

# Sartorius Cubis<sup>®</sup> Series



# **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
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)

### Cubis® Display and Control Units







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 an	d control unit	Removable display and control unit	
Standard data interfaces	<ul> <li>USB port (integrated into weighing</li> <li>RS-232C accessory interface, 25-pin</li> <li>Choice of data protocols available ( designed for external manufacturer</li> <li>Ethernet (integrated into display un</li> </ul>	<ul> <li>USB port (integrated into weighing module)</li> <li>RS-232C accessory interface, 25-pin (integrated into weighing module)</li> </ul>		
SD card reader	Integrated as standard into display ar	nd control unit	_	
Operation of the motorized draft shield (only for DA, DI, DM draft shields)	Activated by side keys or touch-free t IR sensor (optional); learning capabili	using ty	Activated by key or touch-free using IR sensor (optional); learning capability	
Applications	Unit conversion, SQmin function for to USP, isoCAL automatic calibration identifiers, density determination, sta formulation, weighing in percent, tim measurement uncertainty, second tar alibi memory, audit trail	minimum initial weight according adjustment function, individual tistics, calculations, averaging, ne-controlled functions, totalizing, DKD re memory, counting, checkweighing,	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		2.7S	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
Corner load (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 d	ust and water

# Micro Balances 0.001 mg

Model		6.6S	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
Corner load (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 again	st 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
Corner load (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 × D)	mm	85 × 85	85 × 85	85 × 85
Weighing chamber height (draft shield DU)	mm	261	261	261

Protection

Protected against dust and water

## 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
Corner load (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 × 85	85 × 85	85 × 85	85 × 85	85 × 85	85 × 85
Weighing chamber height (draft shield DU)	mm	261	261	261	261	261	261
Protection IP54 in accordance 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
Corner load (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°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 × D)	mm	$140 \times 140$	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 ag	ainst dust and wa	ter			

## **Precision Balances**

Model		623S	623P	323S
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
Corner load (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 $\times$ D)	mm	140 × 140	140 × 140	140 × 140
Weighing chamber height (draft shield DE)	mm	172	172	172
Protection		Protected against du		

Model		14202S	14202P	10202S	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	
Corner load (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 × D)	mm	206 × 206	206 × 206	206 × 206	206 × 206	
Protection		IP54 in accordance with IEC 60529				

## **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
Corner load (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 × D)	mm	206 × 206	206 × 206	140 × 140	206 × 206
Protection		IP54 in accorda	nce 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
Corner load (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 × D)	mm	206 × 206	206 × 206	206 × 206	206 × 206	206 × 206

Protection

IP54 in accordance with IEC 60529

# **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
Corner load (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 × 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	
Corner load (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 × D)	mm	400 × 300	400 × 300	
Protection		IP54 in accordance	ce with IEC 60529	

#### Cubis® Leveling

Ø	Cubis <sup>®</sup> shows the level indicator on the display and provides support for rapid leveling (a standard feature on MSA and MSU display
	and control units; for MSE units, only symbols are provided to support manual leveling).

1 Fully automatic, motorized Q-Level leveling at the touch of a key (available for all Cubis<sup>®</sup> weighing modules with a weighing capacity of > 6.1 g and  $\leq$  6200 g).

#### **Test Certificates**

ØØ Standard certificate of conformity to specifications

TR Like ØØ, but with a detailed test protocol

#### Cubis® Draft Shields

DØ	Flat, stainless steel weigh pan wi	h no draft shield for weighing mo	odules with a pan size of 206 $ imes$	206 mm and $400 \times 300$ mm.
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- **DR** Flat, stainless steel weighing pan draft shield (removable, with no glass components) for all precision balances with a readability of 1 mg and weighing module 5202S.
- DE Manual, glass draft shield for all precision balances with a readability of 1 mg and weighing module 5202S.
- **DU** Manual, glass analytical draft shield with smooth-action doors that open wide and provide unimpeded access to the weighing chamber without interfering braces. For all models with 0.01 mg, 0.1 mg, and 1 mg readability and weighing module 5202S.
- **DA** Automatic, glass motorized draft shield with learning capability for user-friendly operation and easy customization to the changing requirements of different applications. For all models with 0.01 mg, 0.1 mg, and 1 mg readability and weighing module 5202S.
- **DI** Identical to the DA draft shield, but also includes an integrated ionizer to eliminate interfering electrostatic charges on samples and sample containers.
- **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 diameters of up to 50 mm (75 mm and 90 mm pans optional) in ultra-micro and micro balances with a readability of 0.0001 mg and 0.001 mg (not for weighing module 3.6P). Designed to minimize the effects of static electricity.

#### Interface Module Options

IR RS-232 interface, 25-pin

IB Bluetooth® interface

IP RS-232 interface, 9-pin, incl. PS/2 interface

# **Cubis®** Optional Accessories

### **Printers and Communication**

Verifiable data printer for connection to RS-232, 25-pin, accessory interface	YDP10-0CE
Verifiable data printer with Bluetooth <sup>®</sup> data transmission (with YD001MS-B or option IB only)	YDP10BT-0CE
Ink ribbon for YDP10-0CE and YDP10BT-OCE	6906918
Paper rolls for printer YDP10-0CE; 5 rolls, each with 50 m	6906937
Data interface Bluetooth® for wireless connection of data printer YDP10BT-0CE	YDO01MS-B
RS-232C data interface, 9-pin including PS/2 for connecting a computer or keyboard	YD001MS-P
RS-232C data interface, 25-pin for connection of Cubis® accessories	YDO01MS-R
Display cable, 3 m, for Cubis <sup>®</sup> MSA and MSU models for detached setup of display and weighing unit (installation by Sartorius Service or or in factory [order VF4016])	YCC01-MSD3
Display cable, 3 m, for Cubis <sup>®</sup> MSE models, for detached setup of display and weighing unit (installation by Sartorius Service or or in factory [order VF4016])	YCC01-MSED3
Cable, 3 m, between weighing module and electronics module for Cubis <sup>®</sup> models with 0.01 mg 0.001 mg 0.0001 mg readability	YCC01-MSM3
Installation display cable 3 m for Cubis $^{\circ}$ models, for detached setup of display and weighing unit	VF4016
25-pin RS232 to USB cable	YCC01-USBM2
RS-232C connection cable to connect computer with 9-pin; COM interface, length 5 ft	YCC05-001M2
WinWedge, software for data communication between balance and computer (via RS232)	YSW05
WinWedge, software for data communication (via Ethernet)	YSW06

# Displays and Input | Output Elements

MSA control unit with color TFT graphic display and touch screen	YAC01MSA
MSE control unit with backlit liquid-crystal display and tactile keys	YAC01MSE
MSU control unit with backlit black white graphic display and tactile navigation keys	YAC01MSU
Barcode scanner with connecting cable, 120 mm reading range	YBR03PS2
Foot switch for printing, taring, or using a different function key; key function selectable by menu code, incl. T-connector	YFS01
Infrared sensor for touch-free activation of functions (e.g., controlling the draft shield)	YHS01MS
Hand switch for printing, taring, or using a different function key; key function selectable by menu code, incl. T-connector	YHS02
Foot switch for activating the OPEN CLOSE draft shield functions (only in combination with DA and DI draft shield), taring and printing	YPE01RC
Additional display, LCD, digit height 13 mm, backlit	YRD03Z
3-segment checkweighing display, red – green – red, for plus/minus measurements, incl. T-connector	YRD11Z

## Pipette Calibration Hardware

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

#### Filter Weighing and Anti-static Accessories

Anti-static weighing pan, 130 mm diameter, for weighing modules with a readability of 0.1 mg or 0.01 mg	YWP01MS
Filter weighing pan, 75 mm diameter, for ultra-micro and micro balance models (weighing modules 6.6S, 2.7S; only for DF draft shield)	VF2562
Filter weighing pan, 90 mm diameter, for ultra-micro and micro balance models (weighing modules 6.6S, 2.7S; only for DF draft shield)	VF2880
lonization blower to eliminate electrostatic charges on sample containers and samples	YIB01-0UR
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, universal holder for containers used for weighing and filters up to a diameter of 120 mm (replaces the original weighing pan; for Cubis <sup>®</sup> models with 0.01 and 0.1 mg readability)	YFH01MS
Q-Grid weighing pan for Cubis <sup>®</sup> models with a readability of 10 mg or 100 mg (pan size of $206 \times 206$ mm) for weighing in laboratory hoods, safety powder hoods or workbenches (reduces exposure of the weighing pan to lift by strong air current; replaces standard weighing pan)	YWP03MS

#### **Anti-Vibration Solutions**

Balance table made of cast stone, for weighing with vibration dampening	YWT03
Wall console	YWT04
Balance table made of wood with cast-stone inset for precise, reliable weight measurements	YWT09
Granite Platform (13" $\times$ 15") with vibration isolators	U1-21201315
Granite Platform (16" $\times$ 21") with vibration isolators	U1-24201621

### Weighing Accessories

Weighing scoop of chrome nickel steel, $90 \times 32 \times 8$ mm	641214
Aluminum weighing scoop, 4.5 mg (pack of 250) for ultra-micro and micro balance models	U1-6565-250
Support arm for 10   100 mg precision weighing modules for raised mounting of MSE, MSU and MSA display and control units	YDH01MS
Support arm for precision weighing modules with 100 mg $ $ 1 g readability and weighing capacity $\ge$ 20 kg for raised mounting of 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	69FA0040

Hook for below-balance weighing; for precision weighing modules with 100 mg | 1 g readability and weighing capacity 69EA0040  $\geq$  20 kg

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### **Balance Dimensions**

**Ultramicrobalance** | **Microbalance Control Unit MSA** | **MSU with E-box** All dimensions are given in millimeters





# **Ultramicrobalance** | **Microbalance Control Unit MSE with E-box** All dimensions are given in millimeters





# **Ultramicrobalance** | **Microbalance Weighing Module with DM Draft Shield** All dimensions are given in millimeters



**Ultramicrobalance** | **Microbalance Weighing Module with DF Draft Shield** All dimensions are given in millimeters



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344

**Semi-microbalances with Motorized Draft Shield – Control Unit MSA MSU with E-box** All dimensions are given in millimeters



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





Draft shield DA | DI interior dimensions

(H)250  $\times$  (W)192  $\times$  (D)154

# Analytical Balances with Manual DU Draft Shield – Control Unit MSA | MSU All dimensions are given in millimeters







Draft shield DU interior dimensions (H)261 × (W)193 × (D)191

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







(H)261 × (W)193 × (D)191



**Precision Balances with a Readability of 1 mg and Manual DE Draft Shield – Control Unit MSA | MSU** All dimensions are given in millimeters







Draft shield interior dimensions (H)172  $\times$  (W)193  $\times$  (D)191

Precision Balances with a Readability of 1 mg and Manual DE Draft Shield – Control Unit MSE All dimensions are given in millimeters







Draft shield interior dimensions (H)172  $\times$  (W)193  $\times$  (D)191

**Precision Balances with a Readability of 1 mg and Framed DR Draft Shield – Control Unit MSA | MSU** All dimensions are given in millimeters







# **Precision Balances with a Readability of 1 mg and Framed DR Draft Shield – Control Unit MSE** All dimensions are given in millimeters







**Precision Balances with No Draft Shield – Control Unit MSA | MSU** All dimensions are given in millimeters







# **Precision Balances with No Draft Shield – Control Unit MSE** All dimensions are given in millimeters







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









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



ca. 390

Т

265

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