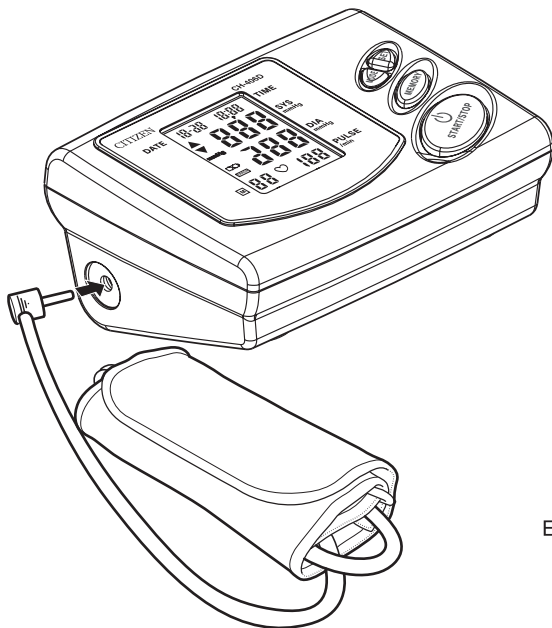


INSTRUCTION MANUAL  
FOR  
DIGITAL BLOOD PRESSURE MONITOR

REF **CH-406D**




English

# GENERAL REMARKS

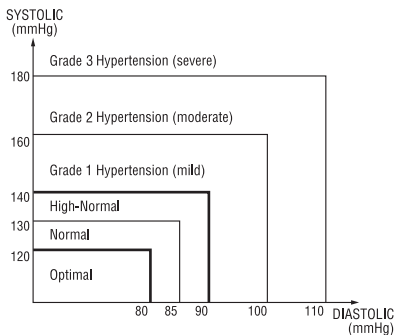
## General remarks on blood pressure and blood pressure measurement

1. To deflate the cuff quickly, press the “START/STOP” switch.
2. The attached cuff is suitable for arm circumferences of 23-33 cm (9-13 inches).
3. When attaching the cuff, the air hose should be placed on the inside of your arm on top of the artery.
4. Self measurement is not therapy! In no event should you change the dosage of your medication prescribed by your physician.
5. As preparation for measuring your blood pressure, you should urinate and then remain relatively still for 10 to 15 minutes prior to measurement.
6. Exercising, eating, drinking, smoking, etc., prior to measurement may affect the results.
7. Your blood pressure varies constantly throughout the day. Measurements should be taken regularly at the same time each day.
8. DO NOT place too much emphasis on the results of one measurement. Keep a continuing record of your blood pressure variations. A complete picture can only be obtained from a large number of readings.
9. Emotional stress tends to cause your blood pressure to rise.

## To obtain correct blood pressure measurements

1. Take five or six deep breaths and then relax before measuring your blood pressure. If you are tense when taking the measurement, you will not get a valid reading.
2. Your blood pressure will be elevated if you are anxious or irritated, suffering from lack of sleep or constipation, or have just taken some exercise or eaten a meal.
3. Wrap the cuff around your arm and tighten it so that one finger can be inserted between the cuff and arm. (  See page 14)
4. DO NOT measure your blood pressure after bathing or drinking.
5. If you feel the need to urinate, do so before measuring your blood pressure.
6. Measure your blood pressure where the room temperature is around 20°C (68°F). DO NOT measure your blood pressure when it is too cold (below 10°C/50°F) or too hot (above 40°C/104°F) in the room.

7. DO NOT try to measure your blood pressure immediately after drinking coffee or tea or after smoking.
8. Measure your blood pressure when you are relaxed and still. Keep the center of the cuff at the level of your heart and DO NOT move your arm or talk.
9. DO NOT measure blood pressure when the cuff has been on your arm for a few minutes or more. During this time, your arm will have built up a higher blood pressure and you will not get valid reading.
10. The figure below shows the blood pressure classifications under the WHO standards.

**Remarks:**

The graph is not exact, but may be used as a guide in understanding non-invasive blood pressure measurements. The device is only intended for use with adults.

### Definitions and Classifications of Blood Pressure Levels

#### Measure your blood pressure at the same time each day.

- \* Your blood pressure changes all the time. This means that data gathered over a long period has far more significance than data from just one measurement. For this reason, you must measure your blood pressure on a daily basis. Ideally, you should measure your blood pressure at the same time each day wherever possible.

# PRECAUTIONS FOR USE AND MAINTENANCE

## Precautions for use

1. If you suffer from heart disease, high blood pressure or other circulatory disease, consult your physician before using the monitor.
2. If the cuff pressure feels abnormal or you experience any other irregularity while using the cuff, reduce the pressure immediately by pressing the “START/STOP” switch and then consult the sales outlet where you purchased the monitor.
3. If you think the measurement is abnormal or if measurement makes you feel unwell, discontinue use and consult your physician.
4. Blood pressure measurement may not be possible for anyone with a weak pulse or arrhythmia.
5. Repeated blood pressure measurement may cause problems such as congestion or swelling in some people.
6. Frequently repeated blood pressure measurements will not give accurate results. Allow an interval of about 3 minutes between measurements.
7. If you suffer from a severe problem with blood circulation in your arms, consult your physician before using the monitor. Failure to do so could be hazardous to your health.
8. Measurement may not be possible for anyone with insufficient blood flow to the area where measurements will be taken or who suffers from a frequent irregular heartbeat. Consult your physician for advice on whether to use the monitor.
9. DO NOT wrap the cuff around an injured arm.
10. DO NOT wrap the cuff around an arm in which a drip (intravenous infusion) is inserted or which is being used for blood transfusion as part of medical treatment. Doing so could result in an injury or a serious accident.
11. DO NOT use the monitor in the vicinity of flammable gases such as those used for anaesthesia. Doing so could ignite the gases and cause an explosion.
12. DO NOT use the monitor in enriched oxygen environments such as a hospital’s hyperbaric chamber or oxygen tent. Doing so could ignite the oxygen and cause a fire.
13. DO NOT use mobile phones near the monitor as this could result in a malfunction.
14. If you use a cardiac pacemaker, consult your physician before using the monitor.

## PRECAUTIONS FOR USE AND MAINTENANCE

15. Be sure to use this unit only for measuring blood pressure. DO NOT use it for any other purpose.
16. DO NOT use this unit on infants.
17. Blood pressure measurements taken using this monitor are equivalent to those obtained by a trained observer using the cuff/stethoscope auscultation method within the limits prescribed by the American National Standard for electronic or automated sphygmomanometers.
18. Blood pressure measurement may not be possible for anyone with common arrhythmias such as atrial or ventricular premature beats or atrial fibrillation.

### Maintenance Precautions

1. DO NOT store the blood pressure monitor in locations exposed to direct sunlight, high temperatures (over 60°C/ 140°F), low temperatures (below -20°C/-4°F), high relative humidity (over 95%) or excessive amounts of dust.
2. DO NOT drop the blood pressure monitor or subject it to other shocks or vibration.
3. Remove the batteries if the monitor will be left unused for a long period.
4. DO NOT attempt to disassemble the monitor.
5. DO NOT bend the cuff or air hose excessively.
6. If the monitor is very dirty, wipe it clean with a cloth moistened with sterilizing alcohol or a neutral detergent. Then wipe it with a dry cloth.
7. NEVER clean the blood pressure monitor with thinners or benzene, as this could damage the monitor.
8. To clean the cuff, wipe it with a moist cloth. Avoid hard rubbing as this will cause air leakages. Take care also not to get water into the air hose.

## PRECAUTIONS FOR USE AND MAINTENANCE

### **Nature and frequency of maintenance:**

This product is designed for use over an extended period of time; however, it is generally recommended that it be inspected every two years to ensure proper function and performance.

### **Protect the nature environment:**

Please help to protect natural environment by respecting national and/or local recycling regulations when disposing of the battery and the product at the end of their useful life.

### **WEEE MARK**

If you want to dispose this product, do not mix with general household waste. There is a separate collection systems for used electronics products in accordance with legislation under the WEEE Directive (Directive 2002/96/EC) and is effective only within European Union.



### **Reference European standard:**

This product complies with EC instructions 93/42/EEC (Medical Device Directive) and with the following standards: EN1060-1: 1995+AM1:2002 “Noninvasive Sphygmomanometers, Part 1 General requirement” and EN 1060-3: 1997 “Noninvasive Sphygmomanometers, Part 3 Supplementary requirements for Electromechanical Blood pressure Measuring Systems” and EN60601-1-2:2001 “Medical Electrical equipment, Part 1-2: General requirements for safety – Collateral standard: Electromagnetic compatibility – Requirements and tests”.

### **Manufacturer:**

Name : Health & Life Co., Ltd.  
Address : 9F. NO.186 Jian Yi Road  
Chung Ho City, Taipei, Taiwan.

### **European Representative:**

Name : Innovative business promotion GmbH  
Address : Botzstr.6 07743 Jena, Germany

# STANDARDS



Important!  
Read the operating instructions.



BF

Classification:

- Internally powered equipment
- BF type applied part
- IPX0
- Not suitable for use in presence of flammable anaesthetic mixture with air or with oxygen or nitrous oxide
- Continuous operation with short-time loading



0086

This Blood Pressure Monitor complies with the European regulations and bears the CE mark "CE 0197".

The quality of the device has been verified and is in line with the provisions of the EC council directive 93/42/EEC (EN IEC60601-1-2:2001, EN IEC60601-1) dated 14 June 1993 concerning medical devices, as well as the EMC directive 89/336/EEC:

EN 1060-1 Non-invasive blood pressure measuring equipment

General requirements

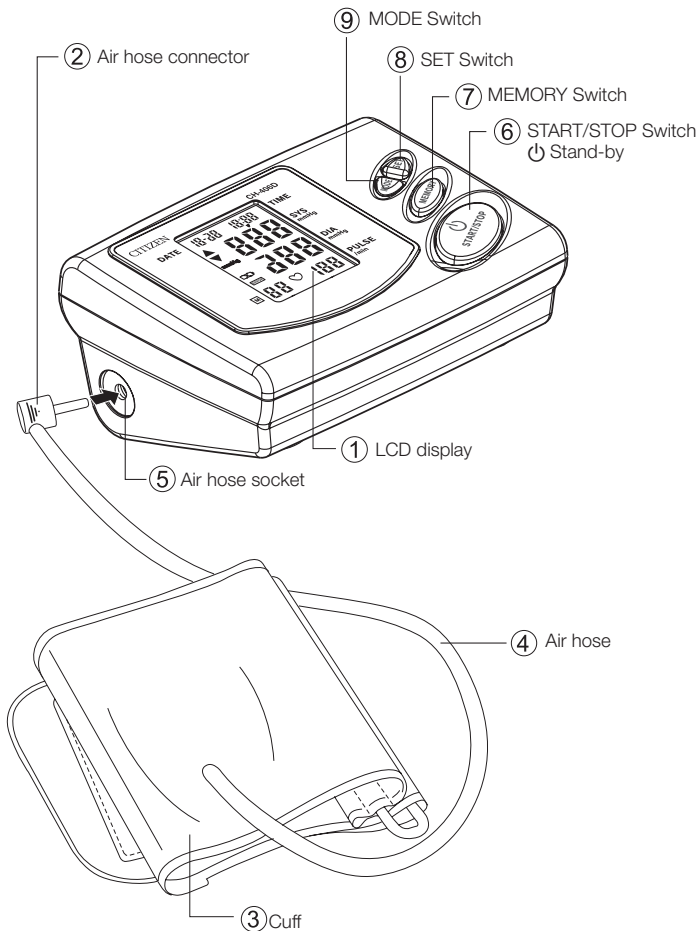
EN 1060-3 Non-invasive blood pressure measuring equipment

Supplementary requirements for electromechanical blood pressure measuring systems.

# COMPONENT NAMES AND LOCATIONS

## Component names

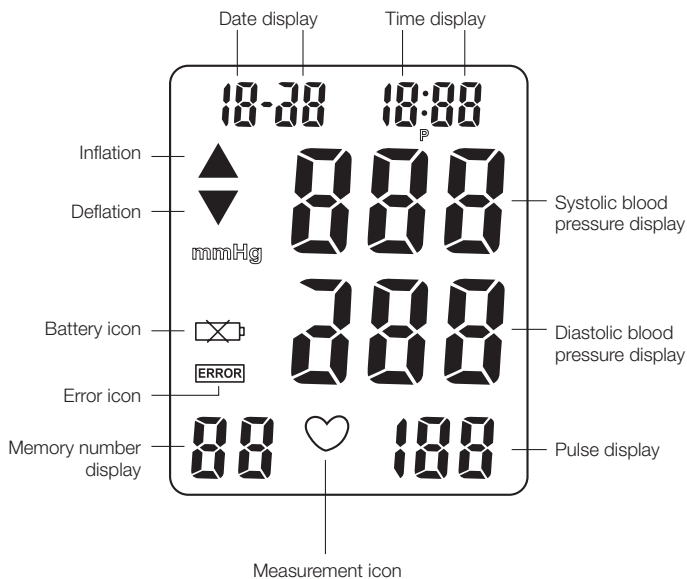
English





# DEVICE DESCRIPTION

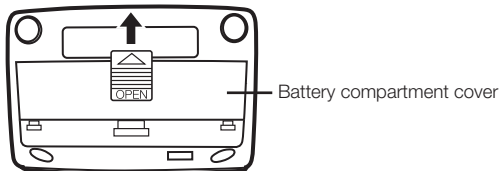
## Key to display icons



# LOADING THE BATTERIES

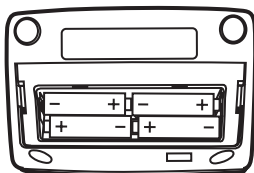
## 1 Open the battery compartment cover.

① While pressing on the lock section of the battery compartment cover, ② pull the cover toward you to open it.



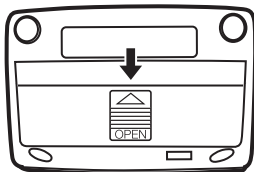
## 2 Insert the batteries into the compartment.

Insert the batteries, taking care to ensure that the positive  $\oplus$  and negative  $\ominus$  terminals are positioned correctly.




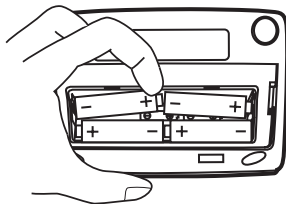
## 3 Close the battery compartment cover.

Fit the protrusions on the cover into the recesses in the battery compartment and push the cover in the direction of the arrow.




# REMOVING THE BATTERIES

- 1 Open the battery compartment cover.**  
(  See page 10, "LOADING THE BATTERIES".)
- 2 Remove the batteries.**



- 3 Close the battery compartment cover.**

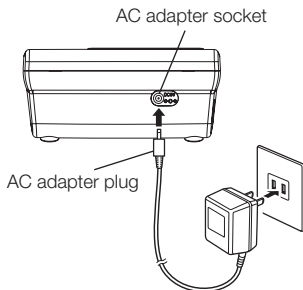
## Replacing the batteries

- If the  appears on the display, or if nothing appears on the display when the "START/STOP" switch is pressed, fit 4 new AA Alkaline batteries.
- Do not use rechargeable batteries.
- Do not use alkaline and manganese batteries together.
- The monitor is powered by the batteries provided. Note that they may not last as long as indicated.
- Dispose of used batteries properly in accordance with local regulations.
- Your measurements are stored in the monitor's memory even when the batteries are removed.

## USING AC ADAPTER (OPTION)

Using the optional dedicated AC adapter for the CITIZEN blood pressure monitor (CH-406D) allows you to measure your blood pressure without having to worry about the amount of remaining charge in the batteries.

- 1. Insert the AC adapter plug into the socket on the blood pressure monitor.**
- 2. Plug the AC adapter into a mains power outlet.**



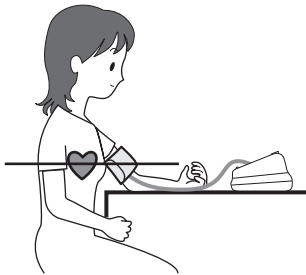
- If you plan to use the AC adapter for an extended period of time, remove the batteries. If the batteries are left in the compartment, electrolyte may leak from the batteries and cause a fault in the blood pressure monitor.
- If the AC adapter is used as the only power supply for the monitor, unplugging the AC adapter will erase the data stored in the monitor's memory. It is recommended that you make a note of any important data .
- When only batteries are used to supply power to the monitor, the AC adapter should be unplugged from the monitor. Leaving the AC adapter plugged into the blood pressure monitor could cause a malfunction.

The dedicated AC adapter for the CH-406D is optional.  
The AC adapter is available from retailers stocking CITIZEN digital blood pressure monitors.

## TIPS FOR OBTAINING ACCURATE MEASUREMENTS

Your blood pressure varies according to your posture, the time of day and a range of other factors. Ideally, you should measure your blood pressure in the same posture at the same time every day.

### ■ Taking measurements while sitting

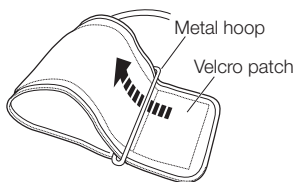


- ① Place your arm on a table or similar surface with your forearm extended.
- ② It is important to have the arm cuff level with your heart.
- ③ Open your hand slightly on the table so that your palm is facing up and your fingers are relaxed.
- ④ Do not move your body or talk while taking the measurement.

# ATTACHING THE ARM CUFF

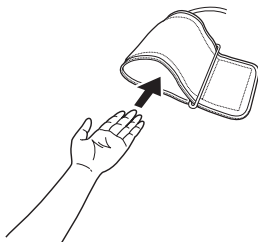
## 1 Unroll the arm cuff.

- Unroll the arm cuff and thread the end through the metal hoop so that the side with the Velcro patch is on the outside.

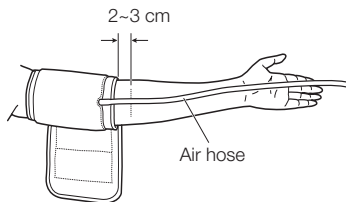


## 2 Put the arm cuff around your arm so that the air hose is to the left of your palm.

- The arm cuff should be put directly against your skin but can also be used over a lightweight sleeve.
- If you are wearing a thick top, remove it. Do not roll up your sleeve as this may compress your upper arm and result in incorrect measurements.

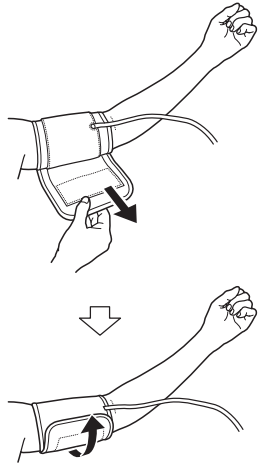


## 3 Adjust the position of the arm cuff so that the air hose is located in the center of your arm and the hem of the cuff is 2 to 3 cm above your elbow.



**4 Pull the end of the arm cuff outwards so that the cuff is snug around your arm and then secure the end to the Velcro.**

- Carefully place the cuff on your arm, taking care to use the correct tightness. The tightness is correct if you can readily slide a finger between the cuff and your arm.



# SETTING THE CLOCK

## 1 Initial state. (When you load the batteries in the unit for the first time, carry out the reset procedure.)

A digital display showing the date '1-1' and the time '12:00'.

- Date/Time setting when the batteries are first loaded into the unit.

Date and time: January 1 12:00

## 2 Setting the Month, Date and Time:

The current time and date should be set in the order written below.

- Each time you press the “MODE” switch, the data item to be modified changes in the sequence shown below. The selected item flashes on and off.
  - 1) Month → 2) Day → 3) Hour → 4) Minute
- Press the “SET” switch to increase the setting by 1. Hold down the “SET” switch on to advance the setting continuously.
- Press the “MODE” switch to set each correct number.

## 3 Correcting the Month, Date and Time of the clock

1. Press “MODE” switch. (“month” starts flashing.)  
Press “SET” switch to set the correct month. (1,2,3,.....12.)
2. Press “MODE” switch again. (“date” starts flashing.)  
Press “SET” switch to set the correct date. (1,2,3,.....31.)
3. Press “MODE” switch again. (“hour” starts flashing.)  
Press “SET” switch to set the correct hour in 12-hour format.
4. Press “MODE” switch again. (“minute” starts flashing.)  
Press “SET” switch to set the correct minute (0,1,2,3,.....59.)
5. Press “MODE” switch again to switch to normal time.  
(month: 7, date: 7, hour: 12 (PM),  
minute: 38 appear on the display  
as shown on the right diagram.)
6. Device is now ready to start.

Date/Time display

A digital display showing the date '7-7' and the time '12:38'. The 'P' mark is visible below the time.

P: PM mark



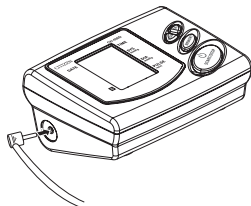
# MEASURING YOUR BLOOD PRESSURE

## 1 Wrap the arm cuff tightly around your arm.

(  See page 14 "ATTACHING THE ARM CUFF".)

## 2 Plug the air hose connector into the main unit.

- Plug the air hose connector firmly into the air hose socket on the main unit as illustrated.




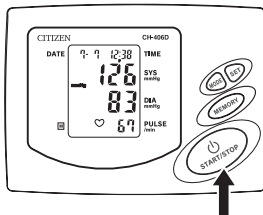
## 3 Sit in the recommended position.

(  See page 13 "TIPS FOR OBTAINING ACCURATE MEASUREMENTS".)

## 4 Start measurement.

- Press the "START/STOP" switch.

The air pressure is increased and then slowly decreased. When a pulse is detected, the measurement icon  starts flashing.



After the blood pressure measurement is taken, the systolic pressure, diastolic pressure and pulse rate are shown on the display for 1 minute, after which the display turns off unless other instructions are given.

## 5 Storing, recalling and erasing measurement data

- Storing data

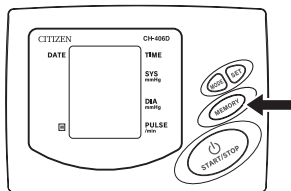
As long as the unit functions correctly, the blood pressure and the pulse rate for the result with the record of the time and date are automatically stored in memory as one set of data.

Up to 48 sets of measurement data can be stored in the memory. If you measure your blood pressure when 48 sets of measurements have already been stored in memory, the earliest set of measurements is automatically deleted to make way for the new measurements.

# RECALLING DATA

## ■ Recalling data

Press the “MEMORY” recall switch.



Press the “MEMORY” recall switch again. This recalls and displays first the memory number and then the last set of data stored.

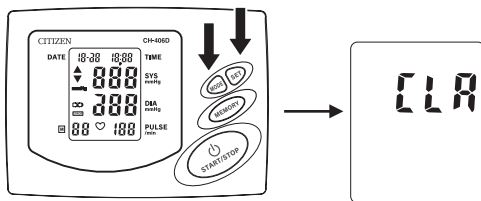


Press the “MEMORY” recall switch again. This recalls and displays the second last set of data stored. Each time you press this switch, the unit displays the data prior to the last set of data displayed.






## ■ Erasing data

Press and hold the “MODE” and “SET” switches at the same time until “CLA” appears on the display. No data will show up on the display.



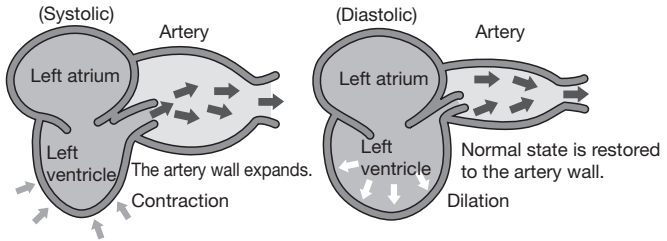
# KEY TO DISPLAY ICONS

Icon displayed	Condition/Cause	Corrective action
 <b>Measurement icon</b>	This icon appears when the unit is in measurement mode and flashes when a pulse is detected.	Remain quiet while measurement is in progress.
 <b>Battery icon</b>	This appears when the level of remaining charge in the batteries voltage is very low or when the batteries are loaded incorrectly.	Replace all four batteries with new batteries. Insert the new alkaline batteries correctly, making sure that the positive (+) and negative (-) terminals are positioned correctly.
 <b>Error icon</b>	This appears when an accurate blood pressure measurement could not be obtained.	Press the “START/STOP” switch again to take another reading. Also check the following: <ul style="list-style-type: none"><li>• Make sure the cuff is wrapped around your arm in accordance with the instructions.</li><li>• Make sure your palm is relaxed so that you are not exerting undue effort.</li><li>• Do not talk or move during measurement.</li><li>• Make sure your posture is correct.</li></ul>

# ABOUT "BLOOD PRESSURE"

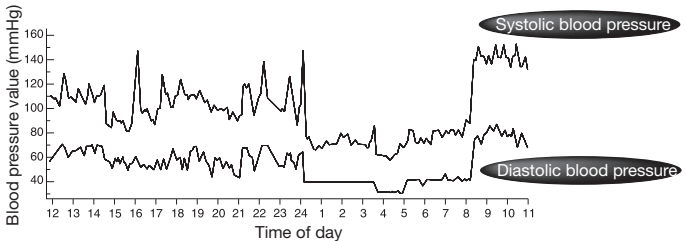
## What is blood pressure?

The heart is a pump that circulates blood throughout your body. Blood is pumped from the heart at a constant pressure into arteries. This pressure is called the arterial blood pressure and represents, in general terms, your blood pressure. Blood pressure is indicated by several kinds of pressures, including the systolic pressure that occurs when the heart pumps blood and the diastolic pressure that occurs when blood returns to the heart.



## Your blood pressure changes all the time.

Your blood pressure differs according to your age, gender and a range of other factors. It is likely to be affected by your biorhythm during the day and by your posture, physical activities, mental activities, level of stress and even by the air temperature. The blood pressure of a healthy person generally varies by 20 to 50 mmHg within a day.



## BLOOD PRESSURE Q&A

**Q** Why is the blood pressure measured at home different from that measured by the physician or at a hospital?

**A** Your blood pressure may vary due to exercise, the ambient temperature or your mental state. When you have a physician or nurse measure your blood pressure, the pressure value is likely to be 10 to 20 mmHg higher than usual due to anxiety and/or stress. Knowing what affects your blood pressure helps you to better monitor your health.

**Q** What is the benefit of measuring my blood pressure at home?




**A** Blood pressure measurements taken at home give reliable data as they can be taken when you are in a stable and relaxed condition. Physicians place considerable importance on blood pressure measurements taken at home. You should measure your blood pressure at the same time each day and record the variations in your blood pressure.



Always consult your physician for an interpretation of your blood pressure readings and to determine the proper treatment.

## BEFORE REQUESTING REPAIRS OR TESTING

Make sure to check the following before sending your blood pressure monitor away to be tested or repaired.

Problem	Checks	Response
Display stays blank when you press the "START/STOP" switch.	Check whether the batteries are dead.	Replace all the batteries with new ones.
	Check whether the batteries are installed the right way round ( $\oplus$ and $\ominus$ oriented correctly).	Load the batteries in the correct direction.
No measurements can be taken.	Check whether the measurement icon  is displayed.	Attach the arm cuff properly.
	Check whether the arm cuff is applied correctly.	
	Did you stay calm during measurement?	Measure your blood pressure again, making sure to remain still.
	Note that blood pressure measurement may not be possible for someone with an extremely weak pulse or cardiac arrhythmia (irregular pulses).	
Your blood pressure readings are abnormally high or low compared with those taken in hospital.		 See page 21.
Your blood pressure readings are abnormally high or low.		 See page 13.

# SPECIFICATIONS

Model Number:	CH-406D	
Measurement system:	Oscillometric method	
Cuff:	Soft cuff	
Arm circumference range:	23.0 to 33.0 cm (9 to 13 inch)	
Measurement range:	Pressure	0 to 280 mmHg
	Pulse	40 to 199 pulse/min
Accuracy:	Pressure	±3 mmHg
	Pulse	±5% of reading
LCD displays:	Pressure	Systolic blood pressure: 3 digits
	Pulse	Diastolic blood pressure: 3 digits
	Date	4 digits
	Time	4 digits with P(PM) mark
	Icons	Measurement icon:  , Inflation/Deflation:  , Battery icon:  , Error icon:
Switch:	4 (START/STOP, MEMORY, MODE, SET)	
Inflation:	Automatic Inflation by internal pump	
Deflation:	Automatic constant speed deflation system	
Rated voltage:	6V DC --- 6W (--- : direct current)	
Exhaust:	Electromagnetic quick exhaust valve	
Power supply:	4 AA alkaline batteries (LR6) or optional AC/DC adapter (6V DC, 1A)	
Battery duration:	Approx. 250 times (160 mmHg, once/day, 22°C)	
Automatic Power Off function:	Approx. 1 min. (after activated)	
Memory capacity:	48 sets of data including date and time	
Dimensions:	145(W) x 105(D) x 68.8(H) mm	
Weight:	Approx. 380g including batteries	
Operating conditions:	Temperature	10°C to 40°C
	Humidity	20% to 85% RH
Storage conditions:	Temperature	-20°C to 60°C
	Humidity	10% to 95%RH
Electric shock protection:	Internal power unit	
Safety Classification:	Type BF Equipment	
Accessories	Set includes an arm cuff, 4 AA batteries for the monitor (LR6), Instruction Manual.	

- CITIZEN is a registered trademark of Citizen Holdings Co., Japan.  
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“CITIZEN”和“西铁城”是日本法人西铁城控股株式会社の注册商标
- Design and Specification are subject to change without notice.

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