



Upper arm blood pressure monitor

FAULT REPORT CARD

Name _____

Address _____

Email _____

Daytime Tel No _____

Model Number MD 12450 / MSN 5003 5417

Fault Description _____

11/10



Upper arm blood pressure monitor

In order to deal with your enquiry as quickly and efficiently as possible, we ask you to contact our service hotline on the number detailed below.

UK IRELAND HELPLINE NO 0871 37 61 020

(Costs 7 p/min from a BT landline;
mobile costs may be higher)

REP. IRELAND HELPLINE NO 1 800 992 508

(free phone)

To contact us by email please visit the "Service and Support" section of our website at www.medion.co.uk

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Dorcan
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Wiltshire, UK



Upper arm blood pressure monitor

User's Guide



After Sales Support

Now you have purchased a Health+® product you can rest assured in the knowledge that as well as your 3 years parts and labour warranty you have the added peace of mind of dedicated helplines and web support:

AFTER SALES SUPPORT

UK/N.IRELAND HELPLINE NO 0871 37 61 020
costs 7p/min from a BT landline,
mobile costs may be higher
REP IRELAND HELPLINE NO 1-800-992 508
free phone
WEB SUPPORT www.medion.co.uk

MODEL NUMBER: MD 12450

CE 0197

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Introduction

Congratulations on choosing to buy a health+ product. By doing so you now have the assurance and peace of mind that comes with purchasing a product made by one of Europe's leading manufacturers.

All products brought to you by health+ are manufactured to the highest standards of performance and safety, and, as part of our philosophy of customer service and satisfaction, are backed by our comprehensive 3 Year Warranty.

Please fill in and return the Warranty Card to the address provided.

We hope you will enjoy using your purchase for many years to come.

Please read these instructions carefully before using the appliance. Note the warnings on the appliance and in the operating instructions

Always keep the operating instructions close to hand. If you sell the appliance or give it away, make sure you also hand over these instructions and the guarantee slip.

This product is not intended for use by people (including children) with reduced physical, sensory or mental abilities or for those without experience and/or knowledge, unless they are supervised by a person responsible for their safety or they have been instructed on its use. Children should be supervised to ensure they do not play with this unit.

Proper use

The appliance is used to measure blood pressure at the upper arm. It can store 30 measurement values in each of its two memories. It is suitable for comparative measurements in healthy adults. This device is intended for use in dry, indoor areas only. The device is only intended for private use and not for industrial or commercial use. Use under extreme environmental conditions may result in damage to the device.

If the values obtained give you cause to be concerned about your health, take medical advice. Do not take any treatment or medication as a result of the values unless you have discussed this with your doctor! Do not change any treatments or dosage of medication!

The manufacturer is not liable for damages that are caused by improper use or operation.

Improper use

Do not use the appliance for medical diagnosis. It cannot replace medical intervention.

Basic safety instructions

Avoiding danger of suffocation

- Do not allow children or persons with reduced physical or mental abilities to use the device unsupervised.
- Do not let children play with plastic wrapping or other packaging parts.
- Keep plastic wrapping and other packaging parts out of the reach of children.

Preventing fire hazards

- Do not place any open sources of fire, e.g. burning candles, on the appliance.
- Do not expose the appliance to rain or other moisture.

Avoiding danger of poisoning

- Batteries may contain poisonous substances. Keep batteries out of the reach of children. There is a risk that children could swallow batteries.

Avoiding danger of injury

- Do not allow children or persons with reduced physical or mental abilities to use the device unsupervised.

Avoiding damage

- Clean the appliance regularly.
- Do not use hard objects when cleaning.
- Always have repairs and maintenance work carried out by qualified professionals.
- Avoid the following conditions:
 - Extreme temperature fluctuations
 - Damp (including dripping water and splashes)
 - Direct sunlight
 - Vibrations
 - Dust

Danger of disruption from electrical fields

Measurements may be inaccurate in the proximity of strong electrical fields. Do not take any measurements near:

- High voltage power lines
- Microwave appliances
- TV sets
- Mobile telephones

Information on using batteries

- Incorrect use of batteries may result in explosion! Only use 1.5V batteries of type R6/LR6/AA.
- Never throw batteries into a fire.
- Never short-circuit the batteries.
- Never re-charge the batteries.
- Battery acid from leaking empty batteries may cause burns!
- If the device is not going to be used for long periods, remove the batteries.
- Clean the contacts with a soft dry cloth before inserting a new battery.
- Keep batteries away from children. Seek medical attention immediately if a battery is swallowed.

- Before inserting the batteries, check whether the contacts in the device and on the batteries are clean. Clean the contacts if necessary.
- Ensure that polarity is correct when inserting the batteries.
- Replace all the old batteries in an appliance with new batteries of the same type.

Blood pressure and measuring blood pressure

Nowadays, excessively high blood pressure is one of the main causes of death. Many people are unaware that their blood pressure is too high.

What is blood pressure?

Blood pressure is a measurement of the force that the heart has to exert to pump the blood through the circulatory system and vital organs in the body. The higher the blood pressure, the harder the heart has to work.

Normal and high blood pressure

With every heartbeat, blood pressure fluctuates between a maximum value (systolic), when the heart pumps blood into the circulatory system and a minimum value (diastolic) when the heart fills up with blood again. Blood pressure is the average of these values.

Blood pressure may be higher than usual if parts of the circulatory system are restricted, diseased or abnormal in other ways. High blood pressure can cause damage to vital organs including the brain and heart.

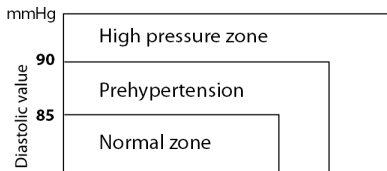
Measuring blood pressure

Everybody's blood pressure changes constantly. Fluctuations may be caused by mental and physical factors (such as fear, exertion, smoking, caffeine or stress). Blood pressure can also be affected by the time of day, time of year or temperature.

This blood pressure measuring unit helps you to take regular, comparative measurements. Individual, irregular measurements are therefore not very meaningful.

The guidelines for normal and high blood pressure (diastolic and systolic value) have been defined by the World Health Organization "WHO" as shown in the following table.

Relation to classification



Notes on correct measurement

Using your unit, you can get an overview of your blood pressure by measuring it regularly and using clear records.

To make sure that the values give a realistic picture of your blood pressure, please follow the instructions below:

- Measure your blood pressure several times during the day.
- Always measure your blood pressure at the same time of day.
- Always take blood pressure measurements under the same conditions. Always use the same arm.
- Measure your pressure when you are relaxed. Try to rest for fifteen minutes before measuring your blood pressure.
- You should wait an hour after a large meal before measuring your blood pressure.
- Do not smoke or drink alcohol before measuring your blood pressure.
- Do not undertake any physical activity an hour before measuring your blood pressure.
- Do not measure your blood pressure if you are under stress or are tense.
- Measure your blood pressure at normal body temperature, but not if you are too hot or cold.
- Wait around five minutes before repeating the measurement.

If you record a value that differs greatly from your normal blood pressure measurement, you should take another measurement around five minutes later. This will allow you to rule out any of the factors mentioned above, which could result in an incorrect measurement.

Have a doctor diagnose your measurements

After you take your measurements, a doctor should interpret the values and diagnose them. The doctor will tell you which blood pressure level is normal for you, and which peculiarities you should report if they occur.

Caution!

Danger from self-treatment or self-medication. Clarify any abnormal values with your doctor.

Only take medication as prescribed by your doctor.

Inaccurate measurement results may appear in the following groups: Persons with high blood pressure, diabetes, liver disease, hardened arteries, irregular heartbeat (arrhythmia), poor circulation and so on.

The unit's measuring technology

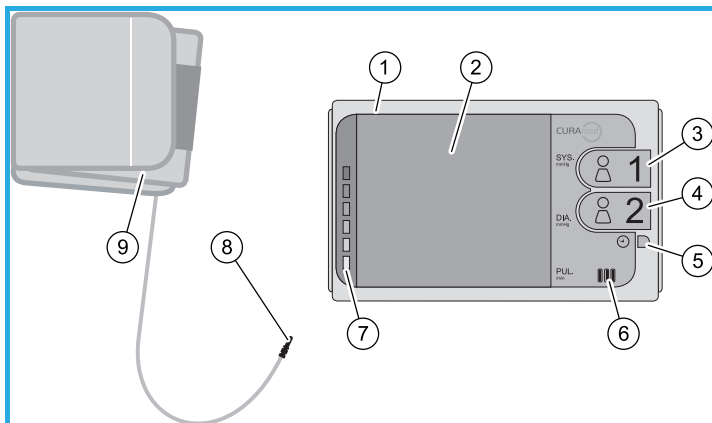
Your blood measuring unit contains high quality technical components and materials for measuring pressure, processing the signals and displaying the values on a liquid crystal display. It also measures and displays your pulse rate.

The unit measures blood pressure indirectly using a sleeve around the wrist. Inflating the sleeve presses the arteries together so that no more blood can flow through them. If the pressure in the sleeve is then reduced, this creates a relation between the sleeve pressure and the blood pressure.

The unit has electronic step valves that can detect even slight changes during the measurement, which can be evened out using the sleeve pressure.

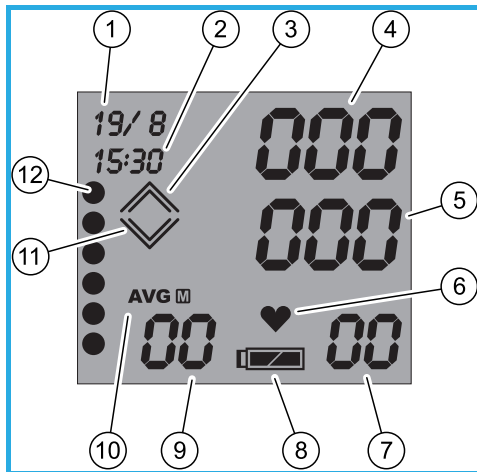
By reducing the pressure step-by-step, fluctuations in the sleeve are recorded by the unit and included in the assessment. If no fluctuations are recorded for a step, the air pressure is reduced. Existing fluctuations are assessed at the corresponding step level until they can be determined precisely.

Overview of the appliance



No.	Description
1	Blood pressure measurement device
2	Display
3	Button 1
4	Button 2
5	Button CLOCK
6	Loudspeaker
7	Colour scale for evaluating blood pressure
8	Plug for arm sleeve tube
9	Arm sleeve

Display



No.	Description
1	Date
2	Time
3	Pump up arm sleeve
4	Systolic value in mmHg
5	Diastolic value in mmHg
6	Heart beat
7	Pulse rate (heart beats per minute)
8	Battery power remaining
9	Number of stored values
10	AVG (average values)
11	Deflate arm sleeve
12	Display for classifying blood pressure measured (volume in basic settings)

Preparing the unit

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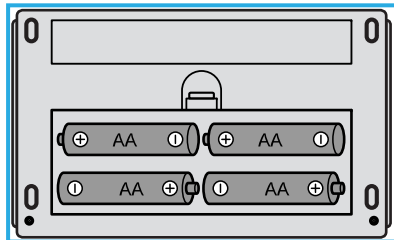
Inserting batteries

- ▶ Open the battery compartment under the device.
- ▶ Insert four 1.5V batteries of type R6/LR6/AA, observing the correct polarity.
- ▶ Close the battery compartment.

Basic settings must be made after changing the batteries. See page 20.

Note

Existing measurement values will be stored.



Basic Settings

You must make the following basic settings before using the device for the first time or after changing the batteries:

- Year
- Date (month, day)
- Time (hour, minute)

- ▶ Press the TIME button for around 3 seconds.

Note

If you do not press any buttons for around 10 seconds, the unit will switch into standby mode.

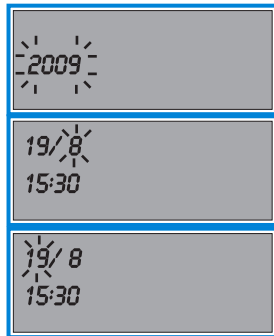
- ▶ Press the TIME key.
The digits indicating the year will flash.
- ▶ To set the required year, press button 1 or button 2.
- ▶ Press the TIME key.

The digits indicating the month will flash.

- ▶ To set the required month, press button 1 or button 2.
- ▶ Press the TIME key.

The digits indicating the day will flash.

- ▶ To set the required day, press button 1 or button 2.
- ▶ Press the TIME key.



The digits indicating the hours will flash.

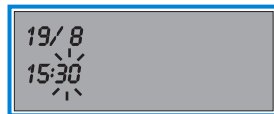
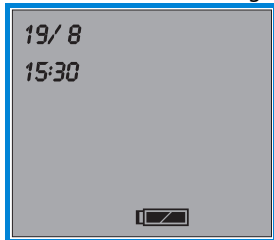
- ▶ To set the required hour, press button 1 or button 2.
- ▶ Press the TIME key.

The digits indicating the minutes will flash.

- ▶ To set the required minutes, press button 1 or button 2.
- ▶ Press the TIME key.

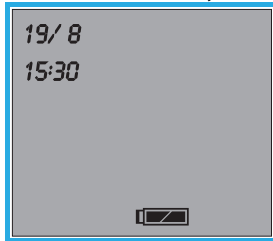
The settings you have made are saved.

You will see the following display:



Switch device on and off

- ▶ Press button 1 or 2 to switch on the unit.
The corresponding button will light up.
The measurement starts automatically.
- ▶ Press button 1 or 2 again to switch off the unit.
Press the TIME button to switch the unit into standby mode.
The unit is in standby mode.



Measuring your blood pressure and pulse

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Putting on the sleeve

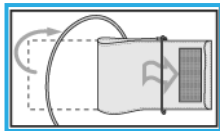
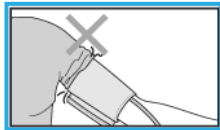
The sleeve is suitable for an arm circumference of 22cm to 32cm.

- ▶ Remove any watches, jewellery etc.

The upper arm must be exposed because the sleeve must lie directly on the skin.

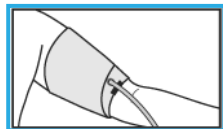
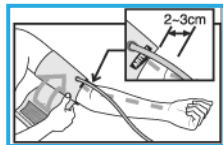
- ▶ Do not roll up tight sleeves, as this will squash the arm.
- ▶ Remove this item of clothing if the sleeves cannot easily be rolled up.
- ▶ Pull the end of the sleeve through the frame at the other end.
- ▶ The Velcro fastening must face out.
- ▶ Pull the sleeve over the arm so that the tube lies over the top of the upper arm, in the direction of the underarm. The blue mark on the sleeve points to the hand.

The bottom edge of the sleeve must end 2-3cm above the elbow.

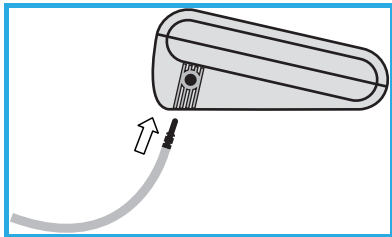


- ▶ Pull on the sleeve and fold down its ends.
 - ▶ Secure the end with the Velcro fastening.
- The sleeve is in the right position on the arm:
- When there is room for one finger between the sleeve and the arm,
 - When it sits securely and doesn't slip.

The sleeve must not be too tight because the pressure on the arm will increase further when the sleeve is pumped up.
If the shape of the arm does not allow the sleeve to be wrapped around it properly, the sleeve can sit at a slight diagonal.



- ▶ Stick the sleeve's tube plug into the connection provided on the unit.



Posture

- ▶ To measure your blood pressure you should be sitting comfortably on a chair.
- ▶ Take five or six deep breaths and relax.
- ▶ Rest your elbows on the table or other surface.
- ▶ Hold your arm so that the sleeve is level with your heart.
- ▶ Relax your arm and turn up the palm of your hand.

You can also take the measurement lying down:

- ▶ Lie on your back.
- ▶ Rest your arm alongside your body.
- ▶ Have your palm facing up.



Measuring and storing values

If you know that your blood pressure is higher than 230mmHg, proceed as described on page 31.

- ▶ Press button 1 or 2 to interrupt the measurement.
- ▶ Make sure that the air tube is not kinked or being squashed.

Note

You can save 30 measurement values in each of the two memories.

- ▶ To store the values in the first memory, press button 1.
- ▶ To store the values in the second memory, press button 2.
The selected button will light up.
- ▶ During measurement, do not move the sleeve or your arm or hand muscles.
After a few seconds, the unit will pump up the sleeve. When the sleeve pressure is stable, the unit will start measuring automatically.
The current values are shown in the display.
- ▶ Press button 1 or 2 if you want to interrupt the measurement.
The sleeve deflates.

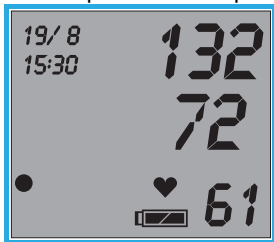
- ▶ If you want to repeat the measurement, you should wait at least five minutes.

The sleeve must be fully deflated.

Measurement starts when the correct sleeve pressure has been reached. The unit also measures your pulse. The value displayed will fall during measurement.

If the sleeve pressure is too low, the appliance stops measuring and inflates the sleeve again until sufficient sleeve pressure is reached for the measurement.

The sleeve deflates when the measurement is complete. The systolic and diastolic blood pressure and the pulse with the pulse symbol appear on the display.



The values measured will be automatically stored with the date and time once measuring is complete. 30 storage spaces are available, whether you start measuring using button 1 or 2. Two people can record their values separately, for example. If there are more than 30 measurements, the oldest value will be overwritten.

Measuring without storing values

You can also measure your blood pressure without storing the values.

- ▶ To do so, press buttons 1 and 2 at the same time.
The buttons light up.
The measurement is taken as described above.
The values measured are not saved.

Taking measurements if your blood pressure is higher than 230mmHg

If your blood pressure is higher than 230mmHg you must pump up the sleeve manually.

Note

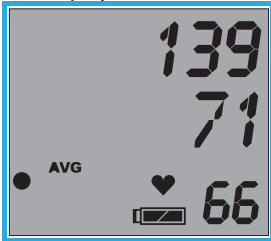
Buttons 1 and 2 are used interchangeably in the following description.

If you want to store the values in memory 1, use the first button mentioned for each action.

If you want to store the values in memory 2, use the second button mentioned.

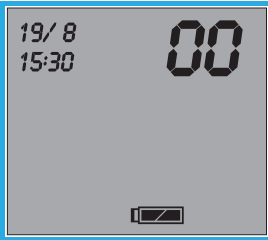
- ▶ Press button 1 or 2 and hold the button down for around 3 seconds.

The average values of the last three measurements from the selected memory will be shown in the display.



- ▶ Press button 2 or 1 and hold the button down for around 3 seconds. The de-pressurisation symbol will be shown.

- ▶ Wait until "0" is shown on the display.



- ▶ Press button 2 or 1 and hold it down until the required starting value has been reached, e.g. 250mmHg.
The measurement is taken.
The values measured are saved.

Classifying blood pressure

The coloured bar chart to the left of the display has the following meanings:

red	Very high blood pressure
light red	High blood pressure
orange	Slightly high blood pressure
yellow	High to normal blood pressure
green	Normal blood pressure
light green	Optimum blood pressure

Retrieving saved values

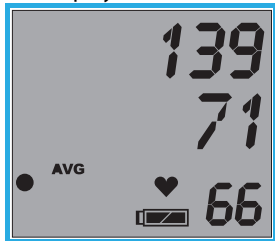
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Retrieving average values

Proceed as follows to retrieve the average values of the last three measurements:

- ▶ Press button 1 or 2 and hold the button down for around 3 seconds.

The average values of the last three measurements from the selected memory will be shown in the display.

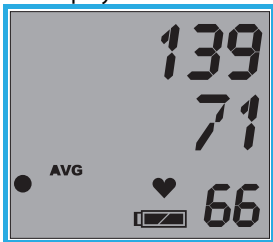


Retrieving values of individual measurements

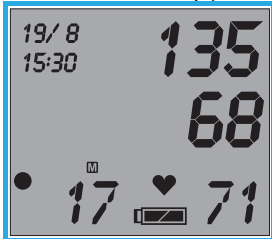
Saved message values can be displayed.

- ▶ To retrieve the measurement values in memory 1, press button 1 and hold it down for around 3 seconds.
- ▶ To retrieve the measurement values in memory 2, press button 2 and hold it down for around 3 seconds.

The average values of the last three measurements from the selected memory will be shown in the display.



- ▶ Press button 1 or 2 to call up the stored values individually. You can “flick” through the newest to the oldest values by pressing the button.



- ▶ To switch off the unit, press the corresponding button for around three seconds.

Error messages and troubleshooting

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Error message	Possible cause	Remedy
E1	Pulse rate measurement has failed.	Put the sleeve on correctly and take the measurement again.
E2	Measurement has failed because you moved or spoke.	Keep still and do not speak during measurement.
E3	The sleeve is not in the right position on the arm.	Put the sleeve on correctly. See page 24.
E4	Measurement error	Put the sleeve on correctly and take the measurement again. See page 24.
E5	The pressure is beyond the measurement range.	Read the instructions on measuring correctly. See page 11. Measure again after 5 minutes.

E6	The battery power is too low.	Insert four new batteries. See page 19.
The battery symbol flashes	The battery power is low.	Insert four new batteries. See page 19.
The results of measurement are abnormally high or too low.	The sleeve is not at heart level.	Read the instructions on measuring correctly. See page 11.
	The sleeve is not in the right position on the arm.	Put the sleeve on correctly. See page 24.
	The sleeve hose is not connected correctly to the unit.	Attach the sleeve's tube plug correctly to the unit.

Cleaning, storing and servicing the unit

- ▶ Only use a dry, soft cloth to clean the unit. Do not use chemical solutions and cleaning products because these may damage the unit's surface and/or inscriptions.
- ▶ Do not wash the sleeve.
- ▶ Do not have the sleeve dry-cleaned.
- ▶ If the appliance is not going to be used for long periods, remove the batteries.
- ▶ Put the unit in its original box for storage and transport.

It is recommended that you check the operability of the unit every three years at least.

Pharmacies sometimes hold campaign days for checking blood pressure monitors.



Packaging

Your appliance has been packaged to protect it against transportation damage. The packaging is made of environmentally friendly material which can be recycled.



Batteries

Do not throw used batteries out with your household waste. Take them to a collection point for old batteries.

Technical specifications

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Measurement method	Oscillometric
Blood pressure measurement range	30 to 250mmHg
Pulse measurement range	40 to 180 beats/minute
Blood pressure measurement accuracy	± 3 mmHg
Pulse measurement accuracy	$\pm 5\%$ of value displayed
Number of storage spaces	2 x 30
Sleeve for arm circumference	22 – 32cm
Operating conditions	Temperature: +10 to +40°C Relative humidity: 30 to 85%
Storage conditions	Temperature: -20 to +60°C Relative humidity: 10 to 95 %
Power supply	4 x 1.5V Mignon batteries of type R6/LR6/AA.

Subject to technical changes.