

BPBIO210/220

User's Manual



Please note the important information below before reading this manual.



Warning

Failure to observe these precautions can result in personal injury or equipment damage.



Caution

Failure to comply with safety precautions can damage the equipment.



Note

Referring to notes can help improve equipment use.

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Visit our website (www.inbody.com) to view and download additional information about the BPBIO320/320n. InBody Co., Ltd. reserves the right to modify the appearance, specifications, etc. of this product to improve its quality, without prior notice.

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BPBIO210/220

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1. BPBIO210

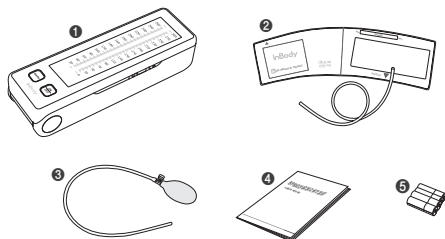
I. Product Installation

A. Product Components and External Appearance

BPBIO210 can be used by medical professionals to check patient's blood pressure by using the auscultation method with stethoscope and pressure indicator bar displayed on the LCD. The back-light function on the LCD enables blood pressure monitoring even in a dark environment.

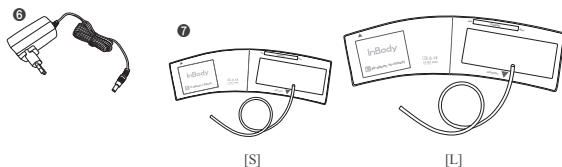
* Basic Components

- ❶ Main Unit (1EA)
- ❷ M-Size Cuff (1 EA) - Arm Circumference of 22-32cm
- ❸ Air Bulb Unit (1 EA)
- ❹ User's Manual (1 EA)
- ❺ AA-Size Alkaline Batteries (4EA)

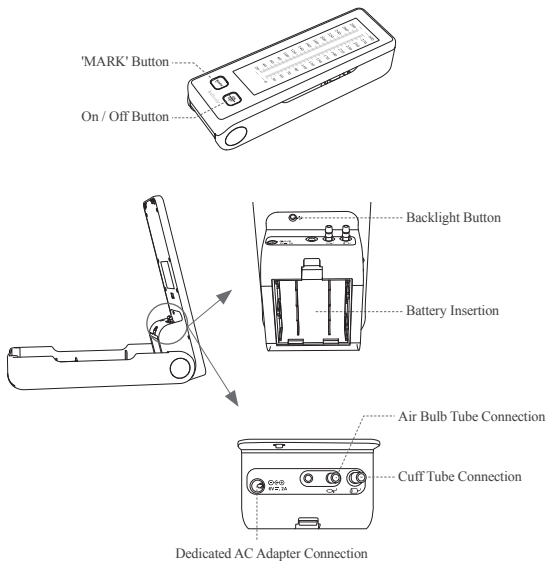


* Optional Components

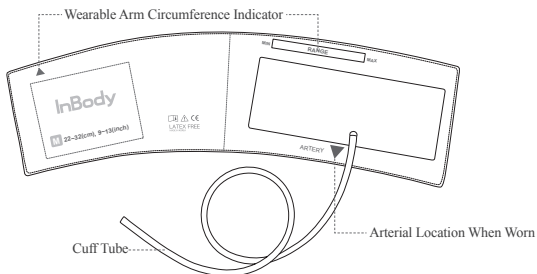
- ❻ Dedicated AC Adapter
 - Input Power: AC 100-240V, 50/60Hz, 0.5A
 - Output Power: DC 6.0V, 2.0A
- ❼ S, L size Cuffs (S: Suitable for arm circumference between 17-22cm, L: Suitable for arm circumference between 32-42cm)



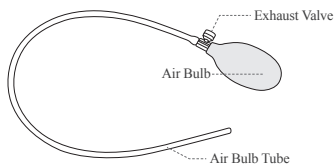
* Main Unit Parts



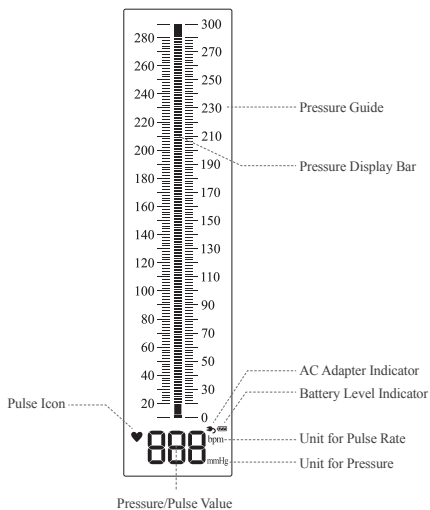
* Cuff Parts



* Air Bulb Unit Parts



* Display Parts



B. Installation Environment

Check for proper surrounding environment before installing BPBIO210.

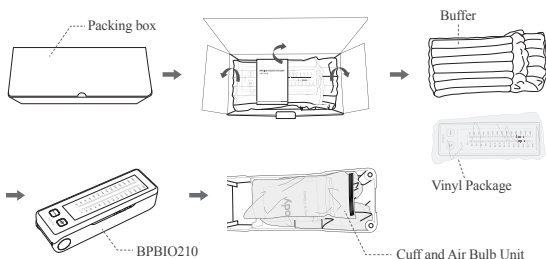
The following requirements must be fulfilled if being installed in the outdoors.

Temperatures range	10 ~ 40°C
Relative humidity	30 ~ 85% RH
Atmospheric pressure range	70 ~ 106kPa

C. Installation Instructions

(1) Unboxing BPBIO210



After opening BPBIO210 from the box package, take it out from the air cap buffer and the vinyl package. Open BP210 and take out the Cuff and Air Bulb from the vinyl package.

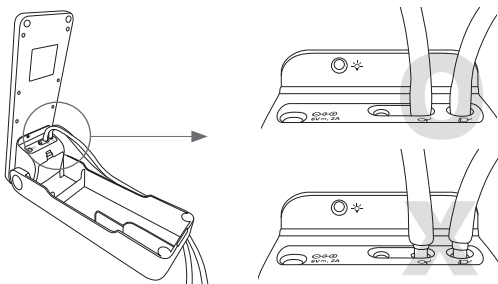


Caution

- Do not inflict excessive force when opening BPBIO210.
- The Main Unit of BPBIO210 cannot be bent over a certain angle. Opening BPBIO210 with excessive force may incur a damage to the device.

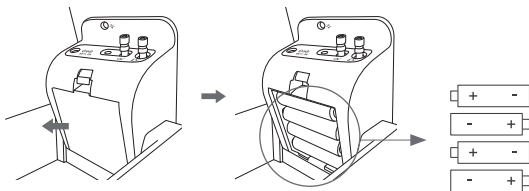
(2) Connecting Cuff and Air Bulb Unit

1. Plug the Cuff Tube into the Cuff Tube Connection of the Main Unit. ().
2. Plug the Air Bulb Tube into the Air Bulb Tube Connection of the Main Unit. ().
3. Please plug the tube tightly to the end.



(3) Inserting / Replacing Batteries

1. Remove the battery cover.
2. AA sized batteries in the correct direction as indicated below.
3. Close the battery cover.



Warning

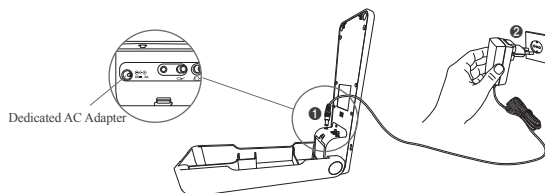
- Use AA sized Alkaline or Manganese batteries.
- Do not mix new and used batteries. Replace all four AA batteries at once when replacing.
- Do not insert batteries with wet hands.
- Make sure that the polarities (+) and (-) are correct.

- Remove the batteries from the battery compartment when it will not be used for a long period.
- Dispose used batteries only in designated locations.
- Improper use of batteries may cause degradation of the performance of BPBIO210 and may cause fire.

(4) Using a Dedicated AC Adapter (Optional Accessory)

* Input Power: AC 100–240V, 50/60Hz, 0.5A
Output Power: DC 6.0V, 2.0A

1. Connect the dedicated AC Adapter to the Main Unit in the designated port as shown in the image below
2. Plug in the dedicated AC Adapter to the power outlet.



Note

- The dedicated AC Adapter is an optional accessory which can be purchased separately.

Warning

- Do not connect or disconnect the AC Adapter with wet hands.
- Do not put heavy objects on the AC Adapter cable.
- Do not use the AC Adapter if it is damaged.

Caution

- Plug the AC Adapter into the power outlet securely.
- When unplugging the AC Adapter, grasp the body of the adapter and pull out.
- Disconnect the AC Adapter in the sequence of power outlet then the Main Unit.
- Do not apply excessive force to the AC Adapter and the plug.
- Keep the AC Adapter plug away from foreign objects which can cause any kind of damage.
- Use only the AC Adapter provided by InBody.
- Do not use the dedicated AC adapter for any other purposes other than for the operation of BPBIO210.

D. Features and Functions

(1) Automatic Power Off

- Main Unit will switch off automatically if idle for more than 2 minutes to prevent battery drain.
- Main Unit will not switch off if connected to the AC Adapter.

(2) Protection from Excessive Pressurization

- If the pressure of the Cuff is pressurized above 320mmHg, it will automatically and forcedly exhaust the pressure to protect the patient.

(3) Residual Air Detection

- When the power is switched on, 'E1' error code will be displayed on the screen when any residual air in the cuff is detected.
- Make sure to exhaust all the air in the Cuff before switching on to obtain accurate measurement.

(4) Heart Rate Measurement

- Measurement of the pulse is conducted when the pressure is over 50mmHg. Heart Rate is checked only when the pulse is detected more than 5 times.
- When the decompressing is performed too quickly, the heart rate may not be checked. Decompress at the rate of 2~4mmHg/sec. to detect the pulse.
- The measured pulse is displayed when the pressure decreases to less than 20 mmHg.
- The measured heart rate will be displayed when the pressure is less than 20mmHg., “- - -” will be displayed.

(5) Backlight

- The backlight turns on or off automatically depending on the brightness of the surroundings.
- The backlight can be manually operated with the Backlight Button.
- If the backlight is operated manually with the backlight button, the backlight will not turn on or off automatically. When the product is turned off and on, the backlight automatically turns on or off again depending on the brightness of the surrounding environment.

(6) MARK

- MARK function allows to display the measured value on the screen momentarily once the [MARK] button is pressed.
- Up to five marks can be displayed.

II. Blood Pressure Measurement

A. Precautions Before Measurement



Caution

- BPBIO210 has to be operated by skilled persons who are well trained of the auscultation method to measure blood pressure.
- Do not operate BPBIO210 which has been unused for a long time under the environment where the temperature was less than 10°C or higher than 40°C.
- Do not use BPBIO210 in highly humid area.
- Do not use tBPBIO210 near any equipment which generates strong magnetic fields, electrostatic, or high frequency.
- Patients with artificial heart or lungs may obtain inaccurate results.



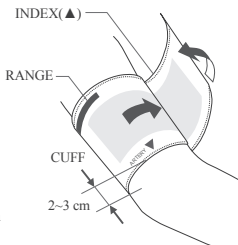
Warning

- Do not wrap the Cuff on an injured arm. Injury may worsen or can be infected.
- Do not wrap the Cuff in an arm with the intravenous injection or IV plugged in.
- Please consult a doctor before using the blood pressure monitor if you have any cardiovascular diseases.
- Do not wrap the Cuff around your neck.
- Do not wrap the Cuff Tube around your neck.
- Do not wrap the Air Bulb Tube around your neck.

B. Measurement Instructions

(1) How to wear the Cuff

- ❶ Wrap the cuff around the arm, about 2-3 cm above the elbow.
- ❷ Make sure that the index (▲) on the Cuff is within the RANGE bar. Replace the Cuff with the right size if the INDEX is not within the RANGE.
- ❸ Place the Cuff so that the ARTERY (▼) is at the proper arterial position.
- ❹ Do not wrap the Cuff too tightly. Leave a margin of a finger to get the best result.



Note

- The Cuff provided will be M-sized Cuff which is suitable for individuals with an arm circumference of 22 to 32cm. If the arm circumference exceeds 32cm, use the L-size Cuff. If the arm circumference is smaller than 22cm, use the S-size Cuff.
- L-size or S-size cuff is sold separately.

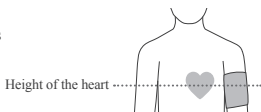


Caution

- Wear the Cuff properly for accurate measurement.
- If the Cuff is too loose, measurement result may not be accurate.

(2) Proper Measurement Posture

- 1 Place the arm so that the center of the Cuff is leveled with the patient's heart position.
- 2 Be relaxed during the measurement.

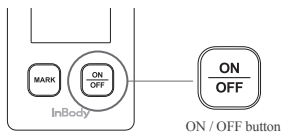


Caution

- The measurement posture may affect the result.
- Be aware of your posture for every measurement.

(3) Turning the Power On

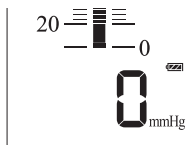
- 1 Press the  button to turn on the power.



- 2 Icons on the screen and backlight are turned on and off with a sound of a beep.
- 3 Blood pressure can be measured when the number "0" is displayed on the screen and there is no change in the pressure of the cuff. If the pressure of the cuff is not stabilized within 20 seconds, the error code 'E1' will be displayed in the pressure / pulse rate display column on the screen.

(4) Checking the Battery Level

- ① The remaining Battery level can be checked from the lower right area when the product is switched on.
- ② If the AC Adapter is used, the battery level will not be displayed, but instead, AC Adapter Icon (🔌) will be displayed.



: The battery level is sufficient.



: The battery level is low.



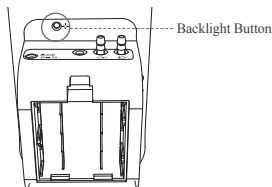
: The batteries are drained.

Replace with new AA batteries

* Refer to "Inserting / Replacing Batteries" on page 8.

(5) Adjusting the Backlight

- ① The backlight turns on and off automatically depending on the brightness of the surroundings.
- ② Press the backlight button to manually turn the backlight on and off.



(6) Pressurization

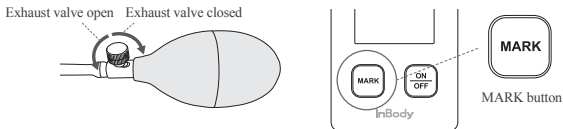
- ① Rotate the exhaust valve clockwise to ensure that the valve is fully closed.
- ② Press the Air Bulb repeatedly to pressurize.
- ③ The current pressure value is immediately displayed in the pressure bar on the screen in units of 1 step / 2 mmHg, and is displayed as a number in the Pressure / Pulse Rate Display on the screen.
- ④ Stop pressurization when it reaches the targeted inflation pressure.

* The maximum pressurization can be up to 320mmHg, and if pressurized at a higher rate, it will depressurize automatically and '---' will be displayed in the Pressure / Pulse Rate Display on the screen.

(7) Depressurization

- 1 Rotate the exhaust valve counterclockwise to open the valve. Proceed with blood pressure measurement at a proper exhaust rate.
- 2 If the **MARK** button on the main body is pressed at a certain pressure value, the pressure marking will be displayed accordingly.

* The marking can be displayed up to 5 times. When marking more than 5 times, the marking is erased consecutively.



(8) Completing the Measurement

- 1 When the blood pressure measurement is completed, open the exhaust valve and exhaust the air compressed in the Cuff completely.
- 2 When the pressure drops below 20mmHg, the pulse rate will be displayed in the Pressure / Pulse Rate Display on the screen.

The pulse rate is measured when the pressure is reduced at a rate of 2 to 4 mmHg/sec.

If the pulse is not detected or unstable, '- - -' is displayed on the screen.

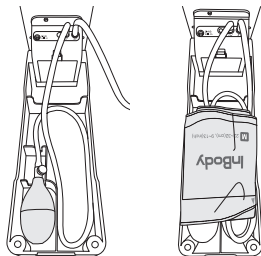
* Please review 'B. Measurement related - Pulse rate has not been measured' on page 56.

(9) Turning the Power Off

- 1 Press the **ON/OFF** Button to switch off the power.

C. Storage

- (1) Wipe the stains on the Main Unit with a smooth cloth.
- (2) Place the Cuff and Air Bulb unit as shown below.



BPBIO210 should be transported or stored under the following conditions.

Temperature Range	- 20 ~ 60°C
Relative Humidity	10 ~ 85% RH (No Condensation)
Atmospheric Pressure Range	50 ~ 106 kPa

2. BPBIO220

I. Product Installation

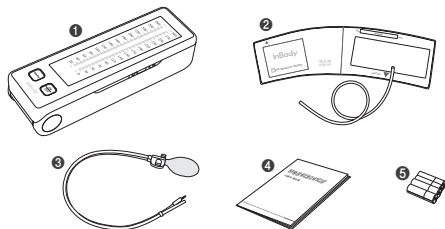
A. Product Components and External Appearance

BPBIO220 can be used by medical professionals to check patient's blood pressure by using auscultation method with stethoscope and pressure indicator bar displayed on the LCD. The back-light function on the LCD enables blood pressure monitoring even in a dark environment.

You may easily control the speed of the exhaust by using the grabbable controller, and mark the systolic and diastolic blood pressure values on the pressure-bar display.

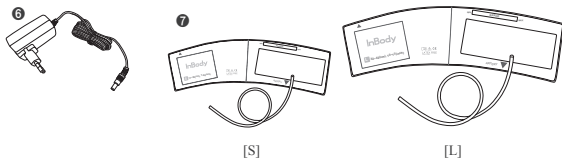
* Basic Components

- ❶ Main Unit (1EA)
- ❷ M-Size Cuff (1 EA) - Arm Circumference of 22-32cm
- ❸ Controller (1 EA)
- ❹ User Manual (1 EA)
- ❺ AA-size Alkaline Batteries (4EA)

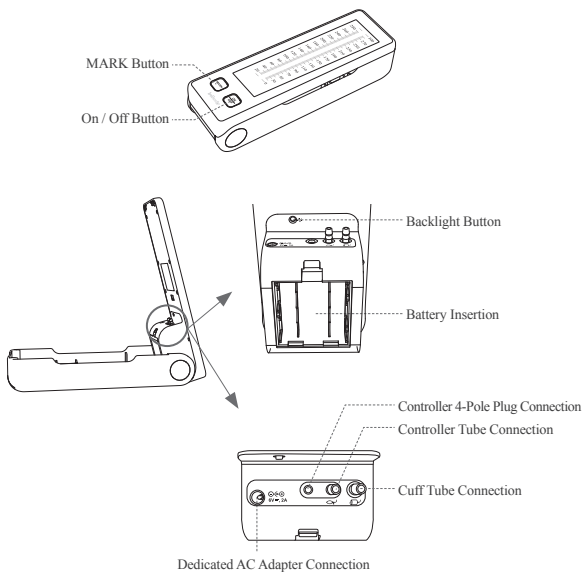


* Optional Components (Sold Separately)

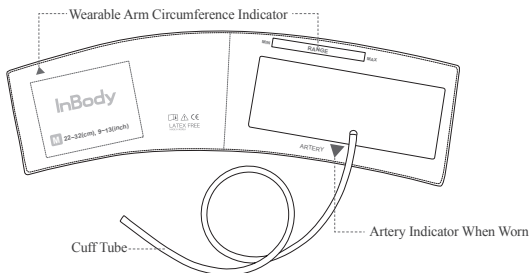
- ❻ Dedicated AC Adapter
 - Input Power: AC 100-240V, 50/60Hz, 0.5A
 - Output Power: DC 6.0V, 2.0A
- ❼ S and L Size Cuffs (S: Suitable for arm circumference between 32-42cm, L: Suitable for 32 to 42cm of arm circumference)



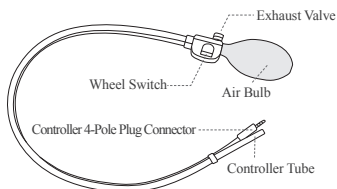
* Main Unit Parts



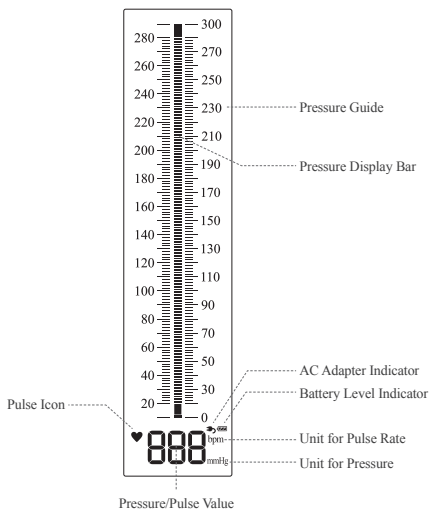
* Cuff Parts



* Controller Parts



* Display Parts



B. Installation Environment

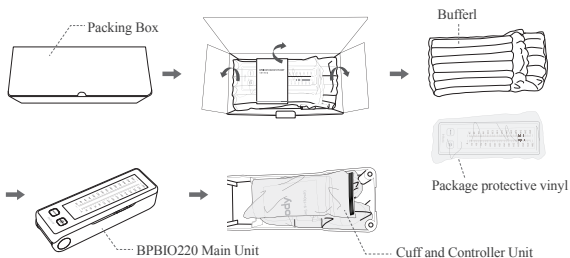
Check for proper surrounding environment before installing BPBIO220. This equipment is suitable for indoor use. If installing the equipment outdoors, The following requirements must be fulfilled If being installed in the outdoors.

Temperatures Range	10 ~ 40°C
Relative Humidity	30 ~ 85% RH
Atmospheric Pressure Range	70 ~ 106kPa

C. Installation Instructions

(1) Unboxing BPBIO220



After opening BPBIO220 from the box package, take out BPBIO220 from the air cap buffer and the vinyl packaging. Open BPBIO220 and take out the Cuff and Air Bulb from the vinyl packaging.

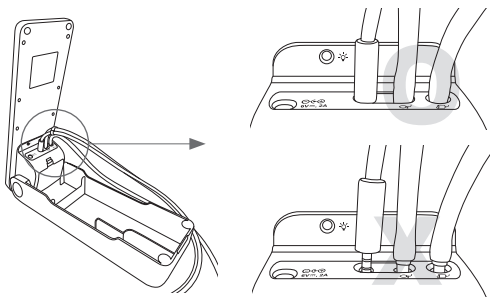


Caution

- When opening BPBIO220, do not inflict excessive force when opening BPBIO220.
- The Main Unit of BPBIO220 cannot be bent over a certain angle. Opening BPBIO220 with excessive force may incur a damage to the device.

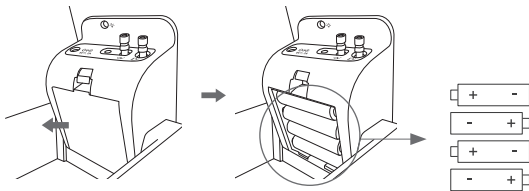
(2) Connecting Cuff and Air Bulb Unit

1. Plug the Cuff Tube into the Cuff Tube Connection of the Main Unit ().
2. Plug the Controller 4-Pole Plug Connector and Controller Tube into the Connector () of the Main Unit.
3. Plug the Controller 4-Pole Connector and the Controller Tube all the way to the end.



(3) Inserting / Replacing Batteries

1. Remove the Battery Cover.
2. Insert four AA sized batteries in the correct direction as indicated below.
3. Close the Battery Cover



Warning

- Use AA sized Alkaline or Manganese batteries.
- Do not mix new and used batteries. Replace all four AA batteries at once when replacing.
- Do not insert batteries with wet hands.
- Make sure that the polarities (+) and (-) are correct.

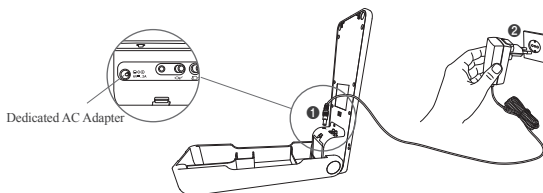
- Remove the batteries from the battery compartment when it will not be used for a long period.
- Dispose used batteries only in designated locations.
- Improper use of batteries may cause degradation of the performance of BPBIO220 and may cause fire.

(4) Using a Dedicated AC Adapter (Optional Accessory)

* Input Power: AC 100-240V, 50/60Hz, 0.5A

Output Power: DC 6.0V, 2.0A

1. Connect the dedicated AC Adapter to the Main Unit in the designated port as shown in the image below
2. Plug in the dedicated AC Adapter to the power outlet.



Note

- The dedicated AC Adapter is an optional accessory which can be purchased separately.

Warning

- Do not connect or disconnect the AC Adapter with wet hands.
- Do not put heavy objects on the AC Adapter Cable.
- Do not use the AC Adapter if it is damaged.

Caution

- Plug the AC Adapter into the power outlet securely.
- When unplugging the AC Adapter, grasp the body of the adapter and pull out.
- Disconnect the AC Adapter in the sequence of power outlet then the Main Unit
- Do not apply excessive force to the AC Adapter and the plug.
- Keep the AC Adapter plug away from foreign objects which can cause any kind of damage.
- Use only the AC Adapter provided by InBody Co., Ltd.
- Do not use the dedicated AC adapter for any other purposes other than for the operation of BPBIO220.

D. Features and Functions

(1) Automatic Power Off

- Main Unit will switch off automatically if idle for more than 2 minutes to prevent battery drain.
- Main Unit will not switch off if connected to the AC Adapter.

(2) Protection from Excessive Pressurization

- If the pressure of the Cuff is pressurized above 320mmHg, it will automatically and forcedly exhaust the pressure to protect the patient.

(3) Residual Air Detection

- When the power is switched on, 'E1' error code will be displayed on the screen when any residual air in the cuff is detected.
- Make sure to exhaust all the air in the Cuff before switching on to obtain accurate measurement.

(4) Heart Rate Measurement

- Measurement of the pulse is conducted when the pressure is over 50mmHg. Heart rate is checked only when the pulse is detected more than 5 times.
- If deflation is performed too quickly, heart rate may not be checked.

Decompress at the rate of 2~4mmHg/sec. to detect the pulse.

- The measured heart rate will be displayed when the pressure is less than 20mmHg.
- If pulse is not detected or is not constant, “- -” will be displayed.

(5) Backlight

- The backlight turns on or off automatically depending on the brightness of the surrounding environment.
- The backlight can be manually operated with the Backlight Button.
- If the backlight is adjusted with the backlight button, the backlight will be set to the latest adjustment. Backlight will react automatically to the brightness once the Main Unit is restarted.

(6) One Hand MARK Function

- One Hand MARK function allows to display the measured value of the blood pressure on the screen momentarily when the Wheel Switch is pressed during the measurement.
- One Hand MARK function allows to display the measured value of the blood pressure on the screen momentarily once the [MARK] button is pressed.
- Up to five marks can be displayed.

(7) Exhaust Speed Control with One Hand

- With the Air Bulb in one hand, rotating the Wheel Switch in the clockwise direction will gradually increase the exhaust speed. If the Wheel Switch is rotated in the counter-clockwise direction, the exhaust speed will gradually decrease according to the number of rotation.

II. Blood Pressure Measurement

A. Precautions Before Measurement



Caution

- BPBIO220 has to be operated by skilled persons who are well trained of the auscultation method to measure blood pressure.
- Do not operate BPBIO220 which has been unused for a long time under the environment where the temperature was less than 10°C or higher than 40°C.
- Do not use BPBIO220 in highly humid area.
- Do not use BPBIO220 near any equipment which generates strong magnetic fields, electrostatic, or high frequency.
- Patients with artificial heart or lungs may obtain inaccurate results.



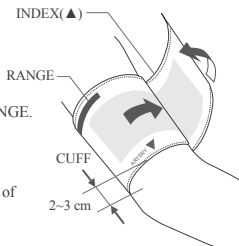
Warning

- Do not wrap the Cuff on an injured arm. Injury may worsen or can be infected.
- Do not wrap the Cuff in an arm with the intravenous injection or IV plugged in
- If you have a heart or vascular disease, Please consult a doctor before using the blood pressure monitor if you have any cardiovascular diseases.
- Do not wrap the Cuff around your neck.
- Do not wrap the Cuff Tube around your neck.
- Do not wrap the Controller Tube around your neck.

B. Measurement Instructions

(1) How to wear the Cuff

- ❶ Wrap the cuff around the arm, about 2-3 cm above the elbow
- ❷ Make sure that the index (▲) on the Cuff is within the RANGE bar. Replace the Cuff with the right size if the INDEX is not within the RANGE.
- ❸ Place the Cuff so that the ARTERY (▼) is at the proper arterial position.
- ❹ Do not wrap the cuff too tightly. Leave a margin of a finger to get the best result.



Note

- The Cuff provided will be M-sized Cuff which is suitable for individuals with arm circumference of 22 to 32 cm. If the arm circumference exceeds 32 cm, use the L-size Cuff. If the arm circumference is smaller than 22 cm, use the S-size Cuff.
- L-size or S-size cuff is sold separately.

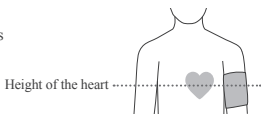


Caution

- Wear the Cuff properly for accurate measurement.
- If the Cuff is too loose, measurement result may not be accurate.

(2) Proper Measurement Posture

- 1 Place the arm so that the center of the Cuff is in level with the patient's heart position.
- 2 Be relaxed during the measurement.

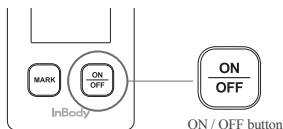


Caution

- The measurement posture may affect the result.
- Be aware of your posture for every measurement.

(3) Turning the Power On

- 1 Press the  button to turn on the power.






- 2 Icons on the screen and backlight are turned on and off with a sound of a beep.
- 3 When there are no changes detected in the pressure within the cuff, number "0" will be displayed on the screen, which means it's ready for measurement. If the pressure of the cuff is not stabilized within 20 seconds, the error code 'E1' will be displayed in the Pressure/Pulse Rate Display on the screen

(4) Checking the Battery Level

- 1 Battery level can be checked from the lower right area when the product is switched on.
- 2 If the AC Adapter is used, the battery level will not be displayed, and AC Adapter Icon (🔌) will be displayed.

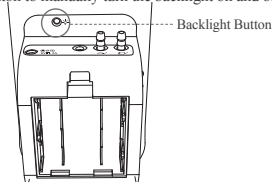


-  : The battery level is sufficient.
-  : The battery level is low.
-  : The batteries are drained.
Replace with new AA batteries.

* Refer to "Inserting / Replacing Batteries" on page 20.

(5) Adjusting the Backlight

- 1 The backlight turns on and off automatically depending on the brightness of the surroundings.
- 2 Press the backlight button to manually turn the backlight on and off.



(6) Pressurization

- 1 Rotate the exhaust valve clockwise to ensure that the valve is fully closed.
- 2 Press the Air Bulb repeatedly to pressurize.
- 3 The current pressure value is immediately displayed in the pressure bar on the screen in units of 1 step / 2 mmHg, and is displayed as a number in the Pressure / Pulse Rate Display on the screen.
- 4 Stop pressurization when it reaches the targeted inflation pressure.

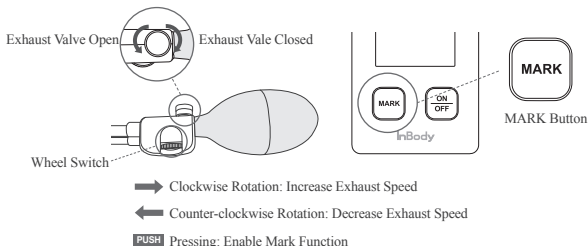
* The maximum pressurization can be up to 320mmHg, and if pressurized at a higher rate, it will depressurize automatically and '---' will be displayed in the Pressure / Pulse Rate Display on the screen.

(7) Depressurization

- 1 Rotate the Exhaust Valve counterclockwise to open. Or, rotate the wheel switch to adjust the exhaust speed. Proceed with blood pressure measurement at a proper exhaust rate.

- 2 If the **MARK** button on the Main Body is pressed at a certain pressure value, measured blood pressure value will be displayed accordingly.

* The Mark Function can show up to 5 results. If there is more than 5 measurements, the previous value will be erased automatically.



(8) Completing the Measurement

- 1 If the pulse is not detected or unstable, open the exhaust valve and exhaust the air compressed in the Cuff completely.

- 2 When the pressure drops below 20mmHg, the Heart Rate is displayed as a number in the Pressure / Pulse Rate Display on the screen.

The heart rate is measured when the pressure is reduced at a rate of 2 to 4 mmHg/sec.

If the pulse is not detected or unstable, '- - -' is displayed on the screen.

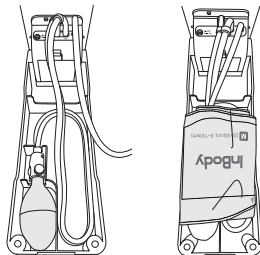
* Please review 'B. Measurement related - Pulse rate has not been measured' on page 56.

(9) Turning the Power Off

- 1 press the **ON/OFF** Button to switch off the power.

C. Storage

- (1) Press the Button to switch off the power.
- (2) Place the Cuff and Controller as shown below.



BPBIO220 should be transported or stored under the following conditions.

Temperatures Range	- 20 ~ 60°C
Relative Humidity	10 ~ 85% RH (No Condensation)
Atmospheric Pressure Range	50 ~ 106 kPa

3. BPBIO210/220 Common

I. FAQ

A. Error code

	Cause	Action
E1	Excess air detected in the Cuff.	Exhaust all the air from the Cuff completely, and restart the product.
	When the Pressure sensor malfunction.	If the same error message occurs continuously after exhausting the air from the Cuff, the pressure sensor may be defective. Please contact InBody Customer Center (080-501-3939).
E2	Detection of adapter abnormality.	Use the dedicated AC Adapter after disconnecting the current adapter.
E3	Adapter Malfunction.	Please contact InBody Customer Center (080-501-3939).
Lo	Low Battery Voltage.	Replace the batteries.

B.Regarding the Equipment

Status	Cause	Sloution
Power does not turn on.	Check the inserted batteries. Polarities may not be matching.	Check the battery polarities and reinstall the batteries to match with '+' and '-' marks.
	Batteries are exhausted.	Replace all batteries with new AA batteries.
The controller does not work, or it works abnormally.	The Controller 4-Pole Connector is not connected properly.	Plug the Controller 4-Pole Connector tightly and push it all the way in.
	The controller is damaged.	Please contact InBody Customer Center (080-501-3939).
Pulse is not being measured.	Blood pressure is measured too rapidly.	Keep the decompression speed at 2 to 4 mmHg/sec.
	Patient may be moving during the blood pressure measurement.	Make sure that the patient is relaxed and stable. Also, prevent them from talking during the measurement.
	Pulse maybe irregular or very weak.	Impossible to measure the pulse. Please use another device to measure the pulse in these cases.

II. Others

A. Optional Equipment

Product Name	Explanation	Order Code
Dedicated AC Adapter		
L-sized Cuff	For arm circumference of 32 to 42 cm	BP-C-L-01
M-sized Cuff	For arm circumference of 22 to 32 cm	BP-C-M-01
S-sized Cuff	For arm circumference of 17 to 22 cm	BP-C-S-01
Air-Bulb	Available for BPBIO210 Does NOT contain the Wheel Switch	BP-CO-M-01
Controller	Available for BPBIO220 Contains the Wheel Switch	

B. Safety Information

Safety Symbols



Power Adapter Connection Terminal



BF-type equipment



Operating instructions



CLASS II equipment (Dedicated AC adapter)

Other Symbols



Disposal Guidelines



Manufacturer



Serial number



Authorized representative in the EUROPEAN COMMUNITY



European conformity



Caution

Storage

1. Please note that the Cuff and the Tube can be damaged by a sharp bite.
2. Do not store the blood pressure monitor in the following places:
 - Prevent where water or other liquids can reach
 - Exposure to Direct Sunlight
 - Prevent from strong vibration or shock
 - Prevent dust, salt, and sulfur content
 - Prevent from hot and humid environment
 - Prevent from any equipments which generates strong magnetic field, static, or high frequency
 - Prevent from as flammable objects or environment

Maintenance

1. Clean the device with a dry cloth and do not use organic solvents.
2. The Cuff cannot be washed. Be careful not to expose the cuff on any liquid.
3. Switch off the device completely by disconnecting the batteries or the dedicated AC Adapter if the device malfunctions.
4. For inspection / repairs, please contact the place of purchase.
5. Do not disassemble or modify the equipment arbitrarily. Any disassembly or modification will void the warranty and may cause a fire.

Disposal

1. When disposing any components of the device, follow the local regulations.

C. Product Classification

- Type of Protection Against Electric Shock: Class-2 equipment or internal power source-typed equipment
- Level of Protection Against Electric Shock: BF-type
- Classification for Protection Against Electromagnetic Wave: Category 1 / Class B
- Level of Protection Against Flooding: General equipment (No special protection against external water infiltration)

D. Specifications

Product name (Model name)	BPBIO210/220
Test Instructions	Korotkoff Sound System
Measuring Part	Left or Right Upper Arm
Test Range	Pressure (Value): 0 ~ 320mmHg Pressure (Bar): 20 ~ 300mmHg Pulse: 30 ~ 240 bpm
Degree of Precision	Pressure (Value): ± 3 mmHg Pressure (Bar): ± 4 mmHg Pulse: Within $\pm 5\%$
Minimum Scale Unit	Pressure (Value): 1mmHg Pressure (Bar): 2mmHg
Cuff	Cuff for the Use of 22~32cm in Arm Circumference (M size cuff)
Pressurization	Manual Pressurization Method by Air Bulb
De-pressurization	BPBIO210: variable exhaust valve method BPBIO220: Variable Exhaust Valve Method/Variable Wheel Switch Method
Rated Power	DC 6V, 2A (four 1.5V AA-size batteries or dedicated AC adapter)
Rated Input (Dedicated AC Adapter)	AC 100-240V , 50/60Hz, 0.5A
Operating Environment	Temperature 10~40°C / Humidity 30-85% RH / Pressure 70-106 kPa
Storage Environment	Temperature -20 to 60°C / Humidity 10-85% RH / Pressure 50-106 kPa (No Condensation)
Electricity Protection	Internal Power Source-Typed Equipment BF Mounting (Mounting Unit: Cuff)
Weight	Approx 1050g (Batteries Excluded)
Dimension	98(W) × 73(H) × 320(L) mm
Manufacturing Country	Republic of Korea
Manufacturing Company	InBody Co., Ltd.

* Specifications are subject to change without notice.

* This product is a medical device. Please read the guide and precautions before using this blood pressure monitor.

E. EMC environment guidance

Guidance and Manufacturers Declaration - Electromagnetic Emissions

The BPBPIO210/220 is intended for use in the electromagnetic environment specified below.

The customer or the user of the BPBPIO210/220 should assure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment - Guidance
RF Emissions CISPR 11	Group 1	The [ME EQUIPMENT or ME SYSTEM] uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	CLASS A	The BP210/220 is suitable for use in all establishments other than domestic, and may be used in domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided the following warning is heeded: Warning: This equipment/system is intended for use by healthcare professionals only. This equipment/ system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the [ME EQUIPMENT or ME SYSTEM] or shielding the location.
Harmonic Emissions IEC 61000-3-2	N/A	
Fluctuations/Flicker Emmissions IEC 61000-3-3	N/A	

Guidance and Manufacturers Declaration - Electromagnetic Emissions

The BPBPIO210/220 is intended for use in the electromagnetic environment specified below.

The customer or the user of the BPBPIO210/220 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 61000-4-2	± 6 kV Contact ± 8 kV Air	± 6 kV Contact ± 8 kV Air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical Fast Transient/Burst IEC 61000-4-4	± 2 kV for Power Supply Lines ± 1 kV for Input/ Output Lines	± 2 kV for Power Supply Lines ± 1 kV for Input/ Output Lines	Main power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV Line(s) to Line(s) ± 2 kV Line(s) to Earth	± 1 kV Line(s) to Line(s) ± 2 kV Line(s) to Earth	Main 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 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 s	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 s	Main power quality should be that of a typical commercial or hospital environment. If the user of the [ME EQUIPMENT or ME SYSTEM] required continues operation any interruption of the main power supply, it is recommended that the [ME EQUIPMENT or ME SYSTEM] be powered from an uninterruptible power supply or a battery.
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

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

Guidance and Manufacturers Declaration - Electromagnetic Emissions

The BPBIO210/220 is intended for use in the electromagnetic environment specified below.
The customer or the user of the BPBIO210/220 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 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2,5 GHz	[V1] V [E1] V/m	Portable and mobile RF communications equipment should be used no closer to any part of the [ME EQUIPMENT or ME SYSTEM], including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = \left[\frac{3.5}{V_1} \right] \sqrt{P}$ $d = \left[\frac{3.5}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = \left[\frac{7}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 2.5 \text{ GHz}$

			<p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and D is the recommended separation distance in metres (m). 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.^b Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
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NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

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

^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 [ME EQUIPMENT or ME SYSTEM] exceeds the applicable RF compliance level above, the [ME EQUIPMENT or ME SYSTEM] should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the [ME EQUIPMENT or ME SYSTEM].

^b Over the frequency range of 150 kHz to 80 MHz, field strengths should be less than [V1] V/m.

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