Panasonic

Operating Instructions
Instrucciones de Uso

Wrist Blood Pressure Monitor
Monitor de presión arterial de muñeca

Model No./Nº de Modelo EW-BW10

Before operating this device, please read these instructions completely and save this manual for future use.

Antes de utilizar este dispositivo, lea completamente estas instrucciones y conserve este manual para futura referencia.

Panasonic Oscillometric Automatic Wrist Blood Pressure Monitor Model EW-BW10 is a device intended to measure systolic and diastolic blood pressure and pulse rate of an adult individual by using a pressurized cuff on the wrist. The device is not intended for use on neonatal, infants and children. The device is designed for home use only, not for ambulatory measurement (measurement recorded continuously during the day).

Specifications of this device are listed in page 22.

Blood pressure measurements determined with this device are equivalent to those obtained by a trained observer using the cuff/stethoscope auscultation method, within the limits prescribed by the American National Standard, Manual, Electronic or automated sphygmomanometers.

If you suffer from disorder of heart rhythm, known as arrhythmia only use this blood pressure monitor in consultation with your doctor. In certain cases oscillometric measurement method can produce incorrect readings.

Flashing System for hypertensive readings are based on blood pressure values classified in the paper: "JNC 7 Express; The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure; U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES; National Institute of Health; National Heart, Lung, and Blood Institute; National High Blood Pressure Education Program; NIH Publication No. 03-5233; May 2003." The display values are generally known, but not proven, to be an indicator of your blood pressure.

The EW-BW10 is not intended to be used as a diagnostic device. Contact your physician if prehypertensive or hypertensive values are indicated.

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Introduction

Thank you for purchasing the Panasonic Automatic Wrist Blood Pressure Monitor EW-BW10.

Measuring your own blood pressure is an important way of monitoring your health. High blood pressure (hypertension) is a major health problem which can be treated effectively once detected. Measuring your blood pressure between doctor visits on a regular basis in the comfort of your home, and keeping a record of the measurements, will help you monitor any significant changes in your blood pressure. Keeping an accurate record of your blood pressure will help your doctor diagnose and possibly prevent any health problems in the future.

Basics of Blood Pressure

Your heart acts like a pump, sending blood surging through your blood vessels each time it contracts. Blood pressure is the pressure exerted by blood pumped from the heart on the walls of blood vessels. Systolic pressure is the pressure exerted when the heart contracts and pumps blood into the arteries. Diastolic pressure is the pressure exerted when the heart expands, or relaxes. When you or your doctor take your blood pressure, both your systolic and diastolic pressures are measured. If your blood pressure measurement is 120 mmHg over 80 mmHg (120/80), for example, your systolic pressure is 120 mmHg while your diastolic pressure is 80 mmHg.

Important Instructions Before Use

1. Do not confuse self-monitoring with self-diagnosis. Blood pressure measurements should only be interpreted by a health care professional who is familiar with your medical history.
2. If you are taking medication, consult with your physician to determine the most appropriate time to measure your blood pressure. NEVER change a prescribed medication without first consulting with your physician.
3. For persons with irregular or unstable circulation resulting from diabetes, liver disease, arteriosclerosis or other medical conditions, there may be variations in blood pressure values measured at the wrist versus at the upper arm. Monitoring the trends in your blood pressure taken at either the arm or the wrist is nevertheless useful and important.
4. Blood pressure can vary based on many factors, including age, gender, weight and physical condition. In general, a person's blood pressure is lower during sleep and higher when he or she is active. Blood pressure can change easily in response to physiological changes. The setting in which a person's blood pressure is measured can also affect the results.
   Having one's blood pressure measured by a healthcare professional in a hospital or clinic can cause nervousness and may result in a temporarily elevated reading. Because blood pressure measurements taken in a clinical setting can vary considerably from those taken at home, a person's blood pressure should be measured not only occasionally in the doctor's office, but also on a regular basis at home. Also, if you find that your blood pressure is lower at home, this is not unusual. To accurately compare with your physician's reading, take your Panasonic blood pressure monitor to your doctor's office and compare readings in this setting.
5. People suffering from cardiac arrhythmia, vascular constriction, liver disorders or diabetes, people with cardiac pacemakers or a weak pulse, and women who are pregnant should consult their physician before measuring their blood pressure themselves. Different values may be obtained due to their condition.
6. Try to take your blood pressure measurements at the same time and under the same conditions every day.
   • The ideal time to measure your blood pressure (to obtain your so-called "base blood pressure") is in the morning just after waking up, before having breakfast and before any major activity or exercise. If

this is not possible, however, try to take measurements at a specified time prior to breakfast, and before you have become active. You should relax for about 5 minutes before taking the measurement.
The following situations may cause substantial variations in blood pressure readings and should therefore be avoided at least 30 minutes prior to taking your blood pressure.
Blood pressure will be higher than usual:
- when you are excited or tense
- when you are taking a bath
- during exercising or soon after exercising
- when it is cold
- within one hour after eating
- after drinking coffee, tea or other beverages containing caffeine
- after smoking tobacco
- when your bladder is full
- when in a moving vehicle

Blood pressure will be lower than usual:
- after taking a bath
- after drinking alcohol

7. Measurements may be impaired if this unit is used near a television, microwave oven, X-ray equipment or other devices with strong electrical fields. To prevent such interference, use the unit at a sufficient distance from such devices or turn the devices off.
8. This unit is designed for use by adults. Consult with your physician before using this unit on a child. Do not use on neonatal, infants and children.
9. This unit is not suitable for continuous monitoring during medical emergencies or operations.
10. Do not use the unit for any purpose other than measuring blood pressure. Do not use the unit together with other devices.
11. Improper handling of batteries may result in battery rupture or in corrosion from battery leakage. Please observe the following to ensure proper use of batteries.
    a. Be sure to turn off the power after use.
    b. Do not mix different types or sizes of batteries.
    c. Change all batteries at the same time. Do not mix old and new batteries.
    d. Be sure to insert batteries with correct polarity, as instructed.
    e. Remove batteries when they are worn out, and dispose of them properly according to all applicable environmental regulations.
    f. Do not disassemble batteries or throw them into a fire.

g. Do not short-circuit batteries.
h. Do not attempt to recharge the batteries included with the unit.

12. Please remove the cuff if abnormal operation, such as prolonged overinflation, is observed.

Differences in Blood Pressure Values Measured at the Wrist Versus at the Upper Arm

For persons with peripheral circulatory disorders* resulting from diabetes, liver or kidney disease, arteriosclerosis or hypertension, etc., there may be variations in blood pressure values measured at the wrist versus at the upper arm.

Therefore, always consult with a health professional rather than attempting to interpret blood pressure measurements yourself.

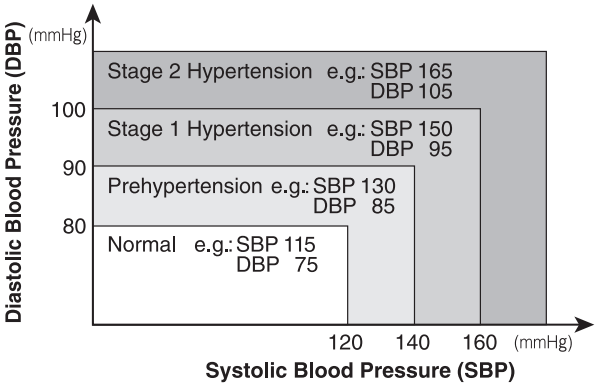
* Persons with underlying medical conditions with bad circulation in their hands and feet.

Precautions to Ensure Safe, Reliable Operation

1. Do not drop the unit. Protect it from sudden jars or shocks.
2. Do not insert foreign objects into any openings.
3. Do not attempt to disassemble the unit.
4. Do not crush the pressure cuff.
5. If the unit has been stored at temperatures below 32 °F (0 °C), leave it in a warm place for about 15 minutes before using it. Otherwise, the cuff may not inflate properly.
6. Do not store the unit in direct sunlight, high humidity or dust.

Easily Check Your Blood Pressure Readings Against the JNC 7* Classification

Blood Pressure Categories



If the two blood pressure measurements (systolic, diastolic) fall into separate categories, your level is classified in the higher of the two categories. For example, a Stage 2 systolic reading, but a diastolic pressure reading in the normal range.

*JNC 7: The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure National Institute of Health (NIH) Publication; No. 03-5233, May 2003

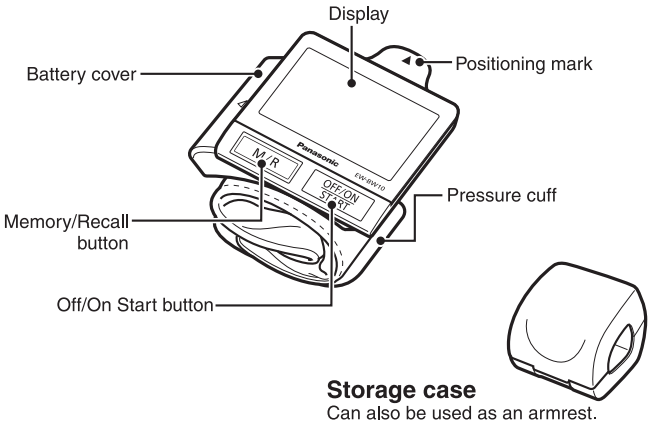
IMPORTANT:

- Do not be alarmed by temporarily high or low readings because fluctuations in a person's blood pressure are not uncommon. If possible, measure and record your blood pressure at the same time every day, and consult your physician if you have questions or concerns.
- If abnormal variations in blood pressure are observed in measurement, please consult your physician.

Diagram of the Device

* Only use alkaline batteries.

Body



Storage case
Can also be used as an armrest.

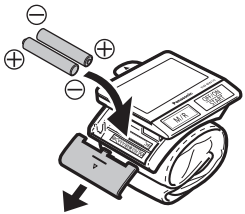
This product includes:
- Main unit
- Storage case
- Batteries
- Operating Instructions
- Guarantee card

*Specifications of the product or parts may be changed without prior notice.

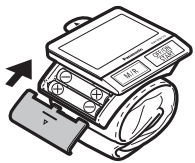
Inserting/Replacing Batteries

***Always use alkaline batteries. (2 AAA-size LR03 alkaline batteries)**

- When replacing batteries, always use 2 fresh alkaline batteries of the same type from the same manufacturer, and replace them simultaneously.

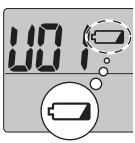


1. **Remove the device from the storage case.**
   Insert the batteries.
   (1) Slide the battery cover open as shown in the diagram.
   (2) Insert the two batteries making sure that they are aligned correctly (+/–).



2. **Slide the battery cover shut until it clicks.**

Replace batteries when:



- The “low battery” indicator is displayed.
- No display appears even if the Off/On Start button is pressed.

CAUTION:

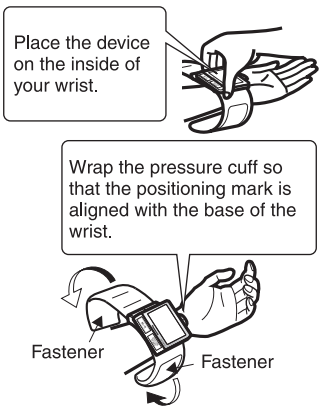
- Always follow the cautions printed on the batteries.
- Check the polarities of the batteries and install them correctly.
- Remove exhausted batteries promptly.
- If the product will not be used for a long time, remove the batteries.
- Batteries should be used before their expiration date.
  Use after the expiration date may result in injury or staining of the surrounding area due to generation of heat, bursting, or leakage.

For Batteries

- The frequency of use for batteries is approximately 300 measurements (3 times per day) with fresh Panasonic alkaline batteries (AAA-size LR03 alkaline batteries). [Measurement conditions: Room temperature 73.4 °F (23 °C); Pressurized to 170 mmHg; Wrist circumference: 6-3/4″ (17 cm)]
- If batteries other than alkaline batteries are used or batteries are used in a cold room, and when measuring a person with high blood pressure, battery life may be dramatically shorter.
  *Use alkaline batteries. (Panasonic Oxyride batteries can also be used.)
- Be sure to replace batteries once a year to prevent battery leakage.

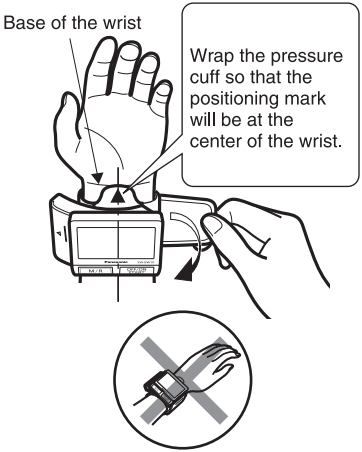
Fitting the Pressure Cuff

Blood pressure is measured at your left wrist. It is not necessary to roll up your sleeve or to remove any clothing.



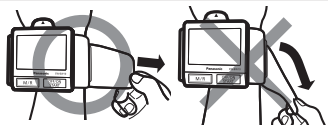
1. **Place the device on the inside of your wrist.**
   - Place the device directly in contact with the skin.
   - The device can be used by people with a wrist circumference of 5″–8-3/4″ (12.5–22.0 cm).

Fitting the Pressure Cuff (cont.)



2. Firmly wrap and fasten using the hoop and loop fastener.
- A loosely applied pressure cuff will result in high blood readings or incapable measurement.
- Press fastener softly to avoid the peel off.

Do not remove the hoop and loop fastener by twisting it off.
Be sure to peel it in an horizontal direction in alignment with the cuff.



<When wrapping around right wrist>

Fit as shown in the figure.

The cuff can be used on either wrist. However, the difference in blood pressure between the left and right wrists may be around 10 mmHg, so be sure to always use the same wrist for measurements.

Obtaining Accurate Measurements

Always take your blood pressure at the same time while sitting in the same position and using the same wrist.

It is recommended to check your blood pressure at least twice a day. It is best in the morning before breakfast and in the evening after work.

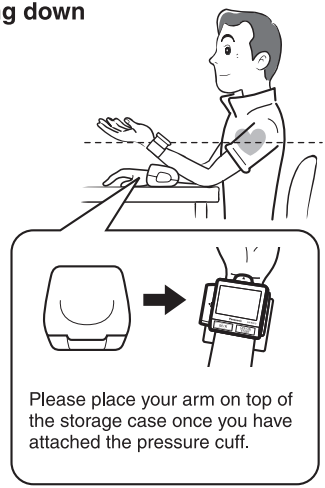
In the following situations, accurate measurements cannot be taken.

- Within 1 hour after eating or drinking alcohol
- Immediately after drinking coffee or tea, or smoking
- In a moving vehicle
- Immediately after exercising or taking a bath
  (Wait at least 20 minutes and take a measurement while staying quiet.)
- In cold places
  [Take measurements at room temperatures around 68 °F (20 °C).]
- When you need to urinate
  (Wait several minutes after urinating before taking measurements.)

Always rest for four to five minutes before taking your blood pressure.

Taking measurements while sitting down

1. **Place your elbow on the table.**
2. **Align the device with the level of your heart.**
3. **Open and relax your hand with the palm facing up.**



Obtaining Accurate Measurements (cont.)

Do not take measurements in the positions shown below as they will be inaccurate.

Do not bend your wrist inward.

Do not clench your fist.

If the device is placed at a height lower than the heart then the resulting readings may be higher than your actual blood pressure.

If the device is placed at a height higher than the heart then the resulting readings may be lower than your actual blood pressure.

If you lean forward while taking measurements then the resulting readings may not be accurate.

To obtain accurate readings, the following actions should also be avoided during measurements.

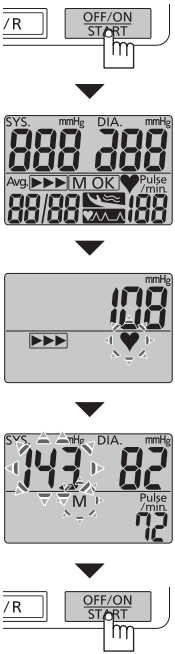
- Do not touch the device.
- Do not change position or move your wrist or fingers.
- Do not talk.

[CAUTION]

Keep away from cellular telephones and other sources of electromagnetic radiation during measurements.

Failure to do so could result in blood pressure monitor malfunctioning.

Measuring Your Blood Pressure



1. **Place the arm to which the device is attached on top of the storage case with the wrist positioned at the level of the heart. (Please see "Obtaining Accurate Measurements" on pages 12 and 13.)**

2. **Press the Off/On Start button.**
   - The display will be lit up for approx. 2 seconds.
   - Inflation will then begin automatically.

   As measurements are being taken during pressurization, operating sounds and the rate of pressurization may change. This is perfectly normal.

   - The heart mark ♥ will begin to flash during pressurization when the pulse is detected.

3. **When measurements have been completed, blood pressure and pulse rate are displayed.**
   - Pressure will automatically be released from the pressure cuff.
   - If your blood pressure is considered to be in the hypertensive range, then the readings on the display will flash for approx. 6 seconds.
   - The M mark will be flash. (Please see 19 for details regarding how to record readings.)
   - The pulse is estimated over the period of a minute based on the pulse rate recorded when measurements were being taken.

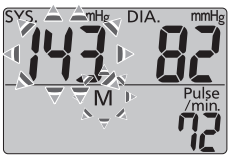
4. **Press the Off/On Start button to turn off the device.**
   - If you forget to switch the device off, it will do so automatically after approx. 5 minutes.

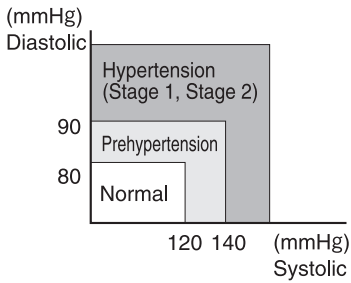
Measuring Your Blood Pressure (cont.)

Reading the blood pressure display

Blood pressure values for both systolic and diastolic readings are determined as being within normal or hypertensive ranges based on definitions and classification of blood pressure levels by the JNC 7. When blood pressure is in the high range, the reading displayed on screen flashes on and off to alert user.

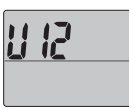
According to JNC 7 Classification, values consistently in excess of 140 mmHg (Sys.) and/or 90 mmHg (Dia.) are considered to constitute high blood pressure.





- Blood pressure readings will flash for approx. 6 seconds when in the high blood pressure range.
  Systolic blood pressure: 140 mmHg and over
  Diastolic blood pressure: 90 mmHg and over
  (Only when measurement is complete)

When an Error Occurs During Measurement



A U12 will appear on the display to indicate that measurement was unsuccessful and should be performed again.

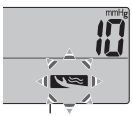
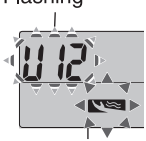
Before performing another measurement, always press the Off/On Start button to turn off the unit and make sure to allow a rest period of 4 to 5 minutes before starting again.

Advice:
In general, blood pressure measurements are lower on the second attempt because you are calmer.
For people who easily get tense, measuring twice each time is advised.
It is recommended to store all values when performing two measurements or more.
When taking two measurements, always stay quiet for 4 to 5 minutes after the first measurement before taking the second measurement.

Movement Detection Function

If movement is detected while measurement is being carried out and more pressure is applied by the pressure cuff, the mark will be displayed.

- Please carry out blood pressure measurement again if the mark flashes or is lit.
- If the hand or wrist to which the pressure cuff is attached is moved while measurement is being carried out (e.g. wrist is bent suddenly), in some cases correct measurements may not be obtained.
- When movement has been detected during measurement, the mark flashes when the blood pressure reading obtained during that measurement is displayed.
  (If this reading is saved, the mark will be lit up whenever it is recalled.)

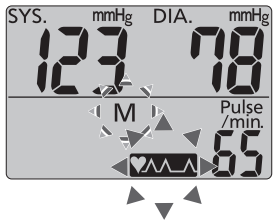
Movement Mark	Explanation
 Flashing	Movement has been detected. • The hand or wrist has been bent suddenly. • The muscles in the hand or wrist have been tensed. • The hand or wrist has been moved, etc. With proper posture, please take the measurement again after measurement has been completed (please see pages 12 and 13).
Flashing  Lit	Movement has been detected that will significantly affect the reading. • Significant movement has been detected. • Movement has been detected repeatedly. • Significant hand or wrist movement has been detected, etc. Please take the measurement again (A U12 will appear on the display). * A U12 will also appear on the display in the following cases: • When the pressure cuff hook-and-loop fastener has become loose, etc.

* This function is designed to help you to take measurements accurately. Even if the Movement mark is not displayed, we recommend that measurements be taken 2–3 times in a comfortable position in order to obtain an accurate reading.

Irregular Pulse Function

If the pulse rate varies by more than ±25 % from the average while a measurement is being taken, when measurement is completed the ♥ mark will be displayed.

- The ♥ mark will lit after approximately 6 seconds of blinking when the measurement is completed.
- If the ♥ mark is lit, please take the measurement again.
- In some cases, if the pulse rate fluctuates greatly while a measurement is being taken, it may be impossible to obtain an accurate reading.



- If you save a reading where an irregular pulse was recorded, the ♥ mark will be displayed when you recall that reading.

Even if the ♥ mark is displayed, this doesn't mean whether or not the pulse is, in fact, irregular.

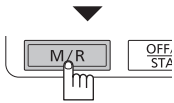
* This function is designed to act as a guide to help you to obtain accurate readings (Please see pages 12 and 13).
  Even if the ♥ mark is not displayed, we recommend that you take measurements 2–3 times at rest.
* If the ♥ mark is frequently displayed, please consult a health professional for your health condition.

Don't try to interpret readings or attempt to treat any condition yourself.
Always follow the guidance of a health professional.

Saving and Recalling Data

Saving Readings

• All data is retained even when the batteries go flat or are changed.



1. The M mark will flash after measurement has been completed.

Press the Memory/Recall button.

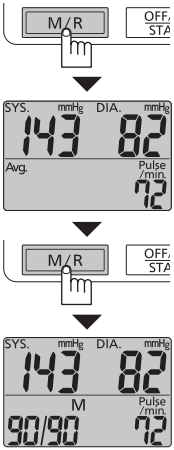
2. Saving complete.

- Up to 90 sets of readings can be stored in memory and each is assigned a number. When the limit is reached, any new readings are recorded over existing readings starting with the oldest ones. The data numbers will also be changed.
- It is not possible to save readings when measurement has not been carried out successfully (i.e. when a U 12 is displayed). As nothing will be recorded the data number will not be changed.

* When the U 12 mark is displayed for the pulse rate, readings can be saved.

Recalling Stored Data

Readings can be recalled after being saved without having to first turn the device on.



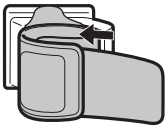
1. **Press the Memory/Recall button.**
   - The average of all recorded readings will be displayed.
   - The Avg. mark will be displayed.
   - If, for example, 90 sets of readings have been saved in the memory then the average of those 90 sets of readings will be displayed. If only one set of readings has been saved then the Avg. mark will not be displayed.
2. **Press the Memory/Recall button again to display the most recent reading.**
   - Each time you press the Memory/Recall button another set of readings will be displayed, starting with the next most recent readings.
3. **Press the Off/On Start button to turn off the device.**
   The device will turn off automatically after 30 seconds if you forget to turn it off.

Deleting all data stored in the memory

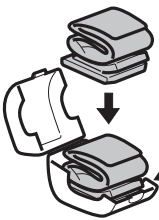
(1) Recall stored data.
(2) Press the Memory/Recall button again and hold it down for more than three seconds to delete all data.
* It is not possible to delete individual readings.
(3) When all data has been deleted, the M mark and - - will be displayed.

After Use

Storage



1. **Fold the end of the pressure cuff in the direction of the arrow.**



2. **Next, fold the pressure cuff in on itself and secure it on loop fastener.**
   • Place the device in the storage case.

Specifications

Power source	DC 3 V (2 AAA/LR03 size alkaline batteries)
Display	Digital LCD
Method of measurement	Oscillometric system
Measurement range	Pressure: 0 mmHg to 280 mmHg Pulse rate: 30 to 160 beats per minute
Accuracy	Pressure: Within ±3 mmHg Pulse rate: Within ±5 %
Operation temperature/ humidity range	50 °F to 104 °F (10 °C to 40 °C), 30 % to 85 % RH
Storage temperature/ humidity range	–4 °F to 140 °F (–20 °C to 60 °C), 10 % to 95 % RH
Measurable wrist circumference	Approx. 5″ to 8-3/4″ (12.5 cm to 22.0 cm)
Weight	Approx. 3.9 oz. (110 g) (not including batteries)
Dimensions	2-1/16″ × 3-1/32″ × 1-1/32″ (6.9 cm × 8.3 cm × 3.4 cm)
Protection against electric shock	Internally powered equipment, Type BF applied part 

The blood pressure monitor might not perform specifications if stored or used outside the specified temperature and humidity ranges.

Explanation of Rating Plate Symbols

	Read the operating instructions carefully before use.
	Protection against electric shock Type BF applied part (Blood pressure monitor)
⎓	DC

Care and Maintenance

Do not attempt to disassemble, repair or modify the unit.
• Doing so may cause fire or cause the unit to malfunction. It may also lead to injury.

Do not apply excessive force to the unit or drop the unit.
• Doing so may cause damage.

Do not insert dust or foreign objects into the unit.
• Doing so may result in damage.

If the unit is stored at temperatures below the freezing point, do not use it immediately.
Leave it in a warm place for at least an hour before use.
• If the unit is not allowed to warm up, it may not pressurize.

Do not touch the unit when measurement is in progress.
• Doing so may cause incorrect readings.

If the unit becomes dirty, clean it with a soft cloth moistened with warm water or soapy water.
(Do not use alcohol, benzine, or paint thinner.)
• Use of such chemicals may result in cracking or discoloration.

When the unit will not be used for a long time (30 days or more), be sure to remove the batteries.
• Otherwise, the batteries may leak and damage the unit.

The pressure cuff cannot be washed.

For storage, avoid high temperatures, high humidity, and direct sunlight.

The blood pressure monitor may not meet its performance specifications if stored or used outside the specified temperature and humidity range.
(See page 22, specifications)

Please do not fold the pressure cuff back against itself.
Always use the pressure cuff on your wrist and nowhere else.
• Either of these actions may cause the device to malfunction.

Troubleshooting

Display	Status before error	Cause and solution
U01 is displayed.	The indication disappears in the middle of the operation. (the mark is displayed.)	Batteries are exhausted. (Please see page 9.)
U12 is displayed.	Pressurization to more than 280 mmHg was performed. (Cuff pressurizes several times.)	Were measurements taken according to the proper procedure and in the correct posture? (Please see pages 12 and 13.)
	Pressure decreased suddenly.	Is the cuff wrapped properly? (Please see pages 10 and 11.)
	The heart mark ♥ blinked only a few times or not at all.	
	Cuff does not inflate.	
	Your hand or wrist moved.	Has the unit detected movement? (Please see page 17.)
F01 is displayed.	Failure of the main unit	Take it to the store where it was purchased for testing and repairs.

Symptom	Possible cause
The SYS or DIA is high.	• The pressure cuff is positioned too low. (Please see pages 12 and 13.) • The pressure cuff is not wrapped around the wrist properly. (Please see pages 10 and 11.) • The person is moving or talking when the measurement is being carried out. (Please see pages 12 and 13.)
The SYS or DIA is low.	• The position of the pressure cuff is too high. (Please see pages 12 and 13.) • The person is moving or talking when the measurement is being carried out. (Please see pages 12 and 13.)

Troubleshooting (cont.)

Symptom	Possible cause
Blood pressure is abnormally high or low.	• The posture of the person is different each time measurements are carried out. (Please see pages 12 and 13.)
Measurements are different from those taken by a doctor. Measurements are different each time.	• The person is slightly tense when with the healthcare professional, causing the measurements to be different. • Relax for ten minutes and then carry out the measurement again.
Measurements are different from those obtained using an upper arm type blood pressure meter.	• There may be major differences in blood pressure recorded at the wrist and on the upper arm for people with peripheral circulatory problems.
Varying sounds and pressurization speeds occur during inflation of the cuff.	• Changes in operating sounds and pressurization speeds are normal and occur due to the fact that measurements are being made as the cuff is being inflated.
The  mark flashes when readings are being taken.	• There was a significant fluctuation in pulse when readings were being taken. (Please see page 18.)
The  mark flashes when readings are being taken.	• Your hand or wrist moved. (Please see page 17.)
The  mark flashes even though I did not move my hand or wrist.	• In some cases this will be displayed when you have tensed the muscles in your hand. Relax the muscles in your hand and take the reading again. (Please see page 17.)

If the unit still appears to provide unusual or erroneous readings, consult your physician. If the unit does not appear to be functioning properly, contact Panasonic at 1-800-338-0552.

For questions or assistance with your blood pressure monitor, call us at 1-800-338-0552.

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1-800-338-0552 (USA only) for questions and comments

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