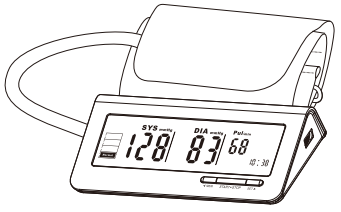
## RELATED ITEMS



Hopkins® IMPACT Digital Arm BP

- Replacement Adult Size Cuff #526019
- Large Adult Size Cuff #526020
- Hopkins® Flex Temp Thermometer #579420
- Hopkins® Wave™ Pulse Oximeter #594029

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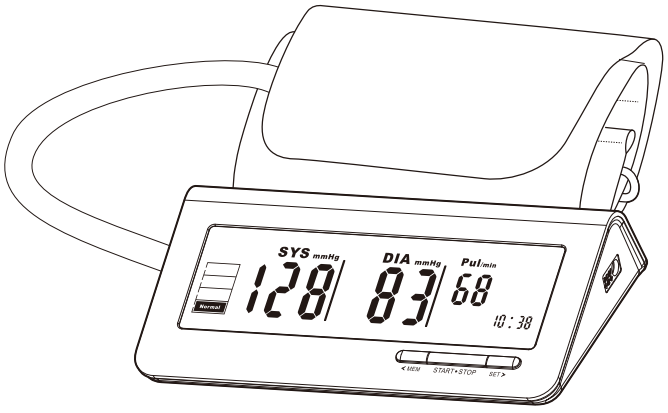
# User Manual

## Hopkins® IMPACT Digital Arm BP

**Item #526018**




*Thank you for selecting the Hopkins® IMPACT Digital Arm BP #526018. To use this BP monitor correctly and safely, please read this entire manual thoroughly and keep it for your reference.*

Hopkins®
Since 1945 Medical Products

Thank you for selecting the Hopkins® Digital IMPACT Arm BP (Item #526018). This monitor features blood pressure measurement, pulse rate measurement, and an auto-save function.

Readings taken by the #526018 are equivalent to those obtained by a trained observer using the cuff and stethoscope auscultation method.

This manual contains important safety and care information, and provides step by step instructions for using this product. Read this manual thoroughly before using this product



## ♥ Features

- Measures Systolic Blood Pressure
- Measures Diastolic Blood Pressure
- Measures Pulse Rate
- Retains historic records of up to 60 previous measurements
- Large 5.5” x 1.5” bright LCD display

## ♥ Safety Information

**The following symbols may be used in the user manual, product labeling, or on other components. They are the requirement of standard and use.**

| | | | |
|---|---|---|---|
| ⚠ | Caution: consult accompanying documents | | Type B applied part |
| CE 0123 | CE Mark: conforms to essential requirements of the Medical Device Directive 93/42/EEC | | DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary. |
| | Manufacturer | ⎓ | Direct current |
| SN | Specifies serial number | EC REP | Authorized Representative in the European Community |

### ⚠ CAUTION

This device is for adult use only.

This device is intended for non-invasive measuring and monitoring of arterial blood pressure. It is not intended for use on extremities other than the arm or for functions other than obtaining a blood pressure measurement and pulse rate.

Do not confuse self-monitoring with self-diagnosis. This unit allows you to monitor your blood pressure. Do not begin or end medical treatment based solely on self-monitoring, consult a physician for treatment advice.

If you are taking medication, consult your physician to determine the most appropriate time to measure your blood pressure. Never change a prescribed medication without consulting your physician.
This unit is not suitable for continuous monitoring during medical emergencies or operations.
If the cuff pressure exceeds (300 mmHg), the unit will automatically deflate. Should the cuff not deflate when pressures exceeds (300 mmHg), detach the cuff from the arm and press the START/STOP button to stop inflation.

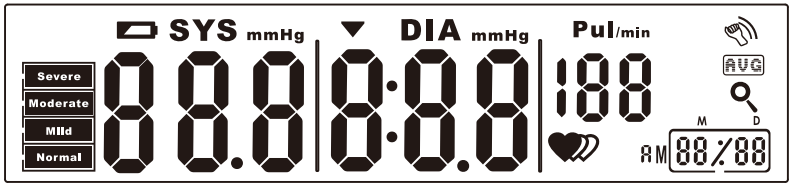
To avoid measurement errors, carefully read this manual before using this device.

This device is not AP/APG equipment and not suitable for use in the presence of a flammable anesthetic mixture with air, or with oxygen, or nitrous oxide.

Please avoid strong electromagnetic fields as they may interfere with or damage this device.

Always check this device to make sure that it is in proper working condition before use.

## ♥ LCD Display

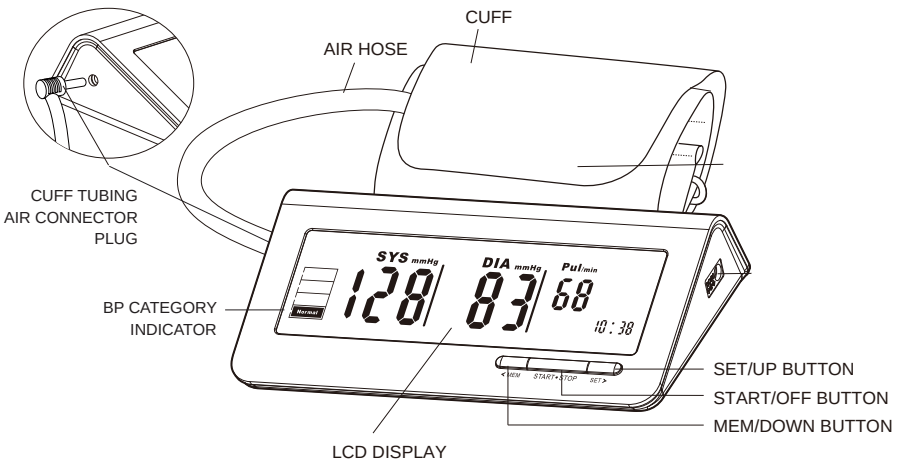


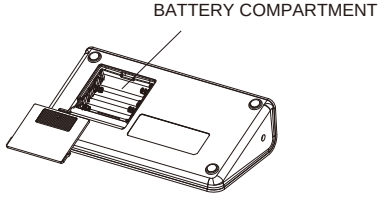

| SYMBOL | DESCRIPTION | EXPLANATION |
|---|---|---|
| SYS | Systolic BP | High pressure result |
| DIA | Diastolic BP | Low pressure result |
| Pul/min | Pulse | Pulse per Minute (Beats per Minute) |
| Lo | Low Battery | Batteries are low and need to be replaced |
| mmHg | Millimeters Mercury | Measurement unit of blood pressure |
| M 18/60 | Memory | If “M” shows, the displayed measurement value is from the memory of recorded measurements (See page 9 for instructions) |
| ▲ | Inflating | The unit is inflating with air to obtain the required level of pressure |
| ▼ | Deflating | The unit is deflating and the air is being exhausted from the cuff |
| AM 8:59 | Time (hour:minute) | The current time (set by user) |
| | Shock Warning | Inaccurate readings may occur if unit is hit, dropped, shaken, or otherwise shocked |
| AVG | Average | The average of the blood pressure measurements |
| | Recalling | The stored records are being retrieved |
| | Irregular Heartbeat | Irregular heartbeat (arrhythmia) detected |
| Normal | BP Category Indicator | Blood pressure level reading (See page 13 for instructions) |





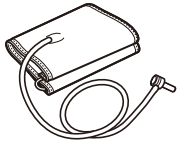
## ♥ Monitor Components



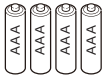

## ♥ Parts Included

#526018 Hopkins® IMPACT Digital BP Monitor



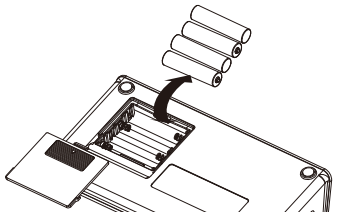
Adult Digital Cuff

Cuff Circumference: 8.5” - 12.5” (22cm - 32cm)




Four AAA Batteries

## ♥ Installing the Batteries



**1.** Slide off the battery cover on the back of the unit.

**2.** Install the batteries by matching the correct polarity, as shown above.
*Always use the correct battery type (4 alkaline AAA size)*

**3.** Replace the battery cover.

Replace the batteries when any of the following occurs:

- The lo shows
- The display dims
- The display does not light up

⚠ CAUTION

- If this device will be stored for an extended period of time, please remove the batteries in order to avoid corrosion.
- Used batteries are harmful to the environment, so please dispose of appropriately. Remove the old batteries from the device and follow your local recycling guidelines
- ***Battery corrosion is not covered under your three year limited warranty.***



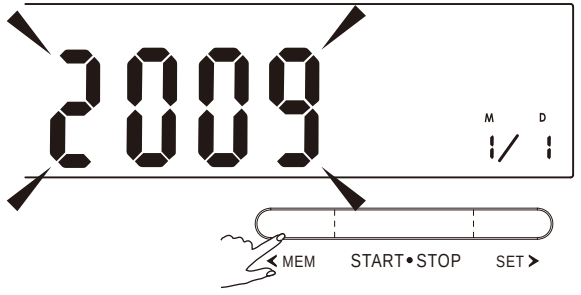


## ♥ Setting the Date and Time

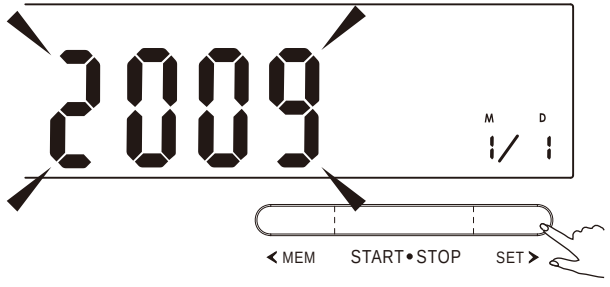
**It is important to set the clock before using your blood pressure monitor so that a time stamp can be assigned to each record stored in the memory. (The year can be set to anywhere between 2000 and 2050.)**

**1.** When the unit is off, press and hold the "SET" button for 3 seconds to enter the mode settings.

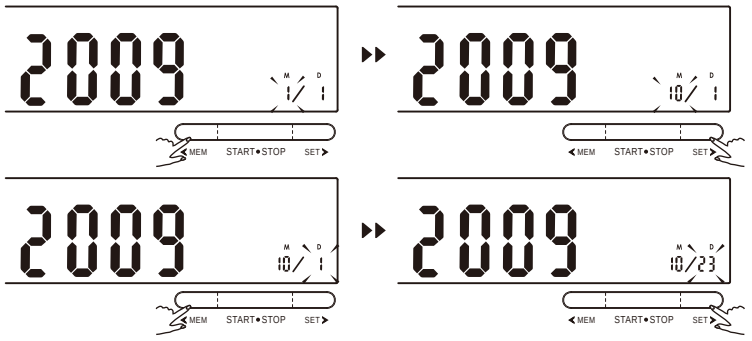

**2.** Press the "MEM" button to advance to the current [YEAR].



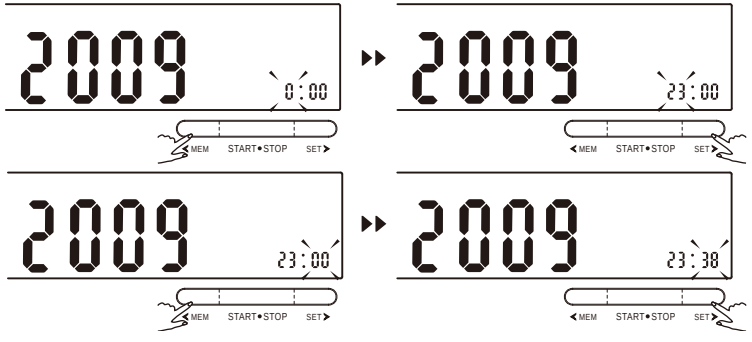

**3.** Press "SET" when you have reached the correct year to save your choice and advance to the next step.



**4.** Repeat steps 2 and 3 to set the [MONTH] and [DAY]




**5.** Repeat steps 2 and 3 to set the [HOUR] and [MINUTE]



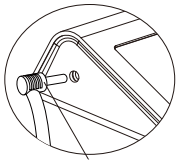

**6.** Once you have set the clock, the screen will read “done” and the monitor will then turn off automatically.



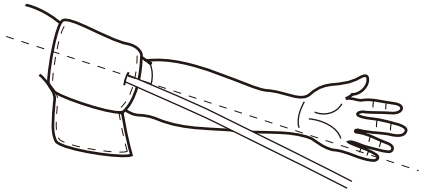



## ♥ Positioning the Cuff

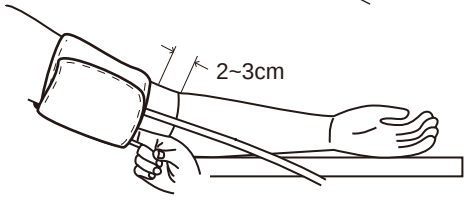
**1.** Make sure the air tube is connected securely to the unit.



**2.** Fasten the cuff on your left upper arm and position it so that the tube toward the inside of arm in line with your pinky finger.



**3.** The cuff should be snug but not too tight. You should be able to insert one finger between the cuff and your arm.




**4.** Sit comfortably with your left arm resting on a flat surface.

If the index arrows fall outside the area marked “OK”, please select a different size cuff.

## ♥ Tips for Accuracy

- You should always rest for at least 5 minutes before measuring your blood pressure.
- Wait at least 3 minutes between measurements. This allows your blood circulation to recover.
- For a meaningful comparison, try to take blood pressure measurements under similar conditions. For example, take daily measurements at approximately the same time, on the same arm, or as directed by a physician.

## ♥ Start the Measurement

**1.** Press the “START/STOP” button to turn on the monitor. The whole measurement will take place automatically.


The LCD Display will power up.


The unit will adjust to zero and calibrate automatically. (The unit will calibrate every time it is turned on.)


The unit will inflate and begin to take the measurement.


Once the measurement has been taken, the unit will deflate, display the reading and the category of the reading, and store the reading in the memory.


**2.** Press the “START/STOP” button to turn the monitor off, otherwise the monitor will power off automatically within 1 minute.

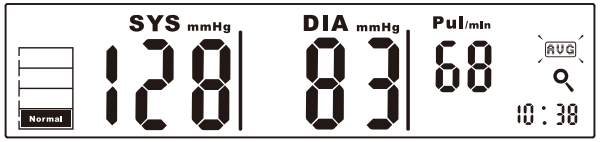





## ♥ Recalling Recorded Measurements

**1.** Press the “MEM” button to display the average of the records.

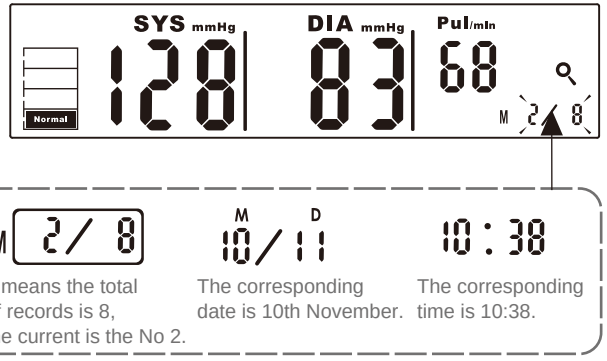

AVG will display on the right side of the screen




**2.** Press either the “MEM” button or the “SET” button to toggle between the records.


UP DOWN

The order of the record, date, and time will display alternately.




**⚠ CAUTION**

The most recent record M 1/60 is shown first. Each new measurement is assigned to the first (1) record. All other records are pushed back one digit (e.g., 2 becomes 3, and so on), and the last record M 60/60 is dropped from the list.

## ♥ Deleting a Record from the Memory

**You can delete all the measurement results in the memory by following the steps below:**


**1.** Press and hold the “MEM” button for 3 seconds – the display will alternately flash “DEL ALL” and “DEL ONE”.

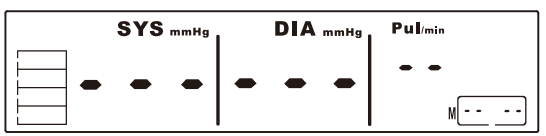

If you don’t want to delete any of the records, press the “START/ STOP” button to escape.

**2.** To delete the most recent record, wait until the display shows “DEL ONE”, then press the “SET” button to delete the latest record.


**3.** To delete all of the records at once, repeat step 1 and when the display shows “DEL ALL” press the “SET” button.


The word “DONE” will appear at the bottom of the screen once the action has been completed.

**4.** If there is no record, the display will be blank.








## ♥ Tips for Measurement

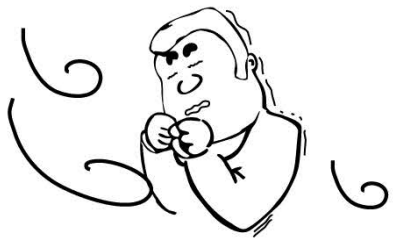
**Measurements taken under some circumstances may cause the monitor to provide inaccurate readings:**

Always wait at least 1 hour after eating or drinking

Never take a reading immediately after drinking tea or coffee, or after smoking.

Always wait at least 20 minutes after taking a bath or shower

Never take a reading while talking or moving your fingers

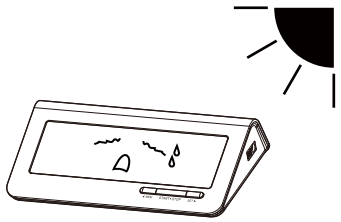


Never take a reading in a very cold environment

Never take a reading when you need to use the restroom

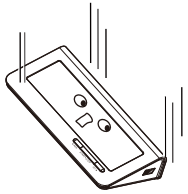
## ♥ Care and Storage

**In order to get the best performance out of your blood pressure monitor, please follow the instructions below:**



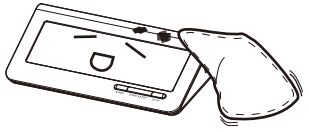
Avoid direct sunlight.

Do not submerge in water or any other liquid.

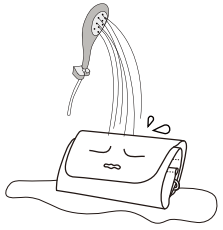


Avoid shaking or dropping the monitor.

Store at room temperature in a dry, clean environment.



Never use a wet cloth to remove dirt. Always use a clean, dry cloth.

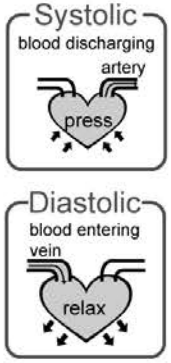


Do not wash the monitor or the cuff.





## ♥ What are Systolic and Diastolic Pressure?

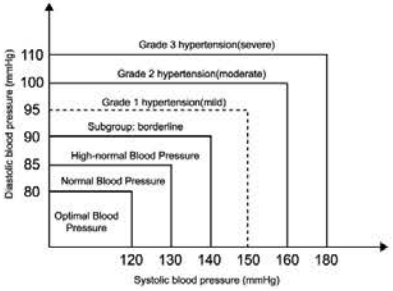



When the ventricles contract to pump blood out of the heart, the blood pressure reaches its highest pressure in the cycle. This is known as ***systolic pressure***. The lowest blood pressure in the cycle occurs when the heart relaxes between heartbeats, and this is known as ***diastolic pressure***.

The systolic pressure is the top number in your blood pressure reading, and the diastolic is the bottom number.

## ♥ What is a Normal Blood Pressure?

*The following charts illustrate the blood pressure classification level established by the World Health Organization (WHO) and International Society of Hypertension (ISH) in 1999.*




| BP Level (mmHg) | Optimal BP | Normal BP | Mild Hypertension | Moderate Hypertension | Severe Hypertension |
|---|---|---|---|---|---|
| SYS | <120 | 120~139 | 140~159 | 160~179 | >180 |
| DIA | <80 | 80~89 | 90~99 | 100~109 | >110 |

**⚠ CAUTION**

Only a physician can tell you your normal blood pressure range and the point at which you are at risk. Consult your physician to obtain these values.

If the measurements taken with these products fall outside the range, consult your physician.

## ♥ Why does my blood pressure fluctuate throughout the day?

**1.** Individual blood pressure readings can naturally vary throughout the day, so for the best accuracy, take your readings the same way each time. (See *Tips for Accuracy* on page 7.)

**2.** Blood pressure readings can fluctuate if you are taking medications.

**2.** If you are taking multiple readings, wait at least 3 minutes between readings for best accuracy.

*When taking your blood pressure at home you should always make sure the cuff is fastened and placed properly, and that the cuff is not too tight or too loose.*

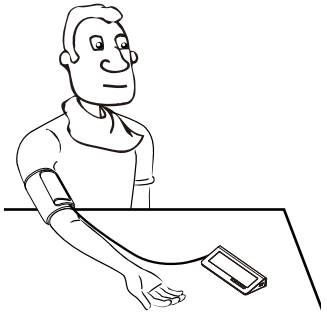
*Make sure you are not overly anxious or stressed as this will elevate your readings. It is recommended to take 2-3 deep breaths before beginning to take your blood pressure.*

## ♥ Why is the reading I get from a healthcare provider different from the ones I take at home?

Your blood pressure can be different even during a 24 hour period because of factors like the weather, emotional state, recent exercise or exertion, etc. Your readings may be elevated in a healthcare setting because of anxiety caused by the "white coat effect" and you may get lower readings at home where you are calmer.

## ♥ Which arm should I use to take my blood pressure?

Blood pressure readings can be taken on either the right or left arm, but it is recommended to take readings using the ***left arm***. Consult your physician if you think you need to use your right arm instead. Whichever arm you use, it is important to take your blood pressure using the same arm every time you take a reading.







*This section includes a list of error messages and frequently asked questions for problems you may encounter with your blood pressure monitor. If this product is not operating as you think it should, please check here before arranging for service.*

| PROBLEM | SYMPTOM | CHECK THIS | REMEDY |
|---|---|---|---|
| **No Power** | Display is dim or will not light up | Are the batteries dead? | Replace with new batteries. |
| | | Are the batteries inserted correctly? | Insert the batteries correctly. |
| **Low Batteries** | Lo shows on the display | Are the batteries low? | Replace with new batteries. |
| **Error Message** | "E 1" Shows on the display | The monitor detected that the cuff is not secure | Refasten the cuff and take a new reading. |
| | "E 2" Shows on the display | The monitor detected that the cuff is too tight | Refasten the cuff and take a new reading. |
| | "E 3" Shows on the display | The monitor detected that the pressure of the cuff is in excess | Relax for a moment and then take a new reading. |
| | "E 10" or "E 11" Shows on the display | The monitor detected motion while measuring | Movement can affect the measurement. Relax for a moment and then take a new reading. Try to remain still for the second reading. |
| | "EEXX" Shows on the display | A calibration error occurred | Take a new reading. If the problem persists, contact customer service for further assistance. Refer to page 21 for warranty and contact information. |

| | |
|---|---|
| **Power Supply** | Four AAA Alkaline Batteries (included) |
| **Display Model** | Digital LCD V.A. 5.5” x 1.5” |
| **Measurement Mode** | Oscillographic Testing Mode |
| **Measurement Range** | Pressure: 0 - 300mmHg<br>Pulse Value: 40 - 199 beats/minute |
| **Accuracy** | Pressure: Within ± 3mmHg<br>Pulse Value: ± 5% |
| **Normal Working Conditions** | Temperature: Approx. 41˚F - 104˚F<br>Relative Humidity ≤ 80% |
| **Cuff Circumference** | Approx. 8.5” - 16.5” (22cm - 32cm) |
| **Weight** | Approx. 12.2 oz (excluding batteries) |
| **External Dimensions** | Approx. 7” x 3.75” x 1.5” |
| **Parts Included** | Four AAA Alkaline Batteries, an Adult Cuff, and a User Manual |
| **Mode of Operation** | Continuous Operation |
| **Degree of Protection** | Type B Applied Part |
| **Protection Against Ingress of Water** | IPX-0 |

WARNING: No modification of this equipment is allowed





# ♥ Complied European Standards List

| | |
|---|---|
| Risk management in the application of medical devices | EN/ISO 14971:2007 |
| Graphical symbols for labeling medical devices | EN 980: 2008 |
| Medical equipment manufacturers to provide information | EN 1041: 2008 |
| Medical equipment Part1-1: General Requirements for Safety Collateral Standard: Safety requirements for medical electrical systems | EN 60601-1: 1990+A1+A2+A13 |
| Non-Invasive blood pressure Part 1: General Requirements | EN 1060-1: 2001/A1:2002 |
| Non-Invasive blood pressure Part 3: Supplementary requirements for electromechanical blood pressure measuring system | EN 1060-3: 1997/A1:2005 |
| Automatic Blood Pressure Monitor overall system interventional accuracy of the testing process | EN 1060-4: 2004 |
| Medical electrical equipment Part 1-2: Basic safety and essential performance of the general requirements Collateral Standard: Electromagnetic compatibility requirements and tests | EN 60601-1-2:2001+A1: 2006 |

## Table 1

Guidance and manufacture’s declaration – electromagnetic emissions - for all EQUIPMENT and SYSTEMS

| Guidance and manufacture’s declaration – electromagnetic emission | | |
|---|---|---|
| The 526018 is intended for use in the electromagnetic environment specified below. The customer of the user of the 526018 should assure that it is used in such and environment. | | |
| Emission Test | Compliance | Electromagnetic Environment - Guidance |
| RF emissions<br>CISPR 11 | Group 1 | The 526018 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. |
| RF emission<br>CISPR 11 | Group B | The 526018 is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. |
| Harmonic emissions<br>IEC 61000-3-2 | Not applicable | |
| Voltage fluctuations/<br>flicker emissions IEC<br>61000-3-3 | Not applicable | |

# Table 2

Guidance and manufacture's declaration – electromagnetic immunity - for all ME EQUIPMENT and ME SYSTEMS

| Guidance and manufacture's declaration – electromagnetic immunity | | | |
|---|---|---|---|
| The 526018 is intended for use in the electromagnetic environment specified below. The customer or the user of 526018 should assure that it is used in such an environment. | | | |
| Immunity Test | IEC 60601 test level | Compliance level | Electromagnetic environment - guidance |
| Electrostatic discharge (ESD) IEC 601000-4-2 | ±6 kV contact<br>±8 kV air | ±6 kV contact<br>±8 kV air | Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%. |
| Electrical fast transient/burst IEC 61000-4-4 | ±2 kV for power supply lines | ±2 kV for power supply lines | Mains power quality should be that of a typical commercial or hospital environment. |
| Surge IEC 6000-4-5 | ±1 kV line(s) to line(s) | ±1 kV differential mode | Mains power quality should be that of a typical commercial or hospital environment. |
| Voltage dips, short interruptions, and voltage variations on power supply input lines IEC 61000-4-11 | <5% $U_T$ (>95% dip in $U_T$) for 0.5 cycle | <5% $U_T$ (>95% dip in $U_T$) for 0.5 cycle | Mains power quality should be that of a typical commercial or hospital environment. If the user of the 526018 requires continued operation during power mains interruptions, it is recommended that the 526018 be powered from an uninterruptible power supply or a battery. |
| | 40% $U_T$ (>60% dip in $U_T$) for 5 cycles | 40% $U_T$ (>60% dip in $U_T$) for 5 cycles | |
| | 70% $U_T$ (>30% dip in $U_T$) for 25 cycle | 70% $U_T$ (>30% dip in $U_T$) for 25 cycle | |
| | 5% $U_T$ (>95% dip in $U_T$) for 5 seconds | 5% $U_T$ (>95% dip in $U_T$) for 5 seconds | |
| Power frequency (50Hz) magnetic field IEC 61000-4-8 | 3A/m | 3A/m | Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment. |
| NOTE $U_T$ is the a.c. mains voltage prior to application of the test level. | | | |





# Table 4

Guidance and manufacture's declaration – electromagnetic immunity – for ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

| Guidance and manufacture's declaration – electromagnetic immunity | | | |
|---|---|---|---|
| The 526018 is intended for use in the electromagnetic environment specified below.<br>The customer or the user should assure that it is used in such an environment. | | | |
| Immunity test | IEC 60601 test level | Compliance level | Electromagnetic environment - guidance |
| Conducted RF IEC 61000-4-6 | 3 Vrms<br>150 kHz to 80 MHz | 3 Vrms | Portable and mobile RF communications equipment should be used no closer to any part of the YS-6100, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.<br><br>Portable and mobile RF communications equipment should be used no closer to any part of the including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.<br><br>**Recommended separation distance**<br>$d = 1.167\sqrt{P}$<br>$d = 1.167\sqrt{P}$ 80 MHz to 800 MHz<br>$d = 2.333\sqrt{P}$ 800 MHz to 2.5 GHz<br>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).<br><br>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,a should be less than the compliance level in each frequency range.<br><br>Interference may occur in the vicinity of equipment marked with the following symbol:  |
| Radiated RF IEC 61000-4-3 | 3 V/m 80 MHz to 2.5 GHz | 3 V/m | |

| |
|---|
| NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.<br>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people. |
| a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ELE007839V1 is used exceeds the applicable RF compliance level above, the ELE007839V1 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the ELE007839V1.<br>b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m. |

## Table 6

Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM – for ME EQUIPMENT or ME SYSTEM that are not LIFE-SUPPORTING

| Recommended separation distances between portable and mobile RF communications equipment and the ELE007839V1 Fitness Equipment. | | | |
|---|---|---|---|
| The 526018 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the 526018 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the 526018 as recommended below, according to the maximum output power of the communications equipment. | | | |
| Rated maximum output power of transmitter W | Separation distance according to frequency of transmitter m | | |
| | 150 kHz to 80MHz<br>d = 1.167 √P | 80MHz to 800 MHz<br>d = 1.167 √P | 800 MHz to 2,5 GHz<br>d = 2.333 √P |
| 0,01 | 0.167 | 0.167 | 0.233 |
| 0,1 | 0.369 | 0.369 | 0.738 |
| 1 | 1.167 | 1.167 | 2.333 |
| 10 | 3.690 | 3.690 | 7.388 |
| 100 | 11.67 | 11.67 | 23.330 |
| For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.<br>NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.<br>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people. | | | |





# ♥ Warranty & Registration Information

Your Hopkins® Digital BP comes with a 3 year limited warranty. This BP monitor is warranted against any defects in material and workmanship for 3 years from the date of purchase. If you experience a material or manufacturing defect at any time, repairs will be made without charge upon the return of the instrument to Hopkins Medical Products, except in cases of obvious abuse or accidental damage.

*NOTE* If your BP monitor will be stored for an extended period of time, please remove the batteries in order to avoid corrosion. Battery corrosion is not covered under your 3 year limited warranty.

To register your new Hopkins® Digital BP for its warranty with Hopkins Medical Products, please visit ***www.hmponline.com/registration*** or scan this QR code with your smartphone and complete the registration process.
*(Reorder #526018)*

# ♥ Contact Information

For more information about our products, please visit our website:
***www.hmponline.com***

**For customer service, please call us at 1-800-835-1995 M-F 8:30 AM - 5 PM EST**

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