80 mm

85 mm

Owner's Manual

Wrist-type Fully Automatic Blood Pressure Monitor

Model DBP-2116

Document No.:JDBP-2504-002
Version：Z
Date of Issue：2016.01

CE 0197 The product is in compliance with the requirements of MDD 93/42/EEC, "0197" is the identification number of notify body

JOYTECH Healthcare CO., Ltd.
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Contents

Safety Notice

Thank you for purchasing the DBP-2116 Blood Pressure Monitor. The unit has been constructed using reliable circuitry and durable materials. Used properly, this unit will provide years of satisfactory use.

This device is intended for non-invasive measuring of an adult individual's systolic, diastolic blood pressure and heart rate using the oscillometric method. The device is not intended for use on infants and children. The device is designed for home or clinical use. All functions can be used safely and values can be read out in one LCD DISPLAY. Measurement position is on adult wrist only.

Please read this manual thoroughly before using the unit. Please retain this manual for future reference. For specific information about your blood pressure, please CONSULT YOUR DOCTOR. The PATIENT is an intended OPERATOR.

To avoid risk and damage follow all warning precautions. Operate unit only as intended. Read all instructions prior to use.

Safety Notice

WARNING SIGNS AND SYMBOLS USED	
⚠	Caution
❗	Mandatory
⃠	Prohibited
	Type BF Equipment
	Instructions For Use MUST be Consulted
SN	Serial Number
	Discard the used product to the recycling collection point according to local regulations
CE 0197	The product conforms to the requirements of the EC DirectiveMDD(93/42/EEC) on medical devices
	Manufacturer
EC REP	Authorised Representative in the European Community
	Keep off Sunlight
	Manufacturing Date

Safety Notice

⚠ Caution	
Individuals with serious circulation problems may experience discomfort. Consult your physician prior to use.	❗
Contact your physician if test results regularly indicate abnormal readings. Do not attempt to self-treat these symptoms without consulting your physician first.	
Product is designed for its intended use only. Do not misuse in any way.	⃠
Product is not intended for infants or individuals who cannot express their intentions.	
Do not disassemble or attempt to repair.	
Do not use cell phones and other devices, which generate strong electrical or electromagnetic fields, near the device, as they may cause incorrect readings and interference or become interference source to the device.	

Safety Notice

Advice on the specified USB cable	
Please use the specified USB cable after throughly reading the Owner's Manual.	
Do not insert or pull the USB Cable during data transfer process. Replace the batteries of the main body after removing the USB cable. Do not insert, pull out, or touch the USB cable with wet hands. Do not leave the USB cable connected to the device when not in use.	

Battery Precautions
Do not mix new and old batteries simultaneously.
Replace batteries when Low Battery Indicator " " appears on screen.
Be sure battery polarity is correct.
Do not mix battery types. Long-life alkaline batteries are recommended.
Remove batteries from device when not in operation for more than 3 months.
Dispose batteries properly; observe local laws and regulations.

Safety Notice

Important Instructions Before Use

1. Do not confuse self-monitoring with self-diagnosis. Blood pressure measurements should only be interpreted by a health professional who is familiar with your medical history.
2. Contact your physician if test results regularly indicate abnormal readings.
3. If you are taking medication, consult with your physician to determine the most appropriate time to measure your blood pressure. NEVER change a prescribed medication without first consulting with your physician.
4. Individuals with serious circulation problems may experience discomfort. Consult your physician prior to use.
5. For persons with irregular or unstable circulation resulting from diabetes, liver disease, arteriosclerosis or other medical conditions, there may be variations in blood pressure values measured at the wrist versus at the upper arm. Monitoring the trends in your blood pressure taken at either the arm or the wrist is nevertheless useful and important.
6. People suffering from vascular constriction, liver disorders or diabetes, people with cardiac pacemakers or a weak pulse, and women who are pregnant should consult their physician before measuring their blood pressure themselves. Different values may be obtained due to their condition.
7. People suffering from arrhythmias such as atrial or ventricular premature beats or atrial fibrillation only use this blood pressure monitor in consultation with your doctor. In certain cases oscillometric measurement method can produce incorrect readings.

Safety Notice

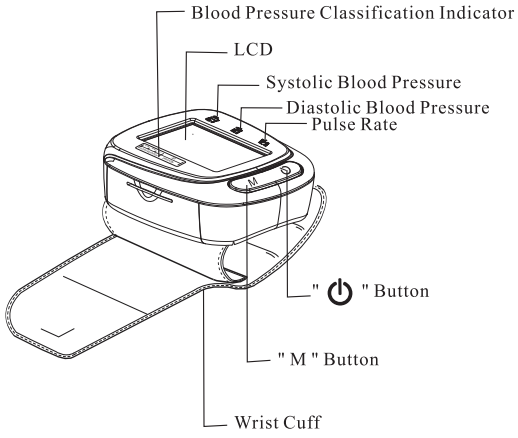
8. Too frequent measurements can cause injury to the patient due to blood flow interference.
9. The cuff should not be applied over a wound as this can cause further injury.
10. **DO NOT** attach the cuff to a limb being used for IV infusions or any other intravascular access, therapy or an arterio-venous (A-V) shunt. The cuff inflation can temporarily block blood flow, potentially causing harm to the patient.
11. The cuff should not be placed on the arm on the side of a mastectomy. In the case of a double mastectomy use the side of the least dominant arm.
12. Pressurization of the cuff can temporarily cause loss of function of simultaneously used monitoring equipment on the same limb.
13. A compressed or kinked connection hose may cause continuous cuff pressure resulting in blood flow interference and potentially harmful injury to the patient.
14. Check that operation of the unit does not result in prolonged impairment of the circulation of the patient.15. Product is designed for its intended use only. Do not misuse in anyway.
15. Product is designed for its intended use only. Do not misuse in any way.
16. Product is not intended for infants or individuals who cannot express their intentions.
17. Prolonged over-inflation of the bladder may cause ecchymoma of your arm.

Safety Notice

18. Do not disassemble the unit or wrist cuff. Do not attempt to repair.
19. Use only the approved wrist cuff for this unit. Use of other wrist cuffs may result in incorrect measurement results.
20. The system might produce incorrect readings if stored or used outside the manufacturer's specified temperature and humidity ranges. Make sure to store the blood pressure monitor, children, pets and pests are outside of accessible range.
21. Do not use the device near strong electrical or electromagnetic fields generated by cell phones or other devices, they may cause incorrect readings and interference or become interference source to the device.
22. Do not mix new and old batteries simultaneously.
23. Replace batteries when Low Battery Indicator " " appears on screen. Replace both batteries at the same time.
24. Do not mix battery types. Long-life alkaline batteries are recommended.
25. Remove batteries from device when not in operation for more than 3 months.
26. Do not insert the batteries with their polarities incorrectly aligned.
27. Dispose batteries properly; observe local laws and regulations.
28. Advising operator that Instruction manual/ Booklet must be consulted.
29. The PC with connection to the device with USB shall meet the requirements of standard IEC 60601-1 or IEC 60950-1.
30. Do not use the device during transport vehicles for influencing measurement accuracy,such as patient transport in an ambulance or helicopter.
31. Contains small parts that may cause a chocking hazard if swallowed by infants.

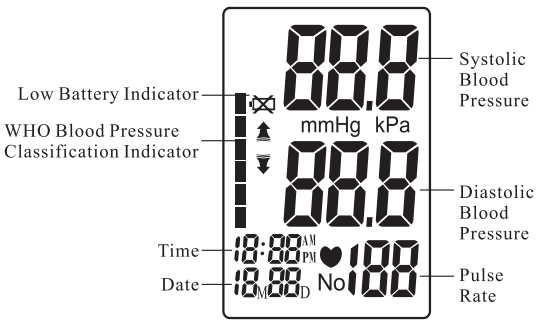
Unit Illustration

Monitor Unit



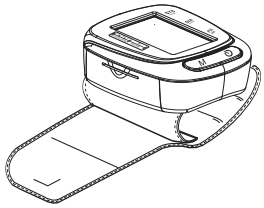
Unit Illustration

Display

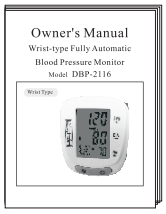


Unit Illustration

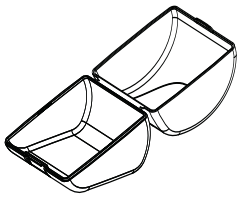
Contents



1.Monitor Unit



2.Owner's Manual



3.Plastic Storage Case

Important Testing Guidelines

1. Avoid eating, exercising, and bathing for 30 minutes prior to testing.
2. Sit in a calm environment for at least 5 minutes prior to testing.
3. Do not stand while testing. Sit in a relaxed position while keeping your wrist level with your heart.
4. Avoid speaking or moving body parts while testing.
5. While testing, avoid strong electromagnetic interference such as microwave ovens and cell phones.
6. Wait 3 minutes or longer before re-testing.
7. Try to measure your blood pressure at the same time each day for consistency.
8. Test comparisons should only be made when monitor is used on the same wrist, in the same position, and at the same time of day.
9. This blood pressure monitor is not recommended for people with severe arrhythmia.
10. Do not use this blood pressure monitor when the device is damaged.

Quick Start

1. Install batteries. (See Figure A)

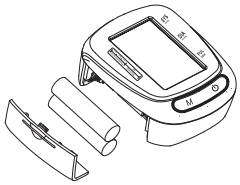


Figure A

2. Remove clothing from the wrist area. (See Figure B)
3. Rest for several minutes prior to testing. Wrap cuff around left wrist. (See Figure C)

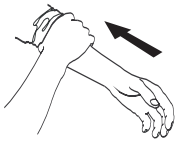


Figure B

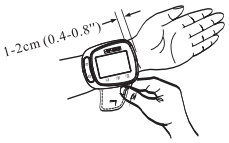


Figure C

Quick Start

4. Sit in a comfortable position and place wrist level with heart. (See Figure D)
5. Press " ⏻ " button to start testing. (See Figure E)

Figure D

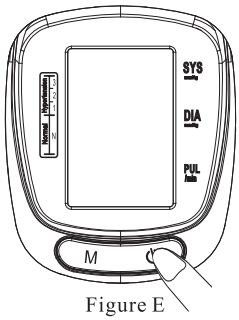


Figure E

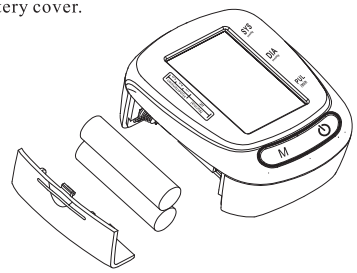
Unit Operation

Battery Installation

Slide battery cover off as indicated by arrow.

Install 2 new AAA alkaline batteries according to polarity.

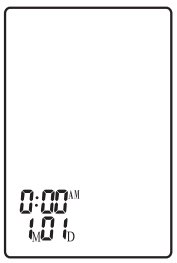
Close battery cover.



Note:
1) Replace batteries when Low Battery Indicator " ⌧ " appears on screen.
2) Batteries should be removed from device when not in operation for an extended period of time.

Unit Operation

1. Time /Date Setting
With power off ,press " ⏻ " button 3seconds to set the Time/Date mode. Set the month first by adjusting the "M " button. Press " ⏻ " button again to confirm current month.
Continue setting the day, hour, and minute in the same way.
Every time the " ⏻ " button is pressed, it will lock in your selection and continue in succession (month, day, hour, minute.)



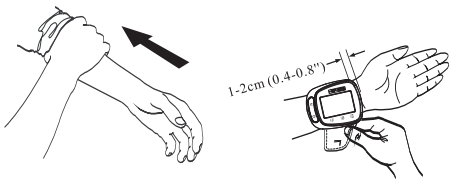
2. Save Settings
While in any setting mode, press " ⏻ " button about 3seconds to turn the unit off. All information will be saved.

Note: Unit will automatically save all information and shut off if left it for 3 minutes.

Applying The Wrist Monitor

Do not apply over clothing. If wearing a long sleeved shirt, be sure to roll sleeve back to forearm.

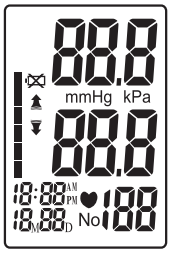
Apply monitor to wrist as illustrated. Tighten cuff firmly as not to wiggle.



Do not stand while testing. Sit in a comfortable position with back supported, feet flat on the floor with legs uncrossed. Place middle of the cuff at the level of the right atrium of the heart.

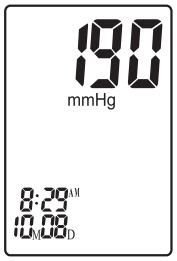
Testing

1. Power On
Press and hold " ⏻ " button until a beep sounds.
The LCD screen will appear for one second as unit performs a quick diagnosis. A long tone indicates device is ready for testing.



Note: Unit will not function if residual air from previous testing is present in cuff. The LCD will flash " ▼ " until pressure is stabilized.

2. Pressurization
The unit will automatically inflate to the proper pressure value and stop inflating. During this time, please keep quiet.

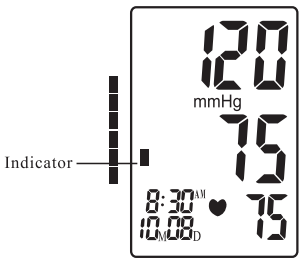


Note: Pressurization will gradually subside and ultimately stop when cuff is not properly applied to the wrist. If this occurs, pressing the " ⏻ " button to turn the unit off.

3. Testing
After cuff inflation, air will slowly subside as indicated by the corresponding cuff pressure value. A flashing " ♥ " will appear simultaneously on screen signaling heart beat detection.

Note: Remain relaxed during testing. Avoid speaking or moving body parts.

4. Result Display
Three short beeps sound when testing is complete.
The screen will display measurements for systolic and diastolic blood pressure. An indicator representing the current measurement will appear next to the corresponding WHO Classification.



Note: Refer to Page 30~31 for detail WHO Blood Pressure Classification Information.

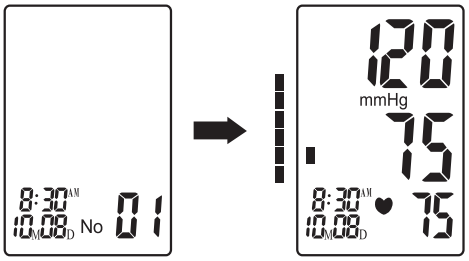
Power Off

The " ⏻ " button can be pressed to turn off the unit in any mode.
The unit can turn off the power itself about 3 minutes no operation in any mode.

⚠ Safety Precaution: If pressure in cuff becomes too extreme while testing, press the " ⏻ " button to turn power off.
The cuff pressure will rapidly dissipate once the unit is off.

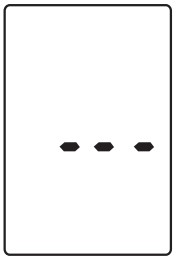
Memory Check

With power off, you may check past test results by using the " M" button.
Upon activating test results, you can press the "M "button to scroll through all test results stored in memory. The LCD will display the last measurement memory as No 01 reading.



Memory Deletion

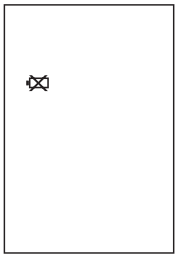
Memory may be deleted while in Memory Check mode. Press and hold the " ⏻ " button for approximately 3 seconds to delete all memory records . The monitor will beep indicating successful deletion and then transfer into testing mode. Then press the " ⏻ " button to turn the unit off.



Note: Memory cannot be recovered once it has been deleted.

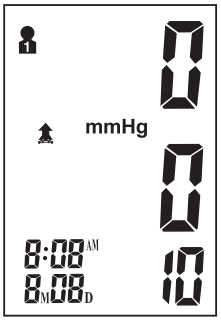
Low Battery Indicator

4 short warning beeps sound when battery life is depleting and unable to inflate cuff for testing. The " ⌧ " appears simultaneously for approximately 5 seconds prior to shutting down. Replace batteries at this time. No memory loss will occur throughout this process.



Static Pressure Measurement

In the power down state, press and hold the " ⏻ " button, and theninstall the batteries. until the LCD screen is full, release the " ⏻ " button. When the LCD screen displays the double zero, the bloodpressure meter is in static state. Software version is displayed at the heart rate .



Note: Only Service personnel permitted to access to this mode, the mode unavailable in normal use.

Troubleshooting

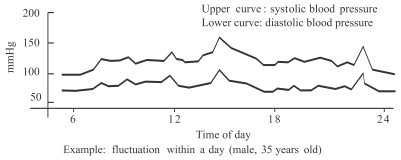
Problem	Possible Cause	Solution
Blood pressure results are not within typical range	Cuff is too tight or not properly positioned on the wirst	Firmly reposition cuff on wrist making sure no wiggle is present. (See Page 15)
	Inaccurate test results due to body movement or monitor movement	Sit in a relaxed position placing wrist level with heart. Avoid speaking or moving body parts while testing. (See Page 8)
" Err " displayed	Cuff fails to inflate properly	Make sure hose is properly fastened to cuff and monitor unit
	Improper operation	Read user manual carefully and re-test properly.
	Pressurization is over cuff rated pressure 300 mmHg	Read user manual carefully and re-test properly.

Blood Pressure

Blood pressure is the force of blood pushing against the walls of arteries. It is typically measured in millimeters of mercury (mmHg.) Systolic blood pressure is the maximum force exerted against blood vessel walls each time the heart beats. Diastolic blood pressure is the force exerted on blood vessels when the heart is resting between beats.

An individual's blood pressure frequently changes throughout the course of a day. Excitement and tension can cause blood pressure to rise, while drinking alcohol and bathing can lower blood pressure. Certain hormones like adrenaline (which your body releases under stress) can cause blood vessels to constrict, leading to a rise in blood pressure.

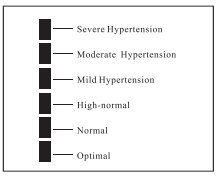
If these measuring numbers become too high, it means the heart is working harder than it should.



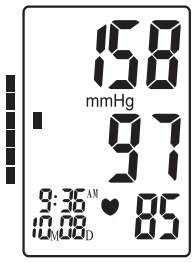
Example: fluctuation within a day (male, 35 years old)

WHO Blood Pressure Classification Indicator

The DBP-2116 is equipped with a classification indicator based on established guidelines from the World Health Organization. The chart below (color coded on monitor unit) indicates test results.



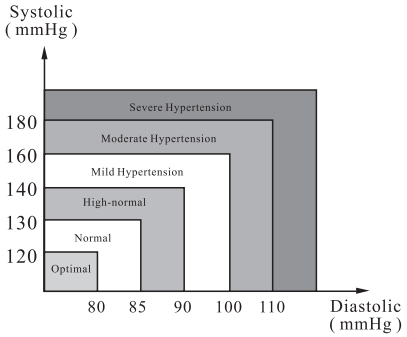
Mild Hypertension



▮: Blood Pressure Classification Indicator

Health Reminder

Hypertension is a dangerous disease that can affect the quality of life. It can lead to a lot of problems including heart failure, kidney failure, and cerebral hemorrhaging. By maintaining a healthy lifestyle and visiting your physician on a regular basis, hypertension and relative diseases are much easier to control when diagnosed in the early stages.



Note: Do not be alarmed if an abnormal reading occurs. A better indication of an individual's blood pressure occurs after 2-3 readings are taken at the same time each day over an extended period of time. Consult your physician if test results remain abnormal.

Q: What is the difference between measuring blood pressure at home or at a professional healthcare clinic?

A: Blood pressure readings taken at home are now seen to give a more accurate account as they better reflect your daily life. Readings can be elevated when taken in a clinical or medical environment. This is known as White Coat Hypertension and may be caused by feeling anxious or nervous.

Note: Abnormal test results may be caused by:

1. Improper cuff placement
   Make sure cuff is snug-not too tight or too loose.
2. Improper body position
   Make sure to keep your body in an upright position.
3. Feeling anxious or nervous
   Take 2-3 deep breaths, wait a few minutes and resume testing.

Blood Pressure Q&A

Q: What causes different readings?

A: Blood pressure varies throughout the course of a day. Many factors including diet, stress, cuff placement, etc. may affect an individual's blood pressure.

Q: Should I apply the cuff to the left or right wrist? What is the difference?

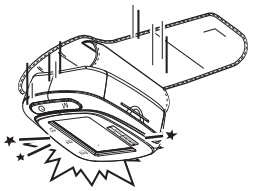
A: Either wrist can be used when testing, however, when comparing results, the same wrist should be used. Testing on your left wrist may provide more accurate results as it is located closer to your heart.

Q: What is the best time of day for testing?

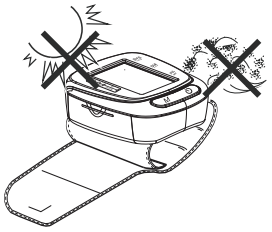
A: Morning time or any time you feel relaxed and stress free.

Maintenance

1. Avoid dropping, slamming, or throwing the unit.

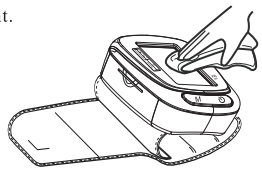


2. Avoid extreme temperatures. Do not use outdoors.

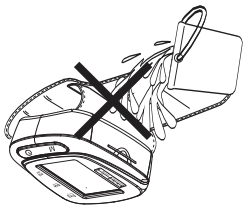


Maintenance

3. When cleaning the unit, use a soft fabric and lightly wipe with mild detergent. Use a damp cloth to remove dirt and excess detergent.

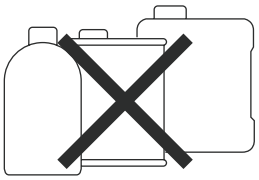


4. Cuff Cleaning: Do not soak cuff in water! Apply a small amount of rubbing alcohol to a soft cloth to clean cuff's surface. Use a damp cloth (water-based) to wipe clean. Allow cuff to dry naturally at room temperature. The cuff must be cleaned and disinfected before use between different users.

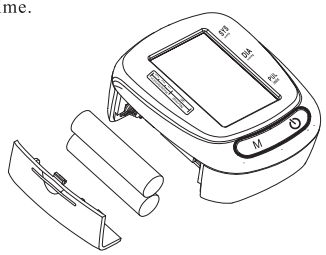


Maintenance

5. Do not use petrol, thinners or similar solvents.

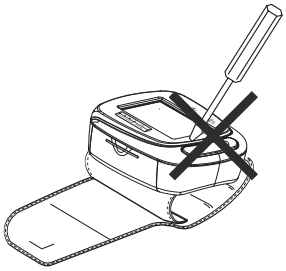


6. Remove batteries when not in operation for an extended period of time.



Maintenance

7. Do not disassemble product.



8. It is recommended the performance should be checked every 2 years.

9. Expected service life: Approximately three years at 10 tests per day.

10. No service and maintenance while it is in use and maintenance only be performed by service personnel. Service and maintenance require parts, repair, technical support will be provided.

Specifications

Product Description	Wrist-type Fully Automatic Blood Pressure Monitor	
Model	DBP-2116	
Display	LCD Digital Display Size:45mmx30mm	
Measurement Method	Oscillometric Method	
Measurement Range	Systolic Pressure	60mmHg～260mmHg
	Diastolic Pressure	30mmHg～200mmHg
	Pressure	0mmHg～300mmHg
	Pressure	±3mmHg
	Pulse	30～180 Beats/Minute
	Pulse	±5%
Pressurization	Automatic Pressurization	
Memory	120 Memories with Date and Time	
Function	WHO Classification Indicator	
	Low Battery Detection	
	Automatic Power-Off	

Power Source	2 Alkaline Batteries Size AAA	
Battery Life	Approximately 2 months at 3 tests per day	
Unit Weight	Approx. 228g (8 oz.)(Excluding Battery)	
Unit Dimensions	Approx. 79 x 66 x 28mm	
Cuff Circumference	Fits wrist circumference 13.5-21.5 cm(5.3"-8.5")	
Operating Environment	Temperature	10℃ ~ 40℃ (50℉~104℉)
	Humidity	15%~93%RH
	Pressure	700hPa~1060hPa
Storage Environment	Temperature	-25℃~70℃ (-13℉~158℉)
	Humidity	≤93% RH
Ingress Protection Rating:	IP 22	
Classification	Internal Powered Equipment,Type BF .	

Specifications are subject to change without notice.

This Blood Pressure Monitor complies with the European regulations and bears the CE mark“CE 0197”.This blood pressure monitor also complies with mainly following standards
(included but not limited):
Safety standard:
EN 60601-1 Medical electrical equipment part 1: General requirements for safety EMC standard:
EN 60601-1-2 Medical Electrical Equipment -- Part 1-2: General Requirements For Basic Safety And Essential Performance -- Collateral Standard:
Electromagnetic Disturbances –Requirements And Tests.
Performance standards:
IEC80601-2-30, Medical electrical equipment – Part 2-30: Particular requirements for the basic safety and essential performance of automated non-invasive sphygmomanometers.
EN 1060-3 Non-invasive sphygmomanometers - Supplementary requirements for electromechanical blood pressure measuring systems.
ISO 81060-2, non-invasive sphygmomanometers - part 2: clinical validation of automated measurement type.

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)

This marking shown on the product indicates that it should not be disposed with other household waste at the end of its life. To prevent potential harm to the environment or to human health, please separate this product from other types of wastes and recycle it responsibly. When disposing this type of product, contact the retailer where product was purchased or contact your local government office for details regarding how this item can be disposed in an environmentally safe recycling center. Business users should contact their supplier and check the terms and conditions of the purchasing agreement. This product should not be mixed with other commercial wastes for disposal. This product is free of hazardous materials.

The Blood Pressure Monitor is guaranteed for 2-year from the date of purchase. If the Blood Pressure Monitor does not function properly due to defective components or poor workmanship, we will repair or replace it freely. The warranty does not cover damages to your Blood Pressure Monitor due to improper handling. Please contact local retailer for details.

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The device satisfies the EMC requirements of the international standard IEC 60601-1-2. The requirements are satisfied under the conditions described in the table below. The device is an electrical medical product and is subject to special precautionary measures with regard to EMC which must be published in the instructions for use. Portable and mobile HF communications equipment can affect the device. Use of the unit in conjunction with non-approved accessories can affect the device negatively and alter the electromagnetic compatibility. The device should not be used directly adjacent to or between other electrical equipment.

Table 1

Guidance and declaration of manufacturer-electromagnetic emissions		
The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment -guidance**
Radiated emission CISPR 11	Group 1, ClassB	The device uses RF energy only for its internal function. Therefore, its emissions are very low and are not likely to cause any interference in nearby electronic equipment.
Conducted emission CISPR 11	N/A	
Harmonic emissions IEC 61000-3-2	N/A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	N/A	

Table 2

Guidance and declaration of manufacturer-electromagnetic immunity			
The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment.			
IMMUNITY test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment -guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ±2 kV,±4 kV, ±8 kV, ±15 kV air	± 8 kV contact ±2 kV,±4 kV, ±8 kV, ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrostatic transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	N/A	
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	N/A	
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% UT (>95% dip in UT) for 0.5 cycle 40% UT (60% dip in UT) for 5 cycle 70% UT (30% dip in UT) for 25 cycle <5% UT (>95% dip in UT) for 5 secretary	N/A	
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m; 50Hz or 60Hz	30 A/m; 50Hz or 60Hz	Power frequency magnetic fields should be at levels charactertic of a typical location in a typical commercial or hospital environment.

Table 3

Guidance and declaration of manufacturer-electromagnetic immunity			
The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment.			
IMMUNITY test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment -guidance**
Conducted RF IEC 61000-4-6	3V for 0.15-80 MHz; 6V in ISM and amate -ur radio bands between0.15-80MHz	N/A	Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended seperation distance $d=[\frac{3.5}{E_1}]\sqrt{P}$ 80 MHz to 800 MHz $d=[\frac{7}{E_1}]\sqrt{P}$ 800 MHz to 2.7 Ghz where P is the maximum output power rating of the transmitter in watts (W) according to the transm-itter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol:
Radiated RF IEC 61000-4-3	385MHz, 27V /m	385MHz, 27V /m	
	450MHz, 28V /m	450MHz, 28V /m	
	710MHz,745 MHZ,780MHz 9V/m	710MHz,745 MHZ,780MHz 9V/m	
	810MHz,870 MHZ,930MHz 28V/m	810MHz,870 MHZ,930MHz 28V/m	
	1720MHz,1845 MHZ,1970MHz 28V/m	1720MHz,1845 MHZ,1970MHz 28V/m	
	2450MHz, 28V /m	2450MHz, 28V /m	
	5240MHz,5500 MHZ,5785MHz 9V/m	5240MHz,5500 MHZ,5785MHz 9V/m	

Table 4

Recommended separation distances between portable and mobile RF communications equipment and the device		
The device is intended for use in an electromagnetic environment in which radiated therefore disturbances are controlled. The customer or the user of the device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the device as recommended below, according to the maximum output power of the communications equipment.		
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m	
	80 MHz to 800 MHz $d=[\frac{3.5}{E_1}]\sqrt{P}$	800 MHz to 2.7 GHz $d=[\frac{7}{E_1}]\sqrt{P}$
0.01	0.12	0.23
0.1	0.38	0.73
1	1.2	2.3
10	3.8	7.3
100	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.