AKM-2 Automatic Mass Comparator

Class-leading automatic mass comparator

The AKM-2 automatic mass comparator enables determining mass deviations of weights with the minimum possible operator participation. The comparator allows to compare weights of class E1 and lower of mass ranging between 500 g and 50 kg. The device is available in 2–position version for 1 reference weight and 1 test weight.

Maximum Comfort of Operation
To ensure maximum comfort of operation, the mass comparator is equipped with automatic sliding feeder facilitating loading of large-mass weights.

Excellent Measurement Repeatability
The AKM-2 automatic mass comparator, due to the elimination of the human factor, temperature changes and air drafts, guarantees excellent measurement repeatability when compared to manual mass comparator.

Design and Functionality
Specially designed weighing pan enables precise and accurate comparison of the smallest weights. The knob for changing the weighing range allows to compare vast range of loads while maintaining the same resolution. Stable construction of the table with heavy granite stone and robust rubber shock absorbers minimizes the influence of vibrations.

Dedicated Software
Specially designed RMCS computer software enables comprehensive realisation of calibration procedures in laboratory. The system manages the whole calibration process, starting from the moment the order is placed, through procedure performance, to the moment of issuing the calibration certificate.
## Technical Specifications

<table>
<thead>
<tr>
<th>OIML calibration range</th>
<th>AKM-2/10</th>
<th>AKM-2/20</th>
<th>AKM-2/50</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>2 kg ÷ 10 kg</td>
<td>5 kg ÷ 20 kg</td>
<td>20 kg ÷ 50 kg</td>
</tr>
<tr>
<td>E2</td>
<td>500 g ÷ 10 kg</td>
<td>1 kg ÷ 20 kg</td>
<td>5 kg ÷ 50 kg</td>
</tr>
<tr>
<td>F1</td>
<td>500 g ÷ 10 kg</td>
<td>1 kg ÷ 20 kg</td>
<td>5 kg ÷ 50 kg</td>
</tr>
<tr>
<td>F2</td>
<td>500 g ÷ 10 kg</td>
<td>1 kg ÷ 20 kg</td>
<td>5 kg ÷ 50 kg</td>
</tr>
<tr>
<td>M1</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>M2</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

- **Maximum capacity [Max]**
  - AKM-2/10: 10.2 kg
  - AKM-2/20: 20.5 kg
  - AKM-2/50: 51 kg

- **Readability [d]**
  - AKM-2/10: 0.1 mg
  - AKM-2/20: 0.1 mg
  - AKM-2/50: 1 mg

- **Repeatability for nominal load***
  - AKM-2/10: 0.2 mg (10 kg)
  - AKM-2/20: 0.4 mg (20 kg)
  - AKM-2/50: 2 mg (50 kg)

- **Repeatability for small load***
  - AKM-2/10: 0.2 mg (500 g)
  - AKM-2/20: 0.4 mg (1 kg)
  - AKM-2/50: 2 mg (5 kg)

- **Stabilization time**
  - AKM-2/10: 30 s
  - AKM-2/20: 30 s
  - AKM-2/50: 30 s

- **Adjustment**
  - AKM-2/10: external
  - AKM-2/20: external
  - AKM-2/50: external

- **Electric compensation range**
  - AKM-2/10: –100 g ÷ 200 g
  - AKM-2/20: ± 500 g
  - AKM-2/50: ± 1000 g

- **Internal supplementary weights**
  - AKM-2/10: semi-automatic
  - AKM-2/20: semi-automatic
  - AKM-2/50: semi-automatic

- **Eccentricity (for test weight)**
  - AKM-2/10: 0 mg
  - AKM-2/20: 0 mg
  - AKM-2/50: 0 mg

- **Magazine positions**
  - AKM-2/10: 2 positions
  - AKM-2/20: 2 positions
  - AKM-2/50: 2 positions

- **Display**
  - AKM-2/10: 5.7” colour resistive touch screen
  - AKM-2/20: 5.7” colour resistive touch screen
  - AKM-2/50: 5.7” colour resistive touch screen

- **Keypad**
  - AKM-2/10: 8 keys
  - AKM-2/20: 8 keys
  - AKM-2/50: 8 keys

- **Ingress protection - indicator**
  - AKM-2/10: IP 43
  - AKM-2/20: IP 43
  - AKM-2/50: IP 43

- **Touch-free operation**
  - AKM-2/10: 2 programmable sensors
  - AKM-2/20: 2 programmable sensors
  - AKM-2/50: 2 programmable sensors

- **USB-A**
  - AKM-2/10: 2
  - AKM-2/20: 2
  - AKM-2/50: 2

- **Ethernet**
  - AKM-2/10: 10 / 100 Mbit
  - AKM-2/20: 10 / 100 Mbit
  - AKM-2/50: 10 / 100 Mbit

- **RS 232**
  - AKM-2/10: 2
  - AKM-2/20: 2
  - AKM-2/50: 2

- **Wireless Connection**
  - AKM-2/10: 802.11 b/g/n
  - AKM-2/20: 802.11 b/g/n
  - AKM-2/50: 802.11 b/g/n

- **Power supply**
  - AKM-2/10: 110 ÷ 230 V AC / 50 ÷ 60 Hz
  - AKM-2/20: 110 ÷ 230 V AC / 50 ÷ 60 Hz
  - AKM-2/50: 110 ÷ 230 V AC / 50 ÷ 60 Hz

- **Operating temperature**
  - AKM-2/10: +10 ÷ +30 °C
  - AKM-2/20: +10 ÷ +30 °C
  - AKM-2/50: +10 ÷ +30 °C

- **Operating temperature change rate**
  - AKM-2/10: ± 0.5 °C / 12 h (± 0.3 °C / 4 h)
  - AKM-2/20: ± 0.5 °C / 12 h (± 0.3 °C / 4 h)
  - AKM-2/50: ± 0.5 °C / 12 h (± 0.3 °C / 4 h)

- **Relative humidity variations**
  - AKM-2/10: ± 2% / 12 h
  - AKM-2/20: ± 2% / 12 h
  - AKM-2/50: ± 2% / 12 h

- **Relative humidity***
  - AKM-2/10: 40 ÷ 60%
  - AKM-2/20: 40 ÷ 60%
  - AKM-2/50: 40 ÷ 60%

- **Transport and storage temperature**
  - AKM-2/10: –20 ÷ +50 °C
  - AKM-2/20: –20 ÷ +50 °C
  - AKM-2/50: –20 ÷ +50 °C

- **Weighing pan dimensions**
  - AKM-2/10: ø 90 mm
  - AKM-2/20: ø 90 mm
  - AKM-2/50: ø 100 mm

- **Mass comparator dimensions**
  - AKM-2/10: 1050 × 1280 × 750 mm
  - AKM-2/20: 1050 × 1280 × 750 mm
  - AKM-2/50: 1050 × 1280 × 750 mm

- **Indicator dimensions**
  - AKM-2/10: 206 × 140 × 71 mm
  - AKM-2/20: 206 × 140 × 71 mm
  - AKM-2/50: 206 × 140 × 71 mm

- **Mass comparator net weight**
  - AKM-2/10: 330 kg
  - AKM-2/20: 340 kg
  - AKM-2/50: 380 kg

- **Mass comparator gross weight**
  - AKM-2/10: 455 kg
  - AKM-2/20: 465 kg
  - AKM-2/50: 505 kg

- **Mass comparator packaging dimensions**
  - AKM-2/10: 1050 × 800 × 1320 mm
  - AKM-2/20: 1050 × 800 × 1320 mm
  - AKM-2/50: 1050 × 800 × 1320 mm

- **Mass comparator packaging dimensions**
  - AKM-2/10: 1160 × 650 × 690 mm
  - AKM-2/20: 1160 × 650 × 690 mm
  - AKM-2/50: 1160 × 650 × 690 mm

---

* repeatability is expressed as a standard deviation determined for 6 ABBA cycles
** dimensions: length × width × height
*** non-condensing conditions
**** the shipment consists of two packages - box pallet (robot, stone, computer and frame for stone) and packaging with mass comparator (comparator + accessories)
**Dimensions**

**Accessories**

**Ambient Conditions**
- THB-S or THB-P sensor

**Peripheral Devices**
- Epson dot matrix printer
- barcode scanner

**Cables, Converters**
- RS-232 – P0108 computer cable
- RS-232 – P0151 Epson printer cable

**Electrical Accessories**
- power supply with ZR-02 battery

**Dedicated Software**

**RMCS System**
- performance of calibration procedures in a laboratory from the moment the order is placed, to the moment of issuing a calibration certificate
- compatible with THB sensors enabling recording ambient conditions
- export of report results to various files
- archiving calibration protocols, orders, certificates and ambient conditions

**RADWAG Remote Desktop**
- remote control of the mass comparator using computer, telephone or tablet
- sending text messages
- version for Windows 10 and Android systems

**R-LAB**
- collecting measurements
- carrying out statistical analysis of measurements
- customized graphs and reports

**Parameters Editor**
- remote change of parameters
- remote on-line preview of the display
- displaying current mass indication
- software update
- file loading, editing and saving parameters to a file
- import and export of parameters
- interfaces: RS232, Ethernet and Wireless Connection
- quick and easy edition of balance parameters using computer