Serie PCE-MB

Balance to measure moisture

The PCE MB series Balance has been specially designed for the use in industry or in the laboratory. This balance provides a quick and accurate method to measure moisture content and dry weight analysis of a wide range of products and materials. The user's manure will provide you with advice and numerous practical examples. The two quartz halogen lamps (200W each) provide constant, even drying of the sample at a temperature pre-selected by the operator.
Only a small sample needs to be placed on the balance, then close the cover, press the button and read the result (content of humidity; dry content). This instrument is the perfect tool in determining moisture and dry content weight accurately. You will be able to determine the humidity of materials of a range of materials, such as plastic, wood pellets, pharmaceutical substances, tobacco, tea, cereals, etc.

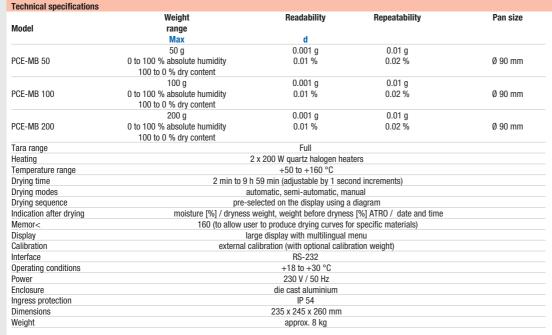Checking moisture and dry content can be done three different ways:
• Automatic: drying material until it has a constant weight
• Semi-automatic: drying stop when loss per unit of time goes below theoretical value
• Manual: adjusting the timer between 2 minutes and 9 hours and 59 minutes

The balance includes:
• RS-232 adaptor to transfer data to a PC
• External calibration function
• 230 V power supply

The image to the right shows the balance opened to allow the sample material to be placed inside and tested. The process which determines the moisture content begins once you close the cover and press the start button.

Technical specifications

Model	Weight range Max	Readability d	Repeatability	Pan size
PCE-MB 50	50 g 0 to 100 % absolute humidity 100 to 0 % dry content	0.001 g 0.01 %	0.01 g 0.02 %	Ø 90 mm
PCE-MB 100	100 g 0 to 100 % absolute humidity 100 to 0 % dry content	0.001 g 0.01 %	0.01 g 0.02 %	Ø 90 mm
PCE-MB 200	200 g 0 to 100 % absolute humidity 100 to 0 % dry content	0.001 g 0.01 %	0.01 g 0.02 %	Ø 90 mm
Tara range	Full			
Heating	2 x 200 W quartz halogen heaters			
Temperature range	+50 to +160 °C			
Drying time	2 min to 9 h 59 min (adjustable by 1 second increments)			
Drying modes	automatic, semi-automatic, manual			
Drying sequence	pre-selected on the display using a diagram			
Indication after drying	moisture [%] / dryness weight, weight before dryness [%] ATRO / date and time			
Memor<	160 (to allow user to produce drying curves for specific materials)			
Display	large display with multilingual menu			
Calibration	external calibration (with optional calibration weight)			
Interface	RS-232			
Operating conditions	+18 to +30 °C			
Power	230 V / 50 Hz			
Enclosure	die cast aluminium			
Ingress protection	IP 54			
Dimensions	235 x 245 x 260 mm			
Weight	approx. 8 kg			

Contents
PCE- MB series moisture analyser balance (one of the available models), 10 aluminium sample pans, power cord and user's manual

Model No.	Description
PCE-MB 50	Moisture Analyser Balance PCE-MB 50
PCE-MB 100	Moisture Analyser Balance PCE-MB 100
PCE-MB 200	Moisture Analyser Balance PCE-MB 200

Optional accessories
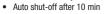|	
CAL-PCE-MB	ISO Certificate
PCE-SB	Software with RS-232 data cable
RS232-USB	RS-232 to USB Adaptor
PCE-BP1	Thermal printer with RS-232 data cable
PCE-MB-PS	Pack of 50 aluminium sample pans
PCE-MB-GF	Pack of 100 fibreglass

Thermal printer PCE-BP1

FMW, FMC, FME & FMD

Material moisture meters to determine the absolute moisture of materials such as wood, paper, building materials, etc.

Accurately measure the percentage of absolute moisture of all types of materials. The FMW-B and the FMW-T meters measure just by touching the surface, and will not damage to surface of the material. The FMC, FME and FMD6 models can be used with an array of optional sensors. All the units contain calibration curves for wood, building materials and paper. Once the material's corresponding curve has been selected, you will be able to determine the absolute moisture in a more accurate way that with conventional moisture meters. The FMD 6 has the possibility of being programmed with other curves and in addition to that, transmit to a computer the readings to allow the data to be analysed.

- Very user friendly
- High reproduceability (hybrid sensor)
- Highly accurate
- Choice of an array of sensors
- Auto shut-off after 10 min

FMW   FMC   FME   FMD 6

Technical specifications

Model	FMW-B/FMW-T	FMC	FME	FMD 6
Measurement without damaging materials	yes	-	-	-
Measurement with external sensor contact points	-	yes	yes	yes
Temperature measurement	-	-	yes, with optional sensor	yes, with optional sensor
Compensation of temperature	-	manual	yes, automatic with optional sensor	yes, automatic with optional sensor
Reference calibration curve AS/NZS1080.1	-	yes	yes	yes
Wood calibration curves for types of wood (4)	-	yes	-	-
Calibration curves for wood	yes	-	yes	yes
Calibration curves for building materials	yes (only for FMW-B)	yes	yes	yes
Calibration curves for paper	-	yes	yes	yes
Adjustable calibration curves	-	-	-	yes, 10 lines
Memory	50 values	-	50 values	2000 values
Statistic, data, hour	-	-	-	yes
Real time clock	-	-	-	yes
Software	-	-	-	yes
Measuring depth	FMW-B: 10 to 30 mm; FMW-T: 10 to 20 mm	depending on the sensor	depending on the sensor	depending on the sensor
Measurement range in %	2 to 30 (wood)	5 to 99 (wood)	5 to 99 (wood)	5 to 99 (wood)
	0 to 60 (building materials)	0 to 99 (building materials)	0 to 99 (building materials)	0 to 99 (building materials)
Resolution in %	0.1	0.1	0.1	0.1
Accuracy in %	0.5	0.3	0.2	0.2
Temperature range (material)	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Battery life	yes	yes	yes	yes
Power	9 V battery pack	9 V battery pack	9 V battery pack	3 batteries (1.5 V)
Dimensions	180 x 80 x 35 mm	160 x 80 x 30 mm	160 x 80 x 30 mm	190 x 100 x 34 mm
Weight	260 g	260 g	260 g	300 g
MPA approval	no	no	yes	yes

Contents

Absolute moisture meter (according to the model ordered), user's manual

Model No.	Description
FMW-B	Wood and building material moisture meter (without damaging materials), sensor on the back side
FMW-T	Wood and building material moisture meter (without damaging materials), sensor on the front side

For the FMC, FME and FMD moisture meters you should oder optional sensors corresponding to the model of meter you have:
FMC   Wood and building materials moisture meters with manual temperature compensation
FME   Wood and building material moisture meters with automatic temperature compensation
FMD 6   Material moisture meters with automatic temperature compensation and software included

Optional accessories for the FMC, FME, FMD6 Moisture meters

HEHB	Hand probe for measuring wood and building moisture
REHB	Hammer probe for measuring wood moisture (for good depth measurement)
ENS-30	Non-insulated measuring pins for hand and hammer probes. Suitable for measuring moisture to a maximum thickness of 30mm (10 units)
ENS-60	Insulated measuring pins for hammer probe. Suitable for measuring moisture to a maximum depth of 60mm (10 units)
TFK	Temperature sensor for measuring material temperature (only for FME and FMD)

Hand probe **Hammer probe** **Non-insulated measuring pins** **Insulated measuring pins (60mm)** **Temperature probe**

The universal sensor handle will connect for the following electrodes.

UFH	Sensor handle with cable for connecting sensors to moisture meters (for sensors in the following list)
BH-OFF	Sensor for surfaces (for all material surfaces, without damaging materials)
ESF-325	Thrust sensor of 325 mm (for granulated, wood, pellets, sand, etc)
NF4-15	1.5mm sensor with 4 pins (for cork, rubber, fabrics, etc)
NF4-17	17mm sensor with 4 pins (for building materials, wood, etc)
NF2-100	100mm sensor with (for insulating material, fibreglass, fruits, etc)
SNF-175	175 + 75mm sensor with 2 pins; the first 175mm are insulated (stacks of coffee, pellets, etc)
BH-RF	Sensor with rollers for moving surfaces (for rolls of paper, fabrics, etc)

Sensor handle **Sensor for surfaces** **325mm sensor** **Sensor with 4 pins (1.5 or 17mm)** **Sensor with 2 pins (175 + 75mm)** **Sensor with rollers**

Special sensors

BH-KF	Sensor with case encased in steel (for stacks of materials, such as sawdust, cereals, etc); you must purchase the cable as an optional component
BH-KF-K	Cable for the case sensor
BFS	Sensor kit for concrete (for concrete and road surfaces)
BFS-10	Set of pins for the concrete sensor (10 units)

Sensor with case **Sensor kit for concrete**

Applications for the special sensors:
Sensor with case
The steel encased case sensor is filled with the material to be measured. This sensor is also good to measure stacks of pellets, shavings, granulated materials, etc.

Concrete measurement kit
The concrete measurement kit measures at a maximum depth 10cm. The probes are introduced into previously made holes.