

InBody 720

THE PRECISION BODY COMPOSITION ANALYZER

User's Manual

BIOSPACE

© 1996-2004 Biospace Co., Ltd. All rights reserved

This user's manual cannot be copied, translated or transformed into different media without a prior written consent from Biospace Co., Ltd, according to the copyright laws. This user's manual and product pertinent to this manual may have misprints or technical flaws, which can be modified without prior notice to the readers. Biospace is not liable for any damage caused by a failure to meet the requirements in this user's manual.

Biospace logo is the trademark of Biospace Co., Ltd, registered with the Republic of Korea.

Biospace Co., Ltd.

10th Floor, Poonglim Bldg., 823 Yeoksam 1-dong, Gangnam-gu,
Seoul 135-784 KOREA

TEL : 82-2-501-3939 FAX : 82-2-501-3978

Homepage : <http://www.biospace.co.kr>

E-mail : biospace@biospace.co.kr

InBody, Salus, BSM-230 stadiometer are the trademarks registered with the Republic of Korea. The names of the companies and products in this manual other than those of Biospace Co., Ltd. are the trademarks of the companies. Stating the products of other companies is strictly for the purpose of providing information, and not to guarantee or recommend the products. Biospace is not responsible for the performance or the use of these products.

Biospace reserves the right to modify the dimensions or exterior of this product to improve the quality of the products, without consent of the customer.

SAFETY INFORMATION



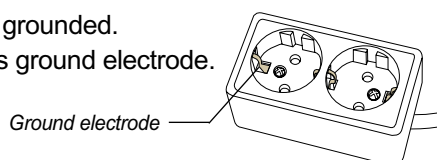
The following is important information to warn you of situations which might cause an imminent risk of death and/or major injury if instructions are not carefully followed.

1. Never use this unit in combination with the following medical electronic device.
 - Medical electronic implants such as pacemakers
 - Electronic life support systems such as an artificial heart/lung
 - Portable electronic medical devices such as an electrocardiograph
 - This equipment may cause the above mentioned medical electronic devices to malfunction
2. Do not operate within 1 meter from shockwave or microwave therapy equipment. Avoid simultaneously connecting patients to InBody720 and high frequency surgical equipment.



The following is important information to warn you of situations which might cause major injury and / or damage to property if instructions are not carefully followed.

1. Do not operate within 1 meter of other running medical electronic equipment. This will result in electromagnetic interference or possibly other interference between InBody720 and that equipment.
2. To prevent fire caused by electricity, always use the standard fuse.
3. The equipment must be used when it is grounded.
Always use a three-pole socket that has ground electrode.



4. To avoid electric shock, be sure to avoid contact between InBody720 and any kind of external connector or other device that might be connected to a power source.
5. Do not operate this equipment if it has a damaged power cord or plug, if it is not working properly, or if it has been damaged.
6. Do not immerse power cord in water.
7. Do not touch signal parts for external communication such as the parallel port, a serial port, etc. and a human body at the same time.
8. Do not dismantle the equipment. Internal parts are not for customer use. If the unit is dismantled, the warranty is void, and service costs will be charged to you. If service is required, contact Biospace or the supplying agency.
9. Individuals with any kind of contagious disease or any kind of injury to the palm or sole must not use or come in contact with this product.
10. Never start weight reduction or exercise therapy without the instructions of a physician or a specialist. Self-diagnosis may damage your health condition. Consult with your physician before using when pregnant.
11. This equipment is specifically designed to analyze body composition. Use the equipment only for its intended use as described in this manual.



The following is important information to warn you of situations which might cause minor injury and / or damage to property if instructions are not carefully followed.

1. While moving, installing or using this product, be sure to protect it against any physical shock or damage. Always use the packing material and the original shipping carton when moving or transporting this product.
2. Always operate this product within prescribed ranges of temperature, humidity, and pressure. Operating in ranges outside of those specified may affect the operation of this product, and may cause malfunction.
3. Follow local governing ordinances and recycling plans regarding disposal or recycling of device components.
4. Be careful not to spill or drop any residues of food or beverages on this product. It may cause serious damage to the electronic components.
5. Install or locate the equipment only in accordance with the provided installation instructions.
6. Do not use this equipment near water.
7. This equipment should be serviced only by qualified service personnel. Contact Biospace for examination, repair or adjustment.








Important helpful information for operating InBody720.









1. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving device.
 - Increase the separation between the equipment.
 - Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
 - Consult the manufacturer or field service technician for help.
2. This product has been designed, manufactured, and inspected under the full quality assurance system of Biospace. Biospace fulfills European MDD (Medical Device Directive), and InBody720 has acquired the CE conformity marking.
3. InBody720 fulfills the Standards of IEC60601-1 (EN60601-1), Safety of Electric Medical Equipment. In addition, InBody720 complies not only with the Level A for Noise Immunity but also with Level A for Noise Emission by the Standard IEC60601-1-2 (EN60601-1-2), Electromagnetic Compatibility requirements.

INDICATION & SAFETY SYMBOLS

A. Indication

- 2004  Manufacturing Year
-  9pin serial port, (RS232C, Male)
-  Ethernet port (10/100Base-T)
-  USB port (Version 1.1)
-  IEEE 1284 (25pin Parallel), Female (PCL 3, or above; printer)

B. Safety signs

-  Dangerous high voltage
-  Danger / Warning / Caution / Note (refer to the safety information)
-  Fuse specification
-  Equipotential terminal
-  BF type equipment
-  Alternating Current
-  Turn on the power
-  Turn off the power

Introducing InBody720 - The Body Composition Analyzer.

Human body consists of body water, protein, body fat and mineral. The four elements are the fundamental ingredients constituting the body and the balance between them is essential to our health. Body composition analysis is to quantify and measure these ingredients.

In the past, diagnosing obesity was focused on how we looked outside, without considering the balance among body water, protein, body fat and minerals. From the health point of view, body composition analysis that takes into account the balance between body water, protein, body fat and mineral makes more sense than diagnosing obesity based on how we look. In addition, this is where the body composition analyzer with high precision comes in.

Biospace earned recognition in the international market for technical expertise demonstrated through InBody 2.0 and 3.0. Based on the experience and technicality accumulated over the last 10 years, Biospace released the InBody720, taking the body composition analysis to a new height. The body composition analyzer InBody720 is accurate for all body types and for any possible distribution of body water, measuring the progress of clinical treatment, weight loss program or exercise therapies reliably.

Using a diverse range of frequency from 1kHz to 1MHz, the InBody720 measures the amount of body water accurately. Particularly, the InBody720 is the first version to use the reactance analysis method, which is the more advanced technology for the body composition analysis than those used in previous versions. Professional-looking exterior, high-definition monitor and new level of expandability of the InBody720 that were not found in the previous body composition analyzers will usher you into a new chapter of body composition.

Biospace strives to be your partner for health. We are committed to developing high-quality products through transparent management and continuous research and development.

Kichul Cha, CEO



Table of Content

SAFETY INFORMATION	II
INDICATION & SAFETY SYMBOLS	IV
INTRODUCING InBody720 - THE BODY COMPOSITION ANALYZER	V
HOW TO USE THIS MANUAL	VII

Chapter 1 Installation and Maintenance

1. Product Configuration	1-2
2. Form Factor and Functions	1-4
3. Installation	1-10
4. Transportation	1-12
5. Repackaging	1-13
6. Maintenance	1-13

Chapter 2 Testing and Test Results

1. Pre-testing Instructions	2-2
2. Keypad and its Functions	2-3
3. Power Connection and Getting Started	2-4
4. Startup Window	2-6
5. Personal Information	2-7
6. Test Methodology	2-9
7. Testing Procedure	2-11
8. Printing out Test Results	2-14

Chapter 3 Setting the Operating Environment

1. Setup Functions	3-2
2. DATABASE	3-7
3. Example of Setting the Environment	3-8

Chapter 4 Solving Problems

1. Error Messages and Checkpoints	4-2
2. Malfunctions and How to Deal with Them	4-3
3. Questions and Answers, FAQ	4-5
4. Contact Information	4-7

Chapter 5 Supplies and Devices

1. Supplies	5-2
2. Basic Equipment	5-3
3. Optional Devices	5-4

Appendix

1. About InBody720	Appendix-2
2. Classification	Appendix-4
3. Product Specifications	Appendix-5
4. Approved and Pending Patents	Appendix-6

LIMITED WARRANTIES

How to use this manual

This user's manual explains the functions of InBody720 in the way that is very detailed and easy to understand. Follow the instructions below for effective use of this manual.

1. Read this manual thoroughly before using the equipment.
2. Take a few moments to look at the pictures of diagrams of the equipments to understand the configuration of the equipment.
3. Read the "Chapter 4 Solving Problems" before requesting a warranty service.
4. Read the "Chapter 5 Supplies and Devices" when you want to purchase supplies or optional devices.
5. Email or phone us if you experience any inconvenience when using the equipment.
Forward any clinical inquiries at:
E-mail : biospace@biospace.co.kr TEL : 82-2-501-3939
6. Read signs of warning, precautions and notes carefully. The following are the visual representations of these signs.



Important information to warn you of situations which might cause an imminent risk of death and/or major injury if instructions are not carefully followed.



Important information to warn you of situations which might cause major injury and / or damage to property if instructions are not carefully followed.



Important information to warn you of situations which might cause minor injury and / or damage to property if instructions are not carefully followed.



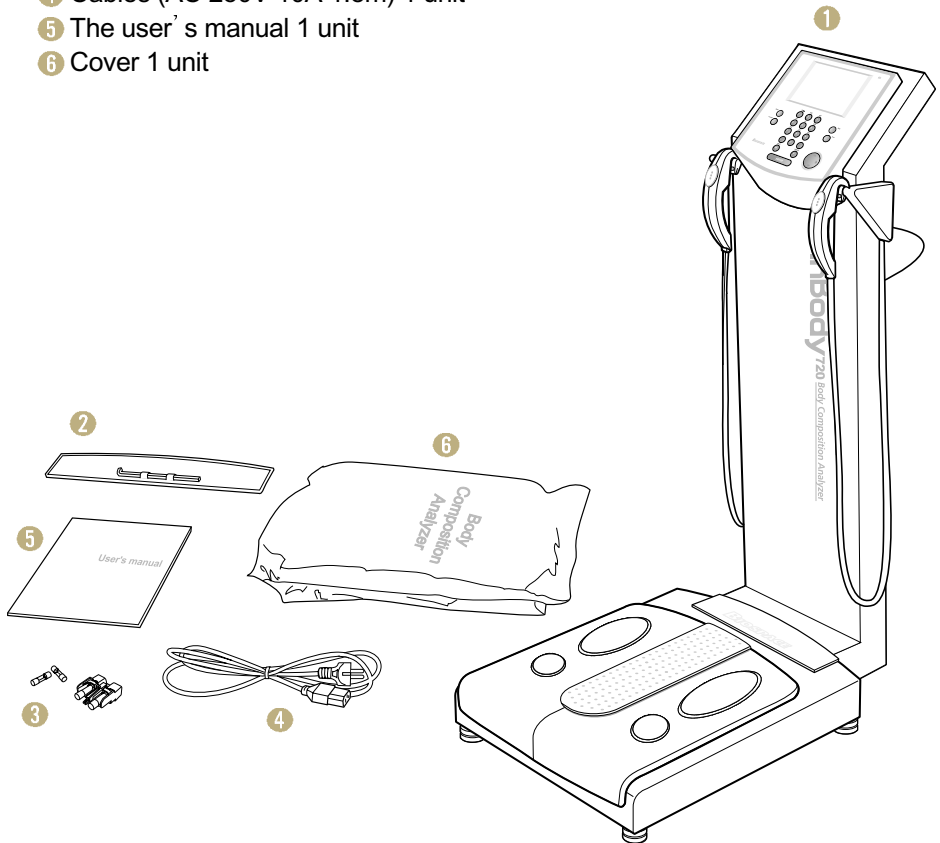
Important helpful information for operating InBody720.

1. Product Configuration

This product consists of the following units. Make sure your products include all the units.

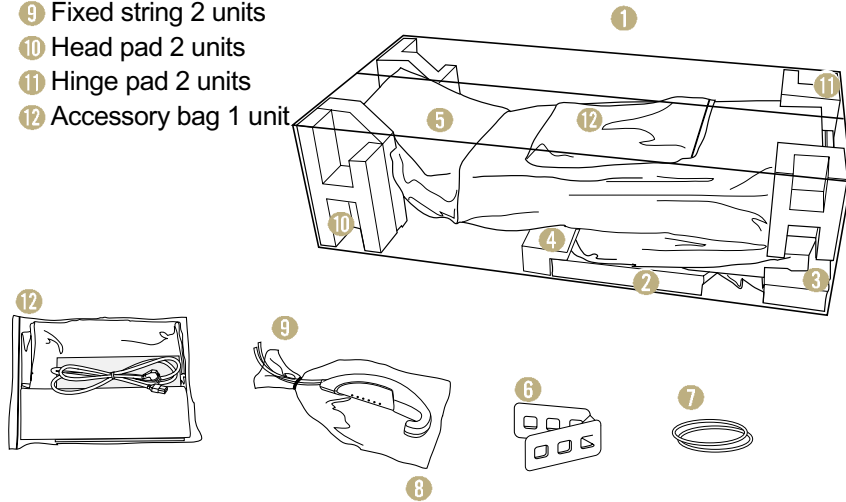
A. Product units

- ① InBody720 equipment
- ② Hinge cover + hexagonal wrench (6mm) 1 each
- ③ Fuse holder (1 unit) + fuse (F2.5AL250V; 2 units) + spare fuse 2 units
- ④ Cables (AC 250V 10A 1.8m) 1 unit
- ⑤ The user's manual 1 unit
- ⑥ Cover 1 unit



B. Package

- ① A box (1250 X 450 X 280; mm, W X L X H) 1 unit
- ② Support pad I 2 units
- ③ Support pad II 2 units
- ④ Loadcell pad 1 unit
- ⑤ Main body cover 1 unit
- ⑥ Hand electrode holder 2 units
- ⑦ Elastic band 2 units
- ⑧ Hand electrode bag 2 units
- ⑨ Fixed string 2 units
- ⑩ Head pad 2 units
- ⑪ Hinge pad 2 units
- ⑫ Accessory bag 1 unit



CAUTION

To reduce the physical impact on the equipment, use the wrapping material provided by the Biospace during shipment or transit. For information on how to relocate the equipment, refer to the "Chapter1, 4. Transportation."



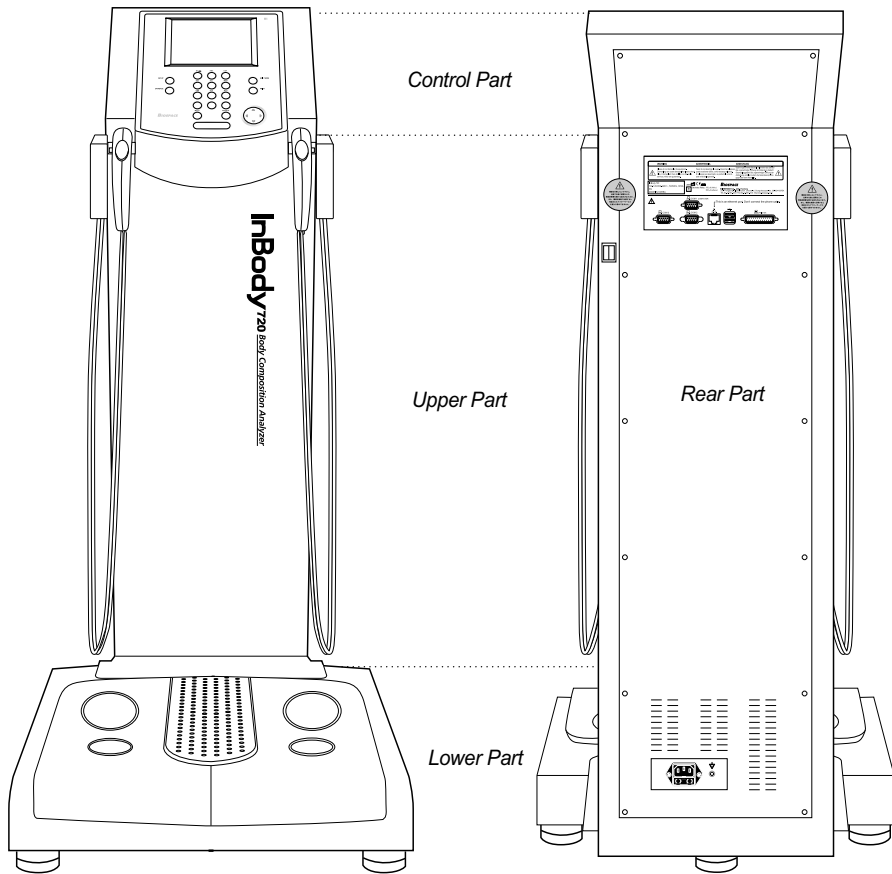
NOTE

Keep the wrapping material with you after installation in the event of relocation.

2. Form Factor and Functions

This section introduces the name of parts and their functions. Before installation, check for cracks on the case of equipment.

- A. Control Part
- B. Upper Part
- C. Lower Part
- D. Rear Part



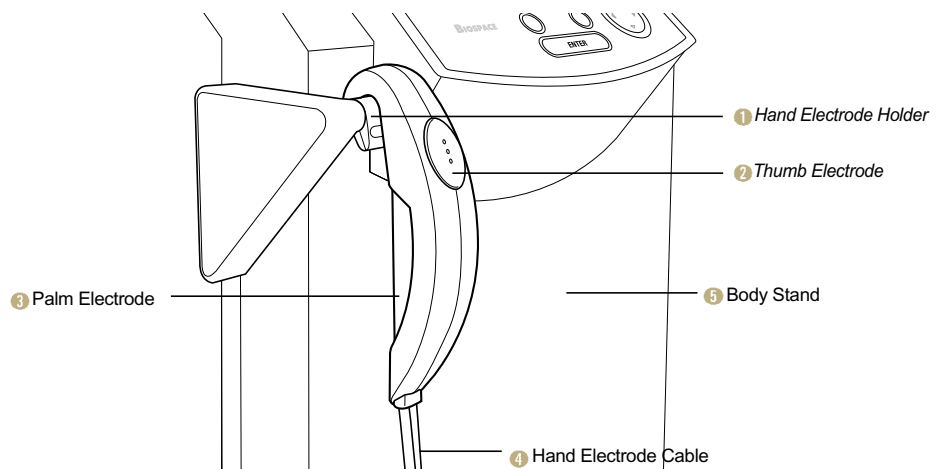
A. Control part

- 1 LCD monitor (640 X 480 TFT Color LCD)
The monitor displays the status of progress, message or test results.
- 2 Keypad (20 buttons)
The keypad is divisible into input buttons and function buttons. The buttons are used to input data required for body composition analysis, set up the operating environment or to print out test results.



B. Upper part

- 1 Hand Electrode Holder
Place the hand electrode while not in use.
- 2 Thumb Electrode
This is the area where the patients press their thumb on to come into contact with electricity during testing.
- 3 Palm Electrode
The patients put their palm on this part to come into contact with electricity.
- 4 Hand Electrode Cable
The hand electrode cable is connected to the circuit that transfers voltage and electric current.
- 5 Body Stand
The body stand contains the circuit board.



C. Lower part

① Front Sole Electrode

The patient stands on the foot electrode to come into contact with electricity during testing.

② Rear Sole Electrode

The patient put their heels on this foot electrode to come into contact with electricity during testing.

③ Base Frame (Loadcell)

The loadcell is connected to the base frame where the patient stands on.

④ Hinge Cover

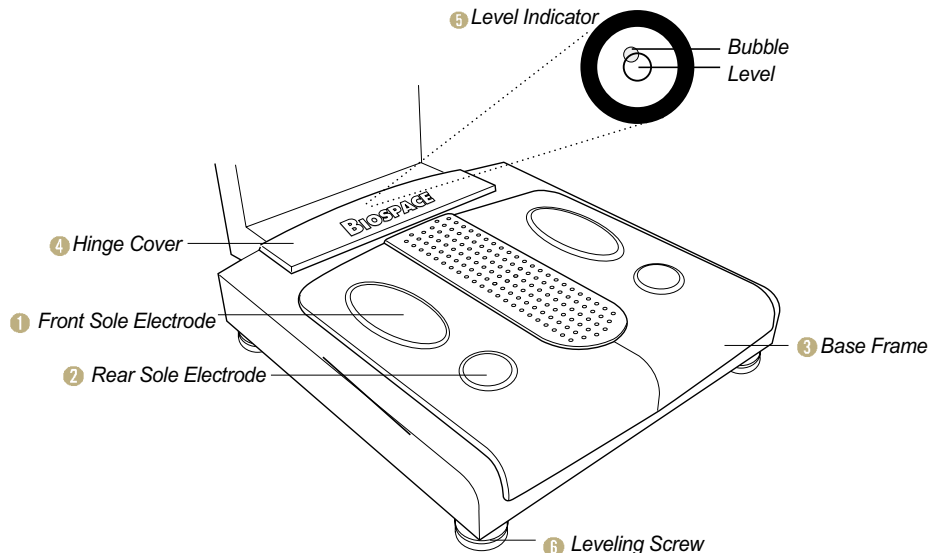
The hinge cover with hinges in the middle separates the area connecting the upper and lower part of the equipment. It can come off the equipment and be folded into half for easy transportation. A body wrench (6mm) is attached underneath the hinge cover.

⑤ Level Indicator

The level is in the middle of the lower part, which is covered by the hinge cover. Check out with the level to determine whether the equipment is level.

⑥ Leveling Screw

The equipment has five legs screwed into the equipment. You can use the legs to adjust the height and level of the equipment.



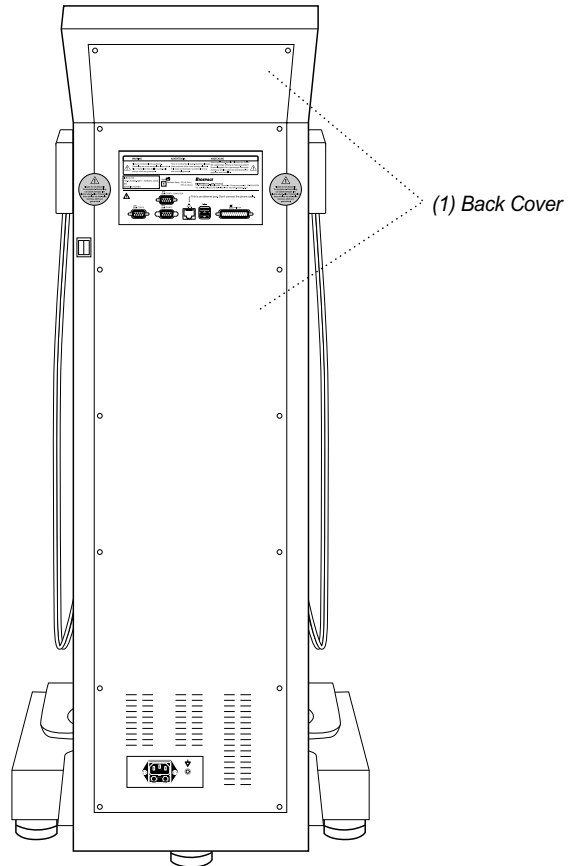
D. Rear part

(1) Back Cover

The back cover should be opened only for the purpose of repair. Only the Biospace' technicians are allowed to open the cover.



<Warning sticker>



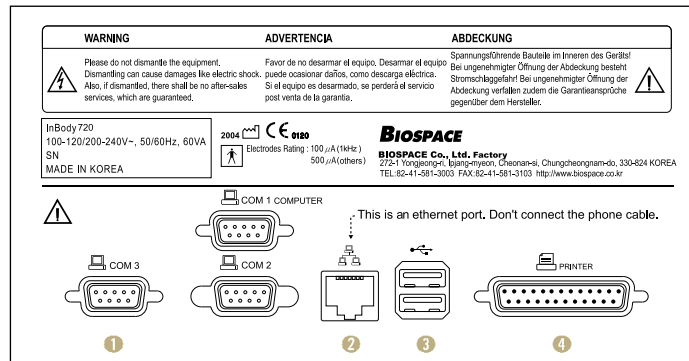
Biospace is not responsible for damages done on the product or injury caused by the user's unauthorized opening of the back cover.



Biospace is not responding to any request for repair or upgrade, when damage is done on the warning sticker or there is any indication that the back cover was previously opened. Do not open the back cover in any case.

(2) Control & Connection Unit

This unit allows the equipment to connect to peripherals such as computers and printers as well as transferring data back and forth.



1 9pin Serial Port, Male (RS-232C)

Com 1 port is used to connect to the personal computer that runs the Lookin' Body.

Com 2 port is used for an additional peripheral.

Com 3 port is used to hook up the automatic blood pressure monitor provided by the Biospace.

2 LAN Port (10/100 Base-T)

Through LAN cable, the equipment can communicate with the external systems including computers. The LAN interface supports both 10Mbps and 100Mbps Ethernet connection.

3 USB Port (Version 1.1)

InBody720 communicates with external devices such as computers and printers through the two USB ports and cables. You can use either of the two USB ports interchangeably. As of now, the equipment supports only printers as a USB device.

4 25pin Parallel Port (IEEE 1284)

The 25pin parallel port is used to connect to printer. If you intend to use USB printer, connect it to the USB port.

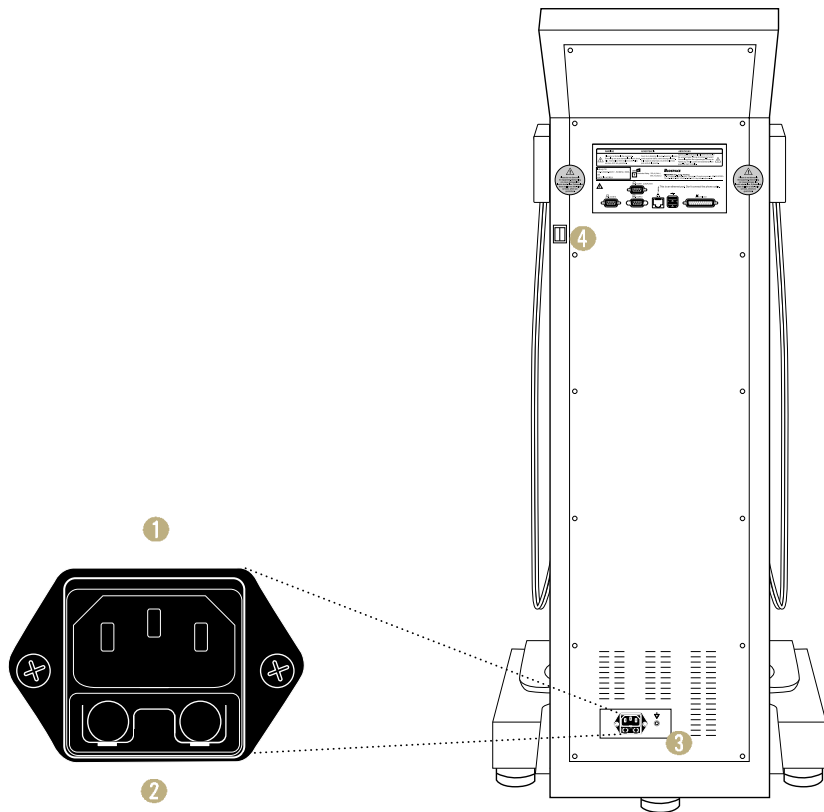


NOTE

Only the peripherals provided by Biospace can be connected to InBody720. For any inquiry about peripherals, contact Biospace.

(3) Power & Safety Unit

- ① Power Socket
Plug the 3-pin plug to the power socket to supply the power to the equipment.
- ② Fuse Socket
The fuse holders (two fuses) are embedded in the equipment.
- ③ Equipotential Terminal
The equipotential terminal can be connected to the external equipotential line to prevent danger caused by the difference in the potentials between the other devices.
- ④ Power switch



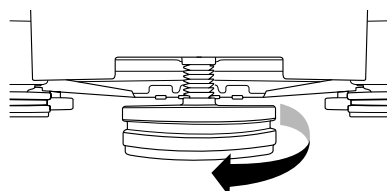
3. Installation

A. Operation environment

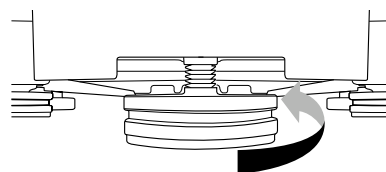
- (1) Location: Indoor only. Any outdoor area where the equipment is to be located should meet all the environmental requirements.
- (2) Operating environment: 10°C~40°C (50°F ~ 104°F), 30%~80% RH
- (3) Power supply: 100 - 240V~, 50/60Hz

B. Opening and assembly

- (1) Put down the packaging box on where the equipment will be located with the written instructions on top. Open up the top and take out the accessory bag.
- (2) Remove hinge pads in the corners and put up the upper part of the equipment.
- (3) Remove the loadcell pad and the cover of the equipment.
- (4) Remove the elastic band that pulls the hand electrode cables together and then the holder for hand electrode.
- (5) Lift up the back of the lower part of the equipment gently to remove the support pads at the back.
- (6) Before taking out the equipment, tighten up the screws connecting the upper and lower part with a box wrench. The box wrench is attached to a tape underneath the hinge cover.
- (7) Hold the bottom of upper part and the center of lower part on both sides with hands and take the equipment out of the box. Take the equipment to where it will be installed.
- (8) Tighten up the four screws connecting the upper and lower part with the box wrench.
- (9) Adjust the height of equipment using the four legs attached to the lower part of the equipment and one leg from the upper part of the equipment. Keep the equipment level, using the level indicator located at the center of the connection unit.



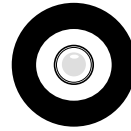
<Raise up>



<Raise down>



<It is not level >



<level>

- (10) Attach the box wrench back to the underneath the hinge cover and put the hinge cover back over the connection area between the upper and lower part.
- (11) Plug the fuse holder containing the fuse into the fuse socket and then plug in the power to the power socket.
- (12) Put a spare fuse in a small plastic bag and attach it to the back of the equipment with tape. When the fuse is brown, you can replace it with the spare fuse. Refer to the "Chapter 5 Supplies and Devices" for specifications of fuse.



NOTE

Put a cover over the equipment, if you don't use it for an extended period of time.

4. Transportation

It is best not to move the equipment around once it is installed. If it is inevitable to relocate the equipment, follow the safety requirements that follow.

- (1) Turn the power off and pull the plug off the power outlet before moving.
- (2) Take all the possible measures to ensure no physical impact is made on the hand electrode.
- (3) Adjust the level of the equipment using the legs of the equipment after moving.
- (4) Tighten the connection between the lower and upper part with the body wrench.

A. Transportation requirements

- Temperature: 0°C~40°C (32°F~104°F)
- Relative humidity: 30%~80%
- Air pressure: 500hPa~1060hPa

B. Transportation before installation

Before installation, the equipment is in a packaging box provided by Biospace. Use a carrier to move the box over or have two people move it from both sides for safe transportation.

C. Transportation after installation

It is not recommended to move the equipment installed by Biospace or the authorized distributors of Biospace. If it is inevitable to move the equipment, repackage the equipment with the box and wrapping material the equipment came in, to keep the equipment from being damaged during transportation.



After moving the equipment, adjust the level of the equipment using the level indicator and legs of the equipment. The level of the equipment is crucial to accurate testing.

5. Repackaging

Prior to un-assembling and repackaging the equipment, turn the power off and pull the plug off the outlet. Take appropriate precautions not to damage foot and hand electrode during repackaging.

- (1) The writings on the box should be on top, when it is ready to be opened. Open up the box from the top.
- (2) Hang the hand electrodes on the holder and place the holder at the center-lower point of cable using the hand electrode caddy. Pass an elastic band through the hand electrode holder and hang it on the hook at the bottom of the lower part.
- (3) Place the two support pads on the floor of the box and put the InBody720 on top.
- (4) Lift up the front gently and stick the two support pads underneath the front legs.
- (5) Open up the hinge cover and undo the screws at the connecting point.
- (6) Put the cover on the equipment and leave the loadcell pad on top of the support pad I.
- (7) Stick the head pad at the both corners. Fold up the upper part of the equipment and put it in the box.
- (8) Insert hinge pad into the box and tape the accessory bag on top.
- (9) Close the box and seal it with tape.

6. Maintenance

- (1) Do not pull hand electrode cable from the hand electrode or from the mainframe of the equipment. Treat it with care.
- (2) Do not leave anything on the stand or make a physical impact on it.
- (3) Leave the power off, if you do not use the equipment for over a day.
- (4) Pull the plug off, and cover the equipment, if the equipment is not used for an extended period.
- (5) Do not move the equipment with the power on.
- (6) Do not spill drinks or food into the equipment. Substance getting into the equipment will cause a critical damage on the equipment.
- (7) Wipe up gently the case of the equipment with a cloth with no piles once every week. Do not scratch the LCD monitor while cleaning.
- (8) To discard packaging material of InBody720, follow the garbage disposal regulations on packaging materials.

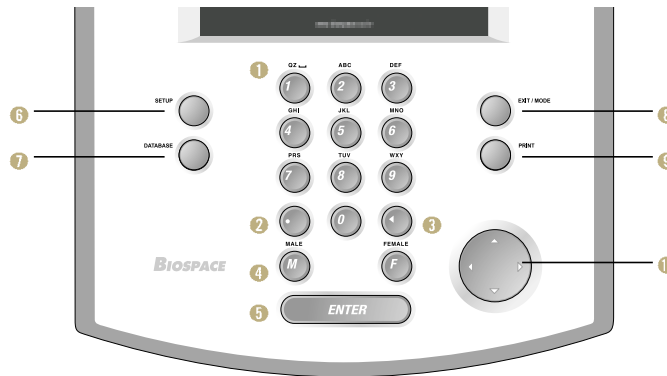
1. Pre-testing Instructions

It is important to keep the testing environment and methodology consistent to accurately detect the changes in body composition. Minimize the environmental variables by maintaining the consistent testing environment such as the temperature of a test room or the time of a test to obtain reliable test results.

- (1) Administer a test before the patient does an exercise or other physical activities. Rigorous exercises or physical activities change the body composition temporarily.
- (2) The patient should not have a meal before a test.
- (3) Test should be done before the patient has a sauna or a bath. Sweating affects body composition temporarily.
- (4) Keep the room temperature between 20°C and 25°C. Human body reaches a chemical equilibrium in this temperature range. Both high and low temperature exacts changes in body composition.
- (5) The patient should go to bathroom before testing. Excrements in the body reduce the accuracy of a test.
- (6) If possible, test should be done before mid-day. The long we stand, the more body water flows downward. This process speeds up, as the day winds down.

2. Keypad and its Functions

The keypad as illustrated below is divided into two sections by their functions.



A. Input Button (15 buttons)

1 Number buttons (0~9) / Alphabet buttons (A ~ Z)

The input buttons are used to enter numeric and character data such as the patient's age, height and I.D. When a button is pressed, the LCD screen shows the numeric and then character representations of the button in the alphabetical order. For instance, press the button 2, then you will see a set of numeric and character representations assigned to the button showing up in the pre-determined order of 2, A, B and C.

2 Point button

The point button is used to enter a decimal point or period, for height, age, I.D. and weight.

3 Backspace Button

This button is used to delete data that was entered.

4 Gender Selection Button: F (Female), M (Male)

This button is used to enter the gender of the patient.

5 Enter Button

This button is used to tell the system that data input is complete or move on to the next section.

B. Function Button (5 buttons)

6 SETUP

This button is used to update or modify the user environment.

7 DATABASE

This button is used to view the archives.

8 EXIT / MODE Button

The EXIT / MODE button is used to modify the user environment easily in the startup window. And this button is used to stop the process that is in progress or go back to the previous process.

9 PRINT Button

This button is used to print the test results. InBody720 only allows for printing of the test results that belong to the last patient tested. You can print multiple copies of the results sheet, until a next patient steps onto the equipment to have his/her personal data entered and the test results of the previous patient is no longer in the memory.

10 Direction Buttons

The direction buttons consist of "up," "down," "left" and "right" buttons. The arrow signs on top of the buttons indicate the directions where control will be heading.

3. Power Connection and Getting Started

- (1) Plug the power cable to the outlet.
- (2) Once power is turned on the equipment, the LCD monitor displays a sequence of characters, indicating the sequential process of loading up the operating system to the system. This is equivalent to the process through which PC loads up windows to the memory and gets the operating systems ready for the user.
- (3) As the logo comes up as shown below, the system boots itself up automatically. During this boot-up period that takes up to 5 minutes, InBody720 tests its internal system, sets the initial weight at zero for the scale, adjusts the internal circuits and determines whether the peripherals listed in the setup are still in use. The results of this initialization process will be displayed on the monitor.



Do not put weight on the lower part of the equipment from the point when you turn the power on to when the InBody720 finishes booting process. If you go on the stand or leave a heavy object on it, the system reports error with initializing the weight at zero, resulting in inaccurate measurement.



When connecting peripherals (printers and other optional devices) to the InBody720, turn on the peripherals and then the InBody720. When turning the power off, turn off the InBody720 first before turning off the peripherals. This process will minimize the harm on the equipment caused by electric shock.

(4) When the system boots up, the startup window comes up, allowing the user to enter data into the system.



4. Startup Window

The startup window in the InBody720 provides a variety of the functions for the convenience of the patient and the user. The configuration of startup window is categorized into four groups by function.



A. Personal Information Window

This area is where the personal information of the patient including I.D. number, height, weight and gender will be entered. Start entering the patient name or identification number. If you want to leave the name or identification number empty, press the direction button (▶) to move on to the age section.

B. Information Window

The information window displays message guiding the user with weighing the patient, test methodology, test procedure and error message. This window will help the patient and the user along the test, by providing detailed and specific information.

C. Analysis Result Window

Before a results sheet is printed out, the analysis result window displays the key figures from the analysis of the test. The figures shown in the window will be in a printed results sheet.

D. Status Window

The status window shows the listing of peripherals registered in the InBody720. And user can modify the user environment easily. The changeable items are weight adjustment, results sheet selection, race selection.



NOTE

When power comes on, the InBody720 checks the settings of peripherals listed in the setup applet and display them in the status window. The setup applet checks the connection status of peripherals, before modifying them. If the peripherals are not physically connected to the InBody720 or it is turned off, the setup applet of the InBody720 does not set the status of that particular peripheral as "Enable."

5. Personal Information

Age, height, weight and gender are the key personal information required to analyze the body composition. To reduce the probabilities of an error and to obtain reliable results, follow the instructions presented below.

A. I.D. (permissible range of input : 20 characters)

Use the numeric buttons to enter data. With each button press, numbers or alphabets are displayed in the sequence shown on the keypad.

B. Age (permissible range of input : 6years ~ 99years)

Use the numeric buttons to enter data. Age should be based on the western standard. For the patient of under 18 years of age, the user can include one decimal point in the age text field for more accurate testing. The decimal digit represents the number of months elapsed since the last birthday and should be decimal expressions of a fractional number with the denominator of 12. For example, the 16.5 years old can be translated into 16 years and 6 months old (6 months/12 months=0.5).

C. Height (permissible range of input : 110cm ~ 220cm)

Use numeric buttons to enter height. Heights can have one digit under the decimal point. As the height the patient remembers might not be accurate, measure the height of the patient before conducting body composition analysis using the InBody720.

D. Gender

Female is selected as a default. Press the button of the gender of the patient. For men, press the "male" button and for female, press the "female" button.

E. Weight

When the patient steps on to the InBody720, the equipment weighs the patient immediately and the value for weight is automatically recorded into the weight of the personal information windows. To deduct the weight of clothes, go to the "Chapter 3 Setting Environment" and then to the others setting or "Chapter 2 Testing and Test Results", 4. Startup window, which allows for the deduction for clothes.

ID.	AGE	HEIGHT	GENDER	WEIGHT
MISUK HAN	39	159 cm	F	65.9 kg



After entering two digits for age and three digits for height, move on to the next text field. If you want to use the decimal digits for age and height, use the direction button (↩) to back to the previous text fields and enter the values for decimal digits. In entering weight, you can enter a certain number of decimal digits.

You can correct the data, when the input data is incorrect.

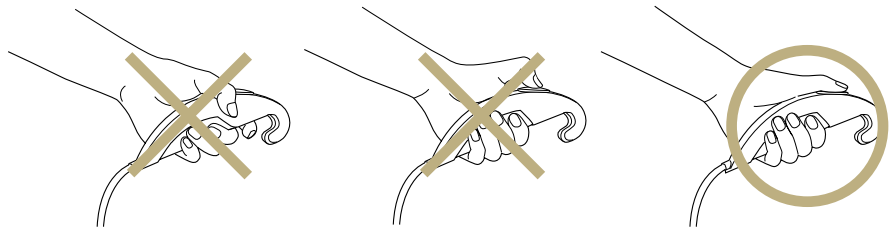
- ① Error occurs with key operation prior to the entry of data.
Press the backspace key (◀) to delete the entry and enter data again.
- ② Error occurs with the text field data entries before the current text field.
Use the direction button (◀) to move to the text field where an error occurs and press the backspace key (◀) to delete the existing data and re-enter data.
- ③ An error occurs in the startup window after data entry is completed.
Use the direction button (◀) to move to the text field you would like to go to. Press the backspace key (◀) to delete the existing data and re-enter data.
- ④ An error with data occurs while analysis is in progress.
Press the "EXIT / MODE" button to stop the analysis, as it is impossible to re-enter data at this point. Go back to the very beginning and start with weighing the patient.

6. Test Methodology

Observing the following methodology is essential to achieving reliable results and accuracy. Palms, fingers and soles should be in contact with electrode during the testing. Keep the following instructions in mind during testing.

A. Proper placement of hands on the electrode

- (1) Four fingers should be touching the surface of the electrode as shown below.
- (2) Put the thumb lightly on top of thumb electrode and press the button gently. Throughout the test and analysis, the patient should gently hold the hand electrode.
- (3) If the patient's hands are a bit too small for hand electrode, pull the hand towards the thumb electrode so that the thumb can touch the button.

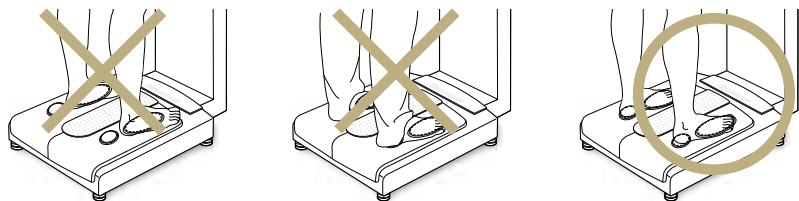


NOTE

Do not press the button with the fingernails: fingernails may damage the electrodes and result in inaccurate test finding.

B. Proper placement of feet on the electrode

- (1) Step on the foot electrode in barefoot.
- (2) Heels should land on the circular-shaped foot electrode, before the fore-foot hits the electrode.
- (3) The whole part of soles should be in contact with the foot electrode.



NOTE

Do not have the hems of pants get in between the heels and electrode. As for the patient who has too small feet to cover the both electrodes, they should be able to touch at least part of both electrodes.



If the patient's feet or hands are too dry, or has dead, hard skin built up, InBody720 may prompt the user to re-test the patient. In this case, wet the palms and soles with electrolyte tissue that comes with the InBody720 and re-test the patient.

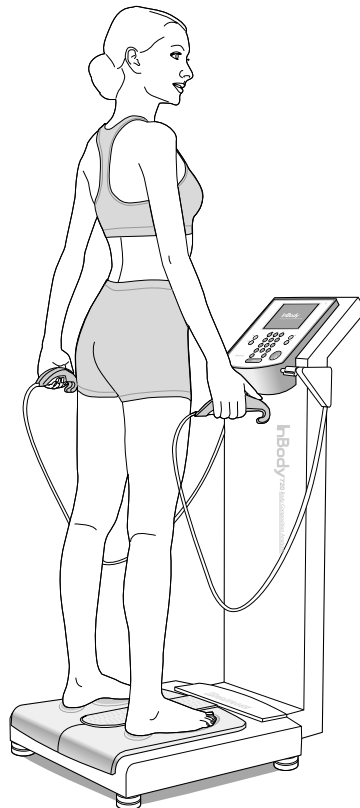


When wetting hands and feet, keep the moisture on hands and feet from dripping to the electrodes. Excessive moisture may cause an erosion of electrode, which in turn may result in breakdown of the equipment. The electrolyte tissues provided by the Biospace are specifically manufactured for InBody and thus is completely different from the generic wet tissues in the market. It is strongly recommended to use the electrolyte tissues specifically designed for InBody720.

C. Appropriate methodology for testing

During testing, the LCD monitors display information on body composition, allowing the patient to read the analysis from the stand. When the patient steps down from the stand, the InBody720 goes back to the startup windows.

- (1) Do not leave the arms by your side. Form an angle of 15 degree between the arms and your side.
- (2) Stand comfortably during the testing. Do not flex your muscles.



Disabled people who find standing for minutes a little bit difficult can get support from the back or side. In this case, there should be no skin-to-skin contact between the supporter and the patient. Testing is impossible with an amputee who has a thumb, an arm or a leg amputated.

7. Testing Procedure

This procedure begins with the startup windows, which is the initial environment settings of the InBody720, when it is factory-released. The InBody720 goes back to the startup windows, as the patient steps down from the stand.

- (1) See if the InBody720 is in test-ready status. The windows that are in test-ready status should look like as shown below.



- (2) The less clothes or devices you wear during the test, the more accurate the test results will be. To get as close to the pure weight as possible, take off a heavy winter coat or wristwatch before testing.
- (3) Both heel and the ball of your feet should touch the foot electrode. Step on the stand in barefoot. Once you are on, the LCD monitor will display your weight. Put your hands down naturally and stand still comfortably, until the fluctuation in the weight goes down to zero and the value for weight is stabilized.
- (4) When the value for weight is stabilized, InBody720 displays the weight. The weight is recorded to the weight field of personal information windows, as the information windows switch to the personal information windows, prompting the user to enter personal information.



- (5) Enter the patient's personal information including I.D., height, and gender using the keypad buttons. After finishing the data entry, press the 'Enter' button and see the information windows prompting the patient to get ready for a test.

I.D.	AGE	HEIGHT	GENDER	WEIGHT
MISUK HAN	39	159 cm	F	55.9 kg

- (6) Follow the test instructions displayed on the information windows. InBody720 checks your posture on the equipment continuously. If the patient is settled on the stand, and his/her posture is right, the testing commences on its own. Once the test is underway, the patient should keep the same posture until the end of the test.



NOTE

If the patient doesn't take upon the right position, hold the hand electrode or step on the foot electrode properly or if the patient's palms or soles are dry or have too much dead and hard skin, the testing process may not initiate on its own. In this case, wipe up the patient's palm or feet with the electrolyte tissues that come with the InBody720 and put the patient back on the testing stand.



NOTE

If a data entered is out of the permissible data range, the following message will pop up on the monitor. Go back to the test field where you were and re-enter data. Refer to the "5. Personal information" of this chapter for the permissible range of each data.



NOTE

If the patient's palms or soles are dry, the following message will be shown on the information windows and the test stops. In this case, wipe up the patient's palms or soles with the electrolyte tissues that come with the InBody720 and re-initiate the test process.



- (7) During the test, the test analysis windows on the LCD monitor will display the results of body composition analysis in the order of the test procedure.



Test results window

- (8) When the analysis is completed, the InBody720 informs that the test is completed through the information windows.



- (9) The patient should place the hand electrode back to where it was, and step down from the stand.



NOTE

Do not drop the hand electrode, as it contains electronic parts inside.

- (10) Soon after the patient steps down from the equipment, the InBody720 prints out test results sheet and goes back to the test-ready status windows. For information, refer to the “8. Printing out test results” of this chapter.



NOTE

InBody720 is equipped with archive function, allowing the user to print out the past 10 test results per each patient.

8. Printing out Test Results

A. Test result window

During the test, information on body composition analysis is displayed on test result window on the LCD monitor. As long as the patient is on the stand, the monitor retains the data of the body composition analysis. Once the patient steps down, the InBody720 goes back to the startup window and sets itself back to test-ready status.



(1) Output items

The InBody720 provides the following information through the test result window.

- ① Obesity Diagnosis
- ② Edema
- ③ Nutritional Evaluation
- ④ Weight Management
- ⑤ Body Balance
- ⑥ Body Strength
- ⑦ Weight Control
- ⑧ BMR
- ⑨ Fitness score

(2) Various comprehensive evaluation

The test result window of InBody720 summarizes all the obtained results. This makes much easier for patients to comprehend their health condition. Using different marks, it even distinguishes the poor and the fine conditions. It helps to check and see overall body composition at a glance.

Each mark has the following meaning.

① Nutritional Evaluation

: Normal
 : Deficient
 : Excessive

② Weight Management

: Normal
 : Under
 : Over

③ Body Balance

: Balanced
 : Slightly Unbalanced
 : Extremely Unbalanced

④ Body Strength

: Normal
 : Developed
 : Weak

B. Results sheet

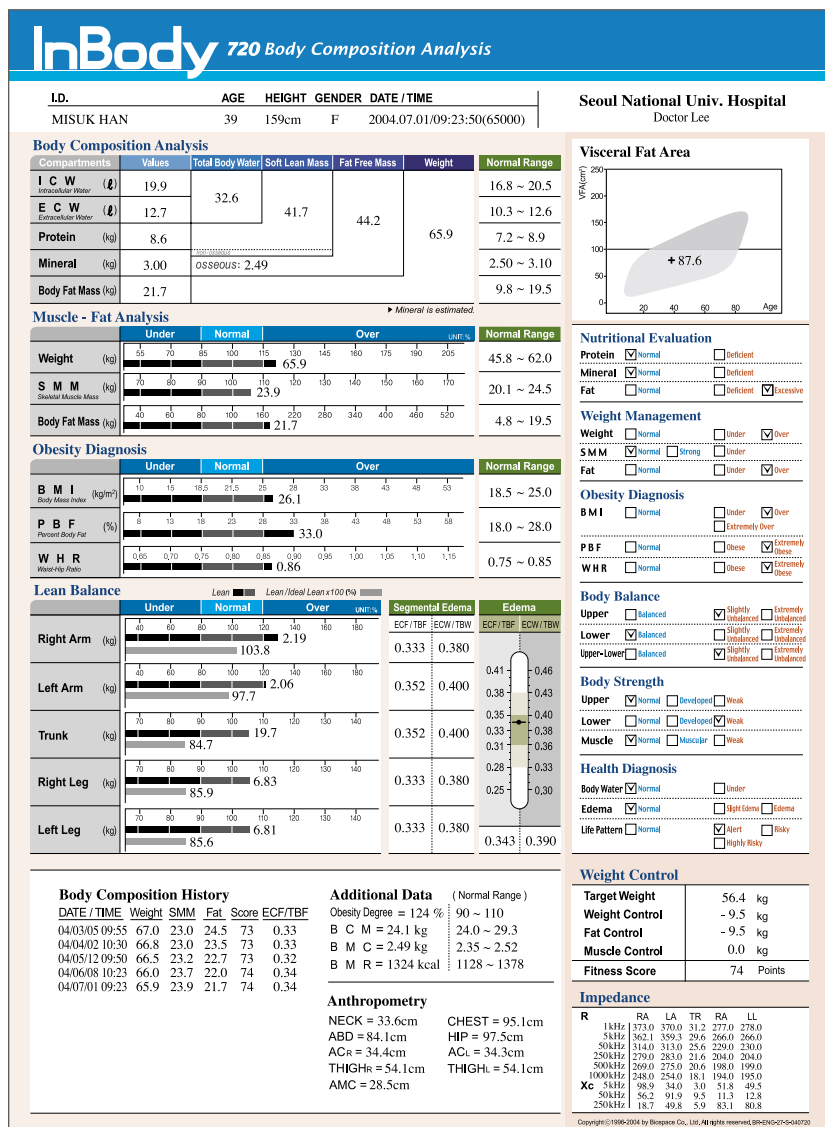
With a printer connected to the InBody720, the InBody720 can print out the result sheet, providing the details on test results.

(1) Connecting to the printer

Use a printer that connects to 25pin parallel port (IEEE1284) or USB1.1 port. InBody720 can use any printer that supports PCL3 interface or higher version. For details on printer, refer to the "Chapter 5 Supplies and Devices." As for the installation of a printer, consult the user's manual provided by the printer manufacturer.

(2) Result sheet

The result sheet is shown below. It is one of the consumable products provided by Biospace.



C. Output items

This section includes the definitions, description and clinical standard of each category of test results. If you need more explanation or clarification on this manual, email or phone to us at:

E-mail : biospace@biospace.co.kr TEL : 82-2-501-3939

I.D.	AGE	HEIGHT	GENDER	DATE / TIME	Seoul National Univ. Hospital Doctor Lee
MISUK HAN	39	159cm	F	2004.07.01/09:23:50(65000)	

(1) Individual Information

The subject's I.D., age, height, gender and exam date and time are displayed here.

(2) User Information

The name of the hospital or clinic and the doctor in charge are displayed here.

**Please contact Biospace Co., Ltd. or sales division if you need to enter or correct "User Information"*

(3) Body Composition Analysis(9 items)

Body Composition Analysis

Compartments	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight	Normal Range
I C W Intracellular Water (ℓ)	19.9	32.6	41.7	44.2	65.9	16.8 ~ 20.5
E C W Extracellular Water (ℓ)	12.7					10.3 ~ 12.6
Protein (kg)	8.6					7.2 ~ 8.9
Mineral (kg)	3.00	osseous: 2.49				2.50 ~ 3.10
Body Fat Mass (kg)	21.7					9.8 ~ 19.5

▶ Mineral is estimated.

The body composition analysis of InBody720 is derived from the 4-compartment model, which divides body composition into 4 components comprising Total Body Water, Protein, Mineral and Body Fat. Your own data are displayed here. Total body weight is the sum of Body Fat and Fat Free Mass (FFM). FFM is the sum of Mineral and Soft Lean Mass (SLM). SLM is the sum of Protein and Total Body Water consisting of Intracellular Water (ICW) and Extracellular Water (ECW), which are separated by cell membranes. 'Normal Range' means standard value range when your body has ideal body composition for your own height.

- ① Intracellular Water (ℓ) : The water inside each cell
- ② Extracellular Water (ℓ) : The water outside each cell
- ③ Protein Mass (kg)
- ④ Mineral Mass (kg)

Mineral Mass cannot be obtained with BIA methodology, but InBody 720 offers the estimated value of Mineral Mass because Bone Mineral Mass is closely correlated with FFM. The correctness of this estimated value has been validated by comparison with the DEXA method. Thus, Mineral mass could be used for screening the patients who have risk factors of osteoporosis.

- ⑤ Body Fat Mass (kg)

6 Total Body Water (ℓ)

The sum of the intracellular and the extracellular water.

**It is shown as ℓ " on the results sheet. However, mass measured in kilograms (kg) is the basic unit of measure for body composition components. Therefore, the unit volume of water should be converted to a mass unit. It is a common known fact that the volume of 1 liter(ℓ) is equal to the mass of 1kg in water. This fact allows volume and mass to be interchangeable i.e. used at the same time.*

7 Soft Lean Mass (kg)

The ideal weight is calculated based on subject's height. A subject's soft lean mass can be estimated using average weight and average percent body fat. Problems occur only when the soft lean mass is less than the average, however, no difficulties are encountered when soft lean mass is greater than average.

8 Fat Free Mass (kg)

The sum of soft lean mass and the mineral mass.

9 Weight (kg)

Ideal weight is based on subject's height. The basic unit of measure for water is volume.

(4) Muscle-Fat Analysis(3 items)

Muscle - Fat Analysis

	Under	Normal	Over	UNIT	Normal Range
Weight (kg)	55 70 85 100 115 130 145 160 175 190 205	65.9			45.8 ~ 62.0
S M M (kg) <small>Skeletal Muscle Mass</small>	70 80 90 100 110 120 130 140 150 160 170	23.9			20.1 ~ 24.5
Body Fat Mass (kg)	40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520	21.7			4.8 ~ 19.5

Bar graphs and values are displayed here. The length of the bar graph is the relative percentage based on the standard amount (100%). The values at the end of each bar are the measured values. Especially, because body fat is more various among people than muscle mass, each bar has different scale. The value next to bar shows you the measured values and the end of bar indicates your position in the range. If the length of the bars would be similar, your body composition is well balanced, while if the lengths of the bars fluctuate, it means your body composition is not balanced.

1 Weight (kg)

Generally, BMI 18.5~25 is used for determining normal range of weight. But in InBody 720, normal range for Weight is standard weight ±15% of standard value, and the range is very similar to the one based on BMI (18.5~25). Standard weight is determined according to BMI 22 for males, BMI 21 for asian females, BMI 21.5 for western females, and growth chart for the age under 18.

2 Skeletal Muscle Mass (kg)

Skeletal muscle mass is computed based on muscle mass of the limbs, which is almost composed of skeletal muscle and takes up about 70% of total body skeletal muscle.

3 Body Fat Mass (kg)

100% of the body fat mass means the subject is in the ideal weight and the normal percent body fat. Compared with muscle mass, body fat mass is various among people. The horizontal bar graph helps you understand your body composition state compared to standard values. Especially, because body fat is more various among people than muscle mass, those two bars have different scale.

(5) Obesity Diagnosis

Obesity Diagnosis offers indexes for the diagnosis of the extent of obesity.

Obesity Diagnosis

	Under	Normal	Over	Normal Range
B M I Body Mass Index (kg/m ²)	10 15 18.5 21.5 25 28 33 38 43 48 53	26.1		18.5 ~ 25.0
P B F Percent Body Fat (%)	8 13 18 23 28 33 38 43 48 53 58	33.0		18.0 ~ 28.0
W H R Waist-Hip Ratio	0.65 0.70 0.75 0.80 0.85 0.90 0.95 1.00 1.05 1.10 1.15	0.86		0.75 ~ 0.85

1 Body Mass Index(BMI, kg/m²)

BMI(Body Mass Index) is calculated from the formula, Weight(kg) / Height²(m²), whose unit is kg/m². It is a rough indicator of total body fat. According to WHO guideline, Underweight:<18.5, Normal:18.5~24.9, Overweight:25~29.9, and Obesity:>30

2 Percent Body Fat (%)

The normal range of body fat percent for men is 15 ±5%, and 23 ±5% for woman.

**The normal range of percent body fat for women is always the same for all age groups, whereas, this is not true for male. Starting from age 7, percent body fat will decrease by 0.5% annually until the age of 17. This results in an average percent body fat of 15% for male adult.*

3 Waist-Hip Ratio

Waist-Hip Ratio (WHR) is obtained from dividing your waist size by your hip size and it is used for looking at the proportion of fat stored on your body around your waist and hip. The normal range of WHR is 0.80~0.90 for male and 0.75~0.85 for female. For asian the normal range of WHR is 0.75 ~ 0.85 for male and 0.70 ~ 0.80 for female. Your WHR is an important tool that helps you determine your overall health risk. InBody analyzes body composition with no empirical factor such as gender and age. However, WHR offered from InBody is the data affected by empirical factors. So to speak, InBody estimates body size from distributing total body fat to each segment considering empirical factors and muscle distribution calculated by segmental impedances.

(6) Lean Balance (5 items)

Lean Balance		Lean	Lean/Ideal Lean x100 (%)
	Under	Normal	Over
Right Arm (kg)	40 60 80 100 120 140 160 180	103.8	2.19
Left Arm (kg)	40 60 80 100 120 140 160 180	97.7	2.06
Trunk (kg)	70 80 90 100 110 120 130 140	84.7	19.7
Right Leg (kg)	70 80 90 100 110 120 130 140	85.9	6.83
Left Leg (kg)	70 80 90 100 110 120 130 140	85.6	6.81

Graphs for segmental lean body mass is presented as two horizontal bars for each segment. Of the two bar graphs, the number next to the above bar(█) represents the absolute value for lean body mass of an examinee in kilograms. In the range, 100% actually determines the length of the graph. It represents ideal lean body mass in the ideal weight of the examinee to his or her height. This does not take the actual weight of the examinee into account. The

number next to the below bar(█) represents the ratio of actual lean body mass of the examinee to ideal lean body mass in his or her weight and its unit is percentage. In the range, 100% again determines the length of the graph. However, it represents ideal lean body mass in the actual weight of the examinee.

- ① Right Arm (kg) : The value shows the amount of muscles in right arm.
- ② Left Arm (kg) : The value shows the amount of muscles in left arm.
- ③ Trunk (kg) : The value shows the amount of muscles in trunk.
- ④ Right Leg (kg) : The value shows the amount of muscles in right leg.
- ⑤ Left Leg (kg) : The value shows the amount of muscles in left leg.

*Because the upper fat free mass(U-FFM) has a wide range of variation among people compared to lower fat free mass(L-FFM), the standard range of U-FFM is wider than that of L-FFM.

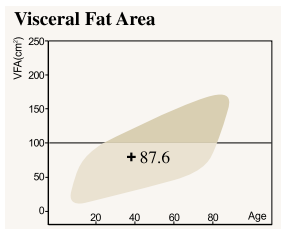
(7) EDEMA

Segmental Edema		Edema	
ECF/TBF	ECW/TBW	ECF/TBF	ECW/TBW
0.333	0.380		
0.352	0.400	0.41	0.46
0.352	0.400	0.38	0.43
0.333	0.380	0.35	0.40
0.333	0.380	0.33	0.38
0.333	0.380	0.31	0.36
0.333	0.380	0.28	0.33
0.333	0.380	0.25	0.30
		0.343	0.390

EDEMA means an excessive accumulation of serous fluid in tissue spaces, which results in swelling. This graph shows the ratio of ECW to TBW and ECF to TBF. The normal range of this score is 0.36 ~ 0.40 and 0.31 ~ 0.35 respectively, which is maintained in a healthy person. Usually, edema score increases when the ECW expands. In case of aging and malnutrition patient, the muscle cell shrinks, and the interstitial space gets filled up with water. As a result, ECW increases.

InBody720 also shows segmental edema score as well as total edema score.

(8) Visceral Fat Area



VFA(Visceral Fat Area) is the cross sectional visceral fat area obtained from the CT(Computed Tomography) view of the abdominal region.

Normal : <100cm²

Over : 100~150cm²

Extremely over : >150cm²

(9) Various comprehensive evaluation(6 items)

Nutritional Evaluation			
Protein	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Deficient	
Mineral	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Deficient	
Fat	<input type="checkbox"/> Normal	<input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Excessive
Weight Management			
Weight	<input type="checkbox"/> Normal	<input type="checkbox"/> Under	<input checked="" type="checkbox"/> Over
SMM	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Strong	<input type="checkbox"/> Under
Fat	<input type="checkbox"/> Normal	<input type="checkbox"/> Under	<input checked="" type="checkbox"/> Over
Obesity Diagnosis			
BMI	<input type="checkbox"/> Normal	<input type="checkbox"/> Under	<input checked="" type="checkbox"/> Over
			<input type="checkbox"/> Extremely Over
PBF	<input type="checkbox"/> Normal	<input type="checkbox"/> Obese	<input checked="" type="checkbox"/> Extremely Obese
WHR	<input type="checkbox"/> Normal	<input type="checkbox"/> Obese	<input checked="" type="checkbox"/> Extremely Obese
Body Balance			
Upper	<input type="checkbox"/> Balanced	<input checked="" type="checkbox"/> Slightly Imbalanced	<input type="checkbox"/> Extremely Imbalanced
Lower	<input checked="" type="checkbox"/> Balanced	<input type="checkbox"/> Slightly Imbalanced	<input type="checkbox"/> Extremely Imbalanced
Upper-Lower	<input type="checkbox"/> Balanced	<input checked="" type="checkbox"/> Slightly Imbalanced	<input type="checkbox"/> Extremely Imbalanced
Body Strength			
Upper	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Underdeveloped	<input type="checkbox"/> Weak
Lower	<input type="checkbox"/> Normal	<input type="checkbox"/> Underdeveloped	<input checked="" type="checkbox"/> Weak
Muscle	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Atrophic	<input type="checkbox"/> Weak
Health Diagnosis			
Body Water	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Under	
Edema	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Slight Edema	<input type="checkbox"/> Edema
Life Pattern	<input type="checkbox"/> Normal	<input checked="" type="checkbox"/> Alert	<input type="checkbox"/> Risky
		<input type="checkbox"/> Highly Risky	

The result sheet of InBody720 summarizes all the obtained results on the right side. This makes much easier for patients to comprehend their health condition. Using different colors, it even distinguishes the poor and the fine conditions. It helps to check and see overall body composition at a glance.

- ① Nutritional Evaluation
- ② Weight Management
- ③ Obesity Diagnosis
- ④ Body Balance
- ⑤ Body Strength
- ⑥ Health Diagnosis

(10) Weight Control(4 items)

Weight Control	
Target Weight	56.4 kg
Weight Control	- 9.5 kg
Fat Control	- 9.5 kg
Muscle Control	0.0 kg

InBody720 calculates a Target Weight. This is not merely showing an ideal weight. Instead, the calculation of the target weight is based on the complete evaluation of the body composition diagnosis. Apart from the fact that the conventional standard weight is a height specific, and population-based statistical information, Target Weight is personalized information based on InBody720 measurement. It tells how to control the weight especially by gaining or losing muscle or fat. The (+) and (-) sign indicate an increase or decrease in the amount to be controlled. The fitness score is to help the subject to understand his/her body condition from a body composition point of view. The ideal is 100%. It is a piece of unique data provided by InBody720.

① Target Weight (kg)

It is the result of the calculation of the amount of the optimal muscle mass. It is also based on the consideration of the other body components that the control value should be reasonable to the subject's body composition.

② Weight Control(kg)

The sum of the fat and the muscle to be controlled.

③ Fat Control(kg)

The amount of fat to be increased or decreased.

④ Muscle Control(kg)

The amount of muscle to be controlled.(kg)

(11) Fitness Score

Fitness Score	74 Points
---------------	-----------

The Fitness Score is an arbitrary score based on the measured muscle and fat mass for the motivation of the subjects.

Under 70 : Weak Type

70~90 : NormalType

Over 90 : Athletic Type

(12) Body Composition History

Body Composition History					
DATE / TIME	Weight	SMM	Fat	Score	ECF/TBF
04/03/05 09:55	67.0	23.0	24.5	73	0.33
04/04/02 10:30	66.8	23.0	23.5	73	0.33
04/05/12 09:50	66.5	23.2	22.7	73	0.32
04/06/08 10:23	66.0	23.7	22.0	74	0.34
04/07/01 09:23	65.9	23.9	21.7	74	0.34

The balance of muscle and fat mass is very important in weight controlling. And, exercise is necessary for maintaining muscle mass. Thus, monitoring your skeletal muscle mass, body fat mass, EDEMA and Fitness score will help you achieve your healthy weight control.

(13) Additional Data(4 items)

Additional Data	(Normal Range)
Obesity Degree = 124 %	90 ~ 110
B C M = 24.1 kg	24.0 ~ 29.3
B M C = 2.49 kg	2.35 ~ 2.52
B M R = 1324 kcal	1128 ~ 1378

This section shows you commonly used data, related to body composition.

1 Obesity degree(%)

Obesity Degree, measured in percentage, is a convenient way of assessing the subject's degree of obesity but body composition is not considered. Obesity degree is calculated using only a subject's weight.

$$\text{obesity degree} = (\text{actual weight} / \text{standard weight}) \times 100$$

2 Body Cell Mass(kg)

Body Cell Mass (BCM) reflects all the metabolically active tissues of the body. Decreasing BCM is an indicator for malnutrition. For the HIV patient, BCM is very important to monitor the Wasting Syndrome. Only with body composition analysis can this be monitored. It include the total mass of cells, which compose muscular tissues.

3 Bone Mineral Content(kg)

Bone Mineral Content(BMC) is mineral mass in bone.

4 Basal Metabolic Rate (kcal)

Basal Metabolic Rate (BMR) is the minimal energy requirement for sustaining vital functions at rest. With InBody720, BMR is estimated by a known regression equation based on FFM. FFM is known to be closely related to BMR.

(14)Anthropometry

Additional Data	(Normal Range)
Obesity Degree = 124 %	90 ~ 110
B C M = 24.1 kg	24.0 ~ 29.3
B M C = 2.49 kg	2.35 ~ 2.52
B M R = 1324 kcal	1128 ~ 1378

In this section, InBody shows various circumferences of our body.

1 NECK(Neck Circumference)

It is the circumference of neck.

2 CHEST (Chest Circumference)

It is the circumference of chest measured right under the armpit.

3 ABD(Abdomen Circumference)

It is the circumference of waist measured at the navel line.

4 HIP(Hip Circumference)

It is the greatest circumference of hip .

5 THIGHr(Right Thigh Circumference)

It is the circumference of the right thigh measured at 2/3 point of the navel line and knee.

6 THIGHI(Left Thigh Circumference)

It is the circumference of the left thigh measured at 2/3 point of the navel line and knee. Protein-Energy Malnutrition, the AMC decreases. AMC can be useful not only to normal people but also patients for nutrition monitoring.

7 ACr(Right Arm Circumference)

It is the circumference of right upper arm measured in the middle of the elbow and the shoulder.

8 ACI(Left Arm Circumference)

It is the circumference of left upper arm measured in the middle of the elbow and the shoulder.

9 AMC(Arm Muscle Circumference)

Arm Muscle Circumference is defined as the circumference of muscle at Mid-point of the acromion (in the shoulder) and the colcannon (in the elbow). AMC can be criteria for determining the skeletal muscle mass and can also be applied to monitor the total body muscle mass. In case of

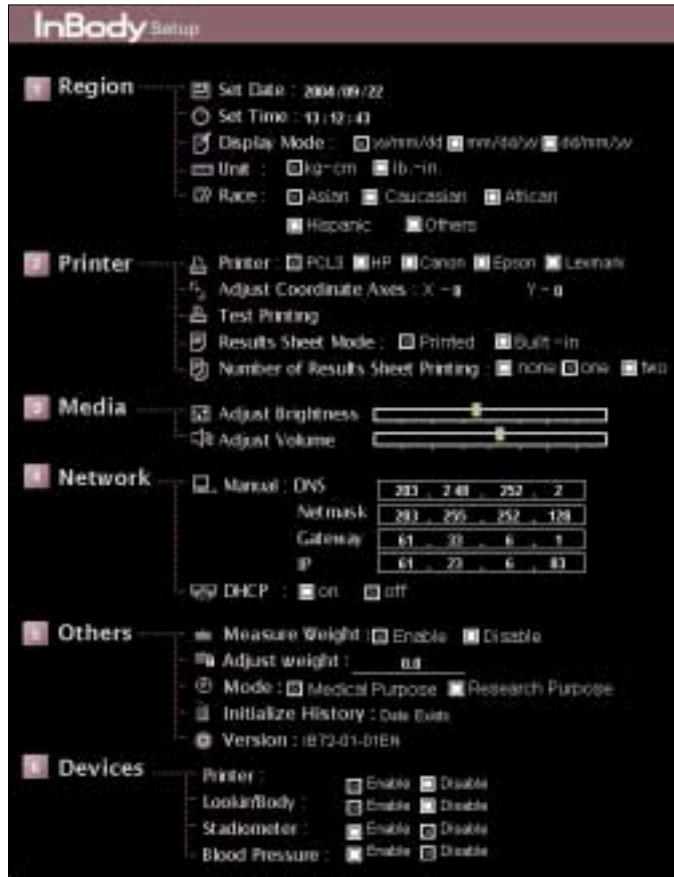
(15) Bioelectrical Impedance

Impedance						
R	RA	LA	TR	RA	LL	
1kHz	373.0	370.0	31.2	277.0	278.0	
5kHz	362.1	359.3	29.6	266.0	266.0	
50kHz	314.0	313.0	25.6	229.0	230.0	
250kHz	279.0	283.0	21.6	204.0	204.0	
500kHz	269.0	275.0	20.6	198.0	199.0	
1000kHz	248.0	254.0	18.1	194.0	195.0	
Xc	5kHz	98.9	34.0	3.0	51.8	49.5
	50kHz	56.2	91.9	9.5	11.3	12.8
	250kHz	18.7	49.8	5.9	83.1	80.8

It shows the impedance values from the measurements at 6 frequencies (1, 5, 50, 250, 500, 1000kHz). For further research purpose, from the left to the right, it shows the values for the right arm, left arm, trunk, right leg and left leg. These data indicate if the measurement is successful or not. The data should decrease vertically. Otherwise, the measurement is wrong or the unit is defective.

1. Setup Functions

Press the InBody720 Setup key to bring up the following windows.



A. How to modify settings

- (1) Use the direction buttons(▲▼) to go to and select one of region, printer, media, network, others or devices setting (e.g. printer).
- (2) Use the direction button (▶) at a particular setting to move to a sub-category under the setting. Use the direction buttons(▲▼) to move to a sub-category of the settings you wish to modify (e.g. number of results sheet printing)
- (3) Each sub-category entails a list of further sub-categories with the X mark on the currently selected category. Use the direction buttons(◀▶) to move to the categories you wish to select. Then hit the enter key to see the X mark showing on that particular category of your choice (e.g. one)
- (4) If you have more categories to select, use the direction buttons(◀▶▲▼) again to go to the next category. If you are done with altering the settings, press the stop button to save the changes in setting.

B. Set up

(1) Region

The region settings are used to indicate the system date, time, display mode and the race of the patient.

- ① Set date
Enter the date in the date field. The order of date is in OOOO (year)/OO (month)/OO (date).
- ② Set time
Enter the time in the time field. The order of time is in OO (hour)/OO (minute)/OO (second).
- ③ Display mode
Select the format of date. The yy represents the year, mm month and dd date.
- ④ Unit
Select the unit for weight and height.
- ⑤ Race
Select the race of the patient.

(2) Printer

The printer setting is used to select the type of a printer, adjust coordinate axes and results sheet print options.

- ① Printer
Select the type of a printer that will print out the results sheets. Select the correct model name of a printer. Printers that support PCL 3 interface and are manufactured by HP, Canon, Epson and Lexmark are compatible with the InBody720. For more information on printer, refer to the "Chapter 5 Supplies and Devices."
- ② Adjust coordinate axes
This option allows you to move the coordinates of objects on the results sheets. After shifting the coordinates, do the "test printing" to see if the object you have moved are properly aligned and in balance with the paper that it will be printed on. (The moveable range: left, right, top, bottom: +30 ~ -30)
- ③ Test printing
Find out to test the print of results sheet.
- ④ Results sheet mode
This option is used to select the type of results sheet.
Printed: This option is used to print on the custom-made test results sheet.
Built-in: This option is used to print on A4-sized paper.
- ⑤ Number of results sheet printing
After testing is completed, select the number of prints from 0 to 2.



If the number of prints is set at 'none', the test result doesn't print out.

NOTE

(3) Media

This option is used to adjust the brightness of the monitor or the loudness of sound.

① Adjust Brightness

This option is used to adjust the brightness of the LCD monitor.

② Adjust Volume

This option is used to adjust the loudness of InBody720.

(4) Network

This option is used to define the network settings of InBody720.

① MANUAL

DNS, Netmask, Gateway and IP: Use exactly the same method used to establish a network connection with a personal computer.

② DHCP

Dynamic Host Configuration Protocol (DHCP) provides the dynamic configuration with regard to the IP address. When your network runs on DHCP server, seek a technical assistance from the server administrator.



NOTE

After updating or entering new network settings, always restart the InBody720 to activate the new settings.

(5) Others

This option is used to select or deselect the auto-weight entry option, change the offset value for weight or to initialize test history.

① Measure weight

Enable: the weight of the patient found in the InBody720 scale is automatically recorded in the personal information window.

Disable: this option prompts the user to enter the weight directly on to the personal information window.

② Adjust weight

This option allows the user to adjust the offset value for weight. If the clothes or jewelry the patient is wearing during the testing significantly adds to the weight, use this option to deduct some weight from the default reading of the scale. Once the offset value is activated, the scale will factor in the offset value in weighing the patient. (permissible range of offset value: +5kg ~ -5kg, unit: 0.1kg or +10lbs. ~ -10lbs., unit : 0.2lb.)

③ Mode

Medical Purpose : It is for medical purpose. The measurement duration is 1 minute and reactance is not measured.

Research Purpose : It is for research purpose. The measurement duration is 2 minute and reactance is measured.

④ Initialize history

This option deletes all the records stored in the archives of the InBody720.

⑤ Version

This option displays the version of a program used by the system.

(6) Devices

This option is used to select external device connected to InBody720.

- Enable : connected to InBody720.

- Disable : not connected to InBody720

C. Quick set up

User can modify the user environment easily. The changeable items are weight adjustment, results sheet selection, race selection.

(1) How to modify the quick set up

- ① Press the EXIT / MODE button in the startup window.
- ② Select the item to change.
 - Use the "Left, Right direction button (◀ ▶)" to select the item.
 - Use the "Up, Down direction button (▲ ▼)" to adjust the item.



<In the case of 'weight adjustment' is selected >

- ③ The change is saved automatically. To go back to the startup window, press the ENTER button or EXIT/MODE button.
- ④ The saved value is used until the next change.

(2) Items

① Race selection

Select the race of the patient.

② Weight adjustment

You can adjust the measured weight. If the clothes or jewelry the patient is wearing during the testing significantly adds to the weight, use this option to deduct some weight from the default reading of the scale. (permissible range of offset value : +5kg~-5kg, unit:0.1kg)

③ Results sheet selection

This option is used to select the type of results sheet.



: The results is printed on the custom - made test results sheet.



: The results is printed on the A4 - sized paper.

④ Mode



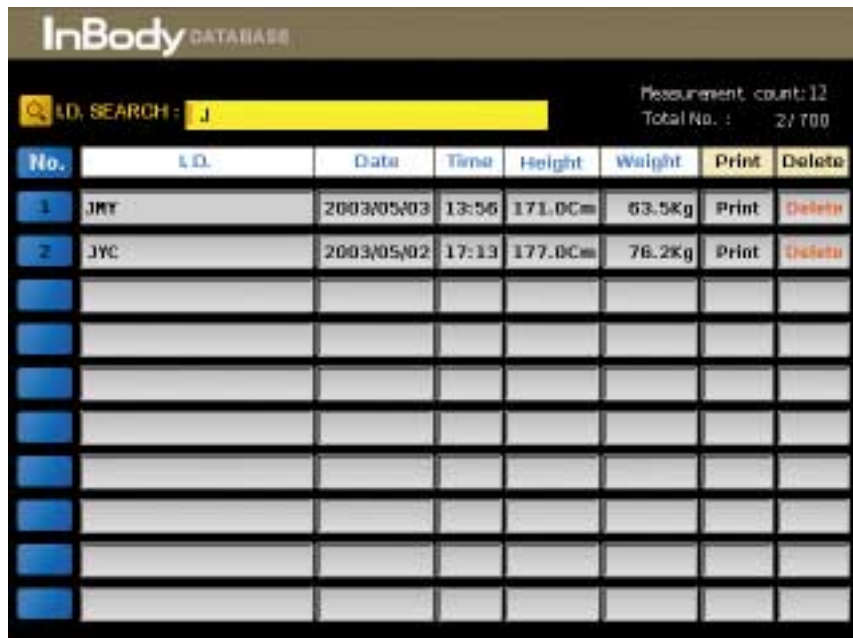
: It is for medical purpose. The measurement duration is 1 minute and reactance is not measured.



: It is for research purpose. The measurement duration is 2 minute and reactance is measured.

2. DATABASE

Press the DATABASE key on the Keypad to bring up the archive windows as shown below.



The screenshot shows the InBody DATABASE interface. At the top, there is a search bar labeled 'I.D. SEARCH:' with the letter 'J' entered. To the right, it displays 'Measurement count: 12' and 'Total No. : 2 / 100'. Below this is a table with the following data:

No.	I.D.	Date	Time	Height	Weight	Print	Delete
1	JRY	2003/05/03	13:56	171.0Cm	63.5Kg	Print	Delete
2	JYC	2003/05/02	17:13	177.0Cm	76.2Kg	Print	Delete

The cursor is located in the I.D. search field. Type key words or a set of characters in the text field and press the enter key to search the archive data. To search through the entire archive, press the direction button(▼).

On the right top of the windows, the number of patients currently in the archives and the additional number of patients that can be entered in the archive are displayed. To move through the archive windows, use the direction keys.

To print out the test result of a particular person, move the cursor to the "print" column of the record of that person and then press the enter key. To delete the record of a particular person, move the cursor to the delete column of the record of that particular person and then press the enter key.

To delete the entire records residing in the archive, select the "initialize history" option in the others settings in the setup windows.

3. Example of Setting the Environment

(1) When using the Printed for printing

- ① Press the SETUP button.
- ② Use the direction buttons (▲▼) to go to the "Printer" option.
- ③ Use the direction buttons (◀▶) to get to the "Results Sheet Mode" menu.
- ④ Use the direction buttons (◀▶) to move to the "Printed" option and then press the enter button. Once the enter button is pressed, the selected option is marked with X.
- ⑤ Press the "EXIT/MODE" button to save the changes. From this point on, the test results are printed in Printed.

(2) When using the A4-sized paper for printing

- ① Press the SETUP button.
- ② Use the direction buttons(▲▼) to go to the "printer" option.
- ③ Use the direction buttons(◀▶) to get to the "Results Sheet Mode" menu.
- ④ Use the direction buttons(◀▶) to move to the "Built-in" option and then press the enter button. Once the enter button is pressed, the selected option is marked with X.
- ⑤ Press the Stop button to save the changes. From this point on, the test results are printed in A4-sized paper. Use the correct A4-sized paper.

1. Error Messages and Checkpoints

The InBody720 displays the following error messages to warn the user of the problems it runs up against during operations and to guide the users to take steps. The following is the most common error messages and the steps to handle the corresponding errors.

“After removing any objects on InBody720, press “Enter” button.”

This message comes up when weight is detected from the base frame between the power-on and the completion of boot-up process. Remove the object from the base frame and restart the equipment.



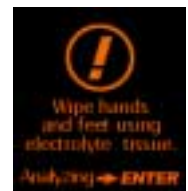
“Enter personal data correctly.”

This message appears when the value for age or height of the patients is out of the permissible range for these data. Check your entry again. As for the permissible range of each data, refer to the “Chapter 2 5. Personal Information.”



“Wipe hands and feet using electrolyte tissue.”

This message fires up when the posture of the patient is not appropriate or the patient’s palms or soles are too dry or have too much hard skin, making it impossible to start the test. Correct the posture of patient or wet his/her palms and soles with electrolyte tissues, before reinitiating the test.



2. Malfunctions and How to Deal with Them

This section lays out the order of steps you have to take for each particular problem, on the assumption that you have some basic knowledge on how to operate the InBody720. If you still have the problem after taking the following steps, contact our customer service representatives listed in the warranty certificate appended to the end of this user's manual.

The equipment doesn't seem to run, even after the power is on.

(In normal situation, the LCD is turned on.)

Cause 1 The plugs are not pushed all the way through an electrical outlet.

Step 1 Push the plug all the way through the electrical outlet.

Cause 2 Power bar is not turned on (when using a power bar) or the power doesn't come on to the power bar.

Step 2 Check if the power comes on to the power bar and an electrical outlet the power bar is connected to.

Cause 3 Fuse blows.

Step 3 Check to see if the fuse in a fuse holder is functioning. If necessary, replace the blown fuse with a spare fuse. The InBody720 comes with 4 spare fuses or you can purchase at an electrical store.

Weight comes up as a negative number (-) or is widely different from the reasonably anticipated weight of the patient.

(Usually the weight displayed on the InBody720 is close to what the patient knows.)

Cause 1 This happens when the boot-up was not completed normally.

Step 1 Initialize the weight to zero during the boot-up. If there is an object on the base frame, the initialization process doesn't take place normally, preventing the normal weighing process from happening. Remove an object on the base frame and make sure there is nothing on the base frame and then restart the InBody720.

The measurements don't seem right.

(When the measurements seem too high or too low)

Cause 1 The patient loses contact with the electrodes or fails to maintain the recommended posture during the testing.

Step 1 Refer to the "Chapter 2 6.Test Methodology" to correct the patient's posture and maintain the recommended posture until after the testing is finished.

Results sheet doesn't print.

(Normally when the testing is done, the results sheet prints out automatically.)

Cause 1 The printer is out of A4-sized paper and the printer has the warning LED light on or displays the message saying it is out of paper.

Step 1 Check if there is A4-sized paper in paper tray.

Cause 2 The cables to the printers are not connected properly.

Step 2 Check if the printer cables are connected to the InBody720 and to the power outlets. If any problem with the cables causes a connection failure, replace or fix the cables.

Cause 3 Paper gets stuck inside a printer, with the warning LED on or the printer displaying a message reporting paper jam.

Step 3 Check to see if paper is jammed in the printer.

Cause 4 A wrong printer is selected in the printer settings, or the number of results sheet to be printed is set at "none".

Step 4 Check if the model number of printer currently in use is selected in the printer settings of InBody720 and if the printer is compatible with the InBody720.

The prints are off balance.

(The prints don't normally go off balance to one direction.)

Cause 1 Coordinates of objects in the results sheet are placed in wrong locations.

Step 1 Refer to Chapter 3 1.Setup function, printer settings for hands-on explanation on how to move the coordinates of objects on results sheet and fiddle with them.



A problem arises when the orientations of printing set in the printer doesn't correspond with that of the InBody720. Refer to the user's manual of the printer to change the orientations of printing in the printer. The orientation of printing set in the InBody720 is portrait.



As error message, the misprints, and burnt-out fuse are something that technical service representatives can examine in the process of troubleshooting, keep them in a safe spot or keep records of them.

3. Questions and Answers, FAQ

As InBody720 is used in clinical environment, we receive many clinical questions involving InBody720, which has nothing to do with malfunctions of the equipment itself. Before you ask us clinical questions, read the following list of frequently asked questions and the answers to them. If you have any clinical questions regarding InBody720, contact us at the following email address:

E-mail: biospace@biospace.co.kr (Clinic Questions & Answers)

Do I have to take off socks or pantyhose?

Socks or pantyhose block the electric current used to analyze the body composition, making an accurate analysis impossible. Bare skin should be in direct contact with the electrodes.

Who should not use InBody720 or who cannot have body composition analyzed?

- Patients who have cardiac pace maker or other electric medical devices embedded in the body must not be tested using InBody720.
- Those who may experience difficulty being tested are: the patient who weighs less than 10kg or over 250kg or who is shorter than 110cm in height is out of the permissible range of measurements and might see the accuracy of body composition analysis drop.
- Testing is difficult with the children who cannot hold on to the hand or foot electrode during testing, or amputees or elderly who have trouble standing still during testing.
- Patients who have metallic core embedded in the body may see the bodily conductivity affected by the metallic element. However, the InBody720 retrieves the body composition information from various parts of body, reducing the probability of erroneous analysis significantly.

Can an amputee or people who cannot stretch their hands or feet to the electrode be tested?

It is impossible to test people who cannot contact the electrode. Biospace has a lineup of products that conduct body composition analysis on the patients in bed, without having to get patients out of bed during the tests. For more information on this product lineup, contact Biospace.

Is the electric current harmful to the body?

The physiological electric impedance method uses very subtle current that is not harmful to the human body (refer to the product specifications). Its safety is proven through the certifications from Korea and Europe. Many medical institutions are using the InBody720.

Can the jewelry or other metallic wear affect the testing?

The ideal test methodology is where the patient doesn't wear anything metallic. As the weight of clothes and other wear affects the results of body composition analysis, it is strongly recommended to take off any heavy clothing or metallic wear. Except for the weight, jewelry doesn't exact any effects on the body composition analysis, as the contact points with InBody720 are hands and feet that are usually free of jewelry.

How often do I have to get body composition test?

Patients who are undergoing treatments that may affect the body composition (e.g. exercise, obesity, rehabilitation, hormone treatment) are strongly recommended to have the body composition analysis done every two or four weeks.

What are the requirements for the patient for accurate testing?

Keep in mind the following requirements for accurate body composition analysis.

- Do not have a meal before testing.
- If you had a meal, wait 2 hours before having a test.
- Go to bathroom before testing.
- To get closer to pure weight, wear light clothes and remove jewelry or other wear before testing.
- Do not exercise or have a bath before a test.
- Stand up for 5 minutes before tests.
- Do not sit down and stand up right before a test.
- Do not have a test while taking diuretic.
- Avoid having a test during period.
- Enter the exact height.
- Keep the room temperature between 20 °C and 25 °C. Warm up yourself for 20 minutes before a test in winter.

Do I have to use electrolyte tissue? Can I just use wet cloth?

The electrolyte tissue provided by the InBody720 is specially designed for optimal testing, as opposed to other wet cloth. Always use the electrolyte tissue for accurate testing.

How do you go about measuring the circumference of the body?

InBody720 uses the partial measurements to determine the distribution of muscles, from which the InBody720 factors in the body shape to map out the distribution of fat. This is how the InBody720 calculates the size and circumferences of each part of the body.

How reliable is WHR value?

The WHR value obtained from body composition analysis using InBody720 has the correlation rate of 0.9 in comparison with the real value. The correlation rate is a little bit lower than that of other values, but the WHR value saves the user from measuring the circumferences of each body part with tape measures and has a higher rate of usability in the system. WHR is one of the values that only InBody720 provides as impedance equipment and that are not found elsewhere.

4. Contact Information

Biospace operates a network of contacts and distributors all over the world with the head office in Korea and local offices in the US, Europe and Japan.

Biospace Co., Ltd. [KOREA]

10th Floor, Poonglim Bldg., 823 Yeoksam 1-dong, Gangnam-gu,
Seoul 135-784 KOREA
TEL : 82-2-501-3939
FAX : 82-2-501-3978
Homepage : <http://www.biospace.co.kr>
E-mail : biospace@biospace.co.kr

Biospce Inc. [U.S.A]

8820 Wilshire Blvd. Suite 310 Beverly Hills, CA 90211 U.S.A
TEL : 1-310-358-0360
FAX : 1-310-358-0370
Homepage : <http://www.biospaceamerica.com>
E-mail : USA@biospaceamerica.com

Biospce Europe [EU]

Louise-schroeder-Ring 73, 25436 Tornesch GERMANY
TEL : 49-4122-961297
FAX : 49-4122-961257
Homepage : <http://biospace-europe.de>
E-mail : info@biospace-europe.de

Biospace Japan Inc. [JAPAN]

Second Floor Ayabe Bldg., 2-17-3 Sotokanda, Chiyoda-ku, Tokyo JAPAN
TEL : 81-3-5298-7667
FAX : 81-3-5298-7668
Homepage : <http://www.biospace.co.jp>
E-mail : biospace@biospace.co.jp

DaniSMC Co., Ltd. [ASIA]

4th Floor ICM Bldg., 34-20 Jamwon-dong, Seocho-gu,
Seoul 137-904 KOREA
TEL : 82-2-3462-5400
FAX : 82-2-3462-5105
E-mail : daniismc@daniismc.com

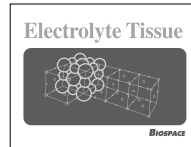
1. Supplies

The following diagram and specifications describe the properly functioning electrolyte tissue. If you find any abnormality or defects with the tissue, stop using it and contact the Biospace head office or one of the distributors to get it replaced with the normal tissues.

A. Electrolyte tissue

The specifications of electrolyte tissue are:

Expiration date	The date on the box
Packing Material	PET+AL+PE
Packing Size	100mm x 75mm
Tissue Size	205mm x 185mm
Quantity	300 packs per box
Manufacturer	Biospace Co., Ltd.



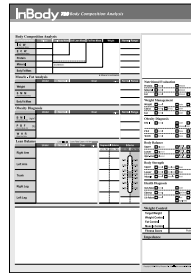
This electrolyte tissue is disposable. Do not reuse it as it may yield infection.



This electrolyte tissue has a disinfecting effect.

B. Results sheet

Results Sheet size	A4(210mmX297mm)
Number of Sheets	1,000sheets/1box
Printed Condition	4colors
Manufacturer for	Biospace Co., Ltd.



C. Fuse

Fuse holder is located inside the fuse socket, which is at the bottom of the back of the InBody720.

Type	Fast-Acting
Rated current	2.5A
Rated voltage	250V



Turn off the equipment, when changing fuses.

D. Li Battery

Type	CR2032 (3V)
Manufacturer	Hitachi Maxell Ltd., Sony Fukushima Corp.

The battery can last for a long time, therefore, there is no need to be worried about replacing it. However, just in case, when it needs replacing, call Biospace A/S Center or distributor.



Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by our distributor. Dispose of used batteries according to the manufacturer's instructions.

2. Basic Equipment

InBody720 provides custom-made printers and printer desks as basic option equipment and devices. If you want to use a different printer for InBody720, consult with the Biospace at head office first.

A. Printer

Printer to be used with InBody720 must satisfy the IEC 60950 (EN 60950) standard requirements. For installation and how to use a printer, refer to the user's manual of the printer provided by a printer manufacturer.

Compatibility

Chipset

HP compatible Deskjet 920C/5550/3820



Only the printers that have one of the chipsets listed in the above table or support PCL3 or higher are compatible with the InBody720. Use the printers recommended by the Biospace.

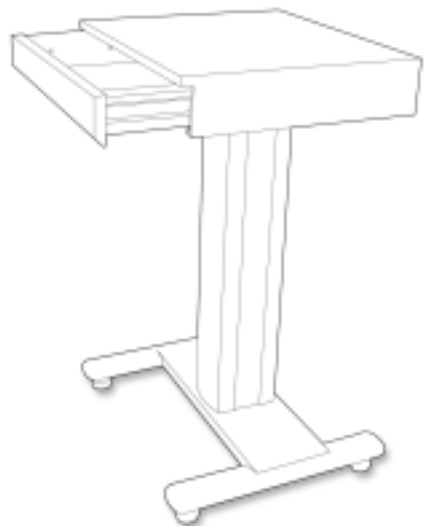
B. Printer desk

The printer desk makes for the optimal printing environment, with drawers where you can put results sheets, convenience and the minimized vibration during printing. The exterior and specifications of the printer desks are:

Material: E.G.I.

Dimensions: 480 x 400 x 710 (W x L x H; mm)

Weight: 13kg



For the instructions as to assembling the printer desk, refer to the product assembly guide printed on its carton.

3. Optional Devices

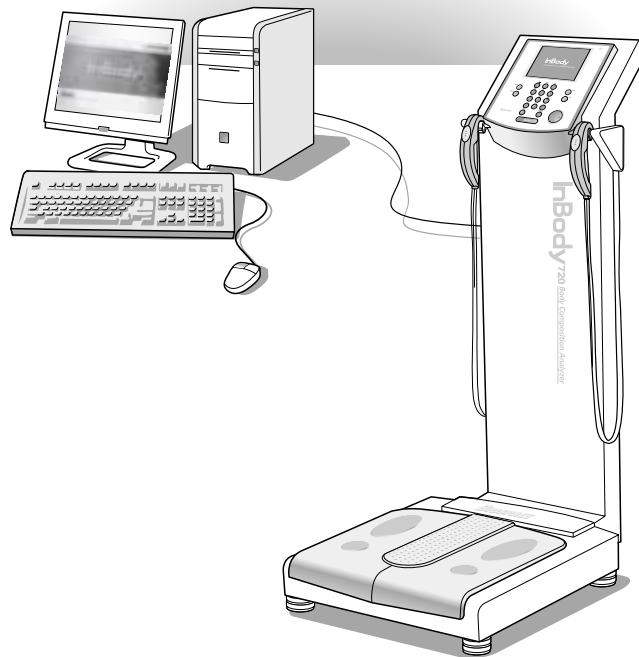
Biospace provides optional devices that allow you to maximize the value of the InBody720 and make the operation of the InBody720 more efficient. For more information on optional devices, contact the head office or the distributors of Biospace.

A. Lookin' Body 2.0

Data management system for body composition analysis

The Lookin' Body 2.0 stores the test results generated by the InBody720 and manipulate the body composition analysis data in the way it is compatible with other applications. In addition, the Lookin' Body 2.0 keeps track of the test history of the patients as well as illustrating the test results by period and category using a wealth of visual aids and explanation. The Lookin' Body 2.0 will help you provide more valuable consultation to your clients.

System requirements for installation or use of the Lookin' Body are:



- . Operating system : Microsoft Windows 98 or higher
- . CPU : IBM-PC compatible computer with Intel Pentium II 350MHz or higher
- . Hard disk : 200MB of available hard-disk space
- . Memory (RAM) : 128MB or more recommended
- . Graphic cards and monitor: Screen resolution 800x600, color depth 16 bit or higher
- . Input devices : Keyboard and mouse
- . Communication : Serial port (RS-232C)

1. About InBody720

A. Principles of Bioelectrical Impedance Analysis (BIA)

Bioelectrical Impedance Analysis (BIA) is based on the fact that organs and tissues of human body work as semi-conductor or a non-conductor electronically. In general, 50~60% of human body is comprised of water, which functions as a conductor.

The traditional holistic-BIA method assumes that human body is one cylinder and then assesses the impedance of the body as shown in the following figure.

When the area is A and the length is L for a cylinder, we can use the following formula to find the impedance of the cylinder.

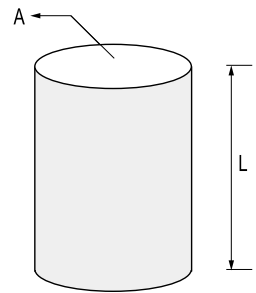
$$Z = \rho \frac{L}{A}$$

(ρ = resistivity, value of unique resistance of a particular type of material)

Multiple the length (L) to each side and simplify the formula as shown below.

$$V = \rho \frac{L^2}{Z}$$

According to the above formula, we can find the volume of the cylinder once we know the length and impedance of the cylinder. In other words, we can calculate the volume of body water using the height and the impedance of human body, which is a conductor.



B. Core technology

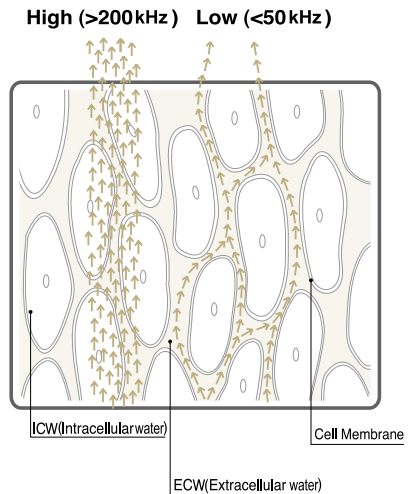
The body composition analyzer InBody720 is precision clinical diagnostic tool featuring the world-leading technology of Biospace. The advanced technology used in the InBody720 is recognized both in Korea and abroad, as Biospace obtained CE for exports to Europe and signed a technology royalty agreement with Yamato of Japan. The key features of the InBody720 built on the advanced technologies patented both in Korea and abroad.

Multi-frequency Measurement

The traditional body fat measurement tools using the impedance uses one, single frequency at 50kHz to determine the impedance of the human body. On the other hand, the precision body composition analyzer InBody720 emits multitude of frequencies including 1kHz, 5kHz, 50kHz, 250kHz, 500kHz, 1MHz, using the multi-frequency technology that is a way more advanced than the single-frequency technology. The multi-frequency technology separates the intracellular water from the extracellular water, minimizing the probability of errors caused by individual variations in the distribution of the body water or changes

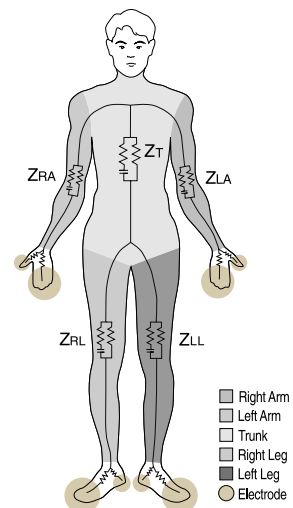
of it over the period. The InBody720 can be reliably used on the patient suffering from diseases and is capable of diagnosing diseases such as edema.

The frequency of 5kHz, 50kHz and 250kHz are used to measure the resistance and reactance, components of body impedance, enabling it to measure the body water accurately. This technology, exclusive to Biospace, overcomes the limitations with the body composition analysis.



Tetrapolar 8-Point Tactile Electrode

The traditional way was to attach a tape such as ECG electrode to the skin and connect the tape to the impedance reader. The biggest problem with this methodology is a low level of accuracy, because the measurements vary with the locations of electrodes and how firmly the electrodes are attached. The body composition analysis InBody720 uses 8-point tactile electrodes method that is easy to implement and is known to maintain consistency regardless of variations in the test environment. The patented technology in the InBody720 takes the accuracy of body composition analysis.



C. Categories in body composition analysis

Intracellular Water (ℓ)
Extracellular Water (ℓ)
Total Body Water (ℓ)
Protein Mass (kg)
Mineral Mass (estimated value, kg)
Body Fat Mass (kg)
Soft Lean Mass (kg)
Fat Free Mass (kg)
Weight (kg)
Skeletal Muscle Mass (kg)
Percent Body Fat (%)
WHR (Waist-Hip Ratio)
Lean Balance(kg)
EDEMA
Body Cell Mass (kg)
Bone Mineral (kg)
Arm Muscle Circumference (cm)
BMI (kg/m²)
VFA (Visceral Fat Area, cm²)
BMR (Basal Metabolic Rate, kcal)
Weight Control (kg) - Target Weight
 - Weight Control
 - Fat Control
 - Muscle Control

Fitness Score
Segmental Impedance values (Ω)
History of test results

2. Classifications

- Type of protection against electric shock : Class I
- Type of the applied parts : BF Type
- Degree of protection against water infiltration : IPXO
- EMC Immunity : Level A
- EMC Emission : Level A
- Equipment not suitable for use in the presence of flammable mixture

3. Product Specifications

Electrode Method	Tetrapolar 8-Point Tactile Electrode System
Frequency	1kHz, 5kHz, 50kHz, 250kHz, 500kHz, 1000kHz(1MHz)
Measurement Items	Resistance(R), Reactance(Xc), Phase Angle(φ)
Measurement Sites	Right Arm, Left Arm, Trunk, Right Leg, Left Leg
Outputs	Intracellular Water (ICW) Extracellular Water (ECW) Total Body Water (TBW) Skeletal Muscle Mass (SMM) Body Fat Mass(FAT) Edema Visceral Fat Area(VFA) Lean Balance
Applied Rating Current	100 μ A(1kHz), 500 μ A(others)
Power Consumption	60VA
Power Source	100-240V~, 50/60Hz
Display Type	640 X 480 Color TFT LCD
External Interface	RS-232C 3EA, USB(Ver. 1.1) 2EA, Ethernet(10/100 Base-T) 1EA
Printer Interface	IEEE1284 (25pin parallel)
Compatible Printer	Laser/Inkjet Printer (HP, Canon, Epson)
Dimensions	520(W) X 870(L) X 1200(H) : mm
Machine Weight	45kg
Measurement Duration	Less than 2 minutes
Operation Environment	10 ~ 40 °C(50 ~ 104 °F), 30 ~ 80% RH
Storage Environment	0 ~ 40 °C(32 ~ 104 °F), 30 ~ 80% RH
Optimum Pressure	500 ~ 1060hPa
Weight Range	10 ~ 250kg(22 ~ 551lbs)
Age Range	6 ~ 99years
Height Range	110 ~ 220cm(43.3 ~ 86.6in)

* These specifications are subject to change without prior notice.

4. Approved and Pending Patents

A. International patents

- 1998. 02** Apparatus and method for analyzing body composition based on bioelectrical impedance analysis
Registration number: U.S. 5,720,296 (The United States of America)
- 2000. 08** Apparatus and method for analyzing body composition using a new electrode system based on bioelectrical impedance analysis
Registration number: C.N. 2,225,184 (Canada)
- 2001. 07** Apparatus for analyzing body composition based on bioelectrical impedance analysis and method thereof
Registration number: U.S. 6,256,532B1 (The United States of America)
- 2002. 03** Apparatus and method for analyzing body composition based on bioelectrical impedance analysis
Registration number: 3,292,373 (Japan)
- 2002. 06** Apparatus for analyzing body composition using novel hand electrodes and method thereof
Registration number: US 6,400,983B1 (the United States of America)
- 2002. 09** Apparatus and method for analyzing body composition using a new electrode system based on bioelectrical impedance analysis
Registration number: EP 0,835,074
(Europe: Germany, France, UK and Italy)

LIMITED WARRANTIES

Product :
Serial Number :
Purchase Date :
Institute Name :

Biospace Co., Ltd.

10th Floor, Poonglim Bldg., 823 Yeoksam 1-dong, Gangnam-gu,

Seoul 135-784 KOREA

TEL : 82-2-501-3939 FAX : 82-2-501-3978

Homepage : <http://www.biospace.co.kr>

E-mail : biospace@biospace.co.kr

1. Biospace guarantees that the product has been approved after strict testing under severe and harsh conditions.
2. The free one full year warranty period begins on the day of purchase.
3. During the one - year warranty period, Biospace will remedy any original defect in material or workmanship at no cost to the purchaser.
4. The following defects or malfunctions will not be covered under the one year warranty :
 - Any defect caused by fault of the user such as physical damage to the product.
 - Any defect or damage caused by not carefully following the instructions described in the users manual.
 - Any defect or damage caused by natural disasters (storm, flood, earthquake, etc.)
 - Any defect or damage caused by disassembly of InBody720 components or by modifying internal parts or program in any way by persons other than Biospace authorized technicians.
5. After the initial warranty period, an extended warranty may be obtained by executing an extended warranty contract.
6. Once the product is opened it cannot be returned. The proof of purchase must be available before requesting service through Biospace.
7. Please refer any servicing needs to qualified Biospace technicians at the agent or distributor nearest to you.

Health Care & Human Care
www.biospace.co.kr

BIOSPACE