beurer

BF 400 / 410
Signature Line

EN Diagnostic bathroom scale
Instructions for use

ENGLISH

Read these instructions for use carefully and keep them for later use, be sure to make them accessible to other users and observe the information they contain.

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Getting to know your device

Functions of the device

This digital scale is intended for weighing and providing a diagnosis of your personal fitness data.
It is intended for private use.
The scale is equipped with the following functions, which can be used by up to 10 different people:

- Body weight measurement and BMI
- Body fat percentage calculation
- Body water content
- Muscle percentage
- Bone mass
- Basal and active metabolic rate

The scale also includes the following additional functions:

- Switch between kilograms “kg”, pounds “lbs” and stones “st”
- Automatic switch-off function
- Low battery indicator
- Automatic user recognition

The measurement principle

This scale works on the principle of B.I.A. (bioelectrical impedance analysis). This involves the calculation of body content in a matter of seconds, using a current that cannot be felt, is completely harmless and does not pose any risk.
When this measurement of the electrical resistance (impedance) is considered alongside constants and/or individual values (age, height, gender, activity level), the body fat percentage and other variables in the body can be calculated. Muscle tissue and water conduct electricity well and therefore have a lower resistance. In contrast, bones and fat tissue have low conductivity as the fat cells and bones are barely able to conduct the current due to very high levels of resistance.

Please note that the values calculated by the diagnostic bathroom scale only represent an approximation of the actual medical analytical values for the body. Only a specialist doctor can precisely establish the body fat, body water, muscle percentage and bone structure using medical methods (e.g. computer tomography).

1. Included in delivery

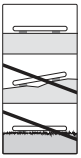
Check that the device packaging has not been tampered with and make sure that all contents are present. Before use, ensure that there is no visible damage to the device or accessories and that all packaging material has been removed. If you have any doubts, do not use the device and contact your retailer or the specified Customer Services address.

- BF 400 / BF 410 diagnostic bathroom scale
- 3 x 1.5 V, AAA batteries
- These instructions for use

2. Signs and symbols

The following symbols are used on the device, in these instructions for use, on the packaging and on the type plate for the device:

	**Warning** Warning instruction indicating a risk of injury or damage to health		
	**Important** Safety note indicating possible damage to the device/accessory		
	**Product information** Note on important information		
	Read the instructions		
	The electronic device must not be disposed of with household waste		
	Do not dispose of batteries containing hazardous substances with household waste		
	Separate the packaging elements and dispose of them in accordance with local regulations.		
	Marking to identify the packaging material. A = Material code, B = Material number: 1-7 = Plastics, 20-22 = Paper and cardboard		
	**CE labelling** This product satisfies the requirements of the applicable European and national directives.		
	United Kingdom Conformity Assessed Mark		
	The products demonstrably meet the requirements of the Technical Regulations of the EAEU.		
	The device may not be used by people with medical implants (e.g. pacemakers), as this may affect their functionality.		
	Manufacturer		
	Separate the product and packaging elements and dispose of them in accordance with local regulations.		
	Importer symbol		
	Do not load the scale beyond 200 kg / 440 lb / 31 st.		Danger of slipping: do not step on the scale with wet feet.

	Danger of tipping: position yourself in the centre of the weighing surface.		Place the scale on an even surface. No carpet.

3. Intended use

The device is only intended for weighing humans and for recording your personal fitness data. The device is only intended for private use, and not for medical or commercial purposes.

4. Warnings and safety notes

WARNING

- **The scale may not be used by people with medical implants (e.g. pacemakers) as this may affect their functionality.**
- Do not use during pregnancy.
- Do not step onto the outer edge of the scale on just one side: danger of tipping!
- Swallowing batteries can be extremely dangerous. Keep the batteries and scale out of the reach of small children. Should a battery be swallowed, seek medical assistance immediately.
- Keep packaging material away from children (risk of suffocation).
- Important: do not step onto the scale with wet feet or if the surface of the scale is damp – danger of slipping!

Safety notes on handling batteries

- Always insert the batteries correctly, taking into account the polarity (+ / -). Keep batteries clean and dry and away from water. Always select the correct battery type.
- Never short-circuit batteries and battery compartment contacts.
- Never charge, forcibly discharge, heat, disassemble, deform, encapsulate or modify batteries.
- Never weld or solder on batteries.
- Never mix batteries of different manufacturers, capacities (new and used), size and type within a device.
- **Risk of explosion!** Failure to comply with the points mentioned above can result in personal injury, overheating, leakage, venting, breakage, explosion or fire.
- If a battery has leaked, put on protective gloves and clean the battery compartment with a dry cloth.
- If your skin or eyes come into contact with battery fluid, rinse the affected areas with water and seek medical assistance.
- **Choking hazard!** Keep batteries out of the reach of children. Seek medical attention immediately if swallowed.
- Never allow children to replace batteries without adult supervision.
- Store batteries away from metal objects in a well-ventilated, dry and cool place.
- Never expose batteries to direct sunlight or rain.
- Remove batteries from the device if it is not going to be used for a long period of time.
- Dispose of discharged batteries immediately and properly. Never dispose of batteries in fire.
- When disposing of batteries, keep batteries with different electrochemical systems separate.

General notes

- Please note that measuring tolerances are possible for technical reasons, as this scale is not calibrated for use in a professional medical context.
- The scale's maximum capacity is 200 kg (440 lb/31 st). The results for the weight measurement and bone mass calculation are displayed in 100-g increments (0.2 lb/0-19st: 0.2 lb; 20-31st: 1lb).
- Measurements of body fat, body water and muscle content are displayed in increments of 0.1%.
- The calorie requirement is indicated in increments of 1 kcal.
- When supplied to the customer, the scale is set to weigh and measure in "kg" and "cm".

- Place the scale on an even, hard surface; a hard surface is crucial for achieving accurate measurements.
- Repairs may only be carried out by Beurer Customer Services or authorised retailers. Before submitting a complaint, please check the batteries first and replace them if necessary.

Storage and maintenance

The accuracy of the measurements and service life of the device depend on its careful handling:

IMPORTANT

- The device should be cleaned from time to time. Do not use any abrasive cleaning products and never submerge the device in water.
- Make sure that no liquids come into contact with the scale. Never submerge the scale in water. Never rinse it in running water.
- Do not place any objects on the scale when it is not in use.
- Do not press the button violently or with pointed objects.
- Do not expose the scale to high temperatures or strong electromagnetic fields (e.g. mobile telephones).
- Protect the device from knocks, damp, dust, chemicals, marked temperature fluctuations and nearby sources of heat (ovens, heaters).

General tips

- As far as possible, weigh yourself at the same time of day (ideally in the morning), after having been to the toilet, on an empty stomach and without clothing, in order to obtain results which can be compared.
- Important point regarding the measurement: the calculation of body fat may only be made when barefoot; the soles of the feet may be lightly dampened where appropriate.
  Results may be unsatisfactory if the soles of the feet are completely dry or have a large amount of hard skin since conductivity will be impaired.
- Stand up straight and still during the measurement.
- Wait a few hours after any physical exertion to which your body is unaccustomed.
- Wait approx. 15 minutes after getting up so that the water stored in the body can disperse.
- Remember that only the long-term trend is important. Short-term changes in weight within a few days are normally caused by loss of fluids; however, body water plays an important role in terms of well-being.

Limitations

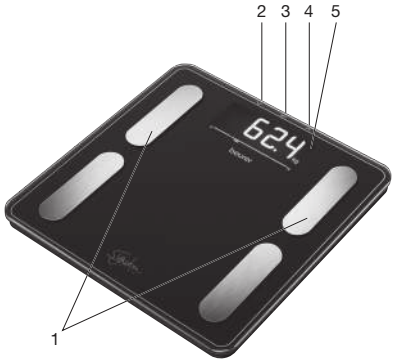
When calculating body fat and the other values, unusual and implausible results may occur in the case of:

- Children under approx. 10 years of age
- Performance athletes and body-builders
- Persons with a fever, persons undergoing dialysis, persons with oedema symptoms and persons suffering from osteoporosis
- Persons taking cardiovascular medicine (affecting the heart and vascular system)
- Persons taking vasodilative or vasoconstrictive medication
- Persons with significant anatomical abnormalities in their legs compared with their overall body height (leg length significantly shorter or longer).

5. Device description

Overview

1. Electrodes
2. Down button ⌄ (pushbutton on the front side)
3. Set button **SET** (pushbutton on the front side)
4. Up button ⌃ (pushbutton on the front side)
5. Display



6. Initial use

Inserting the batteries

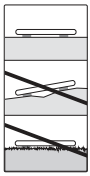
Remove the batteries from the protective packaging and insert the batteries into the scale (rear of the scale) ensuring that the battery polarity is correct. If the scale does not function, remove the batteries completely and reinsert them.

Changing the weight unit

When supplied to the customer, the scale is set to weigh in “kg”. Switch on the scale by briefly applying pressure to the standing surface with your foot (approx. 1-2 seconds). Wait until “0.0 kg” appears in the display. To the rear of the scale, there is a button where you can select “pound” and “stones” (lb, st).

Positioning the scale

Place the scale on an even, hard surface; a hard surface is crucial for achieving accurate measurements.



7. Entering user data

To calculate your body fat percentage and additional body values, you must save the personal user data. The scale has 10 user memory spaces which allow you and members of your family to save and access personal settings, for example.

- **Place the scale on an even hard surface; a hard surface is crucial for achieving accurate measurements.**
- Switch on the scale by briefly applying pressure to the standing surface with your foot (approx. 1-2 seconds). Wait until “0.0 kg” appears in the display.
- Start configuring the settings by pressing the **SET** button. The first memory space flashes in the display.
- Press the ⌃/⌄ button to select the desired memory space and confirm by pressing the **SET** button.
- You can now implement the following settings:

User data	**Set values**
Users/persons	P-1 to P-10
Height	100 to 220 cm (3' 3.5" to 7' 2.5")
Age	10 to 100 years
Gender	Male ( ), female ( )
Activity level	1 to 5

Activity levels
The medium-term and long-term perspective is decisive when selecting the activity level.

Activity level	Physical activity
1	None.
2	Low: little and light physical exertion (e.g. going for walks, light gardening, simple gymnastics).
3	Medium: physical exertion, at least 2 to 4 times a week for 30 minutes each.
4	High: physical exertion, at least 4 to 6 times a week for 30 minutes each.
5	Very high: intensive physical exertion, intensive training or hard physical work for at least 1 hour every day.

- Changing the values: Press either the ^ or the v button, or press and hold to quickly scroll through the options.
- Confirming the entries: Press the **SET** button.
- Once the values have been set, "0.0 kg" appears in the display.
- Now stand on the scale with bare feet whilst "0.0 kg" is displayed.
- Following the weight measurement, BMI, body fat (BF), water, muscle percentage, bone mass, BMR and AMR are displayed

Note: Your measured weight has now been assigned to your selected user and saved. This is necessary for automatic user detection.

8. Usage

8.1 Taking measurements

Place the scale on an even, hard surface; a hard surface is crucial for achieving accurate measurements.

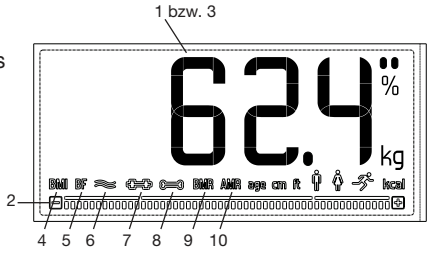
Measuring weight, carrying out diagnostics

Step onto the scale with bare feet and ensure that you are standing still with equal weight distribution and with both feet on the electrodes.

Note: The measurement result will be incorrect if the measurement is taken with socks on.

The scale begins to take measurements straight away. First, the weight is displayed.
If a user has been assigned, the BMI, body fat, water, muscle, bone, BMR and AMR are shown.

The following appear:
1. Weight in kg
2. BIA measurement and columns for interpreting the results
3. User memory space (e.g. "U1")
4. BMI
5. Body fat in % (BF)
6. Body water in %
7. Muscle percentage in %
8. Bone mass in kg
9. Basal metabolic rate in kcal (BMR)
10. Active metabolic rate in kcal (AMR)



Note: If two or more users have potentially been recognised, the display switches between them. Select your user by pressing the **SET** button.
If no user is recognised, only the weight and "U -" will be displayed. You can then use the ^/v buttons to select your user.

Only measuring weight

Step onto the scale wearing shoes. Stand still with your weight distributed equally on both feet. The scale begins to take measurements straight away.

Switching off the scale

The scale switches itself off automatically.

8.2 Evaluating the results

For a simpler and more easy to understand classification, your values are interpreted directly on the display.

Body fat percentage

The following body fat percentages serve as a guideline (for further information please consult your doctor).

Male

Age	Low	Normal	Moderate	High
10–14	<11%	11–16%	16.1–21%	>21.1%
15–19	<12%	12–17%	17.1–22%	>22.1%
20–29	<13%	13–18%	18.1–23%	>23.1%
30–39	<14%	14–19%	19.1–24%	>24.1%
40–49	<15%	15–20%	20.1–25%	>25.1%
50–59	<16%	16–21%	21.1–26%	>26.1%
60–69	<17%	17–22%	22.1–27%	>27.1%
70–100	<18%	18–23%	23.1–28%	>28.1%

Female

Age	Low	Normal	Moderate	High
10–14	<16%	16–21%	21.1–26%	>26.1%
15–19	<17%	17–22%	22.1–27%	>27.1%
20–29	<18%	18–23%	23.1–28%	>28.1%
30–39	<19%	19–24%	24.1–29%	>29.1%
40–49	<20%	20–25%	25.1–30%	>30.1%
50–59	<21%	21–26%	26.1–31%	>31.1%
60–69	<22%	22–27%	27.1–32%	>32.1%
70–100	<23%	23–28%	28.1–33%	>33.1%

Values will often be lower for fitness enthusiasts. Depending on the sporting activities performed, the training intensity and the physical constitution, the results may still be below the stated standard values. Please note, however, that there may be a risk to health in the case of extremely low values.

Body water content

The body water content in % is normally within the following ranges:

Male

Age	Poor	Good	Very good
10–100	<50%	50–65%	>65%

Female

Age	Poor	Good	Very good
10–100	<45%	45–60%	>60%

Body fat contains relatively little water, therefore body water content may be below the standard values in persons with a high body fat percentage. On the other hand, endurance athletes may exceed the standard values due to having low levels of fat and a high muscle percentage.
The body water calculation performed using this scale is not suitable for drawing medical conclusions, for example in the case of age-related water retention. Consult your doctor where necessary. A high body water content is generally desirable.

Muscle percentage

The muscle percentage is normally within the following ranges:

Male

Age	Low	Normal	High
10–14	<44%	44–57%	>57%
15–19	<43%	43–56%	>56%
20–29	<42%	42–54%	>54%
30–39	<41%	41–52%	>52%
40–49	<40%	40–50%	>50%
50–59	<39%	39–48%	>48%
60–69	<38%	38–47%	>47%
70–100	<37%	37–46%	>46%

Female

Age	Low	Normal	High
10–14	<36%	36–43%	>43%
15–19	<35%	35–41%	>41%
20–29	<34%	34–39%	>39%
30–39	<33%	33–38%	>38%
40–49	<31%	31–36%	>36%
50–59	<29%	29–34%	>34%
60–69	<28%	28–33%	>33%
70–100	<27%	27–32%	>32%

Bone mass

Like the rest of our body, our bones are subject to natural growth, shrinking and ageing processes. Bone mass increases rapidly during childhood and reaches its peak between the ages of 30 and 40. As we

age, our bone mass then begins to reduce. You can combat this reduction to an extent with the help of a healthy diet (particularly calcium and vitamin D) and regular physical exercise. The stability of your skeleton can be further increased by means of targeted muscle build-up. Please note that this scale does not identify the total bone mass, but rather just the mineral content of the bone (without water content and without organic substances). It is very difficult to influence the bone mass, although it does fluctuate slightly within the scope of influencing factors (weight, height, age, gender). There are no recognised guidelines or recommendations.

IMPORTANT:
Please do not confuse bone mass with bone density.
The bone density can only be determined by means of a medical examination (e.g. computer tomography, ultrasound). It is therefore not possible to draw conclusions on changes to bones and bone hardness (e.g. osteoporosis) using this scale.

BMR

The basal metabolic rate (BMR) is the amount of energy required by the body at complete rest in order to maintain its basic functions (e.g. when lying in bed 24 hours a day). This value is primarily dependent on weight, height and age.
It is displayed on the diagnostic bathroom scale in the kcal/day unit and is calculated using the scientifically recognised Harris-Benedict equation.
This is the amount of energy that is required by your body under all circumstances and must be re-supplied to the body in the form of food. If your energy intake is below this level in the longer term, this can result in damage to health.

AMR

The active metabolic rate (AMR) is the amount of energy that the active body consumes each day. An individual's energy requirement increases when the level of physical activity increases; the diagnostic bathroom scale calculates this by means of the activity level (1-5) that has been entered.
To maintain the current weight, the energy that the body uses must be replaced in the form of food and drink.
If less energy is taken in than is used over a long period of time, the body primarily takes the difference from the fat stores, with resulting weight loss. However, if the amount of energy taken in exceeds the calculated active metabolic rate (AMR) for a longer period, the body cannot burn off the excess energy. The excess is stored in the body as fat, leading to weight gain.

Temporal context of the results

Note: Please note that only the long-term trend is important. Brief deviations in weight within a few days are normally caused by loss of fluids.

The interpretation of the results is based on changes in total body weight, percentage of body fat, body water and muscle content, as well as on the length of time over which these changes occur.
Rapid changes within the scope of a few days are to be considered separately from medium-term changes (in the scope of weeks) and long-term changes (months).
It can be said as a basic rule that short-term changes in weight are almost entirely changes in water content, whereas medium-term and long-term changes may also relate to the fat percentage and the muscle percentage.

- If your weight drops in the short term but your body fat percentage increases or stays the same, you have only lost water, for example following a training session, visit to the sauna or a diet aimed only at fast weight loss.
- If your weight increases in the medium term and your body fat percentage drops or stays the same, you may have built up valuable muscle mass.
- If your weight and body fat percentage both fall at the same time, then your diet is working – you are losing fat mass.
- Ideally, you should support your diet with physical activity, fitness or strength training. This enables you to increase your muscle percentage in the medium term.
- Body fat, body water and muscle percentages should not be totalled (muscle tissue also contains components made of body water).

8.3 Other functions

User assignment

It is possible to assign up to 10 scale users for a diagnostic measurement (barefoot).
For a new measurement, the scale assigns the measurement to the user whose most recently saved measurement falls within +/- 3kg. If two or more users have potentially been recognised, the display switches between them. Select your user by pressing the ∧/∨ button.

Deleting scale data

If you would like to completely delete all measurements and old user data on the scale, switch on the scale and press the UNIT button on the rear of the scale for approx. 6 seconds.
“CLr” will appear on the display for several seconds.
This is necessary if you would like to delete scale users who have been set up incorrectly or are no longer required, for example.

Replacing the batteries

Your scale is equipped with a low battery indicator. If you operate the scale with flat batteries, “Lo” will appear on the display and the scale will automatically switch off. In this case, the batteries must be replaced (3 x 1.5 V AAA).

NOTE:

- When replacing the batteries, use batteries of the same type, make and capacity.
- Do not use rechargeable batteries.
- Use batteries free from heavy metals.

9. Cleaning and maintenance

The device should be cleaned from time to time.
This should be done using a damp cloth and, if necessary, a small amount of detergent.

IMPORTANT

- Never use abrasive solvents or cleaning products!
- Never submerge the device in water!
- Do not clean the device in a dishwasher!

10. What if there are problems?

If the scale encounters an error during measurement, the following is displayed:

Display	Cause	Solution
U -	Unknown measurement as it is outside the user assignment limit or a unique assignment is not possible.	Select your user by pressing the ∧/∨ buttons.
BF Err	The proportion of fat is outside the measurable range (less than 3% or greater than 65%).	Please repeat the measurement barefoot, or with the soles of the feet lightly dampened if necessary.
oLd	Maximum weight capacity of 200 kg exceeded.	Loads must not exceed 200 kg.
Incorrect weight is displayed.	Surface scale is placed on is not even and hard e.g. carpet.	Place the scale on an even, hard surface.
Incorrect weight is displayed.	Not standing still.	Stand as still as possible.
Incorrect weight is displayed.	Incorrect zero point of scale.	Wait until the scale switches itself off. Activate the scale, wait for “0.0 kg” to appear and take the measurement again.

Display	Cause	Solution
Lo	The batteries in the scale are flat.	Replace the batteries in the scale.
BF - - -	BIA measurement not possible.	Please repeat the measurement barefoot, or with the soles of the feet lightly dampened if necessary. Remain on the stainless steel electrodes after weight measurement, until the body analysis values are displayed.

11. Disposal

Empty, completely flat batteries must be disposed of through specially designated collection boxes, recycling points or electronics retailers. You are legally required to dispose of the batteries.
The codes below are printed on batteries containing harmful substances:
Pb = Battery contains lead
Cd = Battery contains cadmium
Hg = Battery contains mercury

For environmental reasons, do not dispose of the device in the household waste at the end of its service life. Dispose of the device at a suitable local collection or recycling point in your country.
Dispose of the device in accordance with EC Directive – WEEE (Waste Electrical and Electronic Equipment). If you have any questions, please contact the local authorities responsible for waste disposal.

12. Technical specifications

Model:	BF 400	BF 410
Dimensions:	31 x 31 x 2.8 cm	35 x 30 x 2.8 cm
Weight:	2170 g	2660 g
Measurement range:	5-200 kg	

Subject to technical changes.

13. Warranty/service

Further information on the warranty and warranty conditions can be found in the warranty leaflet supplied.

Beurer GmbH • Söflinger Str. 218 • 89077 Ulm (Germany) • www.beurer.com
www.beurer-gesundheitsratgeber.com • www.beurer-healthguide.com

UK Importer: Beurer UK Ltd., Suite 16, Stonecross Place, Stonecross Lane North,
WA3 2SH Lowton,United Kingdom

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