

yuwell



YE8900A Electronic Blood Pressure Monitor

User's Manual

Please read the user's manual closely before using!

EC REP

Metrax GmbH

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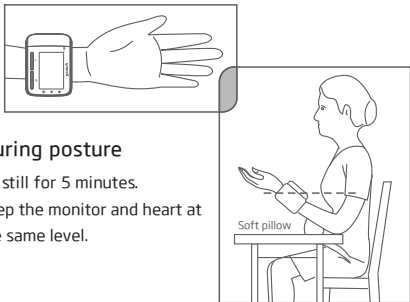
www.yuwell.com

7301 97-1C



Using method

- Wear the monitor on the wrist as the following picture.
- The suitable circumference for wrist is 13.5cm~19.5cm.



Measuring posture

- Sit still for 5 minutes.
- Keep the monitor and heart at the same level.














Measuring posture

- Press the " ⏻ " button to measure.
- Do not speak or move while measuring.
- Don't eat, smoke, drink, take bath or do any high impact sport within half an hour before measuring.

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signs and symbols

Pay attention with the symbols shown here to prevent harm or damage to the user.

	Attention
	Note on important information
	Type BF application part
	Consult the manual
	Manufacture
	Date of manufacture
	EC-Representative
	Symbol for the marking of electrical and electronics devices according to Directive 2002/96/EC
	Temperature range
	Humidity range
	Atmospheric pressure range
	Safety and environmental protection use period for 10 years
	This device fulfils the provisions of EC directive 93/42/EEC (Medical Device Directive).

1. Range of application

- ▶ This product is intended to measure the blood pressure and pulse rate of adult at household or medical center(not suitable for neonate, pregnancy or pre-eclampsia.)

2. Attention items

Pay attention to the following points when measuring or it may cause the incorrect results.

- Sit still for 5 minutes before measuring to ensure quiet and stable mode.
- Do not take the measurement while standing, walking or having body pressed.
- Do not take the measurement within 1 hour after smoking, drinking wine or coffee (black tea).
- Do not take the measurement after sport or bath.
- Do not speak, move, shake arm or bend fingers while measuring.
- Do not take the measurement at extreme temperature condition or the varied severely environment.
- It will affect the measurement accuracy if the wrist circumference is out of the given value .

Important notes

- The incorrect measurements of the equipment may be caused by external interference, such as accelerating during transportation or transportation.
- Do not measure continuously. (5 minutes or more should be spared between two measurements).
- Do not use mobile phone near the monitor.
- Please reinstall the batteries and start again if cannot measure.
- For patient of arrhythmia, measuring results may not be accurate.
- Do not keep the cuff in the aerated state for a long time.
- The patient is an intended operator, this monitor is used for adult whom more than 12 years old.
- Do not swallow small parts that may cause choking hazard.
- The device must not be used with high frequency surgical equipments.
- Do not use the CUFF over a wound arm or being on an intravenous drip. Consult your doctor if using the device on the arm with an arterio-venous (A-V) shunt.
- Do not use the cuff on the arm where the side of a mastectomy.
- Note that it will lose function on the same limb while cuff inflating.
- Do not allowed frequent measurements, the resulting restriction of the blood flow may cause injury.

Important notes

- Avoid compression or bending of the cuff connection tubing while using the device.
- Please use soft dry cloth stained with 75% ethanol to clean the device in the case of many people use it, but do not let the ethanol flow into the monitor and arm cuff.
- Please use the alkaline battery, do not use the rechargeable battery.

! **Note:** Do not diagnose with the measurement, Please follow doctor's instruction.

Statement: If the monitor has not been stored in the required temperature and humidity range, it may not conform to specification.

Maintenance

❗ Please observe the following items to protect the device and ensure the accuracy of measurement.

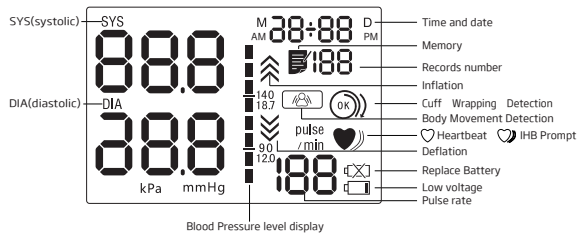
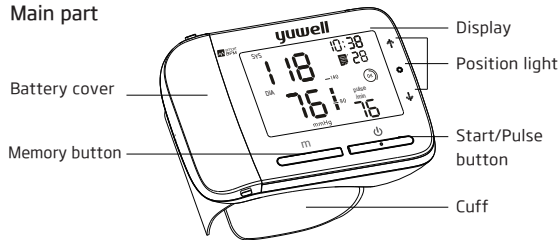
- Please store the monitor and accessories properly after use.
- Do not place the monitor and accessories in high temperature, moisture, dust, or exposure to sunshine. The cuff contains an airbag inside, please care in applications, do not fold, pull or twist it.
- Do not disassemble or repair the device without authorization.
- Do not modify the device without authorization.
- Please clean the monitor with soft dry cloth. If it's necessary, please use wiped soft cloth with water or neutral detergent before cleaning by soft dry cloth.
- Using absorbent cotton to wipe gently with rubbing alcohol, disinfection of the machine when it necessary. Do not use detergent to clean.
- Do not let water seep into the device.

Tips!

We advice to calibrate the monitor according to local laws and regulations (at least once a year) .

Parts

Main part

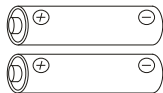


Blood Pressure level display

Parts

Accessories

- ◆ 2 AAA batteries
- ◆ User's manual(Warranty card)

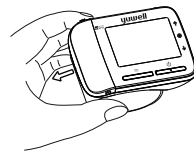


Battery

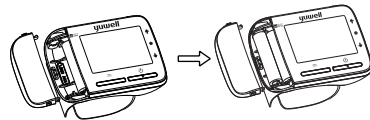
Battery installation

1. Open the battery cover in the direction of the arrow

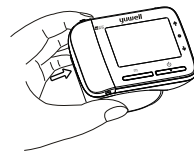
⚠ Note: Press the two sides bulge of the battery cover tightly and pull outward.



2. Install two AAA batteries properly.



3. Close the cover .



Battery installation

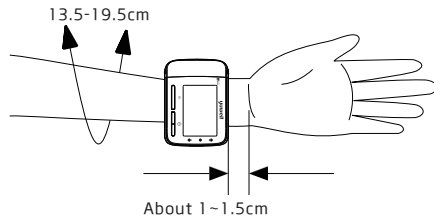
! Notes:

- If accidentally strayed the electrolyte of battery into eyes, skin or cloth, please rinse with plenty of water.
- The "⚡" icon appearing means the battery is running out. Please replace both the batteries.
- Please take out the batteries if the monitor will not be used for a long time (over three months).
- Please do not mix new batteries with old batteries .

⚠ Please dispose batteries in accordance with the local environmental law.

Using method of cuff

1. Please wear the cuff on bare wrist not too loose or too tight ,do not leave cloth inside of the cuff.
2. The distance between palm and the end of monitor should be about 1.0cm~1.5cm.



3. Please stick the cuff firmly,Or it may get loose while measurement and affect the measurement results.
4. Wind the spare part of cuff properly.

Tips!

Either of wrists can be measured.

Measuring posture

1. Sit on a chair with your feet flat on the floor.
2. Do not sit with legs crossed.
3. Sit upright with your back straight and keep relax. (as Figure 1)
4. Sit with your back and arm being supported, We suggest supporting the arm with a soft pillow.
5. Keep the monitor and heart at the same level.
Do not talk, move, shake hand or bend fingers while measurement.

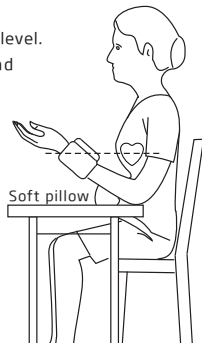


Figure 1

Measuring posture

The correct wrist posture(as Figure 2)

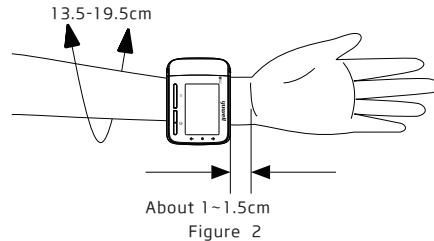


Figure 2

⚠ NOTE: Relax fingers and keep a natural extension of state.

Wrong measurement postures

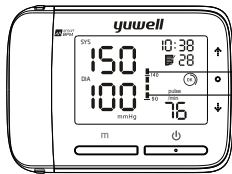
1. Do not clench fists, or may cause higher blood pressure.
2. Do not hold the cuff with another hand.
3. Do not hold the arm hard while measurement. If it is necessary please support the arm with a soft pillow.

Start measuring

This device uses the oscillometric method of blood pressure measurement.

Sit still for 5 minutes before the measurement

1. The beginning of the measurement, Press the " ⏻ " button to start measuring after batteries installation. Then the monitor starts pressurizing.

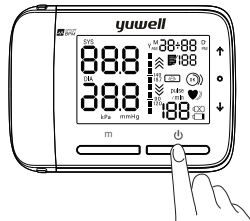


Higher than 140mmHg
Higher than 90mmHg

- ▶ Please contact with doctor for advice if the SYS is higher than 140mmHg or DIA is higher than 90mmHg.
- ▶ Also The Blood pressure range indicator can show the blood pressure intuitively.



Start measuring

- a. Do not move and keep quiet until measurement finished.
 - b. Keep the monitor and heart at the same level.
 - c. Restart if the cuff got loose while measurement.
 - d. Press the " ⏻ " button to stop measurement. If it does not work, please take off the cuff.
- ⚠ Warning: Upper limit pressure of air inflation is 300mmHg/40.0kPa. Don't keep the inflated state for a long time to avoid damage.
- e. The time interval between two measurements should be at least 5 minutes or longer.

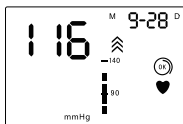


Full screen display state

Start measuring

- ▶ The monitor starts measuring automatically after pressing “” button, and the icon “” starts to flicker, Pressure rises gradually.

Please maintain the position during the measurement and don't speak or move body or hand.

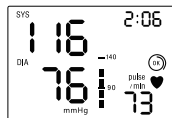


The measuring state

Start measuring

2. Measurement finished

After measurement, the monitor will show the SYS, DIA and pulse rate, then deflate automatically.




mmHg display



kPa display

3. Take off the cuff

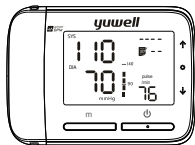
4. Shut down

Press the “” button to shut down. Then it will power off automatically in 120 seconds without any operation.

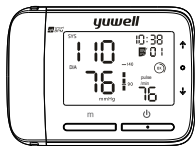
Memory function

1. Press the " m "button for the records.

A. Press the " m "button to show the average value of the latest 3 times measurement.



B. Press the " m "button again to display the 1st group of memory, the serial number is displayed as "1" to "60". "1" is the latest group and the "60" is the earliest one.



Memory function

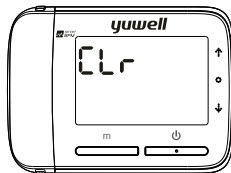
Tips! The 60th data may be replaced by the 59th when the memory capacity is full.

C. Read the recorded data by pressing the " m "button as the sequence: "1", "2" "60" (max). Then return to the 1st.

D. Holding the " m " button to search the data quickly.

2.Delete the recorded data

Press the both " ⏻ " button and " m " button in memory display until the display shown as the following picture, which means the recorded values will be cleared.



⚠ Note: This operation will delete all the recorded values.

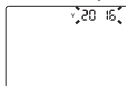
Time and date setting

Time and date setting

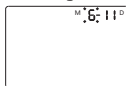
The monitor will store the measuring results automatically by the management system.

It is necessary to reset time and date after installing new batteries . Please operate as following steps. (For example: setting the date as 2016-6-11 and time as 08:18)

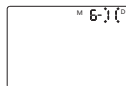
1. Year setting: Press the " m " button and " ⏻ " button for more than 3 seconds till the number starts flashing.
2. Press the " m " button to advance by increments of one year.
3. Press the " ⏻ " button to switch to the month setting.
4. Using the same way for other settings.



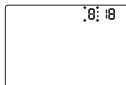
Year character blink



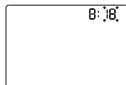
Month character blink



Date character



Hour character blink

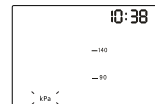
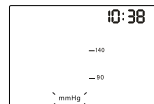


Minute character blink

mmHg/kPa setting

Unit setting

After finishing the time and date setting, pressing the " ⏻ " button to enter the mmHg/kPa unit setting. Press the " m " button to switch between these two units. Finish by pressing the " ⏻ " button.



Static mode

This function is mainly for professional personnel to enter the static mode to test the monitor through standard pressure gauge.

⚠ **Warning:** Normal users don't need to know this function and also do not operate. The company will not take any responsibility for damage caused by this operation.

1. System restores

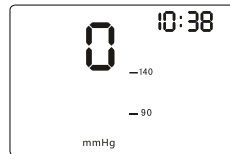
Press the " ⏻ " button after battery installation, then the screen will show the " ⚙ " icon, which means the system is in restore testing. Several seconds later, the " ⚙ " icon disappears and the air pump starts inflating at the same time, which indicates the test ended. Then press the " ⏻ " button to stop inflating and take out the batteries to enter the next step.

⚠ **Note:** It must restore the system before entering the static mode, otherwise it may cause inaccurate results.

Static mode

2. Entering the static mode

Press the " m " button and hold, meanwhile install the batteries. Hold on for about 3 seconds then release the " m " button. Then screen will show the pressure value " 0 ", the date and time. Now the system has restored and entered the static mode. Now can take the static test.



Tips!

- ▶ After entering the static mode, if the screen still doesn't show " 0 ", please operate again as the System restore. Please contact with the local distributor if it still does not work.
- ▶ The monitor will automatically power off if there is no operation in 4 minutes.

Common questions of blood Pressure measurement

About the blood pressure on wrist and upper-arm

Diabetes, high blood lipids, hypertension will accelerate atherosclerosis and cause nerve ending dysaemia. The blood pressure on wrist and upper-arm may have a significant difference on these patients. Even if in unsuitable conditions, healthy persons may cause about 20 mmHg(2.6kPa) difference. So we suggest do not diagnose by oneself, please consult the doctor.

Normally, the blood pressure on wrist and upper-arm are same. But circulatory system disorders may have a significant difference. Please manage your blood pressure with experts.

Healthy persons have a 20 mmHg(2.6kPa) difference between blood pressure on wrist and upper-arm.

About measuring posture

If wrist and heart are not at a same level, the blood pressure will change as a result of the weight of blood. When the wrist is higher than the heart, the value measured will be lower, and vice-versa. Every 10cm about 8 mmHg(1kPa) difference. Of course the value is more closely related to the measuring posture.

Common questions of blood Pressure measurement

1. 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 millimetres 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.

2. 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 below:


Range	Systolic pressure kPa/mmHg	Diastolic pressure kPa/mmHg	Counter-measures
Hypotension	≤ 13.3/100	≤ 8.0/60	Consult dr.
Ortho-arteriotony	13.3/100~18.7/140	8.0/60~12.0/90	Self check
Mild hypertension	18.7/140~21.3/160	12.0/90~13.3/100	Consult dr.
Medium hypertension	21.3/160~24.0/180	13.3/100~14.7/110	Consult dr.
Severe hypertension	≥ 24.0/180	≥ 14.7/110	Danger! Go to hospital as soon as possible


Common fault and trouble shooting

Common fault	Solutions
It doesn't work after pressing the "  " button with batteries installation	Check the batteries are installed correctly
	Replace new batteries
Multiple occurrences of measuring failure, or measured value is low (or high)	Check the connection and winding of cuff
	Check if the cuff winded too tight or too loose. Take off your clothes if rolled too tight
	Please ensure a quiet, relaxed body state . Deep breathing to relax yourself before measurement
The monitor is in good condition, but the each measuring result are different	Please read the "blood pressure variations" carefully
The value is different from that measured at a clinic or doctor's office	Write down the value every day, and consult a doctor
Pump works, but the pressure doesn't rise	Check whether the cuff has connected well



Common fault and trouble shooting

The table below shows the possible fault displaying icon, possible reason, and solutions.

Wrong indication	Fault cause	Solution
Err 3	Air leakage	Check the cuff
Err 4	Unable to measure pressure	Fasten cuff correctly before measurement
Err 5	Pressurizing error	Check if there is air leakage from the cuff
Err 6	Pressurizing error caused by arm or body motion	Keep arm and body still and measure again
Err 7	Cuff is too loose or fall off	Fasten cuff tightly
Err 8	Pressure exceeds the maximum value (300mmHg)	Measure again please
Showing low voltage icon "  "	Battery is low	Replace new batteries

 **Warning:** If the situations can not be solved or unexpected problem happens, please consult the local distributor.

Technical parameters

- ▶ Model YE8900A
- ▶ Display LCD digital display
- ▶ Measuring method Oscillation mensuration
- ▶ Measuring range 0-300mmHg
- ▶ Cuff Pressure 0-450mmHg
- ▶ Pulse rate 40-200 time/min
- ▶ Precision Pressure: $\pm 3\text{mmHg} (\pm 0.4\text{kPa})$
Pulse: $\pm 5\%$ of reading value
- ▶ Working system Continuous operation
- ▶ Power supply 2X1.5V  AAA batteries
- ▶ Battery life Approx. 300 times, depending on levels of blood pressure and pump pressure
- ▶ Cuff size 13.5~19.5cm
- ▶ IP Classification IP20
- ▶ Electric classification  =type BF application part
- ▶ Service life 5 years or 50 thousand times
- ▶ Weight Approx.90g(without batteries)
- ▶ Dimensions Approx.L76 mm x W70 mm x H23 mm
- ▶ Memory 60 memory spaces
- ▶ Operating temperature +5°C to+40°C/15% to 90%RH
/Humidity (non-condensing)

Technical parameters

- ▶ Storage temperature -20°C to +55°C/15% to 90%RH
/Humidity (non-condensing)
- ▶ Operating/Storage 70kPa to 106kPa
atmospheric pressure

The contact materials detail of product

Part		Material
Rear Cover		ABS
Top Cover		ABS
Cuff	Magic paster	Nylon
	cloth	Dacron
Panel		PC

Statement!

The SPHYGMOMANOMETER was clinically investigated according to the requirement of ISO 81060-2:2003.

The SPHYGMOMANOMETER complies with IEC 80601-2-30.

Electromagnetic compatibility information

- ⚠ Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the SPHYGMOMANOMETER, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- ⚠ This equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.
- ⚠ When the instrument is in use, never put it near other instruments or stack it on other instrument. If you have to put it near other instruments or instruments, please inspect and verify if the instrument could run normally.

There is the potential risk of radio frequency interference between the device and other devices. If there is, please find out the problems and take the following measures:

- (1) Turn off the device, and turn on again,
- (2) Change the direction of the device,
- (3) Keep the product away from the interferential devices.

Electromagnetic compatibility information

Table 1

Guidance and manufacture's declaration-electromagnetic emission	
The YE8900A Wrist Digital Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of YE8900A Wrist Digital Blood Pressure Monitor should assure that it is used in such an environment.	
Emission test	Compliance
RF emissions CISPR 11	Group 1
RF emissions CISPR 11	Class B

Electromagnetic compatibility information

Table 2

Guidance and manufacturer's declaration-electromagnetic immunity		
The YE8900A Wrist Digital Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the YE8900A Wrist Digital Blood Pressure Monitor should assure that it is used in such an environment.		
Immunity test	IEC 60601 test level	Compliance level
Electrostatic discharge(ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30A/m 50Hz or 60Hz	3A/m 50Hz or 60Hz

Electromagnetic compatibility information

Table 3

Guidance and manufacturer's declaration-electromagnetic immunity		
The YE8900A Wrist Digital Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the YE8900A Wrist Digital Blood Pressure Monitor should assure that it is used in such an environment.		
Immunity test	IEC 60601 test level	Compliance level
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz 80% AM at 1 kHz	10 V/m
<p>NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>		
<p>^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 YE8900A Wrist Digital Blood Pressure Monitor is used exceeds the applicable RF compliance level above, the YE8900A Wrist Digital Blood Pressure Monitor should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the YE8900A Wrist Digital Blood Pressure Monitor.</p>		

Electromagnetic compatibility information

Table 4

Test frequency (MHz)	Band ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	Maximum power (MHz)	Distance (m)	IMMUNITY TEST LEVEL (V/m)
385	380-390	TETRA 400	Pulse modulation ^{b)} 18 Hz	1,8	0,3	27
450	430-470	GMRS 460, FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704-787	LTE Band 13, 17	Pulse modulation ^{b)} 217 Hz	0,2	0,3	9
745						
780						
810	800-960	GSM 800/900, TETRA 800, IDEN 820, CDMA 850, LTE Band 5	Pulse modulation ^{b)} 18 Hz	2	0,3	28
870						
930						
1720	1700-1990	GSM 1800; TETRA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation ^{b)} 217 Hz	2	0,3	28
1845						
1970						
2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation ^{b)} 217 Hz	2	0,3	28
5240	5100-5800	WLAN 802.11 a/n	Pulse modulation ^{b)} 217 Hz	0,2	0,3	9
5500						
5785						

Electromagnetic compatibility information

NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC61000-4-3.

- a) For some services, only the uplink frequencies are included.
 b) The carrier shall be modulated using a 50% duty cycle square wave signal.
 c) As an alternative to FM modulation, 50% pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.