

OMRON

Automatic Blood Pressure Monitor

Model HEM-7270 Instruction Manual



3262553-8A

Introduction

Thank you for purchasing the OMRON HEM-7270 Automatic Blood Pressure Monitor.

Your new blood pressure monitor uses the oscillometric method of blood pressure measurement.

This device is a digital monitor intended for use in measuring blood pressure and pulse rate in adult patient population.

Please read this instruction manual thoroughly before using the device. Please keep for future reference.

Important Safety Information

Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

General Usage: DO NOT adjust medication based on measurement results from this blood pressure monitor.

The monitor is not intended to be a diagnostic device. Consult your physician before using the device for any of the following conditions.

Do not use the device on the injured arm or the arm under medical treatment. Do not apply the arm cuff on the arm while on an intravenous drip or blood transfusion.

Consult your physician before using the device on the arm with an arterio-venous (A-V) shunt.

Do not use the device with other medical electrical (ME) equipment simultaneously.

Do not use the device in the area of HF surgical equipment, MRI, or CT scanner, or in an oxygen rich environment.

The air tube or the AC adapter cable may cause accidental strangulation in infants.

Contains small parts that may cause a choking hazard if swallowed by infants.

AC Adapter (optional) Usage: Do not use the AC adapter if the device or the power cord is damaged.

Plug the AC adapter into the appropriate voltage outlet. Do not use in a multi-outlet plug.

Never plug in or unplug the power cord from the electric outlet with wet hands.

Caution: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or damage to the equipment or other property.

General Usage: Always consult your physician. Self-diagnosis of measurement results and self-treatment are dangerous.

Consult your physician before using the device for any of the following conditions: If you have had a mastectomy. People with severe blood flow problems or blood disorders as cuff inflation can cause bruising.

Do not take measurements more than necessary. It may cause bruising due to blood flow interference.

Remove the arm cuff if it does not start deflating during the measurement. Do not use this device on infants or persons who cannot express their intentions.

Do not use the device for any purpose other than measuring blood pressure. Use only the approved arm cuff for this device.

Do not use a mobile phone or other devices that emit electromagnetic fields near the device. This may result in incorrect operation of the device.

Do not disassemble the monitor or arm cuff. This may cause an inaccurate reading.

Do not use in a location with moisture, or a location where water may splash on the device. This may damage the device.

Do not use the device in a moving vehicle (car, airplane).

Read "If your systolic pressure is more than 210 mmHg" of this instruction manual, if your systolic pressure is known to be more than 210 mmHg.

Inflating to a higher pressure than necessary may result in bruising where the cuff is applied.

AC Adapter (optional) Usage: Fully insert the power plug into the outlet. When disconnecting the power plug from the outlet, do not pull the power cord.

Be sure to pull from the power plug safely. When handling the power cord, take care not to do the following:

Do not damage. Do not break it. Do not tamper with it. Do not forcibly bend or pull. Do not twist. Do not bundle during use. Do not pinch. Do not place under heavy objects.

Wipe the dust off from the power plug. Unplug monitor when not in use. Disconnect the power plug before cleaning.

Use only an OMRON AC adapter designed for this device. Use of unsupported adapters may damage and/or may be hazardous to the device.

Battery Usage: Do not insert the batteries with their polarities incorrectly aligned. Use only 4 "AA" alkaline or manganese batteries with this device.

Remove the batteries if the device will not be used for three months or more.

General Precautions: Do not forcibly crease the arm cuff or the air tube excessively. Do not press the air tube while taking a measurement.

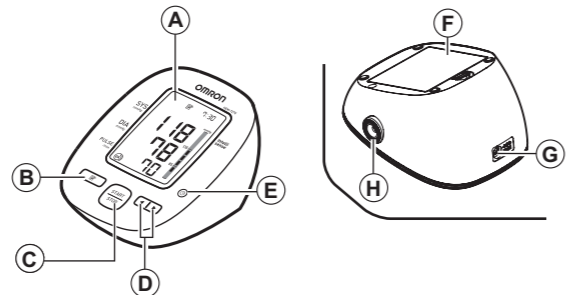
Do not drop the monitor or subject device to strong shocks or vibrations.

- Do not inflate the arm cuff when it is not wrapped around your arm. Do not use the device outside the specified environment. Read and follow the "Important information regarding Electro Magnetic Compatibility (EMC)" in the EMC information provided with this device.

1. Know Your Device

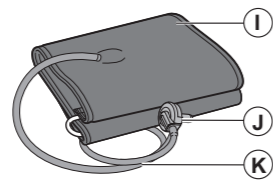
Contents: Monitor, arm cuff, instruction manual, storage case, battery set

Monitor:



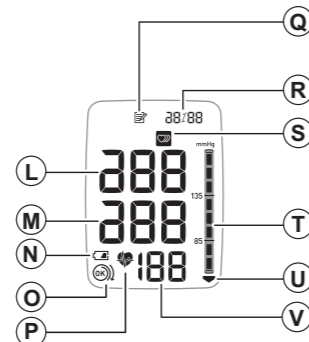
- A. Display B. Memory button C. START/STOP button D. Up/Down buttons E. Date/Time setting button F. Battery compartment G. AC adapter jack H. Air jack

Arm cuff:



- I. Arm cuff (Arm circumference 22 - 42 cm) J. Air plug K. Air tube

Display:



- L. Systolic blood pressure M. Diastolic blood pressure N. Battery symbol (low/depleted) O. Cuff wrap guide symbol P. Heartbeat symbol Q. Memory symbol R. Date/Time display S. Irregular heartbeat symbol T. Blood pressure level indicator (bar) U. Deflation symbol V. Pulse display / Memory number

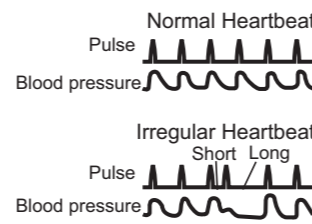
1.1 Display symbols

Irregular Heartbeat Symbol

When the monitor detects an irregular rhythm two or more times during the measurement, the irregular heartbeat symbol will appear on the display with the measurement values.

An irregular heartbeat rhythm is defined as a rhythm that is 25 % less or 25 % more than the average rhythm detected while the monitor is measuring the systolic and diastolic blood pressure.

If the irregular heartbeat symbol displays with your measurement results, we recommend you consult your physician.

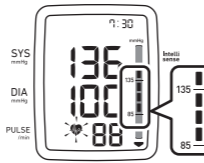


Cuff Wrap Guide Symbol

If the cuff was wrapped too loosely, it may cause unreliable values. If the wrapping of cuff is too loose, the cuff wrap guide symbol appears.

Blood Pressure Level Indicator (Bar)

Blood pressure level indicator (bar) will light up between the systolic blood pressure and the diastolic blood pressure. If your systolic or diastolic pressure is above the standard range (134 mmHg for the systolic blood pressure and/or 84 mmHg for the diastolic blood pressure), the heartbeat symbol will flash when the measurement result is displayed.



2013 ESH/ESC Guidelines for the management of arterial hypertension

Recent research suggests that the following values can be used as a guide to high blood pressure for measurements taken in office or at home.

Table with 3 columns: Blood Pressure Type, Office, Home. Values: Systolic Blood Pressure ≥ 140 mmHg, Diastolic Blood Pressure ≥ 90 mmHg.

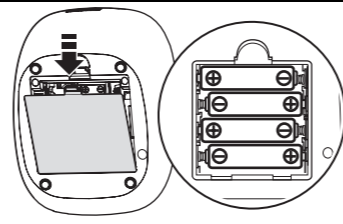
2. Before Taking a Measurement

- To help ensure an accurate reading, follow these directions: 1. Avoid bathing, drinking alcohol or caffeine, smoking, exercising and eating for 30 minutes before taking a measurement. 2. Stress raises blood pressure. 3. Measurements should be taken in a quiet place. 4. Remove tight-fitting clothing from your arm. 5. Sit on a chair with your legs uncrossed and your feet flat on the floor. 6. Remain still and do not talk during the measurement. 7. Keep a record of your blood pressure and pulse readings for your physician.

2. Preparation

2.1 Battery Installation

- 1. Remove the battery cover.



- 2. Insert 4 "AA" batteries as indicated in the battery compartment.

- 3. Replace the battery cover.

- Notes: When the depleted battery symbol appears on the display, turn the monitor off and remove all the batteries. The measurement values continue to be stored in memory even after the batteries are replaced. The supplied batteries may have a shorter life. Dispose of the device, components and optional accessories according to applicable local regulations.

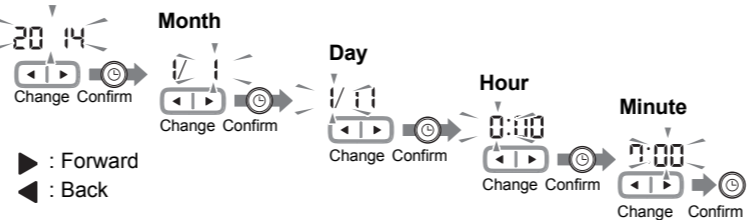
2.2 Setting the Date and Time

Set the monitor to the correct date and time before taking a measurement for the first time.

- 1. Press the button.

- 2. Push left or right button to change the year.

Push button to confirm the year and then the month flashes. Repeat the same steps to change the month, day, hour, and minute.



- 3. Press the START/STOP button to turn the monitor off.

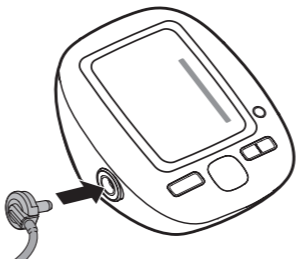
- Notes: If the batteries have been replaced, the date and time setting will need to be reset. If the date and time are not set, "--:--" appears during or after measurement.

3. Using the Device

3.1 Applying the Arm Cuff

Remove tight-fitting clothing or tight rolled up sleeve from your left upper arm. Do not place the arm cuff over thick clothes.

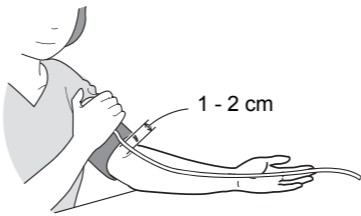
- 1. Insert the air plug into the air jack securely.



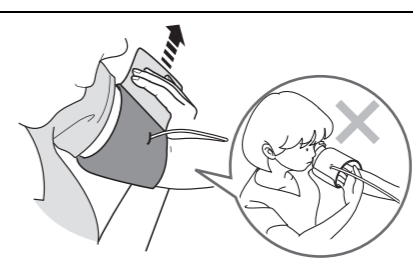
- 2. Wrap the arm cuff firmly in place around your left upper arm.



The bottom edge of the arm cuff should be 1 to 2 cm above the elbow. Air tube is on the inside of your arm and aligned with your middle finger.



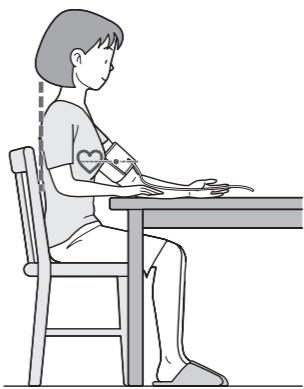
- 3. Secure closed with the fabric fastener.



- Notes: When you take a measurement on the right arm, the air tube will be at the side of your elbow. Be careful not to rest your arm on the air tube. The blood pressure can differ between the right arm and the left arm, and the measured blood pressure values can be different. OMRON recommends to always use the same arm for measurement.

3.2 How to Sit Correctly

To take a measurement, you need to be relaxed and comfortably seated, under comfortable room temperature. Avoid bathing, drinking alcohol or caffeine, smoking, exercising or eating 30 minutes before taking a measurement.

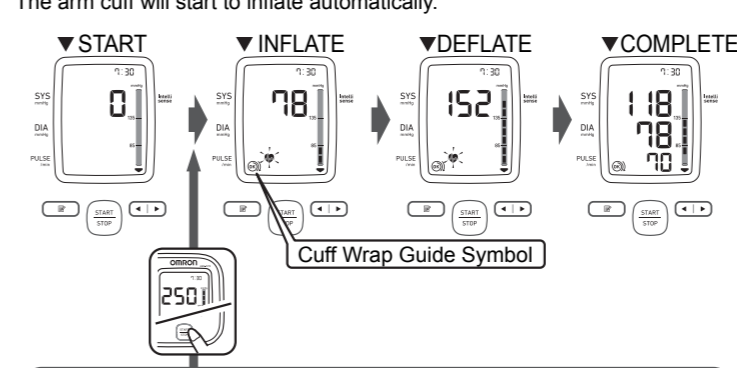


- Sit on a chair with your legs uncrossed and your feet flat on the floor. Sit upright with your back straight. Sit with your back and arm being supported. The arm cuff should be placed on your arm at the same level as your heart.

3.3 Taking a Measurement

- Notes: To stop a measurement, press the START/STOP button once to release the air in the arm cuff. Remain still and quiet while taking a measurement.

- 1. Press the START/STOP button. The arm cuff will start to inflate automatically.



If your systolic pressure is more than 210 mmHg After the arm cuff starts to inflate, press and hold the START/STOP button until the monitor inflates 30 to 40 mmHg higher than your expected systolic pressure.

- 2. Remove the arm cuff.

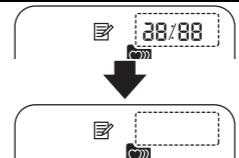
- 3. Press the START/STOP button to turn the monitor off. The monitor automatically stores the measurement result in its memory.

Note: Wait 2-3 minutes before taking another measurement. Waiting between measurements allows the arteries to return to the condition prior to taking a measurement.

Using the Guest Mode

No measurement values are stored in the memory when the guest mode is selected.

- 1. Press and hold the START/STOP button for more than 3 seconds. The Date/Time display will disappear.



- 2. Release the START/STOP button when the Date/Time display turns off. The arm cuff will start to inflate automatically.

Note: The cuff wrap guide result appears on the display with the measurement values.

DO NOT adjust medication based on measurement results from this blood pressure monitor. Take medication as prescribed by your physician.

This monitor is not intended to be a diagnostic device. Always consult your physician. Self-diagnosis of measurement results and self-treatment are dangerous.

Read "If your systolic pressure is more than 210 mmHg" of this instruction manual, if your systolic pressure is known to be more than 210 mmHg. Inflating to a higher pressure than necessary may result in bruising where the cuff is applied.

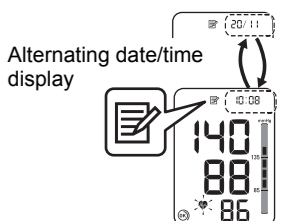
3.4 Using the Memory Function

The monitor automatically stores the results up to 60 sets.

- Notes: If the memory is full, the monitor will delete the oldest value. When viewing the measurement value taken without setting the date and time, "--:--" is displayed instead of the date and time.

To View the Measurement Values Stored in Memory

- 1. Press the button. The Memory number appears for a second before the pulse rate is displayed. The newest set is numbered "1".



Note: The cuff wrap guide result appears on the display with the measurement values.

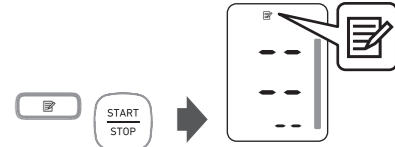
- 2. Press the left or right button to view the values stored in memory.

- To view the older values
- To view the more recent values

To Delete All the Values Stored in Memory

- 1. Press the Memory button, while the memory symbol appears.

- 2. While holding the Memory button down, press the START/STOP button for more than 3 seconds.



Note: You cannot partially delete the values stored in the memory. All values will be deleted.

## 4. Error Messages and Troubleshooting

### 4.1 Error Messages

Error Display	Cause	Solution
	Irregular heartbeats are detected.	Remove the arm cuff. Wait 2 - 3 minutes and then take another measurement. Repeat the steps in section 3.3. If this error continues to appear, contact your physician.
	Arm cuff is applied too loosely.	Apply the arm cuff tighter. Refer to section 3.1.
	The batteries are low.	Recommend to replace the batteries with new ones ahead of time. Refer to section 2.1.
	The batteries are depleted.	Replace 4 batteries with new ones at once. Refer to section 2.1.
E1	Air plug disconnected.	Insert the plug securely. Refer to section 3.1.
	Arm cuff is applied too loosely.	Apply the arm cuff tighter. Refer to section 3.1.
	Air is leaking from the arm cuff.	Replace the cuff with a new one. Refer to Chapter 6.
E2	Movement during measurement and the arm cuff has not been inflated sufficiently.	Repeat measurement. Remain still and do not talk during measurement. Refer to section 3.3.
		If "E2" appears repeatedly, inflate the cuff manually until it is 30 to 40 mmHg above your previous measurement result. Refer to section 3.3.
E3	The arm cuff was inflated exceeding the maximum allowable pressure, and then deflated automatically.	Do not touch the arm cuff and/or bend air tube while taking a measurement. Do not inflate the arm cuff more than necessary. Refer to section 3.3.
E4	Movement during measurement.	Repeat measurement. Remain still and do not talk during measurement. Refer to section 3.3.
E5	Clothing is interfering with the arm cuff.	Remove any clothing interfering with the arm cuff. Refer to section 3.1.
Er	Device error.	Contact your local OMRON representative.

### 4.2 Troubleshooting

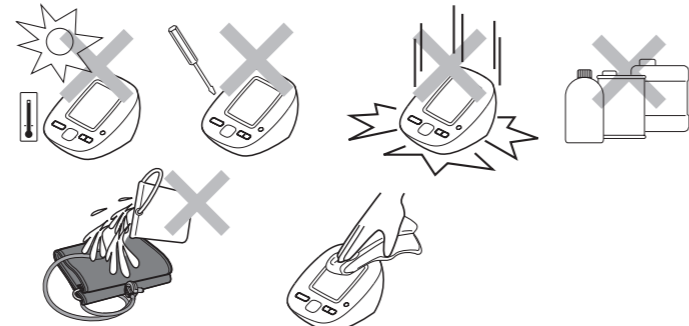
Problem	Cause	Solution
The reading is extremely low (or high).	Arm cuff is applied too loosely.	Apply the arm cuff tighter. Refer to section 3.1.
	Movement or talking during measurement.	Remain still and do not talk during measurement. Refer to section 3.3.
	Clothing is interfering with the arm cuff.	Remove any clothing interfering with the arm cuff. Refer to section 3.1.
Arm cuff pressure does not rise.	The air connector is not securely connected into the air jack.	Make sure that the air tube is connected securely. Refer to section 3.1.
	Air is leaking from the arm cuff.	Replace the arm cuff with a new one. Refer to Chapter 6.
Arm cuff deflates too soon.	The arm cuff is loose.	Apply the cuff correctly so that it is firmly wrapped around the arm. Refer to section 3.1.
Cannot measure or readings are too low or too high.	The arm cuff has not been inflated sufficiently.	Inflate the cuff so that it is 30 to 40 mmHg above your previous measurement result. Refer to section 3.3.
Nothing happens when you press the buttons.	The batteries are depleted.	Replace the batteries with new ones. Refer to section 2.1.
	The batteries have been inserted incorrectly.	Insert the batteries with the correct (+/-) polarity. Refer to section 2.1.
Other problems.		<ul style="list-style-type: none"> <li>Press the START/STOP button and repeat measurement.</li> <li>Replace the batteries with new ones.</li> </ul> If the problem continues, contact your local OMRON representative.

## 5. Maintenance and Storage

### 5.1 Maintenance

To protect your device from damage, please observe the following:

- Store the device and the components in a clean, safe location.
- Do not use any abrasive or volatile cleaners.
- Do not wash the device and any components or immerse them in water.
- Do not use petrol, thinners or similar solvents to clean the device.



- Use a soft and dry cloth, or a soft and moistened cloth and neutral soap to clean on the monitor and the arm cuff.
- Changes or modification not approved by the manufacturer will void the user warranty. Do not disassemble or attempt to repair the device or components. Consult your local OMRON representative.

### Calibration and Service

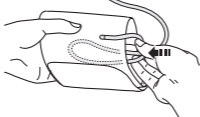
- The accuracy of this blood pressure monitor has been carefully tested and is designed for a long service life.
- It is generally recommended to have the device inspected every 2 years to ensure correct functioning and accuracy. Please consult your local OMRON representative.

### 5.2 Storage

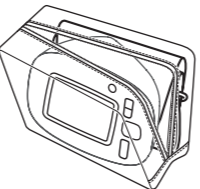
Keep the device in its storage case when not in use.

- Unplug the air plug from the air jack.
- Gently fold the air tube into the arm cuff.

Note: Do not bend or crease the air tube excessively.



- Place the monitor and the arm cuff in the storage case.



Do not store the device in the following situations:

- If the device is wet.
- Locations exposed to extreme temperatures, humidity, direct sunlight, dust or corrosive vapors such as bleach.
- Locations exposed to vibrations, shocks or where it will be at an angle.

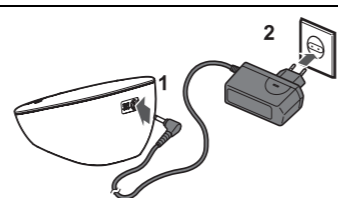
## 6. Optional Parts

Arm Cuff	AC Adapter
Arm circumference 17 - 22 cm	
Arm circumference 22 - 42 cm	
<b>Small Cuff HEM-CS24</b>	<b>Adapter S Model: 60240HW5SW</b>
<b>Wide Range Soft Cuff HEM-RML31</b>	

Note: Please check with your local OMRON representatives for the appropriate optional parts.

### Using the Optional AC Adapter

- Insert the AC adapter plug into the AC adapter jack on the rear side of the monitor.
- Plug the AC adapter into an electrical outlet.



To disconnect the AC adapter, unplug the AC adapter from the electrical outlet first, and then remove the AC adapter plug from the monitor.

## 7. Technical Data

<b>Product description</b>	Automatic Blood Pressure Monitor
<b>Model</b>	HEM-7270
<b>Display</b>	LCD Digital Display
<b>Measurement method</b>	Oscillometric method
<b>Measurement range</b>	Pressure: 0 to 299 mmHg Pulse: 40 to 180 beats/min.
<b>Accuracy</b>	Pressure: ±3 mmHg Pulse: ±5 % of display reading
<b>Inflation</b>	Fuzzy-logic controlled by electric pump
<b>Deflation</b>	Automatic pressure release valve
<b>Memory</b>	60 measurements with date and time
<b>Rating</b>	DC6 V 4 W
<b>Power source</b>	4 "AA" batteries 1.5 V or optional AC adapter (AC ADAPTER-S, INPUT AC100-240 V 50/60 Hz 0.12 A)
<b>Battery life</b>	Approx. 1000 measurements (using new alkaline batteries, operating temperature and humidity 23 °C, 65 % RH, cuff circumference 25 cm, maximum pressure 170 mmHg)
<b>Applied part</b>	= Type BF
<b>Protection against electric shock</b>	Internally powered ME equipment (When using only the batteries) = Class II ME equipment (Optional AC adapter)
<b>Operating temperature/humidity/air pressure</b>	+10 °C to +40 °C / 15 % to 85 % RH / 700 to 1060 hPa
<b>Storage temperature/humidity/air pressure</b>	-20 °C to +60 °C / 10 % to 95 % RH / 700 to 1060 hPa
<b>IP classification</b>	IP 20
<b>Weight</b>	Monitor: Approx. 330 g without batteries Arm cuff: Approx. 170 g
<b>Outer dimensions</b>	Monitor: Approx. 115 (w) mm x 84 (h) mm x 144 (l) mm Arm cuff: Approx. 145 mm x 594 mm
<b>Cuff circumference</b>	22 to 42 cm
<b>Cuff/Tube material</b>	Nylon, polyester, polyvinyl chloride
<b>Package contents</b>	Monitor, arm cuff, instruction manual, storage case, battery set, EMC information

Notes:

- Subject to technical modification without prior notice.
- In the clinical validation study, the 5th phase was used on 85 subjects for determination of diastolic blood pressure.
- This device is clinically investigated according to the requirements of ISO 81060-2:2013.
- This device has not been validated for use on pregnant patients.
- IP classification is degrees of protection provided by IEC 60529.

## CE0197

- This device fulfils the provisions of EC directive 93/42/EEC (Medical Device Directive).
- This blood pressure monitor is designed according to the European Standard EN1060, Non-invasive sphygmomanometers Part 1: General Requirements and Part 3: Supplementary requirements for electromechanical blood pressure measuring systems.
- This OMRON product is produced under the strict quality system of OMRON HEALTHCARE Co., Ltd., Japan. The Core component for OMRON blood pressure monitors, which is the Pressure Sensor, is produced in Japan.

### Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

This marking shown on the product or its literature, indicates that it should not be disposed of, with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this product from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.



Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can return this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

## 8. Some Useful Information about Blood Pressure

### What is Blood Pressure?

Blood pressure is a measure of the force of blood flowing against the walls of the arteries. Arterial blood pressure is constantly changing during the course of the heart's cycle.

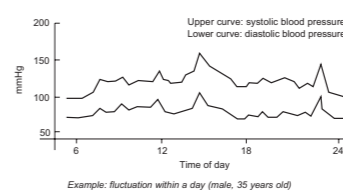
The highest pressure in the cycle is called the *Systolic Blood Pressure*; the lowest is the *Diastolic Blood Pressure*. Both pressures, the *Systolic and Diastolic*, are necessary to enable a physician to evaluate the status of a patient's blood pressure.

### What is Arrhythmia?

Arrhythmia is a condition where the heartbeat rhythm is abnormal due to flaws in the bio-electrical system that drives the heartbeat. Typical symptoms are skipped heartbeats, premature contraction, an abnormally rapid (tachycardia) or slow (bradycardia) pulse.

### Why is it a Good Thing to measure Blood Pressure at Home?

Many factors such as physical activity, anxiety, or the time of day, can influence your blood pressure. A single measurement may not be sufficient for an accurate diagnosis. Thus it is best to try and measure your blood pressure at the same time each day, to get an accurate indication of any changes in blood pressure. Blood pressure is typically low in the morning and increases from afternoon to evening. It is lower in the summer and higher in the winter.



Example: Fluctuation within a day (male, 35 years old)

<b>Manufacturer</b>	<b>OMRON HEALTHCARE Co., Ltd.</b> 53, Kunotsubo, Terado-cho, Muko, KYOTO, 617-0002 JAPAN
<b>EU-representative</b>	<b>OMRON HEALTHCARE EUROPE B.V.</b> Scorpius 33, 2132 LR Hoofddorp, THE NETHERLANDS
<b>Asia Pacific HQ</b>	<b>OMRON HEALTHCARE SINGAPORE PTE LTD.</b> 438A Alexandra Road, #05-05/08 Alexandra Technopark, Singapore 119967 www.omronhealthcare-ap.com
<b>Production facility</b>	<b>OMRON HEALTHCARE MANUFACTURING VIETNAM CO., LTD.</b> Binh Duong Province, VIETNAM

Made in Vietnam