microlife®

WatchBP

# Office Vascular

Professional Office Blood Pressure and cardiovascular screening monitor


TWIN200 VSR

## Instruction Manual

EN

ESH Protocol Embedded

AHA Protocol Embedded

# Indications for Use

The Microlife Upper Arm Automatic Digital Blood Pressure and Cardiovascular Screening Monitor Model WatchBP Office Vascular (TWIN200 VSR) is a non-invasive digital blood pressure device using oscillometric technique and an upper-arm blood pressure cuff to measure systolic and diastolic blood pressures, pulse rate, mean arterial pressure (MAP) for or use in adults and pediatrics (but not neonates) with arm cuff circumference sizes ranging from 14 -52 cm.

The device screens for the presence of atrial fibrillation during measurement.

The device can accurately measure blood pressure in pregnant patients including those with known or suspected pre-eclampsia.

A recommended test for diagnosing Peripheral Artery Disease (PAD) is performing ankle-arm measurements to assess the ankle brachial index (ABI). The device has proven to be a fast, easy, and reliable alternative for Peripheral Arterial Disease (PAD) screening as has been clinically validated with a Doppler device [1].

The device also provides a user-friendly and more reproducible cuff-based brachial-ankle PWV measurement method to evaluate arterial stiffness in clinical practice.

The device provides aortic blood pressure parameters, includes central systolic blood pressure (cSBP), central pulse pressure (cPP) and central diastolic blood pressure (cDBP), non-invasively through the use of a brachial cuff. This was validated against invasive blood pressure measurement and showed that the device determines central blood pressure measurement with high accuracy [2].

The memory data can be transferred to the PC (personal computer) running the WatchBP Analyzer software by connecting the monitor via USB cable or Bluetooth.

The device is meant for useing by healthcare professionals in clinical practice.

### Contra-indications

The device is not intended for measuring blood pressure in patients of age less than 3 years old ( infant or neonates).

The device measures brachial blood pressure using pressured cuff over upper arm. If the measurementing arm or leg suffers from injuries (e.g. open wounds) or conditions (e.g. intravenous drip) or has stents implanted making it unsuitable for surface contact or pressurization of the arm, do not use the device.

The device is not intended to measure pulse rate to check the frequency of pacemaker.

**WatchBP product support:**
https://www.microlife.com/professional-products

**WatchBP Software support:**
https://www.microlife.com/support/software-professional-products

**Developers support:**
https://www.microlife.com/developers1

# Table of Contents

# Product description

### The WatchBP Office Vascular consists of two major parts

- The device, cuffs and accessories.
- The WatchBP Analyzer Software.

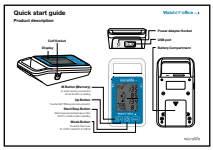
### With the WatchBP Analyzer Software

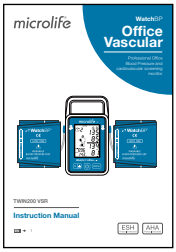
1) The device can be programmed for the blood pressure measurement procedure.
2) Measured blood pressure values can be downloaded to the PC.
3) A PDF report and Microsoft Excel spreadsheet for data analysis can be generated.

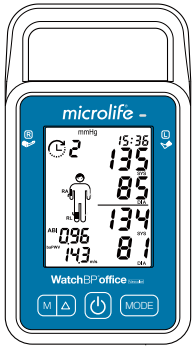
* *Download the latest WatchBP Analyzer Software from the Microlife website.*
*https://www.microlife.com/support/software-professional-products*

### Contents

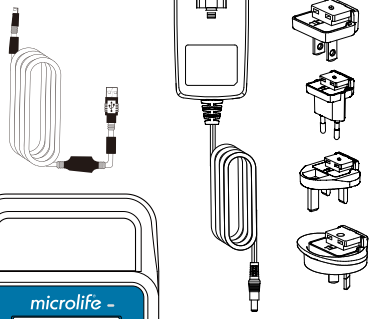
1. WatchBP Office Vascular Monitor
2. Ankle-cuff M-size
2. WatchBP Office arm Cuff – Size M (22- 32cm)
3. WatchBP Office arm Cuff – Size L (32- 42cm)
4. Data Cable
5. Mains adapter
6. Instruction manual
7. Quick start guide







### Model Type

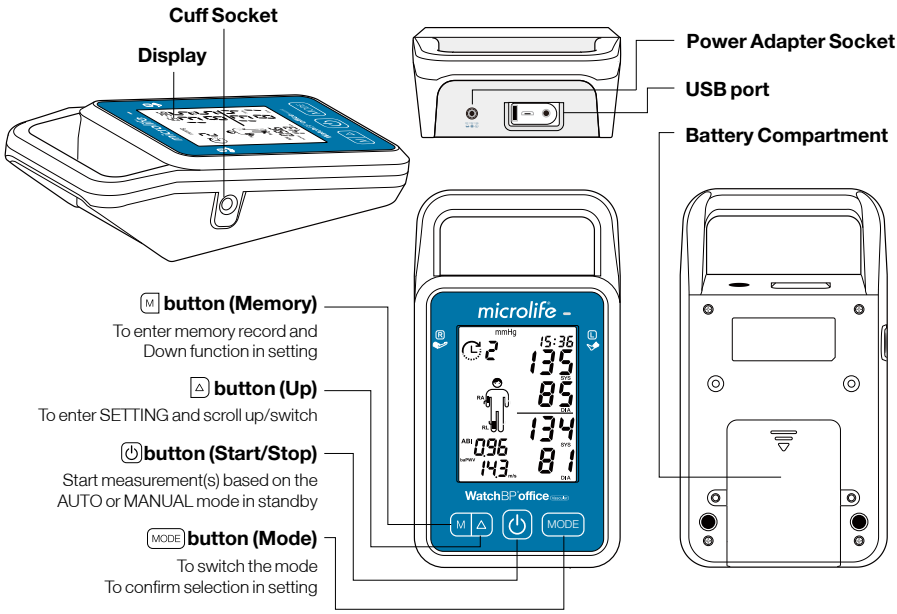
* The device can be upgraded with special features. There are three different types of the device:

- **Advanced:** WatchBP Office Vascular cardiovascular Monitor with AFIB detector and simultaneous double arm measurement.
- **ABI:** WatchBP Office Vascular cardiovascular Monitor with AFIB detector, simultaneous double arm measurement and Ankle-brachial measurement.
- **PWV:** WatchBP Office Vascular cardiovascular Monitor with AFIB detector, simultaneous double arm measurement, Ankle-brachial Index (ABI) measurement, brachial-ankle pulse wave velocity (baPWV) and central blood pressure indices measurement.

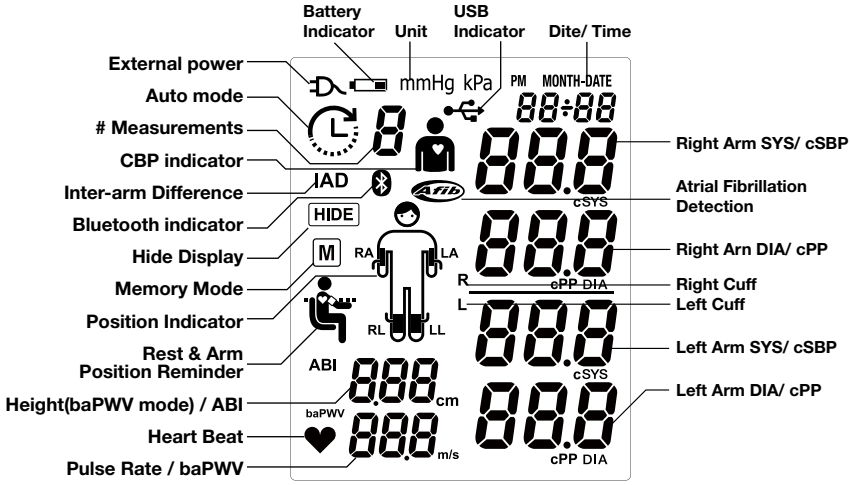
### Upgrading the device

The ABI, baPWV and central blood pressure indices measurement of the device can be activated through the WatchBP Analyzer. An activation key is needed for activation, the activation key is specific for the device as it matches the ID. Please contact Microlife or the local distributor for additional information.

## Product Overview

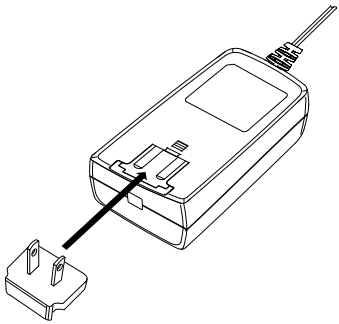



## Display



# Initial set up

**Attaching the power plug to the power adapter**
Select a suitable plug attachment and attach to the power adapter as shown here.



**Charge the battery completely**
When using the device for the first time, charge the battery until the recharge indicator on the device turns green.

**Power ON/OFF**

Press ⏻ button to switch on the device.

Press and hold ⏻ button for 3 seconds to switch off the device and turn off the LCD screen. The device displays 'oFF' before turning off.

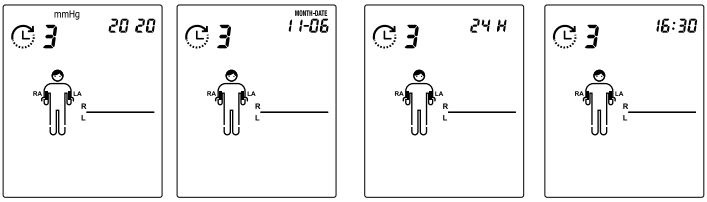
**Set the date, time and the safeguard pressure**

**Set the year** - Press and hold the MODE button for 3 seconds to enter setting mode. The year number flashes in the display. Use the △ (to go up) or M (to go down) button to select the year. Use the MODE button to confirm your selection and move on to month setting.

**Set the month** – Use the △ or M button to select the month. Use the MODE button to confirm your selection and move on to day setting.

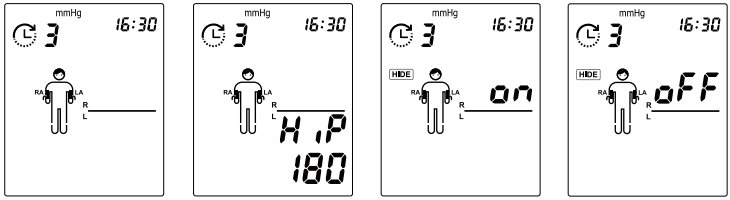
**Set the day** – Press the △ or M button to select the day. Use the MODE button to confirm your selection and move on to time setting.

**Set the time** – Once you have set the hour and minutes and pressed the MODE button, the date and time are set, and the current time is displayed.




**Set the Highest inflation pressure (HiP)** - Use the △ or M button to select the highest inflation pressure or "---" for AUTO mode. Use the MODE button to to confirm and move on to the Hide function setting.

**Set the Hide function** - The device features a Hide function to prevent influence of blood pressure in patients due to nervousness triggered by visible blood pressure measurements. Prese △ or M button to switch ON or OFF the Hide Function. If the Hide function is ON it means that the BP values will not be displayed during the blood pressure measurement. Use the MODE button to confirm and finish the settings. Once you have finished the setting mode the current time is displayed.




* *The "highest inflation pressure" can be programmed to the device. The suggested Inflation Pressure is 30 to 40 mmHg above the expected systolic value of the patient. You can select 160, 180, 200, 220 or, 240mmHg or use the default (device Displays "- - -') then the device will automatically inflate the cuff to the optimal cuff pressure. If the selected Highest Inflation Pressure selected is too low to measure a patient's blood pressure it may result in re-pumping or an error ("Err ") will be shown.*
* *The date and time on the device automatically synchronizes with the date and time on the computer when connected with the WatchBP Analyzer.*

# Before using the device

**Selecting the correct cuff**

## For upper arm

A variety of different cuff sizes are available. M and L size cuffs are provided with the device. Use the cuff marker to select the cuff size that best matches the circumference of the patient's upper arm.

| Cuff Size | Circumference (cm) | Circumference (inch) |
|---|---|---|
| **S** | 14-22 | 5.5-8.7 |
| **M** | 22-32 | 8.7-12.6 |
| **L** | 32-42 | 12.6-16.5 |
| **L-XL** | 32-52 | 12.6-20.5 |

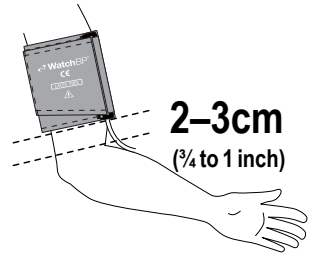
* *M and L size upper arm cuffs are included as standard accessories.*

## For ankle

| Cuff Size | Circumference (cm) | Circumference (inch) |
|---|---|---|
| **M** | 22-32 | 8.7-12.6 |
| **L** | 32-42 | 12.6-16.5 |

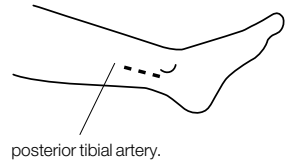
* *M size ankle cuff is included as standard accessories.*
* *Contact Microlife or its authorized distributor to purchase cuffs.*
* *Use only cuffs provided by Microlife!*

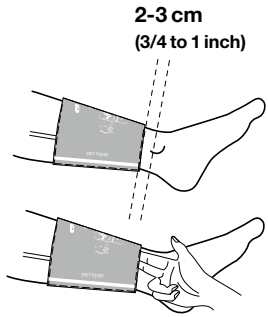
### Fitting the arm cuff properly




1 Measure the patient's upper-arm circumference to select the appropriate cuff.
2 Place the cuff over the upper arm so that the air tube and artery mark arrow point towards the lower arm. The artery mark on the cuff must be placed over the brachial artery.
3 Lay the cuff on the arm. Make sure that the lower edge of the cuff lies approximately 2 to 3 cm (¾ to 1 inch) above the elbow.
4 Wrap and tighten the cuff around the arm.
5 Leave free space with the size of 2 fingers between the arm of the patient and the cuff. Excessive tightness may cause venous congestion and discoloration of the limb. If the cuff is wrapped too loosely, it cannot be inflated properly, and the measured values may be inaccurate. Remove all clothing covering or constricting the measurement arm. Clothing may interfere with measurement accuracy.
6 Cuffs that do not fit properly may lead to inaccurate readings. Use a different size cuff if the range index at the end of the cuff does not fall into the range specified by the range stripes.

### Application of the ankle cuff (for measurement in the ankle)




1 The patient must lie down in supine position.
2 Place the ankle cuff on the leg. Make sure the edge of the ankle cuff lies approximately 2 to 3cm (¾ to 1 inch) above the ankle and notice that the artery mark is on the posterior tibial artery.
3 Wrap and tighten the cuff around the leg.
4 Leave a little free space between the leg of the patient and the cuff. Two fingers should fit between the leg and the cuff.

# Taking measurements using the WatchBP Office Vascular

**Turn on the power**

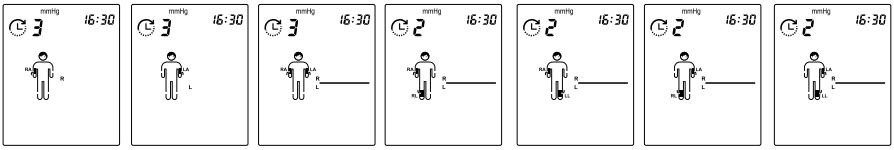
Turn on the device by pressing the ⏻ button of the device.

**Connect the cuff(s) to the device**

Connect the cuffs to the device by inserting the cuff connector into the cuff connector socket.

**Select the measurement arm(s) and ankle**

You may select the arms and ankle (s) for the measurement by pressing the MODE button. Press the MODE button to scroll among the arm (s) and the ankle (s) for taking the measurement. You may select one arm, both arms (for assessing of inter-arm difference) or one arm and one leg (for ABI /baPWV assessment).




Press the MODE button to switch between each Mode.

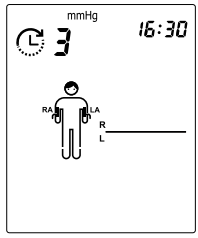
**Settings of the measurement**

**Part A)**

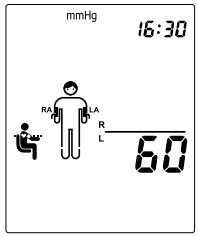
The measurement program of the device can be set when the measurement of one arm or both arms is selected, **including Number of Measurements, Resting Time (Countdown time), Interval Time, AFIB detector, CBP measurement, and Average calculation (Discard 1st measurement or not)**

This can be done as follows:

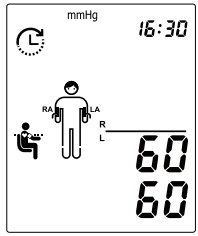
1 **Set the Number of Measurements** – Press the △ button when the device is in AUTO mode to first enter setting of **Number of Measurements**. Use the △ button to scroll up and use M button to scroll down among one to six measurements. Prese MODE button to confirm the number of measurements and enter **Resting Time** setting.




2 **Set the Resting (or countdown) Time** – Press the △ button to scroll up and use M button to scroll down among 15, 30, 60, 120, 180, 240, 300 seconds of **Resting Time**. Prese MODE button to confirm and enter **Interval Time** setting.

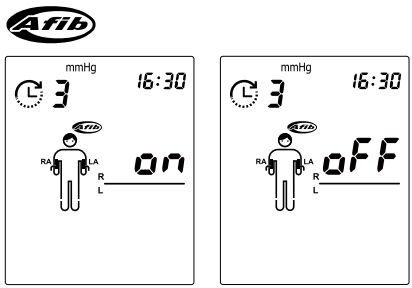


**3 Set the Interval Time** – between measurements - Press the △ button to scroll up and use M button to scroll down among 15, 30, 60, 120, 180, 240, 300 seconds of **Interval Time**. Prese MODE button to confirm and enter **AFIB detector** setting.



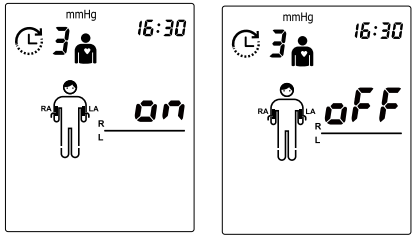

* *Set the interval time will be skipped if Number of Measurements is 1.*
* *While the **number of measurements** is set by 6 and CBP option is on, the max **Interval Time** is 240.*

**4 Set the Atrial fibrillation (AFIB) detector** – Press △ the M or button to switch the **AFIB detector** ON or OFF. Prese MODE button to confirm.

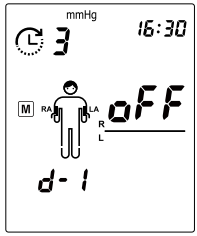



* ***Set the AFIB detector** will be skipped if Number of Measurements is 1.*

**5 Set the Central blood pressure (CBP) measurement** – Press △ or M button to switch ON or OFF **CBP measurement.** Prese MODE button to confirm. If the device is upgraded with CBP then it is switched on in default.




**6 Average calculation** – The device features allow you to discard 1st measurement from averaging while the selected number of measurement is 3, 4, 5, or 6 measurements. Press △ or M button to switch ON or OFF and prese MODE button to confirm the setting of **Discarding 1st measurement (d-1)** feature and finish the setting. Once you go through the settings, the device returns to standby.

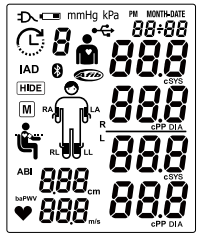


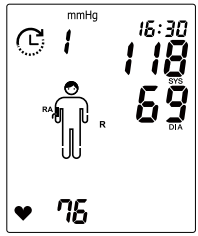

* *The last settings programmed to the device are the default of AUTO mode until you set the program again.*
* *Average calculation will be skipped if Number of Measurements is 1 or 2 .*

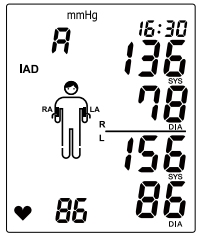
### Taking measurement in Single or Both Arm(s) Mode

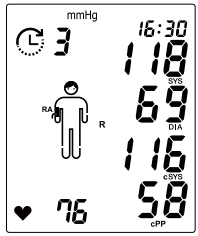
Press the ⏻ button to start the measurement when standby according to the settings in **Part A)** when measurement of one arm or both arms is selected. The device shows all the settings and then starts counting down the Resting Time before the first measurement. The average measurement reading is displayed and saved after the measurements are complete.

The device switches the display for the average Systolic Blood Pressure (SYS), Diastolic Blood Pressure, Mean Arterial Pressure (MAP), central Systolic Blood Pressure (cSYS), central Diastolic Blood Pressure, and central Pulse Pressure (cPP) automatically if central blood pressure measurement is enabled.




* *If CBP measurement is enabled, the cuff pressure is held at around 60 mmHg for around 10 seconds to collect sufficient pulse waves.*

* *If the difference of blood pressure readings between two arms is more than 15mmHg for Systolic at more than three measurements, the "IAD" icon will show with the result. The "IAD" icon and readings of the higher arm flash.*

* *Press ⏻ button during countdown to skip the countdown.*

* *Press ⏻ button to cancel remaining measurements at anytime during the measurement sequence. Display the results (average) if available.*

### Viewing stored values

The device stores blood pressure values of the last measurement(s) procedure in AUTO mode.

Press the M button to reveal the average of the measurements of AUTO mode. Continue pressing the M button to review individual measurements.

* *The device switches the display for values of the individual measurement (including SYS, DIA, MAP, cSYS, cDIA and cPP values) if central blood pressure measurement is enabled.*

### Settings of the measurement

**Part B)** when assessing brachial-ankle Pulse Wave Velocity (baPWV) and Ankle Brachial Index (ABI) measurement (one arm and one ankle measurement is selected).

**Set the Height of User (in cm)** – Press the △ button when one arm and one ankle is selected for measurement to enter setting of **Height**. Use the △ button to scroll up and use M button to scroll down the **Height** value. Prese MODE button to confirm and return to standby mode.

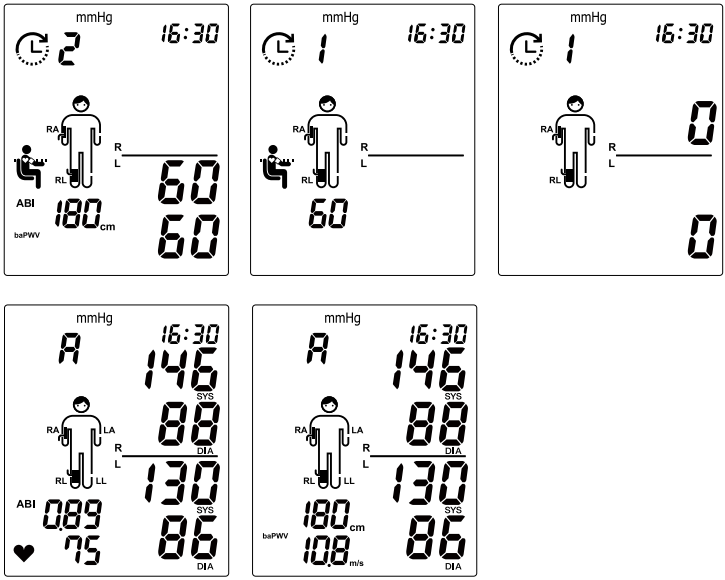
* *Height range is within 120-210cm .*

* *Only for the device version with baPWV feature.*

**Taking measurement simultaneously in one Arm & one ankle (for ABI or baPWV assessment)**

When standby with one Arm & one ankle measurement selected, press the ⏻ button to start a measurement. The device automated takes two consecutive measurements with 60 seconds resting time and 60 seconds interval time. The device shows the setting of **Height** and then starts counting down 60 seconds Resting Time before the first measurement. During the measurement, the cuff pressure is held at around 60 mmHg for around 10 seconds to collect sufficient pulse waves. The average measurement reading is displayed and saved after the measurements are complete.

* *The value in left lower corner will switch between ABI/ Pulse Rate and Height/ baPWV.*



# Using WatchBP Analyzer

The memory data can be transferred to your PC (personal computer) running the WatchBP Analyzer Software by connecting the monitor via USB cable or Bluetooth.

**System Requirements for Software:**

1GHz CPU. 512MB Memory, 4.5GB free hard disk space, Microsoft Windows 7 SP1 / 8 / 10

**Installing the Software Program**

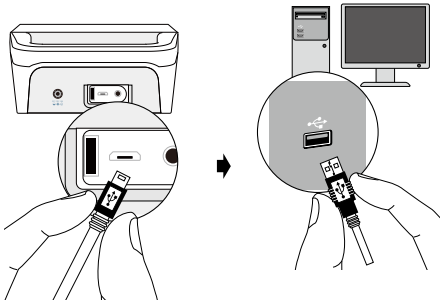
The latest WatchBP Analyzer Software is available from the Microlife website.

https://www.microlife.com/support/software-professional-products

Double click the download installer and simply follow the instructions provided in the installation window on the computer screen.

**Connecting the Device to a Computer**

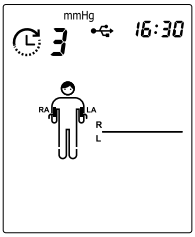
It is important to only use the USB cable provided.



**Start the Software Program**

Start the software program. The date and time on the device automatically synchronize with the date and time on the computer when successfully connected with WatchBP Analyzer PC software.

If the device and WatchBP Analyzer software is connected successfully:




- The <**USb**> is displayed on the LCD screen of the device.
- The device ID, model, version of the Device and batteries condition etc. are displayed on the WatchBP Analyzer software.

**Transferring measurement data**

Connect the device to the PC. Start the WatchBP Analyzer software program.

Click <**Download**> button of the WatchBP Analyzer to transfer the measurement data on the device to a computer.

**Deleting measurements**

The measurement data on the device will be automatically deleted after clicking <**Program Device**> in the WatchBP Analyzer software to program a measurement schedule for the next patient.

* *Press and hold* [M] *button of the device for 7 seconds displays CL, presses* [M] *button again to clear the memory*

☞ *See instruction manual of WatchBP Analyzer for details.*

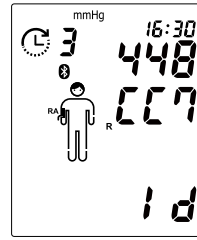
# Bluetooth connectivity

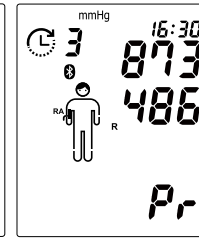
### Pairing the device

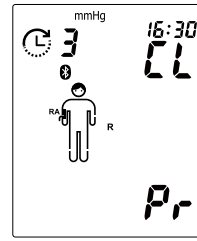
Press and hold the MODE button for around 7 seconds, untill the Bluetooth icon flashes and starts pairing mode. The unique 6-digit device ID of the unit is displayed. Connect the device and confirm pairing. The Bluetooth icon is displayed on the LCD screen of the device to show the presence of Bluetooth connection.

While Bluetooth connected, allow the use of APP to program the device and/or start measurements. Automated upload data to APP after the finished of measurement.

*Press and hold the ⏻ button for 5 seconds displays CL, then press MODE button again to clear the connection.*




# Rechargeable battery and power adapter

### Rechargeable Battery

The device has a built-in, rechargeable Ni-MH battery pack that can perform up to 400 measurement cycles on a full charge. The battery can be recharged with the power adapter provided with the device. The empty battery indicator is displayed when the battery is low.

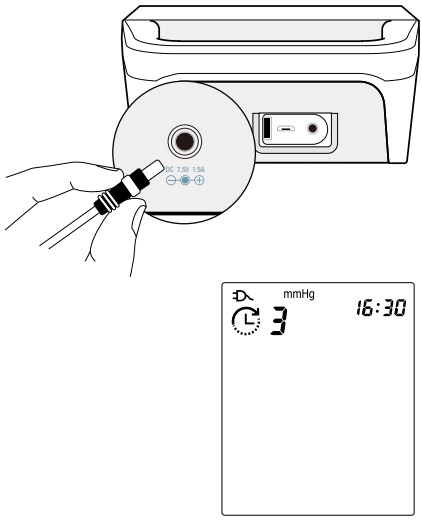

- When using the device for the first time, charge the battery until the recharge indicator is off.
- The green recharge indicator indicates that the recharge is in progress.
- When the green recharge indicator is off, it means the recharge is completed.
- When the green recharge indicator flashes, it means that there is a charging error. Make sure that the correct Mains Adapter is used. If the condition persists, contact Microlife or the local distributor.

### Using a power adapter

Only use the Mains Adapter supplied with the device to recharge the device.

1) Plug the adapter cable into the power socket of the device.
2) Plug the adapter plug into the wall socket. The battery will be recharged if the device is attached to an AC power source. After the battery is fully recharged, the charging will stop. No battery power will be used if the adapter is plugged in. The battery must always remain within the device even when using AC power.
3) If the battery starts losing capacity, contact your local dealer for replacement battery. The battery can be replaced.

* *The External Power icon always shows on LCD display when the adapter is used.*




# Safety, care, accuracy test and disposal

### Safety and protection

This device may only be used for the purposes as described in these instructions. The device comprises of sensitive components and must be treated with caution. The manufacturer cannot be held liable for damage caused by incorrect application.

Follow the Instructions for Use. This document provides important product operation and safety information regarding this Blood Pressure Monitor. Please read this document thoroughly before using the device and keep for future reference.

- Only activate the pump when the cuff is connected to the device.
- Do not use the device if you think it is damaged or if anything appears unusual.
- Read the further safety instructions in the individual sections of the instruction manual.

Observe the storage and operating conditions as described in the “Technical specifications” section of this manual.

**Protect the device from water and moisture**

**Protect the device from direct sunlight**

**Protect the device from extreme heat and cold**

**Avoid proximity to electromagnetic fields, such as those produced by mobile phones**

**Never open the device**

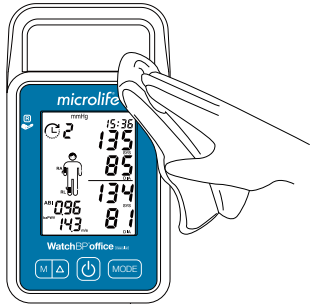
**Protect the device from impact and drops**

## Device cleaning and disinfecting

Use a soft cloth with one of the following recommended cleaning solutions to wipe the exterior of the device:

- Ethyl or isopropyl alcohol (70% solution).
- Hydrogen peroxide 7.5% solution.
- Sodium hypochlorite solution (5.25-6.15% household bleach diluted 1:500 provides >100 ppm available chlorine)

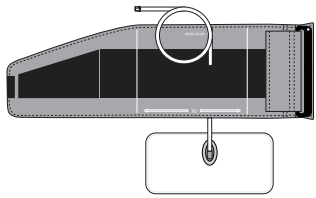
Then wipe the exterior of the device with a soft, dry cloth.




## Cuff cleaning and disinfecting

Remove the bladder. Fold and place the cuff cover inside a washing bag. Wash the cuff cover with warm water (43°C; 110°F) and a mild detergent in the washing machine.

**Pasteurization:** wash the cuff cover in 75°C(167°F) hot water for 30 minutes.



**Do not iron the cuff!**

## Accuracy test

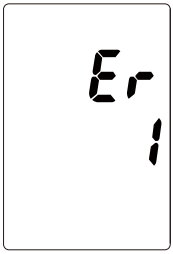
We recommend the device to be tested for accuracy every 2 years or after mechanical impact (e.g. Being dropped). Please contact Microlife to arrange an accuracy test.

## Disposal

Batteries and electronic instruments must be disposed of in accordance with the locally applicable regulations, and not as domestic waste.

# Error messages and Troubleshooting

If an error occurs during measurement, the measurement is interrupted and an error message «**Er**» is displayed.


| Error | Description | Potential cause and remedy |
|---|---|---|
| **"Er 1"** | **Signal too weak** | The pulse signals on the cuff are too weak. Reposition the cuff and repeat the measurement. |
| **"Er 2"** | **Error signal** | During the measurement, error signals were detected by the cuff, caused for instance by movement or muscle tension. Repeat the measurement, keeping your arm still. |
| **“Er 3”** | **No pressure in the cuff** | An adequate pressure cannot be generated in the cuff. A leak may have occurred. Replace the blood pressure cuff if necessary. Repeat the measurement. |
| **“Er 5”** | **No valid results** | The measuring signals are inaccurate, and no result can therefore be displayed. Read through the checklist for performing reliable measurements and then repeat the measurement. |
| **"Er 11"** | **Signal too weak during central blood pressure measurement** | The pulse signals on the cuff are too weak. Re-position the cuff and repeat the measurement. |
| **"Er 12"** | **Error signal during central blood pressure measurement** | During the measurement, error signals were detected by the cuff, caused, for instance, by movement or muscle tension. Repeat the measurement, when keeping the arm still. |
| **“Er 13”** | **Cuff pressure errors during central blood pressure measurement** | An adequate pressure cannot be generated in the cuff. A leak may have occurred. Check if the cuff is correctly connected and is not too loose. Replace the blood pressure cuff if necessary. Repeat the measurement. |
| **"Er 15"** | **Abnormal result of central blood pressure reading** | The measuring signals are inaccurate so that no result can be displayed. Read through the checklist for performing reliable measurements and then repeat the measurement. |

| | | |
|---|---|---|
| **"Er 15"** | **Abnormal result of central blood pressure reading** | The measuring signals are inaccurate so that no result can be displayed. Read through the checklist for performing reliable measurements and then repeat the measurement. |
| **“Er 21”** | **Error signal during collecting pulse wave signals** | Error signal during collecting pulse wave signals |
| **“Er 23”** | **Cuff pressure errors during collecting pulse wave signals** | Cuff pressure errors during collecting pulse wave signals<br>Repostion the cuff and repeat the measurement (?) |
| **"Er 25"** | **Abnormal result of baPWV reading** | Abnormal result of baPWV reading |
| **"Er F"** | **The device has gone into “single fault condition”** | Single fault condition means that the measurement is aborted to protect the patient from being harmed or the device from being damaged. Re-position the cuff and repeat the measurement. Replace the batteries if necessary. If the error persists, contact Microlife or the local distributor. |
| **“Er A”** | **Flash memory error** | Possible hardware fault. Try again. If the error persists, contact Microlife or the local distributor. |
| **"HI"** | **Pulse or cuff pressure too high** | The pressure in the cuff is too high (over 299 mmHg) OR the pulse is too high (over 239 beats per minute). Relax for 5 minutes and repeat the measurement. |
| **"LO"** | **Pulse too low** | The pulse is too low (less than 30 beats per minute). Repeat the measurement. |

## Troubleshooting

| Problem | Possible cause | Solutions |
|---|---|---|
| **No power (No LCD display)** | **Power supply is not properly plugged in** | Plug the power supply into the wall socket. |
| | **Battery is fully discharged** | Recharge the rechargeable battery by plugging in the power supply. |
| **Cuff does not inflate properly** | **Loose connection of the tube** | Make sure the tube of the cuff is securely connected to the device. |
| | **Leakage of the tube / bladder** | Check for cracks on the tube or the bladder. Replace the blood pressure cuff if necessary. |

# Technical specifications

| | |
|---|---|
| **Operation temperature/ humidity:** | • 10 to 40 °C (50 to 104 °F)/ 15 - 90 % relative maximum humidity |
| **Storage temperature/ humidity:** | • -20 to 55 °C (-4 to 131 °F)/ 15 - 90 % relative maximum humidity |
| **Weight:** | • 620g (including rechargeable battery pack) |
| **Dimensions:** | • 220.4 x 121.7 x 63.3 mm |
| **Measuring method:** | • Oscillometric, Systolic blood pressure = K1; Diastolic blood pressure = K5 |
| **Measurement range:** | • 60 - 255mmHg - systolic blood pressure; 30 - 200mmHg - diastolic blood pressure; 30 - 239 beats per minute - pulse |
| **Cuff pressure display:** | • Range: 0 - 299 mmHg; Resolution: 1 mmHg; Static accuracy: pressure within ± 3 mmHg; |
| **Pulse accuracy:** | • ±5 % of the readout value |
| **Power source:** | • Rechargeable battery pack; 4.8V 2400 mAh; Mains power supply DC 7.5V, 1.5 A |
| **Expected service life:** | • 2 years |
| **Reference to Standards:** | • Device corresponds to the requirements of the standard for non-invasive blood pressure monitor.<br>IEC 60601-1: 2005+A1:2012<br>IEC 60601-1-2 2014<br>ANSI/AAMI/ISO 81060-2<br>ANSI/AAMI/IEC 80601-2-30 |
| **Electromagnetic Compatibility:** | • Device fulfills the stipulations of the standard IEC 60601-1-2. |
| CE 0044 | The stipulations of the EU Directive 93/42/EEC for Medical Devices Class IIa have been fulfilled. |
|  | Type BF applied part |
| | Microlife reserves the right to alter technical specifications without prior written notice. |

# Guarantee Card

This device is covered by a two-year guarantee from the date of purchase. This guarantee is valid only on presentation of the guarantee card completed by the owner confirming date of purchase or purchase receipt. Batteries and wearing parts are not covered by this guarantee.

**Name:** _____

**Address:** _____

_____

**Date:** _____

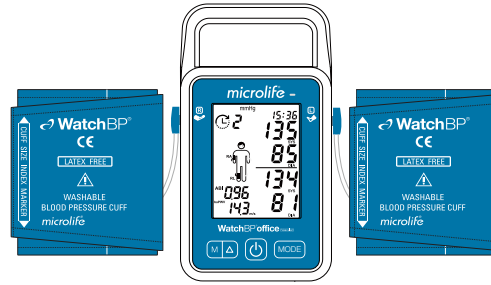
**Telephone:** _____

**Email:** _____

Product: **WatchBP Office**

Product number: **BP3SK1-3B**

Date:



# Reference

1. Kollias, A., et al., Automated determination of the ankle-brachial index using an oscillometric blood pressure monitor: validation vs. Doppler measurement and cardiovascular risk factor profile. Hypertens Res, 2011. 34(7): p. 825-30.
2. Cheng, H.M., et al., Measurement accuracy of a stand-alone oscillometric central blood pressure monitor: a validation report for Microlife WatchBP Office Central. Am J Hypertens, 2013. 26(1): p. 42-50.

**Federal Communications Commission (FCC) Statement**
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.
This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

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