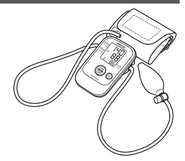
OMRON

Manual Inflation Blood Pressure Monitor

Model HEM-4030
Instruction Manual



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Introduction

Thank you for purchasing the OMRON HEM-4030 Manual Inflation Blood Pressure Monitor.

The OMRON HEM-4030 is a compact manual inflation blood pressure monitor, operating on the oscillometric principle. It measures your blood pressure and pulse rate simply and quickly.

Please read this instruction manual thoroughly before using the unit.
Please keep for future reference.
For specific information about your own blood pressure, CONSULT YOUR DOCTOR.

Important Safety Information

Consult your doctor prior to using in pregnancy or if diagnosed with arrhythmia or arteriosclerosis.
Please read this section carefully before using the unit.

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

(General Usage)
- Always consult your doctor. Self-diagnosis of measurement results and self-treatment are dangerous.
- People with severe blood flow problems, or blood disorders, should consult a doctor before using the unit, as cuff inflation can cause internal bleeding.

(Battery Usage)
- If battery fluid should get in your eyes, immediately rinse with plenty of clean water. Consult a doctor immediately.

⚠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.

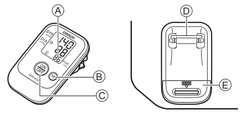
(General Usage)
- Do not leave the unit unattended with infants or persons who cannot express their consent.
- Do not use the unit for any purpose other than measuring blood pressure.
- Do not disassemble the unit or arm cuff.
- Use only the approved arm cuff for this unit. Use of other arm cuffs may result in incorrect measurement results.
- Make sure that the air tube is not wrapped around other parts of your body when taking measurements at night. This could result in injury when the air pressure in the air tube is increased.
- Do not leave the cuff wrapped on the arm if taking measurements during the night. This could result in injury.
- Do not inflate the arm cuff over 299 mmHg.
- Do not use a mobile phone or other devices that emit electromagnetic fields, near the unit. This may result in incorrect operation of the unit.
- Do not operate the unit in a moving vehicle (car, airplane).

(Battery Usage)
- If battery fluid should get on your skin or clothing, immediately rinse with plenty of clean water.
- Use only two “AAA” alkaline or manganese batteries with this unit. Do not use other types of batteries.
- Do not insert the batteries with their polarities incorrectly aligned.
- Replace old batteries with new ones immediately. Replace both batteries at the same time.
- Remove the batteries if the unit will not be used for three months or more.
- Do not use new and used batteries together.

General Precautions
- Do not apply strong shocks and vibrations to or drop the unit and arm cuff.
- Do not take measurements after bathing, drinking alcohol, smoking, exercising or eating.
- Do not forcibly bend the arm cuff or bend the air tube excessively.
- When removing the air tube, pull the air tube with holding near the air jack.
- Do not inflate the arm cuff when it is not wrapped around your arm.
- Do not wash the arm cuff or immerse it in water.
- Read and follow the “Important information regarding Electro Magnetic Compatibility (EMC)” in the Technical Data Section.
- Read and follow the “Correct Disposal of This Product” in the Technical Data Section when disposing of the device and any used accessories or optional parts.

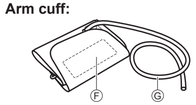
1. Overview

Main unit:



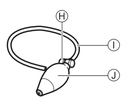
A. Display
B. M (Memory) button
C. ON/OFF (Power switch) button
D. Air jacks for cuff and inflation bulb
E. Battery compartment

Arm cuff:



F. Arm cuff
(Medium cuff: arm circumference 22-32 cm)
G. Air tube

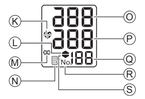
Inflation bulb:



H. Air release button
I. Air tube
J. Air inflation bulb

Storage case:

Display:



K. Heartbeat symbol
1. Flashes during measurement
2. If flashing after measurement complete indicates blood pressure out of recommended range

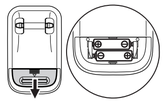
L. Reinflation symbol
M. Battery low symbol
N. Memory symbol
O. Systolic blood pressure
P. Diastolic blood pressure
Q. Pulse display
R. Memory No. symbol
S. Deflation symbol

2. Preparation

2.1 Installing/Replacing the Batteries

1. Remove the battery cover.

2. Insert two “AAA” batteries as indicated in the battery compartment and then replace the battery cover.



Notes:
- If the battery low symbol (⌧) appears on the display, turn the unit off then replace both batteries at the same time.
- The measurement values continue to be stored in memory even after the batteries are replaced.

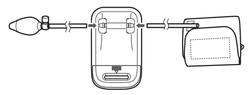
Disposal of used batteries should be carried out in accordance with the national regulations for the disposal of batteries.

3. Using the Unit

3.1 Applying the Arm Cuff

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

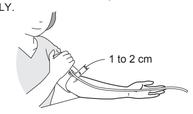
1. Insert the air tubes into the air jacks.



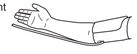
2. Put your arm through the cuff loop.

3. Position the arm correctly.

The bottom edge of the cuff should be 1 to 2 cm above the elbow.
Marker (arrow under tube) is centred on the middle of your inner arm.
Close the fabric fastener FIRMLY.



Notes:
- When you take a measurement on the right arm, 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 therefore also the measured blood pressure values can be different. Omron recommends to always use the same arm for measurement. If the values between the two arms differ substantially, please check with your doctor which arm to use for your measurement.



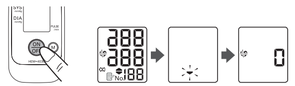
3.2 How to Sit Correctly

To take a measurement, you need to be relaxed and comfortably seated, under comfortable room temperature. No eating, smoking or exercising 30 minutes before taking a measurement.
- Sit on a chair with your feet flat on the floor.
- Sit upright with your back straight.
- The cuff should be at the same level as your heart.

3.3 Taking a Reading

Note: Remain still while taking measurement.

1. Press the air release button to release any air in the arm cuff, then press the ON/OFF button to turn the unit on.



Note:
If the deflation symbol does not disappear soon, press the air release button to release any air in the arm cuff.

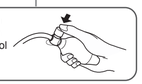
2. Pump the inflation bulb to inflate the arm cuff.

1) Inflate the cuff until it is 30 to 40 mmHg above your expected systolic blood pressure value.
ex) If your expected blood pressure is around 140mmHg, inflate the arm cuff to between 170 and 180 mmHg. Inflate the cuff rapidly so that the pressure is reached in about five seconds.
2) When the desired pressure has been achieved, release the inflation bulb.

Notes:
- If the reinflation symbol (⏶) appears, squeeze the inflation bulb to re-inflate the arm cuff.
- Do not inflate the arm cuff more than necessary.

3. Measurement starts.
Measurement starts automatically after you stop inflating the arm cuff.

Press the air release button to release the air in the arm cuff until the deflation symbol is no longer displayed.



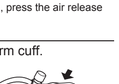
Notes:
- To cancel a measurement, press the ON/OFF button to turn off the unit and press the air release button to release the air in the arm cuff.
- Wait 2-3 minutes before taking another blood pressure measurement. Waiting between readings allows the arteries to return to the condition prior to taking the blood pressure measurement.

⚠Warning:
Self-diagnosis of measured results and treatment are dangerous. Please follow the instructions of your doctor.

4. Remove the arm cuff.

5. Press the ON/OFF button to turn off the monitor.
The monitor automatically stores the measurement in its memory.
It will automatically turn off after five minutes.

Important:
- If your systolic or diastolic pressure is outside the standard range, the heartbeat symbol will blink when the measurement result is displayed.
Recent research suggests that the following values can be used as a guide to high blood pressure for measurements taken at home.



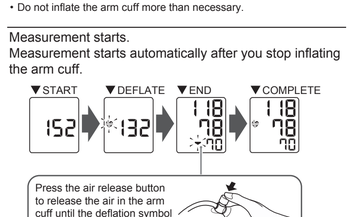
Systolic Blood Pressure	Above 135 mmHg
Diastolic Blood Pressure	Above 85 mmHg

This criteria is for home blood pressure measurement.

3.4 Using the Memory Function

The monitor automatically stores the result up to 21 sets.

Note: If the memory is full, the monitor will delete the oldest readings.



To delete all the values stored in memory

When the memory symbol (📝) appears, first press the M button. Then while holding it down, press the ON/OFF button simultaneously for about 2-3 seconds.

Note: You cannot partially delete the stored readings.

4. Troubleshooting and Maintenance

4.1 The Icons and Error Messages

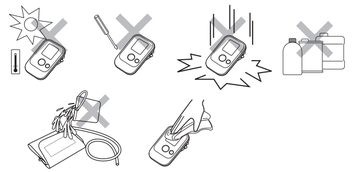
Error Display	Cause	Remedy
	The systolic blood pressure is above 135 mmHg or diastolic blood pressure is above 85 mmHg.	Recent research suggests these values can be used as a guide to high blood pressure for measurements taken at home.
Blink	The batteries are low.	You should replace them with new ones ahead of time. Refer to section 2.1.
Lit	The batteries are exhausted.	You should replace them with new ones at once. Refer to section 2.1.
EE	Cuff is under inflated.	Carefully read and repeat the steps listed under section 3.3.
E	Movement during measurement.	
E	Cuff over inflated.	
E o25	Device error.	Contact your OMRON retail outlet or distributor. Refer to Chapter 6.
115	Pressure is too low.	Press the inflation bulb to inflate the arm cuff until the reinflation symbol goes out. Or, deflate the arm cuff and repeat measurement after checking that the heartbeat symbol (♡) has been displayed. Refer to section 3.3.

4.2 Troubleshooting

Problem	Cause	Remedy
The reading is extremely low (or high).	Arm cuff not applied correctly.	Apply the arm cuff correctly. 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 3.2.
Arm cuff pressure does not rise.	The air tube is not securely connected into the main unit.	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 5.
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.
	The air release button being pressed during inflation.	Be careful not to press the air release button during measurement.
The unit loses power during measurement.	The batteries are empty.	Replace the batteries with new ones. Refer to section 2.1.
Nothing happens when you press the buttons.	The batteries are empty.	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.		• Press the ON/OFF button and repeat measurement. • If the problem continues, try replacing the batteries with new ones. If this still does not solve the problem, contact your OMRON retail outlet or distributor.

4.3 Maintenance

To protect your unit from damage, please observe the following:
- Do not subject the main unit, cuff and inflation bulb to extreme temperatures, humidity, moisture or direct sunlight.
- Do not fold the cuff or tubing tightly.
- Do not inflate the arm cuff over 299 mmHg.
- Do not disassemble the unit.
- Do not subject the unit to strong shocks or vibrations (for example, dropping the unit on the floor).
- Do not use volatile liquids to clean the main unit. The unit should be cleaned with a soft, dry cloth.
- Use a soft, moistened cloth and soap to clean the arm cuff.
- Do not wash the arm cuff or immerse it in water.
- Do not use petrol, thinners or similar solvents to clean the arm cuff.



- Do not carry out repairs of any kind yourself. If a defect occurs, consult your local authorised OMRON distributor or dealer.

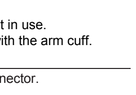
Calibration and Service
- The accuracy of this blood pressure monitor has been carefully tested and is designed for a long service life.
- It is generally recommended to have the unit inspected every two years to ensure correct functioning and accuracy. Please consult your local authorised OMRON distributor or dealer.

4.4 Storage

Keep the unit in its storage case when not in use.
Do not keep the main unit being wound with the arm cuff.

1. Unplug the air tube from the air connector.

2. Gently fold the air tube into the arm cuff.
Note:
Do not bend the air tube excessively.



3. Place the arm cuff, inflation bulb and main unit in the storage case.

Do not store the unit in the following situations:
- If the unit is wet.
- Locations exposed to extreme temperatures, humidity, direct sunlight, dust or corrosive vapours.
- Locations exposed to vibrations, shocks or where it will be at an angle.

5. Optional Parts

Medium Arm Cuff
Arm circumference
22 - 32 cm

Large Arm Cuff
Arm circumference
32 - 42 cm

Small Arm Cuff
Arm circumference
17 - 22 cm

Small cuff and bulb combination
Arm circumference 17 - 22 cm

Regular bulb

Note:
Should you require a small cuff, please ensure that the small cuff and small bulb are used together.
They may also be purchased as a combination set.

6. Technical Data

Product Description	Manual Inflation Blood Pressure Monitor
Model	HEM-4030
Display	LCD Digital Display
Measurement Method	Oscillometric method
Measurement Range	Pressure: 0 mmHg to 299 mmHg Pulse: 40 to 180/min.
Accuracy	Pressure: ±3 mmHg Pulse: ±5% of display reading
Inflation	Manual by inflation bulb
Deflation	Automatic pressure release valve
Memory	21 Measurements
Power Source	2 “AAA” batteries 1.5V
Battery Life	Capacity of new manganese batteries is approx. 1500 measurements
Applied Part	= Type B
Protection Against Electric Shock	Internally powered ME equipment
Operating temperature/ Humidity	+10°C to +40°C / Maximum: 30 to 90% RH
Storage temperature/ Humidity/ Air pressure	-20°C to +60°C / Maximum: 10 to 95% RH / 700-1060 hPa
Console Weight	Approximately 75g without batteries
Cuff Weight	Approximately 120g
Outer Dimensions	Approximately 64 (w) mm x 35 (h) mm x 105 (l) mm
Cuff Dimensions	Approximately 146 mm x 446 mm (Medium cuff: arm circumference 22 to 32 cm)
Cuff Material	Nylon and polyester
Package Content	Main unit, cuff, inflation bulb, instruction manual, storage case, battery set

Notes:
- Subject to technical modification without prior notice.
- Disposal of this product and used batteries should be carried out in accordance with the national regulations for the disposal of electronic products.

Please read this instruction manual carefully before using the device.

CE 0197

- 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, Noninvasive sphygmomanometers Part 1: General Requirements and Part 3: Supplementary requirements for electromechanical blood pressure measuring systems.

Important information regarding Electro Magnetic Compatibility (EMC)

With the increased number of electronic devices such as PC’s and mobile (cellular) telephones, medical devices in use may be susceptible to electromagnetic interference from other devices.
Electromagnetic interference may result in incorrect operation of the medical device and create a potentially unsafe situation.
Medical devices should also not interfere with other devices.

In order to regulate the requirements for EMC (Electro Magnetic Compatibility) with the aim to prevent unsafe product situations, the EN60601-1-2:2007 standard has been implemented. This standard defines the levels of immunity to electromagnetic interferences as well as maximum levels of electromagnetic emissions for medical devices.

This medical device manufactured by OMRON HEALTHCARE conforms to this EN60601-1-2:2007 standard for both immunity and emissions.
Nevertheless, special precautions need to be observed:
- Do not use mobile (cellular) telephones and other devices, which generate strong electrical or electromagnetic fields, near the medical device. This may result in incorrect operation of the unit and create a potentially unsafe situation. Recommendation is to keep a minimum distance of 7 m. Verify correct operation of the device in case the distance is shorter.

Further documentation in accordance with EN60601-1-2:2007 is available at OMRON HEALTHCARE EUROPE at the address mentioned in this instruction manual.
Documentation is also available at www.omron-healthcare.com.

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 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 take 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.

This product does not contain any hazardous substances.

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