Blood pressure monitor intended use:

Measures human beings Systolic, Diastolic blood pressure and heart rate using the oscillometric method. All values can be read out in one LCD DISPLAY. Measurement position is on adult wrist only.

Having one's blood pressure measured by a doctor in a hospital tends to stimulate nervousness in the person and may even create high blood pressure. Blood pressure in accordance with variety of conditions varies. So judgment is not possible on the basis of a single measurement.

It is better to take measurement at home. Regular home monitoring will let you have a record of your measurements. This information may provide a better reference of what your blood pressure really is, and may help your doctor make important decisions about your diagnosis and treatment.

If end-user has one of the diseases as heart troubles, kidney trouble, diabetes or frustration problem of blood vessel, please consult a doctor before using the devices.

What is blood pressure ?

Blood pressure is a measurement of the force of blood flowing against the walls of the arteries. Arterial blood pressure is constantly changing during the course of the cardiac cycle. The highest pressure in the cycle is called the systolic blood pressure, the lowest is the diastolic blood pressure. Both pressure readings, the systolic and the diastolic are necessary to enable a physician to evaluate the status of a patient's blood pressure. Many factors such as physical activity, anxiety or the time of day can influence your blood pressure. Blood pressure is typically low in the morning and increases from the afternoon to the evening. It is lower in the summer and higher in the winter.

Why is it useful to measure blood pressure at home ?

Having one's blood pressure measured by a doctor in a hospital or a clinic, and a group health checks, tend to stimulate nervousness in the subject and may even create high blood pressure. Also varies blood pressure in accordance with a variety of conditions and so judgment is not possible on the basis of a single measurement.

The blood pressure measured first thing in the morning after getting up, before taking any food and with the subject still, is known as the fundamental blood press ure. In practice it is rather difficult to record the fundamental blood pressure, but to come as near as possible to measuring the blood pressure in an environment that is close to this, is why it is useful to take the measurement at home.

New WHO blood pressure classifications

Standards for assessment of high or low blood pressure without regard to age, have been established by the World Health Organization (WHO), as shown in Figure-1.

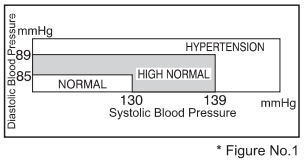
Variations in blood pressure

Individual blood pressures vary greatly both on a daily and a seasonal basis. These variations are even more pronounced in hypertension patients. Normally the blood pressure rises while at work and is at its lowest during sleeping period.

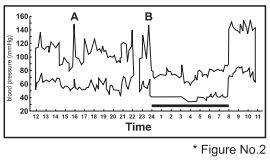
(Hypertension: means a person who has high blood pressure symptom.)

The graph (Figure-2) illustrated the variations in blood pressure over a whole day with measurement taken every five minutes.

(The thick line represents sleep. The rise in blood pressure at 4 PM (A in the graph) and 12 PM (B in the graph) correspond to an attack of pain.



* Figure No.1



* Figure No.2

Important information before use of the unit

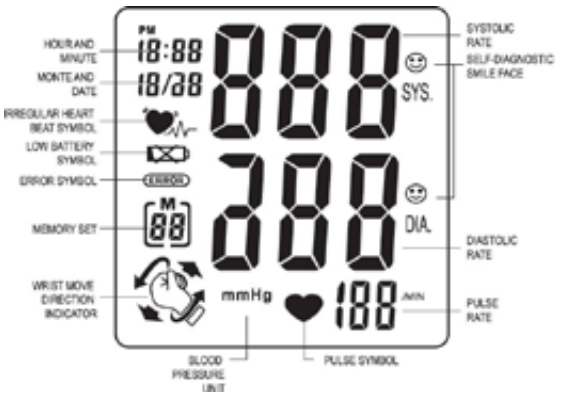
- Blood pressure measurements should be interpreted by a physician or trained health professional who is familiar with your medical history. By using the unit regularly and recording the results for your physician to interpret, you keep your physician informed of the continuing trends in your blood pressure.
- Wind the cuff snugly around your wrist and the cuff must be at the same level as your heart.
- Do not vibrate the unit during measurement, or the proper measurement will not be achieved.
- Perform measurement quietly in a relaxed position.
- Do not wind the cuff over jacket or sweater sleeve, or measurement cannot be done.
- Keep in mind, that blood pressure naturally varies from time to time through out the day and also is affected by lots of different factors such as smoking, alcohol consumption, medicamentation and physical activity.
- People with a condition that causes circulatory problems (diabetes, kidney disease, arteriosclerosis or poor peripheral circulation) may get lower readings with this monitor that is used on the upper arm. Please consult your physician to determine if your wrist blood pressure accurately reflects your actual blood pressure.
- Blood pressure measurement determine with the unit 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.

Device description

A. Name of the parts

* Figure No.3

B. Description of display symbols



Main Features

A. Self-management function

The device allows you to pre-set your personalized values of blood pressure which should be recommended or decided by your physician or medical professional. If the Systolic or Diastolic rate of the measurement is greater than your pre-set personalized level, the digit of the result on the screen will flash to alert. Besides, either the Systolic or Diastolic rate of the measurement is equal to or less than your pre-set personalized levels, or you don't set the personalized levels, the SMILE FACE symbol will appear and flash on screen after each measurement

B. IHB Detector

The appearance of this symbol, signifies that a certain pulse irregularity was detected during the measurement.

Talking, moving, shaking or an irregular pulse during the measurement can result in the appearance of this icon.

Usually this is not a cause for concern, however if the symbol appears often, we recommend you seek medical advice.

And please note that the device does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

**Note! The irregular heart beat detected record won't be stored in memory.*

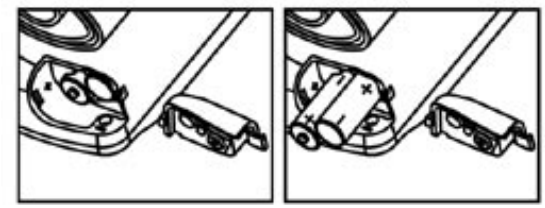
C. Wrist Position Indicator

Keeping wrist at heart level while measuring is extremely important to get accurate blood pressure values.

The device features a Wrist Position Sensor which guides you to adjust your posture by the WRIST DIRECTION INDICATOR symbols shown on screen and helps to determine your optimal height of the wrist for measurement.

Changing batteries

Remove the battery cover on the bottom of the device and insert batteries into the battery compartment. Make sure the polarities "+" and "–" ends are properly positioned.

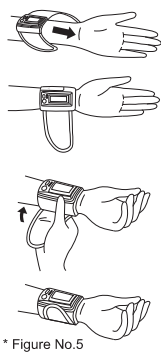


**Attention! Battery is a hazardous waste. Do not dispose it together with the household garbage.*

Attaching pressure cuff

1. Wrap the pressure cuff around the wrist.
   a. The display of the unit should be placed on the palm side of the wrist.
   b. The wrist should be bare.

2. Fasten the pressure cuff snugly.
   a. Do not pull strongly on the pressure cuff.
   b. Do not make the pressure cuff too tight.



* Figure No.5

Correct measurement position

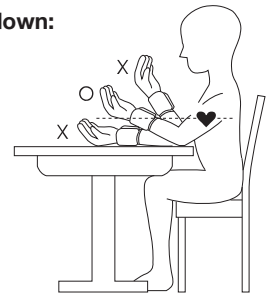
A. To get accurate measurements, make sure the cuff is at the same height of the heart. Having the cuff higher or lower may cause inaccurate results.

B. Measurement while sitting down:

a. Place your elbow on a table or other object (such as our carry case)

b. Use the armrest to position the arm so that the pressure cuff is at the same height as the heart.

c. Relax your hand with the palm facing up.



* Figure No.6

How to measure

A. Inserting batteries in position:

a. Open battery cover
b. Refer to the picture in positioning batteries (Figure-4)
c. All LCD segments will appear on the display in 3 seconds.
d. Display 1 month 1 date, 12 hour 0 minute.

B. Setting Month, Date and Time:

a. Press (MODE) button ("month" starts flashing.)
   Press "▲" or "▼" button to set the correct month (1,2,3,...12)
b. Press (MODE) button again ("date" starts flashing)
   Press "▲" or "▼" button to set the correct date
c. Press (MODE) button again ("hour" starts flashing)
   Press "▲" or "▼" button to set the correct hour in 12-hour format.
d. Press (MODE) button again ("minute" starts flashing)
   Press "▲" or "▼" button to set the correct minute (0,1,2,3,...59)
e. Press (MODE) button again to switch to normal time.
   (month, date:, hour and minute appear on then display)

C. Activating Self-management Function and Setting Personalized Levels:

**Note!*

- *Systolic rate range for setting personalized levels is between 70 and 250 mmHg.*
- *Diastolic rate range for setting personalized levels is between 40 and 115 mmHg.*
- *The default value for Systolic rate is 135 mmHg and 85 mmHg for Diastolic rate.*

a. Press "MODE" button ("- -" wil flash for 1s systolic self-management)
   Press "▲" or "▼" button to set/adjust the personalized systolic rate
b. Press "MODE" button ("- -" will flash for 1st diastolic self management)
   Press "▲" or "▼" button to set/adjust the personalized diastolic rate
c. Press "MODE" button ("- -" will flash for 2nd systolic self management)
   Press "▲" or "▼" button to set/adjust the systolic systolic rate
d. Press "MODE" button ("- -"will flash for 2nd diastolic self management)
   Press "▲" or "▼" button to set/adjust the personalized diastolic rate
e. Press "MODE" button ("- -" will flash for 3rd systolic self management)
   Press "▲" or "▼" button to set/adjust the personalized systolic rate
f. Press "MODE" button ("- -" will flash for 3rd diastolic self management)
   Press "▲" or "▼" button to set/adjust the personalized diastolic rate
g. After setting the personalized levels, the device will return to Standby Mode and is ready for a measurement by pressing START/STOP button.

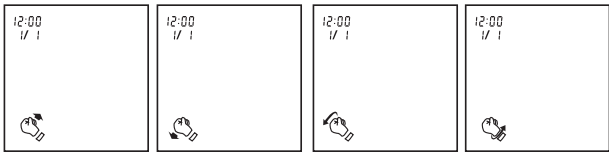
D. Switching on/off Wrist Position Indicator function:

a. Press "MODE" button, the screen displays the figure of "3d on" (the device is default with the position sensor function on).
b. Press "▲" or "▼" button to switch on/off.
c. Press "MODE" button to go back to standby mode.

Note!

- *The Wrist Position Indicator function is optional. If it is switched off, the device won't show the symbols to indicate the optimal position of the wrist while measuring.*
- *User can press "START/STOP" button to exit setting mode and go back to standby mode at any step.*

d. Wrist Position Indicator function in measurement:



Move wrist upward | Move wrist downward | Move wrist to left | Move wrist to right

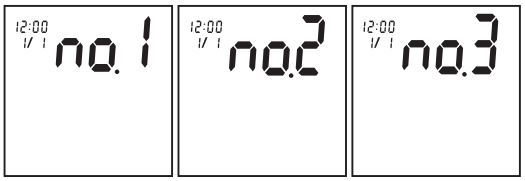
(1) While measuring, slowly move your wrist according to the Arrow symbols on screen to adjust the wrist angle.

(2) when the wrist is in the right position, all Arrow symbols will disappera and PULSE symbol will flash twice on screen. Then the measurement will automatically begin.

E. Steps to take blood pressure measurement:

a. Wrap the cuff around the arm (Refer to Wrapping of Wrist cuff as Figure No.5)

b. Sit upright on the chair to have correct posture. (Refer to Correct Posture in Taking Blood Pressure as Figure No.6)



c. Press "▲" or "▼" button to select the memory zone (1, 2 or 3).

Note!

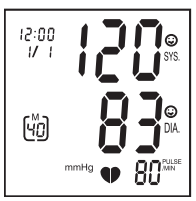
- *When taking repeated measurements, make sure to select the same memory zone number before pressing "START/STOP" button, so the measurement is registered to the appropriate memory.*
- *Do not move or talk during measurement.*

d. Press "START/STOP" button to start measurement. The monitor will automatically inflate to the level that is right for you.

e. After the air pressure is increased, it will slowly be decreased. When the pulse rate is detected, PULSE symbol will start flashing.

f. After taking blood pressure measurement, the systolic rate, diastolic rate and heart pulse rate will be on the display for 1 minute.

g. If the Systolic or Diastolic rate of the result is greater than your preset personalized level, the digit of Systolic or Diastolic rate will flash. If the Systolic or Diastolic rate of the result is equal to or less than your pre-set personalized level, the SMILE FACE symbol will flash.



h. The device will automatically shout off if without any operation after 1 minute.

Note!

To stop reading or exit setting mode in process, press "START/STOP" button, system will go back to standby mode. Press and hold "MODE" button, you may check the pre-set personalized levels.

F. Storing, recalling and erasing measurement data:

a. Storing data:

After each measurement, the systolic rate, diastolic rate, heart pulse rate, time and date will be automatically stored. The memory holds 3 memory zones. Each memory zoen stores the latest 40 measurement data. If more than 40 measurements are entered, the memory will automatically clear out the earliest data.

b. Recalling data:

1 Press the "MEMORY" button to enter Memory Recall Mode.
2 Press "▲" or "▼" button to select the memory zone (1, 2 or 3).
3 If there's no data in the memory, nothing will appear on screen.
4 If there's data in the memory, the first reading will be the average of the latest 3 measurements (Systolic, Diastolic and Pulse rate) in the selected zone.
5 Press "MEMORY" or "▼" button again, the latest measurement will appear along with the memory number, recording date and time.
6 Press "MEMORY" or "▼" button to review and scroll through the stored data from the latest measurement to the earliest one.
7 To stop reading memory, press "START/STOP" button (system switches to standby mode).

***Note!**

The irregular heart beat detected record won't be stored in memory.

c. Erasing data:

1 Press "MEMOERY" button to enter Memory Recall Mode.
2 Press "▲" or "▼" button to select the memory zone (1, 2 or 3).
3 Press "MODE" and "▲" buttons simultaneously, all stored data in the selected memory zone will be erased.
4 To check if the data is erased, press "MEMOERY" button and no data should appear on the screen.

G. To change batteries:

When the symbol appears on the display, the battery is weak. Change the batteries or it will not be able to take measurement.
Take out used batteries and put in 2 pcs of new alkaline batteries.

***Attention!**

- *All batteries used must be the same type. Do not mix alkaline, standard (carbon-zinc) or rechargeable (cadmium) batteries.*
- *Do not mix old and new batteries.*
- *When changing the batteries, all stored data will not disappear.*

10. Maintenance

- Clean the device body, case and the cuff carefully with a clean, soft and slightly dampened cloth and then wipe them dry with another piece of dry cloth.
- Do not use thinner, alcohol, petrol (gasoline) or any strong cleansers to clean.
- Do not wash the cuff or make it wet, and never use chemical cleaner on it.
- Make sure no water will enter the main unit.
- When the unit is not to be used for a long time, remove the batteries. (Leaking of battery liquid can cause damage.)

11. Safe-keeping

- Always keep the unit in the carrying case after its use.
- Do not place the item directly under the sunlight, in high temperature, or humid and dusty places.
- Do not store in extremely low (less than – 20 °C) or high (more than 70 °C) temperature.

12. To Prevent Malfunction

- Do not in any way twist the wrist cuff
- Do not start the air pressure when the wrist cuff is not wrapped around the wrist.
- Do not attempt to disassemble or change any parts of the monitor including wrist cuff.
- Do not drop or strongly shock the unit.
- Do not operate the unit close to devices, such as cellular or mobile phone, which are working on radio frequency.

Warning

- The device measures the blood pressure of adult only.
- The device should not be operated by children in order to avoid hazardous situatioons.
- The unit is not supposed to be used if your wrist has any wound or injury.
- In case the cuff is kept pumping up and non stop, please open the cuff at once.

Description of display marks

Display mark	Condition/Cause	Corrective action
Pulse symbol 	Mark appears in the measurement condition and flashes when pulse is detected	Measurements in progress. Do not talk or move
Battery symbol 	Appears when the battery voltage is excessively low or the positions of batteries are incorrect.	Replace all two batteries by new ones. Insert the batteries at correct positions beware of the +/- directions.
Measuring error symbol 	Appears when the accurate blood pressure could not be obtained accurately.	Press “START/STOP” button again and re-measure. Or check cuff if wrapped properly at the wrist or according to instructions. Check palm if exerting effort. Check if talking or moving during measurement. Check if posture is incorrect.
IHB symbol 	Appears for 1 minute when the user was talking, moving or shaking or an irregular heart beat was detected during measurement	Repeat the measurement. Note that you be relaxed for at least 5 minutes and sit comfortably and quietly before you restart a measurement.

Specifications:

Model number	:	PH 168KD
Method of Measurement	:	Oscillometric
Range of Measurement	:	Pressure 0-300mmHg, pulse 40-199 beats/minute
Accuracy Calibration	:	Pressure +/-3mmHg, Pulse +/-5%
Fuzzy Pressure	:	Automatic Re-inflation pump system
Inflation	:	Automatic inflation (Air Pump)
Deflation of Pressure	:	Automatic air release control valve
Exhaust	:	Automatic exhaust valve
Display	:	Liquid Crystal Digital Display
Sets of Memory	:	3x40-sets
Unit Weight	:	Approx. 148g including batteries
Cuff Size	:	Wrist circumference approx. 135~195mm
Operating Temperature	:	+10˚C to + 40˚C, <85% R.H.
Storage Temperature	:	-20˚C to + 70˚C, <85% R.H.
Power Supply	:	2x ‘AAA’ (1.5V) Alkaline battery
Battery life	:	Approx. 250 times with measurement
Accessories	:	Carrying case, instruction manual, 2 pcs ‘AAA’ battery

These specification are subject to change without notice for purpose of improvement.

Note

This Blood Pressure Monitor complies with the EC Directive 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 General requirements for safety, EN IEC60601-1-2:2001 Electromagnetic compatibility- Requirements and tests,) dated 14 June 1993 concerning medical devices and the EN performance standards as following:

EN 1060-1: Non-invasive sphygmomanometers - General requirements

EN 1060-3: Non-invasive sphygmomanometers - Supplementary requirements for electromechanical blood pressure measuring systems.

EN 1060-4: Non-invasive sphygmomanometers - Test procedures to determine the overall system accuracy of automated non-invasive sphygmomanometers.