

NINGBO RANOR Blood Pressure Monitor User Manual

Manualsum, simplified manuals

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NINGBO RANOR Blood Pressure Monitor User Manual

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





Model: RN1L. RNI1L Pro

([2BE6FRN1L](#))

Safety Precautions

The patient expects to be the operator.

Warnings and graphic symbols in the user's manual will enable users to use the product safely and correctly in order to avoid any damage to users and the others. Specific meanings are as follows:

Symbol Descriptions	
	Warning: to remind you that misuse of the product may cause personnel damage, measurement failure and article damage. (Article damage includes damage to housing, property, pets and livestock.)
	Prohibition: to stand for prohibited contents, namely matters not allowed to do when using the product
	Enforcement : to represent compulsive behavior, namely matters must to be observed when using the product
	Prohibition of Disassembly
	Caution of fire
	Caution of electric current
	Refer to operation manual
	Manufacturer
	Date of manufacture
	Serial number
	Keep dry
IP21	The degree of avoiding of water or particulate matter into device
	BF type applied part
	Separate collection
	Follow instructions for use
	Device used within the Magnetic Resonance (MR) environment is prohibited.

CAUTION

- Patients of arrhythmia, diabetes, poor blood circulation or stroke, please use the product under the guidance of a doctor
- It is very dangerous for the patients to make self-judgment and self-treatment according to the measurement results. Please follow the guidance of the doctor, self- judgment is likely to deteriorate the patient' s condition.
- There may be a risk, such as arm numbness or pain that may be caused by over inflationof the gasbag.

- For the sake of safety, please keep the product in the place where the child is not easy to touch.
- Infants and children who cannot express their thoughts are prohibited to use the product, because they will be the cause of the accident or dispute.
- Do not use the product for not measuring blood pressure, because it will be the cause of the accident or dispute.
- Please do not use chemical reagents such as thinner, alcohol, gasoline to clean this product.
- Do not beat the product heavily or fall from a height.
- Please be sure to use the special arm belt of this product, otherwise it cannot be measured accurately.
- Do not use the mobile phone near the machine. There is a risk of making the machine to malfunction.
- Do not disassemble, repair or reconstruct the machine and the arm belt of the blood pressure meter, otherwise it cannot be measured correctly
- Do not force a bending of the arm belt or the air tube.
- When removing the air pipe, please take out the air pipe at the front part of it.
- Don't exert pressure on the product before the arm belt is twined around the arm.
- As the dry battery leakage can damage the product, so please pay attention to the following points.
- If you do not use the product for a long time (more than 3 months), please take out the battery.
- After use, replace the battery that is in power shortage with a new one immediately.
- Do not intermix old and new batteries.
- No modification of this equipment is allowed.
- Do not press the tube or limit the connection of tube.
- Kinking of the tube may cause continuous pressure impact the patient's blood and cause injury.
- Excessive frequency measurement may cause the patient injury.
- If the cuff used on the injured arm, may cause farther harm.
- Do not use the cuff in the side of breast resection frequency, it may cause injury.
- Install the positive and negative battery correctly.

Product Introduction

Intended use

The blood pressure monitor is used for measuring blood pressure and pulse rate. The monitor can be used in hospitals, families, schools and medical centers. It is suitable for adult, not for neonate or pregnancy.

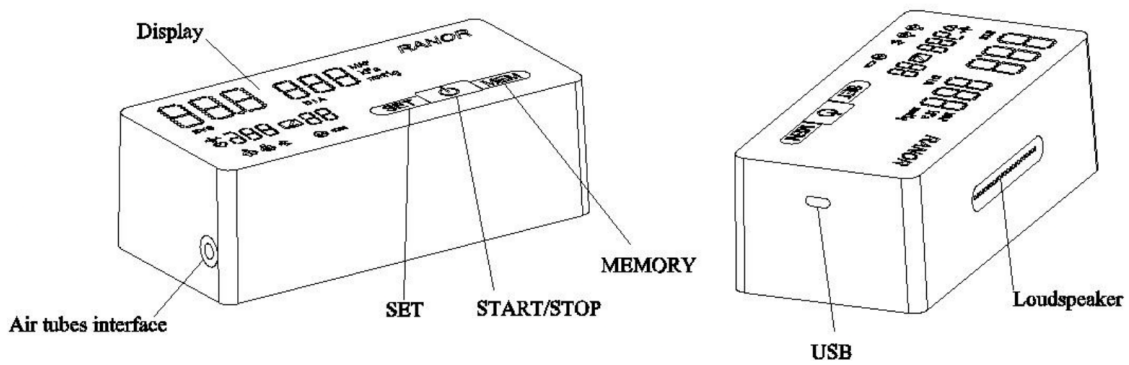
Contraindications

The product can not be used for patients with arrhythmia.

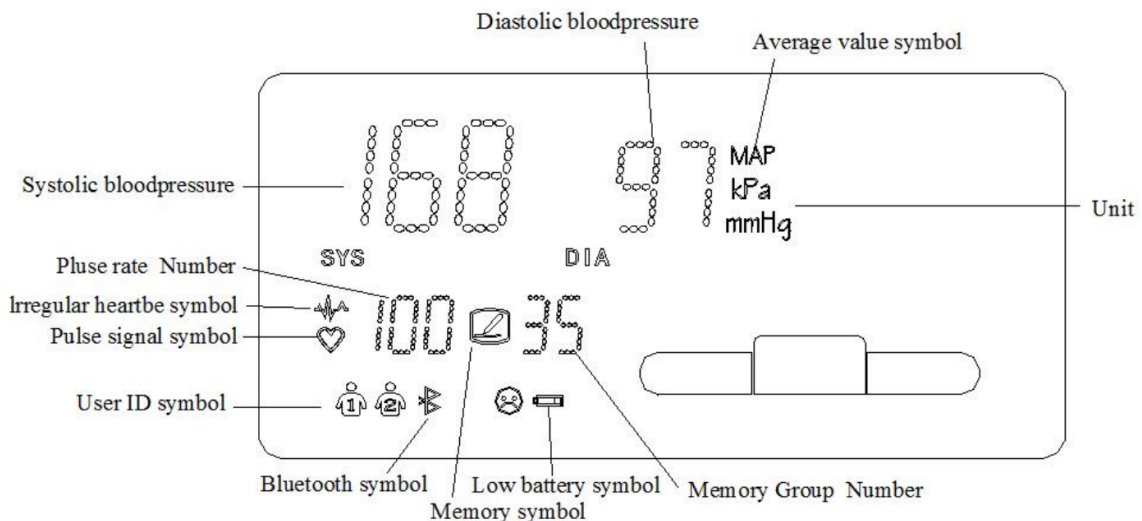
This product can not be used for infants ,neonates or pregnancy. The product is only used for adult.

The infant and people who can not express himself can not use this product.

The part of machine



Display Screen



Functional Description

1. Measurement: Buck measurement
2. The results showed that: high pressure / low pressure / pulse
3. Unit Conversion: blood pressure units KPa / mmHg conversion (the default boot unit is mmHg)
4. Memory Group: Two sets of memory, each 60 measurements results of memory
5. Low power testing: any working-state detecting low power, displays "0" symbol prompts low power
6. Blood pressure classification indicator: blood pressure classification indicates blood pressure health, see Appendix Table 1
7. Error: See Appendix Table 2
8. Over pressure protection function: pressure over 295mmHg (10ms) is automatically and quickly exhaust

9. Auto power off function: No action for 1 minute then automatic shutdown
10. Measurement is completed alert tone.

Working principle

Oscillography method.

The cuff is pressurized to block the brachial blood flow and then slowly decompress, with a small pulse of sound and pressure in the arm. In wave method is to rely on the instrument recognition from the arm to the cuff of small pulse, and the difference, through multiple processing, form a scanreflect the envelope of pulse peak, which blood pressure values are obtained.

Disposal statement

Directly disposing electronic products and battery will pollute and harm the environment.

Disposal of this product and used batteries should be carried out in accordance with the national regulations for the disposal of electronic products.

Battery charging

This product has a built-in lithium battery.

When the battery is depleted, it needs to be charged:

1. Power adapter requirements: AC IN: AC110~240V, 50Hz, 0.2A OUT: DC5V/1000mA
2. The power adapter needs to be purchased by the user themselves.

Note

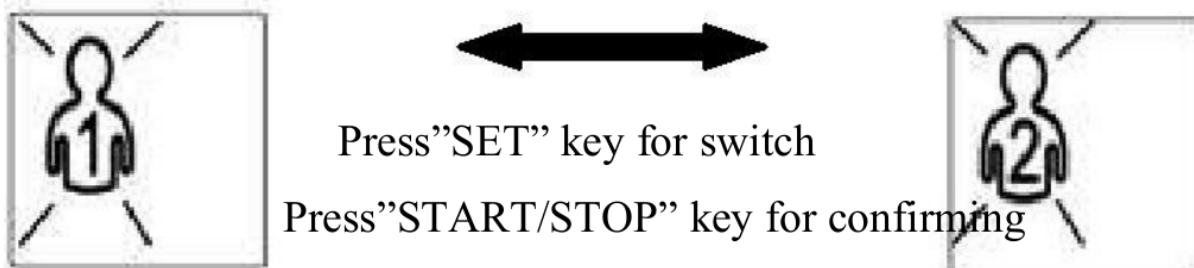
- Icon “0 “: indicates the battery is about to run out. Please charge the lithium battery in a timely manner.
- If not used for a long time, Please fully charge every 2 months.
- Methods of disposal after use batteries should be handled according to local regulations on environmental protection.

Initial Setting

Please conduct initial setting before the first measurement if you want to use memory and average value function. Initial setting includes settings of user, Sound and blood pressure unit.

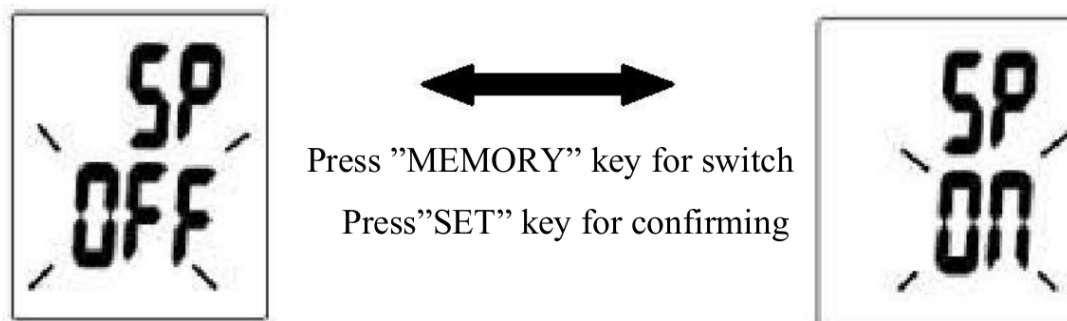
User Setting

In the shutdown state, short press SET key until the user symbol Gio on screen starts flashing up , press the SET key to switch "or" &- forchoosing user, then press START/STOP key for confirming. mode at the same time, if not to choose the system defaults user & "



Sound setting

In the shutdown state, long press SET key , display "SP" ;the "ON" or "OFF" is in a flashing state now. Press MEMORY key to choose, when set to "ON", there is a voice prompt when BP monitor is under measurement and viewing memory; when set to "OFF", there is no voice prompt. After choosing it, press SET key for confirming. The system defaults "ON" if you didn't choose anything.



Note: If the instrument is optional without voice, no need to set the sound.

BP Unit Setting

The system defaults mmHg. In the shutdown state, long press START/STOP key for 5 second, it shows 0.0kPa, then press START/STOP key shut down to confirm kPa. If in kPa mode, in shutdown state, long press START/STOP key for 5 seconds, it shows 0mmHg, then press START/STOP key shut down to confirm mmHg.

Static Pressure Test Mode

The blood pressure monitor has a static pressure test mode for relevant technical department to test.

Bluetooth function

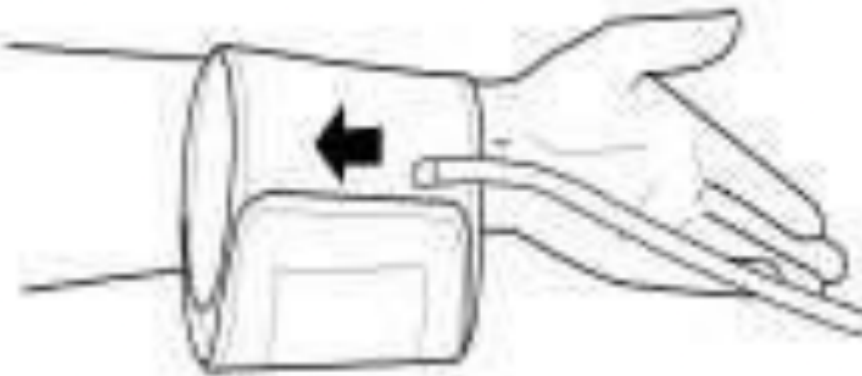
If the product supports Bluetooth connectivity, Please ensure that the Bluetooth of the receiving device is turned on. After adding this device, The “bluetooth” icon will light up; the measured blood pressure and pulse values will be transmitted to the receiving device.

Usage of NIBP Cuff

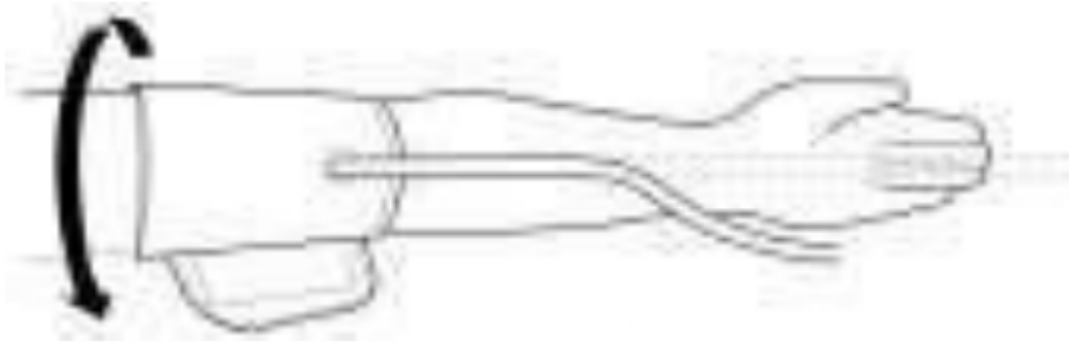
- 1) Insert the tracheal plug into spigot of blood pressure monitor for cuff



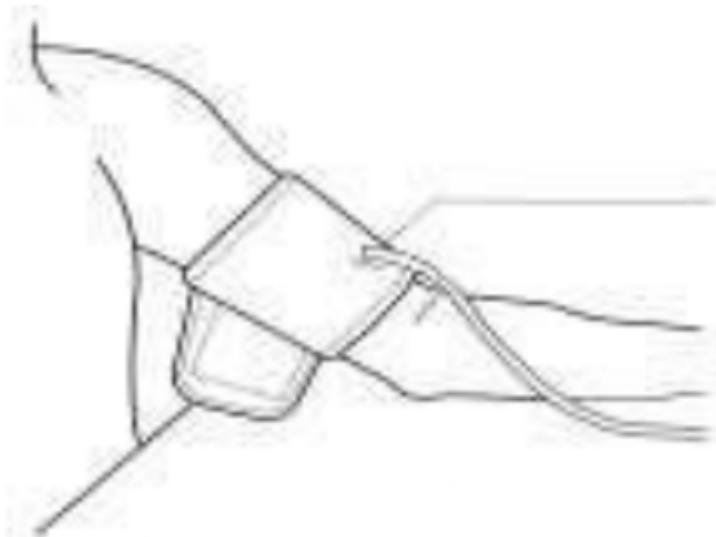
- 2) Adjust the cuff to tubular until it is suitable to put your arm inside.



- 3) Arm pass through the cuff. The cuff air pipe should be located the palm Front end



4) The cuff should be wind on the upper arm. Colored markers should be located in the middle of the inboard arm and pointing down to the inside of the arm, the air pipe is also located in the inboard and be in a line with middle finger.



5) The bottom of the cuff should be located on the elbow in upper arm, the bottom of the cuff should be 2cm-3cm from the elbow.



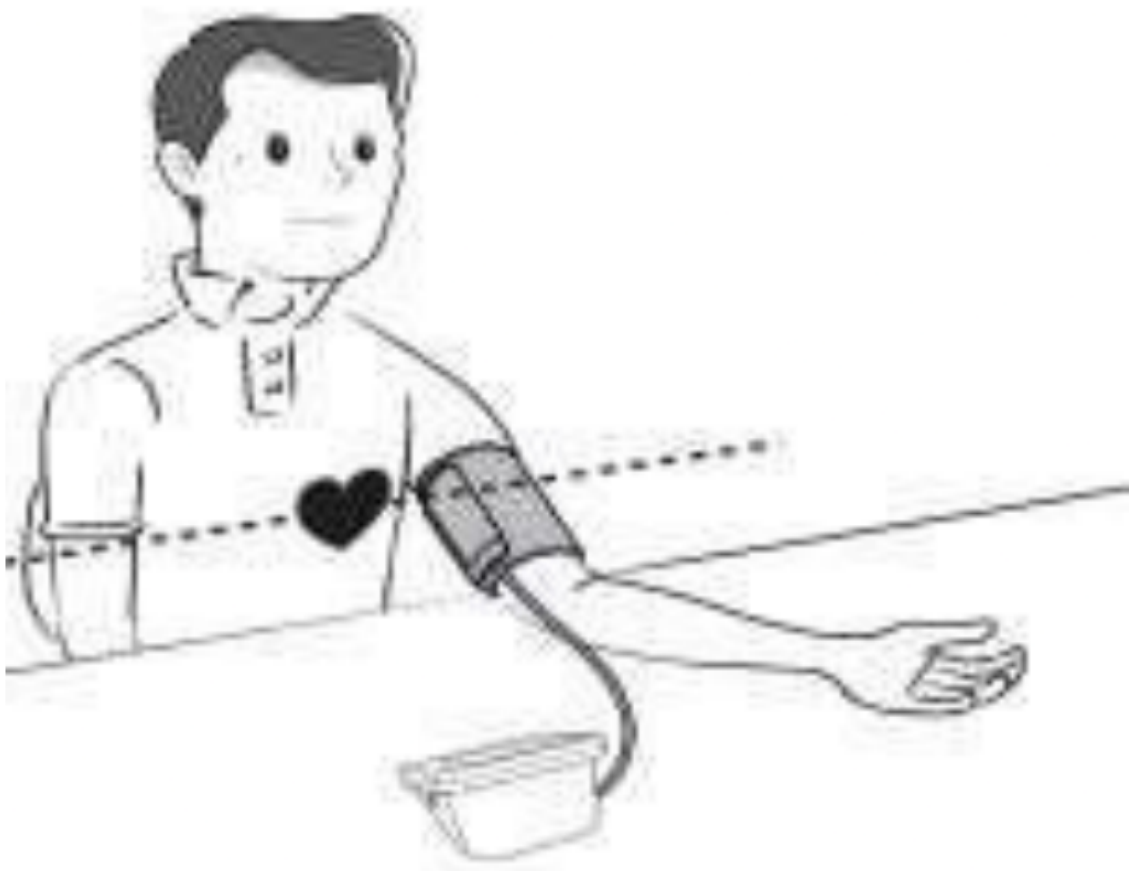
6) Please close the cuff by buckle. The gap between the arm and cuff can accommodate your index finger.

Measure blood pressure

The Correct measurement method

The left arm, right arm are all-ok to measure, be bare arms or only wear thin clothes to measure. Please measure at a suitable room temperature

1. Put your elbows on the table;
2. The cuff height should be consistent with the heart;
3. The palm should be upward, relax the body.



Attention

- If you wear thick clothes, do not roll up your sleeves, but take off and measure it.
- In order to accurately measure, please pay attention to the correct winding cuff (Refer to “4 The method of using cuff”).
- Please do not press your arms on the air tube, or you may restrict the flow of air to the cuff.
- Please be in the same pose for blood pressure measurement, every day at the same time, with the same arm.

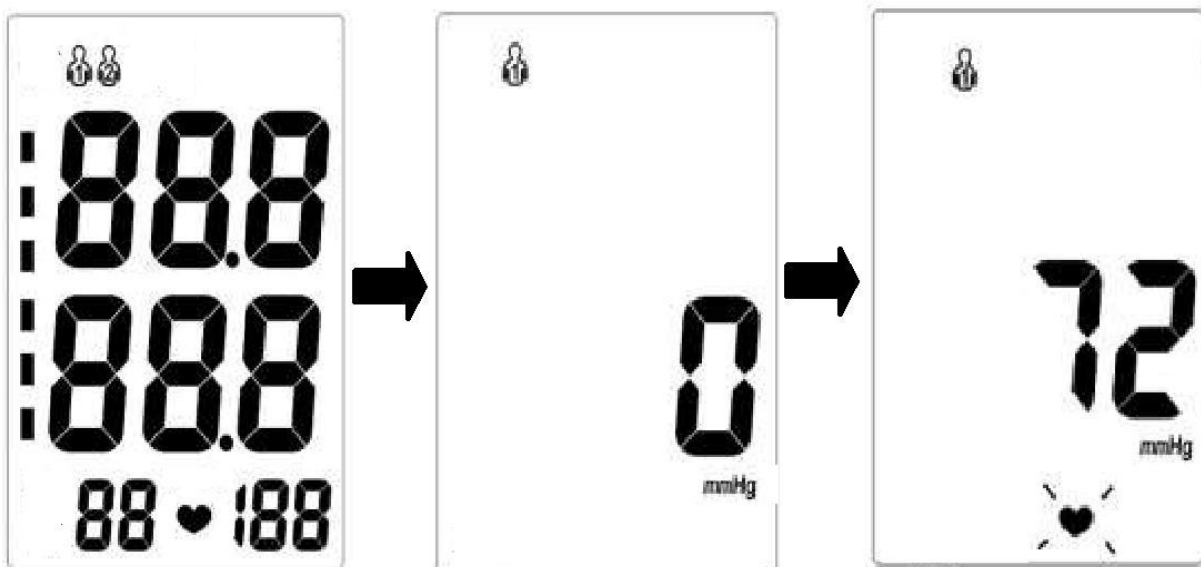
- The location of the cuff will cause changes of measurement results
- Do not touch the machine, cuff and air pipe during measuring.
- You should keep quiet when start measuring, the body should be in a state of relaxation
- Please be quiet for 4~5 minutes before measurement.
- Relax your body, don't let muscle activity
- Do not talk or move when you are measuring.
- Please wait for 2-3 minute if you want to measure again.
- Do not use mobile phones and other mobile devices in the vicinity of the machine.

Operation steps of blood pressure measurement

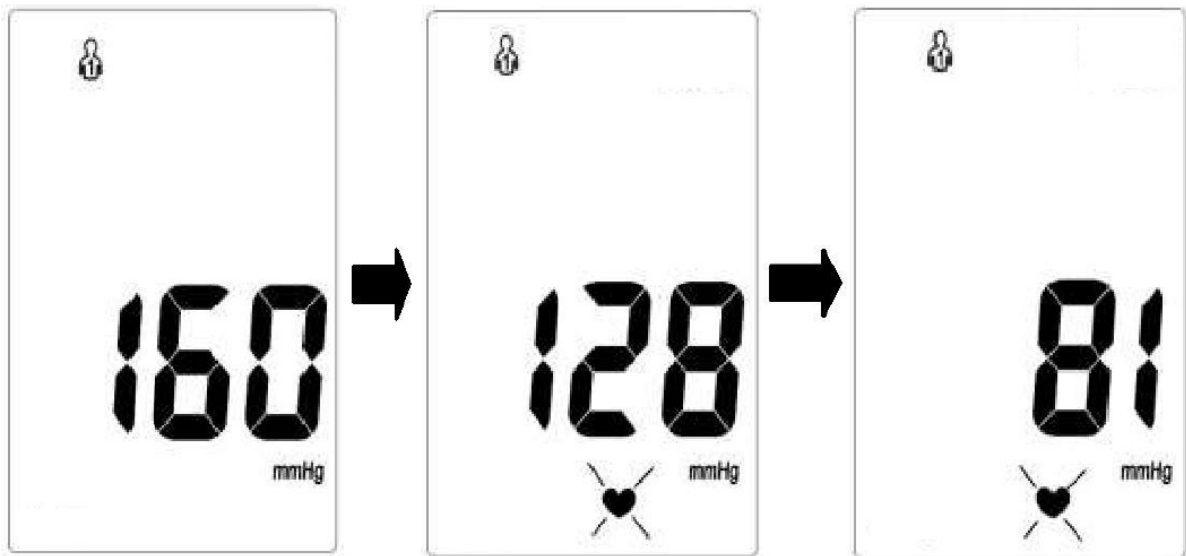
The machine has two kinds of BP units, which are mmHg and KPa, please refer to 3.3 part for the specific method of setting.

Take the mmHg value as an example in the following explanation.

1) Press the "START/STOP" key, the machine will automatically return to zero, arm with automatic start filling with air, the pump started to inflate the cuff, the screen will display the pressure changes in the cuff. In the process of inflation, blood pressure meter also detects the pulse, so during the whole measurement process, please do not move the arm, keep the stationary state.



2) When the air in cuff reaches a stable pressure, pump stop inflating, the pressure cuff gradually decrease and will be displayed on the screen at the same time, the heart icon will flash .



3) After the measurement, the machine will simultaneously exhaust and displays your blood pressure value and the pulse number.

Note: the machine will automatically save the blood pressure and the pulse number.



4) Interrupt measurement:

If you need to interrupt the measurement for some reason (for example, you feel not good), at any time, press the “START/STOP” key, the machine will automatically reduce the arm with air pressure, interrupt measurement.

5) Important hints:

For the same user, the interval between the two measurements is at least 2-3 minutes. Between the two measurements of waiting is mainly to let the artery restored to the state before the measurement of blood pressure.

In the measurement process, if the body is moving, it will result in inaccurate measurement, or it will measure the failure, and it will display error message. In this case, please repeat the measurement process, and keep quiet until the end of the measurement.

If Irregular Heartbeat (IHB) brought by common arrhythmias is detected in the procedure of blood pressure measurement, a signal of © will be displayed. Under this condition, the blood pressure monitor can continue functioning, but the results may not be accurate, it is suggested that you consult with your physician for accurate assessment.

It takes 30 minutes from the lowest storage temperature to ready for use the blood pressure monitor.

It takes 30 minutes from the highest storage temperature to ready for use the blood pressure monitor.

Answers to the question during measurement

Anomalies	Cause	Correction
	Whether wrapped the cuff improperly	wrap the cuff properly(refer to the 4.Usage of NIBP Cuff)
	Whether chatting or moved the arm during measurement	Do not speak or move your body and arms during measurement
A high (low) anomaly blood pressure measurements	Whether the sleeves rolled up too tight	wrap the cuff properly(refer to the 4.Usage of NIBP Cuff)
	Exercise or be in an excited state before measurement	Confirm measuring blood pressure in a quiet and relaxed state. It’s best to take a few deep breaths before taking measurements to relax yourself
This machine is equipped with a battery and does not work after pressing the “START/STOP” button	Low battery level	Please charge the lithium battery in a timely manner.
Unable to inflate	Whether the cuff leak	Change a new cuff Manualsum

	Whether the plug connected	Please connect correctly
The machine is in good working condition, but there are differences in each measurement result.1	Blood pressure is dynamic, so there must be some differences between each measurement value.	
Other anomalies	If measurement is still not possible, please contact us	

Components

- 1 Blood pressure monitor (measuring unit)
- 2 Cuff (22-42mm)

Memory function

Memory data viewing

This blood pressure stores 2×60 set memory value, each measurement in it will automatically be stored. When it stores 2×60 set memory value, the old value will be covered by the new one. It can show the latest 3 times average value.

Note In order to make a note of measurement correctly, before measurement, please make sure that the right user and time is selected. Under one user, it stores 60 set data, when you save the 61th set date, the earliest one date will be deleted.

Read memory record

The first short press the MEM key it will show the latest 3 times average value.

Note When the number of memory value are less than 3 set, like there are 2 set memory value, the memory button will show this 2 set average value, if there is 1 set memory value, the memory button will show this 1 set average value, that is this 1 set measure value.

Read the result

After viewing the average value, Press the MEM key, you can read the latest 1 time measurement value, repeat press the MEM key to cyclic switch in the previous measurements.

Delete the memory value

In the memory checking state, Long press the MEM key and START/STOP key 2 seconds at same time, display *- -', all memory values will be deleted.

Warning

- This operation deletes all memory values, users need to operate carefully.

Care and maintenance

Be sure to keep the notes and other correct usage in the user manual. Failure to obey the regulations will result in no quality claims from company.

Care methods

Clean the blood pressure monitor frequently

Use a soft dry cloth towel to clean this blood pressure monitor, if it is very filthy you can wet the towel with water or neutral detergent, wring out it and wipe the monitor.

Disinfection the cuff with moistened 75% alcohol cotton wool.

Note Please prevent water or other liquid seep into the blood pressure monitor.

Suggestion: Do not clean the body and cuff with naphtha, thinner or gasoline etc. Do not wet the cuff or attempt to clean the cuff with water

Storaging method

Advice

- Do not place the unit in the following places: Easy splashing
- Direct sunlight, high temperatures, humidity, dust, full of corrosive gas places
- Some slant, vibrative, shock place.
- Some place storing chemicals or corrosive gas.

Advice

Please Store it after taking out the battery if not to use the unit long time. (more than three months)

Manufacturer's Declaration of the EUT

Guidance and manufacturer's declaration — electromagnetic emission— for
all EQUIPMENT AND SYSTEMS

1	Guidance and manufacturer's declaration — electromagnetic emission		
2	The product is intended for use in the electromagnetic environment specified below. The customer or the user of product should assure that it is used in such an environment.		
3	Emissions test	Compliance	Electromagnetic environment - guidance. The product uses RF energy only for its intern: function. Therefore, its RF emissions are very low an are not likely to cause any interference in nearb electronic equipment.
4	RF emissions CISPR 11	Group 1	
5	RF emissions CISPR 11	Class B	
6	Harmonic emissions IEC 61000-3-2	Class A	The product is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
7	Voltage fluctations/ flicker emissions IEC 61000-3-3	YES	

Guidance and Manufacturer's Declaration — Electromagnetic Immunity The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure

		that it is used in such an environment.	
Immunity test	EN 60601 test level	Compliance level	Electromagnetic environment -guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air		Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrostatic transient/burst IEC 61000-4-4	± 2 kV for power supply ± 1 kV for input/output lines		Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode		Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% Ur (>95 % dip in Ut) for 0.5 cycle 40 % Ur (60 % dip in Ut) for 5 cycles 70 % Ur (30 % dip in Ur) for 25 cycles <5% Ur (>95 % dip in Ut) for 5 sec		Mains power quality should be that of a typical commercial or Hospital environment.If the user of the product requires continued operation during. power mains interruptions, it is recommended that the product be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m		Power frequency magnetic fields should be at levels characteristic of a typical location in a Manualsum

typical commercial or hospital environment.

NOTE1

Ur is the a.c mains voltage prior to application of the test level.

Guidance and Manufacturer’s Declaration – Electromagnetic Immunity—for EQUIPMENT and SYSTEM those are not LIFE-SUPPORTING

Guidance and Manufacturer’s Declaration – Electromagnetic Immunity The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment.

Immunity Test EN 60601 Test Level

Compliance Level

Electromagnetic Environment - Guidance

Portable and mobile RF communications equipment should be used no closer to any part of the product including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

Conducted RF IEC 61000-4-6 3 Vrms 150kHz to 80 mHz

N/A

$$d = \left[\frac{3.5}{V_1} \right] \sqrt{P}$$

$$d = \left[\frac{3.5}{E_1} \right] \sqrt{P}$$

80 MHz to 800 MHz

$$d = \left[\frac{7}{E_1} \right] \sqrt{P}$$

800 MHz to 2.5 GHz

Where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m)'b.

Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, 2 should be less than the compliance level in each frequency range'b.

Interference may occur in the vicinity of equipment marked with the following symbol:



Radiated
RF IEC
61000-4-3 10 V/m 80 MHz
to 2.5 GHz 10 V/m1

NOTE 1 At 80
MHz and 800

MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic waves are affected by absorption and reflection from structures, objects and people.

a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the product is used exceeds the applicable RF

compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the product.

b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 10V/m.

Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM - for EQUIPMENT and SYSTEMS that are not LIFE- SUPPORTING

Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and The Product

The product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the

user of the product can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the product as recommended below, according to the maximum output power of the communications equipment

Rated maximum output of transmitter

50kHz to 80 MHz

Seperation distance according frequency of transmitter/m

80 MHz to 800 MHz

$$d = \left[\frac{3.5}{V_1} \right] \sqrt{P} \quad d = \left[\frac{3.5}{E_1} \right] \sqrt{P}$$

- w
- 0.01
- 0.1
- 1
- 10
- 100

For transmitters rated at a maximum output power not listed above the recommended separation distance d in metres (m) can be

estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.