mm	70	70	70
Protection		Protected against dust	and water	

Modelle		70200S-0CE	36200S-0CE
Accuracy class*			
For verified models: EC Type-Approval Ce	rtificate D09-09	-015, Type: MSX	
Scale interval d*	mg	1,000	1,000
Weighing capacity max*	g	70,200	36,200
Calibration value e*	g	10	1
Minimum capacity min*	g	50	50
Tare equalization range (subtractive)		≤ 100% from max. we	ighing capacity
Application range according to DIR*	g	50 - 70,200	50 – 36,200
Optimal starting point of the operating range**	g	820	820
Typical stabilization time	S	≤ 1	≤ 1
Typical measurement time	S	≤ 1.2	≤ 1.2
Application range (temperature)		With "isoCAL" functio Without "isoCAL" fund	'
Display result (depending on the set filter level)	S	0.1 – 0.4	0.1 – 0.4
Weighing pan size (W $\times$ D)	mm	400 × 300	400 × 300
IP protection		IP54	

<sup>\*</sup> DIR = Directive 90/384/EEC on non-automatic weighing instruments used within the European Economic Area
\*\* = According to USP (United States Pharmacopeia) Chapter 41, the optimal operating range is defined from 820d to maximum weighing capacity.

Depending on the installation location and environmental conditions, the value could be higher.

### Cubis<sup>®</sup> Leveling

- The Cubis® shows the level indicator on the display and provides support for rapid leveling (as standard on the display and service units MSA and MSU; on the MSE there are only symbols to support manual leveling).
- Fully automatic, motorized Q-Level leveling at the touch of a button (available for all Cubis weighing modules with a weighing capacity of > 6.1 g and  $\leq 6200 \text{ g}$ ).

#### **Test Certificates and Permits**

- ØØ Standard certificate of conformity to specifications
- TR Like ØØ, but with a detailed test protocol
- **CE** Factory-calibrated with European calibration permit (not for models with DF draft shield)

### Cubis® Draft Shields

- DØ Flat, stainless steel weigh pan with no draft shield for weighing modules with a pan size of  $206 \times 206$  mm and  $400 \times 300$  mm.
- **DE** Manual, glass draft shield for precision balances with a readability of 1 mg and weighing module 5202S.
- **DR** Flat, stainless steel weighing pan draft shield (removable, with no glass components) for precision balances with a readability of 1 mg and weighing module 5202S.
- **DU** Manual, glass analytical balance draft shield with smooth-running, wide-opening doors, unimpeded access to the weighing chamber
  - without interfering braces. For models with 0.01 mg, 0.1 mg, 1 mg readability and weighing module 5202S.
- **DA** Automatic, glass motorized draft shield with learning capability for ergonomic working and individual adaptation to different applications.
  - For models with 0.01 mg, 0.1 mg, 1 mg readability and weighing module 5202S.
- Automatic, glass motorized draft shield with integrated ionizer to eliminate the impact of electrostatic charges in samples | vessels and learning capability for ergonomic working and individual adaptation to different applications. For models with 0.01 mg, 0.1 mg, 1 mg readability and weighing module 5202S.
- **DM** Automatic, motorized, round 100% glass draft shield with learning capability for ultra-micro and micro balances with a readability of 0.0001 mg and 0.001 mg (2.7S, 6.6S and 3.6P weighing modules).
- DF Manual, stainless steel draft shield for weighing filters with a diameter of up to 50 mm (75 mm and 90 mm pans are optional) in ultra-micro and micro balances with a readability of 0.0001 mg and 0.001 mg (not for weighing module 3.6P) and also reduces
  - electrostatic effects.

### **Optional Interface Modules**

- IR RS-232 interface, 25-pin
- **IB** Bluetooth® interface
- IP RS-232 interface, 9-pin, incl. PS/2 interface

## **Cubis® Optional Accessories**

Color ribbon for YDP10-0CE and YDP10BT-OCE Speep rolls for printer YDP10-0CE; 5 rolls 50 m each  Speep rolls for printer YDP10-0CE; 5 rolls 50 m each  Speep rolls for printer YDP10-0CE; 5 rolls 50 m each  Speep rolls for printer YDP10-0CE; 5 rolls 50 m each  Speep rolls for printer face for wireless connection of data printer YDP10BT*  YD001MS-1 SS-232C data interface, 9-pin including PS/2 for connecting a PC or keyboard*  YD001MS-1 SS-232C data interface, 25-pin for connection of Cubis* accessories*  YD001MS-1 Sicplay cable 3 m for Cubis* MSA and MSU models for separate setup of display and weighing unit  YCC01-MSE installation by Sartorius Service or ex works [order VF4016])  Spieplay cable 3 m for Cubis* MSE models, for separate setup of display and weighing unit  YCC01-MSE installation by Sartorius Service or ex works [order VF4016])  Spieplay cable 3 m for Cubis* models, for separate setup of display and weighing unit  YCC01-MSE installation display cable 3 m for Cubis* models, for separate setup of display and weighing unit  YF4016 SS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  7357314  ASE displays and Input   Output Elements  ASA control unit with color TFT graphic display and touch screen  ASA control unit with backlit LC display and tactile keys  ASA control unit with backlit LC display and tactile keys  ASA control unit with backlit LC display and tactile keys  ASA control unit with connection cable for PS2, 120 mm reading range  YBR03PS2  Spieplays and control unit with backlit b  wg raphic display and tactile navigation keys  YAC01MSD  ASA control unit with connection cable for PS2, 120 mm reading range  YBR04PS2  TROUBLES ASD display and control unit with backlit b  wg raphic display and tactile navigation keys  YAC01MSD  TROUBLES ASD display and control unit with backlit b  wg raphic display and tactile navigation keys  YAC01MSD  TROUBLES ASD display and control unit with backlit b  wg raphic display and tactile navigation keys  YAC01MSD  TROUBLES ASD display and	Printers and Communication	
Color ribbon for YDP10-0CE and YDP10BT-OCE Space rolls for printer YDP10-OCE; 5 rolls 50 m each Space rolls for printer YDP10-OCE; 50 rolls 50 m each Space rolls for printer YDP10-OCE; 50 rolls 50 m each Space rolls for printer your pronter your printing, taring, or using function keys, selection via menu, incl. T connector Space rolls each roll for printing, taring, or using function keys, selection via menu, incl. T connector Space rolls each roll for printing, taring, or using function keys, selection via menu, incl. T connector Space rolls each roll for functions degree rolls for sparate setup of display and weighing unit Space rolls each roll for functions degree rolls for sparate setup of display and weighing unit Space rolls each roll for functions degree rolls for separate setup of display and weighing unit Space rolls for functions draft shield OPEN   CLOSED		
Reper rolls for printer YDP10-0CE; 5 rolls 50 m each  ### 3000000000000000000000000000000000		YDP10BT-0CE
Abectooth® data interface for wireless connection of data printer YDP10BT*  YDD01MS-IS-232C data interface, 9-pin including PS/2 for connecting a PC or keyboard*  YDD01MS-IS-232C data interface, 25-pin for connection of Cubis® accessories*  YDD01MS-IS-232C data interface, 25-pin for connection of Cubis® accessories*  YDD01MS-IS-232C data interface, 25-pin for connection of Cubis® accessories*  YCC01-MSE disstallation by Sartorius Service or ex works [order VF4016]]  Polisplay cable 3 m for Cubis® MSE models, for separate setup of display and weighing unit installation by Sartorius Service or ex works [order VF4016]]  Pale 3 m between weighing module and electronics module for Cubis® models with 0.01 mg   0.001 mg   0.001 mg   0.001 mg   0.001 mg   o.001 mg   o		6906918
SS-232C data interface, 9-pin including PS/2 for connecting a PC or keyboard*  YD001MS-1 SS-232C data interface, 25-pin for connection of Cubis* accessories*  YD001MS-1 SS-232C data interface, 25-pin for connection of Cubis* accessories*  YC01-MSE display cable 3 m for Cubis* MSA and MSU models for separate setup of display and weighing unit installation by Sartorius Service or ex works [order VF4016])  Subjeal of the Sartorius Service or ex works [order VF4016])  Subjeal of the Sartorius Service or ex works [order VF4016])  Subjeal of the Sartorius Service or ex works [order VF4016])  Sable 3 m between weighing module and electronics module for Cubis* models with 0.01 mg   0.001 mg   0.0001 mg readability  NF4016 SS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  7357314 SartoCollect software for data communication between balance and PC  SS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  ASS display and Input   Output Elements  ASS display unit with backlit LC display and tactile keys  ASS display unit with backlit LC display and tactile keys  ASS display and control unit with color TFT graphic display and touch screen  ASS display and control unit with backlit b  w graphic display and tactile navigation keys  YAC01MSD display and control unit with backlit b  w graphic display and tactile navigation keys  YAC01MSD display and control unit with backlit b  w graphic display and tactile navigation keys  YAC01MSD display color erader with connection cable for PS2, 120 mm reading range  YBR04PS2  Sar   barcode reader with connection cable for PS2, 120 mm reading range  YBR04PS2  Sar   barcode reader with connection cable for PS2, 120 mm reading range  YBR04PS2  Sar   barcode reader with connection cable for PS2, 120 mm reading range  YBR04PS2  Sar   barcode reader with connection cable for PS2, 120 mm reading range  YBR04PS2  Sar   barcode reader with connection cable for PS2, 120 mm reading range  YBR04PS2  Sar   barcode reader with connection cable for PS	•	6906937
AS-232C data interface, 25-pin for connection of Cubis® accessories®  ND001MS-I Display cable 3 m for Cubis® MSA and MSU models for separate setup of display and weighing unit installation by Sartorius Service or ex works [order VF4016])  Sisplay cable 3 m for Cubis® MSE models, for separate setup of display and weighing unit NC01-MSE installation by Sartorius Service or ex works [order VF4016])  Sable 3 m between weighing module and electronics module for Cubis® models with 0.01 mg   0.001 mg   0.0001 mg readability  NF4016  SS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  NSS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  NSS-232C control unit with color TFT graphic display and touch screen  NSS-232C unit with backlit LC display and tactile keys  NSS-232C unit with backlit LC display and tactile keys  NSS-232C unit with backlit LC display and tactile keys  NSS-232C unit with connection cable for PS2, 120 mm reading range  NSS-232C unit with connection cable for PS2, 120 mm reading range  NSS-232C units with connection cable for PS2, 120 mm reading range  NSS-232C units with connection cable for PS2, 120 mm reading range  NSS-232C units with connection cable for PS2, 120 mm reading range  NSS-232C units with for printing, taring, or using function keys, selection via menu, incl. T connector  NSS-232C units witch for printing, taring, or using function keys, selection via menu, incl. T connector  NSS-232C units witch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print NPE01RC  Noted witch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print NPE01RC  NSS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  NSS-233C connection cable to connect PC with 9-pin COM interface, length 1.5 m  NSS-233C connection cable to connect PC with 9-pin COM interface, length 1.5 m	·	YD001MS-B
Display cable 3 m for Cubis® MSA and MSU models for separate setup of display and weighing unit installation by Sartorius Service or ex works [order VF4016])  Display cable 3 m for Cubis® MSE models, for separate setup of display and weighing unit yexperitions of the provided of the pr	RS-232C data interface, 9-pin including PS/2 for connecting a PC or keyboard*	YD001MS-P
installation by Sartorius Service or ex works [order VF4016])  Display cable 3 m for Cubis* MSE models, for separate setup of display and weighing unit  Scable 3 m between weighing module and electronics module for Cubis* models  with 0.01 mg   0.001 mg   0.0001 mg readability  installation display cable 3 m for Cubis* models, for separate setup of display and weighing unit  VF4016  ISS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  7357314  SartoCollect software for data communication between balance and PC  VSC02  ISSPANS and Input   Output Elements  ISSA control unit with color TFT graphic display and touch screen  VAC01MSA  ISSE display unit with backlit LC display and tactile keys  ISSU display and control unit with backlit b   w graphic display and tactile navigation keys  ISSA connection cable for PS2, 120 mm reading range  VBR03PS2  ISSA connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA control unit with connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA control reader with connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA control reader with connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA control reader with connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA control reader with connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA control reader with connection cable for PS2, 120 mm reading range  VBR04PS2  ISSA connection for touch-free activation of functions (e.g., draft shield control)  VHS01MS  Island switch for printing, taring, or using function keys, selection via menu, incl. T connector  VHS02  Island switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC  Island display, LCD, figure size 13 mm, backlit  VRD03Z  Island switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC  Island display cable, 3 m, for Cubis* models, for separate setup of display and wei	RS-232C data interface, 25-pin for connection of Cubis® accessories*	YD001MS-R
installation by Sartorius Service or ex works [order VF4016]) Cable 3 m between weighing module and electronics module for Cubis® models with 0.01 mg   0.001 mg   0.0001 mg readability  installation display cable 3 m for Cubis® models, for separate setup of display and weighing unit  VF4016 RS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  7357314 CartoCollect software for data communication between balance and PC  VSC02  Displays and Input   Output Elements  MSA control unit with color TFT graphic display and touch screen  MSE display unit with backlit LC display and tactile keys  MSU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  ASU display and control unit with connection cable  ASU display and control with connection cable for PS2, 120 mm reading range  YBR03PS2  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  YBR03PS2  ASU display and control unit with backlit b  w graphic display and tactile navigation keys  YBR03PS2  ASU display and control display, targe, and graphic display and weighing unit  YBR03Z  Tacget Asultana display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  YF4016  YBR03S2  Tacget Asultana display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  YF4016  Tacget Asultana display cabl	Display cable 3 m for Cubis® MSA and MSU models for separate setup of display and weighing unit (installation by Sartorius Service or ex works [order VF4016])	YCC01-MSD3
with 0.01 mg   0.001 mg   0.0001 mg readability installation display cable 3 m for Cubis® models, for separate setup of display and weighing unit  NF4016 RS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  7357314 For to Collect software for data communication between balance and PC  NSC02  Displays and Input   Output Elements  NSA control unit with color TFT graphic display and touch screen  NSA control unit with backlit LC display and tactile keys  NSU display unit with backlit LC display and tactile keys  NSU display and control unit with backlit b   w graphic display and tactile navigation keys  NSC01MSU  Parcode scanner with connection cable for PS2, 120 mm reading range  YBR03PS2  RI barcode reader with connection cable  YBR04PS2  Foot switch for printing, taring, or using function keys, selection via menu, incl. T connector  YFS01  And switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS01  And switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS02  Foot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print  YPE01RC  Additional display, LCD, figure size 13 mm, backlit  Foogement control display, red – green – red, for plus minus measurements, incl. T connector  YRD11Z  Installation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  VF4016  SE-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314	Display cable 3 m for Cubis® MSE models, for separate setup of display and weighing unit (installation by Sartorius Service or ex works [order VF4016])	YCC01-MSED
AS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m  7357314 SartoCollect software for data communication between balance and PC  7357314 Size displays and Input   Output Elements  7357314 ASSE display unit with color TFT graphic display and touch screen  7357314 ASSE display unit with backlit LC display and tactile keys  7357314 ASSE display unit with backlit LC display and tactile keys  7357314 ASSE display and control unit with backlit b w graphic display and tactile navigation keys  7357314 ASSE display and control unit with backlit b w graphic display and tactile navigation keys  7357314 ASSE display and control unit with backlit b w graphic display and tactile navigation keys  7357314 ASSE display and control unit with backlit b w graphic display and tactile navigation keys  7357314 ASSE display unit with backlit LC display and tactile navigation keys  7357314 ASSE display unit with backlit LC display and tactile navigation keys  7357314 ASSE display unit with backlit LC display and tactile navigation keys  7357314 ASSE display unit with backlit LC display and touch screen  7357314 ASSE display unit with backlit LC display and touch screen  7357314 ASSE display unit with backlit LC display and touch screen  7357314 ASSE display unit with backlit LC display and touch screen  7357314 ASSE display unit with backlit LC display and weighing unit  7357314 ASSE display LCD, figure size 13 mm, backlit  7357314	Cable 3 m between weighing module and electronics module for Cubis $^\circ$ models with 0.01 mg $\mid$ 0.001 mg $\mid$ 0.0001 mg readability	YCC01-MSM3
Displays and Input   Output Elements  ### MSA control unit with color TFT graphic display and touch screen  #### MSA control unit with backlit LC display and tactile keys  ###################################	nstallation display cable 3 m for Cubis <sup>®</sup> models, for separate setup of display and weighing unit	VF4016
Displays and Input   Output Elements  ### ACO1MSA  ### ACO1MSA  ### ACO1MSA  ### ACO1MSA  ### ACO1MSA  ### ACO1MSA  ### ACO1MSE  ### ACO1MSE  ### ACO1MSE  ### ACO1MSE  ### ACO1MSE  ### ACO1MSU  ### AC	RS-232C connection cable to connect PC with 9-pin; COM interface, length 1.5 m	7357314
MSA control unit with color TFT graphic display and touch screen  MSE display unit with backlit LC display and tactile keys  MSU display and control unit with backlit b w graphic display and tactile navigation keys  MSU display and control unit with backlit b w graphic display and tactile navigation keys  MSU display and control unit with backlit b w graphic display and tactile navigation keys  MSU display and control unit with backlit b w graphic display and tactile navigation keys  MSU display and control unit with backlit b w graphic display and tactile navigation keys  MSO 1MSU  MSO 3PSO 2  MSD 3PSO 2  MSD 4PSO 2  MSD 4PSO 3PSO 3PSO 3PSO 3PSO 3PSO 3PSO 3PSO 3		.5552
MSE display unit with backlit LC display and tactile keys  MSU display and control unit with backlit b   w graphic display and tactile navigation keys  Barcode scanner with connection cable for PS2, 120 mm reading range  YBR03PS2  OR   barcode reader with connection cable  YBR04PS2  Foot switch for printing, taring, or using function keys, selection via menu, incl. T connector  YFS01  Infrared sensor for touch-free activation of functions (e.g., draft shield control)  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS02  Foot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print  YPE01RC  Additional display, LCD, figure size 13 mm, backlit  F-segment control display, red – green – red, for plus minus measurements, incl. T connector  YRD11Z  Installation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  VF4016  SS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314		YAC01MSA
MSU display and control unit with backlit b w graphic display and tactile navigation keys  ACO1MSU display and control unit with backlit b w graphic display and tactile navigation keys  ACO1MSU display and control unit with backlit b w graphic display and tactile navigation keys  ACO1MSU display and control unit with backlit b w graphic display and tactile navigation keys  ACO1MSU display and control unit with backlit b w graphic display and tactile navigation keys  ACO1MSU display and control unit with connection cable or PS2, 120 mm reading range  YBR03PS2  ACO1MSU display read erader with connection cable for PS2, 120 mm reading range  YBR03PS2  YBR04PS2  YFS01  YHS01MS  AND ACO1MSU  THS04PS2  THS05  THS06  THS06  THS07  THS		YAC01MSE
Barcode scanner with connection cable for PS2, 120 mm reading range  YBR03PS2  OR   barcode reader with connection cable  YBR04PS2  Foot switch for printing, taring, or using function keys, selection via menu, incl. T connector  YFS01  Infrared sensor for touch-free activation of functions (e.g., draft shield control)  YHS01MS  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS02  Foot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print  YPE01RC  Additional display, LCD, figure size 13 mm, backlit  YRD03Z  S-segment control display, red – green – red, for plus   minus measurements, incl. T connector  YRD11Z  Installation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  YF4016  RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314		YAC01MSU
Foot switch for printing, taring, or using function keys, selection via menu, incl. T connector  YFS01  Infrared sensor for touch-free activation of functions (e.g., draft shield control)  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS02  Foot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC  Additional display, LCD, figure size 13 mm, backlit  YRD03Z  S-segment control display, red – green – red, for plus minus measurements, incl. T connector  YRD11Z  Installation display cable, 3 m, for Cubis models, for separate setup of display and weighing unit  YF4016  RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314	Barcode scanner with connection cable for PS2, 120 mm reading range	YBR03PS2
Infrared sensor for touch-free activation of functions (e.g., draft shield control)  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS02  Hoot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC additional display, LCD, figure size 13 mm, backlit  Hand switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC additional display, LCD, figure size 13 mm, backlit  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, taring function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing,	ΩR   barcode reader with connection cable	YBR04PS2
Infrared sensor for touch-free activation of functions (e.g., draft shield control)  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YHS02  Hoot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC additional display, LCD, figure size 13 mm, backlit  Hand switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC additional display, LCD, figure size 13 mm, backlit  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing, taring, taring function keys, selection via menu, incl. T connector  YRD03Z  Hand switch for printing,	Foot switch for printing, taring, or using function keys, selection via menu, incl. T connector	YFS01
Foot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print YPE01RC Additional display, LCD, figure size 13 mm, backlit  S-segment control display, red – green – red, for plus minus measurements, incl. T connector  YRD11Z  Installation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  VF4016  RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314	nfrared sensor for touch-free activation of functions (e.g., draft shield control)	YHS01MS
Additional display, LCD, figure size 13 mm, backlit  8-segment control display, red – green – red, for plus minus measurements, incl. T connector  YRD11Z  rnstallation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  VF4016  RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314	Hand switch for printing, taring, or using function keys, selection via menu, incl. T connector	YHS02
S-segment control display, red – green – red, for plus minus measurements, incl. T connector  YRD11Z  rstallation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  VF4016  SS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314	Foot switch for functions draft shield OPEN   CLOSED (in combination with DA and DI draft shields only), tare, and print	YPE01RC
nstallation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit  NF4016 RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m  7357314	Additional display, LCD, figure size 13 mm, backlit	YRD03Z
RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m 7357314	3-segment control display, red – green – red, for plus minus measurements, incl. T connector	YRD11Z
	nstallation display cable, 3 m, for Cubis® models, for separate setup of display and weighing unit	VF4016
Sartorius Wedge for Windows. Software for data communication between balance and PC YSW02	RS-232C connection cable to connect PC with 9-pin COM interface, length 1.5 m	7357314
	Sartorius Wedge for Windows. Software for data communication between balance and PC	YSW02

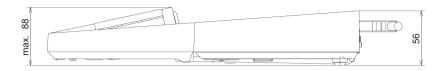
<sup>\*</sup> Not available for Precision high capacity models with a weighing capacity of ≥ 20,200 g.

Pipette Calibration Hardware and Software	
Pipette calibration kit (hardware) for models with 0.1 mg and 0.01 mg readability Consists of moisture trap and all required adapters	YCP04MS
Pipette calibration kit (hardware) for micro balance weighing modules 6.6S and 3.6P Consists of moisture trap and all required adapters	VF988
Pipette Check light V1. Pipette testing according to ISO 8655 for MSA display	YAPP04
Pipette Check Advanced. Pipette testing according to ISO 8655, with pipette database and analysis of the last test series via HTML for MSA display	YAPP42
Filter Weighing and Antistatic Accessories	
Antistatic weighing pan, diameter 130 mm, for weighing modules with a readability of 0.1 mg or 0.01 mg	YWP01MS
Filter weighing pan $\varnothing$ 75 mm, for ultra-micro balance or micro balance models (weighing modules 6.6S, 2.7S; only together with DF draft shield)	VF2562
Filter weighing pan $\varnothing$ 90 mm, for ultra-micro balance or micro balance models (weighing modules 6.6S, 2.7S; only together with DF draft shield)	VF2880
lonization blower to eliminate electrostatic charges on sample containers and samples	YIB01-0DR
Stat-Pen ionization probe for discharging electrostatically charged samples and filters	YSTP01
Special Applications	
Density determination kit for solids and liquids for weighing modules with a readability of < 1 mg	YDK01MS
Density determination kit for solids and liquids for weighing modules with a readability of 1 mg	YDK02MS
Q-Grip, flexible holder for weigh-in containers and filters up to 120 mm diameter (replaces the original weighing pan; for Cubis® models with 0.01 and 0.1 mg readability)	YFH01MS
Q-Grid grid weighing pan for Cubis® models with 10 mg or 100 mg readability for weighing in laboratory hoods, safety weighing cabinets, or workbenches (smaller areas exposed to draft on the weighing pan; replaces the standard weighing pan)	YWP03MS
Weighing Tables	
Weighing table made from synthetic stone, with vibration dampening	YWT03
Wall console	YWT04
Weighing table made from wood with synthetic stone for precise, reliable measurements	YWT09
Weighing Accessories	
Weighing scoop made from chrome nickel steel, $90 \times 32 \times 8$ mm	641214
Aluminum weighing scoop, 4.5 mg (250 pieces) for ultra-micro balance and micro balance models	6565-250
Aluminum weighing scoop, 52 mg (50 pieces) for ultra-micro balance and micro balance models	6566-50
Support arm for 10   100 mg precision weighing modules for raising MSE, MSU, and MSA display and control units	YDH01MS
Support arm for precision weighing modules with 100 mg   1 g readability and weighing capacity > 20 kg for raising MSE, MSU, and MSA display and control units	YDH02MS
Hook for below-balance weighing for precision weighing modules with 100 mg   1 g readability and weighing capacity > 20 kg (not for verified models, CE mark)	69EA0040

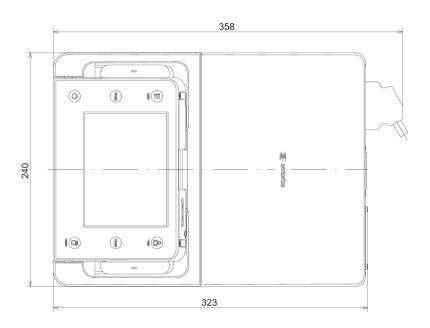
The brand name and logo for  $Bluetooth^{\circ}$  wireless technology are owned by Bluetooth SIG Inc. The use of this brand name and trademark by Sartorius AG is under license. Other brand names and trademarks are the property of their respective owners.

### **Balance Dimensions**

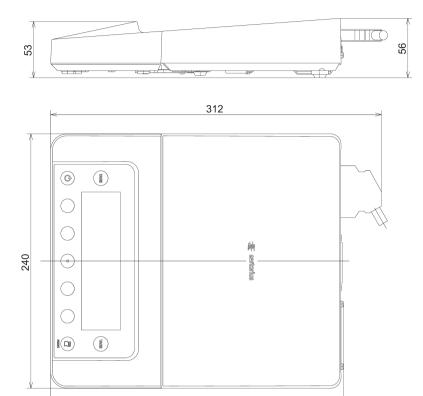
Ultra-Micro Balance | Micro Balance Control Unit MSA | MSU with E-box All dimensions are given in millimeters



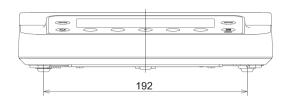


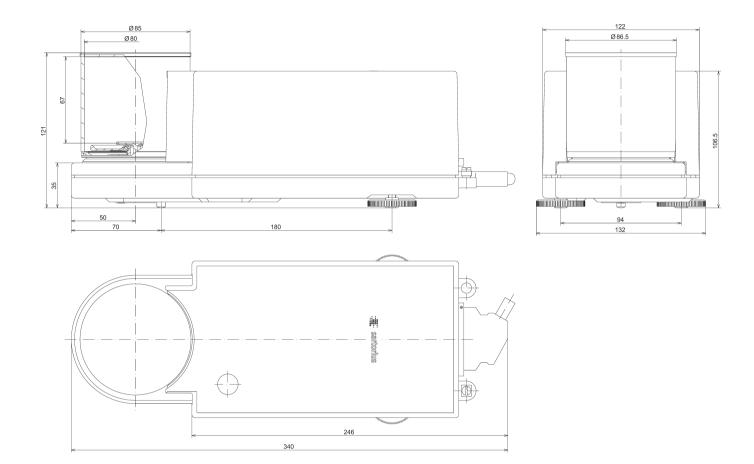


### Ultra-Micro Balance | Micro Balance Control Unit MSE with E-box All dimensions are given in millimeters

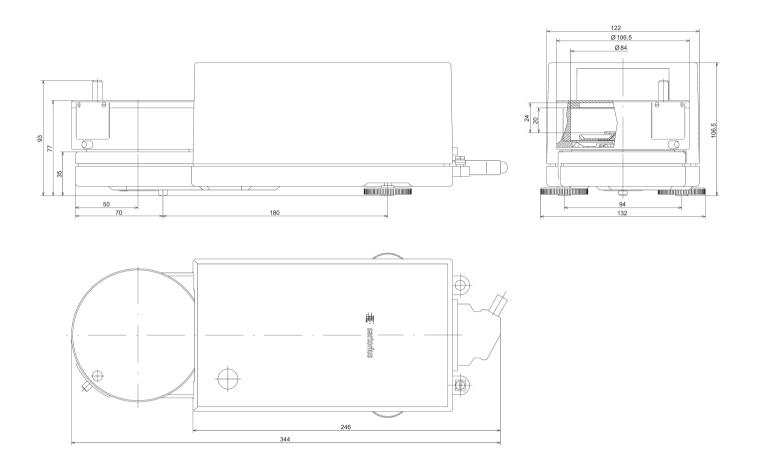


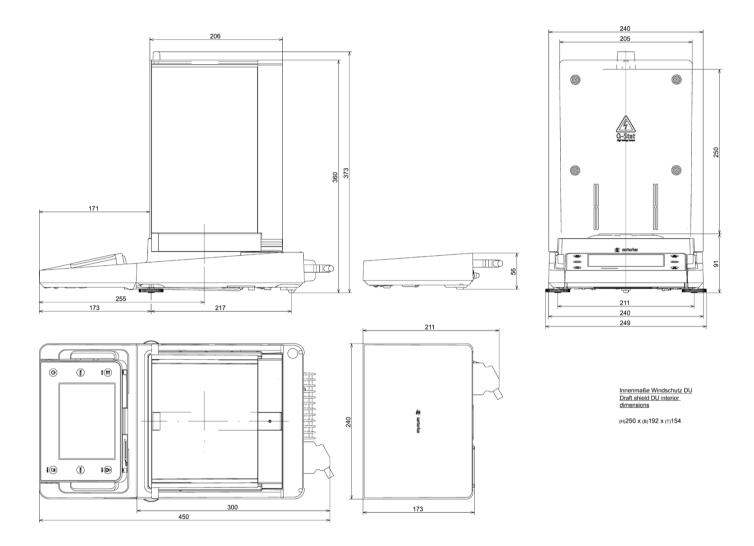
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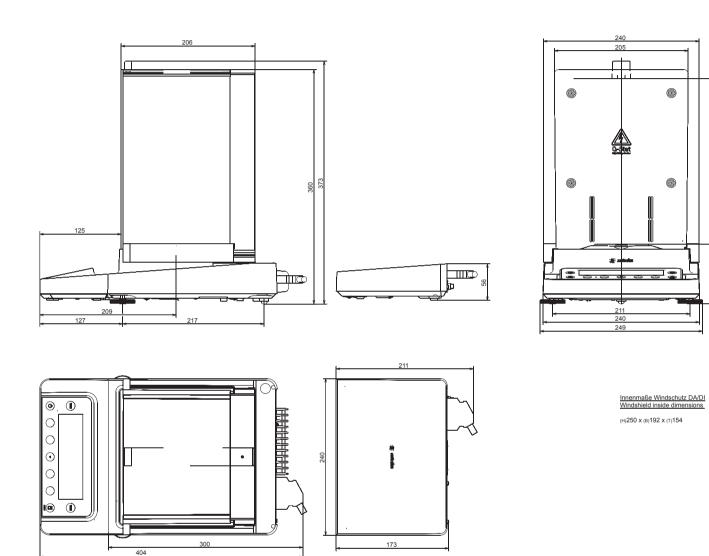


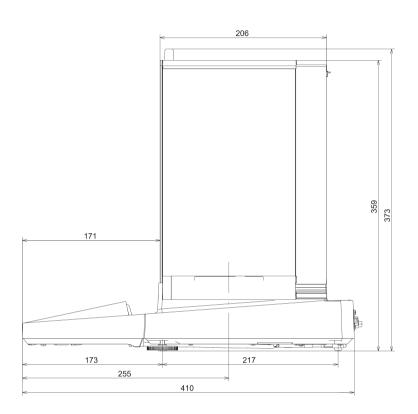
# $\label{thm:condition} \begin{tabular}{ll} \textbf{Ultra-Micro Balance} & \textbf{Micro Balance Weighing Module with DF Draft Shield} \\ \textbf{All dimensions are given in millimeters} \end{tabular}$

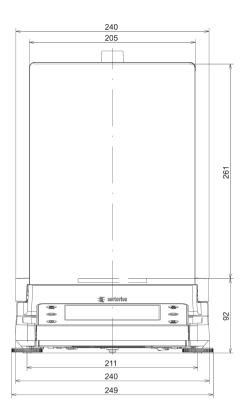


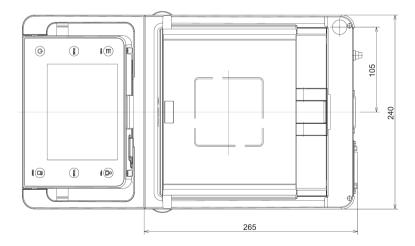


Semi-Micro Balances with Motorized Draft Shield - Control Unit MSE with E-box All dimensions are given in millimeters



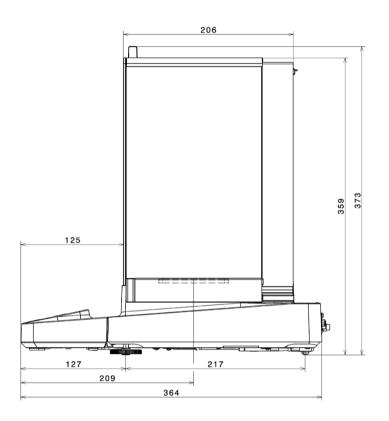


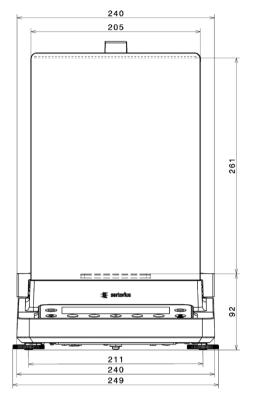


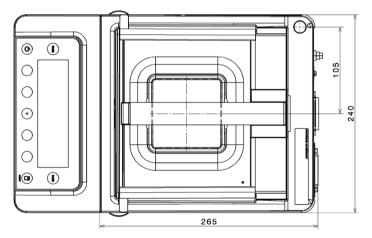


Innenmaße Windschutz DU (H)261  $\times$  (W)193  $\times$  (D)191

Analytical Balances with a Manual DU Draft Shield - Control Unit MSE All dimensions are given in millimeters



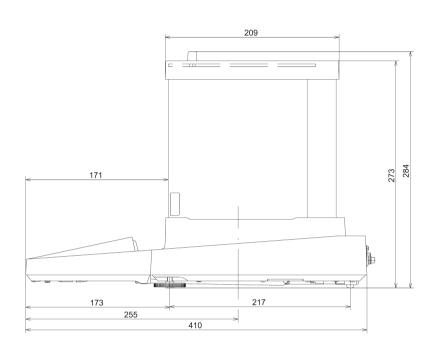


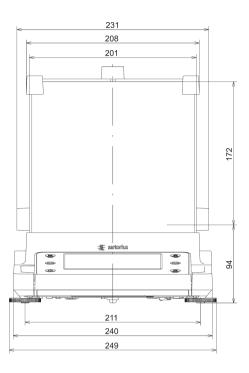


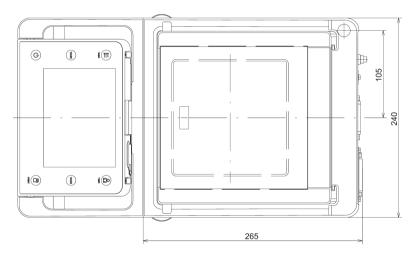
Innenmaße Windschutz DU (H)261 × (W)193 × (D)191

Precision balances with a readability of 1 mg or model 5202S (with a readability of 10 mg) and DE frame Draft Shield – Control Unit MSA  $\mid$  MSU

All dimensions are given in millimeters



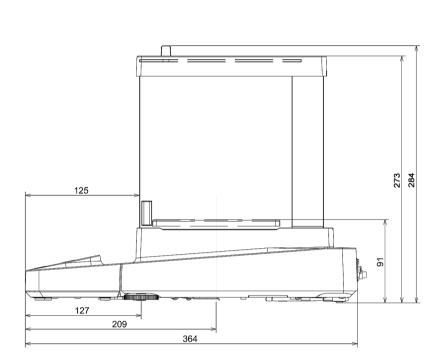


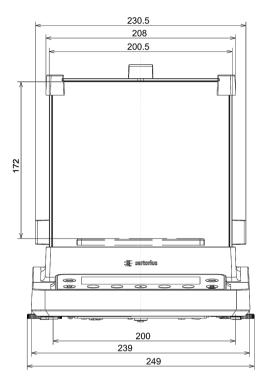


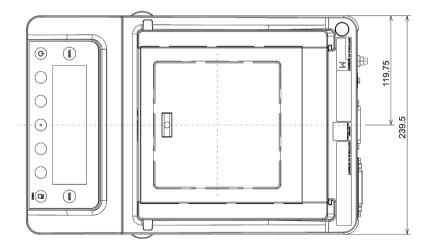
Innenmaße Windschutz (H)172  $\times$  (B)193  $\times$  (T)191

Precision balances with a readability of 1 mg or model 5202S (with a readability of 10 mg) and DE frame Draft Shield – **Control Unit MSE** 

All dimensions are given in millimeters

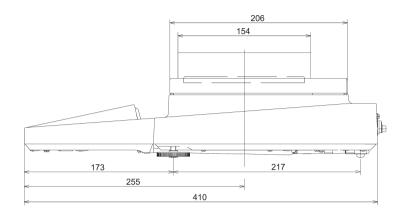


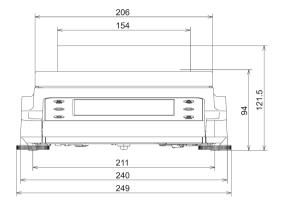


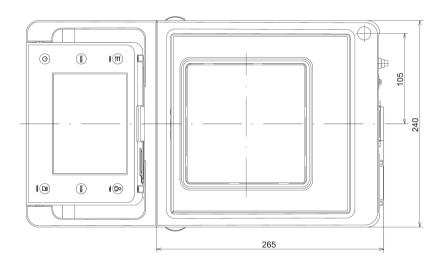


Innenmaße Windschutz (H)172 × (B)193 × (T)191 Precision balances with a readability of 1 mg or model 5202S (with a readability of 10 mg) and DR frame Draft Shield – Control Unit MSA  $\mid$  MSU

All dimensions are given in millimeters

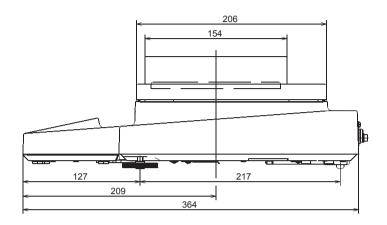


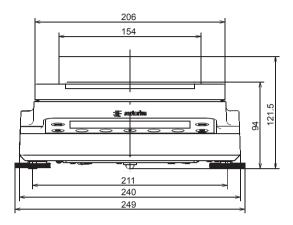


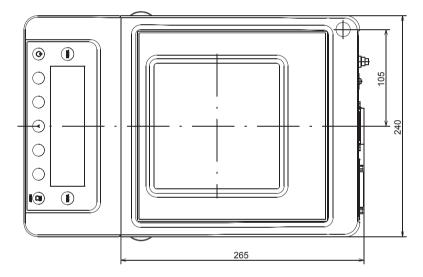


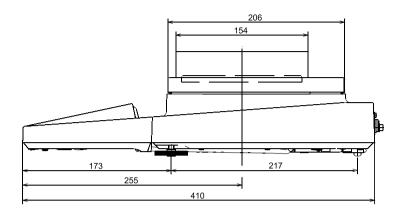
Precision balances with a readability of 1 mg or model 5202S (with a readability of 10 mg) and DR frame Draft Shield – **Control Unit MSE** 

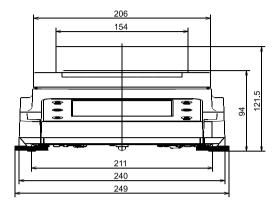
All dimensions are given in millimeters

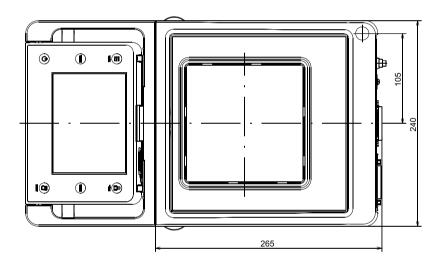


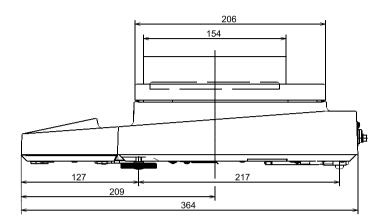


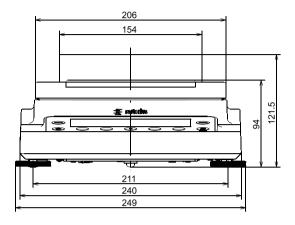


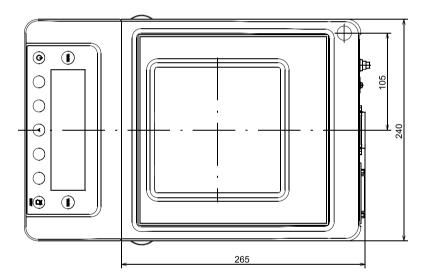




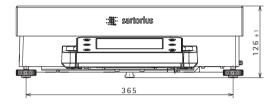


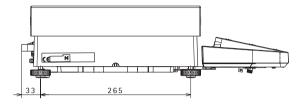


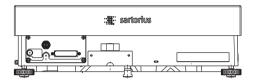


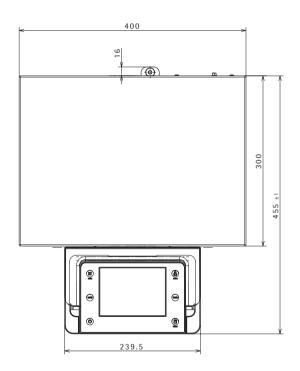


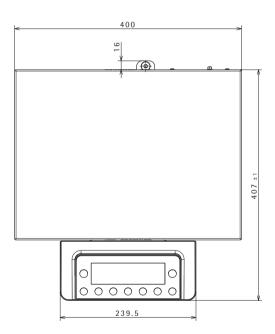
## Precision High Capacity Balances All dimensions are given in millimeters

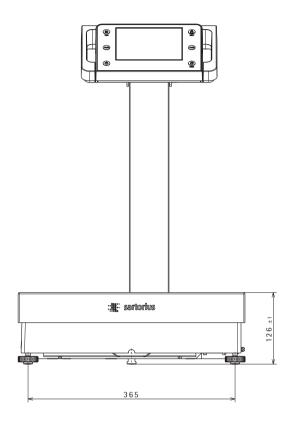


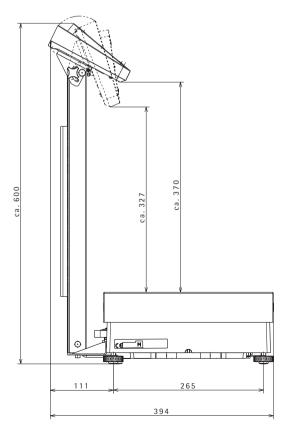


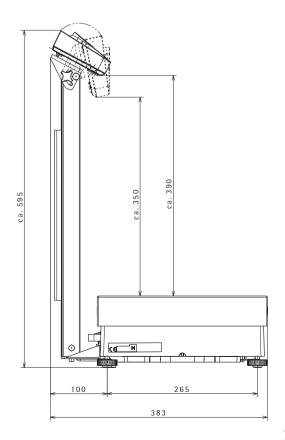












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