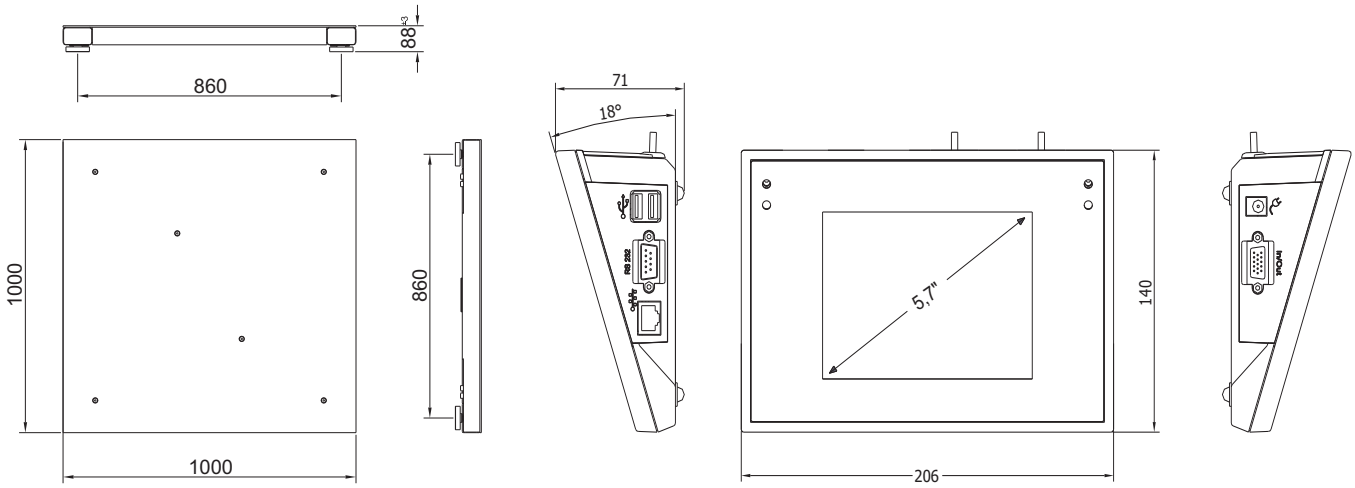
WPY MASS COMPARATOR

Mass comparators are devices specially designer for determining the differences between the weight of checked standard mass (B) and weight of reference standard mass (A). Mass comparators are most often applicable in measuring laboratories, where calibration of weights and standard masses is performed. Radwag includes in its offer mass comparators for calibration of weights and standard masses class M1 according to OIML R111, ranging from 500kg, 1000kg and 2000kg with readability 5g, 10g or 20g.

Mass comparator series WPY is equipped with big, backlit, graphic display, and user menu operating in Polish and English. In order to assure highest measuring accuracy, mass comparator has semi-automatic adjusting system with external standard mass.

Weighing platform is manufactured in mild steel technology. It is resistant against scratching and easy to keep clean. Mass comparator is equipped with user friendly menu allowing for generation of GLP procedures as a standard printout or freely definable user printout. Mass comparator is equipped with RS 232 output, 2×USB and Ethernet.



Comparator is in high degree influenced by external conditions like temperature, breeze and vibrations. For the purpose of proper operation conditions, it is necessary to use the comparator in a room with very precise temperature control (laminar air-conditioning) and place of usage should be free from any vibrations.
Comparators do not undergo Legal Metrological Control. Main criterion if evaluation is repeatability. The software is equipped with application for estimating average deviation by two methods: ABA or ABBA, for maximally 20 repetitions. After running the procedure, the software generates the report with results.

Technical data:

	WPY 510/KO	WPY 1100/KO	WPY 2100/KO
Maximal capacity	510 kg	1100 kg	2100 kg
Readability	5 g	10 g	20 g
Range of electromagnetic compensation	0...500 kg	0...1000 kg	0...2000 kg
Repeatability*	5 g	10 g	20 g
Stabilization time		10-20s	
Calibration		external	
Pan size	1000×1000mm	1000×1000mm	1200×1500mm
Calibration range according to OIML R111	500 kg (M1÷M3)	1000 kg (M1÷M3)	2000 kg (M1÷M3)
Environmental conditions			
Working temperature		+10° ÷ +35°C	
Change rate of working temperatures		±2°C/24h	
Humidity		40÷70%	

* Repeatability is expressed as a standard deviation of six ABBA cycles (according to R111 OIM) in stable laboratory conditions.

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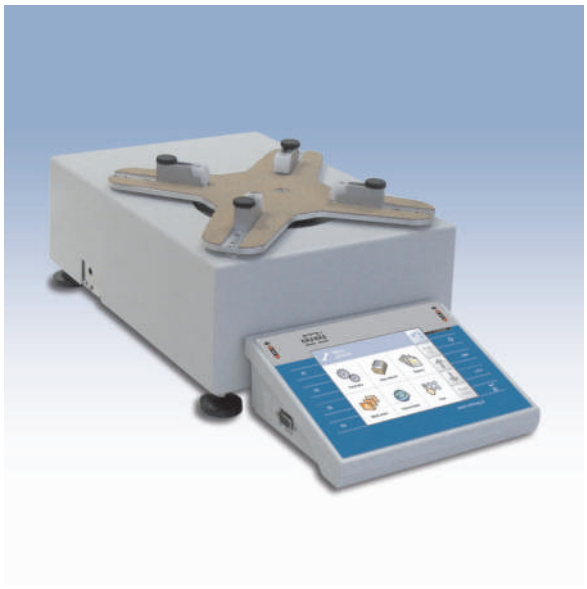
APP/Y MASS COMPARATOR



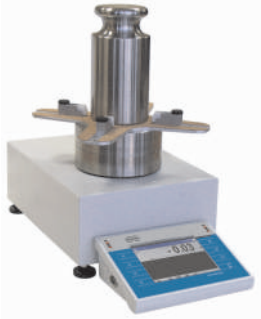
Mass comparators are devices specially designer for determining the differences between the weight of checked standard mass (B) and weight of reference standard mass (A). Mass comparators are most often applicable in measuring laboratories, where calibration of weights and standard masses is performed. Radwag includes in its offer mass comparators for calibration of weights and standard masses classes: F2, M1 according to OIML R111, ranging from 5kg to 20kg with readability 10mg. Mass comparator series APP/Y is a compact housing with precise measuring set.

Mass comparator series APP/Y is equipped with big, backlit, graphic display, and user menu operating in Polish and English. In order to assure highest measuring accuracy, mass comparator has semi-automatic adjusting system with external standard mass. Weighing pan of APP/Y mass comparator is manufactured in stainless steel technology, it is resistant against scratching, and easy to keep clean. All elements of mass comparator series APP/Y are made from metal, which eliminates the influence of electrostatic charges on weighing process.

Mass comparator is equipped with user friendly menu allowing for generation of GLP procedures as a standard printout or freely definable user printout. Mass comparator is equipped with RS 232 output, 2×USB, Ethernet, 2 in/2 out.

Option of detaching weighing indicator from weighing chamber

Comparison method of a standard with nominal mass 20kg



Comparison method of a standard with nominal mass 10kg

Comparator is in high degree influenced by external conditions like temperature, breeze and vibrations. For the purpose of proper operation conditions, it is necessary to use the comparator in a room with very precise temperature control (laminar air-conditioning) and place of usage should be free from any vibrations.
Comparators do not undergo Legal Metrological Control. Main criterion if evaluation is repeatability. The software is equipped with application for estimating average deviation by method ABBA, for maximally 6 repetitions. After running the procedure, the software generates the report with results.

Technical data:

	APP 20/KO/Y
Maximal capacity	20 kg
Readability	10 mg
Range of electromagnetic compensation	0...1000 g
Repeatability*	2 mg
Stabilization time	3-4 s
Calibration	external
Pan size	ø 230mm
Calibration range according to OIML R111	10kg-20kg (F1), 5kg-20kg (F2÷M1)
Environmental conditions	
Working temperature	+15° ÷ +35°C
Change rate of working temperatures	±0,5°C/24h
Humidity	40÷70%

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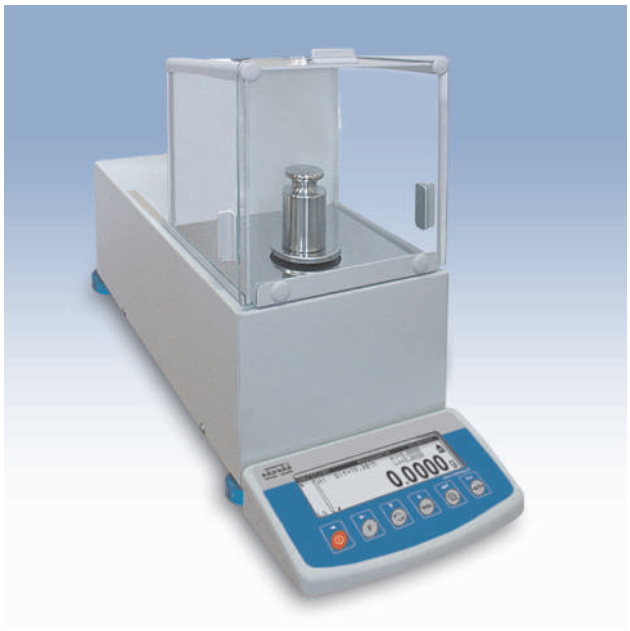
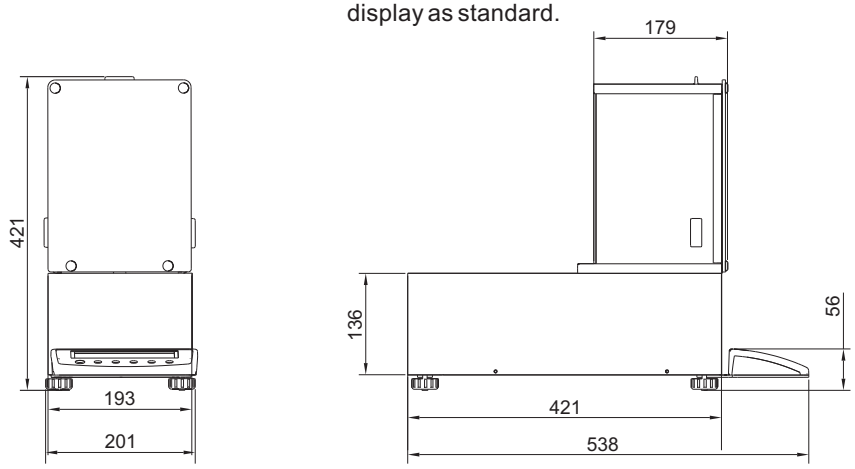
WAX 210-5100 MASS COMPARATORS



Mass comparators are devices designed for determining the differences between masses of calibration weight (B) and reference weight (A). Comparators are most often used in measuring laboratories for calibration of weights and masses. Radwag offers comparators designed for calibration of weights and masses class E1, E2, F1, F2, M1 according to OIML R111, ranging from 100g to 5000g with readability from 0.01mg to 1mg.
Main part of the comparator is precise mechanical measuring system which is separated from electronic circuits. Such solution guarantees elimination of temperature influence (warming of electronic elements) on the indications of comparator.
Comparator is equipped with big graphic backlit display with user friendly menu in Polish and English language In order to guarantee proper accuracy of measurements, a half-automatic system of external calibration with calibration weight has been applied.
Comparator is equipped with esthetic weighing chamber with glass anti-draught protection. All elements of the weighing chamber are manufactured from glass or metal which minimalizes the influence of electrostatic charges on weighing result. Comparator is equipped with user friendly menu. The software allows for composition of GLP procedures as standard printout or as freely definable non-standard printout. Each comparator is equipped with RS 232, PS/2 output and possibility of connecting additional display as standard.



Comparator is in high degree influenced by external conditions like temperature, breeze and vibrations. For the purpose of proper operation conditions, it is necessary to use the comparator in a room with very precise temperature control (laminar air-conditioning) and place of usage should be free from any vibrations.
Comparators do not undergo Legal Metrological Control. Main criterion if evaluation is repeatability. The software is equipped with application for estimating average deviation by two methods: ABA or ABBA, for maximally 20 repetitions. After running the procedure, the software generates the report with results.

Technical data:

	WAX 210/KO	WAX 510/KO	WAX 2100/KO	WAX 5100/KO
Maximal capacity	210 g	510 g	2100 g	5100 g
Readability	0,01 mg	0,1 mg	0,1 mg	1 mg
Range of electromagnetic compensation	0...20 g	0...20 g	0...200 g	0...200 g
Repeatability*	0,01 mg	0,1 mg	0,1 mg	0,5 mg
Stabilization time	10...20 s	10...20 s	2...10 s	2...10 s
Calibration	external			
Pan size	ø 35mm	ø 45mm	ø 85mm	ø 120mm
Weighing chamber dimensions	160×172×210mm	230×172×210mm	230×172×210mm	230×172×210mm
Calibration range according to OIML R111	50g-200g (E1) 50g-200g (E2÷M2)	500g (E1) 200g-500g (E2) 50-500g (F1÷M2)	1kg-2kg (E1) 500g-2kg (E2÷M2)	5kg (E1) 1kg-5kg (E2÷M1)
Environmental conditions				
Working temperature	+10 ÷ +30°C			
Change rate of working temperatures	±0,5°C/24h			
Humidity	40÷70%			

* Repeatability is expressed as a standard deviation of six ABBA cycles (according to R111 OIM) in stable laboratory conditions.

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MASS COMPARATOR MYA 21/KO

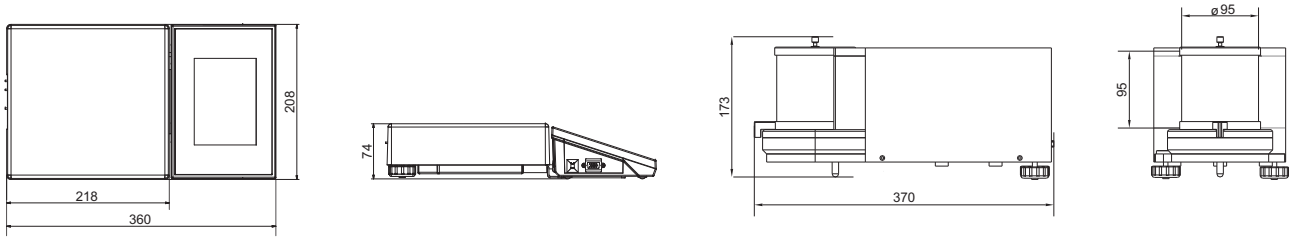
Mass comparators are devices designed for determining the differences between masses of calibration weight (B) and reference weight (A). Comparators are most often used in measuring laboratories for calibration of weights and masses.
Radwag offers comparators designed for calibration of weights and masses class E1, E2, F1, F2, M1 according to OIML R111, with masses from 1mg to 20g with readability 1 µg.
Comparator MYA 21/KO consists of two components. One of them holds the electronic module, and the other precise mechanical measuring system Such solution guarantees elimination of temperature influence (warming of electronic elements) on the indications of comparator.
Comparator is equipped with big graphic display with user friendly menu. In order to guarantee proper accuracy of measurements, a half-automatic system of external calibration with calibration weight has been applied. Comparator is equipped with esthetic, cylindrical shaped weighing chamber with glass draught shield. All elements of the weighing chamber are manufactured from glass or metal which minimalizes the influence of electrostatic charges on weighing result. Comparator is equipped with user friendly menu. The software allows for composition of GLP procedures as standard printout or as freely definable non-standard printout. Each comparator is equipped with Ethernet, RS 232, 2×USB and possibility of connecting additional display as standard.

Electronic level indicator

- ALARM function
- graphic level indicator
- programmable acceptable tilts

Data exchange through USB storage devices

- updating balance software
- exporting weighing data
- exporting/importing databases
- exporting/importing balance settings
- exchanging data between balances



Comparator is in high degree influenced by external conditions like temperature, breeze and vibrations. For the purpose of proper operation conditions, it is necessary to use the comparator in a room with very precise temperature control (laminar air-conditioning) and place of usage should be free from any vibrations. Comparators do not undergo Legal Metrological Control. Main criterion if evaluation is repeatability. The software is equipped with application for estimating average deviation by two methods: ABA or ABBA, for maximally 20 repetitions. After running the procedure, the software generates the report with results.

Technical data:

	MYA 21/KO
Maximal capacity	21 g
Readability	1 µg
Range of electromagnetic compensation	0...21 g
Repeatability*	1 µg (for Max20mg), 3 µg (for Max=20mg-5g), 5 µg (for Max=5g-20g)
Stabilization time	10...20 s
Calibration	internal
Pan size	ø 16mm
Weighing chamber dimensions	ø 90×90mm
Calibration range according to OIML R111	1mg-20mg (E1), 1mg-20g (E2÷M2)
Environmental conditions	
Working temperature	+10 ÷ +30°C
Change rate of working temperatures	±0,5°C/24h
Humidity	40÷70%

* Repeatability is expressed as a standard deviation of six ABBA cycles (according to R111 OIM) in stable laboratory conditions.

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