



Simultaneous dual-arm measurement and auscultatory function for accurate office blood pressure measurement.

Instruction Manual



EN →



WatchBP Office AFIB combines the advantages of an automatic blood pressure device and hybrid sphygmomanometer and is designed to provide convenient, accurate and reliable office blood pressure measurement following recommended guidelines of the European Society of Hypertension (ESH) and American Heart Association (AHA).

Health Information:

^{*}O'Brien E, Asmar R, Beilin L, Imai Y, et al. European Society of Hypertension recommendations for conventional, ambulatory and home blood pressure measurement. European Society of Hypertension Working Group on Blood Pressure Monitoring. J Hypertens 2005;23:697-701.

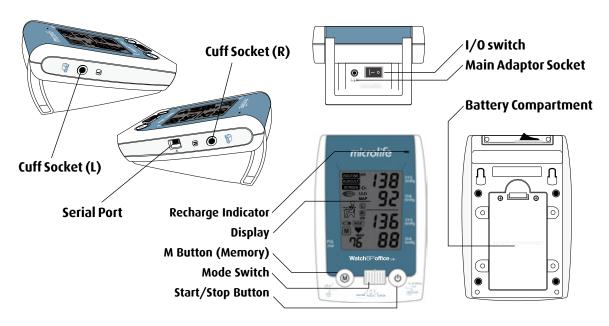
^{*} World Health Organization, International Society of Hypertension Writing Group. 2003 World Health Organization (WHO) / International Society of Hypertension (ISH) Statement on Management of Hypertension. *J Hypertens* 2003, 21:1983-1992.

Table of Contents

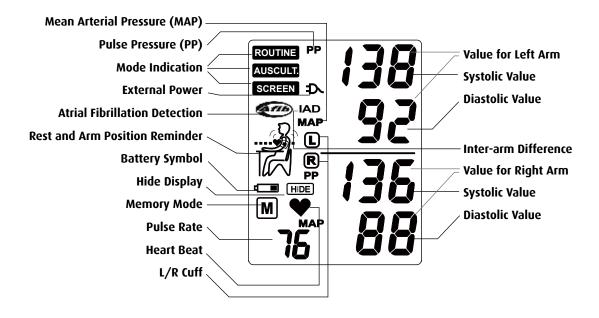
Mean arterial pressure and pulse pressure . Atrial fibrillation detection	
Taking fewer than three measurements	
Skipping the countdown time	25
Setting inflation pressure	26
Setting measurement intervals	26
Viewing and transferring Measurements	;
«AUSCULTATION» Mode	27
«SCREEN» and «ROUTINE» Mode	28
Transferring measurements	29-30
Appendix	
Rechargeable battery and power adaptor	31
Troubleshooting	32
Error messages	33–34
Safety, care, accuracy test and disposal	35–36
Technical specifications	37

Product description

Name of parts



Display



WatchBP Office AFIB and components



WatchBP Office AFIB Blood Pressure Device (1 pcs.)



AC Adaptor X1 (Input: 100-240V~50/60Hz 0.48A Output: +7.5V 2A)



Serial Port Connecting Cable

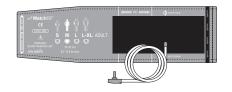


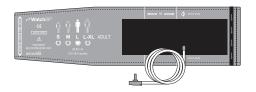
M size (22cm~32cm) X2 **L** size (32cm~42cm) X2



Instruction Manual X1 Quick Start Guide X1 CD X 1

Selective Cuffs





M (Medium size)

22 - 32 cm (8.7 - 12.6 inches) With air tube 130 cm

L (Large size)

32-42 cm (12.6-16.5 inches) With air tube 130 cm

* Please contact Microlife or its distributor to purchase cuffs.

Before using WatchBP Office AFIB

Selecting the correct cuff

Two different cuff sizes are provided with the WatchBP Office AFIB: Medium and Large. Use the cuff marker to select the cuff size that best matches the circumference of the patient's upper arm.



M (Medium size)

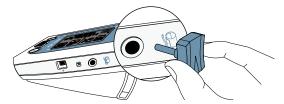
22 - 32 cm (8.7 - 12.6 inches) *With air tube 130 cm*



L (Large size)

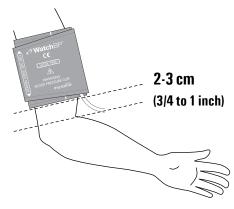
32-42 cm (12.6 - 16.5 inches) *With air tube 130 cm*

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



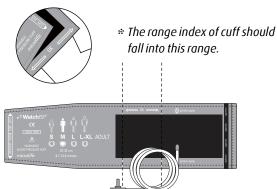
Fitting the cuff properly

- Place the cuff over the left (right) upper arm so that the air tube and artery mark arrow point toward the lower arm.
- 2) Lay the cuff on the arm. Make sure that the lower edge of the cuff lies approximately 2 to 3cm (¾ to 1 inch) above the elbow.



- Wrap and tighten the cuff around the arm.
- 4) Leave a little free space between the arm of the patient and the cuff. It has to be able to fit with 2 fingers between the arm and the cuff. Clothing must not restrict the arm. Remove all clothing covering or constricting the measurement arm.
- 5) It may result in incorrect blood pressure readings if the cuffs are not fitted properly. 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.
- 6) Apply the same steps to the other arm if a double arm measurement is required.



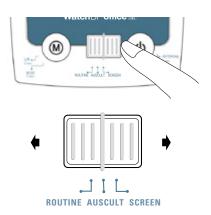


Three operation modes

Select an operation mode

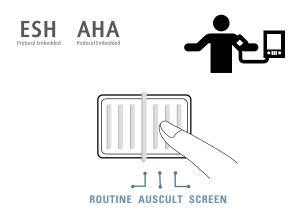
The WatchBP Office AFIB device includes three convenient operation modes:

«ROUTINE», **«AUSCULTATION»** and **«SCREEN»** (Interarm difference) Mode. Use the Mode Switch to select the desired mode.



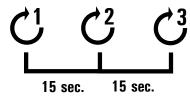
«ROUTINE» Mode

Select **ROUTINE**» Mode to perform an automated triple measurements on the preferred arm for prompt and accurate office measurements.



Automated triple measurements

In **«ROUTINE»** Mode, the WatchBP Office AFIB device automatically takes three consecutive measurements at default 15 second intervals. The readings of these three measurements are averaged to produce the routine visit blood pressure measurement.

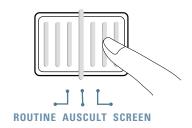


* The user can manually set up measurement intervals of 15, 30, 45 or 60 seconds in ROUTINE Mode. (Please refer to special functions section page 26 "Setting measuring intervals").

«AUSCULTATION» Mode

Select «**AUSCULTATION**» Mode for blood pressure measurement of patients to confirm if a patient is suitable for the oscillometric method.



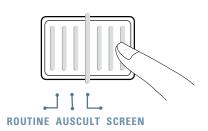


Three operation modes (cont.)

«SCREEN» Mode

Select **«SCREEN»** Mode to complete fullyautomated triple measurements on both arms according to recommended ESH/AHA blood pressure measurement protocols for a patient's first office visit.





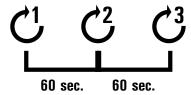
Simultaneous dual-arm measurements

In **«SCREEN»** Mode, the WatchBP Office AFIB device measures the patient's blood pressure on both arms simultaneously, which helps to determine the arm with the highest blood pressure value and reveal other potential cardiovascular risks.



Automated triple measurements

In **«SCREEN»** Mode, the WatchBP Office AFIB device automatically takes three consecutive measurements at fixed one minute* intervals. The results of these three measurements are then averaged to conclude the blood pressure measurement.



Determine the proper arm and to indicate interarm difference

If the difference of blood pressure readings between two arms is more than 20mmHq for Systolic or 10mmHg for Diastolic at all three measurements, the device indicates the arm with the higher blood pressure value by showing L or R and the "IAD" icon. The "IAD" icon and readings of the higher arm flash.



- * The measuring intervals are fixed at one minute in SCRFFN mode.
- * The arm with the higher blood pressure value should be taken for future blood pressure measurements..

Taking measurements using WatchBP Office AFIB

«ROUTINE» Mode

 Turn on the power – Turn on the device by switching the I/O switch at the back of the device to the ON position and make sure Bluetooth switch is in off position..

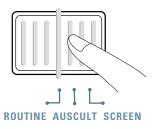


Apply the cuff – Properly fit one cuff to the preferred measurement arm.



* Additional visual instruction can be found on the cuff

 Switch to «ROUTINE» Mode – Slide the Mode Switch to «ROUTINE» Mode.



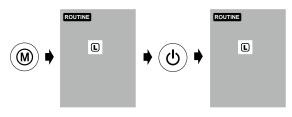
4) **Select the inflation cuff** – Set the device to inflate only the measured arm cuff (left or right) Press and hold the M Button for 3 seconds.





Press and hold for 3 seconds...

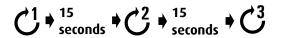
5) Press the M Button to switch between the left(L) and right(R) cuff. Press the Start/Stop Button to save the setting.



6) **Start measurements** – Press the Start/Stop Button to start the measurement sequence.



7) Three consecutive measurements – The device will take three consecutive measurements with default 15 second intervals in between.

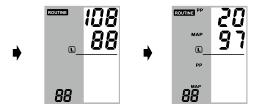


 Inflation by fuzzy logic – The device will adjust inflation pressure by fuzzy logic. technology.

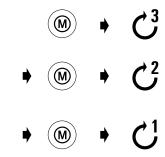
* The user can manually set up the measurement intervals of 15, 30, 45 or 60 seconds in ROUTINE Mode. (Please refer to special functions section page 26 "Setting up measuring intervals").

Taking measurements using WatchBP Office (cont.)

View the average measurement – The average measurement will be displayed when the three consecutive measurements are completed.



9) **View all measurements** – Results of the three individual measurements can be accessed by pressing the M Button. Press the M Button once to review the last measurement. Continue to press the M Button to review the other measurements.



* WatchBP Office AFIB stores only the last three measurements completed in «ROUTINE» and the last three measurements completed in «SCREEN» Mode.

«AUSCULTATION» Mode

 Turn on the power – Turn on the device by switching the I/O switch at the back of the device into the ON position..

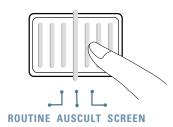


2) **Apply the cuff*** – Properly fit one cuff to the preferred measurement arm properly.



* Additional visual instruction can be found on the cuff

 Switch to «AUSCULTATION» Mode – Slide the Mode Switch to «AUSCULTATION» Mode.

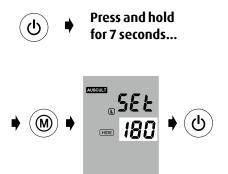


4) Adjust inflation pressure if necessary

 Inflation pressure can be set manually from 140 to 280 mmHg by pressing and holding the Start/Stop Button for 7 seconds.

Press the M Button to adjust the pressure and press Start/Stop to save the setting.

Taking measurements using WatchBP Office (cont.)



- * The default inflation pressure is 180 mmHq.
- * When the device is in standby mode, it will remind you the current preset pressure setting by displaying the current pressure setting on the screen.

5) **Start inflation** – Press the Start/Stop Button to start inflation of the cuff



- **Take note** Take note of the systolic and diastolic values in the same manner used for sphygmomanometer measurements.
- 7) **Set to stand by** The device can be set to 'Stand by' by pressing the Start/Stop button without turning off the power. The device will automatically switch to 'Stand by' if there is no operation for five minutes.

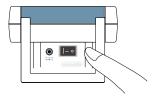




Stand by

«SCREEN» Mode

 Turn on the power – Turn on the device by switching the I/O switch at the back of the device to the ON position.

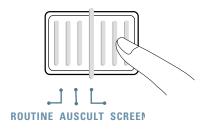


 Apply the cuff – Properly fit one cuff to each of the patient's arms.



* Additional visual instruction can be found on the cuff

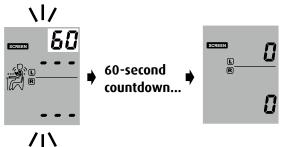
 Switch to «SCREEN» Mode – Slide the Mode Switch to «SCREEN» Mode.



4) **Inflation by fuzzy logic** – The device will adjust inflation pressure by fuzzy logic technology.

Taking measurements using WatchBP Office (cont.)

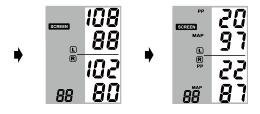
- 5) **Start measurements** Press the Start/Stop Button to start the measurement sequence.
 - * A 60-second countdown will proceed the first measurement.



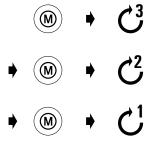
 Three consecutive measurements – The device will take three consecutive measurements with one minute intervals in between measurements.

$$\bigcirc 1 \Rightarrow {}^{60}_{\text{seconds}} \Rightarrow \bigcirc 2 \Rightarrow {}^{60}_{\text{seconds}} \Rightarrow \bigcirc 3$$

 View the average measurement – Only the average measurement will be displayed once the triplicate measurement is completed.



* When the measurements are completed, the blood pressure measurement corresponding with the consistently higher arm will blink continuously for 5 seconds. If no significant difference (20 mmHg for systolic and/or 10 mmHg for diastolic blood pressure) exists between the two arms, neither measurement will blink. 8) **View all measurements** – Results of the three individual measurements can be accessed by pressing the M Button. Press the M Button once to review the first measurement. Continue to press the M Button to review the other measurements.



^{*} WatchBP Office only stores the last three measurements completed in «ROUTINE» Mode and the last three measurements completed in «SCREEN».

Special Functions

Hiding measurement values

The WatchBP Office AFIB device features a Hide function in order to prevent unnecessary elevated blood pressure in patients due to nervousness triggered by visible blood pressure measurements.



- * This feature is only available in ROUTINE mode
- * When the **«Hide»** function is ON, the countdown between each measurement and the Hide icon will display.

1) Activate the «Hide» Function – pressing and holding the M Button for 7 seconds.



Press and hold for 7 seconds...

Select ON or OFF – Press the M Button again to turn the "Hide" function ON or OFF.









3) **Confirm** – Press Start/Stop to confirm the setting.







* The default setting of "Hide" in «SCREEN» Mode is set to "ON" and cannot be set to "OFF"

MAP (Mean Arterial Pressure)

The WatchRP Office AFIR device measures the true mean arterial pressured (MAP) of the patient. Each measurement includes a single MAP value. The average measurement will display the average MAP value. When viewing in Memory mode, the MAP value will be displayed with the systolic and diastolic pressure once every 5 seconds.





^{*} The Mean Arterial Pressure MAP in this device is determined from the maximum peak of the oscillometric envelope curve.

PP (Pulse Pressure)

The WatchBP Office AFIB device provides the pulse pressure (PP) of the patient: pulse pressure = systolic - diastolic pressure. Each measurement includes the calculation of a single PP value. The average measurement will display the average PP value. When viewing in Memory mode, the PP value will be displayed with the systolic/diastolic pressure once every 5 seconds.





Special Function (cont.)

Appearance of the atrial fibrillation indicator for early detection

The WatchBP Office AFIB is designed to detect asymptomatic atrial fibrillation during blood pressure measurements in both of the **SCREEN** and **ROUTINE** Mode. If two out of three measurements detect atrial fibrillation, the Afib icon is displayed. This device is able to detect atrial fibrillation with high sensitivity of 97% and specificity of 89%. *If the atrial fibrillation icon is displayed after the measurement, it is recommended to visit a doctor.

* Joseph Wiesel, Lorenzo Fitzig, Yehuda Herschman and Frank C. Messineo. Detection of Atrial Fibrillation Using a Modified Microlife Blood Pressure Monitor. American Journal of Hypertension 2009; 22, 8, 848– 852. doi:10.1038/ajh.2009.98





- * This device detects atrial fibrillation, a major cause of stroke. Not all risk factors for stroke, including atrial flutter, may be detected by this device.
- * This device may not detect atrial fibrillation in people with pacemakers or defibrillators. People with pacemakers or defibrillators should not use this device to detect atrial fibrillation.

About Atrial Fibrillation

Atrial fibrillation is a common heart rhythm problem. It affects more than 2 million people in North America. It is more common in older age and it is found in 10% of people over 80 years old. It is a common cause of major strokes. About 15% of all strokes are caused by atrial fibrillation.

The elderly or those with high blood pressure, diabetes or heart disease are more likely to get a stroke if they have atrial fibrillation.

Atrial fibrillation is a rhythm problem that can last from a few minutes, too days, weeks or even years. Atrial fibrillation can cause blood clots in the upper chambers of the heart (the atria). These clots can break off and flow to the brain causing a stroke.

The use of blood thinners, such as warfarin, can lower the risk of stroke in patients with atrial fibrillation

A doctor can confirm the presence of Afib by using an ECG. Sometimes Afib is present incidentally. Therefore, a doctor may not see it on regularly scheduled visits

One method of detecting Afib is by mean of palpations. This method is not very reliable. Failure of detecting Afib may in the end lead to the occurrence of a stroke; whereas early detection may lead to early treatment that can significantly reduce the chances of a stroke

Taking fewer than Three measurements

In **«ROUTINE»** Mode only, the measurement sequence can be stopped at anytime by pushing the Start/Stop Button. The device enters standby and remaining measurements are cancelled. Data from the measured blood pressure can be by viewed by pushing the M Button.



Cancel remaining measurements at anytime during the measurement sequence.

Skipping the countdown time

The 60 seconds countdown before measurement in **«SCREEN»** Mode and 15 seconds in **«ROUTINE»** Mode can be skipped by pushing the Start/Stop Button. While the Start/Stop Button is pushed, the device will immediately begin the next measurement.





Skip the countdown time and begin measurement.

* The device can be set into Stand by Mode by pressing the Start/Stop Button after the completion of measurements. The device will automatically switch to Stand by Mode if left unattended for five minutes.





Stand by mode

Setting inflation pressure in «AUSCULTATION» Mode

Inflation pressure can be set manually from 140 to 280 mmHg at intervals of 20 mmHg by pressing and holding the Start/Stop Button for 7 seconds.





Press and hold for 7 seconds...

Press the M Button to adjust the pressure and press Start/Stop again to save the setting.



Setting measuring intervals in «ROUTINE» Mode

The default measuring intervals are 15 seconds. The interval can be set as 15, 30, 45 or 60 seconds.

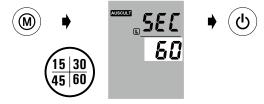
 Pressing and holding the Start/Stop Button for 3 seconds.





Press and hold for 3 seconds...

 Press the M Button to adjust the measurement interval, then press the Start/Stop Button to confirm, the meter will go back to stand by Mode.



Viewing and Transferring Measurements

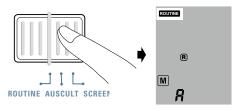
«AUSCULTATION» Mode

In «AUSCULTATION» mode, the WatchBP Office AFIB blood pressure measurement device serves only as a pressure gauge. No oscillometric measurements will be taken. The user has to take notes of the systolic and diastolic values by stethoscope.



«ROUTINE» and «SCREEN» Mode

 Switch the mode switch – The M Button can be pressed in either the «ROUTINE» or «SCREEN» mode to retrieve the last set of readings from the measurements.



2) **Viewing the average of all measurements** – At first an "A" will be displayed, followed by an average of all measurements taken in the last sequence of measurements.



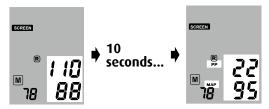






Viewing MAP and PP values –

Ten seconds after the display of the average blood pressure, the device will display values for Pulse Pressure (PP) and Mean Arterial Pressure (MAP).



Viewing individual measurements – Press the M Button once again to view individual measurements. The display will flash a number "3" indicating the third measurement.

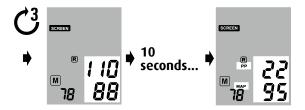








5) Values for the third measurement (including PP and MAP values) will be shown on the display in the order listed in step 3.



Press the M Button to retrieve values for second and first measurements from the last completed set of measurements.













Viewing and transferring Measurements (cont.)

Transferring measurements Installation of the software program

- Put the CD in the CD-ROM drive of your computer or click on «setup.exe» in the CD's directory alternatively.
- Follow the instructions provided in the installation window on the computer screen.
- 3) When the installation is finished, restart the computer before using the program.
 - ** System Requirements: 550MHz CPU. 256MB Memory, 1024x768 pixel resolution, 256 color, CD-ROM drive, 1 free USB port, 40MB free hard disk space, Microsoft Windows XP / Vista / Win7.
 - * The latest software can be downloaded from the website: http://www.watchbp.com/

Transferring data to the computer

- Start the software program and connect the device to the computer using the cable supplied.
- A successful connection is displayed by «Connected» on the computer screen.
- Enter identity number, Patient Name and Surname to create a new record.









Software commands	Refer to the software user manual for detailed information and instructions.	
Perform a measurement	Click «Measure»	
Stop a measurement	Click «Stop»	
Store data	Click «Save»	
Close	Click «Close»	

^{*} Please read the software menual to know more details of the software operation commands.

Rechargeable battery and power adaptor

Rechargeable Battery

WatchBP Office AFIB features a built-in, rechargeable Ni-MH battery pack that delivers up to 400~500 measurement cycles. The battery can be recharged between use with the power adaptor provided.

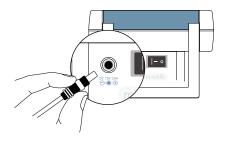


- First time use, charge the batteries until the recharge indicator turns to green
- An orange recharge indicator means recharge in progress.
- A green recharge indicator means recharge is completed.

Using a power adaptor

Please only use the Microlife adaptor supplied with the WatchBP Office AFIB to recharge the device.

- Plug the adapter cable into the Power Plug of the WatchBP Office AFIB device.
- Plug the adaptor plug into the wall socket. When the power adaptor is connected, no battery power is consumed.

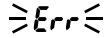


Troubleshooting

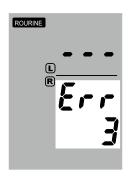
Problem	Possible cause	How to make correction
No power(No LCD display)	Power supply is not properly plugged in	Plug power supply into wall socket.
	Battery is fully discharged	Recharge the rechargeable battery by plugging in the power supply.
Cuff does not inflate properly	Loose connection of the tube	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. Please contact Microlife customer service for this issue.
No result displayed between measurements	Device is in AUSCULTATION mode or the Hide function is activated	Disable "hide" function,

Error messages

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



- Please contact your local Microlife service center if the error persists.
- If you think the results are unusual, please read through the information in this instruction manual carefully.



Error	Description	Potential cause and remedy
«Err 1»	Signal too weak	The pulse signals on the cuff are too weak. Re-position the cuff and repeat the measurement.
«Err 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.

«Err 3»	No pressure in the cuff	An adequate pressure cannot be generated in the cuff. A leak may have occurred. Replace the batteries if necessary. Repeat the measurement.
«Err 5»	Abnormal result	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.

«НІ»	Pulse or cuff pressure too high	The pressure in the cuff is too high (over 300 mmHg) OR the pulse is too high (over 200 beats per minute). Relax for 5 minutes and repeat the measurement.
«LO»	Pulse too low	The pulse is too low (less than 40 beats per minute). Repeat the measurement.

Safety, care, accuracy test and disposal

Safety and protection

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



- Ensure that children do not use the device unsupervised; some parts are small enough to be swallowed.
- Only activate the pump when cuff is installed.
- 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.
- Do not connect the device to a computer until prompted to do so by the computer software.

Observe the storage and operating conditions 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



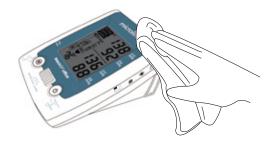
Never open device



Protect device from impact and drops

Device care

Clean the device with a soft, dry cloth.

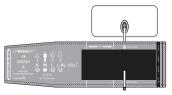


Accuracy test

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

Cleaning the cuff

Take out the bladder. Fold and place the cuff cover inside a washing bag. Wash cuff cover with warm water and a mild detergent in washing machine. Air dry the cuff. DO NOT iron the cuff cover





Do not iron the cuff!

Disposal



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

Technical specifications

Operation temperature/

humidity:

• 10 to 40 °C (50 to 104 °F)

Storage temperature/ humidity: • -20 to 55 °C (-4 to 131 °F)

• 15 - 90 % relative maximum humidity

Weight:

• 1100 g (including rechargeable

battery pack)

Dimensions: • 200 x 125 x 90 mm

Measuring method: • Oscillometric, corresponding to

Korotkoff

Measurement range: • 30 - 280 mmHg - blood pressure

• 40 - 200 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

Voltage source:

• Rechargeable battery pack;

4.8V C3500 mAh

Mains adapter DC 7.5V, 2 A

Reference to Standards:

•Device corresponds to the

requirements of the standard for noninvasive blood pressure monitor.

EN 1060-1

EN 1060-3 EN 1060-4 IEC 60601-1

IEC 60601-1-2

Electromagnetic compatibility:

• Device fulfills the stipulations of the

standard IEC 60601-1-2.

C€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 specfications without prior written notice.

Guarantee card

This device is covered by a two-year guarantee and accessories are covered by a one-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.

Name:	
Address:	
Date:	
Telephone:	
Email:	

	I
1	

Product: WatchBP Office AFIB **Product Number:** TWIN200 AFS

Date:



Europe / Middle-East / Africa

Microlife WatchBP AG
Espenstrasse 139
9443 Widnau, Switzerland
Tel. +41 71 727 7000
Fax +41 71 727 7011
Email: watchbp@microlife.ch
www.watchbp.com

Asia

Microlife Corporation
9F, 431, RuiGang Road, NeiHu
Taipei, 114, Taiwan, R.O.C.
Tel. +886 2 8797 1288
Fax.+886 2 8797 1283
Email:
watchbp@microlife.com.tw
www.watchbp.com

United States

Microlife Medical Home Solutions, Inc. 2801 Youngfield St., Suite 241 Golden, CO 80401, USA Tel. +1 303 274 2277 Fax +1 303 274 2244 Email: watchbp@mimhs.com www.watchbp.com

Canada, Central / South America

Microlife USA, Inc.
1617 Gulf To Bay Blvd., 2nd
Floor
Clearwater, FL 33755, USA
Tel +1 727 442 5353
Fax +1 727 442 5377
Email: msa@microlifeusa.com

www.watchbp.com

