

# PM 4Y.KB Mass Comparator

Class-leading manual mass comparator





Specially designed suitcase for PM 4Y.KB mass comparator



Positioners on an open-workweighing pan

## **Functions**



Mass comparator



Ambient conditions measurement



Proximity sensors



Replaceable units



Multilingual menu

#### **Features**

# **Effective and Excellent Measurement**

The PM 4Y.KB series represents the standard-class manual mass comparators. The comparator allows to compare weights of class F2 and lower of mass ranging between 1 kg and 50 kg.

## **Maximum Comfort of Operation**

The PM 4Y.KB is comprised of two parts. One featuring an electromagnetic module, the other a precise mechanical measuring system. To ensure required weighing accuracy, the mass comparator uses a semi-automatic system of adjustment carried out using an external adjustment weight. The weighing pan is made of aluminium and features positioners for centring the mass standard.

# **Dedicated Software**

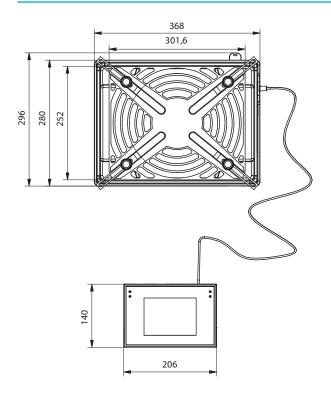
Specially designed RMCS computer software enables comprehensive realisation of calibration procedures in laboratory. The system manages the whole calibration process, starting from the moment the order is placed, through procedure performance, to the moment of issuing the calibration certificate.

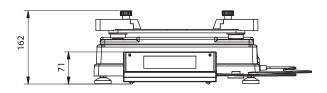
# **Technical Specifications**

OMIL calibration range E1         —         —         —           OMIL calibration range F2         —         —         —           OMIL calibration range F2         —         50 kg           OMIL calibration range F2         —         5 kg + 20 kg         50 kg           OMIL calibration range F2         —         1 kg + 20 kg         10 kg + 50 kg           OMIL calibration range F2         —         1 kg + 20 kg         10 kg + 50 kg           OMA         Calibration range F2         —         1 kg + 20 kg         10 kg + 50 kg           OMA administration range F2         —         1 kg + 20 kg         10 kg + 50 kg         10 kg + 50 kg           Repeatability for nominal load*         1 bmg (1 kg)         100 mg (10 kg)         10 kg + 50 kg         100 mg (10 kg)           Repeatability for nominal load*         5 s         3 s         3 s         4 cmall           Repeatability for nominal load*         5 kg (1 kg)         20 kg (1 k		PM 25.4Y.KB	PM 50.4Y.KB
OlML calibration range F1         —         —           OlML calibration range F2         5 kg + 20 kg         50 kg           OlML calibration range M1         2 kg + 20 kg         10 kg + 50 kg           OlML calibration range M2         1 kg + 20 kg         10 kg + 50 kg           Maximum capacity [Max]         25 kg         51 kg           Readability for mominal load*         15 mg (20 kg)         100 mg           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range kg         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)           Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range kg         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)           Display         5 7° colour resistive touch screen         8 keys           Recentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)           Touch free operation         2 programmable sensors         8 keys           Use Sab         2	OIML calibration range E1	_	_
OlML calibration range F2         5 kg + 20 kg         50 kg           OlML calibration range M1         2 kg + 20 kg         10 kg + 50 kg           OlML calibration range M2         1 kg + 20 kg         10 kg + 50 kg           Maximum capacity [Max]         25 Skg         51 kg           Readability (d)         10 mg         100 mg (50 kg)           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Adjustment         external         external           Electric compensation range         0 g + 25 5 kg         0 g + 51 g           Eccentricity (for test welght)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7* colour resistive touch screen         5.7* colour resistive touch screen         8 keys           Keypad         8 keys         8 keys         8 keys           Ingress protection - indicator         1P 43         P 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USE-A         2         2           Efternet         10 / 100 Mbit         10 / 100 Mbit         10 / 100 Mbit           IN/OUT         4 x   N. 4 × OUT	OIML calibration range E2	_	_
OlML calibration range M1         2 kg ≠ 20 kg         10 kg ≠ 50 kg           OlML calibration range M2         1 kg ≠ 20 kg         10 kg ≠ 50 kg           Maximum capacity Maxl         25.5 kg         51 kg           Readability fd1         10 mg         100 mg           Repeatability for nominal load*         15 mg (20 kg)         100 mg (50 kg)           Repeatability for small load*         8 mg (1 kg)         7 mg (10 kg)           Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range         0 g ≠ 25 kg         0 g ≠ 51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7° colour resistive touch screen         8 keys           Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         9           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit         10 / 100 Mbit           Touch-free operation         8 02.11 b/g/n         80.211 b/g/n         80.211 b/g/n	OIML calibration range F1	_	_
Oll La calibration range M2         1 kg + 20 kg         10 kg + 50 kg           Maximum capacity [Max]         255 kg         51 kg           Readability (of nominal load*         15 mg (20 kg)         100 mg (50 kg)           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range         09 + 255 kg         09 + 51 g           Electric try (for test weight)         1 d/2 mm (20 kg) / 1 d/5 mm (2 kg)         1 d/2 mm (50 kg) / 1 d/5 mm (10 kg)           Display         5 colour resistive touch screen         5 colour resistive touch screen           Keypad         8 keys         8 keys           Ingess protection - indicator         18 48         18 48           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit         10 / 100 Mbit           R5 232         2         2           Wireless Connection         8021 1b //m         82 / 10 / 10 / 10 / 10 / 10 / 10 / 10 / 1	OIML calibration range F2	5 kg ÷ 20 kg	50 kg
Maximum capacity [Max]         25.5 kg         51 kg           Readability [d]         10 mg         100 mg           Repeatability for nominal load*         15 mg (20 kg)         100 mg (50 kg)           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range         0 g + 25.5 kg         0 g + 51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7° colour resistive touch screen         5.8° colour resistive touch screen           Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         18 d           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit         10 / 100 Mbit           R5 232         2         2           Wireless Connection         80211 b/g/n         80211 b/g/n           IN/OUT         4 x N, 4 x OUT         4 x N, 4 x OUT           Power supply         110 + 230 v Ac / 50 +	OIML calibration range M1	2 kg ÷ 20 kg	10 kg ÷ 50 kg
Readability (d)         10 mg         100 mg           Repeatability for nominal load*         15 mg (20 kg)         100 mg (50 kg)           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Stabilization time         5 s         3           Adjustment         external         external           Electric compensation range         0 g+25 kg         0 g+51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5 relouir resistive touch screen         5 relouir resistive touch screen         5 relouir resistive touch screen           Keypad         8 keys         8 keys         8 relouir resistive touch screen           Touch-free operation         1 P 43         9 relouir resistive touch screen           USB-A         2         9 rogrammable sensors         2 programmable sensors           USB-A         2 programmable sensors         2 programmable sensors         2 programmable sensors           RS 232         2         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n         802.11 b/g/n           MN/OUT         4 x IN,4 x x x X X x x x x X x X x x x X x X x	OIML calibration range M2	1 kg ÷ 20 kg	10 kg ÷ 50 kg
Repeatability for nominal load*         15 mg (20 kg)         100 mg (50 kg)           Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Stabilization time         5 s         3 s           Adjustment         external         external         external           Electric compensation range         0 g + 25 kg         0 g + 51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7° colour resistive touch screen         5.7° colour resistive touch screen           Keypad         8 keys         8 keys           Ingress protection - indicator         19 43         9           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit         10 / 100 Mbit           R5 232         2         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n         802.11 b/g/n           Wireless Connection         10 + 230 VAC / 50 + 60 Hz         110 + 230 VAC / 50 + 60 Hz         10 + 230 VAC / 50 + 60 Hz           Operating temperature         10 + 20 VE / 12 h         20 C / 12 h         20 C	Maximum capacity [Max]	25.5 kg	51 kg
Repeatability for small load*         8 mg (1 kg)         70 mg (10 kg)           Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range         0 g+ 25.5 kg         0 g+ 51 g           Eccentricity (for test weight)         1 d/2 mm (20 kg) / 1 d/5 mm (2 kg)         1 d/2 mm (50 kg) / 1 d/5 mm (10 kg)           Display         5.7" colour resistive touch screen         5.7" colour resistive touch screen           Keypad         8 keys         8 keys         8 keys           Ingress protection - indicator         IP 43         IP 43         P43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10/100 Mbit         10/100 Mbit         10/100 Mbit           R5 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 × IN,4 × OUT         4 × IN,4 × OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 240 °C           Operating temperature         ±10° +40°C         ±2°C/12 h           Relative humidity variations         ±10% / 4h         ±10% / 4h	Readability [d]	10 mg	100 mg
Stabilization time         5 s         3 s           Adjustment         external         external           Electric compensation range         0 g + 25.5 kg         0 g + 51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7° colour resistive touch screen         5.7° colour resistive touch screen         5.7° colour resistive touch screen           Keypad         8 keys         8 keys         8 keys           Ingress protection - indicator         IP 43         19 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           R5 232         2         2           Wireles Connection         40 × 10 × 40 × 40 × 40         4 × 10 × 40 × 40 × 40 × 40 × 40 × 40 × 4	Repeatability for nominal load*	15 mg (20 kg)	100 mg (50 kg)
Adjustment         external         external           Electric compensation range         0 g + 25.5 kg         0 g + 51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7" colour resistive touch screen         5.7" colour resistive touch screen           Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         IP 43           Touch-free operation         2 programmable sensors         2           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         80211 b/g/n         80211 b/g/n           IN/OUT         4 × IN, 4 × 0UT         4 × IN, 4 × OUT           Power supply         110 + 230 V AC / 50 ÷ 60 Hz         110 + 230 V AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity variations         ±0% / 50°C         20 ÷ +50°C           Transport         20 ÷ +5	Repeatability for small load*	8 mg (1 kg)	70 mg (10 kg)
Electric compensation range         0 g ÷ 25.5 kg         0 g ÷ 51 g           Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7" colour resistive touch screen         5.7" colour resistive touch screen           Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         IP 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           IN/OUT         4 × IN,4 × OUT         4 × IN,4 × OUT           Power supply         110 + 230 ∨ AC / 50 ÷ 60 Hz         110 ÷ 230 ∨ AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport         −20 ÷ +50 °C         −20 ÷ +50 °C           and storage temperature         302 × 252 mm         308 × 296 × 162 mm           Mass comparator dimensions**         306 × 140 × 70 mm         306 × 14	Stabilization time	5 s	3 s
Eccentricity (for test weight)         1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)         1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)           Display         5.7" colour resistive touch screen         5.7" colour resistive touch screen           Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         IP 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 x IN, 4 x OUT         4 x IN, 4 x OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 230 V AC / 50 ÷ 60 Hz           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity variations         30 ÷ 70%         30 ÷ 70%           Transport         20 ÷ 50°C         20 ÷ 50°C           and storage temperature         302 × 252 mm         302 × 252 mm           Mass comparator dimensions**         368 × 296 × 162 mm         368 × 296 × 162 mm <t< th=""><th>Adjustment</th><th>external</th><th>external</th></t<>	Adjustment	external	external
Display         5.7" colour resistive touch screen         5.7" colour resistive touch screen           Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         IP 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 × IN, 4 × OUT         4 × IN, 4 × OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 230 V AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ± 2°C / 12 h         ± 2°C / 12 h           Relative humidity variations         ± 100 / 4 h         ± 100 / 4 h           Relative humidity variations         ± 100 / 4 h         ± 100 / 4 h           Relative humidity variations         30 ÷ 70%         30 ÷ 70%           Transport         30 ÷ 0 °C         30 ÷ 50 °C           and storage temperature         20 ÷ +50 °C         30 ÷ +50 °C           Weighing pan dimensions         308 × 296 × 162 mm	Electric compensation range	0 g ÷ 25.5 kg	0 g ÷ 51 g
Keypad         8 keys         8 keys           Ingress protection - indicator         IP 43         IP 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 × IN, 4 × OUT         4 × IN, 4 × OUT           Power supply         110 ÷ 230 ∨ AC / 50 ÷ 60 Hz         110 ÷ 230 ∨ AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport         −20 ÷ +50 °C         −20 ÷ +50 °C           and storage temperature         ***         ***           Weighing pan dimensions         302 × 252 mm         302 × 252 mm           Mass comparator dimensions***         368 × 296 × 162 mm         368 × 296 × 162 mm           Indicator dimensions***         206 × 140 × 70 mm         2	Eccentricity (for test weight)	1 d / 2 mm (20 kg) / 1 d / 5 mm (2 kg)	1 d / 2 mm (50 kg) / 1 d / 5 mm (10 kg)
Ingress protection - indicator         IP 43         IP 43           Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 x IN, 4 x OUT         4 x IN, 4 x OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 230 V AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2 °C / 12 h         ±2 °C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport         −20 ÷ +50 °C         −20 ÷ +50 °C           and storage temperature         302 x 252 mm         302 x 252 mm           Mass comparator dimensions**         368 x 296 x 162 mm         368 x 296 x 162 mm           Indicator dimensions**         206 x 140 x 70 mm         206 x 140 x 70 mm         10 kg           Mass comparator net weight         10 kg         10 kg         10 kg	Display	5.7" colour resistive touch screen	5.7" colour resistive touch screen
Touch-free operation         2 programmable sensors         2 programmable sensors           USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 × IN,4 × OUT         4 × IN,4 × OUT           Power supply         110 ÷ 230 ∨ AC / 50 ÷ 60 Hz         110 ÷ 230 ∨ AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport and storage temperature         -20 ÷ +50 °C         -20 ÷ +50 °C           Weighing pan dimensions         302 × 252 mm         302 × 252 mm           Mass comparator dimensions**         368 × 296 × 162 mm         368 × 296 × 162 mm           Indicator dimensions**         206 × 140 × 70 mm         206 × 140 × 70 mm           Mass comparator gross weight         12 kg         12 kg	Keypad	8 keys	8 keys
USB-A         2         2           Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 × IN,4 × OUT         4 × IN,4 × OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 230 V AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport and storage temperature         -20 ÷ +50 °C         -20 ÷ +50 °C           Weighing pan dimensions         302 × 252 mm         302 × 252 mm           Mass comparator dimensions**         368 × 296 × 162 mm         368 × 296 × 162 mm           Indicator dimensions**         206 × 140 × 70 mm         206 × 140 × 70 mm           Mass comparator net weight         10 kg         10 kg           Mass comparator gross weight         12.2 kg         12.2 kg	Ingress protection - indicator	IP 43	IP 43
Ethernet         10 / 100 Mbit         10 / 100 Mbit           RS 232         2         2           Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 × IN, 4 × OUT         4 × IN, 4 × OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 230 V AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport         −20 ÷ +50 °C         −20 ÷ +50 °C           and storage temperature         ***         ***           Weighing pan dimensions         302 × 252 mm         302 × 252 mm           Mass comparator dimensions**         368 × 296 × 162 mm         368 × 296 × 162 mm           Indicator dimensions**         206 × 140 × 70 mm         206 × 140 × 70 mm           Mass comparator net weight         10 kg         10 kg           Mass comparator gross weight         12.2 kg         12.2 kg	Touch-free operation	2 programmable sensors	2 programmable sensors
RS 232       2         Wireless Connection       802.11 b/g/n       802.11 b/g/n         IN/OUT $4 \times IN, 4 \times OUT$ $4 \times IN, 4 \times OUT$ Power supply $110 \div 230 \text{ V AC} / 50 \div 60 \text{ Hz}$ $110 \div 230 \text{ V AC} / 50 \div 60 \text{ Hz}$ Operating temperature $+10 \div +40 ^{\circ}\text{C}$ $+10 \div +40 ^{\circ}\text{C}$ Operating temperature change rate $\pm 2^{\circ}\text{C} / 12 \text{ h}$ $\pm 2^{\circ}\text{C} / 12 \text{ h}$ Relative humidity variations $\pm 10\% / 4 \text{ h}$ $\pm 10\% / 4 \text{ h}$ Relative humidity*** $30 \div 70\%$ $30 \div 70\%$ Transport $-20 \div +50 ^{\circ}\text{C}$ $-20 \div +50 ^{\circ}\text{C}$ and storage temperature       Weighing pan dimensions $302 \times 252  \text{mm}$ $302 \times 252  \text{mm}$ Mass comparator dimensions** $368 \times 296 \times 162  \text{mm}$ $368 \times 296 \times 162  \text{mm}$ $206 \times 140 \times 70  \text{mm}$ Mass comparator net weight $10  \text{kg}$ $10  \text{kg}$ $10  \text{kg}$ Mass comparator gross weight $12.2  \text{kg}$ $12.2  \text{kg}$	USB-A	2	2
Wireless Connection         802.11 b/g/n         802.11 b/g/n           IN/OUT         4 x IN, 4 x OUT         4 x IN, 4 x OUT           Power supply         110 ÷ 230 V AC / 50 ÷ 60 Hz         110 ÷ 230 V AC / 50 ÷ 60 Hz           Operating temperature         +10 ÷ +40 °C         +10 ÷ +40 °C           Operating temperature change rate         ±2°C / 12 h         ±2°C / 12 h           Relative humidity variations         ±10% / 4 h         ±10% / 4 h           Relative humidity***         30 ÷ 70%         30 ÷ 70%           Transport         −20 ÷ +50 °C         −20 ÷ +50 °C           and storage temperature         Weighing pan dimensions         302 x 252 mm         302 x 252 mm           Mass comparator dimensions**         368 x 296 x 162 mm         368 x 296 x 162 mm           Indicator dimensions**         206 x 140 x 70 mm         206 x 140 x 70 mm           Mass comparator net weight         10 kg         10 kg           Mass comparator gross weight         12.2 kg         12.2 kg	Ethernet	10 / 100 Mbit	10 / 100 Mbit
IN/OUT $4 \times IN, 4 \times OUT$ $4 \times IN, 4 \times OUT$ Power supply $110 \div 230 \text{ V AC} / 50 \div 60 \text{ Hz}$ $110 \div 230 \text{ V AC} / 50 \div 60 \text{ Hz}$ Operating temperature $+10 \div +40 ^{\circ}\text{C}$ $+10 \div +40 ^{\circ}\text{C}$ Operating temperature change rate $\pm 2^{\circ}\text{C} / 12 \text{ h}$ $\pm 2^{\circ}\text{C} / 12 \text{ h}$ Relative humidity variations $\pm 10\% / 4 \text{ h}$ $\pm 10\% / 4 \text{ h}$ Relative humidity**** $30 \div 70\%$ $30 \div 70\%$ Transport $-20 \div +50 ^{\circ}\text{C}$ $-20 \div +50 ^{\circ}\text{C}$ and storage temperature         Weighing pan dimensions $302 \times 252  \text{mm}$ $302 \times 252  \text{mm}$ Mass comparator dimensions** $368 \times 296 \times 162  \text{mm}$ $368 \times 296 \times 162  \text{mm}$ Indicator dimensions** $206 \times 140 \times 70  \text{mm}$ $206 \times 140 \times 70  \text{mm}$ Mass comparator net weight $10  \text{kg}$ $10  \text{kg}$ Mass comparator gross weight $12.2  \text{kg}$ $12.2  \text{kg}$	RS 232	2	2
Power supply $110 \div 230  \text{V}  \text{AC} / 50 \div 60  \text{Hz}$ $110 \div 230  \text{V}  \text{AC} / 50 \div 60  \text{Hz}$ Operating temperature $+10 \div +40  ^{\circ}\text{C}$ $+10 \div +40  ^{\circ}\text{C}$ Operating temperature change rate $\pm 2^{\circ}\text{C} / 12  \text{h}$ $\pm 2^{\circ}\text{C} / 12  \text{h}$ Relative humidity variations $\pm 10\% / 4  \text{h}$ $\pm 10\% / 4  \text{h}$ Relative humidity*** $30 \div 70\%$ $30 \div 70\%$ Transport and storage temperature $-20 \div +50  ^{\circ}\text{C}$ $-20 \div +50  ^{\circ}\text{C}$ Weighing pan dimensions $302 \times 252  \text{mm}$ $302 \times 252  \text{mm}$ Mass comparator dimensions** $368 \times 296 \times 162  \text{mm}$ $368 \times 296 \times 162  \text{mm}$ Indicator dimensions** $206 \times 140 \times 70  \text{mm}$ $206 \times 140 \times 70  \text{mm}$ Mass comparator net weight $10  \text{kg}$ $10  \text{kg}$ Mass comparator gross weight $12.2  \text{kg}$ $12.2  \text{kg}$	Wireless Connection	802.11 b/g/n	802.11 b/g/n
Operating temperature $+10 \div +40 ^{\circ}\text{C}$ $+10 \div +40 ^{\circ}\text{C}$ Operating temperature change rate $\pm 2^{\circ}\text{C}/12 \text{h}$ $\pm 2^{\circ}\text{C}/12 \text{h}$ Relative humidity variations $\pm 10\%/4 \text{h}$ $\pm 10\%/4 \text{h}$ Relative humidity*** $30 \div 70\%$ $30 \div 70\%$ Transport and storage temperature $-20 \div +50 ^{\circ}\text{C}$ $-20 \div +50 ^{\circ}\text{C}$ Weighing pan dimensions $302 \times 252 \text{mm}$ $302 \times 252 \text{mm}$ Mass comparator dimensions** $368 \times 296 \times 162 \text{mm}$ $368 \times 296 \times 162 \text{mm}$ Indicator dimensions** $206 \times 140 \times 70 \text{mm}$ $206 \times 140 \times 70 \text{mm}$ Mass comparator net weight $10 \text{kg}$ $10 \text{kg}$ Mass comparator gross weight $12.2 \text{kg}$ $12.2 \text{kg}$	IN/OUT	$4 \times IN, 4 \times OUT$	$4 \times IN, 4 \times OUT$
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Power supply	110 ÷ 230 V AC / 50 ÷ 60 Hz	110 ÷ 230 V AC / 50 ÷ 60 Hz
Relative humidity variations $\pm 10\%/4  h$ $\pm 10\%/4  h$ Relative humidity*** $30 \div 70\%$ $30 \div 70\%$ Transport and storage temperature $-20 \div +50  ^{\circ}\text{C}$ $-20 \div +50  ^{\circ}\text{C}$ Weighing pan dimensions $302 \times 252  \text{mm}$ $302 \times 252  \text{mm}$ Mass comparator dimensions** $368 \times 296 \times 162  \text{mm}$ $368 \times 296 \times 162  \text{mm}$ Indicator dimensions** $206 \times 140 \times 70  \text{mm}$ $206 \times 140 \times 70  \text{mm}$ Mass comparator net weight $10  \text{kg}$ $10  \text{kg}$ Mass comparator gross weight $12.2  \text{kg}$ $12.2  \text{kg}$	Operating temperature	+10 ÷ +40 °C	+10 ÷ +40 °C
Relative humidity***       30 ÷ 70%       30 ÷ 70%         Transport and storage temperature       -20 ÷ +50 °C       -20 ÷ +50 °C         Weighing pan dimensions       302 × 252 mm       302 × 252 mm         Mass comparator dimensions**       368 × 296 × 162 mm       368 × 296 × 162 mm         Indicator dimensions**       206 × 140 × 70 mm       206 × 140 × 70 mm         Mass comparator net weight       10 kg       10 kg         Mass comparator gross weight       12.2 kg       12.2 kg	Operating temperature change rate	±2°C / 12 h	±2°C / 12 h
Transport and storage temperature $-20 \div +50 ^{\circ}\text{C}$ $-20 \div +50 ^{\circ}\text{C}$ Weighing pan dimensions $302 \times 252  \text{mm}$ $302 \times 252  \text{mm}$ Mass comparator dimensions** $368 \times 296 \times 162  \text{mm}$ $368 \times 296 \times 162  \text{mm}$ Indicator dimensions** $206 \times 140 \times 70  \text{mm}$ $206 \times 140 \times 70  \text{mm}$ Mass comparator net weight $10  \text{kg}$ $10  \text{kg}$ Mass comparator gross weight $12.2  \text{kg}$ $12.2  \text{kg}$	Relative humidity variations	±10% / 4 h	±10% / 4 h
and storage temperature         Weighing pan dimensions       302 × 252 mm       302 × 252 mm         Mass comparator dimensions**       368 × 296 × 162 mm       368 × 296 × 162 mm         Indicator dimensions**       206 × 140 × 70 mm       206 × 140 × 70 mm         Mass comparator net weight       10 kg       10 kg         Mass comparator gross weight       12.2 kg       12.2 kg	Relative humidity***	30 ÷ 70%	30 ÷ 70%
Weighing pan dimensions $302 \times 252 \mathrm{mm}$ $302 \times 252 \mathrm{mm}$ Mass comparator dimensions** $368 \times 296 \times 162 \mathrm{mm}$ $368 \times 296 \times 162 \mathrm{mm}$ Indicator dimensions** $206 \times 140 \times 70 \mathrm{mm}$ $206 \times 140 \times 70 \mathrm{mm}$ Mass comparator net weight $10 \mathrm{kg}$ $10 \mathrm{kg}$ Mass comparator gross weight $12.2 \mathrm{kg}$ $12.2 \mathrm{kg}$	•	-20 ÷ +50 ℃	−20 ÷ +50 °C
Mass comparator dimensions**         368 × 296 × 162 mm         368 × 296 × 162 mm           Indicator dimensions**         206 × 140 × 70 mm         206 × 140 × 70 mm           Mass comparator net weight         10 kg         10 kg           Mass comparator gross weight         12.2 kg         12.2 kg		302 × 252 mm	302 × 252 mm
Indicator dimensions** $206 \times 140 \times 70 \text{ mm}$ $206 \times 140 \times 70 \text{ mm}$ Mass comparator net weight $10 \text{ kg}$ $10 \text{ kg}$ Mass comparator gross weight $12.2 \text{ kg}$ $12.2 \text{ kg}$			
Mass comparator net weight10 kg10 kgMass comparator gross weight12.2 kg12.2 kg			
Mass comparator gross weight 12.2 kg 12.2 kg			
	Mass comparator packaging dimensions**	520 × 520 × 280 mm	520 × 520 × 280 mm

repeatability is expressed as a standard deviation determined for 6 ABBA cycles dimensions: length x width x depth non-condensing conditions

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## Accessories

#### **Weighing Tables**

- granite anti-vibration table
- anti-vibration table for APP balances and mass comparators

#### **Ambient Conditions**

• THB-S or THB-P sensor

### **Peripheral Devices**

- Epson dot matrix printer
- barcode scanner
- WD-5/3Y LCD display (backlit)

#### Cables, Converters

- RS-232 P0108 computer cable
- RS-232 P0167 computer cable
- RS-232 P0151 Epson printer cable

# **Electrical Accessories**

• power supply with ZR-02 battery

#### **Anti-Draft Chambers**

- WAY-AK-SK-00 anti-draft chamber
- · WAY-AK5-SK-00 anti-draft chamber

# **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
- $\bullet \ displaying \ current \ mass \ indication$
- 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