INSTRUCTION MANUAL ARM

SMART READ™ Ultra Compact Automatic Digital Blood Pressure Monitor

Model Number 04-208-001

MABIS®
HEALTHCARE INC

IMPORTANT!
Before operating this unit please read these instructions completely.

What is Full Auto Fuzzy?

Fuzzy logic is new technology

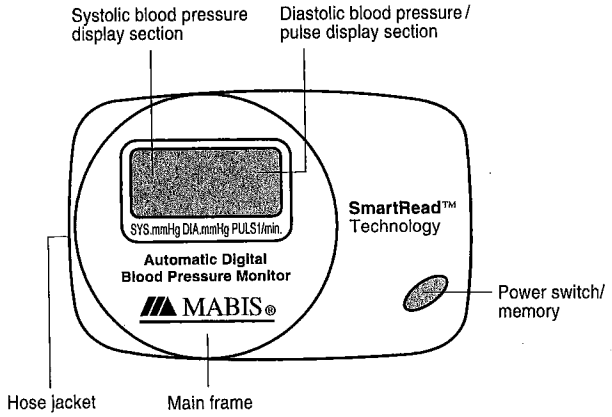
1. To determine the ideal cuff inflation level according to user's systolic blood pressure.
2. To predetermine the appropriate cuff deflation level micro computer predicts very small deflation, regardless of the conditions for applying arm cuff and arm size.

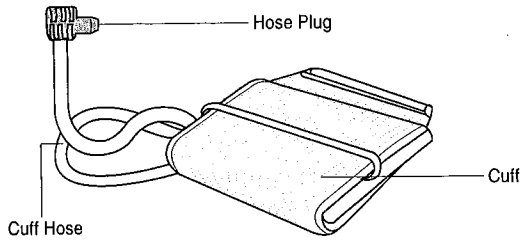
Important Information before Use

1. Blood pressure measurements should be interpreted by a physician or trained health professional who is familiar with your medical history. By using the device regularly, and recording the results for your physician to interpret, you keep your physician informed of the continuing trends in your blood pressure.
2. Attach the arm cuff at the proper position of the arm as high as the level of the heart.
3. Do not vibrate the unit during measurement, or proper measurement will not be achieved.
4. Perform measurement quietly in a relaxed posture.
5. Do not wind the arm cuff over jacket or sweater sleeve, or measurement cannot be done. Also, if the upper arm is squeezed by the rolled up shirt sleeve, proper measurement results will not be obtained.
6. Blood pressure naturally varies from time to time throughout the day and also is affected by many different factors such as smoking, alcohol consumption, medication and physical activity.
7. Although such cases are rare, for subjects having an extremely weak pulse or irregular pulse, errors may result which prevent proper measurement. If such abnormal variations are noticed, consult your physician or the sales representative from which you purchased this unit.
8. This device is intended for adult use. Please consult your physician should you wish to use the device on children.

"Blood pressure measurement determined with this device 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"

Parts Identification

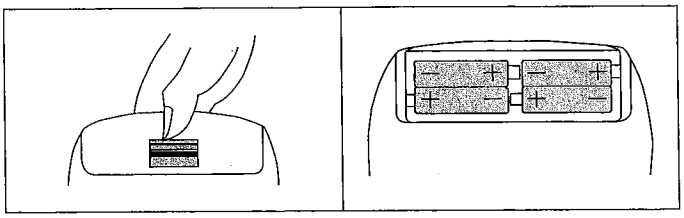




Preparation for Measurements

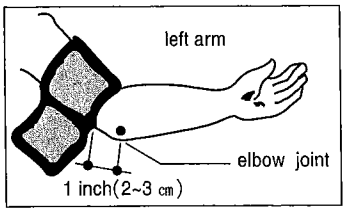
1. Battery Installation

Remove the battery cover and insert batteries into the battery compartment as shown, taking extreme care that the polarities + and - are observed.

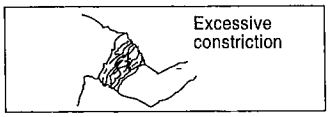


2. Attaching the Arm Cuff

Wind the arm cuff around the left upper arm tightly so that the bottom edge of the cuff is positioned one inch above the elbow joint.



- Don't roll up a shirt or jacket. It may cause constriction of the upper arm and proper measurement results will not be obtained.



3. Measuring Posture

Remain in a seated or reclining posture.
Do not move your arm while measuring.

Description of Display Marks

Display mark	Condition/Cause	Corrective action
♥ **Measurement in progress**	○ Mark appears in the measurement condition and flashes when pulse is detected.	Measurement in progress-remain quiet.
▼ **Exhaust**	○ Mark flashes when power is applied and there is air remaining in the cuff.	Automatic exhaust is performed.
▲ **Insufficient pressure**	○ Measurement is begun but the pressure was insufficient.	Automatic re-pressurization is performed.
Replace batteries	○ Appears when the battery voltage is excessively low.	Replace all four batteries with new ones.
Err **Measurement error**	○ Appears when the accurate blood pressure could not be obtained accurately.	Reapply the cuff properly and remeasure.
PUL Err **Pulse error**	○ Appears when the accurate pulse rate could not be obtained accurately.	

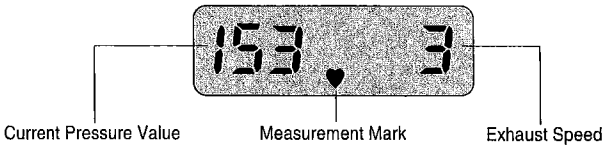
How to Measure

1. Attach the arm cuff to the left arm.
2. Turn Power ON
- When Power is turned ON, all display marks appear for approximately 1 second.
- When the " 0 " is displayed the unit is ready for measurement. If the " ▼ " mark appears, release air in the arm cuff.

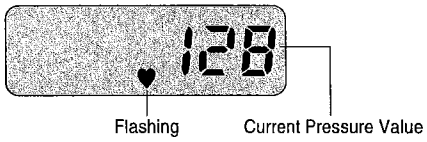
3. Auto Pressurization
- In 1 second, the arm cuff pressurizes after the " 0 " displayed on the display window.
- The inflation level is set-up automatically according to personal Blood Pressure.
- When the Power Switch is subsequently pressed during pressurization, the unit is Power off.

4. When pressurization is completed, the "♥"mark will appear indicating that measurement is in progress.
* Constant-Speed deflation
- The Pressure reducing function starts by opening the solenoid valve for a short time. After the pressure is reduced and pulse pressure is detected, pressure reduction is synchronized with the patient's pulse cycle and deflation is done.

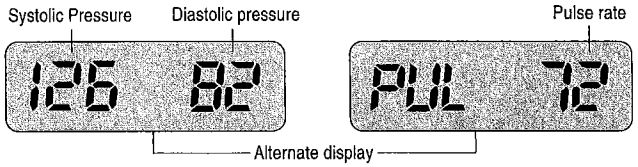
① Pressure value appears on the left,and exhaust speed on the right side of the display.



② When a pulse is detected, the pressure value moves to the right side of the display. At this time the " ♥ " mark flashes at the same rate as pulse rate, and the buzzer sounds when the pulsation is sufficient.



③ When the measurement is completed and buzzer sounds (beep), Systolic pressure is displayed on the left and diastolic pressure on the right side of the display. 2-3 seconds later, pressure value and pulse appear alternately on the display.



- If insufficient pressure is obtained, automatic re-pressurization is performed.

5. Turn power OFF
Press the power switch to turn Power off.

6. Previous Measurement Display
After the measurement is completed. Press and hold the Power Switch and wait until the previous measurement value is shown in the display window.

7. Automatic Power OFF Function
If this unit is left on after measurement an automatic Power-OFF function turns the Power OFF after approximately 1 min. To continue measurement press the power switch turning the unit on.

More about Blood Pressure Measurements

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 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 afternoon to evening. It is lower in the summer and higher in the winter.

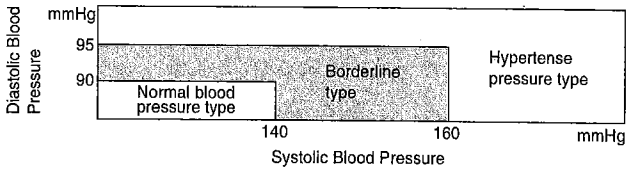
Why is it a Good Thing to Measure Blood Pressure at Home?

Having one's blood pressure measured by a doctor in a hospital or a clinic, and group health checks, tend to stimulate nervousness in the subject and may even create high blood pressure. Also blood pressure varies in accordance with a variety of conditions, and so judgement 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.

WHO Blood Pressure Classifications

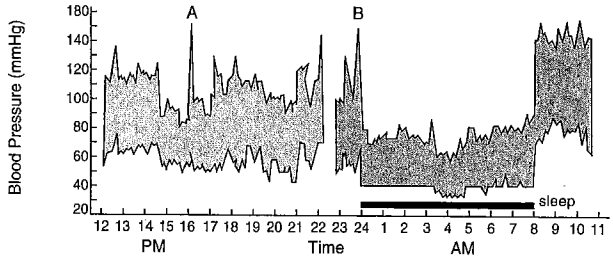
Standards for assessment of high or low blood pressure, without regard to age, have been established by the World Health Organization (WHO), as shown in the chart.



Reference Material : Investigation into Adult Diseases Report by the Ministry of Health and Social Security, 1971

Variations in Blood Pressure

Individual blood pressures vary greatly both on a daily and a seasonal basis. These variations are even more pronounced in hypertense patients. Normally the blood pressure rises while at work and is at its lowest during the sleeping period. The graph below illustrates the variations in blood pressure over a whole day with measurement taken every five minutes.



Shown is data for measurements taken every 5 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 and sexual intercourse. (Beven, Honour & Stott : Clin. Sci. 36 : 329, 1969)

Specifications

Name and model number	Automatic Digital Blood Pressure Monitor 04-208-001
Display system	Digital display system/LCD 6 digits
Measuring method	Oscillometric Method
Power source	Size "AA" Alkaline Batteries 1.5V x 4 AC Adaptor 110/220V DC 6V, 500mA
Measuring range	20~280 mmHg (Pressure) 40~200 Pulses/minute (Pulse)
Accuracy	±3 mmHg or 2% whichever greater(Pressure) ±5%(Pulse)
Pressurization	Automatic pressurization using a micropump
Rapid air release	Solenoid valve
Deflation	Solenoid valve, Constant air release
Memory	Built-in memory enabling display of the previously measured value and current measurements.
Automatic Power OFF	To be automatically cut off after 1 minute of non use to save energy.
Automatic repressurization	To be automatically repressurized when the cuff pressure is insufficient
Fuzzy Logic system	The optimum inflation level function and Constant-speed deflation function
Battery life	Approx. 2 months with 3 min. usage per day
Operating environment	+10℃~+40℃, less than 85% RH
Storage environment	- 10℃~+60℃, less than 85% RH
Dimensions	128(W) x 78(D) x 45(H)/mm
Weight	Approx. 350g (including 4 batteries)

Limited One Year Warranty

Congratulations on your purchase of a Mabis Digital Blood Monitor. Your unit is guaranteed to be free of manufacturing defects for one year from the date of purchase. This warranty applies to the original retail purchaser of the unit and is subject to the following terms and conditions :

1. Units in need of repair during the warranty period should be sent prepaid along with $5.00 for return shipping and insurance to :

MABIS HEALTHCARE, INC.
ATTN : REPAIR DEPARTMENT
1931 Norman Drive
Waukegan, IL 60085

Please include a description of the problem; your name, address and daytime phone number.

2. This warranty is limited to the console unit only. It does not include the inflation system (bulb, valve, cuff and inflation bag) or batteries. During the term of the warranty, Mabis Healthcare will repair or replace (at their option) any unit found to be defective due to materials or workmanship. This does not include units that have been misused or abused.
   This warranty does not include the cost of replacing any broken parts.

3. Mabis Healthcare shall incur no liability under this Warranty for any damage from any cause other than inherent manufacturing defects.

4. ALL IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY AND FITNESS ARE LIMITED TO THE DURATION OF THIS WARRANTY. THIS WARRANTY DOES NOT INCLUDE ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

5. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

6. As a condition of this warranty, the enclosed warranty registration card must be completed and sent to us within 10 days of the purchase date.

MABIS HEALTHCARE INC

MABIS HEALTHCARE

1931 Norman Drive
Waukegan, IL 60085

Ph. (847) 680-6811
Fax (847) 680-9646

Toll-Free
Ph. (800) 728-6811
Fax (800) 747-9646