

**Table type 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 at human being's upper arm.

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 device.

**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 pressure. 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 the chart (Figure 1).

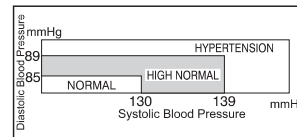
**Variations in blood pressure**

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.

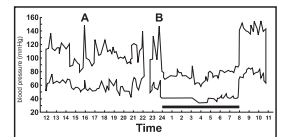
**(Hypertension: means a person who has high blood pressure symptom.)**

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



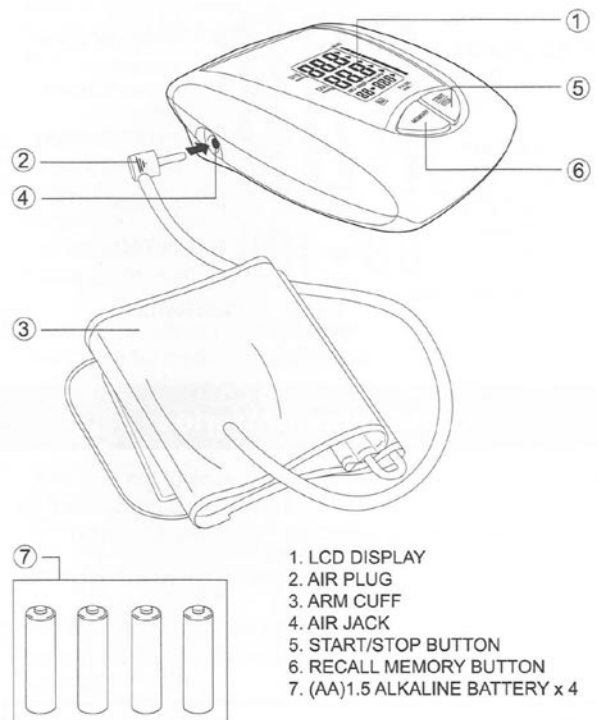
\* Figure No.2

**Important information before use of the unit**

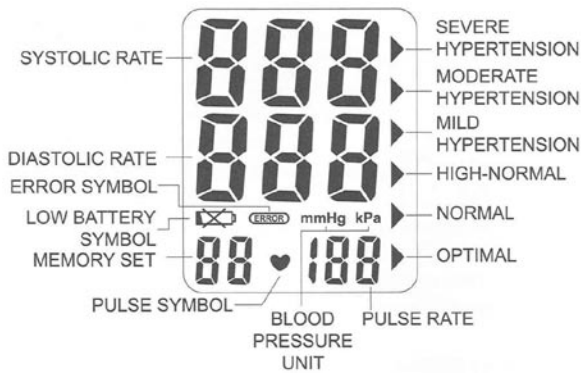
- Blood pressure measurements should be interpreted by a physician or trained health professional who is familiar with your medical history. By using the unit regularly and recording the results for your physician to interpret, you keep your physician informed of the continuing trends in your blood pressure.
- Wrap the cuff snugly around your arm 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 wrap 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, medication and physical activity.
- 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**

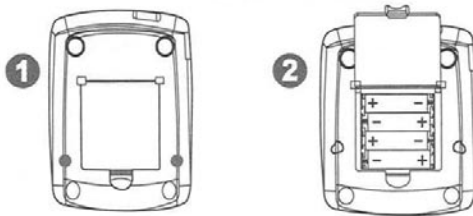


**B. Description of display symbols**



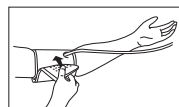
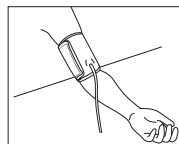
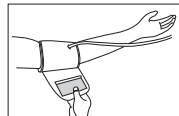
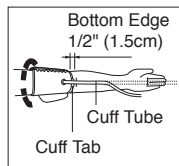
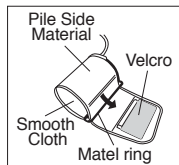
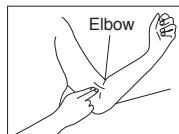
**Changing batteries**

Remove the battery cover at the rear side of the unit and insert ALKALINE batteries into the battery compartment as shown, taking extreme care that the polarities + and - are observed.



**Attaching pressure cuff**

- Press your brachial artery by two fingers approximately 1 inch above the elbow on the inside of your left arm.
- Determine where your strongest pulse is. Slide the end of arm cuff furthest from the tube through the metal ring to a loop. The smooth cloth should be on the inside of the cuff.
- If the cuff is located correctly, the Velcro will be on the outside of the cuff and metal ring will not touch your skin.
- Put left arm through the cuff loop. The bottom of the cuff should be approx. 0.5 inch above elbow. The cuff should lie over the brachial artery on the inside of the arm.
- Pull the cuff so that the top and bottom edges are tightened around your arm.
- When the cuff is positioned properly, press the Velcro firmly against the pile side of the cuff
- Sit on a chair and place your arm on the table so that the cuff is at the same level as your heart.
- Relax your arm and palm your arm upward.
- Assure there are no kinks in the air tube.



**Main Feature**

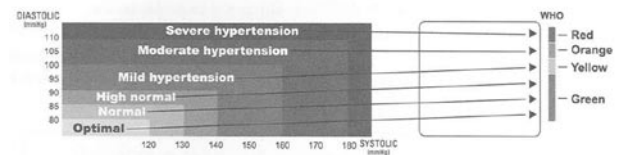
**WHO Indicator**

This device is equipped with WHO Blood Pressure Indicator which classifies your blood pressure measurements into six stages (Optimal to Severe hypertension) based on WHO classification on blood pressure levels as shown in below chart:

Stages of blood pressure levels	Systolic(in mmHg)	Diastolic(in mmHg)
Grade 3 Severe hypertension	≥180	≥110
Grade 2 Moderate hypertension	160~179	100~109
Grade 1 Mild hypertension	140~159	90~99
High-normal	130~139	85~89
Normal	120~129	80~84
Optimal	<120	<80

\*Source: WHO, 1999

After each measurement is completed, the LCD display will show your position automatically on the six segments of the bar indicator which corresponds to WHO Blood Pressure Indicator.



**\*Note!**  
When a person's systolic and diastolic pressures fall into different categories, the higher category should apply.

e.g. systolic rate 181 & diastolic rate 99  
→ the result should be in Red category (Severe hypertension)

systolic rate 110 & diastolic rate 95  
→ Yellow category (Mild hypertension)

**How to measure**

1. Insert 4 pieces "AA" Alkaline batteries in position:
  - a. Open battery cover
  - b. Refer to the picture in positioning batteries.
  - c. All segments will appear on the display in 3 seconds.
  - d. Device is ready to start.



2. Steps to take blood pressure measurement:
  - a. Wrap the cuff around the arm (Refer to the chapter of "Attaching Arm Cuff").
  - b. Sit upright on the chair to have correct posture. (Refer to the chapter of "Attaching pressure cuff")
  - c. Press START/STOP button, all segments will appear on the display in 3 seconds. Then, the monitor will automatically inflate to the level that is right for you.

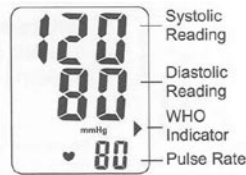


**\*Note!**  
Do not move or talk during taking blood pressure measurement.

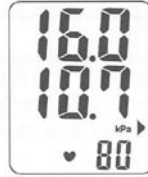
- d. After the air pressure is increased, it will slowly be decreased. When the pulse rate is detected, Heart Beat Symbol will start flashing.



e. After taking blood pressure measurement, the systolic rate, diastolic rate and pulse rate will be stored automatically and displayed on the screen.



After measurement, the reading will be displayed in mmHg unit first for 3 seconds.



Afterwards, the reading switches to kPa unit for 3 seconds.

f. Your monitor will first show the reading in unit of mmHg for 3 seconds. Next, comes the reading in the unit of kPa for 3 seconds as well.

The above readings displayed in mmHg and kPa for 3 seconds each will take turns for 5 times.

And will turn into mmHg reading at last as left figure in the right shows.

g. The process should take less than a minute. The monitor will turn itself off approximately 1 minute later after completing a measurement and no button pressed.



Power saving mode display (No segment displayed)



Stand-by mode display

**\*Note!**

To stop measuring or exit any mode in process, press "START/STOP" button, system will go back to standby mode.

3. Storing, recalling and erasing measurement data:

a. Storing data:

After each blood pressure measurement, the systolic pressure, diastolic pressure, pulse rate will be automatically stored. The memory holds the latest 99 measurement data. If more than 99 measurements, the memory will automatically clear out the earliest data.

b. Recalling data:

(1) Pressing MEMORY button under Stand-by mode, no reading will appear on the display if there is no data in the memory. If there is data in the memory, the latest recorded set of measurement which is the systolic pressure, diastolic pressure, and pulse rate will appear and last on the display for 1 minute.



(2) Press MEMORY button to read the next line of stored data. The data called up on the display is numbered accordingly.

(3) To stop reading memory, press START/STOP button (system switches to Stand-by mode).



c. Erasing data:

(1) Take out the batteries and then refill 4 pcs batteries again.

(2) To check if the data is erased, press MEM button, no data should show up on the screen.



4. Changing batteries:

When battery low symbol  shows up on the display, the battery is weak.

Take out all four batteries and put in 4 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 change the batteries, all stored data will disappear.

**Maintenance**

- Use a piece of cloth with water or mild cleansing agent to clean the case and then use a piece of dry cloth to wipe it dry. Use a piece of dry cloth to wipe the cuff when it is dirty.
- Do not use gas or any strong cleansers in cleaning.
- When the unit is not to be used for a long time, remove the batteries. (Leaking of battery liquid can cause trouble.)

**Safe-keeping**

- Always keep the unit in the carrying case after its use.
- Do not put 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 60 C) temperature.

**To Prevent Malfunction**




- Do not in any way twist the arm cuff
- Do not inflate the monitor's cuff when it is not wrapped around the arm.
- Do not attempt to disassemble or change any parts of the monitor including the cuff
- Do not drop the product or put it through strong impact.

**Warning**

- The cuff size is suitable for 23-33 cm / 9-13 inches adult only.
- The device is not supposed to be used if your arm has any wound or injury.
- In case the cuff is pumping up and non stop, please open the cuff at once.
- We do not recommend user to unpack device by himself/herself due to substitution of a component different from that supplied might result in measurement error. If any suggestion or service is requested please consult your service station.



Description of display marks

Display mark	Condition/Cause	Corrective action
 heart rate symbol	Mark appears in the measurement condition and flashes when pulse is detected.	Measurements in progress remain quiet.
 battery weak	Appears when the battery voltage is excessively low or the positions of batteries are incorrect.	Replace all four batteries by new ones. Insert the batteries at correct positions beware of the +/- directions.
 measuring error	Appears when the accurate blood pressure could not be obtained accurately.	Press " start/stop " button again and re-measure. Or check cuff if wrapped at the wrist or according to instructions Check palm if exerting effort. Check if talking or moving during measurement. Check if posture is incorrect.

- Model number : PHC 888UP
- Range of measurement : Pressure 0-300mmHg, pulse 40-199 beats/minute
- Accuracy : Pressure +/- 3mmHg, Pulse +/- 5% Max.
- Inflation : Automatic
- Exhaust : Automatic exhaust valve
- Display : Systolic, Diastolic, Pulse rate
- Sets of memory : 99 sets
- Cuff size : Arm circumference approx. 23-33 cm / 9-13 inches
- Operating Temperature : +10°C to + 40°C, < 85%R.H.
- Storage Temperature : - 20°C to + 70°C, < 85%R.H.
- Unit weight : Approx. 265g with battery
- Power Supply : AA (1.5V) 4 Alkaline Batteries
- Battery life : 300 times measurement (twice a day measurement)
- Auto power off : Whenever not used for 1 minute
- Accessories : 4 batteries, arm cuff with tube, instruction manual, pouch, gift box

These specifications 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.



Important!/Caution/Note!  
Read the operating instructions.



Consult instructions thoroughly before use.



**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



To avoid inaccurate results caused by electromagnetic interference between electrical and electronic equipments, do not use the device near a cell phone or microwave oven.



Discard the used product to the recycling collection point according to local regulations.



Manufacturer:  
Health & Life Co., Ltd.  
9F. No. 186 Jian Yi Road, Chung Ho City, Taipei, Taiwan



PROTON HEALTHCARE (Europe) Ltd.  
36 Randolph Road, Langley, Slough, Berkshire, SL3 7QG, UK