

AND

Digital Blood Pressure Monitor

Model UA-704

Instruction Manual
Original

ENGLISH

Manuel d'instructions
Traduction

FRANÇAIS

Manual de Instrucciones
Traducción

ESPAÑOL

Manuale di Istruzioni
Traduzione

ITALIANO

使用手冊
翻譯

中文

1WMPD4000735E

Contents

Dear Customers	1
Preliminary Remarks	1
Precautions	2
Parts Identification	3
Symbols	4
Using The Monitor	5
Installing / Changing The Battery	5
Selecting The Correct Cuff	6
Applying The Arm Cuff	7
How To Take Proper Measurements	7
Measurement	7
After Measurement	7
Measurement	8
Notes For Proper Measurement	9
What Is An Irregular Heartbeat?	10
About Blood Pressure	10
What Is Blood Pressure?	10
What Is Hypertension And How Is It Controlled?	10
Why Measure Blood Pressure At Home?	11
WHO Blood Pressure Classification	11
Blood Pressure Variations	11
Troubleshooting	12
Maintenance	12
Technical Data	13

Dear Customers

Congratulations on purchasing a state-of-the-art A&D blood pressure monitor, one of the most advanced monitors available today. Designed for ease of use and accuracy, this device will facilitate your daily blood pressure regimen.

We recommend that you read through this manual carefully before using the device for the first time.

Preliminary Remarks

- This device conforms to the European Directive 93/42 EEC for Medical Products. This is made evident by the **CE**₀₁₂₃ mark of conformity. (0123: The reference number to the involved notified body)
- The device is designed for use on adults only, not newborns or infants.
- Environment for use: The device is for use in the home healthcare environment.
- This device is designed to measure blood pressure and pulse rate of people for diagnosis.

Precautions

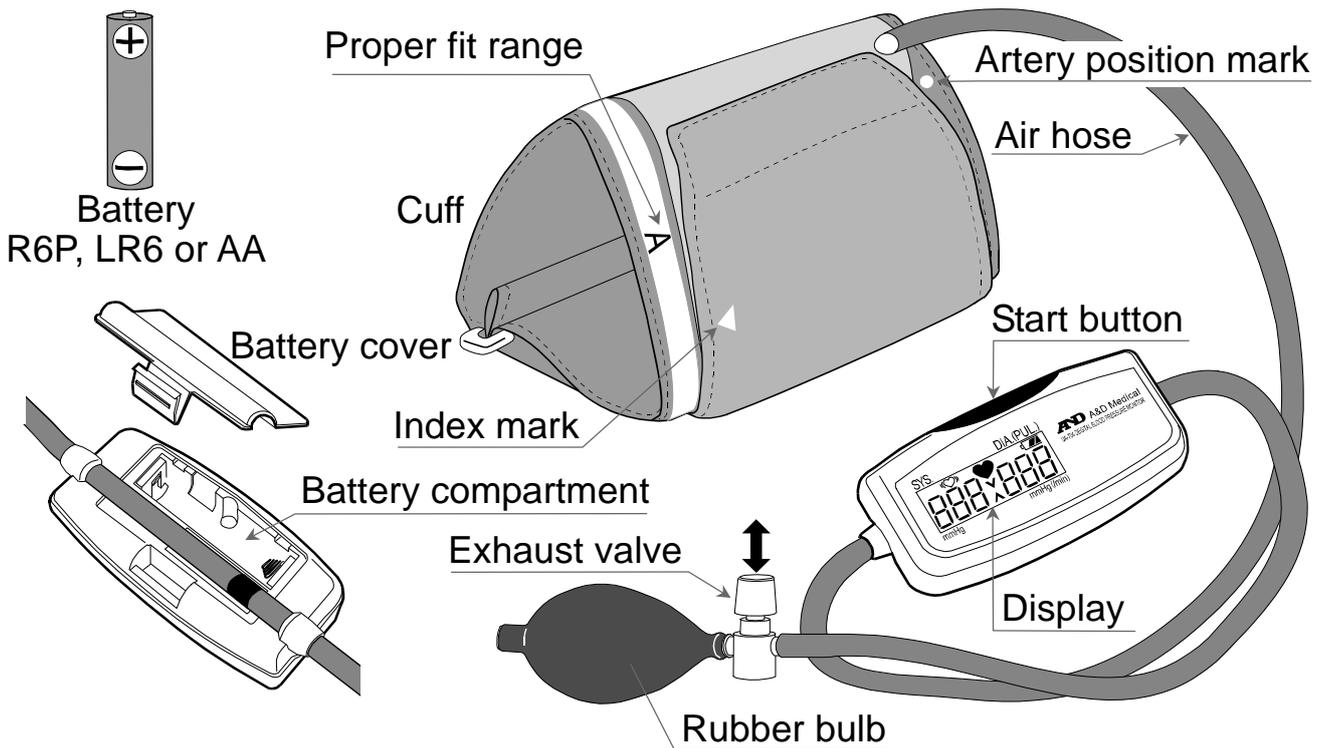
- Precision components are used in the construction of this device. Extremes in temperature, humidity, direct sunlight, shock or dust should be avoided.
- Clean the device and cuff with a dry, soft cloth or a cloth dampened with water and a neutral detergent. Never use alcohol, benzene, thinner or other harsh chemicals to clean the device or cuff.
- 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 television, microwave oven, cellular telephone, X-ray or other devices with strong electrical fields.
- Used equipment, parts and battery are not treated as ordinary household waste, and must be disposed of according to the applicable local regulations.
- When reusing the device, confirm that the device is clean.
- Do not modify the device. It may cause accidents or damage to the device.
- To measure blood pressure, the arm must be squeezed by the cuff hard enough to temporarily stop blood flow through the artery. This may cause pain, numbness or a temporary red mark to the arm. This condition will appear especially when measurement is repeated successively. Any pain, numbness, or red marks will disappear with time.

Contraindications

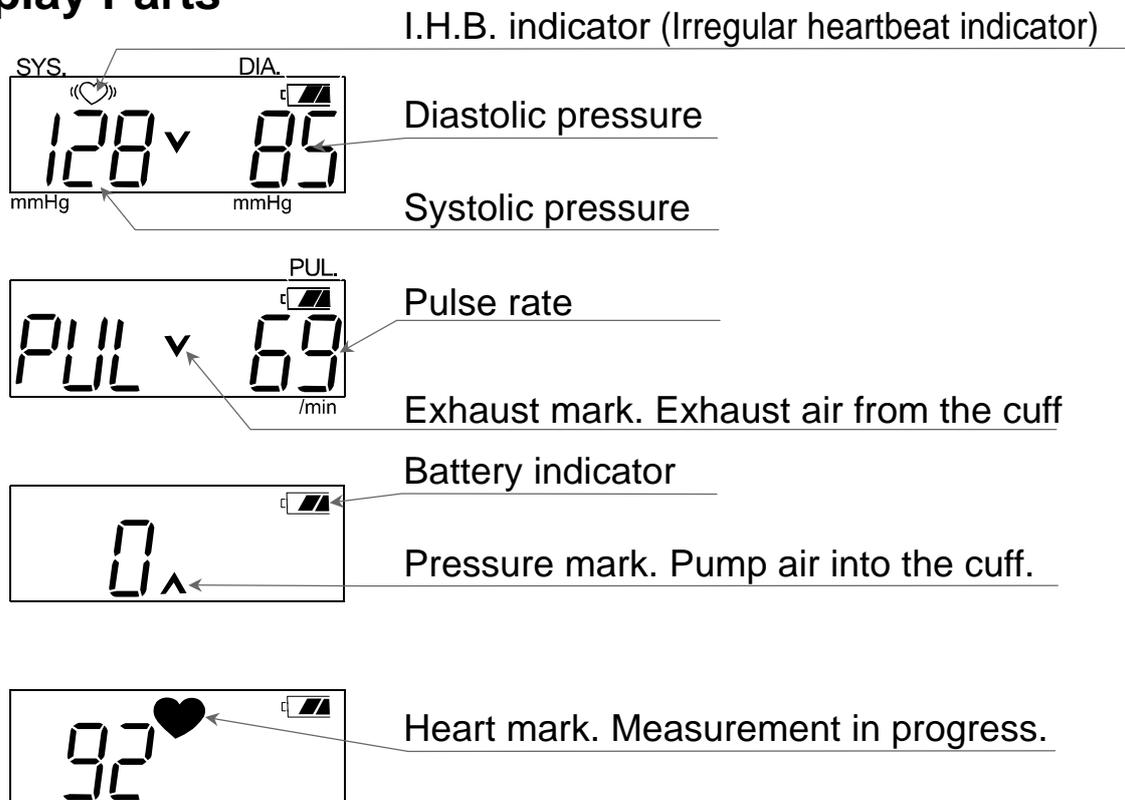
The following are precautions for proper use of the device.

- Do not apply the cuff on an arm with another medical electrical equipment attached. The equipment may not function properly.
- People who have a severe circulatory deficit in the arm must consult a doctor before using the device, to avoid medical problems.
- Do not self-diagnose the measurement results and start treatment by yourself. Always consult your doctor for evaluation of the results and treatment.
- Do not apply the cuff on an arm with an unhealed wound.
- Do not apply the cuff on an arm receiving an intravenous drip or blood transfusion. It may cause injury or accidents.
- Do not use the device where flammable gases such as anesthetic gases are present. It may cause an explosion.
- Do not use the device in highly concentrated oxygen environments, such as a high-pressure oxygen chamber or an oxygen tent. It may cause a fire or explosion.

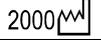
Parts Identification



Display Parts



Symbols

Symbols	Function / Meaning	Recommended Action
	Turns the device on and off.	_____
	Guide to install battery	_____
	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 flashes when the pulse is detected.	Measurement is in progress -- remain still.
	Irregular Heartbeat indicator. (I.H.B.) The indicator that appears when an irregular heartbeat or any excessive body movement is detected during the measurement.	_____
	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 the pressure is not enough for the measurement.	Pump air into the cuff with the rubber bulb.
 Full Battery	The battery power indicator during measurement.	_____
 low Battery	The battery is low when it blinks.	Replace the battery with a new one, when the indicator blinks.
<i>Err</i>	Unstable blood pressure due to movement during the measurement.	Try the measuring again. Remain very still during the measurement.
	The systolic and diastolic values are within 10 mmHg of each other.	
	The pressure value did not increase during inflation.	Fasten the cuff correctly, and try the measurement again.
<i>Err CUF</i>	The cuff is not fastened correctly.	
<i>PUL Err</i>	The pulse is not detected correctly.	
 0123	EC directive medical device label	_____
	EU-representative	_____
	Manufacturer	_____
	Date of manufacture	_____
	WEEE label	_____
	Refer to instruction manual/booklet	_____
SN	Serial number	_____

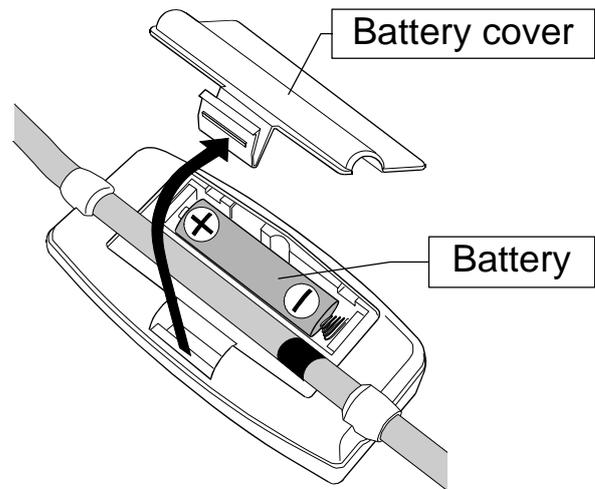
Using The Monitor

Installing / Changing The Battery

1. Remove the battery cover.
2. Insert a new battery into the battery compartment as shown, taking care that the polarities (+) and (-) are correct.

Use only R6P, LR6, AA or equivalent battery.

3. Close the battery cover.



CAUTION

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

Using The Monitor

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 applying the correct cuff. (Refer to "**Applying The Arm Cuff**" on next page)
- If the index ▲ points outside of the range, contact your local dealer to purchase a replacement cuff.
- The arm cuff is a consumable. If it becomes worn, purchase a new one.

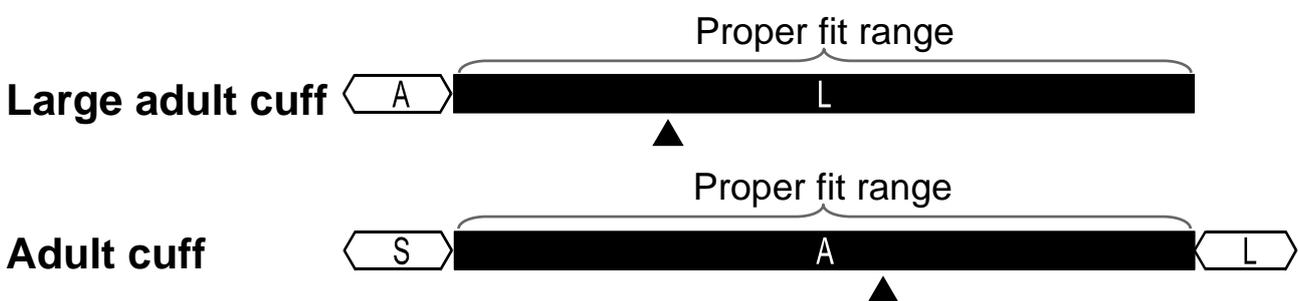
Arm Size	Recommended Cuff Size	Catalog Number
32 cm to 45 cm	Large adult cuff	CUF-D-LA
22 cm to 32 cm	Adult cuff	CUF-D-A

Arm size: The circumference at the biceps.

Note: Model UA-704 is not designed for using a small cuff.

Symbols printed on the cuff.

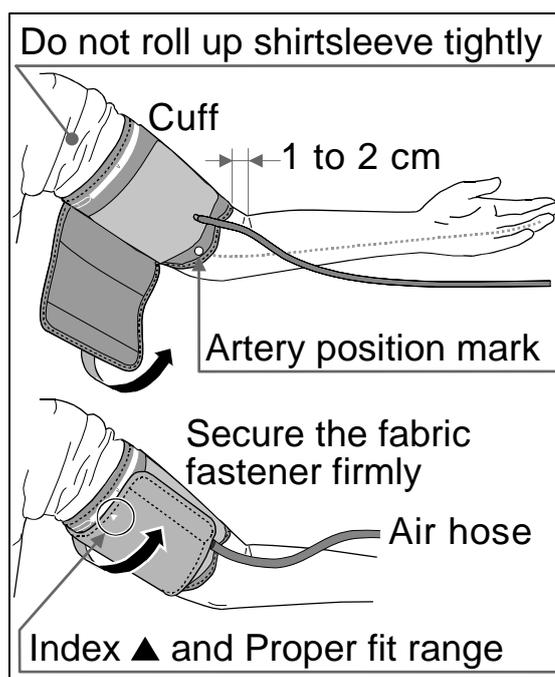
Symbols	Function / Meaning	Recommended Action
●	Artery position mark	Set the ● mark on the artery of the upper arm or in line with the ring finger on the inside of the arm.
▲	Index	_____
REF	Catalog number	_____
A	Proper fit range for the adult cuff. It's printed on the adult cuff.	_____
L	Range to use the large adult cuff. Over range printed on the adult cuff.	Use the large adult cuff instead of the adult cuff.
L	Proper fit range for the large adult cuff. It's printed on the Large adult cuff.	_____
S	Under range printed on the adult cuff.	_____
A	Range to use the adult cuff. It's printed on the large adult cuff.	Use the adult cuff instead of the large adult cuff.
LOT	Lot number	_____



Using The Monitor

Applying The Arm Cuff

1. Wrap the cuff around the upper arm, about 1 to 2 cm above the inside of the elbow, as shown. Place the cuff directly against the skin, as clothing may cause a faint pulse and result in a measurement error.
2. Constriction of the upper arm, caused by rolling up a shirtsleeve, may prevent accurate readings.
3. Confirm that the index ▲ points within the proper fit range.



How To Take Proper Measurements

For the most accurate blood pressure measurement:

- Sit comfortably on a chair. Rest your arm on the table. Do not cross your legs. Keep your feet on the floor and straighten your back.
- Relax for about five to ten minutes before measurement.
- Place the center of the cuff at the same height as your heart.
- Remain still and keep quiet during measurement.
- Do not measure immediately after physical exercise or a bath. Rest for twenty or thirty minutes before taking the measurement.
- Try to measure your blood pressure at the same time every day.

Measurement

During measurement, it is normal for the cuff to feel very tight. Measure your blood pressure according to the section "Measurement".

After Measurement

Press the exhaust valve to exhaust air from the cuff. Press the **START** button to turn off the power after the measurement. Remove the cuff and record your data.

Note: The device has an automatic power shut-off function, which turns off the power automatically one minute after measurement. Allow at least three minutes between measurements on the same person.

Measurement

1. Place the cuff on the arm (preferably the left arm).

2. Press the **START** button.

- When the **START** button is pressed, all of the display symbols will display for about one second.
- When the "0" is flashing, the device is ready for measurement. If the **∇** mark is displayed, the cuff has some air trapped in it. Press the exhaust valve button until the **∧** mark is displayed.

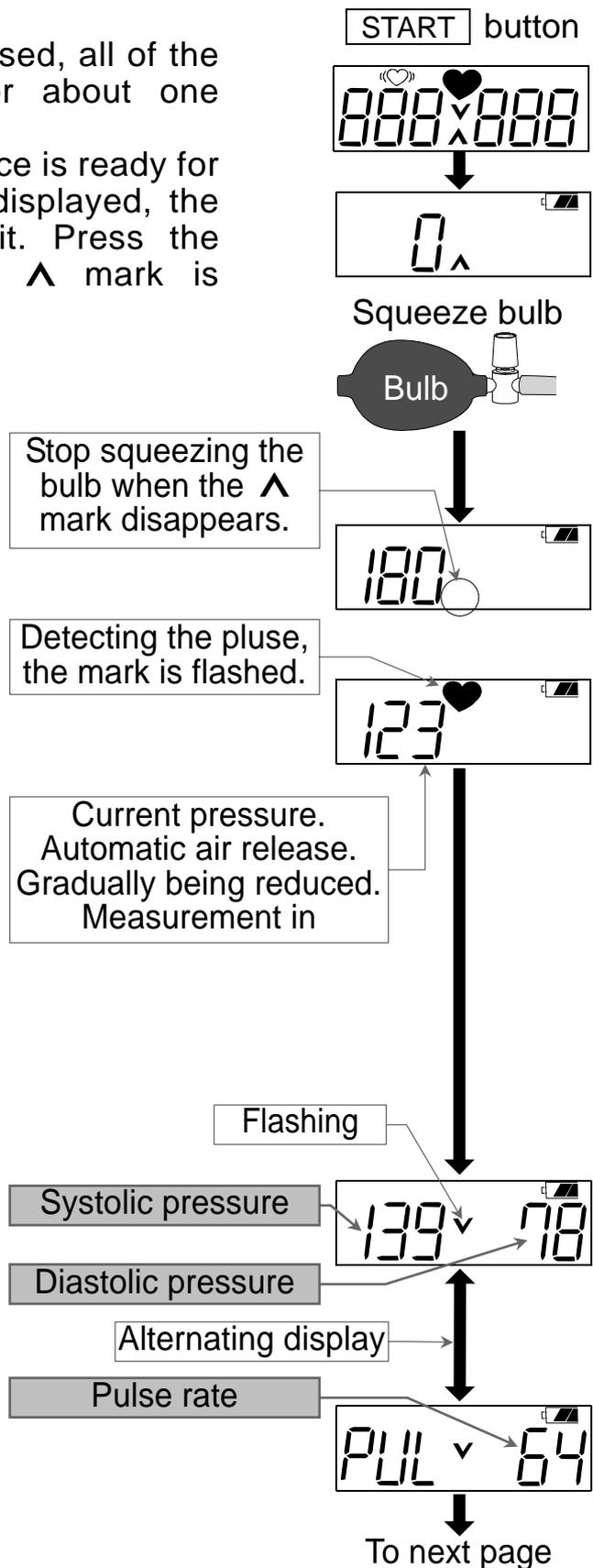
3. Pressurize the cuff by squeezing the rubber bulb.

- The figure on the left of the display shows the current pressure as you inflate the cuff.
- Stop squeezing the rubber bulb when the **∧** mark disappears.

4. When pressurization is completed, the automatic exhaust mechanism will gradually reduce the pressure in the cuff and the **♥** mark will display along with the current pressure reading on the left.

- Remain still during the measurement. When a pulse is detected, the **♥** mark will flash in unison with the pulse of the person being monitored.

5. When the measurement is complete, the **∇** mark is displayed. The systolic pressure is displayed on the left. The diastolic is displayed on the right. The pulse rate alternates with the systolic and diastolic displays.



Measurement

6. Press the exhaust valve button to completely release air from the cuff.
 - When a measurement is made with insufficient pressure, the \wedge mark will be displayed. Re-pressurize the cuff to a pressure. Stop squeezing the rubber bulb when the \wedge mark disappears.
 - When a measurement is made with an erratic pulse or in a very noisy environment, *Err* will display.

7. Turning the power off

Press the **START** button to turn the power off. The device will be in standby mode.

8. Subsequent measurements

If a subsequent measurement is required, turn off the power and turn it on again. When "0 " is displayed, the device is ready for another measurement.

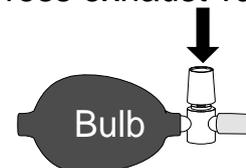
Note: Allow at least three minutes between measurements on the same person.

9. Automatic power-off function

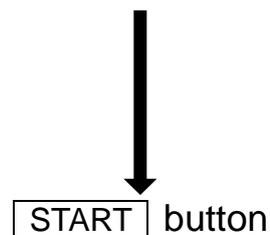
If the device is left on after a measurement, it will turn off automatically after about one minute. It may be turned off at any time by pressing the **START** button.

From previous page

Press exhaust valve



Releasing air from the cuff



Notes For Proper 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 for about five or ten minutes 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.
- Your 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.

Measurement

- 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 descriptions of the symbols.
- This blood pressure 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.

What Is An Irregular Heartbeat?

Model UA-704 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 are relaxed, remain still and do not talk during measurements.

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

About Blood Pressure

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 to keep it under control:

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

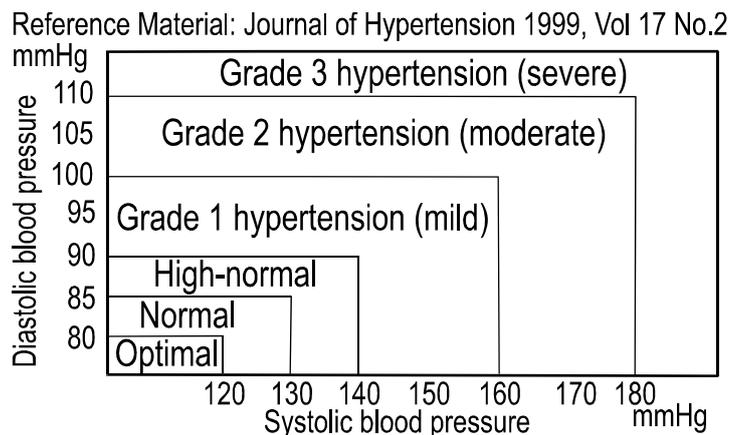
About Blood Pressure

Why Measure Blood Pressure At Home?

Blood pressure measured at a clinic or doctor's office may cause apprehension and can produce an elevated reading, 25 to 30 mmHg higher than that measured at home. Home measurement reduces the effects of outside influences on blood pressure readings, supplements the doctor's readings and provides a more accurate, complete blood pressure history.

WHO Blood Pressure Classification

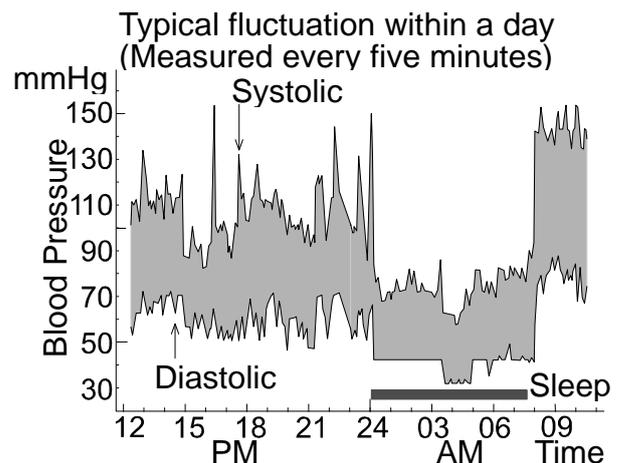
Standards to assess high blood pressure, without regard to age, have been established by the World Health Organization (WHO), as shown in the chart at the right.



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 individual 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. Regular readings give a more comprehensive blood pressure history. Be sure to note date and time when recording your blood pressure. Consult your doctor to interpret your blood pressure data.



Troubleshooting

Problem	Possible Reason	Recommended Action
Nothing appears in the display, even when the power is turned on.	Battery is drained.	Replace with a new battery.
	Battery polarities are not in the correct position.	Reinstall the battery with their negative and positive end matching those indicated in the battery compartment.
The unit 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. Ensure that the cuff is at the same level as the heart.
	_____	If you have a very weak or irregular heart beat, the device may have difficulty in determining your blood pressure.
Other	The value is different from that measured at a clinic or doctor's office.	See "Why measure blood pressure at home?".
	_____	Remove the battery. Place it back properly and try the measurement again.

Note: If the actions described above do not solve the problem, contact the dealer.

Do not attempt to open or repair this product, as any attempt to do so will make your warranty invalid.

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 from your dealer or from the A&D service group. The A&D service group will provide technical information, spare parts and units to authorized dealers.

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. Please contact either your authorized dealer or A&D for maintenance.

Technical Data

Type	UA-704
Measurement method	Oscillometric measurement
Measurement range	Pressure: 20 – 280 mmHg Pulse: 40 – 200 beats / minute
Measurement accuracy	Pressure: ± 3 mmHg Pulse : $\pm 5\%$
Power supply	1 x 1.5V battery (R6P, LR6, or AA)
Number of measurements	Approximately 4000 measurements, when AA Alkaline batteries are used, with pressure value of 180 mmHg at room temperature of 23 °C.
Classification	Internally powered EM equipment Continuous operation mode
Clinical test	According to ANSI / AAMI SP-10 1987
EMC	IEC 60601-1-2: 2007
Operating conditions	+10 °C to +40 °C / 15%RH to 85 %RH 800 hPa to 1060 hPa
Transport / Storage conditions	-10 °C to +60 °C / 15%RH to 85 %RH
Dimensions	Approx. 100 [W] x 31 [H] x 51 [D] mm
Weight	Approx. 73 g, excluding battery
Applied part	Cuff Type BF 
Useful life	Device: 5 years (when used six times a day) Cuff: 2 years (when used six times a day)

Accessories sold separately

Cuff	Catalog Number	Cuff Size	Arm Size
	CUF-D-LA	Large adult cuff	32 cm to 45 cm
	CUF-D-A	Adult cuff	22 cm to 32 cm

Arm size: The circumference at the biceps.

Note: Specifications are subject to change without prior notice.

EMC table information is listed on our website:

http://www.aandd.jp/products/manual/medical/emc_en.pdf



A&D Company, Limited

Asahi 1-243, Kitamoto-shi, Saitama 364-8585, JAPAN
Telephone: [81] (48) 593-1111 Fax: [81] (48) 593-1119

EC REP A&D INSTRUMENTS LIMITED

Unit 24/26 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire
OX14 1DY United Kingdom
Telephone: [44] (1235) 550420 Fax: [44] (1235) 550485

A&D ENGINEERING, INC.

1756 Automation Parkway, San Jose, California 95131, U.S.A.
Telephone: [1] (408) 263-5333 Fax: [1] (408) 263-0119

A&D AUSTRALASIA PTY LTD

32 Dew Street, Thebarton, South Australia 5031, AUSTRALIA
Telephone: [61] (8) 8301-8100 Fax: [61] (8) 8352-7409