

OMRON

INSTRUCTION MANUAL

Body Fat Monitor

人體脂肪分析計

Model 型號 **HBF-306**



Please read this instruction manual carefully before using your new Omron Body Fat Monitor.

Once you have reviewed this manual, keep it in a safe place for future reference.

使用前，請仔細閱讀說明書，以便能正確地使用 Omron 人體脂肪分析計。
請保存本說明書以備日後參考。

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Safety precautions

Important safety instructions

Please read the following instructions carefully, as they contain important information concerning the setting up, use and care of your Body Fat Monitor.

Keep this manual for future reference.

Do not disassemble the body fat monitor. Apart from the batteries, it contains no user serviceable parts.

Do not subject the device to strong shocks.

Do not subject the unit to extreme temperatures, humidity, dust, moisture or direct sunlight.

Although there are no known side effects, the body fat monitor must **NOT** be used under the following conditions:

- During an acute contagious disease;
- By persons with medical implants (e.g. pacemakers);
- By persons with any heart disease. Use the monitor after consultation with your doctor;
- Never use it in combination with artificial heart-lung and other electronic life support systems;
- Never use it in combination with an electrocardiograph and other (portable) electronic medical devices.

Do not use the body fat monitor in a highly humid environment such as sauna or while you are in a bath or in a shower.

Never submerge the unit in water.

Do not let unattended children or infirm persons have access to the unit.

If you discover that the body fat monitor is damaged or does not operate properly, switch it off immediately and stop using it. An authorized dealer using only original OMRON spare parts must carry out any repairs. Any part of the unit may only be repaired or replaced by the Omron Service representative.

Please note that this device is only intended to measure the body composition.

Do not commence weight reduction or exercise program without instructions/supervision by a doctor.

About body fat measurement

What is body fat percentage?

Body fat percentage refers to the percentage of body fat mass (the weight of the fat) in relation to body weight. The weight that is not fat is referred to as the fat free body mass.

The human body is made up mainly of water with fat being the next largest percentage. The remainder of the body consists of proteins and carbohydrates in the form of muscles and minerals stored in your bones.

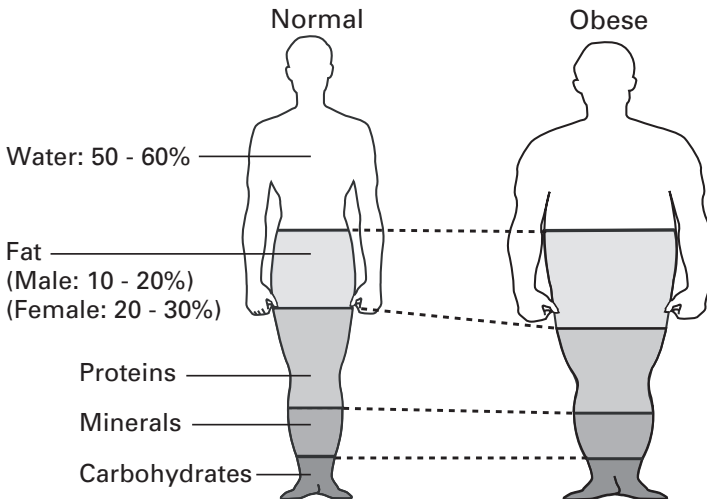
Your body fat percentage and body fat mass are determined by the following calculations:

Body weight	Fat mass
	Fat-free mass • Bones • Blood • Muscles • Water • etc

$$\text{Body fat percentage (\%)} = \{ \text{Body fat mass (kg)} \div \text{Body weight (kg)} \} \times 100$$

$$\text{Body fat mass (kg)} = \text{Body weight (kg)} - \text{Fat-free mass (kg)}$$

Ratio of the body constituents



About body fat measurement

Principles of body fat percentage measurement

Omron Body Fat Monitor measures the body fat percentage by the Bioelectrical Impedance (BI) method.

What is Bioelectrical impedance (BI) Method?

Tissues containing much water such as muscles, blood vessels, and bones are highly conductive with electricity, but fat tissues are not.

Therefore, by using this principle, it is possible to determine the ratio of fat tissue compared to other tissues in the body by measuring the electric resistance of the body tissues, using extremely weak electric current applications to the body. As the electric current applied to the human body during the body fat measurement is extremely weak, of about 50 KHz to 500 μ A, one will not feel the electric stimulation, and this method is safe for the human body.

The electric resistance is determined by “facilitation of electric conductivity” and the “distance of the electricity conduction.” In order to find “facilitation of electric conductivity” for estimating the ratio of fat, it is necessary to always keep the “distance of the electricity conduction” at the same level.

That is why we must maintain a correct posture during the measurement.

How to measure the body fat percentage

To calculate the body fat percentage (fat information of whole body) from the electric conductivity between both hands, the following five items (1) electric resistance, (2) height, (3) weight, (4) age, and (5) gender and a formula are employed.

This formula is formulated by OMRON using the basic data on human body, obtained from several hundreds people. By referring to the accumulated basic data, the body fat percentage is estimated from the conditions specific to users (5 items).

This basic data is obtained by “Under-water weighing method”, which is considered the most accurate body fat measurement method at present.

About body fat measurement

Caution to certain conditions

In some cases, the measured body fat percentage may differ too much from the actual body fat percentage. These exceptions are people whose measurements may vary due to continuous changing amount of water and tissue density within their bodies.



Growing children



Elderly people and women after menopause



Those having swelling



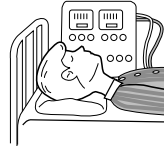
Patients of osteoporosis having very low bone density



People with a fever



Bodybuilders or professional athletes



Patients under going dialysis



Pregnant women

The conditions or circumstances NOT suitable for a correct measurement

If a measurement is made under the following physical conditions, the measured body fat percentage may differ significantly from the actual one because the water content in the body changes.



Immediately after vigorous exercise



Immediately after taking bath or sauna



After drinking much alcohol



After taking a large amount of water or after a meal

About body fat measurement

Recommendations for taking a measurement

If the palms of your hands are dry or the temperature of your palms or the grip of the electrodes are extremely cool, stable measurement is impossible, which may lead to error indication display or inaccurate results.

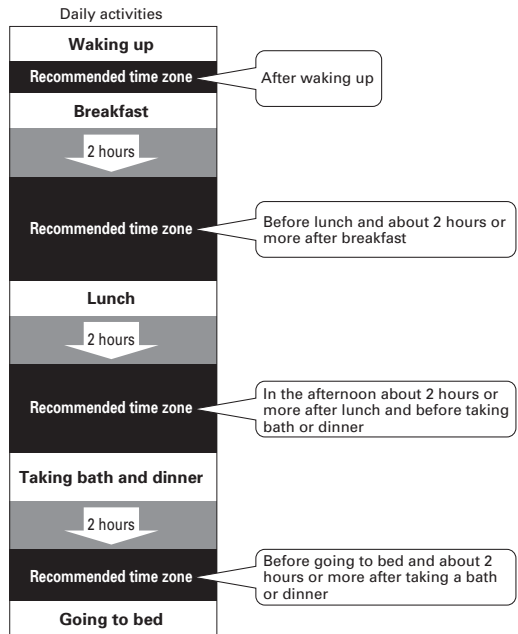
Please pay special attention in winter because the air is dry and/or the temperature is low.

Conditions	Actions
Hands are dry.	Slightly moisten hands with a wet towel, then measure.
When you hold the grip electrodes, they feel cold.	Warm the grip electrodes by leaving the unit in a warm room for approximately ten minutes.
Your body and hands are cold due to the blood not circulating well.	Warm your hands by immersing in warm water or staying in a warm room. Start the measurement again.

Recommended times for measurement

Understanding the normal changes in your body fat percentage can help you in preventing or reducing obesity.

Being aware of the times when the body fat percentages shift within your own daily schedule will assist you in obtaining an accurate trend of your body fat. It is recommended to use this unit in the same environment and same daily circumstances. (See chart)



Features of the product

- **Measures body fat percentage and more**

Measures body fat percentage, Basal Metabolic Rate (BMR), assessment of body fat percentage & Body Mass Index (BMI) with graphical interpretation of body type.

- **Accurate measurement**

The body fat percentage is measured based on the electric resistance and the personal data such as height, weight, age and gender. The measured results are closely correlated with the "under-water weighing method", which is said to be the standard measurement method for measuring body fat percentage.

- **Measurement is fast and simple**

After setting the data, body fat mass can be measured by simply holding the grip electrodes and pushing the Start button.

The measured results are displayed approximately 7 seconds after setting data.

- **Large and clear displays**

The easy to read large digital and graphic displays can be understood at a glance. The measured results based on body fat percentage, BMR and on BMI calculations are displayed, as well as their interpretations and body fat percentage assessment.

- **Memory**

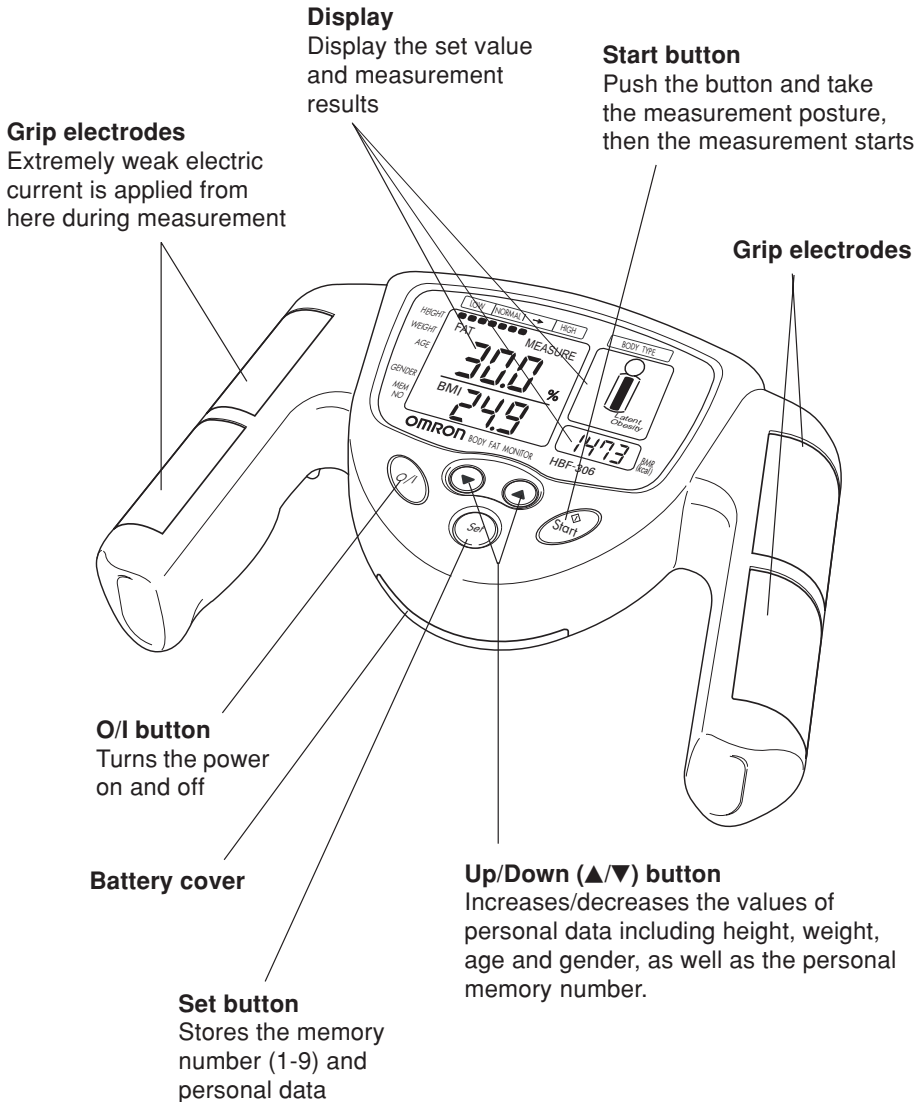
The memory can store the personal data (height, weight, age and gender) of up to 9 people simultaneously.

- **Small, lightweight and portable**

- **Energy saving**

Know your unit

Main Unit



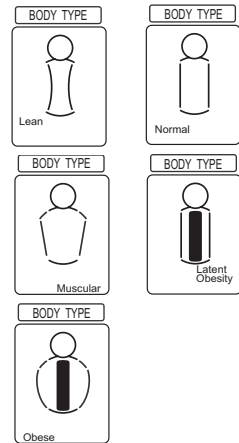
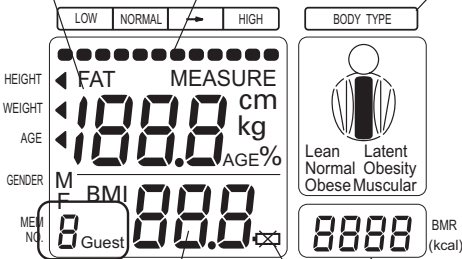
Know your unit

Display description

Display of personal measurement and data
body fat % / height /
weight / age

Body fat percentage
assessment

Graphical interpretation
of body type




BMI display

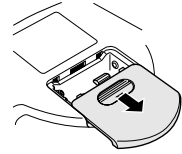
Basal Metabolic Rate display
BMR is calculated based on
the personal data entered.

Personal memory
number display

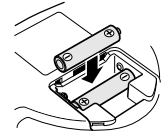
Low battery display
When this mark flashes,
replace both batteries

Battery installation and replacement

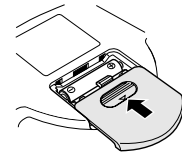
1. While pressing the  mark on the battery cover on the back of the unit with your finger, slide off the cover in the direction of the arrow.



2. Insert two AAA batteries with the polarities in correct alignment, as indicated in the battery compartment.



3. Slide and securely close the battery cover.



Battery life and replacement



When the battery replacement symbol flashes, replace both batteries with new ones.

To protect the environment, discard the used batteries in accordance with the local regulations regarding waste disposal procedure. Disposal can be done at your retail store or at appropriate collection sites.

As the batteries may leak and damage the main unit, please note the following points:

- Remove the batteries from this unit when you are not going to use it for a long period of time (approximately three months or more).
- Replace the worn batteries with new ones immediately.
- Do not use manganese and alkaline batteries together.
- Do not use new and worn batteries together.

Setting and using personal memory number

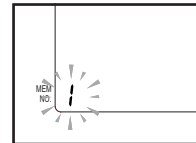
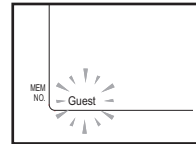
Push the O/I button to turn on the power.

Select the personal memory number.

1. Push the ▲/▼ button and select a personal number from 1 to 9 or Guest. Guest data will not be stored in memory.
2. Push the Set button.
The personal number turns on and changes to height setting mode.

3. Set the personal data - continue with "Setting personal data before measurement.(see Pg. 13)

Taking a measurement by using your personal memory (be sure the device is on):



Search your personal memory number

1. Push the ▲/▼ button to select your memory number.
2. Push the Set button.
The memory number is indicated and your personal data is displayed.
3. Carry out the measurement.
Refer to "To take a measurement" (see pg. 14).

To change any values

1. Push the Set button to go to the personal data you want to change.
2. Push the ▲/▼ button to change the setting.
By pushing both the ▲/▼ buttons at the same time, the current flashing display will reset to the initial value.

How to delete all 9 personal data values from the memory

1. Push the ▲ button and select the memory No. 1.
2. Push the SET button for 2 seconds.
3. All personal data is deleted.
4. The display segments turn on.
(Same state as when the O/I button is pushed.)

If you leave the set items on the screen without confirmation, in approximately 1 minute the display will change to the initial values or to the values before setting.

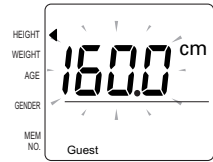
After 1 minute, the unit will automatically turn off.

If your age, weight, or height has changed, correct the value accordingly.

Setting the personal data before measurement

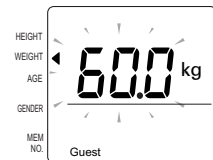
Set the height (range: 100.0 cm to 199.5 cm).

1. The height value 160.0 cm flashes and HEIGHT ◀ is indicated.
2. Push the ▲/▼ button to set the height value. The height value increases by increments of 0.5 cm each time the ▲ button is pressed or decreases each time the ▼ button is pressed. By pushing the button for more than 1 second, the height values change at a faster rate.
3. Push the Set button to set the height value. The display changes to the weight setting screen.



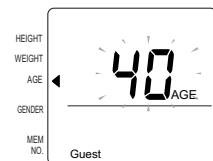
Set the weight (range: 10.0 kg to 199.8 kg).

1. The weight value 60 kg flashes and WEIGHT ◀ is indicated.
2. Push the ▲/▼ button to change the weight value. The weight value increments by 0.2 kg each time the ▲ button is pressed or decreases each time the ▼ button is pressed. By holding the button for more than 1 second, the weight values change at a faster rate.
3. Push the Set button to set the weight value. The display changes to the age setting screen.



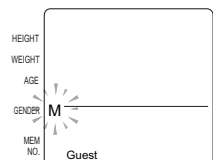
Setting age (range: 10 to 80 years old).

1. The age value 40 flashes and the AGE ◀ is indicated.
2. Push the ▲/▼ button to change the age. The age values change by 1 year.
By holding the button for more than 1 second, the age values change at a faster rate.
3. Push the Set button to set the age value. The display changes to the gender setting screen.



Setting gender (male/ female).

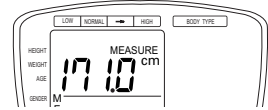
1. The gender male "M" flashes.
2. Push the ▲/▼ button to change the gender. The display of "M" (male) or "F" (female) flashes alternately.
3. Push the Set button to set the gender.



To take a measurement

Step 1: Check the display of “Measure”.

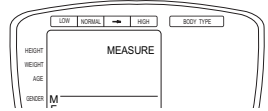
“Measure” is displayed.



“Measure” is displayed

Step 2: Push the “Start” button.

“Measure” is displayed.



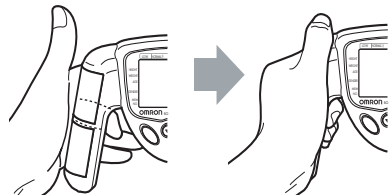
“Measure” is displayed

Step 3: Stand with both feet slightly apart.



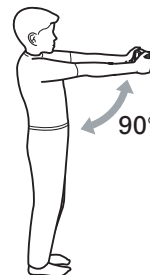
Step 4: Hold the grip electrodes.

Wrap your middle finger around the groove of the handle. Place the palm of your hand on the top and the bottom electrodes. Put your thumbs up, resting on top of the unit.



Step 5: Hold your arms straight out, at a 90 degree angle to your body.

Do not move during the measurement.



To take a measurement

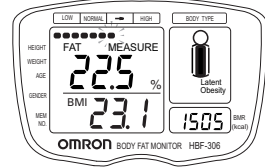
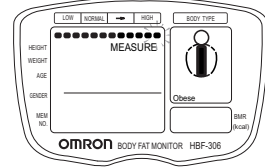
Step 6: On gripping with both hands, measurements will automatically begin.

The right display will be shown during measurement.

While measuring, the bar will increase from the left, 3 bars at a time until a maximum of 12 bars. The bar shows the completion of measurement. At the same time, body type will be updated in the display every second.

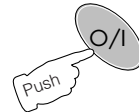
Results are displayed. Please refer to next page for the interpretation of measurement results.

To continue measuring, press “Start” again.



Step 7: Push the O/I button to turn the power off.

If you do not push the O/I button, the unit will turn off automatically, approximately three minutes after displaying the measurement results.



Wrong measuring posture and grip

Measuring postures that should be avoided

Measurement in the following positions may not provide accurate measurement.

Elbows are bent.



Moving your body or arms during measurement.



Arms held at an angle, either too low or too high.



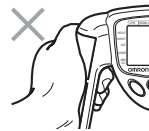
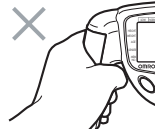
Measuring while lying down or sitting.



How to hold the grips.

In the following cases, the electric resistance may not be measured correctly.

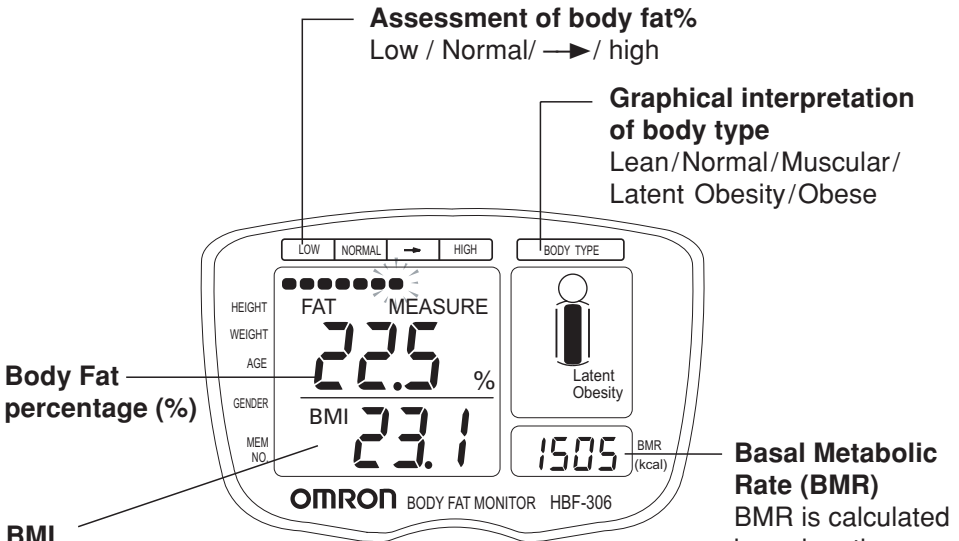
Your fingers are not properly gripping the electrodes.



When holding the grips, the hands are positioned unevenly towards the top or the bottom.



Interpretation of measurement results



BMI
BMI is the international indicator of whether or not one is within a healthy weight range for one's height, by calculating the balance of height and weight. It is calculated as follows:

$$\text{BMI} = \text{Weight}(\text{kg}) \div (\text{height}(\text{m}))^2$$

BMI assessment

Lean	less than 18.5
Normal	more than 18.5 and less than 25
Level 1 obese	more than 25 and less than 30
Level 2 obese	more than 30

These figures indicated based on the reference from obesity assessment recommended by Japan Obesity Association (Oct. 1999)

Body Fat Percentage assessment

Body fat %	Low	Normal	→ (Slightly high)	High
Male	Less than 10%	10% or more and less than 20%	20% or more and less than 25%	25% or more
Female	Less than 20%	20% or more and less than 30%	30% or more and less than 35%	35% or more

These figures indicated are based on the reference from obesity assessment recommended by Lohman (1986) and Nagamine (1972).

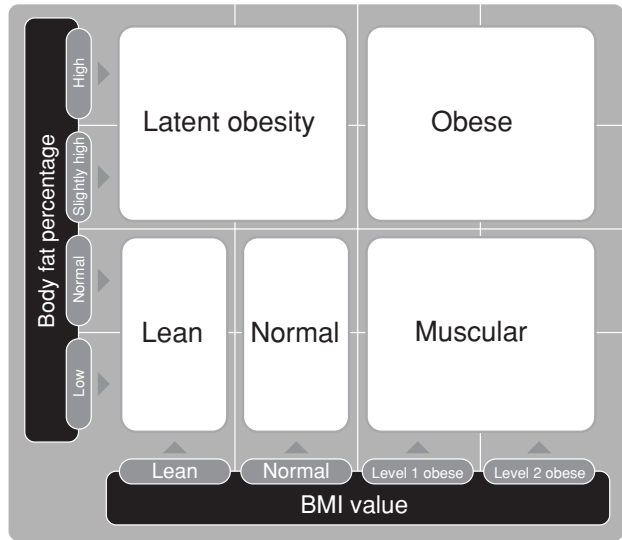
Why calculate body fat?

Let's aim for a fit body by knowing your body type

When losing weight, it is important to understand where the lost weight is coming from. In order for a diet or exercise program to be truly successful, it must maintain or increase your lean body mass while reducing your body fat.

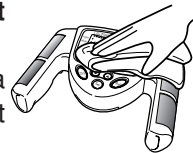
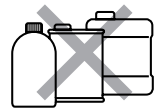
It's important to monitor your body fat percentage and BMI value before putting efforts in building a healthy body carefully.

With Omron Body Fat Monitor, you can quickly and accurately measure your body fat.



Care and Storage

- Clean the main unit with a soft dry cloth. If the main unit is heavily stained, wipe it with a cloth lightly dampened with water or detergent, then wipe it dry with a dry cloth.
- Avoid an excessive amount of water, this can cause internal damage. **Do not wipe the unit with benzene, gasoline, paint thinner, alcohol, or other volatile detergents.**
- For professional use; disinfect the unit after use with a suitable disinfectant. Check the instructions of disinfectant prior to use.



Troubleshooting

Error display	Cause	What to do (the next button to push)
E1	Electrodes were not firmly grasped.	Grasp the grips correctly and measure. (Start button)
E2	Measurement posture grip was not stable.	Measure without moving your arms. (Start button)
E3	Hands are dry.	Slightly moisten hands with a wet towel, then measure. (Start button)
E4	The values of body fat percentage, BMR and BMI are outside the measurable range.	Check the set height, weight, age, and gender again. (Set button)
E5 E6	Abnormal operation.	Push the O/I button again and start measurement. If this error occurs again, consult the nearest Omron dealer.

Trouble	Cause	Solution
When the O/I button is pushed, nothing is displayed.	Are the batteries worn out?	Replace both batteries with new ones
	Is the battery polarity correct?	Insert the batteries correctly.
The value of body fat percentage displayed is abnormally high (or low).	Is the measurement posture correct?	Measure again in correct posture.
An error (E1 to E6) is displayed and the measurement is impossible.	Please refer to above table.	
The results differ extremely for each measurement.	Please refer to "About body fat Measurement" (pg. 6-7)	
Other conditions.	Push the O/I button again and restart from the beginning.	

If you are unable to obtain a correct measurement after taking the above-mentioned troubleshooting steps, please contact the nearest OMRON dealer.

Specifications

Product	OMRON Body Fat Monitor	
Model	HBF-306	
Display	Body fat % (5.0~50.0%) BMI (2.5~90.0) BMR (385~5000kcal) Body Fat % assessment: Low/Normal/ → /High Body type interpretation: Lean/Normal/Musuclar/Latent obesity/ Obese	
Input data	Height	100.0 - 199.5cm
	Body weight	10.0 - 199.8kg
	Age	10 - 80 years old
	Gender	Male/Female
Power supply	(R03) 2 “AAA” batteries	
Battery life	Approx. 1 year (when used twice a day)	
Operating temperature/ Humidity:	+10°C to 40°C 30 to 85% RH maximum	
Storage Temperature/ Humidity:	-20°C to +60°C 10 to 95% RH maximum	
Outer Dimensions:	Approx.197(L) x 128(H) x 49mm(W)	
Console Weight:	Approx. 230g (excluding batteries)	
Accessories:	2 “AAA” batteries, Instruction manual	

NOTE: These above specifications, are subject to change without notice.

