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KERN
— eco —

Operating manual Electronic bathroom scales

KERN MFB

Type MGE
Version 2.1
2021-02
GB



MFB-BA-e-2121



KERN MFB

Type MGE
Version 2.1 2021-02

Operating instructions bathroom scales

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1 Technical data

KERN (Typ)	MGE 100K-1
Trademark	MFB 150K100
Readability (d)	0.1 kg
Weighing range (max)	182 kg
Accuracy	+/- 0.5% +/- 0.1kg
Weighing Units	kg, lb
Stabilization time	2 sec.
Height of digits (mm)	35 mm
Operating temperature	-10° C + 40° C
Humidity of air	max. 80 % (not condensing)
Battery	2 x CR2032 Operating period: 100 h Auto-Off: 10 s
Dimensions (B x D x H) mm	300 x 300 x 25
Material weighing platform	Glass
Weight kg (net)	2.0

2 Declaration of conformity

The current EC/EU Conformity declaration can be found online in:

www.kern-sohn.com/ce

3 Appliance overview



1	Display
2	Buttons
3 - 6	Electrodes

3.1 Keyboard overview

	<ul style="list-style-type: none"> • Switch on balance • Call up menu • Confirm entry in menu
	Scroll forward in menu
	Scroll backwards in menu

3.2 Overview of display



fat %	Body fat ratio in %	kg	Kilogram
TBW	Body water ratio in %	%	Percent
	Muscle ratio in %		Gender of person Male
	Bone weight in kg		Person male and athletic
KCAL	Calories		Gender of person Female
BMI	Body Mass Index		Person female and athletic
age	Age	P8	User ID (P0-P9)
cm	Centimetre		

4 Basic Information (General)

4.1 Proper use

This balance is used to calculate the weight of people in the private sphere. Utilisation of this balance in the medical field is not permissible. The weighing process requires that the person stands on the weighing plate in a way that provides even weight distribution over the entire weighing plate. As soon as a stable weighing value is reached the weighing value can be read.

4.2 Improper Use

Do not use balance for dynamic weighing. The removal or addition of small amounts of load may result in the display of inaccurate weighing results! (Example: Slowly draining fluids from a container on the balance)

Do not leave permanent load on the weighing pan. This may damage the measuring system.

Take care to avoid impacts and overloading of balance above the specified maximum load (max) under all circumstances. This could cause damage to the balance.

Never operate balance in explosive environment. The serial version is not explosion protected.

The structure of the balance may not be modified. This may lead to incorrect weighing results, safety-related faults and destruction of the balance.

The balance may only be used according to the described conditions. Other areas of use must be released by KERN in writing.

4.3 Warranty

Warranty claims shall be voided if

- Our conditions in the operation manual are ignored
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage and damage caused by media, liquids
- Natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded
- Dropping the balance

5 Basic Safety Precautions

5.1 Pay attention to the instructions in the Operation Manual

Attention:

Stepping on the edge of the weighing plate may cause tilting of balance or fall of person.



⇒ Carefully read this operation manual before setup and commissioning, even if you are already familiar with KERN balances.

6 Transport and storage

6.1 Testing upon acceptance

When receiving the appliance, please check packaging immediately, and the appliance itself when unpacking for possible visible damage.

6.2 Packaging

Keep all parts of the original packaging in case you need to return the appliance. Only use original packaging for returning.

7 Unpacking, Setup and Commissioning

7.1 Installation Site, Location of Use

The balances are designed in a way that reliable weighing results are achieved in common conditions of use.

You will work accurately and fast, if you select the right location for your balance.

Therefore, observe the following for the installation site:

- Place the balance on a firm, level surface;
- Avoid extreme heat as well as temperature fluctuation caused by installing next to a radiator or in the direct sunlight;

- Protect the balance against direct draughts due to open windows and doors;
- Avoid jarring during weighing;
- Protect the balance against high humidity, vapours and dust;
- Do not expose the device to extreme dampness for longer periods of time. Non-permitted condensation (condensation of air humidity on the appliance) may occur if a cold appliance is taken to a considerably warmer environment. In this case, acclimatize the appliance for ca. 2 hours at room temperature.
- Avoid static charge of the balance and of the person to be weighed.
- Avoid contact with water.

The occurrence of electric fields or electrostatic charge may result in major display deviations (incorrect weighing results). In that case, the location must be changed.

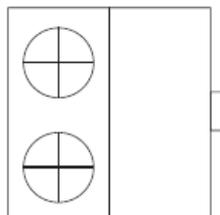
7.2 Unpacking

Take the whole balance out of their packaging and place them at the intended position. In addition to the scales, delivery also includes operating instructions.

7.3 Battery operation

The message “LO“ on the display indicates a low battery. Replace batteries as quickly as possible with a new set.

Insert batteries as shown in the illustration:



If the balance is not used for a longer time, take out the batteries and store them separately. Leaking battery liquid could damage the balance.

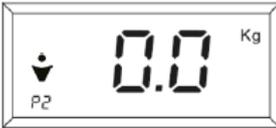
8 Using the balance

- ⇒ Step on the scales with bare feet. When doing so, make sure that each foot touches at least one of the sensors. Try standing as still and upright as possible.
- ⇒ The weight of a person will be shown after a few seconds.
- ⇒ When the scales are not in use, they will switch off automatically after a few seconds.



The typical weight of a person will vary over the day, and equally from one day to the next. Minor weight variations are considered normal.

8.1 Entering person-related data

<p>⇒ Press SET while the scales are unloaded.</p> <p>⇒ Use the arrow keys  and  to select the desired user ID and confirm by SET. The selected ID will be flashing on the display.</p>	 <p>(example)</p>
<p>⇒ Use the arrow keys  and  “male ”, “female ”, “male athletic ” or “female athletic ” and confirm by SET. The symbol for the selected gender will be flashing on the display.</p>	 <p>(example)</p>
<p>⇒ Use the arrow keys  and  to select age (10-80 yrs.) and confirm with SET. The set age will be flashing on the screen.</p>	 <p>(example)</p>
<p>⇒ Use the arrow keys  and  to select height (100-240 cm) and confirm by SET. The set height will be flashing.</p>	 <p>(example)</p>
<p>⇒ When you have finished these four settings, press SET again. The scales will change to zero display.</p>	

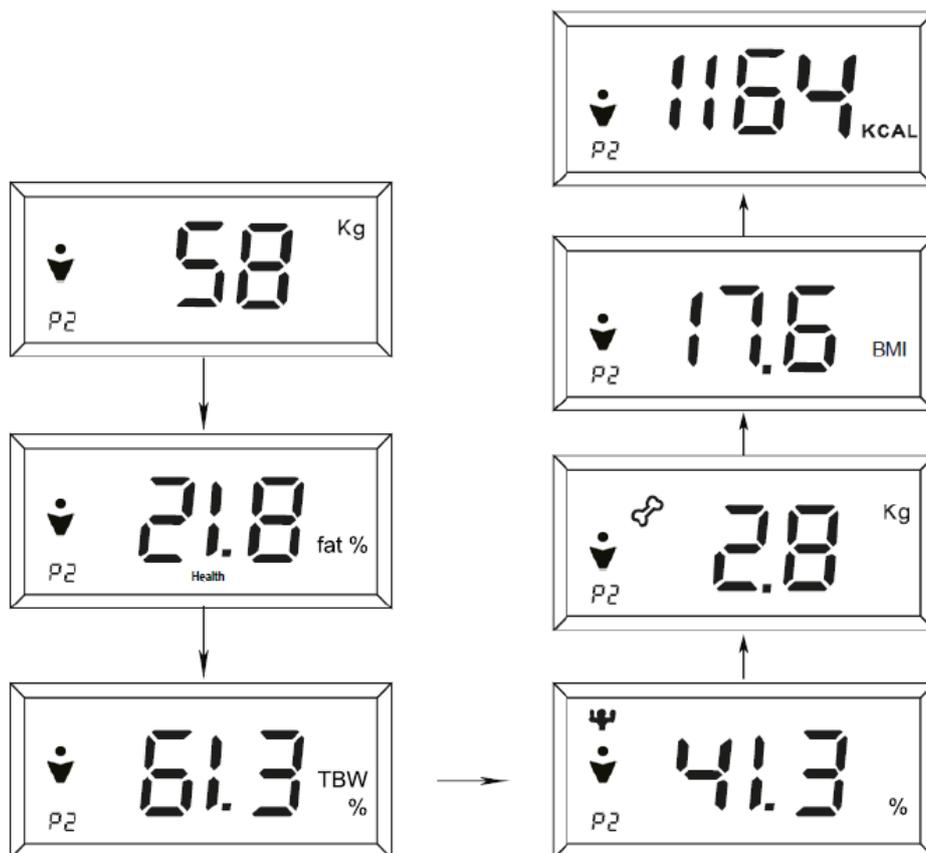
The entry of personal data is now complete.

Based on this profile you can now determine the values for weight, body fat percentage, body water percentage, muscle percentage, bone weight and body mass index for each person.

8.2 How to determine body values

<ul style="list-style-type: none"> ⇒ Make sure scales are unloaded, then press  . ⇒ The values entered previously will be queried a second time The activated symbol or the entered value will be flashing. ⇒ Confirm value by  or ⇒ Use the arrow keys  and  to change the value and confirm by  . The zero display appears. 	 <p>(example)</p>
<ul style="list-style-type: none"> ⇒ Step on the scales with bare feet. When doing so, make sure that each foot touches a sensor. Remain as upright and still as possible on the weighing platform. 	

The weight will be shown, followed by the values for body fat percentage, body water percentage, muscle percentage, bone weight, body mass index and calories.



8.3 Table for standard values body fat, body water, muscle, bone and Classification of BMI values

Body fat (%):

Age	Female				Male			
	too low	normal	too high	obese	too low	normal	too high	obese
12-20	<18%	18-28%	28-33%	>33%	<15%	15-21%	21-26%	>26%
21-42	<20%	20-30%	30-35%	>35%	<17%	17-23%	23-28%	>28%
43-65	<21%	21-31%	31-36%	>36%	<18%	18-24%	24-29%	>29%
66-80	<22%	22-32%	32-37%	>37%	<19%	19-25%	25-30%	>30%

Muscle (%):

	Age	Low	Normal	High	Very high
Female	18-39	<24,3	24,3-30,3	30,4-35,3	>35,4
	40-59	<24,1	24,1-30,1	30,2-35,1	>35,2
	60-80	<23,9	23,9-29,9	30,0-34,9	>35,0
Male	18-39	<33,3	33,3-39,3	39,4-44,0	>44,1
	40-59	<33,1	33,1-39,1	39,2-43,8	>43,9
	60-80	<32,9	32,9-38,9	39,0-43,6	>43,7

Bone (kg):

Female			
Body weight	< 45 kg	45-60 kg	> 60 kg
Estimated bone weight	> 1.8 kg	> 2.2 kg	> 2.5 kg
Male			
Body weight	< 60 kg	60 – 75 kg	> 75 kg
Estimated bone weight	> 12,5 kg	> 2,9 kg	> 3,2 kg

Body water (%):

Age	Female	Male	Corresponding Hydration level	
≤ 30	66,0 - 60,5 %	66,0 – 59,9%	Optimal Hydration	Weight scope of hydration: 37,8 – 66,0% Hydration rate graduation: 0,1 %
	60,4 - 57,1 %	59,8 – 56,4%	Slight Dehydration	
	57,0 – 53,6 %	56,3 – 53,0%	Moderate Dehydration	
	53,5 – 50,2%	52,9 – 48,6%	Dehydration	
	50,1 – 37,8 %	48,5 – 37,8%	Severe Dehydration	
> 30	66,0 – 59,1 %	66,0 – 55,0%	Optimal Hydration	
	59,0 – 55,7 %	54,9 – 51,6%	Slight Dehydration	
	55,6 – 52,3 %	51,5 – 48,1%	Moderate Dehydration	
	52,2 – 48,8%	48,0 – 44,7%	Dehydration	
	48,7 – 37,8 %	44,6 – 37,8%	Severe Dehydration	

Classification of BMI values:
(same for female and male)

Age	low	normal	high
<24	< 19	19 - 24	> 24
25 - 34	< 20	20 - 25	> 25
35 - 44	< 21	21 - 26	> 26
45 - 54	< 22	22 - 27	> 27
55 - 64	< 23	23 - 28	> 28
> 64	< 24	24 - 29	> 29

9 Servicing, maintenance, disposal

9.1 Cleaning

Do not use aggressive cleaning agents (solvents or similar) but only a damp cloth with mild soapsuds, or household cleaner. Ensure that no liquid gets inside the unit and rub with a soft, dry cloth. Loose dirt can be removed carefully with a brush or hand-held vacuum cleaner.

Balance must not be tilted or rotated for cleaning, as damage may occur.

Remove dirt immediately.

9.2 Servicing, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.

9.3 Disposal

Disposal of packaging and appliance must be carried out by operator according to valid national or regional law of the location where the appliance is used.

10 Error messages

- ⇒ “**Err**“ on the display indicates that the weighing range has been exceeded. Please take the weight off the scales.
- ⇒ “**Err2**“ on the display indicates that the body values exceed the detection range of the scales. Please take the weight off the scales.
- ⇒ “**FATL**“ on the display indicates that the fat rate is lower than 5%, please check the input of your person-related data see chap. 8.1
- ⇒ “**FATH**“ on the display indicates that the fat rate is higher than 50%, please check the input of your person-related data see chap. 8.1.

11 Instant help

Entering person-related data

Help:

Fault

The displayed weight is permanently changing

Possible cause

- Draught/air movement
- Table/floor vibrations
- Weighing plate has contact with other objects
- Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

The weighing result is obviously incorrect

- The display of the balance is not at zero
- Great fluctuations in temperature.
- Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

If the error message remains inform manufacturer.