Robotic Comparators
Fully Automatic Mass Determination

Benefit from over 10 years robotic weighing expertise and worldwide installed references.

METTLER TOLEDO

Nano Accuracy
Macro Productivity

Save time and increase your efficiency with METTLER TOLEDO's highly flexible robotic weighing systems.

The Robotic Comparators provide extremely fast results with an outstanding measurement performance approaching nano-accuracy. These unique products have a weighing range from 1 µg to 20 kg and can determine the mass of single weights, or a combination of up to three weights, by downward/upward calibration.

The robotic weighing systems have large magazines and incorporate state-of-the-art weighing technology for fast weight determination up to OIML E1 weight class. The fully automatic process is controlled by Windows® based software which also ensures your measurement data is securely stored. Several models can be used in combination to provide a highly flexible high speed system.

METTLER TOLEDO Robotic Comparators - your turnkey solutions!

Product Range:

a5 / a100 / a107 / a1000
Compact robot systems for ultimate flexibility and performance up to 1 kg.

a5XL / a100XL
XL robot systems for maximum throughput, usability and performance with up to 100 positions.

AX32004-M10
High load comparators for automatic mass determination from 1 kg to 20 kg including block weights.

The Robotic a_Line offers:

Nano-Accuracy

The specially designed detached weighing frame eliminates robot vibrations on the balance. This allows outstanding measurement performance with a resolution of up to 110 million points.

Maximum Efficiency

With the capability to combine robots you can have up to 4 robot arms working simultaneously. With up to 100 positions per system, this maximizes productivity and minimizes human error.

Proven Technology

Our robots offer highly sophisticated 3-axis ball bearing technology. Ultra precise centering and smooth vibration-free handling of weights within seconds is assured year after year.

Secure Operations

The Windows® based software controls all your weighing jobs which can be imported directly from LIMS. Autostart several jobs in row and calculate air buoyancy. Data can be exported to a database giving you full traceability at a keystroke.

Technical data
a5 / a5XL / a107 / a100 / a100XL / a1000 / AX32004-M10 Comparators

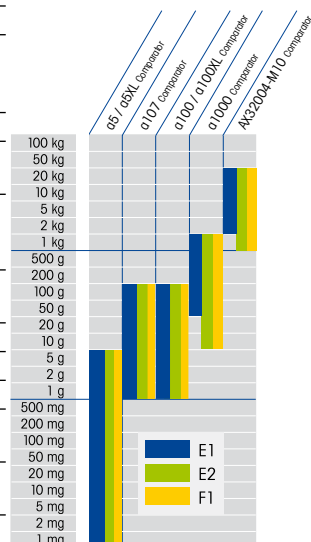| Robotic Comparator	a5 Comparator a5XL	a107 Comparator	a100 Comparator a100XL	a1000 Comparator	AX32004-M10 Comparator
Maximum load	6.1 g	111 g	111 g	1109 g	21260 g
Readability	0.1 µg	0.1 µg	1 µg	10 µg	0.1 mg
Repeatability at nominal load (5x ABA, measured at)	0–1 g: 0.15 µg 1–2 g: 0.25 µg 2–5 g: 0.4 µg	1 µg	1.6 µg	10 µg	0.2 mg
Repeatability typical ABA	0–1 g: 0.05 µg 1–2 g: 0.15 µg 2–5 g: 0.35 µg	0.9 µg	1.3 µg	5 µg	0.1 mg
Electrical weighing range	0…6.1 g	0…11 g	0…11 g	0…109 g	0…260 g
Dial weights	–	50, 30, 10, 10 g	50, 30, 10, 10 g	500, 300, 100, 100 g	4×0.25/ 2×0.5/ 3×2 /2×4
Linearity (electrical weighing range)	±4 µg	±8 µg	±8 µg	±12 µg	+-0.5 mg
Eccentric load deviation (at test load)	0.0 ng (5 g)	0.0 ng (10 g)	0.0 µg (10 g)	0.0 mg (100 g)	0.0 mg (260 g)
Settling time	20 s	30 s	20 s	20 s	20 s
Adjustment built-in	Motorized	Motorized	Motorized	Motorized	Motorized
Adjustment with external weight	5 g	10 g	10 g	100 g	200 g
Standard equipment					
Weight handler	3-axis robot	3-axis robot	3-axis robot	3-axis robot	3-axis robot
Weight magazine	36 positions 100 positions	30 positions	30 positions 56 positions	18 positions	10 positions
Software and controller	Windows®, standard	Windows®, standard	Windows®, standard	Windows®, standard	Windows®, standard
Draft shield	Motorized	Motorized	Motorized	Motorized	Motorized
Weighing pan	Fork-shaped	Fork-shaped	Fork-shaped	Fork-shaped	LevelMatic
SmartScreen	Touch Screen	Touch Screen	Touch Screen	Touch Screen	Touch Screen
SmartSens	Standard	Standard	Standard	Standard	Standard
Separate display	Standard	Standard	Standard	Standard	Standard
Admissible environmental conditions					
Temperature (°C)	17 - 27	17 - 27	17 - 27	17 - 27	17 - 27
Max. temperature change (°C 12 h)	0.5	0.5	0.5	0.5	0,5
Relative Humidity (%)	45 - 60	45 - 60	45 - 60	45 - 60	45 - 60
Dimensions					
Balance (W x D x H, mm) Robotic control unit	1430 x 890 x 1730 1680 x 920 x 1855	1430 x 890 x 1730	1430 x 890 x 1730 1680 x 920 x 1855	1430 x 890 x 1730	2700 x 1400 x 2158 800 x 750 x 815
Display unit (W x D x H, mm)	224 x 366 x 94	224 x 366 x 94	224 x 366 x 94	224 x 366 x 94	224 x 366 x 94
Balance weight (kg)	290 400	290	290 400	290	480
Object Diameter (D, mm)	cylindrical: 4–14 wire weight: 5.5–18 sheet weight: 4–14	6 – 26	6 – 26	10 – 60	cylindrical: 48 – 200 block weights: 234 x 200
Object Height (H, mm)	cylindrical: 16 wire weight: 6	50	50	85	235
Accessories					
Reference weight certified	Optional	Optional	Optional	Optional	Optional
Klimet A30 certified 00222012	Optional	Optional	Optional	Optional	Optional
Temperature sensor for Klimet A30 (5 m) 00222014	Optional	Optional	Optional	Optional	Optional
Professional software for weight dissemination	Optional	Optional	Optional	Optional	Optional
Efficiency Pack 11116875	Optional	Optional	Optional	Optional	Optional

Other accessories on request

a5 Comparator
a5XL Comparator
a107 Comparator
a100 Comparator
a100XL Comparator
a1000 Comparator
AX32004-M10 Comparator

www.mt.com/lab-robotic

For more information

ISO 9001 registered
ISO 14001 registered
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Tailored Services