Thank you for purchasing the InBody720.
Please read this manual carefully and operate with care. Keep for future reference.
Notice
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Introducing the InBody720 - BODY COMPOSITION ANALYZER

The human body consists of body water, protein, body fat and minerals. 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 minerals make 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
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How to use this manual

The User’s Manual explains the functions of the InBody720. Follow the instructions below for effective use of this manual.

1. Please read this manual thoroughly before you use InBody720 and use it with proper operation.

2. Take a few moments to look at the pictures of instruction of this product to understand the configuration.

3. If you have clinical issues while using the InBody720, please contact us using the E-mail address as shown below.
   E-mail: biospace@inbody.com

4. Read symbols of warning, precautions and note carefully. The followings are the visual representations of these symbols.

![WARNING](image1)  
The important information to warn you of situations which might cause major injury and/or damage to property if instructions are not carefully followed.

![CAUTION](image2)  
The important information to warn you of situations which might cause minor injury and/or damage to property if instructions are not carefully followed.

![NOTE](image3)  
The important and helpful information for operation.
Safety Information

1. Do not use this equipment in combination with the following electronic medical devices.
   - Medical devices, such as a pacemaker
   - Electronic life support systems, such as an artificial heart/lung
   - Portable electronic medical devices, such as an electrocardiograph.

2. This product should always be placed on the ground and plugged into a secure electrical outlet.

3. Physically disabled persons or children should not attempt to take measurements alone, but instead should get help by having manager or guardian hold them from the side or the back not to slip or to measure incorrectly.

4. Do not insert and remove the power cord with wet hands.

5. Do not jump or shock on the foot plate, these may cause an incorrect measurement or malfunction.

6. To prevent fire or breakdown, please use a socket connected to appropriate power supply(100-240VAC). If the socket has several terminals, a socket or extension cable with enough electric capacity should be used.

7. To avoid electric shock, be sure to avoid contact between this product and other devices.

8. Use caution when raising or folding the stand body of the equipment to avoid injury. When the body stand is raised, do not touch the joint part by hand or with any other part of the body. There is a danger of such hand or part of the body getting jammed in between the joints.

9. Do not dismantle the equipment or open the back cover. Internal parts are not for customer use. If the equipment is dismantled, the warranty is void, and service costs will be charged. If service is required, contact Biospace or the supplying agency.

10. Follow local governing ordinances and recycling plans regarding the disposal or recycling of device components.

11. This device should not be used on pregnant women. Besides providing readings that may be inaccurate, the effect on the fetus is unknown.
1. **Cross Contamination**

Individuals with any kind of contagious disease or infection must not use or come in contact with the equipment. Please be sure to clean the equipment with appropriate disinfectant after each use. Never pour any liquid directly on the equipment, as it may leak and cause internal damage. Use a soft cloth and appropriate ethyl alcohol to wipe off the equipment. Do not wipe the equipment with strong chemicals.

2. **Test result’s interpretation and prescription**

Do not start weight control or exercise therapy without physician’s prescription or an expert’s advice. Misguided self-diagnosis may harm your health. If you are pregnant, please consult with undertaking physician or an expert before use.

3. **Other equipments**

Please block electromagnetic interferences from other equipments. It may lead to inaccurate test result or error.

4. This product must be installed on a flat and no vibrated floor. If the floor is not even, it will affect a risk of stumbling when making measurements and cause incorrect measurement.

5. 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.

6. Do not move your body during measurement for accurate test result.

7. The arm consists of a hand electrode. Do not force the arm. The resulting damage may affect the functioning of the internal cable and circuit board.

8. Be careful not to hurt your fingers on the edge of the base frame when handling the screws.
1. Wrong installation contrary to this manual’s guidelines can cause error or inaccurate test result. Also other equipment’s interference can be a cause. To solve the interference problem, you should
- Separate power supply from the equipments that cause interference.
- Move the equipment far.
- Use power supply different from the one for the equipment.
- Please contact Biospace if the problem continues.

2. Excessively high or low temperatures, humidity and pressure might affect on the equipment's operation and cause an error. Please use the equipment within the suggested specification range for equipment’s use.

3. 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 box when moving or transporting this product.

4. Use this equipment only for the purpose of body composition analysis.

5. Repair and examination should be conducted only by Biospace’s professional A/S staff. Please contact Biospace if needed.

6. The InBody720 fulfills the Standards of IEC60601-1(EN60601-1), Safety of Electric Medical Equipment. In addition, the InBody720 complies not only with 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.

7. The InBody720 has been designed, manufactured, and inspected under the full quality assurance system of Biospace. Biospace fulfills the international standardization system, ISO 90001 and ISO 13485 and the InBody720 has achieved FDA approval (Food and Drug Administration).
Indicators & Safety Symbols

A. Indication

- **2005** 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](image.png)
- ![Danger/Warning/Caution/Note (refer to the safety information)](image.png)
- ![Fuse specification](image.png)
- ![Equipotential terminal](image.png)
- ![BF type equipment](image.png)
- ![Alternating Current](image.png)
- ![Turn on the power](image.png)
- ![Turn off the power](image.png)
Disposal of old Electrical & Electronic Equipment

(Application in the European Union and other European countries with separate collection system.)

This symbol indicates that this product shall not be treated as household waste. Instead, it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling this product, please refer to local governing ordinances and recycling plans.

For 120V input power, use only UL Listed detachable power cord with NEMA configuration 5-15P type, hospital grade plug (parallel blades).
For 240V input power, use only UL Listed detachable power cord with NEMA configuration 6-15P type, hospital grade plug (Tandem blades).

Follow local government ordinances and recycling instructions regarding disposal or recycling of device components, including batteries.
## Workplace Requirements

### Operation Environment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>5 ~ 35 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>30 ~ 75 %</td>
</tr>
<tr>
<td>Atmospheric pressure range</td>
<td>70 ~ 106 kPa</td>
</tr>
</tbody>
</table>

### Transport and Storage Environment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>-20 ~ 70 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>10 ~ 95 % (No condensation)</td>
</tr>
<tr>
<td>Atmospheric pressure range</td>
<td>50 ~ 106 kPa</td>
</tr>
</tbody>
</table>

### Power Source

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>AC 100-240V, 50-60Hz, 60VA</td>
</tr>
</tbody>
</table>
Chapter 1. Installation and Maintenance

1. Contents of the box
2. Exterior and Functions
3. Installation Instructions
4. Transportation
5. Repacking
6. Maintenance
1. Contents of the box

When opening the box, make sure all of the following items are inside.

A. Included Items

① InBody720 unit
② Quick installation guide
③ User’s manual CD
④ Power cord (AC 250V, 10A, 1.8m) 1EA
⑤ Hinge cover + Hexagonal wrench (6mm) 1 each
⑥ Fuse holder 1EA + Fuse (F2.5AH 250V) 2EA + spare fuse 2EA
⑦ Results interpretation guide 1EA
⑧ InBody720 poster 1EA
⑨ Results sheet box (500 Sheets/1EA, 2 Box) (Optional)
⑩ Results interpretation poster 1EA (Optional)

1. USB Cable is to be purchased separately for connecting to the printer.
2. The printer is needed for printing the results sheets. Please check the compatibility of the printer with Biospace.
B. Package

① Packaging box (1250 × 450 × 280; mm, W × L × H) 1 unit
② Upper pad 2 units
③ Support pad 1 unit
④ Head pad 1 unit
⑤ Accessory bag 1 unit
⑥ Elastic band 2 unit

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, Section 4. Transportation”

Keep the wrapping material with you after installation in the event of relocation.
2. Exterior and Functions

Individual part identification and functions with schematic sketches are provided below. Please inspect each component of the InBody720 before installation to ensure there are no scratches or damage.

A. Operation Part
B. Upper Part
C. Lower Part
D. Rear Part
A. Operation Part

1. LCD Monitor (640 X 480 TFT Color LCD)
   This displays the analysis procedure, messages and results.

2. Key Pad (20 buttons)
   The keypad is divisible into input buttons and function buttons.
   These are used to input data required for body composition analysis, to set up the operating environment and to print out test results.

B. Upper Part

1. Hand Electrode Holder
   Place hand electrode here when not in use.

2. Thumb Electrode
   Examinee will place their thumb on this area during testing.

3. Palm Electrode
   The examinee will place their palm and fingers on this part during testing.

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

➊ Front Sole Electrode
The examinee stands on the foot electrode placing their forefoot on here during testing.

➋ Rear Sole Electrode
The examinee places their heels on this foot electrode during testing.

➌ Base Frame (Loadcell)
The loadcell is connected to the base frame where the examinee stands.

➍ 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 in half for easy transportation. A body wrench (6mm) is attached underneath the hinge cover.

➎ Bubble Level Indicator
The leveler is in the middle of the lower part, which is covered by the hinge cover. Check the bubble level to determine whether the equipment is leveled.

➏ Leveling Screw
The equipment has five legs screwed into the base. 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 Biospace technicians are allowed to open the cover.

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, 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.
   - Com 2 port is used for an additional peripheral.
   - Com 3 port is used for an additional peripheral.

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

Do not touch signal input, signal output or other connectors, and the patient simultaneously.

![Diagram showing connections](image_url)
External equipment intended for connection to signal input, signal output or other connectors, shall comply with relevant IEC Standard (e.g., IEC60950 for IT equipment and IEC60601-1 series for medical electrical equipment). In addition, all such combination system shall comply with the standard IEC60601-1 and/or IEC60601-1-1 harmonized national standard or the combination. If in doubt, contact qualified technician or your local representative. Important information to warn you of situations which might cause major injury and/or damage to property if instructions are not carefully followed.

Only the peripherals provide 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.

   Use only the power cord provided by Biospace to connect to the power port.

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 Instructions

A. Workplace requirements

(1) Location: Indoor only. Any outdoor area where the equipment is to be located should meet all the conditions below.
(2) Operation environment: 41 ~ 95°F (5 ~ 35 ℃), 30 ~ 75% RH
(3) Optimum pressure: 70 ~ 106kPa

B. Note on Unpacking & Assembling

(1) Remove the pads
   ➊ Unpack the carton and remove the元左右 upper pads.
   ➋ Lift the stand portion of the equipment while pulling the base forward at the same time.
(2) Place the equipment

➊ Tighten the screws connecting upper and lower part with a hexagonal wrench. The hexagonal wrench is located underneath the hinge cover.

➋ Hold the upper part and center of lower part with two people and take the equipment out of the carton. Place the equipment at desired area and tighten the 2 screws connecting upper and lower parts with a hexagonal wrench.
(3) Balance the InBody720

The bubble level indicator is located at the center of connecting part and leveling screws under the lower part. Check the bubble level indicator. You may adjust 5 leveling screws under the lower part to level the equipment.

(4) Close the hinge cover

1. Attach the hexagonal wrench back underneath of hinge cover.

2. Close the hinge cover.

3. Lift up the rear part and remove the elastic bands pulling the hand electrode cables.
(5) Insert the fuse and connect the power

1. Insert the fuse holder which contains the rated fuses into the fuse socket.

2. Connect the power cable into the power socket.

Put the spare fuses in a small plastic bag and attach it to the back of the equipment with tape. When the fuse is broken, you can easily replace it with the spare fuse.
4. Transportation

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

(1) Turn the power off and remove plug from 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 hexagonal wrench.

A. Environmental Requirements

(1) Optimum Temperature: 20℃~70℃

(2) Relative Humidity: 10%~95% (No condensation)

(3) Optimum Pressure: 50kPa~106kPa

B. Transporting 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 hold both sides for safe transportation.

C. Transporting 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, repack the equipment with the box and wrapping material the equipment came in, to keep the equipment from being damaged during transportation.

⚠️ CAUTION

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

⚠️ CAUTION

Be careful with fragile freight. The package has fragile operation parts including LCD, which has the sign on the box.

⚠️ CAUTION

After relocating the InBody720, make sure it is level again. Inaccurate leveling will affect accuracy of individual weight measurements.
5. Repacking

Be sure to turn off the power switch and unplug the power cable before repacking. Be careful not to damage foot and hand electrodes while repacking.

1. Turn off the power and remove the power cable.

2. Use elastic bands to hold hand electrode cables. Lift up the rear end slightly, hook the elastic band to the rear level screw, pass it through the cable and hook it again to the rear level screw.

3. Place the support pad on the bottom of the box and place the InBody720 on top of the support pad.

4. Place the head pad in the box as shown.

5. Open the hinge cover and loosen the 4 screws.

6. Fold down the stand portion of the InBody720 to lay on the head pad.

7. Insert the accessory bag in the box.

8. Put upper pads on the top.

9. Close the box and seal it with tape.
6. Maintenance

(1) Do not pull the 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) Unplug, 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 liquid or food on the equipment. Substances leaking into the equipment will cause critical damage to the equipment.

(7) Gently wipe the case of the equipment with a damp cloth once every week. Be careful not to scratch the LCD monitor while cleaning.

(8) To discard packaging material of InBody720, follow the garbage disposal regulations on packaging materials.
Chapter 2. Management & Results Description

1. Cautions Before Measurement
2. Exterior and Function of Keypad
3. Power Connection & Getting Started
4. Home Screen
5. How to Operate the Equipment
6. Results
1. Cautions Before Measurement

To observe changes of the human body through body composition analysis, it is crucial to perform the analysis each time under the same conditions, temperature, posture, etc. Bear in mind, the following factors affect the result of body composition analysis, and as a result, affect the reproducibility of analysis.

(1) Do not exercise or perform any physical tasks. If examinee has already been physically active or experienced any sudden body movements, a temporary change in body composition will result.

(2) Do not eat before measurement. If the examinee already ate something, please wait 2 hours for digestion.

(3) Do not take a bath or shower before measurement. Perspiring (sweating) results in a temporary change in body composition.

(4) Perform the measurement under normal temperature conditions (20~25℃, 68~77℉).

   If the ambient temperature is too high or too low, the human body responds, resulting in temporary changes in body composition.

(5) Perform the measurement after urination or excretion, if possible. Residues inside the human body are interpreted as fat mass. Waste in the body means the analysis will be less accurate.

(6) Measurement should be done before mid-day. The longer we stand, the more body water flows downward and this process speeds up in the afternoon.
2. Exterior and Function of Keypad

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

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 examinee.

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 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 examinee tested. You can print multiple copies of the results sheet, until a next examinee steps onto the equipment to have his/her personal data entered and the test results of the previous examinee 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 & Getting Started

(1) Plug the power cable to the outlet.

(2) Once power is turned on, 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.

![Image of boot-up process]

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.

**NOTE**

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.

**CAUTION**
(4) When warming up is done, the home screen will appear. From this screen the user can measure his/her weight. When you press the Exit Button from the below screen, the home screen will appear.
4. Home Screen

The home screen of the InBody720 provides variety of the functions for examinee and the user’s convenience. The configuration of home screen is categorized into three groups by function.

A. Weight Measurement Mode
This is only for measuring weight. Do not move while the measurement is being done. If you press button 1, weight measurement screen will show up.

B. Body Composition Measurement Mode
This is for measuring body composition. After measuring weight, body composition measurement screen will be shown.

C. Clothes weight setting
This is for setting the clothes weight using arrow-shaped buttons (▲▼). The range of clothes weight can be set from 0.0 to 5.0kg. Once the clothes weight is set, the value will be applied in Weight Measurement Mode and Body Composition Measurement Mode as shown below.

NOTE
When power turns 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. How to Operate the Equipment

A. Weight Measurement Mode

This is only for measuring weight. Do not move while the measurement is being done.
B. Body Composition Measurement Mode

This procedure has two steps. One is weight measurement and the other is body composition measurement. The procedure begins with the weight measurement screen, which is the initial environment settings of the InBody720, when it is factory-released. The InBody720 goes back to the weight measurement screen, as the examinee 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 actual weight as possible, take off all accessories before testing.

(3) Both heel and the ball of your feet should touch the foot electrode. Step on the stand 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 weight value is stabilized, InBody720 displays the examinee’s weight. The weight is recorded at the personal information window-as shown on the picture above.
The body composition measurement screen is categorized into four groups by function.

1. **Personal Information Window**
   This area is where the personal information of the examinee including I.D., age, height, and gender will be entered. Start entering the examinee 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.

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

3. **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.

4. **Status Window**
   The status window shows the listing of peripherals registered in the InBody720. The user can modify the user environment easily. The changeable items are weight adjustment, results sheet selection and mode.

   When power turns 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) After measuring weight in the Body Composition Measurement Mode, insert basic personal information. Age, height, gender and weight 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.

1. I.D. (permissible range of input: 20 characters)
   Use the numeric buttons to enter data. Each time the button is pressed, numbers or alphabets are displayed in the sequence shown on the keypad.

2. Age (permissible range of input: 3 years ~ 99 years)
   Use the numeric buttons to enter data. For the examinee 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).

3. Height (permissible range of input: 95 cm ~ 220 cm.)
   Use numeric buttons to enter height. Height can have one digit under the decimal point. Measure the height of the examinee before conducting body composition analysis using the InBody720.

4. Gender
   Press the button of the gender for the examinee. For men, press the “male” button and for female, press the “female” button.

5. Weight
   When the examinee steps on the InBody720, the equipment weighs the examinee immediately and the value for weight is automatically recorded into the weight of the personal information window. To deduct the weight of clothes, go to the “Chapter 2, Section 4. Home Screen.”

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 home screen 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 examinee.

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

If the examinee doesn’t take the right position, hold the hand electrode or step on the foot electrode properly or if the examinee’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 examinee’s palm or feet with the electrolyte tissues that come with the InBody720 and put the examinee back on the testing stand.

If 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 “Chapter 2, Section 5. Personal Profile” for the permissible range of each data.

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

1. How to hold hand electrodes

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

![Image of hand electrodes holding method]

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

2. How to stand on foot electrodes

(1) Step on the foot electrode with bare feet.
(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.

![Image of foot electrodes standing method]

Do not have the hems of pants get in between the heels and electrode. As for the examinee who has too small feet to cover the both electrodes, they should be able to touch at least part of both electrodes.
If the examinee’s feet or hands are too dry, or has dead, hard skin built up, InBody720 may prompt the user to re-test the examinee. In this case, wet the palms and soles with electrolyte tissue that comes with the InBody720 and re-test the examinee.

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.

Body Posture

During the test, the LCD monitors displays information on body composition, allowing the examinee to read the analysis from their stance. When the examinee steps down from the stand, the InBody720 goes back to the home screen.

1. Do not leave the arms by your side. Form an angle of 15 degrees 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 examinee. Testing is impossible with an amputee who has a thumb, an arm or a leg amputated.
(7) During the analysis, the result window on the LCD monitor will display the results of body composition analysis in the order of the test procedure.

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

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

![Image 1]

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

(10) Soon after the examinee steps down from the equipment, the InBody720 prints out the test results sheet and goes back to the home screen. For information, refer to the "Chapter 2, Section 8. Results."

![Image 2]

**Note**
InBody720 is equipped with an archive function, allowing the user to print out the past 10 test results per each examinee.
C. Clothes weight setting Mode

This mode is for setting the clothes weight using arrow-shaped buttons (▲▼). The range of clothes weight is from 0.0 to 5.0kg.

Once the clothes weight is set, the value will be applied in Weight Measurement Mode and Body Composition Measurement Mode as shown below.
6. Results

A. Analysis Result Screen

During the test, information on body composition analysis is displayed on analysis result window on the LCD. As long as the examinee is on the stand, the monitor retains the data of the body composition analysis. Once the examinee steps down, the InBody720 goes back to the home screen and sets itself back to test-ready status.
B. Results sheet for an adult

With a printer connected to the InBody720, the InBody720 can print out the results 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.Consumables.” As for the installation of a printer, consult the User’s manual provided by the printer manufacturer.

(2) Results sheet Form

The results sheet is shown below. It is one of the consumable products provided by Biospace.
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: info@inbody.com TEL: 82-2-501-3939

(1) Individual Information

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

<table>
<thead>
<tr>
<th>I.D.</th>
<th>AGE</th>
<th>HEIGHT</th>
<th>GENDER</th>
<th>DATE/TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>InBody1234</td>
<td>29</td>
<td>183.0cm</td>
<td>Male</td>
<td>2012.01.02 09:00:09(224)</td>
</tr>
</tbody>
</table>

(2) User Information

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

<table>
<thead>
<tr>
<th>I.D.</th>
<th>AGE</th>
<th>HEIGHT</th>
<th>GENDER</th>
<th>DATE/TIME</th>
<th>B. Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>InBody1234</td>
<td>29</td>
<td>183.0cm</td>
<td>Male</td>
<td>2012.01.02 09:00:09(224)</td>
<td>Doctor Lee</td>
</tr>
</tbody>
</table>

(3) Body Composition

Body Composition Analysis The value with the mark ‘NET’ is the direct result of weighting in this sheet.

<table>
<thead>
<tr>
<th>Compartments</th>
<th>Values</th>
<th>Total Body Water</th>
<th>Soft Lean Mass</th>
<th>Fat Free Mass</th>
<th>Weight</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intracellular Water</td>
<td>32.5 ℓ</td>
<td>50.9 ℓ</td>
<td>65.8kg</td>
<td>69.7kg</td>
<td>NET 82.5kg (PT: 0.0kg)</td>
<td>25.6 ~ 31.4</td>
</tr>
<tr>
<td>Extracellular Water</td>
<td>18.4 ℓ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15.8 ~ 19.3</td>
</tr>
<tr>
<td>Protein</td>
<td>14.0 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11.1 ~ 13.5</td>
</tr>
<tr>
<td>Mineral</td>
<td>4.74 kg</td>
<td>Osseous 3.85kg</td>
<td></td>
<td></td>
<td></td>
<td>3.83 ~ 4.69</td>
</tr>
<tr>
<td>Body Fat Mass</td>
<td>12.8 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.9 ~ 17.7</td>
</tr>
</tbody>
</table>

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 subjects 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) Body Composition Analysis

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 Analysis

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

<table>
<thead>
<tr>
<th>BMI (kg/m²)</th>
<th>Classification</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18.5</td>
<td>Underweight</td>
<td>Under</td>
</tr>
<tr>
<td>18.5~24.9</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>25.0~29.9</td>
<td>Overweight</td>
<td>Over</td>
</tr>
<tr>
<td>30.0~34.9</td>
<td>Obese1</td>
<td>Over</td>
</tr>
<tr>
<td>35.0~39.9</td>
<td>Obese2</td>
<td>Over</td>
</tr>
<tr>
<td>≥40</td>
<td>Severely Obese</td>
<td>Over</td>
</tr>
</tbody>
</table>

Ref. WHO and the National Heart, Lung, and Blood Institute : clinical guidelines on the identification, evaluation, and treatment of over weight and obesity in adults, the evidence report. June 1998, xiv

Determination 2) Asian-Pacific Standard

<table>
<thead>
<tr>
<th>BMI (kg/m²)</th>
<th>Classification</th>
<th>Risk of associated disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18.5</td>
<td>Underweight</td>
<td>Low (high risk of other clinical disease)</td>
</tr>
<tr>
<td>18.5~22.9</td>
<td>Normal</td>
<td>Average</td>
</tr>
<tr>
<td>&gt;23</td>
<td>Overweight</td>
<td></td>
</tr>
<tr>
<td>23~24.9</td>
<td>Risky Overweight</td>
<td>Increased</td>
</tr>
<tr>
<td>25.0~29.9</td>
<td>Obese step 1</td>
<td>Moderate</td>
</tr>
<tr>
<td>≥30</td>
<td>Obese step 2</td>
<td>Severe</td>
</tr>
</tbody>
</table>


*For children under the age of 18, children’s standard is used.
② PBF (Percentage of Body Fat, %)
Percent Body Fat indicates the percentage of Body Fat to body weight. The standard Percent Body Fat is 15% for men and 23% for women, while the standard range of Body Fat Mass for men is 10-20% of the standard weight, and 18-28% of the standard weight for women. In the case of children under the age of 18, children’s standard is used.

③ WHR (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

Graphs for segmental lean body mass is presented as three horizontal bars for each segment. Of the three bar graphs, the number next to the first bar ( ) represents the absolute value for lean body mass of an subject 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 subject to his or her height. This does not take the actual weight of the subject into account. The number next to the second bar ( ) represents the ratio of actual lean body mass of the subject 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 subject. The third bar ( ) represents the segmental fatmass (kg). The number in the bracket is the relative percentage based on the standard amount (100%).
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

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 ~ 0.39 and 0.31 ~ 0.34 respectively, which is maintained in a healthy person. Usually, edema score increases when the ECW expands. In case of aging and malnutrition subject, 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) Body Composition History

The result sheet of InBody720 summarizes all the obtained results on the right side. This makes much easier for subjects 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)

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) Body Composition History and InBody Score

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 InBody score will help you achieve your healthy weight control. The InBody Score is an arbitrary score based on the measured muscle and fat mass for the motivation of the subjects.

<table>
<thead>
<tr>
<th>Body Composition History</th>
<th>DATE / TIME</th>
<th>NFT, kg</th>
<th>Weight</th>
<th>SMM</th>
<th>Fat</th>
<th>Score</th>
<th>ECW/IBW</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/12/04 08:34</td>
<td>82.5</td>
<td>36.6</td>
<td>18.0</td>
<td>75</td>
<td>0.375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/01/02 09:00</td>
<td>82.5</td>
<td>40.3</td>
<td>12.8</td>
<td>87</td>
<td>0.363</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(12) Additional Data (6 items)

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.

\[
\text{Obesity Degree} = \left(\frac{\text{actual weight}}{\text{standard weight}}\right) \times 100
\]

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 subject, 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.
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.

AC (Arm Circumference)
It is the circumference of upper arm measured in the middle of the elbow and the shoulder.

AMC (Arm Muscle Circumference)
Arm Muscle Circumference is the muscle circumference of the arm inside the subcutaneous fat. It is measured horizontally around the arm at the mid-point of the between the acromion process and the olecranon process.

Additional Data (6 items)
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.
C. Results sheet for a child

If you choose to print out a report for child at the setup, below result sheet comes out.
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: info@inbody.com TEL: 82-2-501-3939

(1) Individual Information

The subject’s I.D., age, height, weight, 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) Let’s discover what my body is made up of.

This part provides qualitative values of the body composition. Alongside the measured values of each body composition, there is nutrition evaluation from the measured values to help children understand. It would be good to explain what roles proteins, minerals, fattiness play in our body and what problems might occur when these are lacking or too abundant.

① Body Water (kg)

It covers the largest portion among body composition accounting for about 50~70% of body weight. It is distributed in the cells and body fluids. If we look into our body from composition point of view, it is like a systemized sea water bag. Body water is mostly distributed at the cells which compose the muscle tissue and over 70% of water fills healthy person’s muscle while minerals and body fat do very little.
Protein (kg)
Protein is a complex of organic compounds with nitrogen and it indicates the total amount of solid components. Protein has very close relationship with intracellular fluid and the lack of protein means the nutritional imbalance. However this does not mean the protein in food. If there is a severe shortage in protein mass, it can bring symptoms such as loss of nails and toenails, amenorrhea, hair discoloring, muscle atrophy, fatty liver, edema, etc.. Human body consumes body composing proteins when there is shortage in energy provision in body. This is an undesirable energy generation process and if excessive rates of such process continue for a long time of period, it could burden liver, kidney and others. For growing children, protein is an essential component in particular. During a growth period various parts of our body are developed especially skeletal structure and muscle mass. Therefore, it is necessary to have sufficient amount of protein during a growth period since major components of muscle is the protein.

Mineral (kg)
Minerals help the body preserve stand play a core role in the human body. InBody analyzes two large groups of minerals: osseous minerals and nonosseous minerals. Osseous minerals are the minerals found in the bones while non-osseous minerals are those which are found in all other parts of the body. Osseous minerals account for about 80% of the body’s total minerals. The quantity of minerals found in the body is closely related to the muscle mass. As muscle mass increases, the weight of bones also increases. During a growth period when there is a dramatic growth in bones, it is necessary to have good mineral mass to ensure the smooth development of a skeleton structure.

Body Fat (kg)
Fat free mass is the sum of body water, protein and mineral. Thus, InBody uses the following formula to get the amount of body fat mass.

\[
\text{Body Fat Mass} = \text{Body Weight} - \text{Fat Free Mass(FFM)}
\]

The sum of body water, protein mass, mineral mass, and body fat mass, which explained so far constitutes the weight. Body Fat Mass is stored under the skin, as well as between the abdomen and muscles. When an subject’s body fat mass is outside of the standard range, he/she is diagnosed as being obese.
(4) Shall we check if my body is well balanced?

This part shows the measured values of three weight, skeletal muscle mass, and body fat mass, and their relative comparison in figures and in bar graphs. The figures next to the bar graphs indicate the measured values of each composition while the length of the graphs does the percentages against ideal values for each. One hundred percentage of the normal range refers the ideal values of each composition based on subject's ideal weight. Thus it is easy to recognize the balance of body components through the relative lengths of bar graphs against the 100% ideal values.

1 Weight (kg)
100% ideal weight indicates the ideal value for the subject's height. Ideal weight is obtained from BMI ideal weight calculation.

\[
\text{Ideal weight (kg)} = \text{Ideal BMI (kg/m}^2\text{)} \times (\text{height in meters (m)}^2)
\]

Ideal BMI follows young children's BMI by height and gender.

2 Skeletal Muscle Mass (kg)
Muscle in this part refers to the skeletal muscles attached to the bones. 100% ideal skeletal muscle mass indicates the ideal amount of skeletal muscle mass that one should have when the subject has an ideal weight. In particular, as bone development actively progresses during a growth period, it is necessary to have a well-developed skeletal muscle mass to supports smooth growth of bones.

3 Body Fat Mass (kg)
100% ideal body fat mass is the amount of body fat mass one should have when one has an ideal weight. The bar graph shows the percentage of the current body fat mass divided by ideal body fat mass to display the degree of appropriate amount of body fat.

Ideal body fat mass is what one should have when one has an ideal weight.
(5) Is my body growing well?

In the body model, we look at how the shape of square is and where the each vertex falls in. The shape of square allows the evaluation of an individual body parts such as upper and lower balance, and left and right balance. Also using the range in which each vertex belongs, we can see the muscle development in limbs.

(6) My height and weight compared to my friends.

This part is to check a subject’s developmental status through a percentile graph that enlarges a growth curve according to his/her age and gender. Percentile is a score that shows one’s relative position in the distribution of the group to which he/she belongs. The 50th percentile (50%) indicates a mean value, and if it is closer to the 50th percentile, it means one’s growth is at a rate close to the middle. However, there is no need for worry if one falls between the 10th percentile (10%) and the 90th percentile (90%), rather than the 50th percentile. But if one is lower than the 10th percentile (10%) or higher than the 90th percentile (90%), careful attention is required for the child’s growth.

(7) Evaluation of my body

<table>
<thead>
<tr>
<th>Evaluation of my body</th>
<th>Weight</th>
<th>BMI Body Mass Index</th>
<th>PBF Percentage Body Fat</th>
<th>OB Obesity Degree</th>
<th>BMR Basal Metabolic Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal to my body composition</td>
<td>45.1 kg</td>
<td>22.0 kg/m²</td>
<td>37.6 %</td>
<td>110 %</td>
<td>1047 Kcal</td>
</tr>
<tr>
<td>You need to change</td>
<td>- 5.1 kg</td>
<td>PBF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You need to change</td>
<td>+ 4.3 kg</td>
<td>OB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You need to change</td>
<td>- 9.4 kg</td>
<td>BMR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

① Weight Control

For growing children, it is not a good idea to blindly lose weight to achieve an ideal weight. It would be advisable to maintain ideal body components while monitoring muscle mass and the amount of body fat.
**2. BMI**

The ideal BMI for children below 18 years old differ from each other by height and gender. The standard BMI range is within ±3 of ideal BMI.

<table>
<thead>
<tr>
<th>&lt;Ideal BMI-3</th>
<th>Under</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal BMI - 3 ≤ ~ Ideal BMI + 3</td>
<td>Normal</td>
</tr>
<tr>
<td>Ideal BMI + 3 ≤ ~ Ideal BMI + 6</td>
<td>Over</td>
</tr>
<tr>
<td>Ideal BMI + 6 ≤</td>
<td>Very over</td>
</tr>
</tbody>
</table>

**3. Percentage Body Fat**

Children below 18 years of age have different ideal body fat rates depending on their gender and weight. The standard range is within ±5% of ideal body fat rates. Slight overweight refers to a stage with a risk of overweight and is when one has larger than or same as +5% of an ideal body fat rates and smaller than +10% of an ideal body fat rates. Overweight is when body fat rate is larger than or equal to +10% of an ideal body fat rate.

**4. Obesity Degree(%)**

\[
\text{Obesity Degree(\%)} = \left(\frac{\text{current weight}}{\text{standard weight by height}}\right) \times 100
\]

Obesity index Degree is an index that determines obesity without considering individual body composition. The standard range stretches from above 90% and below 110%. Above 110% and below 130% is overweight and above 130% indicates obesity.

**5. Basal Metabolic Rates (BMR)**

Basal Metabolic Rate (BMR) is a value obtained by substituting the fat free mass of current test subject to a formula. The standard range stretches from above 90% and below 110%. Less than 90% indicates below standard and more than 110% is regarded as above the standard BMR. Ideal BMR is a value obtained by substituting the ideal fat free mass of a test subject to a formula.

**8. What's my growth score?**

Growth score is a unique score of InBody that shows test results in recognizable scores so as to help understand the growth stage of children by taking into account physique and body components. It considers not only children’s body composition but also obesity index degree, and physique such as height and weight.
Chapter 3. Setup Establishment

1. Setup
2. DATABASE
3. Modification Example
1. Setup

The InBody720 has a function to modify the setting for the user’s preference. The below setup screen appears after pressing the ‘SETUP’ key at the Home screen. The setup menu consists of Environment, Region, Printer, Result Sheet, Result Option, Others and Interface.

How to modify settings

1. Use the direction buttons (▲▼) to move and select one option of Environment, Region, Printer, Result Sheet, Result Option, Others and Interface.

2. Use the direction button (▶) at a particular setting to move to the sub-categories. Use the direction buttons (▲▼) to move into a sub-category of the setting you want to modify.

3. Each sub-category has a list of further sub-categories. Previously selected items will be displayed. Use the direction button (▶) to move to the category you want to select and modify using the direction buttons (▲▼).

4. If you have more categories to select, use the direction buttons (▲▼◀▶) again to move and select the category. If you are finished modifying the settings, move out to one of Environment, Region, Printer, Result Sheet, Result Option, Others and Interface using ‘EXIT/MODE’ button. Then press ‘Exit/MODE’ button again.

5. When the screen asks whether or not you want to save modified contents, press ‘ENTER’ to save the changes, or ‘EXIT/MODE’ to exit without saving.
A. Environment

It shows the environmental status of the InBody720. No items can be changed by users.

(1) Environment Summary

① Language : displays the current language.
② Result Sheet : displays the number of results sheet automatically printed after measurement.
③ BMI Basis : displays a selected standard range of BMI.
④ Measure Weight : displays the current selection of weight measurement.

(2) Memory Status

① Program : shows capacity in use for program.
② Data : shows capacity in use for data storage.
③ Virtual : shows capacity in use for virtual memory.

(3) Version Information :

Shows the current version of the InBody720.

B. Region

Set the Date, Time, Display Mode, Unit and Language.

(1) Set Date : Set the current date.
(2) Set Time : Set the current time in the order of 'hour'/ 'min'/'sec
(3) Display Mode : Select the data display mode. ‘yy’ is for year, ‘mm’ is for month and ‘dd’ is for date.
(4) Unit : Select units to be used.
(5) Language : Select the language to be used.
(6) Ethnic Background: Select the ethnic background of the subject.
C. Printer

It is used to set the type of printer, adjust the printing alignment of result sheets and test print.

(1) Printer

Select the type of printer. Printers that support PCL3 above or higher are compatible with the InBody720.
(Samsung PCL Printer, SPL Compatible Printer, HP PCL Printer, SPL 2009 Printer)

(2) Alignment

It is possible to adjust the coordinates on the results sheet. After adjustment, you can check whether the alignment was done properly with a “test print”. The adjustment range: X (left, right), Y (upper, lower) +50~50

(3) Test Print

You can check the printing coordinates by printing out a sample.

D. Result Sheet

(1) Mode

Select the type of results sheet.

① Printed : to use printed results sheet provided by Biospace.

② Built-in : to use Letter size. All formatting of the results sheet will be printed out.

(2) Number of Result Sheet Printing

You can decide the numbers of results sheet automatically printed after measurement. (0~2 sheets)

(3) Result Sheet

Select the basic result sheet to be printed out

① Default : InBody720 report is printed out.

② For Child: In case of adult, the standard InBody720 report(default set result) is printed out and for child children’s report comes out. The age to distinguish between adult and children can be set up by choosing the number next to ‘For Child’. For instance, if you set up For Child (18), anyone less than 18 years old will have a report for a child, while those who are older than 18 years old will have an InBody720 report.
E. Result Option

Select the standard range for BMI and results sheet printing mode.

(1) BMI Standard
   ➊ WHO Standard: The standard range is 18.5~25.0kg/m².
   ➋ Asian: The standard range is 18.5~23kg/m².

(2) Weight Control
   ➊ Enable: Print out provision of weight control.
   ➋ Disable: No print out provision of weight control.

(3) Comprehensive Check
   ➊ Enable: Print out Comprehensive Check
   ➋ Disable: No print out Comprehensive Check

(4) Mode
   ➊ Medical Purpose: The measurement duration is approximately 1 minute, which is relatively short. Reactance value is not printed out.
   ➋ Research Purpose: The measurement duration is approximately 2 minutes. Reactance value is printed out.

(5) Growth Chart Option
   ➊ WHO Basis: A type of a growth chart shown in a result sheet for child. It is a growth curve based on WHO.

F. Others

(1) Measure Weight
   ➊ Gravity Mode: Weight is automatically measured and added to the personal information window.

(2) Adjust Weight
   This function is not in use

(3) Adjust Volume
   Used to control sound volume.(0~100%)
(4) Sound Type
Beep : Use Beep sound to inform measurement status.

(5) Initialize History
Used to erase the entire data history.

(6) Gender Default
Select the Gender automatically added to the personal information window. (Female, Male, Last Gender)

G. Interface

(1) Manual
DNS, Netmask, Gateway, IP, Host IP : Connect in the same way as connect general PC to the network.

(2) Lookin’Body (PC)
   ① Ethernet Enable : to connect the InBody720 and PC by LAN cable.
   ② Serial Enable : to connect the InBody720 and PC by Serial cable.
   ③ Disable : Not use Lookin’Body.

(3) Stadiometer
   ① BSM230 (Ultrasonic) : to connect the BSM230 and InBody720.
   ② BSM330 (Automatic) : to connect the BSM330 and InBody720
   ③ Disable : Not use Stadiometer

(4) Blood Pressure
   ① TM 2665/P
   ② OMRON
   ③ KT
   ④ WELLTECH
   ⑤ O2RUN
   ⑥ Disable
2. DATABASE

Press the DATABASE key on the Keypad at the home screen to bring up the database screen as shown below.

![Database Screen]

On the top right of the screen, the current number of examinee and the total number of examinee that can be saved are displayed. To move through the database screen, use the direction keys.

(1) I.D. search
The cursor is located in the I.D. search field. Type a key word or a set of characters in the text field and press ENTER to search the matching data.

Example) ‘12’+ ENTER : Find all I.D.s including ‘12’.
                ENTER : Displays the entire database in the InBody720.

(2) Print
To print out the test result of a particular person, move the cursor to the record of that person. Press the direction key (►) to move to ‘Print’ and then press ENTER.

(3) Delete
To delete the record of a particular person, move the delete cursor to the record of that person. Press the direction key(►) to move to ‘Delete’ and then press ENTER. To delete the entire records existing, select the option of ‘Initialize History’ in the ‘Others’ from the Setup menu.

⚠️ The deleted data cannot be restored.
(4) Copy
You can easily copy the test results in the USB storage device. Move the cursor to the record of a particular person you want to copy and press SETUP. If you would like to copy the entire database in the InBody720, move the cursor to the I.D. search field and then press SETUP.

Contact Biospace or an authorized distributor for information of the compatible USB storage devices with the InBody720.

(5) Backup/Restore
You can easily backup or restore all the data saved in the InBody720 using a USB storage device. Press 'DATABASE' at the database screen. When a window pops up, press ‘1’ for the Backup and ‘2’ for the Restore. Press ‘EXIT/MODE’ to quit. Users can not use the backup files. It is only used for the result restoration when necessary.

Periodically back up the results in case of user’s misuse or disorder of the equipment.

Note that the previous data in the InBody720 is automatically deleted when restoring new data from the USB.

An individual can save 10 test results. It is possible to save up to 7,000 results in total.
3. Modification Example


1. Press the ‘SETUP’ button.
2. Move to ‘Result Sheet’ using the direction buttons. (▲▼)
3. Move to ‘Mode’ using a direction button. (►)
4. Select ‘Built-in’ using a direction buttons. (▲▼)
5. After pressing EXIT/MODE button 3 times, the screen asking whether you want to save modified settings will pop up. Press ‘Enter’ button to quit setup. The analysis result will be printed out on the A4 paper. Use the standard Letter-size only.
   - Use the “Left, Right direction button (◀ ►)” to select the item.
   - Use the “Up, Down direction button (▲▼)” to adjust the item.

(2) When using the printed results sheet

1. Press the ‘SETUP’ button.
2. Move to ‘Result Sheet’ using the direction buttons. (▲▼)
3. Move to ‘Mode’ using a direction button. (►)
4. Select ‘Printed’ using a direction buttons. (▲▼)
5. After pressing EXIT/MODE button 3 times, the screen asking whether you want to save modified settings will pop up. Press ‘Enter’ button to quit setup. Use the printed results sheet provided by Biospace only.
Chapter 4. Problems and Solutions

1. Error Messages
2. Troubleshooting
3. Frequently Asked Questions (FAQs)
1. Error Messages

The InBody720 displays the following error messages to warn the user of the problems run into during operations and to guide the users to take steps. The following are the most common error messages and the steps to handle the corresponding errors.

A. “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.

B. “Enter personal data correctly.”

This message appears when the value for age or height of the examinee 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, section 5 : Personal Profile.”

C. “Wipe hands and feet using electrolyte tissue.”

This message appears when the posture of the examinee is not appropriate or the examinee’s palms or soles are too dry making it impossible to start the test. Correct the posture of examinee or wet his/her palms and soles with electrolyte tissues, before reinitiating the test.
2. Troubleshooting

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.

A. 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.
Action 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.
Action 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.
Action 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.

B. Weight comes up as a negative number (-) or is widely different from the reasonably anticipated weight of the examinee.
(Usually the weight displayed on the InBody720 is close to what the examinee knows.)

Cause 1  This happens when the boot-up was not completed normally.
Action 1  Initialize the weight to zero during the boot-up. If there is an object on the foot plate, 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.
C. The measurements don’t seem right.
(When the measurements seem too high or too low)

Cause 1    The examinee loses contact with the electrodes or fails to maintain the recommended posture during the testing.
Action 1   Correct the examinee’s posture and maintain the recommended posture until after the testing is finished.

D. Results sheet doesn’t print.
(Normally when the testing is done, the results sheet prints out automatically.)

Cause 1    The printer is out of Letter-sized paper and the printer has the warning LED light on or displays the message saying it is out of paper.
Action 1   Check if there is Letter-sized paper in paper tray.

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

E. 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.
Action 1   Refer to “Chapter 3, Section 1: Setup Menu” for hands-on explanation on how to move the coordinates of objects on results sheet and adjust accordingly.
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. Frequently Asked Question (FAQs)

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@inbody.com

A. 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.

B. Who should not use InBody720 or who cannot have body composition analyzed?
•Examinee who has cardiac pacemaker or other electric medical devices embedded in the body must not be tested using InBody720.
•Those who may experience difficulty being tested are: the examinee who weighs less than 10kg or over 250kg or who is shorter than 95cm 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.
•Examinee 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.

C. 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 line of products that conduct body composition analysis on the examinee in bed, without having to get examinee out of bed during the tests. For more information on this product line, contact Biospace.

D. 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.
E. Can the jewelry or other metallic wear affect the testing?

The ideal test methodology is where the examinee 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.

F. How often do I have to get body composition test?

Examinees 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 to four weeks.

G. What are the requirements for the examinee 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 testing during menstrual 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.

H. 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.
Chapter 5. Consumables

1. Consumables
1. Consumables

A. Results sheet

When using the InBody720 with a printer, it is strongly recommended to use the results sheets supplied by Biospace. If more results sheets are needed, please contact Biospace.

Results sheet Size : 8.5 * 11 " (Letter type)
Number of Sheets : 1000 / 1box
Printed Condition : 4 colors
Manufacturer : Biospace Co., Ltd

B. Fuse

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Fast-Acting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current</td>
<td>2.5A</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>250V</td>
</tr>
</tbody>
</table>

⚠️ Turn off the equipment, when changing fuses.
Appendix

1. More About InBody720
2. Specifications
3. Customer Service Information
1. More about the InBody720

A. More About InBody720

The Bioelectrical Impedance Analysis (BIA) method is based on the fact that the human body consists of conductors and non-conductors.

Generally 50~70% of the human body consists of water which functions as a conductor, whereas body fat functions as a non-conductor.

The classic BIA method measures the impedance of the whole body on the assumption that the human body can be considered a cylinder for application of this model. If \( A \) is the cross sectional area, and \( L \) is the length, the impedance of the cylinder can be expressed as follows.

\[
Z = \frac{\rho L}{A} \quad (\rho = \text{resistivity})
\]

If both sides are multiplied by \( L \), We get the new expression as follows.

\[
V = \frac{\rho L^2}{Z} \quad V = \frac{\rho L^2}{Z} \cdot (\text{Volume} = A (\text{Area}) \times L (\text{Length}))
\]

According to this expression, if we know the \( L \) and the impedance value, we get the volume. That is to say, if we know the height of the human body (acting as a conductor), and know the impedance value, we can get the volume of body water. Here, the volume represents examinee’s height. Therefore, the two directly used variables in body composition analysis are impedance and height.

The principle of the InBody720’s body composition analysis is explained by the following; the volume of body water, an electrolyte, is calculated first with a measured impedance value. Then, we can get the value of fat free mass using the volume of body water. Body fat mass is determined by deducting the lean body mass from the measured weight.

Height should be entered by the user. Weight can be directly measured on the InBody720.
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 examinee 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. Classifications

- Type of protection against electric shock: Class I
- Type of the applied parts: BF Type
- Degree of protection against water infiltration: IPX0
- EMC Immunity: Level A
- EMC Emission: Level A
- Equipment not suitable for use in the presence of flammable mixture

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
## 2. Specifications

<table>
<thead>
<tr>
<th>Measurement Method</th>
<th>Direct Segmental Multi-frequency Bioelectrical Impedance Analysis Method; DSM-BIA Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement Items</strong></td>
<td>Impedance(Z) 30 Impedance Measurements by Using 6 Different Frequencies (1kHz, 5kHz, 50kHz, 250kHz, 500kHz, 1000kHz) at Each 5 Segments (Right Arm, Left Arm, Trunk, Right Leg, Left Leg)</td>
</tr>
<tr>
<td></td>
<td>Reactance(Xc) 15 Impedance Measurements by Using 3 Different Frequencies (5kHz, 50kHz, 250kHz) at each 5 segments (Right Arm, Left Arm, Trunk, Right Leg, Left Leg)</td>
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<tr>
<td><strong>Electrode Method</strong></td>
<td>Tetrapolar 8-Point Tactile Electrode System</td>
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<tr>
<td><strong>Body Composition Calculation Method</strong></td>
<td>No Empirical Estimation</td>
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<tr>
<td><strong>Applied Rating Current</strong></td>
<td>90 µA (1kHz), 400 µA (others)</td>
</tr>
<tr>
<td><strong>Weight Measurement (Non-automatic weighing Instruments)</strong></td>
<td>EC Type Approval No T8035</td>
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<tr>
<td></td>
<td>Accuracy Class (II) (Medium accuracy)</td>
</tr>
<tr>
<td></td>
<td>Maximum Capacity</td>
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<tr>
<td></td>
<td>Minimum Capacity</td>
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<tr>
<td></td>
<td>Verification Scale(e=d)</td>
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<tr>
<td></td>
<td>Temperature Limits</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>60VA</td>
</tr>
<tr>
<td><strong>Power Source</strong></td>
<td>100<del>240V</del>, 50/60 Hz</td>
</tr>
<tr>
<td><strong>Display Type</strong></td>
<td>640×480 Color TFT LCD</td>
</tr>
<tr>
<td><strong>External Interface</strong></td>
<td>RS-232C 3EA, USB Host 2EA, Ethernet(10/100 Base-T) 1EA, IEEE1284 (25pin parallel) 1EA</td>
</tr>
<tr>
<td><strong>Compatible Printer</strong></td>
<td>Laser/Inkjet Printer (with PCL 3 or above, the printers recommended by Biospace)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>520(W)×870(L)×1200(H) : mm</td>
</tr>
<tr>
<td><strong>Machine Weight</strong></td>
<td>45kg</td>
</tr>
<tr>
<td><strong>Measurement Duration</strong></td>
<td>Less than 1 min. 30 sec. (Less than 2 min. 30 sec. for research purpose mode)</td>
</tr>
<tr>
<td><strong>Operation Environment</strong></td>
<td>5 ~ 35°C, 30 ~ 75%RH, 70 ~ 106kPa</td>
</tr>
<tr>
<td><strong>Storage Environment</strong></td>
<td>-20 ~ 70°C , 10 ~ 95%RH, 50 ~ 106kPa</td>
</tr>
<tr>
<td><strong>Weight Range</strong></td>
<td>2 ~ 250kg</td>
</tr>
<tr>
<td><strong>Age Range</strong></td>
<td>3 ~ 99 years</td>
</tr>
<tr>
<td><strong>Height Range</strong></td>
<td>95 ~ 220 cm</td>
</tr>
</tbody>
</table>

* Specifications are examinee to be changed without prior notice.
3. Customer Service Information

Corporate agents of the InBody720 and addresses are listed below. Contact us for assistance or more information about the InBody720.

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