

# VeriSmart<sup>®</sup> | health

## Wireless Upper Arm Smart Blood Pressure Monitor

Model VSH-B550

User Manual







[verismarthealth.com/Resources/VSH-B550](https://verismarthealth.com/Resources/VSH-B550)

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# 1. Warnings and Precautions

## 1.1 Warning

When the measurement is complete, consult your doctor if you have any doubts about the measurement results. Do not self-diagnose and treat according to measurement results.

Common arrhythmia (such as atria premature beats, premature ventricular, and atrial fibrillation) will affect blood pressure measurement accuracy. If it is frequent, please go to the hospital immediately for confirmation and treatment.

If the airbag is inflated for a long time during measuring, immediately press the [START/STOP] button to stop the measurement. Continued inflation presses the hand and arm, which can cause limb numbness.

This product is not suitable for newborns.

Do not allow children to use the instrument without authorization: Some small parts may cause ingestion. The hose may cause a choking hazard. This product is not suitable for newborns.

It is not recommended to measuring blood pressure on the side where a breast has been removed.

This device is not to be shared with high-frequency surgical equipment.

## 1.2 Precautions

Avoid exposing the device to high temperatures, humidity, dust, and direct sunlight. Extreme temperature, humidity, and altitude conditions can affect the performance of the measurement, and the sphygmomanometer may not meet the stated performance

specifications.

Avoid damage to the armband and rubber tube due to folding.

Do not disassemble this unit yourself. Such activity will compromise the pressure calibration and cause readings to fail. Unauthorized disassembly will void the warranty.

Avoid dropping or violently vibrating the device's body.

The standard measurement period is about 1 minute. If the measurement does not stop for a long time, please press the "START/STOP" button to stop the activity. Avoid numbness of the limbs due to prolonged compression of the arm.

Original or medically compliant power adapters must be used (IEC 60601-1 certified). Non-original accessories may present unpredictable risks.

For optimal reading of the display, please note the following visible conditions:

- Ambient brightness: 100lx~1500lx
- Line of sight: less than 30cm
- Viewing angle: normal display  $\pm 30^\circ$

Do not put the cuff on the wound, which will cause further damage to the area.

Do not measure blood pressure if there is intravascular access or or treatment, or arteriovenous (A-V) shunt.

### **1.3 Purpose/Intended Use of Device**

The VERISMART® Wireless Upper Arm Smart Blood Pressure Monitor VSH-B550 is designed to measure the blood pressure and pulse rate of adults and children 12 years or older. The device is intended for home use and is to be operated by a user who has

read and understood the user manual.

Operate the device with the cuff around the left upper arm in accordance with user manual.

## 2. Introduction

### 2.1 Product Features

The VERISMART® Wireless Upper Arm Smart Blood Pressure Monitor VSH-B550 simultaneously measures systolic and diastolic blood pressure and pulse rate through pressure oscillation. While its accuracy is medical grade, it is suitable for home health care. Its easy-to-use, convenient interface enables users to comprehensively monitor their health.

### 2.2 Self-Measurement

Note that self-measurement is equal to self-control, not diagnosis or treatment. If you have abnormal blood pressure, consult your physician immediately.

**The pulse displayed by this unit is unsuitable for a fixed frequency detector that identifies heart rate.**

Those with a history of heavier arrhythmia should consult a professional physician about the measured blood pressure.

### 2.3 Electromagnetic Interference

Due to the unit having sensitive electronic components, avoid using it directly in a strong electromagnetic environment (i.e., mobile phone, microwave oven, etc.), as it may lead to inaccurate results.

## 3. About Blood Pressure

### 3.1 What is Blood Pressure?

Blood pressure (BP) is regulated by the brain's circulatory center. Through nervous system regulation, the body can adapt and change blood pressure, allowing different body parts to respond accordingly. The human body adjusts blood vessel diameter and pulse via the smooth muscle in microvessels, thereby altering blood pressure.

When the heart contracts to its apex, blood pressure reaches its highest point, known as systolic (SYS). Conversely, when the heart relaxes to its nadir, blood pressure drops to its lowest point, known as diastolic (DIA).

### 3.2 What Is Normal Blood Pressure?

If your blood pressure is too high at rest—specifically if your diastolic pressure (DIA) exceeds 90 mmHg or your systolic pressure (SYS) is higher than 140 mmHg—please consult your physician immediately. Prolonged hypertension can damage blood vessels and vital organs, such as the kidneys and heart.

If your systolic blood pressure (SYS) is between 140 mmHg and 160 mmHg, and your diastolic pressure (DIA) is between 90 mmHg and 100 mmHg, it is important to consult your physician. Regular self-measurement is also very necessary.

If your blood pressure is too low—defined as a systolic blood pressure (SYS) below 100 mmHg and a diastolic blood pressure (DIA) below 60 mmHg—please consult your physician.

Using this sphygmomanometer for regular blood pressure self-measurement is necessary even if your blood pressure falls within the normal range. This practice allows you to detect changes

in your blood pressure early and take appropriate measures.

If you are currently taking medication to control your blood pressure, self-measure and record your blood pressure daily, and bring the records to your physician. Please do not change the prescription or dosage prescribed by your physician based on your own measurements.

In 1988, the United Nations Committee on the Investigation, Evaluation, and Treatment of Hypertension recommended that both systolic (SYS) and diastolic (DIA) blood pressure should be measured at least three times for an accurate assessment. If any of these measurements indicate elevated blood pressure, further diagnosis is necessary.

The following table is a standard taxonomy for blood pressure established by the World Health Organization (WHO). Units are shown in mmHg.

Scope	Systolic (SYS)	Diastolic (DIA)	Corresponding measures
Hypotension	<100	<60	Ask doctor for measurement
Desirable	100 - 120	60-80	Self-measurement
Normal	120 - 130	80-85	Self-measurement
Pre-hypertension	130-139	85-89	Self-measurement
Stage 1 Hypertension	140-159	90-99	Consult doctor
Stage 2 Hypertension	160-179	100-109	Consult doctor ASAP
Hypertension Crisis	≥180	≥110	Danger! Consult doctor immediately

### 3.3 What Measure Should Be Taken When Your Blood Pressure Is Too High Or Low?

- a. Please consult a physician.
- b. Prolonged elevated blood pressure (various types of SYS) poses a serious risk to human health. Deposits on the walls of blood vessels can limit blood flow, potentially leading to arteriosclerosis, a dangerous condition. This reduced blood flow can cause insufficient supply to critical parts of the body, such as the heart, brain, and muscles, and may even severely damage the structure of the heart.
- c. Many factors can contribute to high blood pressure. It can be categorized into primary (common) hypertension and secondary hypertension. Secondary hypertension can lead to organ disorders. If your blood pressure continues to rise, consult your physician to determine the possible causes.
- d. Changing your lifestyle also can prevent or lower hypertension, but this habit must be a part of healthy life, including:
  1. Dietary Habit
    - Maintain a healthy weight as advised by your doctor.
    - Avoid consuming excessive salt, especially from packaged foods, which often contain high amounts of salt.
    - Steer clear of greasy foods, as packaged foods usually contain large amounts of fat.
  2. Preventing Diseases
    - Follow medical guidelines to prevent conditions such as diabetes, fat metabolic disorders, and gout.
  3. Living Habit
    - Avoid smoking.

- Limit alcohol intake and avoid high-concentration alcoholic beverages.
- Reduce your intake of caffeine (found in coffee, tea, chocolate, etc.).

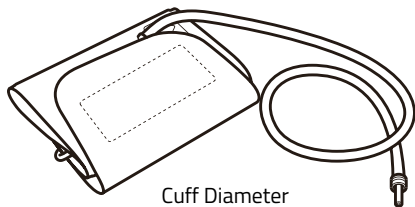
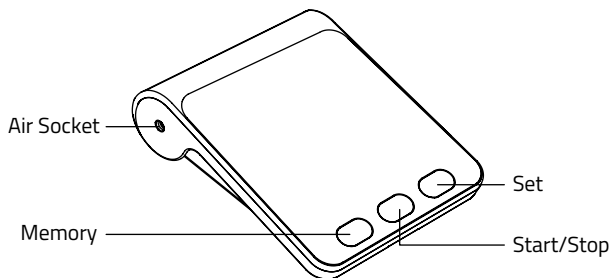
#### 4. Physical Exercise

- After a medical examination, engage in regular physical exercise.
- Opt for endurance activities over strength-based ones.
- Avoid exercising to your physical limit.
- Patients over 40 with a medical history should consult their physician before starting an exercise routine.

**Precaution:** Consult your physician before using the device if you have any of the following conditions: common arrhythmias such as atrial or ventricular premature beats or atrial fibrillation, arterial sclerosis, poor perfusion, diabetes, old age, pregnancy, pre-eclampsia, or renal diseases. Note that patient motion, trembling, or shivering may affect the reading.

The physiological status of the conditions mentioned above can impact blood pressure measurements. Additionally, the measurement site and the posture of the patient can also affect the blood pressure values. Please refer to Section 6 for the correct method.

## 4. Description of Product Structure

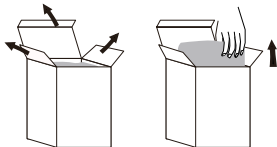


Cuff Diameter  
8.66-16.54 in (22-42 cm)

## 5. Operational Manual

### 5.1 Unpacking

Unpack the box and lay the product flat on the table.

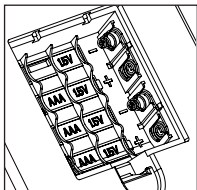


### 5.2 Install The Battery

After opening the package, the first step is to install the battery. The battery compartment is located at the base of the sphygmomanometer.

Follow these steps to install the battery:

- Remove battery cover.
- Insert the battery, ensuring that the positive and negative poles of the battery match the corresponding poles in the battery compartment.
- If the LED displays a low battery signal, please replace the battery with a new one.

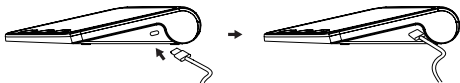


### Precaution

- Once the low battery signal is displayed, the unit will not be available unless you replace new battery.
- Please use 4 standard "AAA", long-lasting alkaline batteries.
- Remove battery if the unit is to remain unused for an extended period.

### 5.3 Using the USB Power Adapter

In addition to using a battery, this unit can also be powered by a USB 5V adapter. It is essential to use the original power supply or medical-grade power supplies that meet medical standards, such as IEC 60601-1 certification. The transformer connects to the power socket as shown below. Connect the adapter to the product's power socket and press the [START/STOP], [MEM], or [SET] button to test if it is powered.



When using an adapter, it serves as the power source instead of the battery. If a power failure occurs during measurement (e.g., the adapter plug is disconnected from the power outlet), unplug the adapter's single-pin plug and reinsert it into the unit.

### 5.3 Connect To Cuff

After removing the cuff, connect the cuff's tube to the tube connection hole on the left side of the unit (marked with the cuff symbol). Ensure the air pipe is properly connected to prevent bending or blocking the air path.

### 5.4 Switch Users

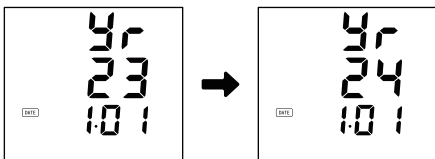
In the shutdown mode, short press the [SET] button to display the current user icon, and then press the [SET] key to switch to another group.



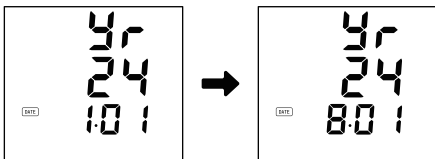
## 5.5 Setting Time, Date and kPa/mmHg Unit Selection

The unit automatically records the date and time of each measurement, which is very important because blood pressure can vary throughout the day. It is recommended to set the correct date and time immediately after installing the battery. Please follow these steps to set the date and time (Example: enter 12:01 PM on Aug. 28th):

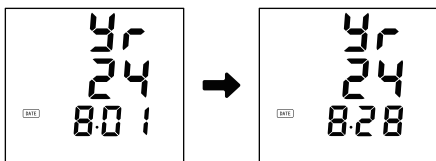
1. In shutdown mode, press the [SET] key for 3 seconds to enter the function setting mode (if not selected, the system defaults to the manufacturing time). The last two digits of the year will flash on the screen. You can adjust the year by pressing the [MEM] button (e.g., press once to change from 23 to 24).



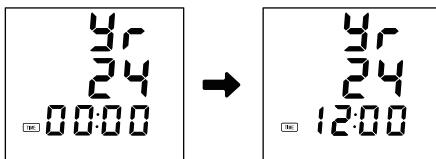
2. Press the [SET] button to move to the month setting. The first digit of the month will start to flash. Adjust the month by pressing the [MEM] button (e.g., press 7 times to change from January to August).



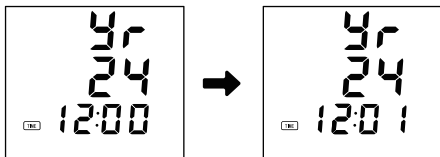
3. Press the [SET] button again to switch to the date setting. The last two digits of the date will start to flash. Adjust the date by pressing the [MEM] button (e.g., press 27 times to change from the 1st to the 28th).



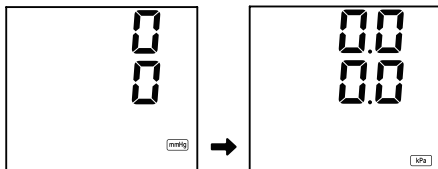
4. Press the [SET] button again to switch to the time setting. The first digit (indicating the hour) will start to flash. Adjust the hour by pressing the [MEM] button (e.g., press 12 times to change from 0:00 to 12:00).



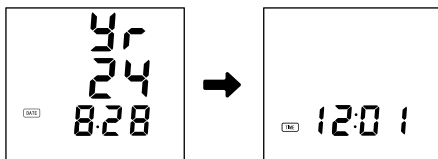
5. Press the [SET] button again, and the last two digits (indicating minutes) will start to flash. Adjust the minutes by pressing the [MEM] button (e.g., press once to change from 0 minutes to 1 minute).



6. Press the [SET] button again to enter the kPa/mmHg unit selection. Select kPa or mmHg by pressing the [MEM] button. "0.0" will display on the screen when kPa is selected, and "0" will display when mmHg is selected.



7. Finally, press the [SET] button to complete the setting. The date will be displayed first, and it will automatically switch to the time after 3 seconds. If there is no operation, the unit will automatically shut down after 30 seconds.



## 6. Measurement of blood pressure

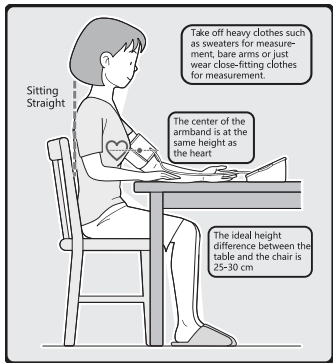
### 6.1 Preparation Before Measurement

Avoid any form of activity before measuring, as it can affect the results. Try to relax in a quiet environment, rest for 10 minutes, and then take the measurement.

If you are wearing heavy clothing, remove it from your upper arm.

Select the arm for blood pressure measurement (usually the left arm) and consistently take measurements on the same arm and in the same area.

Regularly take blood pressure measurements at the same time every day, as blood pressure can vary throughout the day.



## 6.2 Common Factors That Lead To Erroneous Measurements

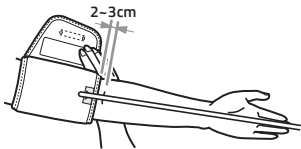
**Note:** Comparative blood pressure measurements should be performed in the same condition (usually referred to Quiet Conditions).

- If the arm artery is lower (or higher) relative to the heart, it will result in a higher (or lower) blood pressure value. (Each 15 cm height difference can produce a 1.3 kPa/10 mmHg error value.)
- This unit is not suitable for newborns.
- Note: Please use the original arm cuff that meets clinical test requirements.
- A loose or exposed air bag cuff will lead to inaccurate blood pressure readings.
- Repeated measurements can compress the blood vessels

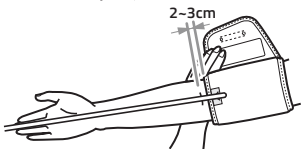
in the arm, causing biased blood pressure values. Therefore, when taking repeated measurements, be sure to rest for 3-5 minutes or raise your arm for 3 minutes to reduce congestion.

### 6.3 The Correct Method Of Using The Cuff

1. Ensure the arm strap connector is fully inserted into the sphygmomanometer vent.
2. Remove your coat, sweater, and other thick clothing. Avoid wearing accessories. Ensure your upper arm is bare or wear a thin shirt for the measurement.



3. Wrap the cuff around your left arm.
4. Do not wrap the cuff too tightly (you should be able to easily insert a finger). The lower edge of the cuff should be 2-3 cm from the elbow crease (as shown).



5. After wrapping the cuff around your upper arm, place the air tube on the inside of the arm, aligned with the middle finger (as shown).
6. When measuring, sit in a chair with your feet flat on the floor. Place your arm on a table, ensuring your arm and heart are at the same level. Relax and maintain a natural posture during the measurement.

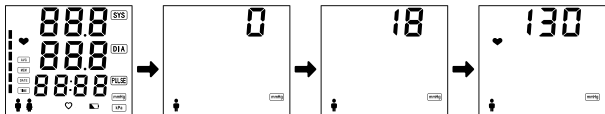
### Suggestion

If the arm strap cannot be worn on the left arm, use the right arm for the measurement and continue using the same arm for future measurements.

## 6.4 Performing A Measurement

After the arm band is set, follow these steps to perform the blood pressure measurement:

1. Tap the [START/STOP] button. The screen will clear after 1 second, and the arm band will begin to inflate. The LED display will show the change in air pressure in the arm band.
2. Once the measurement is complete, the display will show SYS, DIA, and pulse frequency.



3. If you forget to turn off the power, the unit will automatically power off after 30 seconds.

**Note:** This product can display measurements in either millimeters of mercury (mmHg) or kilopascals (kPa), depending on the region. Use the product according to the user manual based on the selected display mode.

## 6.5 WHO Blood Pressure Definition

**WHO Blood Pressure Definition Function:** This unit includes a

SYS warning and a warning bar reminder function. You can read the World Health Organization (WHO) blood pressure indicators. Blood pressure is categorized into ideal blood pressure, normal blood pressure (green), normal partial hypertension (orange), mild hypertension, moderate hypertension, and severe hypertension (red). After the measurement is completed, a black zebra crossing will appear at the corresponding position according to the SYS and DIA values.

Scope	Systolic (SYS)	Diastolic (DIA)	Indicator Color
Desirable	<120	<80	Green 1*
Normal	120–129	80–84	Green 2*
Pre-hypertension	130–139	85–89	Orange
Stage 1 Hypertension	140–159	90–99	Red 1†
Stage 2 Hypertension	160–179	100–109	Red 2†
Hypertensive Crisis	≥180	≥110	Red 3*

\*Green indication color: reading is in normal range

† Red indication color: please consult physician

## 6.6 Memory - Display Last Memory Value

This sphygmomanometer automatically stores the last measurement for up to 60 groups for two users. In the shutdown and wait state, pressing the [Mem] button displays the average value of the last three measurements for the current user. Pressing [Mem] or [Set] again allows you to read the previously measured values. The device first displays the memory group and test date for one second, then the memory group and test time for one second, and finally the test data.

## 6.7 Stop Measurement

If you experience any discomfort or if the airbag remains persistently over-inflated, there may be a risk. In such cases, you must stop the blood pressure measurement immediately. Press the [START/STOP] button, and the sphygmomanometer will promptly release the air pressure in the cuff to ensure your safety.

## 6.8 Memory - Erase All Memory

**Please note: Before deleting the memory, carefully confirm that the stored data will not be needed in the future. It's best to keep good records to provide your doctor with the necessary information.**

To delete all user data and reset to factory settings: In the memory display state, hold down the [MEM] button while simultaneously holding down the [START/STOP] button for about 3 seconds until the display shows horizontal bars for SYS, DIA, and heart rate. This will delete the memory.

The machine cannot delete individual numeric values.

# 7. Error Warning/Troubleshooting

## 7.1 False Alarm

The LED will display an error warning if any of the following conditions occur, follow the instructions:

Error code	Description	Reason of error	Solutions
Er01	Error of measurement	Too much noise to detect an effective pulse signal	Please rest for 2 minutes, adjust the cuff, keep quiet during measurement, do not move or talk
		No pulse was detected	
		The results deviated from the normal range	
	Static pressure exceeds the set protection point	Set upper limit protection when the pressure over 295mmHg	Measure blood pressure again
	Zero overtime	<ol style="list-style-type: none"> <li>1. During the process of returning to zero, the air pressure in the cuff continues to fluctuate</li> <li>2. The sensor part of the circuit is abnormal</li> <li>3. Sensor damage</li> </ol>	<ol style="list-style-type: none"> <li>1. Keep the cuff intact when returning to zero</li> <li>2. Detecting the power supply of the sensor</li> <li>3. Replace the sensor</li> </ol>
Er02	Abnormal cuff wearing	<ol style="list-style-type: none"> <li>1. The cuff is not worn</li> <li>2. Wearing too loose</li> <li>3. Wearing too tight</li> <li>4. Cuff pressure is abnormal</li> </ol>	Adjust the cuff. It is advisable to insert two fingers just after the tightness is tied. The cuff mouth of the cuff is kept 2cm on the elbow socket.
Lo	Power is not enough	The power is lower than the minimum operating voltage.	Replace the battery

Even in healthy individuals, blood pressure constantly changes (presenting a jagged line). Therefore, when making comparative measurements, you must be in a fixed state (quiet environment). If the difference is greater than 2.0 kPa / 15 mmHg under these conditions, or if you experience an irregular heartbeat, please consult your doctor.

## 7.2 Troubleshooting

If any faults (or abnormal conditions) occur during use, check and exclude according to the items listed in the following table:

Malfunction	Exclude
When the battery is installed and the switch is turned on, the LED shows nothing.	1. Check whether the positive and negative poles of the battery are placed correctly. 2. If the fault persists, please reposition or replace the battery.
The air pump has begun to inflate, but there is no rise in arm pressure.	Check the hose connection for air leakage or whether it is fully inserted into the socket.
Sphygmomanometers fail to measure blood pressure frequently, or the blood pressure is abnormally high or low.	1. Re-set the correct cuff. 2. If the left upper arm of the belt is covered with sleeves or other clothing, please take off. Re-measure blood pressure.
Each measurement was different, although the sphygmomanometer was functional or showed normal blood pressure.	Please study the following points: "further consultation" or "6.2 common factors leading to wrong measurement" and then measure again.
The self-measured value is different from the measured value of the doctor.	*Record daily measurements and consult your doctor.
After the sphygmomanometer is pressurized, the air pressure of the cuff is released. And the rate is slow even not released at all.	*The air hole connection of the hose in the arm belt has the phenomenon of "plastic ring" falling off. Please put the plastic ring on and measure again.

\*For any technical problems related to the blood pressure monitor, consult experts or medical personnel. Do not disassemble or attempt repairs without permission. Unauthorized disassembly will void the warranty.

## 8. Daily Use and Maintenance

### 8.1 Clean

When the product is dirty due to prolonged use, follow these cleaning requirements:

- For a dirty outer shell, gently wipe it with a wet, soft cotton cloth. If it is seriously soiled, use a soft, dry cloth dipped in 75% medical alcohol. Clean at least once a month.
- Keep the cuffs clean. After prolonged use, spray the inside of the measuring contact of the cuff with 95% medical alcohol

for disinfection. If heavily soiled, replace the cuff. Contact the dealer or manufacturer for disposal.

- This product is intended for personal, home use. Clean it with medical alcohol before using it on others.
- This product is not waterproof. Avoid excessive moisture when cleaning and do not splash with water.
  1. Only use cleaning solutions recommended by the manufacturer to avoid damaging the sphygmomanometer.
  2. Avoid washing the cuff.

## **8.2 Maintenance**

VeriSmart® does not authorize any organization or individual to carry out maintenance. Do not disassemble or adjust this unit if you suspect functional problems.

The electronic sphygmomanometer is a very precise product; any improper maintenance, disassembly, or adjustment will lead to inaccurate measurements.

- Avoid damaging the cuff and rubber tube by folding.
- Avoid dropping or shaking this unit violently.
- Within the warranty period, please contact the distributor or manufacturer if you have any questions about the product.

## **8.3 Calibration**

The electronic sphygmomanometer is calibrated at the time of manufacture. We recommend a static pressure test every 2 years, with the option to have an authorized dealer calibrate your device. If you question the accuracy of the measurements, contact your dealer or manufacturer for assistance.

## 9. Disposal Of Unit

If this unit is damaged and needs to be discarded, please dispose of the electronic waste in accordance with relevant national laws and regulations. Do not place the battery or product directly in the garbage can. If you have any questions, please consult the licensor responsible for local waste disposal.

## 10. Reference Standard

VSH-B550 Upper Arm Blood Pressure Monitor is produced and sold meets the following standards:

- Performance safety standard: YY 0670/ IEC 80601-2-30
- Electromagnetic compatibility: IEC60601-1-2
- Safety standard: GB 9706.1/ IEC60601-1

**Claim: The blood pressure value tested by this device is equivalent to that measured by auscultation, and the error is in accordance with the requirements of the code IEC/EN 80601-2-30.**

**Please read this instruction carefully before use. The product is part of BF application equipment of internal power supply.**

## 11. Technical Specifications

Model	VSH-B550
Displayer	LED displayer
Measuring Method	Oscillometric













Measuring Range	Systolic: 60-250mmHg Diastolic: 30-195mmHg Pulse: 40-199beats/min
Memory	Automatically stores 60 sets of measured values for each user (2)
Users	Two profiles
Resolution	0.1kPa (1mmHg)
Accuracy	Static pressure: $\pm 0.4$ kPa ( $\pm 3$ mmHg) Pulse: within $\pm 5\%$ of the reading
Power	4x1.5V AAA Batteries
Special Accessories	Cuff, instruction manual, and 4pcs AAA/LR03 alkaline batteries
Size	L 5.71" (145 mm) x W 4.84" (123 mm) x H 1.61" (41 mm)
Weight	~ 13.05 ounces (370 g), including battery
Withstand pressure of cuff	6.96 PSI (360 mmHg)
Upper Arm Circumference	8.66"(220 mm) ~ 16.54"(420 mm)
Electric Shock Protection Type	Class II device
Shock Protection Procedure	BF application part
Application Component	Cuff
Operating Condition	Temperature: 41 °F (5 °C) to 104 °F (40 °C) Humidity: 15% RH~90% RH, No condensation Atmospheric pressure: 10.15 PSI (70 kPa) ~ 15.37 PSI (106 kPa)
Transportation and Storage Conditions	Temperature: -13.0 °F(-25 °C)- 131.0 °F (55 °C) Humidity: 15% RH~95% RH, No condensation Atmospheric pressure: 10.15 PSI (70 kPa) ~ 15.37 PSI (106 kPa) Please strictly observe the environmental conditions of transportation and storage, otherwise it will affect the accuracy of the equipment.
Product Life Time	5 years


The VSH-B550 was clinically investigated according to the requirements of ISO 81060-2: 2013.

## 12. Package List

Component	Quantity
Body	1 set
Cuff	1 pc (with trachea)
AAA battery	4 pcs
Instruction Manual	1 pc

## 13. Standardized Symbols

Symbol	Description
	General warning sign
	Follow instructions for use
	Type BF applied parts
	Unique device identifier
	Electric shock protection type :Class II equipment
	Disposal in accordance with Directive 2002/96/EC (WEEE)
	Complies with the European Medical Device Regulation (EU) 2017/745, Notified Body is SGS Belgium NV.
	Manufacturer
	Authorized representative in the European Union
	Serial number
	Batch code
	The value of SYSTOLIC BLOOD PRESSURE

Symbol	Description
<b>DIA</b>	The value of DIASTOLIC BLOOD PRESSURE
<b>MD</b>	Medical Device
<b>IP21</b>	Level of protection for ingress of water or particulate matter into ME EQUIPMENT
	Date of manufacture

## 14. Electromagnetic Compatibility

The Upper Arm Blood Pressure Monitor VSH-B550 meets the electromagnetic compatibility requirements of IEC60601-1-2, IEC60601-1-11, IEC80601-2-30.

- Users should install and use the electromagnetic compatibility information provided in the accompanying documentation. Portable and mobile RF communication devices may affect the performance of the Upper Arm Blood Pressure Monitor VSH-B550. Avoid strong electromagnetic interference during use, such as being close to mobile phones, microwave ovens, etc.
- Detailed instructions for the guide and manufacturer are provided in the attachment.

### Warning:

- Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- Use of accessories, transducers, and cables other than those

specified or provided by the manufacturer of the VSH-B550 could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 12 inches(30 cm) to any part of the VSH-B550, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

## 14.1 Electromagnetic Emission

Guidance and manufacturer's declaration – electromagnetic emission		
The VSH-B550 is intended for use in the electromagnetic environment specified below. The customer or the user of VSH-B550 should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	The VSH-B550 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.

RF emissions CISPR 11	Class B	The VSH-B550 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations flicker emissions IEC 61000-3-3	Complies	


## 14.2 Electromagnetic Immunity

Guidance and manufacturer's declaration – electromagnetic immunity for all EQUIPMENT and SYSTEMS			
The VSH-B550 is intended for use in the electromagnetic environment specified below. The customer or the user of the VSH-B550 should assure that it is used in such an environment.			
Immunity Test	IEC 60601 test level	Compliance level	Electromagnetic environmental 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 %.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % UT; 0,5 cycle UT At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0° 0 % UT; 250/300 cycle	0 % UT; 0,5 cycle UT At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0° 0 % UT; 250/300 cycle	The mains power quality should meet the standards of a typical commercial or hospital environment. If continuous operation of the VSH-B550 is required during power interruptions, it is recommended to power the VSH-B550 using an uninterruptible power supply (UPS) or a battery
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30A/m	30A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Note: UT is the a. c. mains voltage prior to application of the test level.

Guidance and manufacturers declaration - Electromagnetic Immunity

The VSH-B550 is intended for use in the electromagnetic environment specified below. The customer or the user of the VSH-B550 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms</p> <p>150 kHz to 80 MHz</p> <p>6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz</p> <p>10 V/m</p> <p>80 MHz to 2.7 GHz</p> <p>385MHz-5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wire-less communication equipment (Refer to table 9 of IEC 60601-1-2:2014)</p>	<p>3V</p> <p>150 kHz to 80 MHz</p> <p>6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz</p> <p>10 V/m</p> <p>80 MHz to 2.7 GHz</p> <p>385MHz-5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wire-less communication equipment (Refer to table 9 of IEC 60601-1-2:2014)</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the VSH-B550, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = \left[ \frac{P}{r} \right]^{1/2} / F$ $d = \left[ \frac{P}{r} \right]^{1/2} / F$ $d = \left[ \frac{P}{r} \right]^{1/2} / F \text{ 80 MHz to 800 MHz}$ $d = \left[ \frac{P}{r} \right]^{1/2} / F \text{ 800 MHz to 2.7 GHz}$ <p>where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). †</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,* should be less than the compliance level in each frequency range. †</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic is affected by absorption and reflection from structures, objects and people.

\* The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0,15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz.

† 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 VSH-B550 is used exceeds the applicable RF compliance level above, the VSH-B550 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the VSH-B550.

‡ Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

## 14.3 Recommended Separation Distance

### Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM - for EQUIPMENT and SYSTEMS

The VSH-B550 is designed for use in an electromagnetic environment where radiated RF disturbances are controlled. To help prevent electromagnetic interference, customers or users of the VSH-B550 should maintain a minimum distance between portable and mobile RF communications equipment (transmitters) and the VSH-B550, as recommended below, based on the maximum output power of the communications equipment.

Rated Maximum output of transmitter $W$	Separation distance according to frequency of transmitter			
	150 kHz to 80 MHz outside ISM and amateur radio bands $d = \left[ \frac{3.5}{V_1} \right] \sqrt{P}$	150 kHz to 80 MHz in ISM and amateur radio bands $d = \left[ \frac{12}{V_1} \right] \sqrt{P}$	80 MHz to 800 MHz $d = \left[ \frac{3.5}{E_1} \right] \sqrt{P}$	800 MHz to 2.7 GHz $d = \left[ \frac{7}{E_2} \right] \sqrt{P}$
0.01	0.12	0.20	0.035	0.07
0.1	0.38	0.63	0.11	0.22
1	1.2	2.00	0.35	0.70
10	3.8	6.32	1.10	2.21
100	12	20.00	35	70

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.

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

## 15. Limited Warranty

Thank you for purchasing a VeriSmart® product. This device is constructed with high-quality materials, and great care has been taken in its manufacturing. It is designed to provide you with a high level of comfort, provided it is properly operated and maintained as described in the instruction manual.

This product is warranted by VeriSmart Inc. for a period of five years from the date of purchase. VeriSmart Inc. guarantees the proper construction, workmanship, and materials of this product. During this warranty period, VeriSmart Inc. will repair or replace any defective product or parts at no charge for labor or parts.

The warranty does not cover the following:

- Transport costs or risk of damage.
- Costs for repairs or defects resulting from unauthorized repairs.
- Periodic check-ups and maintenance.
- Failure or wear of optional parts or other attachments, unless explicitly warranted.
- Costs arising from non-acceptance of a claim.
- Damages of any kind, including personal injury caused acci-

dentially or from misuse.

- Calibration services.
- Optional parts, which have a one-year warranty from the date of purchase. Optional parts include, but are not limited to, the cuff, cuff tube, USB-C power cord.

For warranty service, please contact the dealer from whom the product was purchased or an authorized VeriSmart® distributor. Visit our website, [www.verismarthealth.com](http://www.verismarthealth.com), to register your device and for contact information.

Repair or replacement under the warranty does not extend or renew the warranty period. The warranty is valid only if the complete product is returned with the original invoice or receipt issued to the consumer by the retailer.



[verismarthealth.com/Resources/VSH-B550](http://verismarthealth.com/Resources/VSH-B550)

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