



INSTRUCTION MANUAL

Body Composition Monitor

Model HBF-212 (HBF-212-IN)

Karada Scan



Thank you for purchasing the OMRON Body Composition Monitor.

Before using this unit for the first time, please be sure to read this Instruction Manual carefully and use the unit safely and properly.

Please keep this Instruction Manual at hand all the time for future reference.

All for Healthcare

HBF-212-IN
5337411-0A

NOTES ON SAFETY

Please read this instruction manual carefully before use and for further information on the individual functions.

Danger:

- Never use this unit in combination with the following medical electronic devices.
 - Medical electronic implants such as pacemakers.
 - Electronic life support systems such as an artificial heart/lung.
 - Portable electronic medical devices such as electrocardiograph.
- This unit could cause these devices to malfunction, posing a considerable health risk to users of these devices.

Warning:

- Never start weight reduction or exercise therapy solely based on your own judgement. Be sure to follow the instructions of a doctor or specialist.
- Do not use the unit on tiles or other surfaces that may be slippery, such as a wet floor.
- Do not subject the unit to strong shocks, such as vibrating or dropping the unit on the floor.
- Do not jump or bounce on the unit.
- Do not use this unit after taking a bath, or when your body, hands, or feet are wet.
- Do not step on the edge of the unit.
- Do not let a physically handicapped person use this unit without any accompanied assistance. Use a handrail or so when stepping on the unit.

Caution:

- This unit is intended for home use only. It is not intended for professional use in hospitals or other medical facilities. This unit does not support the standards required for professional use.
- Stand on the unit bare-footed.
- Do not use a cellular phone near the unit.
- Do not disassemble, repair, or remodel the unit.
- Do not use batteries not specified for this unit. Do not insert the batteries with the polarities in the wrong direction.
- Replace worn batteries with new ones immediately.
- 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).
- Do not use batteries of a different kind together.
- Do not use new and worn batteries together.
- Keep this unit out of the reach of young children.

General Advice:

- Do not place this unit on cushioned floor surface such as on a carpet or a mat. Correct measurement may not be possible.
- Do not step on the operation buttons. Doing so may cause malfunction.
- Do not place this unit in highly humid environment, where water may splash, under direct sunshine, in a place where the air conditioner blows directly, or near fire.
- Do not use this unit for purposes other than measuring body weight, body fat percentage, and/or visceral fat level.
- Disposal of this product and used batteries should be carried out in accordance with the national regulations for the disposal of electronic products.
- Always keep the unit clean before use.
 - Wipe the main unit with a soft dry cloth.
 - If necessary, use a cloth moistened with water or neutral detergent and squeeze it well before wiping the unit, then wipe dry with a dry cloth.
- Clean the monitor before using the unit with people who have a skin or foot disease.
- Do not wash the unit with water.
- Do not wipe the unit with benzene, paint thinner, alcohol, or other volatile solvents.
- When cleaning the unit, take care not to touch the buttons and change or delete the personal data.
- If storing the unit in a vertical position, always secure it so that it will not fall over.

- Do not store the unit in the following conditions:
 - Where water may get in.
 - Extreme high temperature and humidity, direct sunshine, and dusty places.
 - Where there will be sudden shock or vibration.
 - In storage places of chemicals or where corrosive gas is present.
- Do not place objects on the unit or store it upside-down.

INFORMATION ON BODY COMPOSITION

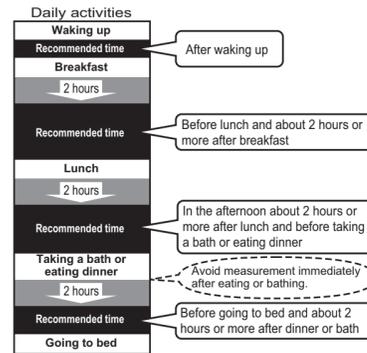
Principle of body composition calculation

Body fat has low electric conductivity

The OMRON HBF-212 measures the body fat percentage by the Bioelectrical Impedance (BI) method. Muscles and blood vessels are body tissues with a high water content that conducts electricity easily. Body fat is tissue that has little electric conductivity. The HBF-212 sends an extremely weak electrical current of 50 kHz and less than 500 μA through your body to determine the amount of fat tissue. This weak electrical current is not felt while operating HBF-212. In order for the monitor to determine body composition, it uses the electrical impedance, along with your height, weight, age and gender information to generate results based on OMRON's data of body composition.

Recommended measurement times

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 trending of your body fat. It is recommended to use this unit in the same environment and daily circumstances. (See chart)



Avoid Taking Measurements Under the Following Conditions:

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

Avoid taking measurements:

- immediately after vigorous exercise

Please wait for 2 hours or more

- after a bath or sauna
- after drinking alcohol
- after drinking lots of water
- after eating a meal

What is BMI (Body Mass Index)?

BMI uses the following simple formula to indicate the ratio between weight and height of a person.
 $BMI = \text{weight (kg)} / \text{height (m)}^2$

The OMRON HBF-212 uses the height information stored in your personal profile number or when entering information in the guest mode to calculate your BMI classification.

What is Body Fat Percentage?

Body fat percentage refers to the amount of body fat mass in regards to the total body weight expressed as a percentage.
 $\text{Body fat percentage (\%)} = (\text{Body fat mass (kg)} / \text{Body weight (kg)}) \times 100$

The device uses BI method to estimate your body fat percentage. Depending on where fat is distributed in the body, it is classified as visceral fat or subcutaneous fat.

What is Visceral Fat Level?

Visceral fat = fat surrounding internal organs

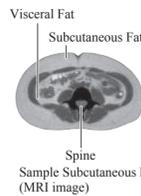
Too much visceral fat is thought to be closely linked to increased levels of fat in the bloodstream, which can lead to common diseases such as hyperlipidemia and diabetes, which impairs the ability of insulin to transfer energy from the bloodstream and using it in cells. In order to prevent or improve conditions of common diseases, it is important to try and reduce visceral fat levels to an acceptable level. People with high visceral fat levels tend to have large stomachs. However, this is not always the case and high visceral fat levels can lead to metabolically obese. Metabolically obese (visceral obesity with normal weight) represents fat levels that are higher than average, even if a person's weight is at or below the standard for their height.



What is Subcutaneous Fat?

Subcutaneous fat = fat below the skin

Subcutaneous fat not only accumulates around the stomach but also around the upper arms, hips and thighs, and can cause a distortion of the body's proportions. Although not directly linked to increased risk of disease, it is thought to increase pressure on the heart and other complications. Subcutaneous fat is not displayed in this unit, but is included in the body fat percentage.



What is Skeletal Muscle?

Muscle is divided into two types, muscle in internal organs, such as the heart, and skeletal muscle attached to bones that is used to move the body. Skeletal muscle can be increased through exercise and other activity. Increasing the ratio of skeletal muscle means that body can burn energy more easily, which means that it is less likely to turn to fat, and makes it easier to lead an energetic lifestyle.

What is Resting Metabolism?

Regardless of your activity level, a minimum level of caloric intake is required to sustain the body's everyday functions. Known as the resting metabolism, this indicates how many calories you need to ingest in order to provide enough energy for your body to function.

What is Body Age?

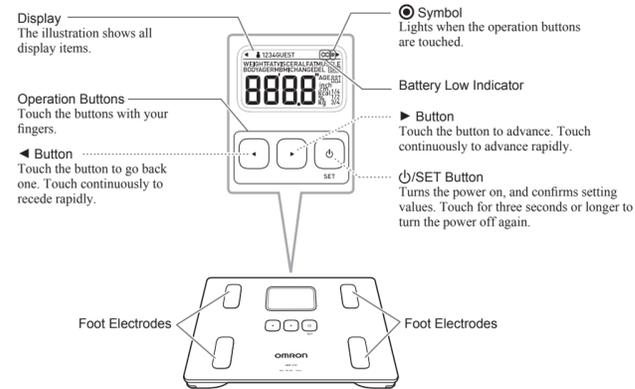
Body age is based on your resting metabolism. Body age is calculated by using your weight, body fat percentage and skeletal muscle percentage to produce a guide to judge whether your body age is above or below the average for your actual age. To know your body age is useful to improve your health condition.

The reason calculated results may differ from actual body fat percentage

The body fat percentage measured by this unit may significantly differ from the actual body fat percentage in the following situations:
 Elderly people / People with a fever / Body builders or highly trained athletes / Patients undergoing dialysis / Patients with osteoporosis who have very low bone density / Pregnant women / People with swelling
 These differences may be related to changing ratios of body fluid and/or body composition.

KNOW YOUR UNIT

Main Unit



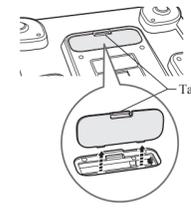
Components



BATTERY INSTALLATION

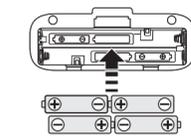
1. Open the Battery Cover on the back of the unit.

- Press the tab on the battery cover in the direction of the arrow to release the cover as illustrated.
- Pull the tab of the cover upwards.



2. Insert the batteries by aligning them as indicated.

The end with the spring is for the negative (-) terminal.



3. Close the battery cover.

- Align the hooks on the battery cover with the slots in the battery compartment.
- Push the battery cover until the tab clicks into place.

Battery Life and Replacement

Measurement values and personal profiles stored in the memory will not be deleted during battery replacement. When the Battery Low Indicator appears on the display screen, remove all four batteries. Replace with four new batteries at the same time.

NOTES:

- New batteries will last for approximately one year (when manganese batteries are used with four measurements a day at a room temperature of 23°C). Trial batteries supplied with the unit may have a shorter life.
- Do not use rechargeable batteries. This could cause inaccurate operation.
- Dispose of the device, batteries and components according to applicable local regulations.

About the Power Off Function

Touch the ⏻/SET button for three seconds or longer to turn off the power. The "OFF" symbol appears on the display when the power is turned off.

- The power is automatically turned off in the following conditions:
 - If the unit is not used within one minute of "0.0 kg" appearing on the display.
 - If no information is entered for three minutes when entering personal data.
 - If the unit is not used for 30 seconds after weight result is displayed.
 - If the unit is not used for three minutes after body composition results are displayed.
- 10 seconds after the "Err" symbol appears on the display.

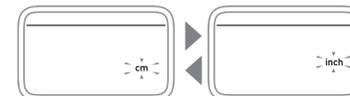
SELECTING MEASUREMENT UNIT

You can select the measurement unit used for the height setting.

1. Touch the ⏻/SET button to turn on the power.

"cm" blinks on the display.

2. Touch the ◀ or ▶ button to select "cm" or "inch".



3. Touch the ⏻/SET button to confirm.

The "OFF" symbol appears on the display, then the power is turned off.

NOTE: Reinstall the batteries if you want to change the measurement unit.



SETTING PERSONAL DATA

To measure body composition, your personal data must be set. Your personal data includes your age, gender and height.

- Select a Personal Profile Number to save your personal data. The unit saves up to four personal profiles. Select a number 1 through 4. Use this number to enter your personal data when taking a measurement.
- Select Guest mode if you do not want your personal data stored in the memory. When you use the Guest mode you will need to enter your personal data each time you take a measurement. Measurement results are not stored in the memory when the Guest mode is used.

1. Touch the ⏻/SET button to turn on the power.

All symbols appear on the display briefly, then the display changes to "0.0kg". Wait until 0.0 kg appears on the display.

NOTE: You can also touch the ◀ or ▶ button to turn on the power.



2. Select a Personal Profile Number.

- Touch the ◀ or ▶ button to select a Personal Profile Number or the GUEST mode, then the number you selected blinks on the display.
- Touch the ⏻/SET button.

NOTE: If "0.0kg" is displayed, then that Personal Profile Number has already been registered. Choose a different Personal Profile Number or delete the personal data for that number.



3. Enter your Personal Data.

SETTING THE AGE

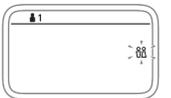
- Touch the ◀ or ▶ button to change the age. (Display range: 6 to 80)
- Touch the ⏻/SET button. The age is set. The gender symbols blink on the display.

NOTE: The age entered is not automatically updated, so be sure to update it each year after your birthday. If the age is not set correctly, the measurement results may not be accurate.



SETTING THE GENDER

- Touch the ◀ or ▶ button to change the gender. The gender is set. The height symbol blinks on the display.



SETTING THE HEIGHT

(Display range: 100.0 cm to 199.5 cm)

- Touch the ◀ or ▶ button to change the height. The height is set.



The current settings for age, gender and height blink on the display, then the display changes to 0.0 kg.

All the settings are completed.

You can now take a measurement using the Personal Profile Number you selected or the Guest mode. Refer to HOW TO TAKE A MEASUREMENT.

If you do not take a measurement, touch the ⏻/SET button for three seconds or longer to turn off the power.

NOTES:

- Your personal data have not been registered in the following cases. Please re-register the personal data information.
 - If no buttons are touched for 3 minutes while setting the personal data and the power is automatically turned off.
 - If the power goes off while you are making settings.

Changing Personal Data

If your personal data change, the information in the Personal Profile Number you selected must be changed for measurement results to be calculated correctly.

1. Touch the ⏻/SET button to turn on the power.

All symbols appear on the display briefly, then the display changes to "0.0kg". Wait until 0.0 kg appears on the display.

NOTE: You can also touch the ◀ or ▶ button to turn on the power.



2. Touch the ◀ or ▶ button to select the Personal Profile Number you want to change.

NOTE: If "P1" to "P4" blink on the display, then there is no personal data for the selected Personal Profile Number. Register personal data for the number. Refer to SETTING PERSONAL DATA.



3. Touch the ⏻/SET button to confirm the settings.

The ◀ and ▶ symbols disappear.



4. Touch the ⏻/SET button again.

"CHANGE" and "DEL" blink on the display.

NOTE: Touch the ⏻/SET button to cancel the operation.

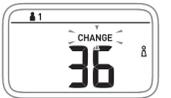


5. Select "CHANGE".

1) Touch the ◀ or ▶ button to select the "CHANGE" symbol. The "CHANGE" symbol blinks on the display.

2) Touch the ⏻/SET button. The "CHANGE" is set. The current setting for age blinks on the display.

3) Refer to Step 3 of "SETTING PERSONAL DATA" to enter your personal data.



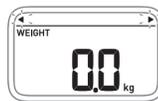
Deleting Personal Data

If you delete personal data, the height, gender and age settings will also be deleted.

1. Touch the /SET button to turn on the power.

All symbols appear on the display briefly, then the display changes to "0.0kg". Wait until 0.0 kg appears on the display.

NOTE: You can also touch the or button to turn on the power.



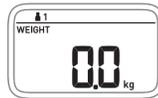
2. Touch the or button to select the Personal Profile Number you want to delete.

NOTE: If "P1" to "P4" blink on the display, then there is no personal data for the selected Personal Profile Number. Register personal data for the number. Refer to SETTING PERSONAL DATA.



3. Touch the /SET button to confirm the settings.

The and symbols disappear.



4. Touch the /SET button again.

"CHANGE" and "DEL" blink on the display.

NOTE: Touch the /SET button to cancel the operation.



5. Select "DEL".

1) Touch the or button to select the "DEL" symbol. The "DEL" symbol blinks on the display.



2) Touch the /SET button.

and the current settings for age and gender blink on the display.

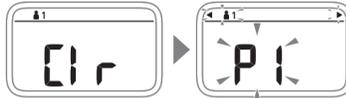
NOTE: Touch the or button to cancel the operation.



3) Touch the /SET button.

After the "Cl" symbol blinks on the display, "P1" blinks on the display.

The personal data is deleted from memory.



6. Turn off the power.

Touch the /SET button for three seconds or longer to turn off the power.

HOW TO TAKE A MEASUREMENT

Measurement should be taken on level and hard surface.

NOTES:

• Even if you do not have personal data information stored on the unit, you can use Guest mode to measure body composition.
• Do not place the unit on a cushioned floor surface such as a carpet or mat. A correct measurement may not be possible.

1. Touch the /SET button to turn on the power. All symbols appear on the display briefly, then the display changes to "0.0kg". Wait until 0.0 kg appears on the display.

NOTES:

• You can also touch the or button to turn on the power.
• Do not step onto the unit or move it until 0.0 kg appears on the display. An error message "Err" may appear.
• Even if "0.0 kg" appears, do not step onto the unit when you measure your body composition. Follow the step 2 of the procedure to select a Personal Profile Number or the Guest mode.

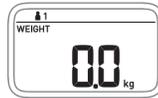


2. Select a Personal Profile Number or the Guest mode.

A. Personal Profile Number

Touch the or button until your own Personal Profile Number is displayed, then touch the /SET button to confirm the personal profile number you have selected. The display changes with each button touched and the next profile number is displayed.

Wait until 0.0 kg appears on the display.



NOTE: If "P1" to "P4" blink on the display, your personal data have not been registered. Please re-register the personal data information. (Refer to SETTING PERSONAL DATA.)



B. Guest mode

1) Touch the or button to select the GUEST mode "P-", then touch the /SET button.

The GUEST symbol appears and the age "30" blinks on the display.

2) Enter your personal data. Refer to SETTING PERSONAL DATA.



3. Start the measurement.

1) Step on the unit bare-footed and place your feet on the foot electrodes with your weight evenly distributed. Remain still and do not move until your measurement is complete.



The display will show your weight and then the weight result will blink twice. The unit will start to calculate body composition.

During body composition measurement, "0" moves to show the measurement is progressing.

2) When the measurement is completed, your weight is displayed again. Step off the unit.



Postures to Avoid During Measurement

Incorrect posture may result in inaccurate measurement of body composition.



Your feet are not correctly positioned on the electrodes.

Knees bent

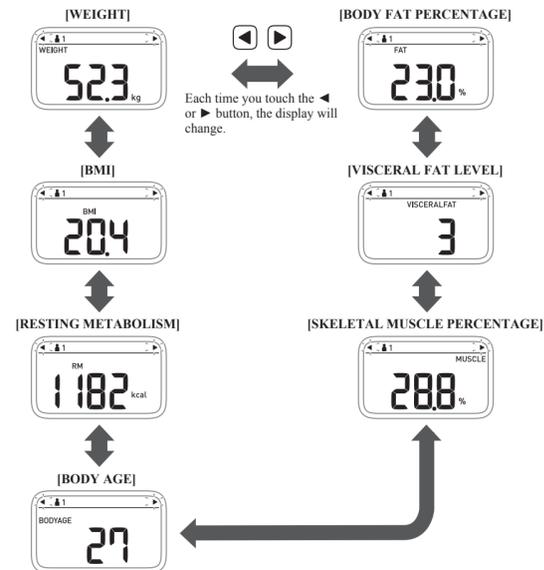
Crouching

4. Check the measurement results.

CHECKING YOUR BODY COMPOSITION

The results display rotates automatically.

To stop the automatic rotation of results, or to view other measurement values, touch the or button. Each time you touch the or button, the display change as shown below.



5. Touch the /SET button for three seconds or longer to turn off the power.

ABOUT THE INDICATORS

Interpreting the Body Fat Percentage Result

Gender	Low	Normal	High	Very High
Female	5.0-19.9	20.0-29.9	30.0-34.9	35.0-50.0
Male	5.0-9.9	10.0-19.9	20.0-24.9	25.0-50.0

Based on the obesity values proposed by Lohman (1986) and Nagamine (1972)

Interpreting the Visceral Fat Level Result

Visceral Fat Level	Level Classification
1 - 9	Normal
10 - 14	High
15 - 30	Very High

According to OMRON HEALTHCARE figures

Interpreting the BMI Result

BMI	Classifications (by the WHO)
Less than 18.5	Underweight
18.5 or more and less than 25	Normal
25 or more and less than 30	Overweight
30 or more	Obese

The above-mentioned indices refer to the values for obesity judgment proposed by WHO, the World Health Organization.

Interpreting the Skeletal Muscle Percentage Result

Gender	Low	Normal	High	Very High
Female	5.0-25.8	25.9-27.9	28.0-29.0	29.1-60.0
Male	5.0-32.8	32.9-35.7	35.8-37.3	37.4-60.0

According to OMRON HEALTHCARE figures

MEASURING WEIGHT ONLY

Measurement should be taken on level and hard surface.

1. Touch the /SET button to turn on the power.

All symbols appear on the display briefly, then the display changes to "0.0kg". Wait until 0.0kg appears on the display.



NOTE: If you step onto the unit before 0.0 kg appears on the display, an error "Err" will appear.

2. Step onto the unit.



3. Check the measurement result.

The display will show your weight and then the weight result will blink twice.



4. When the measurement is completed, step down from the unit.

The power is automatically turned off if the unit is not used for thirty seconds. If you want to turn off immediately, touch the /SET button for three seconds or longer.

ERROR INDICATORS

Error Display	Cause	Correction
Err 1	You step off the unit during the measurement.	Do not step off the unit till the measurement is completed. (Refer to HOW TO TAKE A MEASUREMENT.)
	Your feet are not correctly positioned on the electrodes.	Make sure that you are standing on the unit correctly and try again. (Refer to HOW TO TAKE A MEASUREMENT.)
Err 2	The measurement position is not stable or your feet are not placed correctly.	Remain still and do not move during measurement. (Refer to HOW TO TAKE A MEASUREMENT.)
	Feet are too dry.	Slightly moisten the soles of your feet with a damp towel and try again.
Err 5	The unit is not set up correctly.	Remove the batteries. Wait one minute. Reinstall the batteries. (Refer to BATTERY INSTALLATION.) Touch the /SET button and turn on the power. Retake the measurement.
Err	You step onto the unit before 0.0 kg is displayed.	Wait until 0.0 kg is displayed before stepping onto the unit.
	The unit moved before 0.0 kg is displayed.	Do not move the unit until 0.0 kg is displayed.
	Movement during measurement.	Do not move till measurement is completed.
	Your weight is over 150.0 kg.	This unit can only be used by people weighing less than 150.0 kg.

TROUBLESHOOTING TIPS

Problem	Cause	Correction
0.0 kg is displayed even when you step onto the unit, or the weight value barely increases.	You stepped onto the unit before 0.0 kg was displayed.	Wait until 0.0 kg is displayed before stepping onto the unit.
The value of body weight is displayed abnormally high or low.	Your posture is not correct and measurement cannot be taken.	Stand still in the correct posture to take a measurement. (Refer to HOW TO TAKE A MEASUREMENT.)
The body composition value is displayed abnormally high or low.	Is the unit placed on a carpet or other soft flooring? Is the floor surface uneven?	Place the unit on a hard and level floor.
The body composition values vary widely for each measurements.	The soles of your feet, or whole body are cold, causing poor blood circulation.	Warm yourself up, then take a measurement once you feel your circulation is back to normal.
	The electrodes are extremely cold.	Place the unit in a warm room for a few minutes, and then take a measurement when the electrodes no longer feel cold.
	Feet are too dry.	Slightly moisten the soles of your feet with a damp towel and try again.
"-----" is displayed for some of the results.	This unit cannot measure body composition outside its measurement range, even if the age, gender and height settings are correct. For children over 6 and under 18 years old: Weight, Body Fat percentage, Skeletal Muscle percentage, BMI and Resting Metabolism are displayed. For people over 18 to 80 years old: All results are displayed.	Check the setting entered for your personal data. Change the settings if needed. Retake the measurement. (Refer to SETTING PERSONAL DATA.)
You want to measure your body composition, but body composition measurement does not start after the weight measurement has been displayed.	A personal data for a Personal Profile Number or Guest mode measurement has not been set. (Neither a Personal Profile Number 1, 2, 3, 4 or GUEST is displayed.)	Enter a personal data for a Personal Profile Number or use Guest mode. Refer to SETTING PERSONAL DATA.
	The Personal Profile Number or GUEST mode was not selected correctly. (Neither a Personal Profile Number 1, 2, 3, 4 or GUEST is displayed.)	Make sure that Personal Profile Number 1, 2, 3, 4 or GUEST is displayed before measurement. Refer to HOW TO TAKE A MEASUREMENT.
Nothing is displayed when the power is turned on.	Batteries are not inserted.	Insert the batteries. (Refer to BATTERY INSTALLATION.)
	The polarities of batteries are not aligned correctly.	Insert the batteries in correct alignment. (Refer to BATTERY INSTALLATION.)
	The batteries are worn out.	Replace all four batteries with new ones. (Refer to BATTERY INSTALLATION.)
Nothing happens when you touch the buttons.	The buttons are wet or dirty.	Wipe the water or dirt off the buttons and try again.
The power is automatically turned off.		Refer to About the Power Off Function on BATTERY INSTALLATION.

SPECIFICATIONS

Product Name	Body Composition Monitor
Model	HBF-212 (HBF-212-IN)
Display	Body Weight: 2 to 150 kg with an increment of 0.1 kg Body Fat percentage: 5.0 to 50.0% with an increment of 0.1% Skeletal Muscle percentage: 5.0 to 60.0% with an increment of 0.1% BMI: 2.5 to 90.0 with an increment of 0.1 Resting Metabolism: 385 to 3999 kcal with an increment of 1 kcal Body Age: 18 to 80 years old with an increment of 1 year Visceral Fat Level: 30 levels with an increment of 1 level • The age range for the BMI, Body Fat percentage, Skeletal Muscle percentage and Resting Metabolism is 6 to 80 years old. • The age range for the Visceral Fat Level and Body age is 18 to 80 years old.
Set Items	Personal data information: The following information for up to 4 people can be stored. Height: 3' 4" to 6' 6 3/4" (100.0 to 199.5 cm) Age: 6 to 80 years old Gender: Male/Female
Weight Accuracy	2.0 kg to 40.0 kg: ± 0.4 kg 40.0 kg to 150.0 kg: ± 1%
Power Supply	4 AAA manganese batteries (R03) (You may also use AAA alkaline batteries (LR03).)
Battery Life	Approximately one year (When AAA manganese batteries are used with four measurements a day at a room temperature of 23°C.)
Operating Temperature /Humidity	+5°C to +35°C, 30% to 85% RH
Storage Temperature /Humidity/Air Pressure	-20°C to +60°C, 10% to 95% RH, 700 hPa - 1060 hPa
Weight	Approximately 1.3 kg (including batteries)
External Dimensions	Approximately 285 (W) × 28 (H) × 210 (D) mm
Package Contents	Body composition monitor, 4 AAA manganese batteries (R03), instruction manual

NOTE: Subject to technical modification without prior notice.

OMRON HEALTHCARE Co., Ltd.
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