



SENDO™

Digital blood pressure monitor


ECONOMY

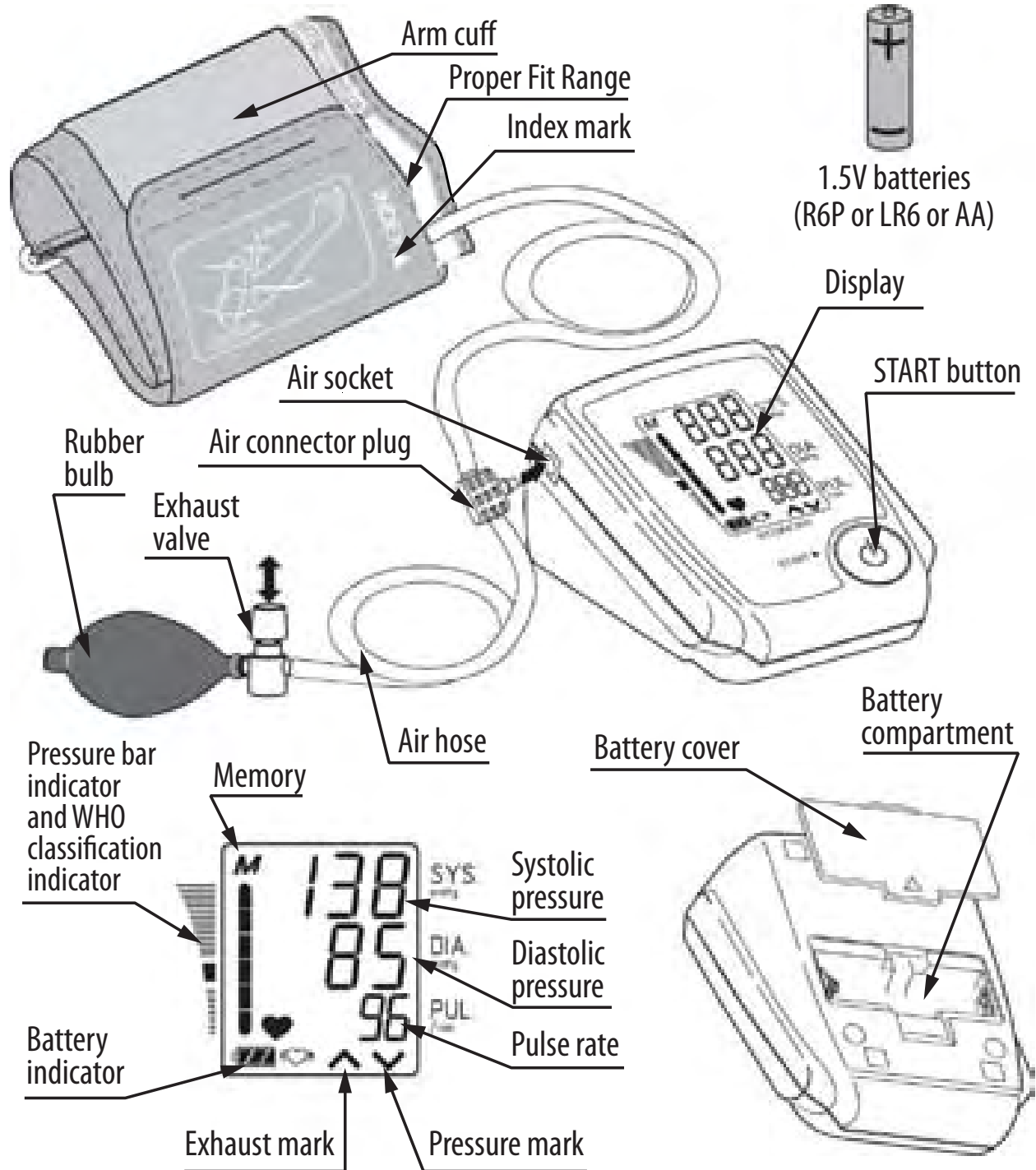
INSTRUCTION MANUAL

Introduction

Thank you for purchasing a state-of-the-art Sendo blood pressure monitor. Sendo will give you years of accurate measurements, if it is used properly. We are always ready to provide help on our telephone lines for your country.

5 years guarantee.

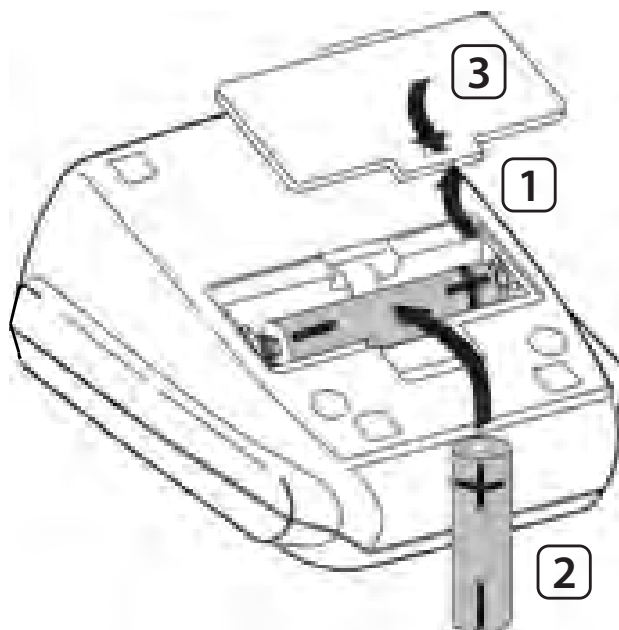
 Please read carefully the instructions before using this blood pressure monitor.



Installing / Changing the Batteries

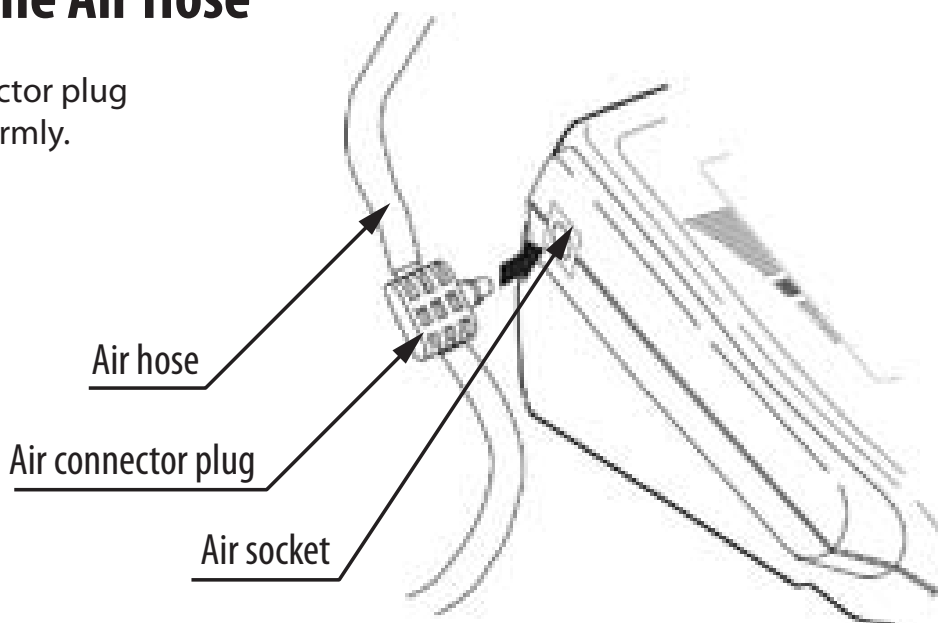
- 1** Remove the battery cover.
- 2** Remove the used battery and insert new battery into the battery compartment as shown, taking care that the polarities (+) and (-) are correct.
- 3** Replace the battery cover.

Use only R6P, LR6 or AA batteries.



Connecting the Air Hose

Insert the air connector plug into the air socket firmly.



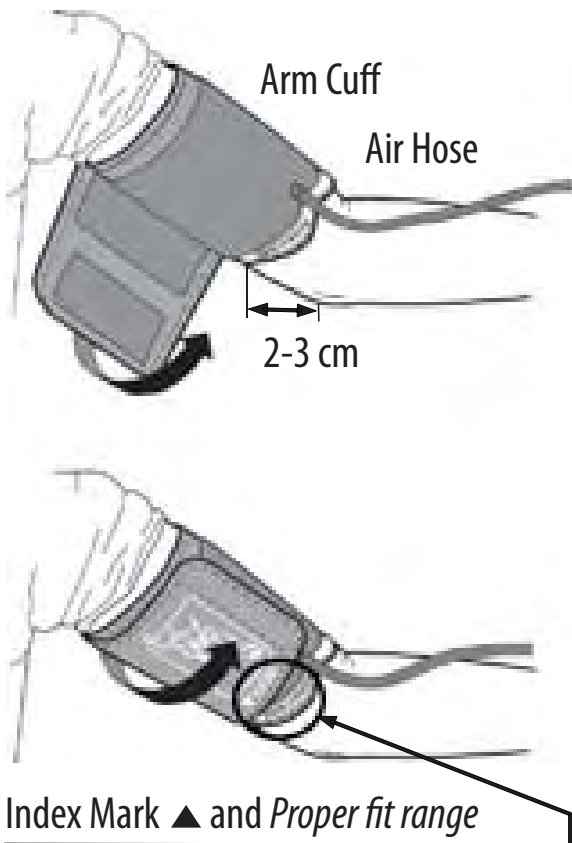
Measurement

1



Sit comfortably in a chair with your feet flat on the floor. Place your left arm on a table at a slight angle.

2



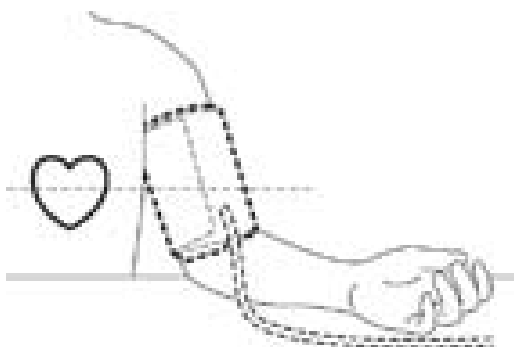
Wrap the cuff around the upper arm, about 2 - 3 cm above the elbow, as shown.

⚠ Place the cuff directly against the skin, as clothing may cause a faint pulse and result in a measurement error.

⚠ Constriction of the upper arm, caused by rolling up a shirtsleeve, may prevent accurate readings.

⚠ Confirm that the index ▲ points within the proper fit range.

3

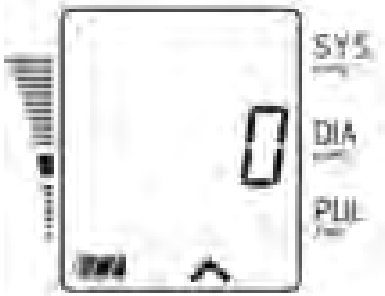
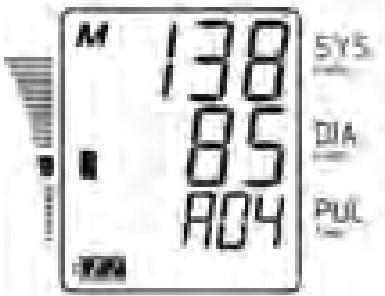


Place the cuff on the arm (preferably the left arm). The cuff must be at the level with the heart.

4



START button



Pres the START button.

The average blood pressures and last data number are displayed briefly. When 0 is flashing and the mark ^ , is displayed the device is ready for measurement.

Note: If the mark v, is displayed , the cuff has air trapped in it. Press the exhaust valve button until the ^ mark is displayed.

5



Pressurize the cuff by squeezing the rubber bulb ^ .

Stop squeezing the bulb when the mark ^ disappears.

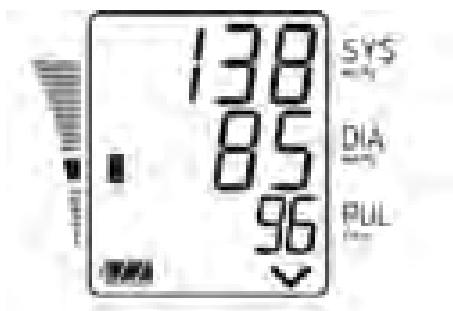
6



The deflation starts automatically. The heart mark ♥ starts blinking, indicating that the measurement is in progress.

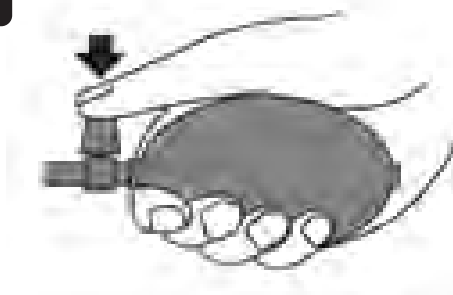
Note: When the measurement is made with insufficient pressure, the ^ mark will be displayed.

7



When the measurement is complete, the buzzer sounds and the ✓ mark is displayed. The systolic and diastolic pressure readings and pulse rate are displayed and stored.

8



Press the exhaust valve button to completely release air from the cuff.

9



Press the START button to turn the power off.

Automatic power-off function: If the device is left on after a measurement, it will turn off automatically after about one minute.



If a subsequent measurement is required, turn off the power and turn it on again. When □ is displayed, the device is ready for another measurement.

How to Take Proper Measurements

For the most accurate blood pressure measurement:

- Sit down in a comfortable position. Place the arm to be used for the measurement on a table or other support so that the center of the cuff will be at the same height as your heart.
- Relax before taking a measurement. If you are excited or depressed by emotional stress, the measurement will reflect this stress as a higher (or lower) than normal blood pressure reading and the pulse reading will usually be faster than normal.
- An individual's blood pressure varies constantly, depending on what you are doing and what you have eaten. What you drink can have a very strong and rapid effect on your blood pressure.
- This device bases its measurements on the heartbeat. If you have a very weak or irregular heartbeat, the device may have difficulty determining your blood pressure.
- Should the device detect a condition that is abnormal, it will stop the measurement and display an error symbol. Refer to page 4 for the description of the symbols.
- This device is intended for use by adults only. Consult with your physician before using this device on a child. A child should not use this device unattended.
- Place the center of the cuff at the same height as your heart.
- Remain still and keep quiet during measurement.
- Do not measure right after physical exercise or a bath. Rest before taking the measurement.
- Try to measure your blood pressure at the same time every day.

CAUTION


- Insert the batteries as shown in the battery compartment. If not, the device will not work.
- When  (LOW BATTERY mark) blinks on the display, replace all batteries with new ones. Do not mix old and new batteries. It may shorten the battery life, or cause the device to malfunction.
-  (LOW BATTERY mark) does not appear when the batteries are drained.
- Battery life varies with the ambient temperature and may be shorter at low temperatures.
- Use the specified batteries only. The batteries provided with the device are for testing monitor performance and may have a limited life.
- Remove the batteries if the device is not to be used for a long time. The batteries may leak and cause a malfunction.
- The stored data are cleared when the batteries are removed.

About Memory

The device automatically stores up to thirty blood pressure and pulse measurements in memory. Data stored in memory are assigned a data number in the order of the newest to the oldest. The oldest data displays as "n01". The M symbol in the upper left corner of the display indicates that you are viewing previous data stored in memory.

Recalling Data

- 1** When nothing is displayed, press and hold the START button to display the data number. The data number of the most recent measurement and the data are displayed.
- 2** The data are automatically displayed in turn.
- 3** The display will shut off automatically after all data is displayed.

 **Note:** If you press the START button while recalling data, the device starts measurement.



Clearing Data

Remove the batteries to clear all data.
Re-install them again.

If there is no data stored in memory, you will see two 0s displayed vertically followed by a blinking "A00".

Selecting The Correct Cuff

Using the correct cuff size is important for an accurate reading. If the cuff is not the proper size, the reading may yield an incorrect blood pressure value.

- The arm size is printed on each cuff.
- The index ▲ and proper fit range, on the cuff, tell you if you are attaching the correct cuff. (Refer to "Attaching The Arm Cuff" below.)
- If the index ▲ points outside of the range, contact your local dealer to purchase a replacement cuff

















Arm Size*	Recommended Cuff Size
32 cm to 45 cm	Large cuff
22 cm to 32 cm	Medium cuff

*Arm size: The circumference at the biceps.

What is an irregular heartbeat

Sendo Economy provides a blood pressure and pulse rate measurement even when an irregular heartbeat occurs. An irregular heartbeat is defined as a heartbeat that varies by 25% from the average of all heartbeats during the blood pressure measurement. It is important that you be relaxed, remain still and do not talk during measurements.

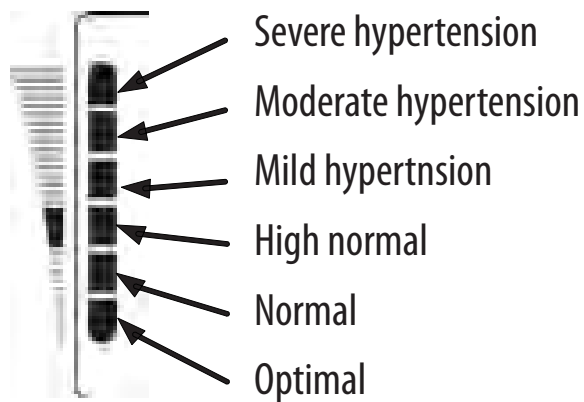
 **Note:** We recommend contacting your physician if you see this  indicator frequently.

Symbols	Function / Meaning	Recommended Action
	Standby and Turn the device on.	
	Battery installation guide	
	Direct current	
SN	Serial number	
	Type BF: Device, cuff and tubing are designed to provide special protection against electrical shocks.	
	The indicator that appears while measurement is in progress. It blinks when the pulse is detected.	Measurement is in progress. Remain as still as possible.
	Irregular Heartbeat indicator. (I.H.B.) <i>The indicator that appears when an irregular heartbeat or any excessive body movement is detected during the measurement.</i>	
M	Previous measurements stored in MEMORY.	
	The battery power indicator during measurement.	
	The battery is low when it blinks.	Replace all batteries with new ones.
Err	Unstable blood pressure due to movement during the measurement.	Try the measurement again. Remain very still during the measurement.
	The systolic and diastolic values are within 10 mmHg of each other.	Fasten the cuff correctly, and try the measurement again.
	The pressure value did not increase during inflation.	
Err CUF	The cuff is not fastened correctly.	
Err	The pulse is not detected correctly.	
SYS.	Systolic blood pressure in mmHg	
DIA.	Diastolic blood pressure in mmHg	
PUL./min.	Pulse per minute	
	EC directive medical device label	
	WEEE label	
	Flashes when there is air remaining in the cuff at power up. Flashes at the completion of the measurement until exhaust is complete.	Press the exhaust valve button to exhaust air from the cuff.
	Flashes when pressure is insufficient for the measurement.	Pump air into the cuff with the rubber bulb.

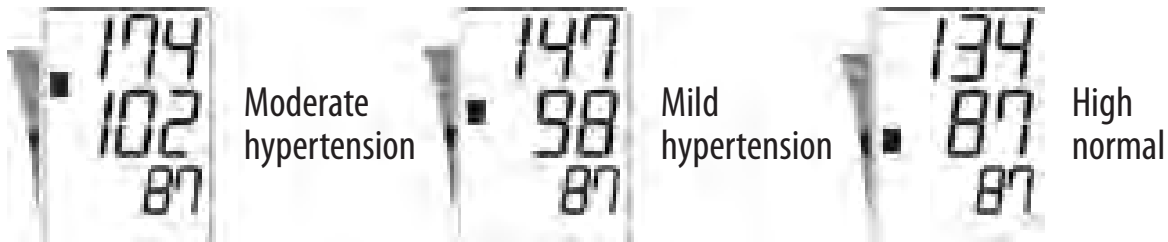
WHO Classification Indicator

Each six segments of the bar indicator correspond to the WHO blood pressure classification described on the next page.

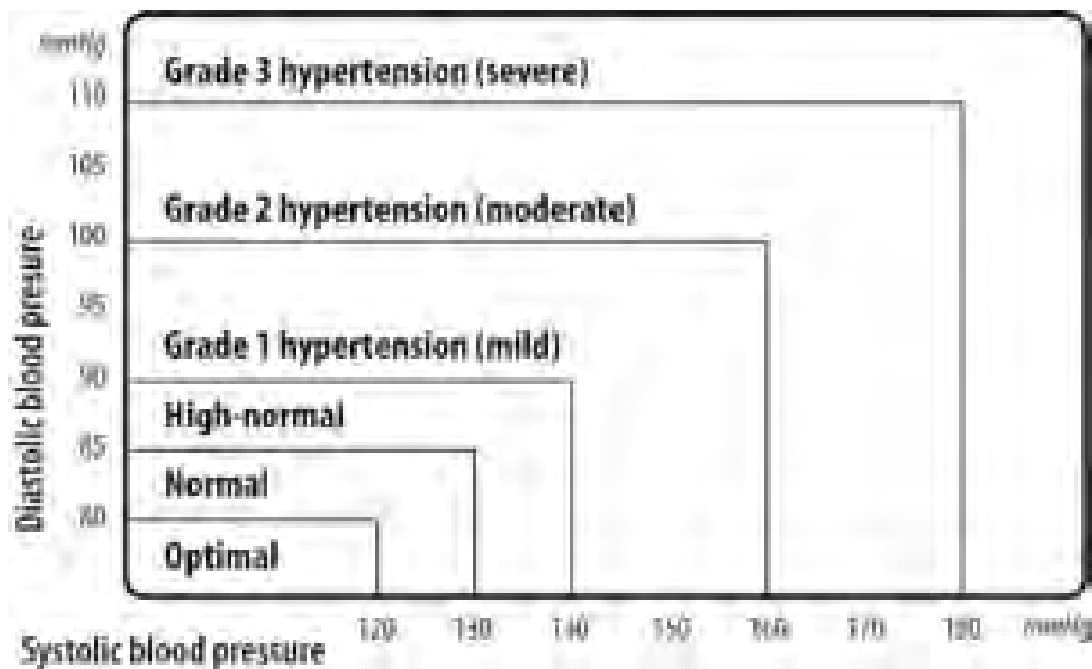
WHO Classification Indicator



Example:



■ The indicator displays a segment, based on the current data, corresponding to the WHO classification.



What Is Blood Pressure?

Blood pressure is the force exerted by blood against the walls of the arteries. Systolic pressure occurs when the heart contracts. Diastolic pressure occurs when the heart expands. Blood pressure is measured in millimeters of mercury (mmHg). One's natural blood pressure is represented by the fundamental pressure, which is measured first thing in the morning while one is still at rest and before eating.

What Is Hypertension And How Is It Controlled?

Hypertension, an abnormally high arterial blood pressure, if left unattended, can cause many health problems including stroke and heart attack. Hypertension can be controlled by altering lifestyle, avoiding stress, and with medication under a doctor's supervision.

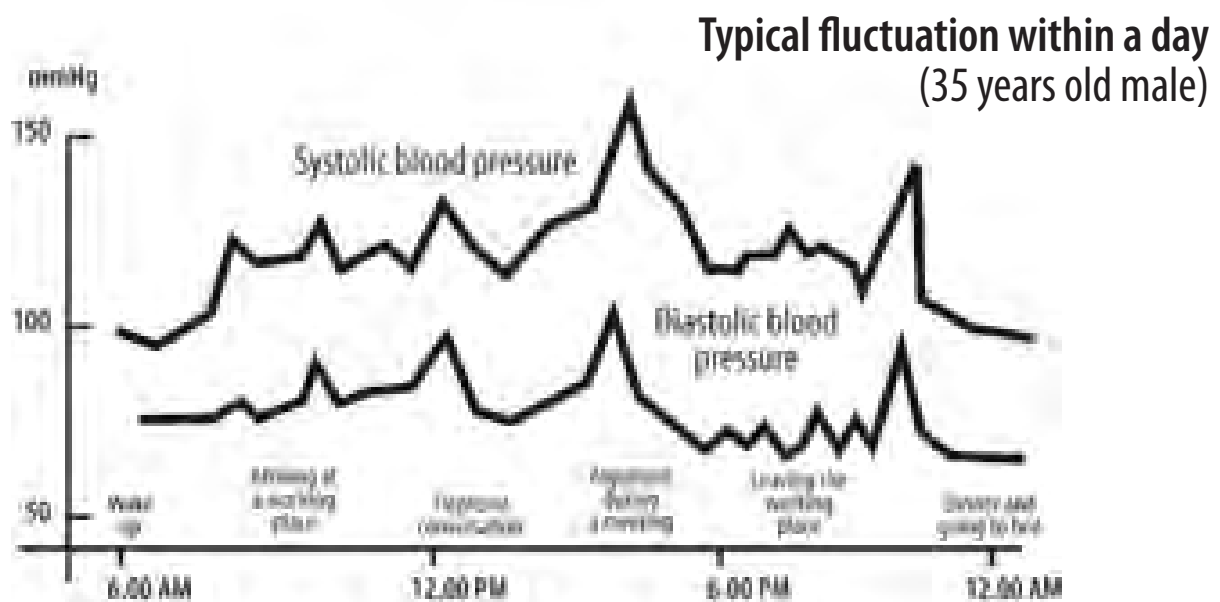
To prevent hypertension or keep it under control:

- Do not smoke
- Exercise regularly
- Reduce salt and fat intake
- Have regular physical checkups
- Maintain proper weight

Blood Pressure Variations

An individual's blood pressure varies greatly on a daily and seasonal basis. It may vary by 30 to 50 mmHg due to various conditions during the day. In hypertensive individuals, variations are even more pronounced. Normally, the blood pressure rises while at work or play and falls to its lowest levels during sleep. So, do not be overly concerned by the results of one measurement.

- Take measurements at the same time every day using the procedure described in this manual to get to know your normal blood pressure.
- Consult your doctor to interpret your blood pressure data.



Troubleshooting

Problem	Possible Reason	Recommended Action
Nothing appears on the display, even when the power is turned on.	Batteries are drained.	Replace all batteries with new ones.
	Battery terminals are not in the correct position.	Reinstall the batteries with negative and positive terminals matching those indicated on the battery compartment.
The device does not measure. Readings are too high or too low.	The cuff is not fastened properly.	Fasten the cuff correctly.
	You moved your arm or body during the measurement.	Make sure you remain very still and quiet during the measurement.
	The cuff position is not correct.	Sit comfortably and still. Raise your hand so that the cuff is at the same level as your heart.
Other	The value is different from that measured at a clinic or doctor's office.	Refer to "Why Measure Blood Pressure At Home"
		Remove the batteries. Place them back properly and try the measurement again.

Maintenance


Do not open the device. It uses delicate electrical components and an intricate air unit that could be damaged. If you cannot fix the problem using the troubleshooting instructions, request service at our hot line.

The device was designed and manufactured for a long service life. However it is generally recommended to have the device inspected every 2 years, to ensure proper functioning and accuracy.



DO NOT TRY TO DISSASSEMBLE AND FIX THE UNIT BY YOURSELF!

Technical Data

Measurement method	Oscillometric measurement
Measurement range	<i>Pressure:</i> 20 - 280 mmHg <i>Pulse:</i> 40 - 180 beats/minute
Measurement accuracy	<i>Pressure:</i> ± 3 mmHg or 2%, whichever is greater <i>Pulse:</i> $\pm 5\%$
Power supply	1 x 1.5V batteries (R6P, LR6 or AA)
Classification	Type BF 
Clinical test	According to ANSI / AAMI SP-10 1987
EMC	IEC 60601-1-2: 2001
Memory	Last 30 measurements
Operating condition	+10°C to +40°C / 30%RH to 85 %RH
Storage condition	-10°C to +60°C / 30%RH to 95 %RH
Dimensions	Approx. 81 mm (width) x 54 mm (height) x 105 (depth) mm
Weight	Approx. 260 g, excluding the batteries

Note: Specifications are subject to change without prior notice.

EMC Table information is listed on our website: www.unicom.com/endo-emc

Guarantee

As long as the instructions are followed your Sendo device should last for long years. In the event your Sendo monitor fails to operate due to manufacturing or materials related defects, we will repair it free of charge for the period of the guarantee. The apparatus have 5 years guarantee for its electrical components. The parts made from rubber and textile, as well as mechanical components have 2 years guarantee. The guarantee does not cover damages caused by improper use. Any claim for damages covered by the guarantee must be accompanied by the purchase receipt (cash register receipt)

The guarantee does not cover damages caused by improper use; damage caused by dust; liquids or stress on the mechanism.

PRECAUTIONS

- Precision components are used in the construction of this device. Extremes in temperature, humidity, direct sunlight, shock or dust should be avoided.
- Clean the device with a soft, dry cloth. Never use thinner, alcohol, benzine, or wet cloth.
- Avoid tightly folding the cuff or storing the hose tightly twisted for long periods, as such treatment may shorten the life of the components.
- The device and cuff are not water resistant. Prevent rain, sweat and water from soiling the device and cuff.
- Measurements may be distorted if the device is used close to televisions, microwave ovens, cellular telephones, X-ray or other devices with strong electrical fields.
- Used, equipment, parts and batteries are not treated as ordinary household waste and must be disposed of according to the applicable local regulations.

A&D Medical, Tokyo, JAPAN

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