SARTORIUS

Product Datasheet

Table-Top Robotic Mass Comparators

Models: CCR10.7-C, CCR6.7-C, CCR10.6-C

Advantages

- High-throughput due to 120 magazine positions
- Most efficient motion sequences available on the market thanks to the unique dual robotic arm technology
- Small footprint fits to a weighing table
- Simplified magazine design allows direct loading of OIML- and ASTM-shape weights without the need of additional weight carrier
- Robust system for the best repeatability values
- 3 Variants adapt to various mass determination requirements
- Ergonomic design of the magazine support comfort hand positioning during weight loading
- Climate sensors integrated directly in the weighing chamber measure parameters at the exact location of the mass determination
- Error free arrangement of weights thanks to the bold design of the weight sorting plate offering detachable rows

Product Description

The CCR-Compact Robotic Systems offer higher productivity at lower cost whilst guaranteeing the highest accuracy. Dual robotic arm system allows managing of reference and test weights simultaneously, therefore increasing throughput, as none of the weights have to be returned to the magazine during the weighing process. Assembled with a patented multi weight handler, mass dissemination with groups of up to four test weights can be managed. Fulfilled with 120 magazine positions these robots are optimized for overnight and weekend mass determination or dissemination, without requiring operator intervention.
The CCR-Compact Robotic Systems not only cover mass dissemination requirements from NMI's but are optimized for use in OIML Class E1 and ASTM Class 000 plus the standard mass calibration segments of OIML E2 to F2 and ASTM Class 1 to Class 3 weights.

Technical Specifications

Model	CCR10.7-C	CCR10.6-C	CCR6.7-C
Maximum capacity	10.5 g	10.1 g	6.1 g
Application range	1 mg – 10 g	1 mg – 10 g	1 mg – 6 g
Readability	0.1 µg	1 µg	0.1 µg
Repeatability typical	0.2 µg	0.5 µg	0.2 µg
Rep. under standard conditions E[1]	0.5 µg	0.7 µg	0.3 µg
Repeatability, at > 1-6 g	0.3 µg		
Repeatability, at 0-1 g	0.15 µg		0.15 µg
Rep. under standard conditions F[2]	1.5 µg	2 µg	1.5 µg
Electronic weighing range & taring range	3.5 g	10.1 g	6.1 g
Substitution weights	2 × 3.5 g	-	-
Linearity	1 µg | 3.5 g	4 µg	1 µg
Off-center loading error	0.25 µg / mm	0.5 µg / mm	0.25 µg / mm
Stabilisation time	15 s	10 s	15 s
Cycle time ABA in s	315 s	300 s	315 s

[1] Standard conditions E: ABA measured in a laboratory under E1 conditions, on a decoupled weighing stone, no drafts from above
[2] Standard conditions F: ABA measured in a laboratory under at least F1 conditions, on a non-decoupled weighing table, air conditioned and minimal drafts from above

Important: The stated specifications and technical data apply only under good ambient conditions. Disruptive factors at the place of installation, such as strong drafts (especially from air conditioning equipment), excessive vibrations, physical effects of the items being weighed (e.g. magnetic fields or electrostatic charges), or ambient conditions outside the allowable tolerances, may adversely affect on the specifications.

Basic Equipment

Model	CCR10.7-C	CCR10.6-C	CCR6.7-C
Type	4-axis robot	4-axis robot	4-axis robot
Robotic Arm Technology	Dual Arm System	Dual Arm System	Dual Arm System
Weight Handlers	1 Multi × 1 Single	2 × Single	1 Multi × 1 Single
Magazine positions	120	120	120
Interfaces	LAN	LAN	LAN
Draft shield	▪	▪	▪
Enclosure	▪	▪	▪
Laptop PC	–	–	–
PC software	▪	▪	▪
Climate sensor integrated in the weighing chamber to measure humidity, air pressure & air temperature	▪	▪	▪
Test certificate	Sartorius	Sartorius	Sartorius

Ambient Conditions

Model	CCR10.7-C	CCR10.6-C	CCR6.7-C
Permissable operating temperature range	17 – 27 °C	17 – 27 °C	17 – 27 °C
Recomended operating temperature	22 °C	22 °C	22 °C
Temperature fluctuation	0.3 °C/h | 0.5 °C/12h	0.3 °C/h | 0.5 °C/12h	0.3 °C/h | 0.5 °C/12h
Max. air movement	< 0.2 m/s	< 0.2 m/s	< 0.2 m/s
Humidity range	40 – 60 %	40 – 60 %	40 – 60 %
Humidity fluctuation	5 % / 4 h	5 % / 4 h	5 % / 4 h
Power supply	100 – 240V AC / 50 – 60Hz	100 – 240V AC / 50 – 60Hz	100 – 240V AC / 50 – 60Hz

Dimensions

Model	CCR10.7-C	CCR10.6-C	CCR6.7-C
Weighing pan dimensions (W × D)	49 × 29 mm	49 × 29 mm	49 × 29 mm
Sample size (D × H)	18 × 20 mm	18 × 20 mm	18 × 20 mm
External dimensions W × D × H	1,200 × 800 × 760 mm	1,200 × 800 × 760 mm	1,200 × 800 × 760 mm
Gross weight	265 kg	265 kg	265 kg
Net weight	190 kg	190 kg	190 kg
Number of packages	1	1	1
Pallet	1400 × 980 × 1400 mm	1400 × 980 × 1400 mm	1400 × 980 × 1400 mm
Optimal height for setup	800 mm	800 mm	800 mm

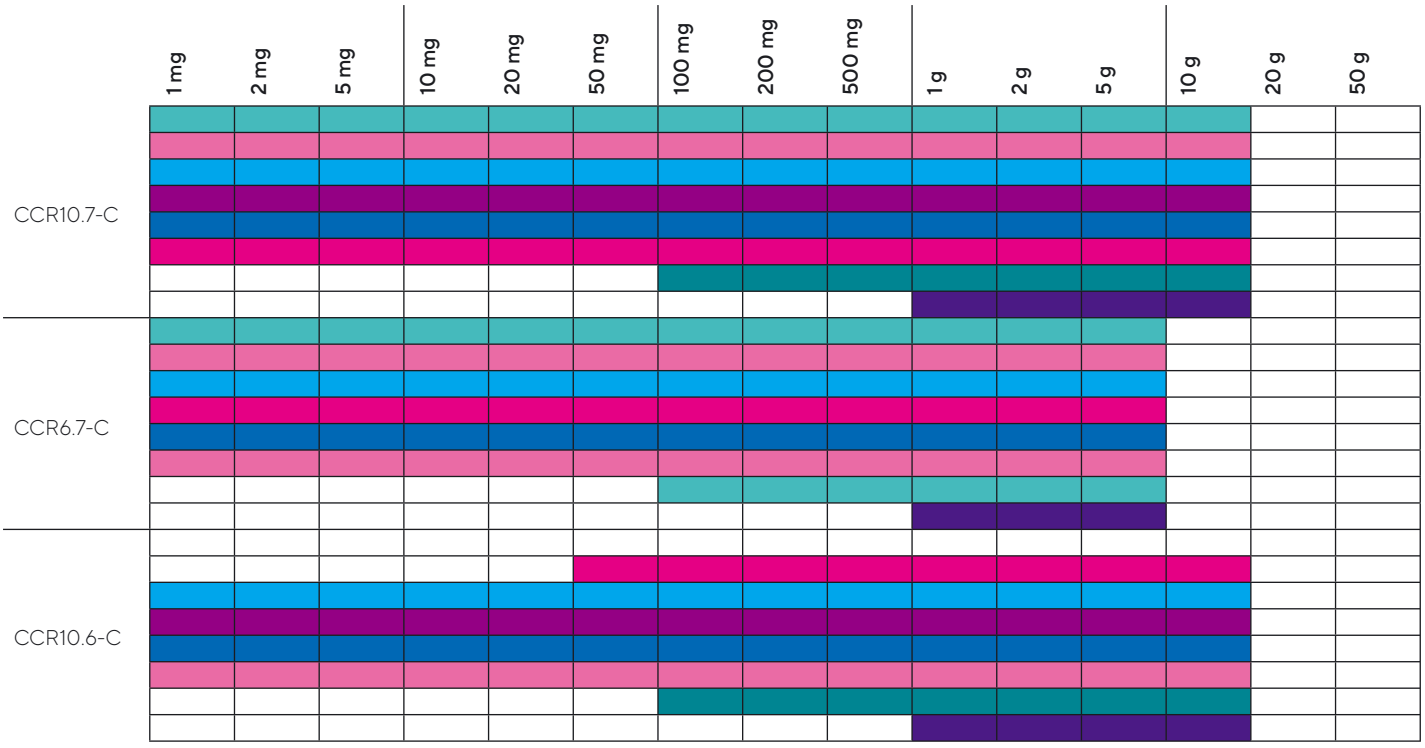

Table 2: Application ranges according to OIML R111

*Reference Standard with 1/5 uncertainty contribution of the E1 tolerance limit

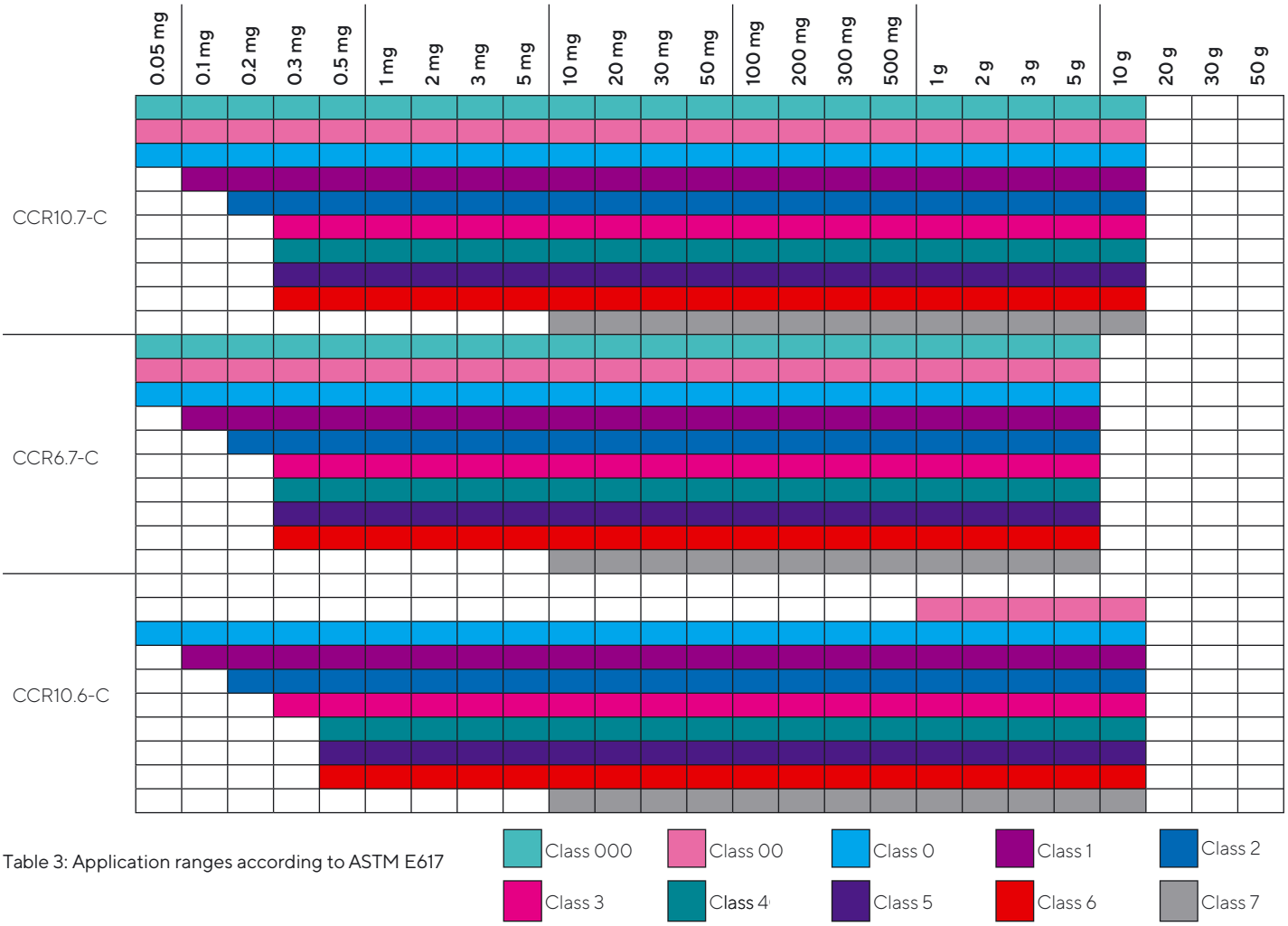

Table 3: Application ranges according to ASTM E617

Optional Acessories

Model	CCR10.7-C	CCR10.6-C	CCR6.7-C
External Calibration weight	2 g | E2 YCW322-02	10 g | E2 YCW412-02	5 g | E2 YCW352-02
PC Software ScalesNet-M	YSN03C + YSN03RC (+ YSN03MC optional)	YSN03C + YSN03RC	YSN03C + YSN03RC (+ YSN03MC optional)
Weight sorting plate	YAW10CCR-C	YAW10CCR-C	YAW10CCR-C
External climate Sensor	YCM20MC-Tower	YCM20MC-Tower	YCM20MC-Tower
DakkS calibration certificate for climate sensors	YCM20DAKKS	YCM20DAKKS	YCM20DAKKS
Weighing Table premium	YWT12	YWT12	YWT12
Weighing Table budget	YWT13	YWT13	YWT13

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