

*microlife*<sup>®</sup>

Be part of the great movement to  
prevent stroke and heart disease

Let's work together  
for better health

**Microlife WatchBP**  
Professional Blood Pressure Monitors

[www.watchbp.co.uk](http://www.watchbp.co.uk)

## Table of Contents

### Introduction

WatchBP - The Cardiovascular Management Solution .....P.2  
 WatchBP Product Overview .....P.3  
 Accuracy and Validations .....P.4  
 Advanced Measurement Technology .....P.6  
 Atrial Fibrillation Detection .....P.7

### WatchBP Office

WatchBP Office AFIB .....P.11  
 WatchBP Office ABI .....P.13  
 WatchBP Office Central .....P.15  
 WatchBP Office Target .....P.17

### WatchBP 03 Ambulatory

WatchBP 03 Ambulatory .....P.18

### WatchBP Home

WatchBP Home .....P.23  
 WatchBP Home A .....P.24  
 WatchBP Home A BT (Bluetooth).....P.25  
 WatchBP Home A NFC .....P.26  
 WatchBP Home N .....P.27  
 WatchBP Home S .....P.28

### WatchBP Cuffs

WatchBP Cuffs .....P.29

### Overview and References

WatchBP Features Overview .....P.31  
 References .....P.33

# WatchBP

## The cardiovascular management solution

**Clinical blood pressure measurement has limited accuracy because of:**

- ✓ Blood pressure variability
- ✓ White coat effect/hypertension
- ✓ Masked hypertension

**Therefore guidelines also recommend:**

- ✓ Ambulatory (24-hour) blood pressure measurement
- ✓ Self-measurement of blood pressure at home

**Additional cardiovascular screening is recommended for:**

- ✓ Peripheral arterial disease
  - ankle brachial index (ABI)
  - inter-arm difference (IAD)
- ✓ Atrial fibrillation (AF)

**Microlife WatchBP presents a solution that makes screening for these important cardiovascular risks easy, fast and accurate.**



AFIB Detection  
(Microlife Technology)



Recommended by NICE  
[www.nice.org.uk/MTG13](http://www.nice.org.uk/MTG13)

# WatchBP Product Overview



Ambulatory blood pressure measurement

Office blood pressure measurement

Self-measurement of blood pressure at home

## High Accuracy and Clinically Validated

All Microlife devices have passed BHS & ESH validation protocols

### Clinical devices

WatchBP device	Validation protocol		Circumstance
	BHS	ESH	
Office ABI	A/A	Pass	At rest
		Pass	L-XL size cuff
Office AFIB		Pass	WatchBP Office Equivalence
Office Central	A/A	Pass	At rest
		Pass	L-XL size cuff
Office Target		Pass	BP A100 Equivalence

### Ambulatory blood pressure monitoring devices

WatchBP device	Validation protocol		Circumstance
	BHS	ESH	
O3		Pass	At rest
		Pass	L-XL size cuff

### Self-measurement devices

WatchBP device	Validation protocol		Circumstance
	BHS	ESH	
Home	A/A	Pass	At rest
	A/A		Pregnancy
	B/A		Pre-eclampsia
	A/A		L-XL Cuff
Home A	A/A	Pass	At rest
		Pass	L-XL size cuff
Home A BT (BlueTooth)	A/A	Pass	At rest
		Pass	L-XL size cuff
Home A NFC	A/A	Pass	At rest
		Pass	L-XL size cuff
Home N		Pass	WatchBP Home Equivalence
Home S		Pass	WatchBP Home Equivalence

\* See also References at P33

### Accuracy of Blood Pressure Monitors

Over the past 10 years Microlife devices have passed more than 20 validations according to both the BHS and ESH protocols. These include validations for special patient groups such as patients with high blood pressure during pregnancy (pre-eclampsia), end stage renal disease and for those with obesity.



### End stage renal disease



## Microlife provides validated blood pressure monitors for patients with end stage renal disease

Patients with moderate to severe renal disease have a very high incidence of hypertension, paired with stiff (calcified) arteries. As automated measurements can be influenced by stiff arteries, a special validation is required before blood pressure monitors can be recommended for use among patients with end stage renal disease.



WatchBP 03  
WatchBP 03 AFIB



WatchBP Office AFIB  
WatchBP Office ABI  
WatchBP Office Central  
WatchBP Office Target



WatchBP Home  
WatchBP Home A  
WatchBP Home A BT  
WatchBP Home A NFC  
WatchBP Home N  
WatchBP Home S

### Pre-eclampsia



## Microlife WatchBP Home is accurate for use in pregnancy and Pre-eclampsia

Most oscillometric blood pressure monitors underestimate blood pressure in pre-eclampsia. For this reason, oscillometric blood pressure monitors may only be recommended for use in pregnancy when specifically tested in this special patient group. The WatchBP Home allows pregnant women to measure their blood pressure at home which could reduce the number of hospital visits and may help to make motherhood safer.



WatchBP 03



WatchBP Office AFIB  
WatchBP Office ABI  
WatchBP Office Central  
WatchBP Office Target



WatchBP Home

### Pre-eclampsia

Pre-eclampsia is defined as new hypertension and substantial proteinuria after 20 weeks gestation. Due to the unpredictable nature of pre-eclampsia hypertensive women must have their blood pressure measured frequently.

### 3 consecutive measurements



## Guidelines recommend taking at least two blood pressure readings each time and average the measurements

### The advantages of 3 consecutive measurements

- Superior reliability for blood pressure monitoring.
- Performing three sequential measurements diminishes the influence of an occasional deviating (high) reading.



If one of the measurements is questionable, a fourth one is automatically taken.

### Peripheral Arterial Disease

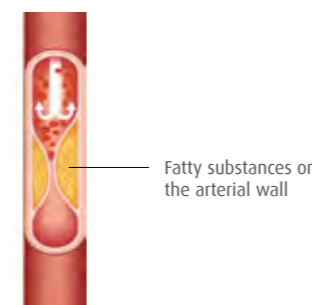


Ankle brachial index is commonly assessed with a Doppler device. This method is time consuming and prone to error.

## Peripheral Arterial Disease (PAD)

### 50% of all patients have no symptoms

Peripheral arterial disease (PAD) is an important, frequently occurring, cardiovascular risk factor that often remains undetected for too long. Patients with PAD have a three-fold higher risk of myocardial infarction, stroke and death. A recommended test for diagnosing PAD is performing ankle-arm measurements to assess the ankle brachial index (ABI). In general clinical practice ABI is often determined with a Doppler device. However, this method is time consuming and requires skills from the observer and therefore is not performed as well and as frequently as it should.

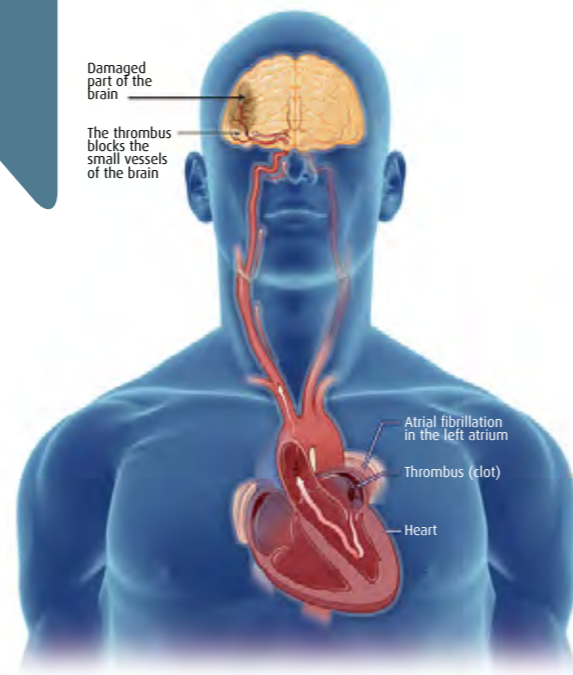


Peripheral arterial disease

### WatchBP Office ABI, for easy, fast and accurate ABI assessment



**Early detection of atrial fibrillation can reduce the risk of stroke by 68%**



Stroke due to atrial fibrillation



AFIB Detection  
(Microlife Technology)

**Atrial fibrillation (AF)**

AF is the most common sustained cardiac arrhythmia occurring in 5% of the population of 65 years and above and in 14% among those older than 85 years. AFIB leads to a 5-fold higher risk of stroke and is responsible for 20% of all strokes. Many people have no symptoms from AFIB and therefore remain undiagnosed, whereas early treatment can reduce the risk of stroke by 68%.

**WatchBP monitors with atrial fibrillation (AF) detection system**

WatchBP monitors with implemented AF detection system allow patients to be screened for AF during blood pressure measurement. The AF detection system has convincingly proven its accuracy, and showed that it leads to increased detection of new patients with AF when used in general clinical practice.

**Early detection of AF followed by adequate treatment can reduce the risk of a stroke by 68%**

**Wrist palpation**



Wrist palpation, although commonly performed, has a low reliability.

**Best clinical practice**



A symbol appears on the LCD screen when AF is detected.

**Recommended by NICE**

The National Institute for Health and Care Excellence (NICE) officially recommends using the WatchBP Home A during routine blood pressure measurement for all GP's in the United Kingdom.  
[www.nice.org.uk/MTG13](http://www.nice.org.uk/MTG13)



NICE medical technologies guidance addresses WatchBP Home A  
"The available evidence suggests that the device reliably detects atrial fibrillation and may increase the rate of detection when used in primary care."  
"WatchBP Home A should be considered for use in people with suspected hypertension and those being screened or monitored for hypertension, in primary care."

**"WatchBP Home A should be used for hypertension monitoring in primary care"**

**Tested and approved for detecting atrial fibrillation**

WatchBP AFIB detects atrial fibrillation with high accuracy (sensitivity 97-100% - specificity 89%) as demonstrated in multiple comparative studies with ECG.

# WatchBP Office

Microlife WatchBP Office, guidelines based professional blood pressure monitors



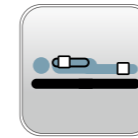
### AFIB detection (Microlife Technology)

Screens for atrial fibrillation during blood pressure measurement.



### 3 consecutive measurements

For accurate blood pressure measurement and better AF detection.



### ABI assessment

Fast, easy and reliable simultaneous ankle-arm blood pressure measurement for screening of peripheral arterial disease.



### PC link

Transmit all measurement data to PC via USB connection.



### Double arm measurement

Unique dual-cuff design for assessing inter-arm blood pressure differences.



### Central blood pressure measurement

Non-invasive, reliable method based on brachial pulse volume plethysmography (PVP) waveforms.



### Auscultatory mode

For use in e.g. elderly, obese and those with arrhythmia.



WatchBP Office AFIB

### WatchBP Office AFIB

Dual-cuff blood pressure monitor with atrial fibrillation detection and auscultatory measurement function.



WatchBP Office ABI

### WatchBP Office ABI

Cardiovascular Screening Device, Dual-cuff blood pressure monitor with atrial fibrillation detection and Ankle-Brachial Index function.



WatchBP Office Central

### WatchBP Office Central

Cardiovascular Screening Solution, Dual-cuff blood pressure monitor with atrial fibrillation detection, Ankle-Brachial Index assessment and central blood pressure measurement function.



WatchBP Office Target

### WatchBP Office Target

Blood pressure monitor with built-in blood pressure targets.



# WatchBP Office AFIB

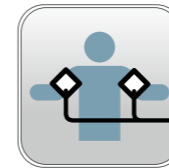
- AFIB detection (Microlife Technology)
- 3 consecutive measurements
- For use in End stage renal disease
- For use in Pregnancy
- Double arm measurement
- Auscultatory mode
- PC link

- ✓ Atrial fibrillation (AF) detection.
- ✓ Dual-cuff design for simultaneous measurement on both arms to assess the Inter-Arm Difference (IAD).
- ✓ Auscultatory mode, for use in e.g. elderly, obese and those with arrhythmia.
- ✓ Software CD included, and can also be downloaded from the website: [www.watchbp.co.uk](http://www.watchbp.co.uk)



## Atrial fibrillation detection

WatchBP AFIB detects atrial fibrillation with high accuracy (sensitivity 97-100% - specificity 89%) as demonstrated in multiple comparative studies with ECG.



## The most reliable tool for determining inter-arm blood pressure differences

Inter-arm difference (IAD) in blood pressure is an important cardiovascular risk predictor. Therefore, blood pressure must be measured in both arms at the first clinical visit.

IAD Threshold	
Diastolic $\geq 10\text{mmHg}$	Systolic $\geq 20\text{mmHg}$



## Operation Mode:

Mode	Measurements	Interval time	AFIB detection	Double arm measurement	PC link
Routine	3	15" default 30"/45"/60" selectable	●	-	●
Auscult	1	-	-	-	-
Screen	3	15" default 30"/45"/60" selectable	●	●	●





# WatchBP Office ABI

Cardiovascular Screening Device

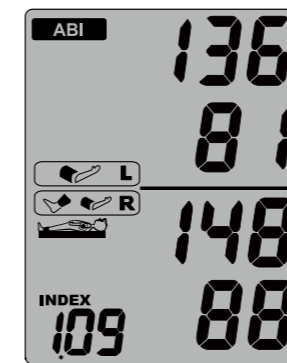
- AFIB detection  
(Microlife Technology)
- 3 consecutive  
measurements
- For use in End stage  
renal disease
- For use in  
Pregnancy
- Double arm  
measurement
- ABI  
assessment
- PC link

- ✓ Fast, easy and accurate Ankle Brachial Index (ABI) assessment.
- ✓ Atrial fibrillation (AF) detection.
- ✓ Dual-cuff design for simultaneous measurement on both arms to assess the Inter-Arm-Difference (IAD).
- ✓ Software CD included, and can also be downloaded from the website:  
[www.watchbp.co.uk](http://www.watchbp.co.uk)

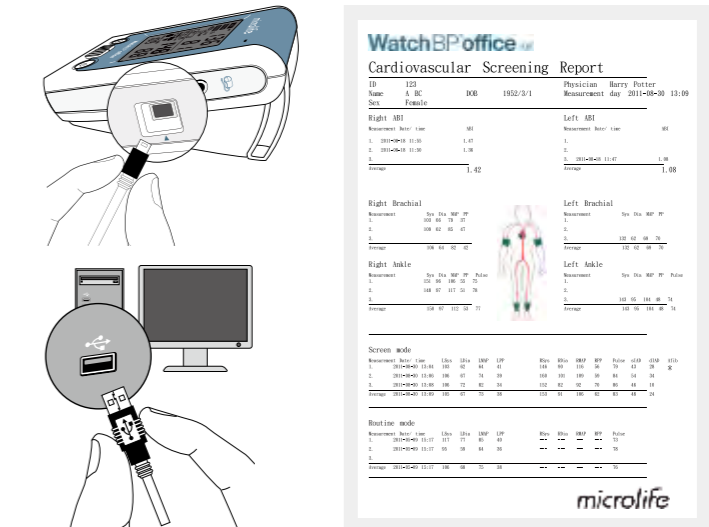
## Ankle brachial index assessment : screening for peripheral arterial disease

### Presentation of the measurement results

On the device

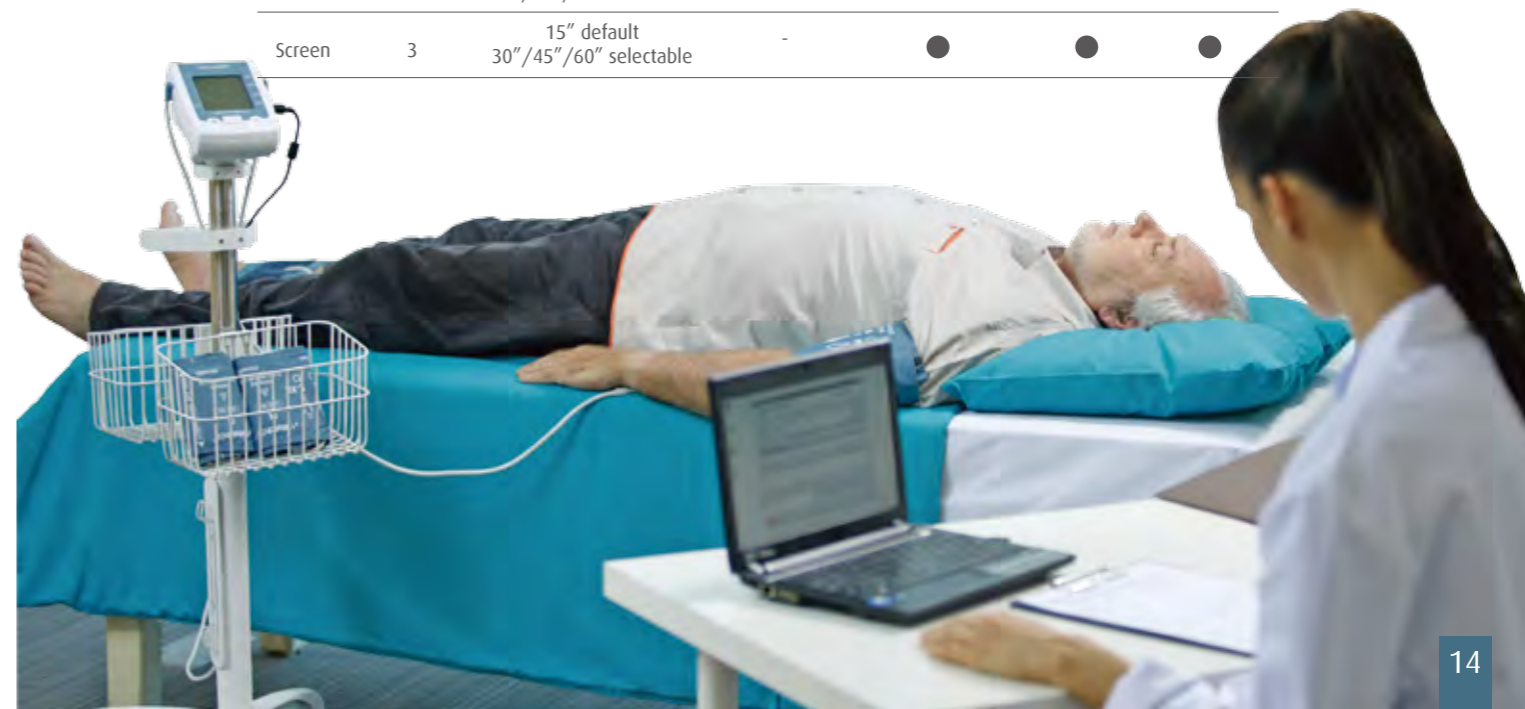


On the PC



### Operation Mode:

Mode	Measurements	Interval time	ABI assessment	AFIB detection	Double arm measurement	PC link
ABI	1	-	●	-	-	●
Routine	3	15" default 30"/45"/60" selectable	-	●	-	●
Screen	3	15" default 30"/45"/60" selectable	-	●	●	●







# WatchBP Office Central

## Cardiovascular Screening Solution

-   
AFIB detection  
(Microlife Technology)
-   
3 consecutive  
measurements
-   
For use in End stage  
renal disease
-   
For use in  
Pregnancy
-   
Double arm  
measurement
-   
ABI  
assessment
-   
PC link
-   
Central  
Blood pressure  
measurement

- √ Non-invasive central blood pressure measurement.
- √ Fast, easy and accurate Ankle Brachial Index (ABI) assessment.
- √ Atrial fibrillation (AF) detection.
- √ Dual-cuff design for simultaneous measurement on both arms to assess the Inter-Arm-Difference(IAD).

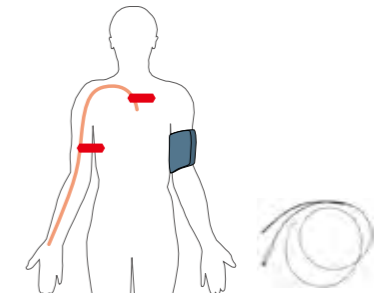
## Central blood pressure

Central blood pressure is the pressure in the aorta, the largest artery that originates from the heart. Central blood pressure measurement may better correlate with cardiovascular risk than upper arm blood pressure measurement because the aorta is more close to the heart and brain, the most vital organs of the body.

## The WatchBP Office Central has surpassed all requirements of the international standards



The aorta distributes oxygenated blood to all parts of the body.



The WatchBP Office central has been validated against intra-arterial blood pressure measurement.



### Operation Mode:

Mode	Measurements	Interval time	Central BP measurement	AFIB detection	Double arm measurement	PC link	ABI assessment
ABI	1	-	-	-	-	●	●
Central	2	15" default 30"/45"/60" selectable	●	●	-	●	-
Screen	3	15" default 30"/45"/60" selectable	-	●	●	●	-



# WatchBP 03



## WatchBP Office Target

Clinical blood pressure monitor with built-in blood pressure targets



3 consecutive measurements



For use in End stage renal disease



For use in Pregnancy

Ambulatory blood pressure measurement



- ✓ Built-in blood pressure targets at 140/90 mmHg for routine measurements; and 130/80mmHg for high risk patients.
- ✓ Display with colour for patient education.
- ✓ Calculated difference from target value.



Highly Affordable

# WatchBP 03 Ambulatory

Professional 24-hour blood pressure monitor

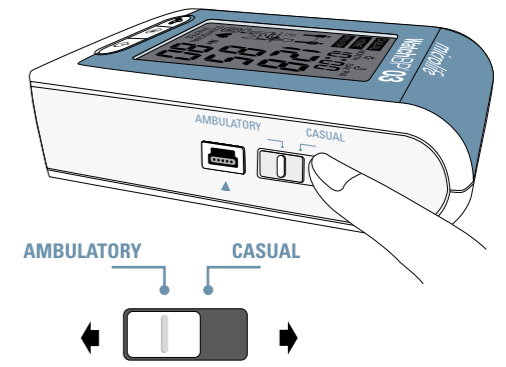
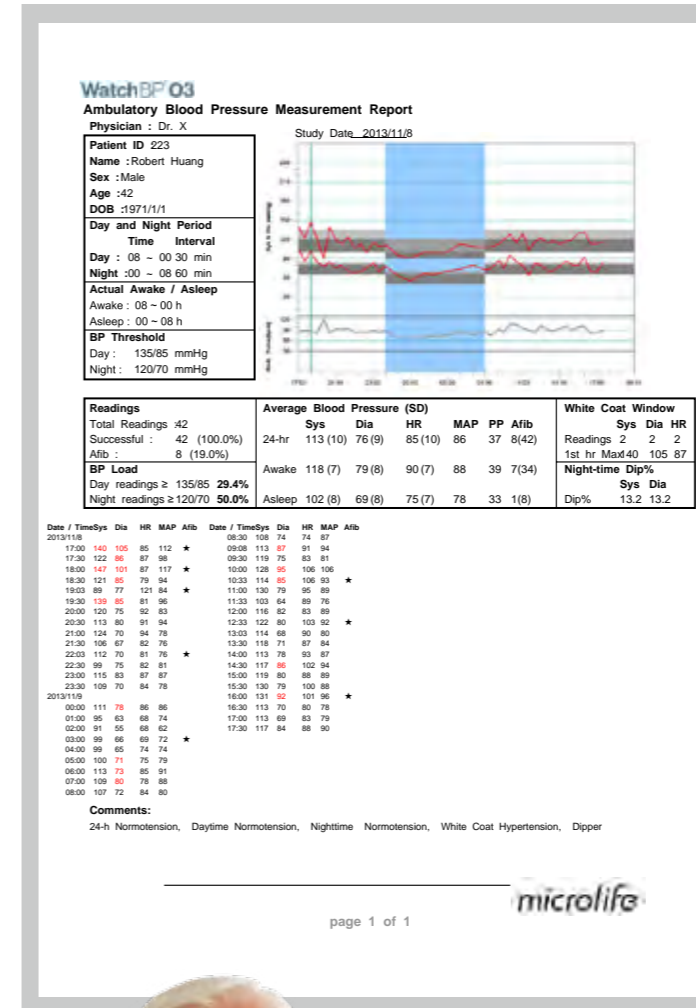
- ✓ Highly affordable.
- ✓ Fully-programmable.
- ✓ Lightweight and compact.
- ✓ Pill intake recording button.
- ✓ PC connectivity via USB.
- ✓ Software CD included, and can also be downloaded from the website: [www.watchbp.co.uk](http://www.watchbp.co.uk)
- ✓ Reports provided in PDF, Excel(or Open Office) with automated comment.
- ✓ Atrial fibrillation detection (optionally).

### Available Models:

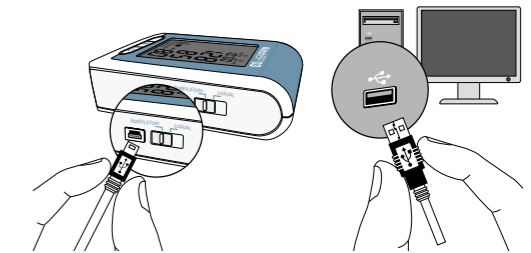
Model	24-hour ambulatory blood pressure monitor	AFIB detection	PC link	Night-time measurement	Pill-button	For use in End stage renal disease	For use in pregnancy
WatchBP 03	●	-	●	●	●	●	●
WatchBP 03 AFIB	●	●	●	●	●	●	-

## WatchBP 03 validated ambulatory blood pressure monitor

Easy to read one page PDF report



### USB interface



### Pill-button

for recording medication intake



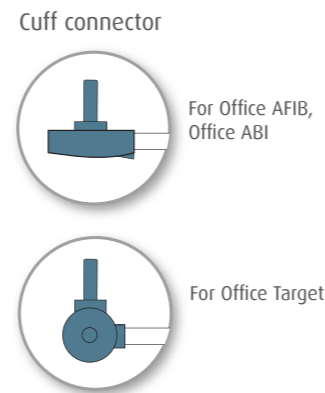
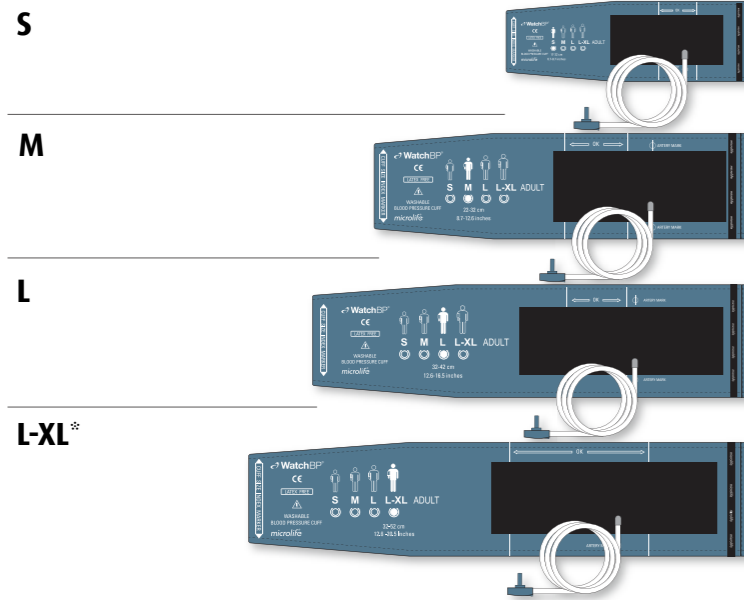
# Cuffs, as important as the blood pressure monitor

Using the wrong size cuff is a major cause for erroneous blood pressure measurement

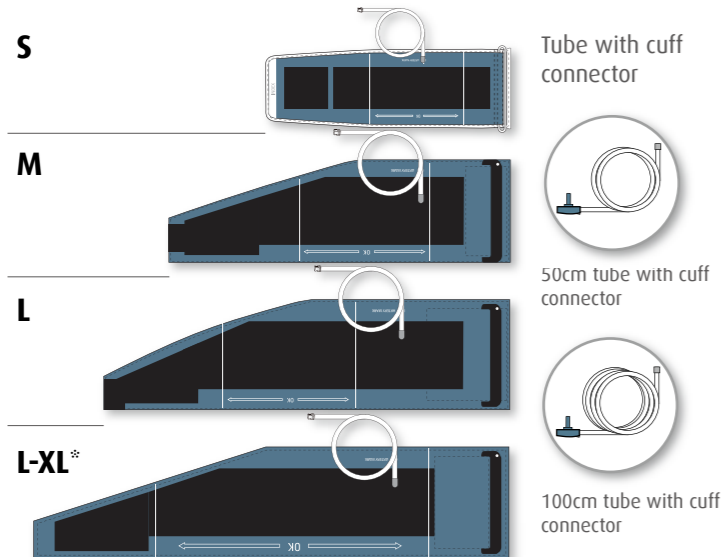
All cuff bladders are both latex and PVC free

## Soft Upper Arm

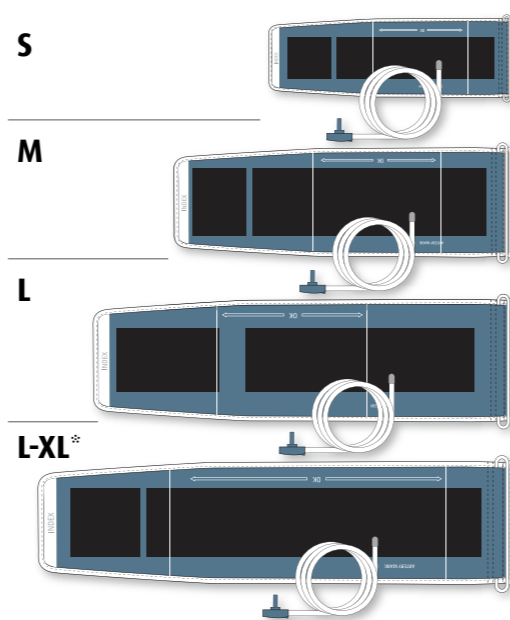
**WatchBP Office** (Washable cuffs available in both nylon and cotton)



**WatchBP 03 Ambulatory** (Washable cuffs available in both nylon and cotton)



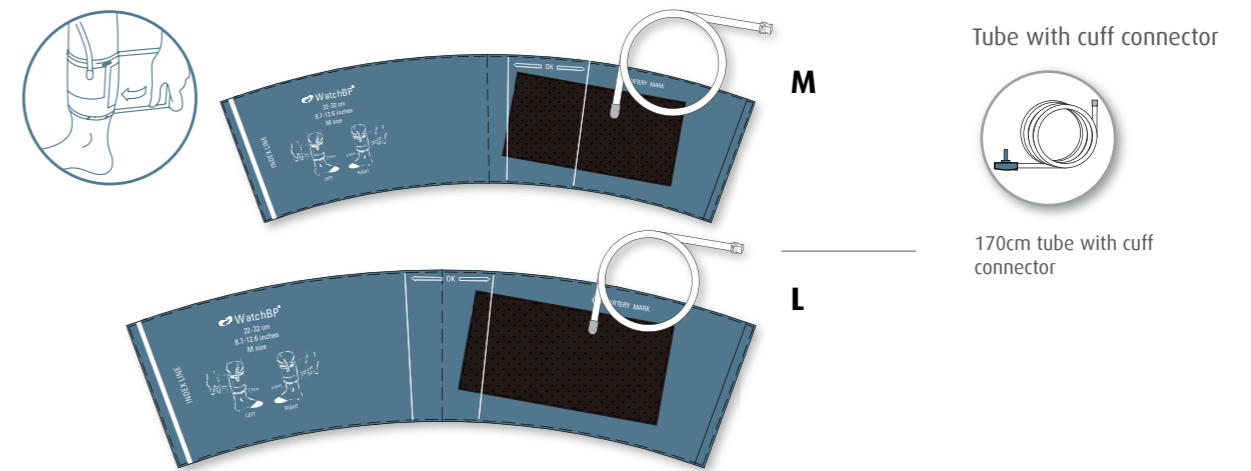
**WatchBP Home**



\* the L-XL cuff has been validated for use among patients with large arms

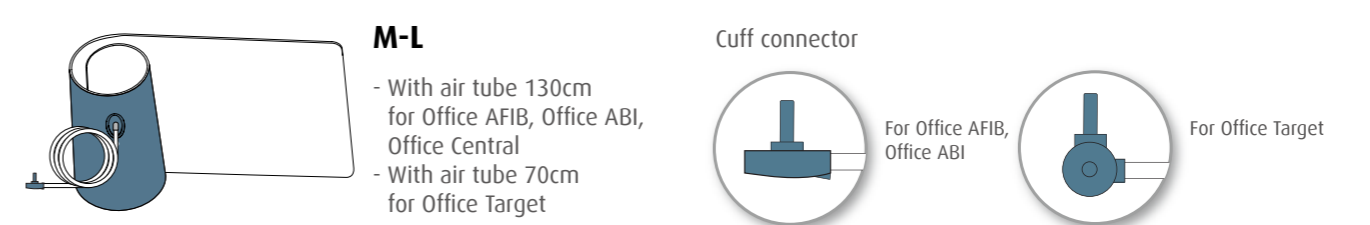
## Soft Ankle

**WatchBP Office ABI/ Central**



## Upper Arm - Rigid

**WatchBP Office**



Cuff	Upper arm cuff					Ankle cuff	
	S	M	M-L	L	L-XL	M	L
Measures (cm)	17-22	22-32	22-42	32-42	32-52	22-32	32-42
Measures (Inches)	6.7-8.7	8.7-12.6	8.7-16.5	12.6-16.5	12.6-20.5	8.7-12.6	12.6-16.5

# WatchBP features overview

## WatchBP Office

Device	3 consecutive measurements	Double arm measurement	Auscultatory mode	AFIB detection	ABI assessment	PC link	Central BP measurement	For use in End stage renal disease	For use in Pregnancy
WatchBP Office AFIB	●	●	●	●		●		●	●
WatchBP Office ABI	●	●		●	●	●		●	●
WatchBP Office Central	●	●		●	●	●	●	●	●
WatchBP Office Target	●							●	●

## WatchBP 03

Device	24-hour ambulatory BP monitoring	AFIB detection	PC link	Night-time measurement	Pill-button	For use in End stage renal disease	For use in Pregnancy
WatchBP 03	●		●	●	●	●	●
WatchBP 03 AFIB	●	●	●	●	●	●	

## WatchBP Home

Device	Single measurement	3 consecutive measurements	ESH/AHA/BHS guidelines embedded	AFIB detection	PC link	Night-time measurement	Pill-button	For use in End stage renal disease	For use in Pregnancy
WatchBP Home	●		●		●			●	●
WatchBP Home A		●	●	●	●			●	
WatchBP Home A BT		●	●	●	●			●	
WatchBP Home A NFC		●	●	●	●			●	
WatchBP Home N		●	●	●	●	●	●	●	
WatchBP Home S		●		●				●	

**Europe / Middle-East / Africa**

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

**Microlife Health Management Ltd.**

St John's Innovation Centre  
Cowley Road  
Cambridge  
CB4 0WS  
United Kingdom  
Tel: + 44 (0) 1223 422 444  
Fax: + 44 (0) 1223 420 844  
info@watchbp.co.uk  
service@watchbp.co.uk  
www.watchbp.co.uk

**WatchBP Microlife solutions B.V.**

Mercator Science Park 1  
Toernooiveld 200  
6525 EC Nijmegen  
The Netherlands  
watchbp@microlife.ch  
www.watchbp.nl

**Microlife France**

118-120 rue de Rivoli  
75001 Paris  
France  
Phone: +33 (0)153246715  
Fax: +33 (0)153246718  
www.watchbp.fr

**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  
www.mimhs.com  
www.watchbp.com

**Latin America / Canada**

Microlife USA Inc.,  
1617 Gulf to Bay Blvd, 2nd Floor  
Clearwater, FL 33755, USA  
Tel. +1-727-4425353  
Fax. +1-727-4425331  
msa@microlifeusa.com  
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  
watchbp@microlife.com.tw  
www.watchbp.com.tw

**For more information, please visit: [www.watchbp.co.uk](http://www.watchbp.co.uk)**

Microlife Corporation is a global corporation working closely with medical societies, specialists and primary care physicians to create tools and solutions that advance healthcare for the benefit of both physicians and patients.

**microlife®**