15 Technical Data

15.1 Dimensions and Weight

15.1.1 Semi-microbalance

		With manual draft shield	With motorized draft shield
	Unit	Value	Value
Dimensions			
Weighing module (L × W × H)	mm	450 × 240 × 373	450 × 240 × 373
Electronics module (L × W × H)	mm	211 × 240 × 56	211 × 240 × 56
Weighing pan size	mm	85 × 85	85 × 85
Weight, approx.	kg	11.0	12.5

15.1.2 Analytical Balance

		With manual draft shield	With motorized draft shield
	Unit	Value	Value
Dimensions (L × W × H)	mm	416 × 240 × 373	416 × 240 × 373
Weighing pan size	mm	85 × 85	85 × 85
Weight, approx.	kg	9.0	10.8

15.1.3 Precision Balance

		With frame draft shield	With flat glass draft shield	With manual analytical draft shield	With motorized analytical draft shield
	Unit	Value	Value	Value	Value
Dimensions (L × W × H)	mm	416 × 240 × 122	416 × 240 × 284	416 × 240 × 373	416 × 240 × 373
Weighing pan size	mm	140 × 140	140 × 140	140 × 140	140 × 140
Weight, approx.	kg	6.7	8.3	10.2	11.0

15.2 Power Supply

15.2.1 Device

Only by Sartorius AC adapter YEPS03-15V0

15.2.2 AC Adapter

	Unit	Value
Item No.		YEPS03-15V0
Primary		
AC voltage	V	100–240 (±10%)
Frequency	Hz	50–60 (± 5%)
Current consumption, maximum	A	1.0
Secondary		
DC voltage at 2 A output current	V	14.25–15.75
Power, maximum	W	30
Short circuit protection: Electronic		
Protection class according to IEC 62368-1		I
Pollution level according to IEC 61010-1		2
Overvoltage category according to IEC 606641-1		II
Installation site according to IEC 62368-1, maximum altitude above sea level	m	5000
Temperature		
In operation	°C	0–+40
During storage and transport	°C	-20–+80
Connector for mains connection according to IEC 60320-1/C14: 3-pin		
Power supply cable		
Power supply cable according to IEC 60320-1/C14: Country-specific, 3-pin, two-sided plug		
Other data: See label on AC adapter		

15.2.3 Safety of Electrical Equipment

According to EN 61010-1/IEC 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General Requirements

15.2.4 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.

15.3 Ambient Conditions

15.3.1 Installation Site

	Unit	Value
Installation site		
Standard laboratory rooms		
Installation site according to IEC 60259-1, maximum altitude above sea level	m	3000
For indoor use only		
Temperature		
In operation	°C	+5–+40
In operation for conformity-assessed devices: See information on the device's ID plate		
During storage and transport	°C	-20–+60
Relative humidity		
At temperatures of up to 31°C	%	80
Then linear decrease from 80% at 31°C to 50% at 40°C		
No heat from heating systems or direct sunlight		
No drafts from open windows, AC systems, or doors		
No vibrations		
No "heavy traffic" areas (personnel)		
No electromagnetic fields		
No dry air		

15.3.2 Ambient Temperature for the isoCAL Function

		MCA225S	MCA225P	MCA125S	MCA125P
	Unit	Value	Value	Value	Value
Scope of application as per Directive 2014/31/EU					
With isoCAL function	°C	+10–+30	+10–+30	+10–+30	+10–+30
Without isoCAL function	°C	+17–+27	+17–+27	+17–+27	+17–+27

		MCA524S	MCA524P	MCA324S	MCA324P
	Unit	Value	Value	Value	Value
Scope of application as per Directive 2014/31/EU					
With isoCAL function	°C	+10–+30	+10–+30	+10–+30	+10–+30
Without isoCAL function	°C	–	–	+17–+27	+17–+27

		MCA224S	MCA124S	MCA5203S	MCA5203P
	Unit	Value	Value	Value	Value
Scope of application as per Directive 2014/31/EU					
With isoCAL function	°C	+10–+30	+10–+30	+10–+30	+10–+30
Without isoCAL function	°C	+17–+27	+17–+27	–	–

		MCA3203S	MCA2203S	MCA2203P	MCA1203S
	Unit	Value	Value	Value	Value
Scope of application as per Directive 2014/31/EU					
With isoCAL function	°C	+10–+30	+10–+30	+10–+30	+10–+30
Without isoCAL function	°C	+17–+27	+17–+27	+17–+27	+17–+27

		MCA623S	MCA623P	MCA323S	MCA5202S
	Unit	Value	Value	Value	Value
Scope of application as per Directive 2014/31/EU					
With isoCAL function	°C	+10–+30	+10–+30	+10–+30	+10–+30
Without isoCAL function	°C	+10–+30	+10–+30	+10–+30	+17–+27

15.3.3 Protection Class

IP Protection: Protected against dust and water

15.4 Materials

Housing: Die-cast aluminum, plastic PBT, Optiwhite float glass and stainless steel 1.4401|1.4404, PA handles, aluminum trim
Display and control unit: Die-cast aluminum, painted, float glass and plastic PBT, PP

15.5 Integrated Clock

	Unit	Value
Maximum deviation per month (RTC)	s	30

15.6 Backup Battery

	Unit	Value
Lithium battery, type CR2032		
Service life at room temperature, minimum	Years	10

15.7 Metrological Data

15.7.1 Models MCA225S | MCA225P | MCA125S | MCA125P

		MCA225S	MCA225P	MCA125S	MCA125P
	Unit	Value	Value	Value	Value
Scale interval (d)	mg	0.01	0.01/0.02/ 0.05	0.01	0.01 | 0.1
Maximum capacity (Max)	g	220	60/120/220	120	60 | 120
Repeatability at up to 5% load					
Standard deviation of the load values, tolerance	mg	0.015	0.015	0.015	0.015
Standard deviation of the load values, typical value	mg	0.0065	0.0065	0.0065	0.0065
Repeatability at approx. maximum capacity					
Standard deviation of the load values, tolerance	mg	0.025	0.04	0.025	0.06
Standard deviation of the load values, typical value	mg	0.02	0.02	0.02	0.02
Linearity deviation					
Tolerance	mg	0.1	0.15	0.1	0.15
Typical value	mg	0.065	0.1	0.065	0.1
Deviation when load is off-center, positions according to OIML R76					
Test weight	g	100	100	50	50
Tolerance	mg	0.15	0.2	0.15	0.2
Typical value	mg	0.1	0.1	0.1	0.1
Sensitivity drift between +10°C and +30°C	ppK	1	1	1	1
Tare maximum capacity: Less than 100% of maximum capacity					
Accuracy class according to Directive 2014/31/EU		I	I	I	I
Verification scale interval (e) according to Directive 2014/31/EU	mg	1	1	1	1
Minimum load (Min) according to Directive 2014/31/EU	mg	1	1	1	1
Minimum initial weighing according to USP (United States Pharmacopeia), Chap. 41					
Optimum minimum initial weighing	mg	8.2	8.2	8.2	8.2
Typical minimum initial weighing	mg	13	13	13	13
Typical stabilization time	s	2	2	2	2
Typical measurement time	s	6	6	6	6