

EVOLT

EV360 USER MANUAL

Version 3.0



CE 0197

The device bears the CE label in accordance with the provisions of Medical Device Directive 93/42/EEC.

THE PERSONS RESPONSIBLE FOR PLACING DEVICES ON THE EC MARKET UNDER MDD 93/42/EEC



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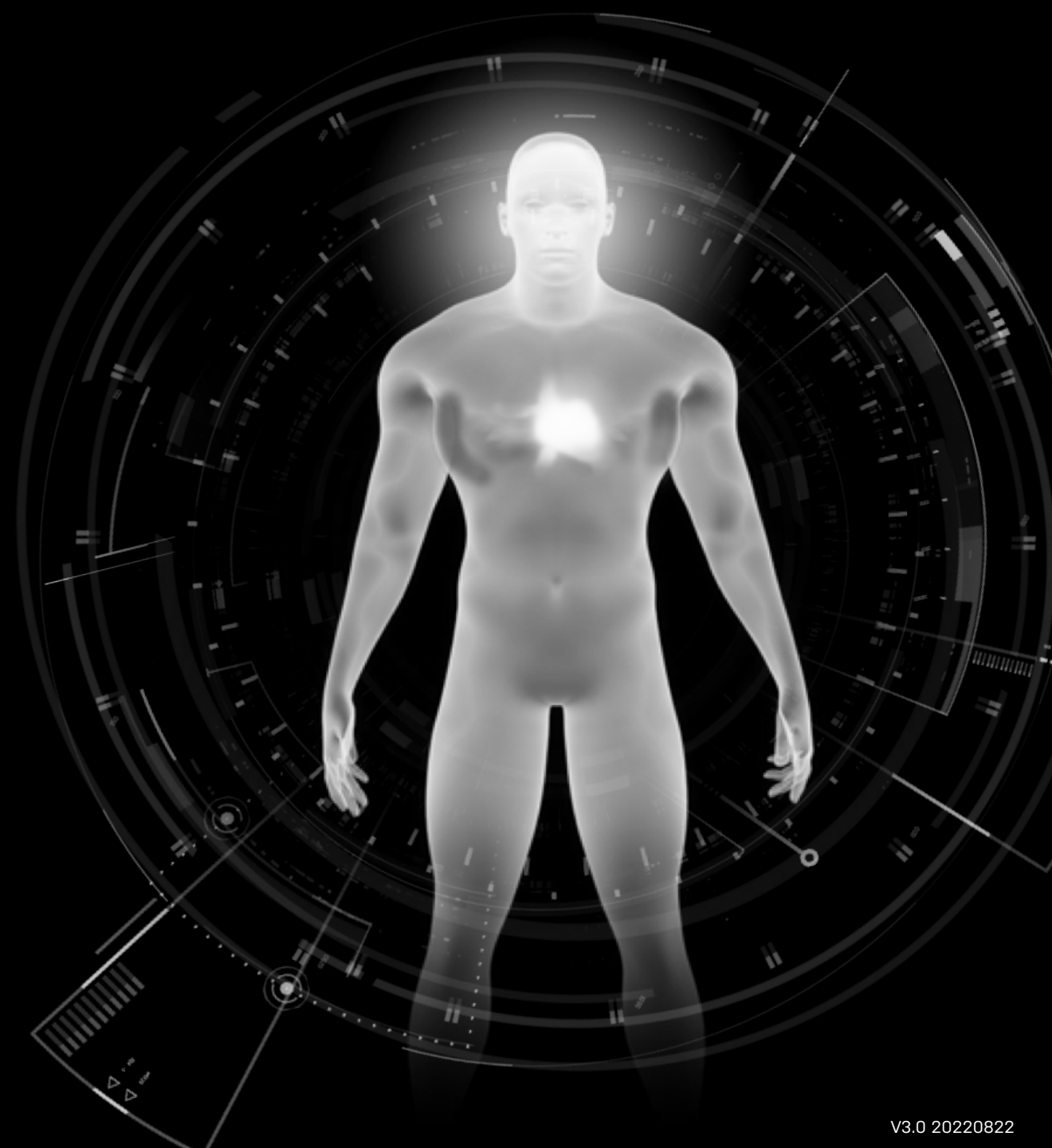
V3.0 20220822

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INTRODUCTION

We highly appreciate that you have chosen our company's product. You are kindly requested to be familiar with these directions before using this product and always keep it together with the product. In case you are not sure about any directions or problems arising while using the product, please contact our service center and we will provide you with detailed instructions.



INTRODUCTION

1. INTENDED USE

This device measures impedance by bioelectrical impedance analysis method and provides lots of information using measured impedance and inputted personal data (height, age, gender, weight). It shows body composition of MBF, LBM, SLM, SMM, TBW, protein mass, mineral mass, etc. and information regarding BMI, PBF, BMR, abdominal analysis, Target to control, segmental analysis, Body composition change, etc.

2. WORD DEFINITIONS

To ensure safe operation and long-term performance stability, it is essential that you fully understand the functions, operating and maintenance instructions by reading this manual before operating your unit. Particular attention must be paid to all warnings, cautions and notes incorporated herein.

The following conventions are used throughout the manual to denote information of special emphasis

WARNING



"Warning" indicates important information about the presence of a hazard which may cause severe personal injury, loss of substantial property, damage if the warning is ignored

CAUTION



"Caution" indicates important information about the presence of a hazard which may cause minor personal injury or property damage if the caution is ignored

NOTE



Consult a physician or a trained health professional for interpretation of measurement results.

In case of patients who have certain diseases, the estimates might be different

PROHIBITION



Connect the earth placed on the backside of this device to terminal plate to prevent any electric shock from leakage current or a potential difference.

To avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.

CLASSIFICATION AND COMPLIANCE

1) This device is classified as;

- Class 1 type-BF against electric shock
- Ordinary equipment without protection against ingress of water
- Equipment not suitable for use in presence of a flammable anesthetic mixture by standard of

IEC 60601-1: 2005+A1:2012(Basic safety and essential performance of Medical Electrical Equipment)

2) This device is complied with Class A for Noise-Emission, Level B for Noise-immunity, by standard of IEC 60601-1-2:2014(Electromagnetic Compatibility Requirements).

4. SAFETY PRECAUTIONS

This device is designed and manufactured with consideration of the safety of the operator and subject and also the reliability of the unit. The following warnings, precautions and notes must be observed for safety;

WARNING



During measurement of the body composition, a microcurrent of 180 μ A flows through the body. Individuals who have any kind of implanted active medical devices, such as pacemakers, should not use this equipment because the microcurrent can cause malfunction in the implanted device.

To prevent fire hazard, use only a correctly wired (100-240VAC) outlet, and do not use a MSO (Multiple Socket Outlet) that is not in compliance with IEC 60601-1.

To reduce the risk of electric shock or product damage, never plug-in or plug-out with wet hands.

Physically disabled persons should not attempt to take measurements alone, but instead should have their caretakers assist them in using the device.

CAUTION



The unit must be operated only by, or under supervision of a qualified person with our company or our distributors.

If you have experienced any trouble with the unit, switch it off immediately, and contact our company or its authorized dealer for assistance.

If you plan to connect any device from other manufacturers electrically or mechanically to the unit, contact our company or its authorized dealer for instructions before doing so.

When you connect computer or other system to the unit (RS-232C), the attached systems should be those certified by IEC 950 or equivalent standards for data processing equipment.

Configurations shall comply with the system standard IEC 60601-1: 2005+A1:2012. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system by standard IEC 60601-1: 2005+A1:2012.

If in doubt, consult the A/S department of local distributor.

CAUTION



- Avoid the following environments for storage;
- Where the ambient temperature falls below -25°C or exceeds 70°C .
 - Where the atmospheric pressure falls below 70kPa (700mbar) or exceed 106kPa (1060mbar).
Where the humidity is over 93% non-condensing.
 - Where the unit is exposed to spray or splashing water
Where the unit is exposed to dust.
 - Where the unit is exposed to water vapor.
 - Where the unit is exposed to salty atmosphere.
 - Where the unit is exposed to explosive gas.
Where the unit is exposed to excessive shocks or vibrations.
 - Where the angle of inclination of mounting surface exceeds 10 degrees.
 - Where the unit is exposed to direct sunlight.

CAUTION



This device needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.

Cross contamination is possible because this equipment is used with bare hands and feet. Refer to the cleaning and disinfecting methods in this manual.

Measurements may be impaired if this device is used near televisions, microwave ovens, X-ray equipment or other devices with strong electrical fields. To prevent such interference, use the meter at a sufficient distance from such devices or turn them off.

PROHIBITION



Do not disassemble or alter the device under any circumstances, as this could result in electric shock or injury as well as adversely affect the precision of measurements.

This device is specified as Class 1 type BF unit under the standard IEC 60601-1: 2005+A1:2012 (Basic safety and essential performance of Medical Electrical Equipment). Therefore, patients must not touch or handle inner side of the system at any time.

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

The unit has previously been adjusted in the factory for optimum performance. Do not attempt to adjust switches or any other things except those specified in this manual for operation.

Never pour any liquid directly on the scale platform, as it may leak and cause internal damage.

Never jump on the Weighing Platform, there may be a risk of stumbling and malfunction of the equipment.

NOTE



This equipment has been tested and found to comply with the limits for medical devices according to IEC 60601-1-2:2014. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

Place the Weighing Platform on a level and stable surface. If the equipment is used when the Weighing Platform is unstable because not all feet are on the surface, there may be a risk of stumbling or inaccurate measurement.

Note that portable and mobile RF communications equipment can affect

MEDICAL ELECTRICAL EQUIPMENT.

NOTE



Consult a physician or a trained health professional for interpretation of measurement results.

In case of patients who have certain diseases, the estimates might be different

PROHIBITION



Connect the earth placed on the backside of this device to terminal plate to prevent any electric shock from leakage current or a potential difference.

To avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.










WARNING




















Do not modify this equipment without authorization of the manufacturer.

5. SAFETY SYMBOLS AND INFORMATION

The International Electro-technical Commission (IEC) has established a set of symbols for medical electrical equipment which classify a connection or warning of any potential hazard. The classifications and symbols are shown below. Save these instructions for your safety.

	Degree of protection against electric shock: TYPE BF
	Please observe operating instruction
	General warning sign
	General prohibition sign
	General mandatory action sign
	Caution
	Waste Electrical and Electronic Equipment (WEEE) The device could be send back to the manufacturer for recycling or proper disposal after their useful lives. Alternatively the device shall be disposed in accordance with national laws after their useful lives.
	"ON / OFF" key : Turn the power ON / OFF
	Class II equipment

	The symbol is used inside system. Identifies the point where the safety ground of the system is fastened to the chassis.
	Do not open. This is for factory only.
	Alternating current
	Direct current
	Date of manufacturer
	Manufacturer
	Non-ionizing radiation
	CE mark
	Serial No.
	Authorized representative in the European community.
	Keep dry
	This way up
	Fragile

	Use no hooks
	For indoor use only
	RoHS2
	Medical Device

EVOLT

Details about the electromagnetic compatibility (EMC) of the EV 360 are given below. Before using the EV360, be sure to read and understand the following information.

1) Guidance and manufacturer's declaration – electromagnetic emissions

The EV360 is intended for use in the electromagnetic environment specified IEC 60601-1-2:2014 (Fourth Edition).

2) Guidance and manufacturer's declaration – electromagnetic immunity

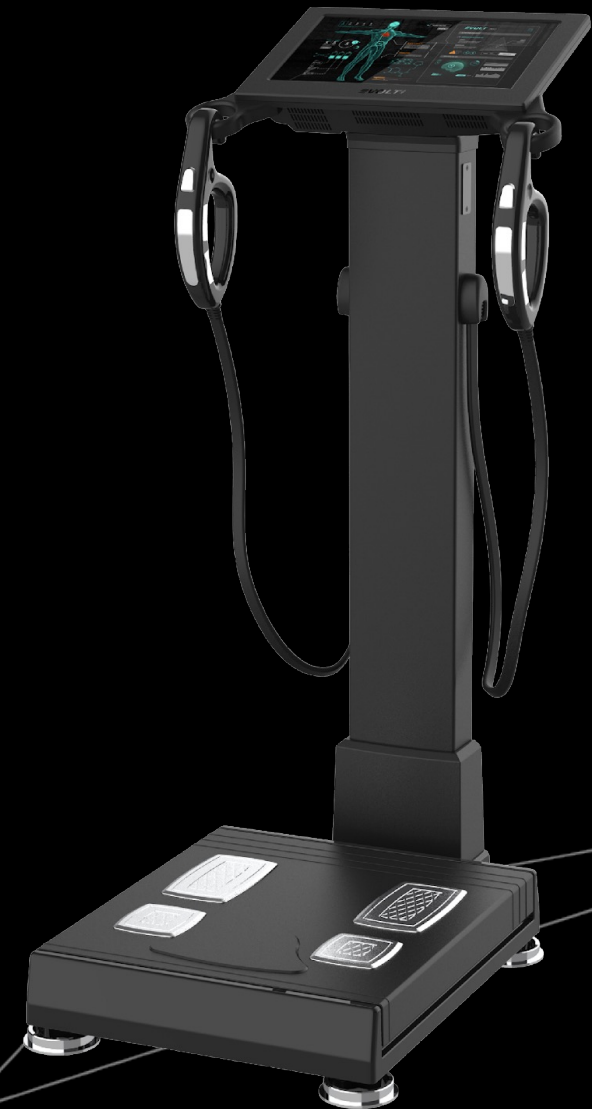
The EV360 is intended for use in the electromagnetic environment specified IEC 60601-1-2:2014 (Fourth Edition).

3) Guidance and manufacturer's declaration – electromagnetic immunity 2

The EV360 is intended for use in the electromagnetic environment specified IEC 60601-1-2:2014 (Fourth Edition).

4) Recommended separation distances between portable and mobile RF communications equipment and the EV 360

The EV360 is intended for use in the electromagnetic environment specified IEC 60601-1-2:2014 (Fourth Edition).



TERM & FUNCTION OF EACH PART

FRONT PART



Color LCD panel as touch screen.

Displays the procedure and results.

Handle Electrode

Handle Electrode measure the impedance by sending harmless electric current to the body. Hold them with the hands during measurement



REAR PART



- Power switch (POWER): It can be used to turn on/off the power.
- WIFI port: Connecting the Wi-Fi Dongle. (OPTION)
- Bluetooth port: Connecting the Bluetooth. (OPTION)
- Printer port: Connecting the printer offered with this device.

CAUTION



Do not touch the patient while operating the rear panel.

BASE PART

Weight scale: It consists of four plate electrodes, and it measures weight.

Plate electrode: It measures the impedance. The user should step it in bare feet.



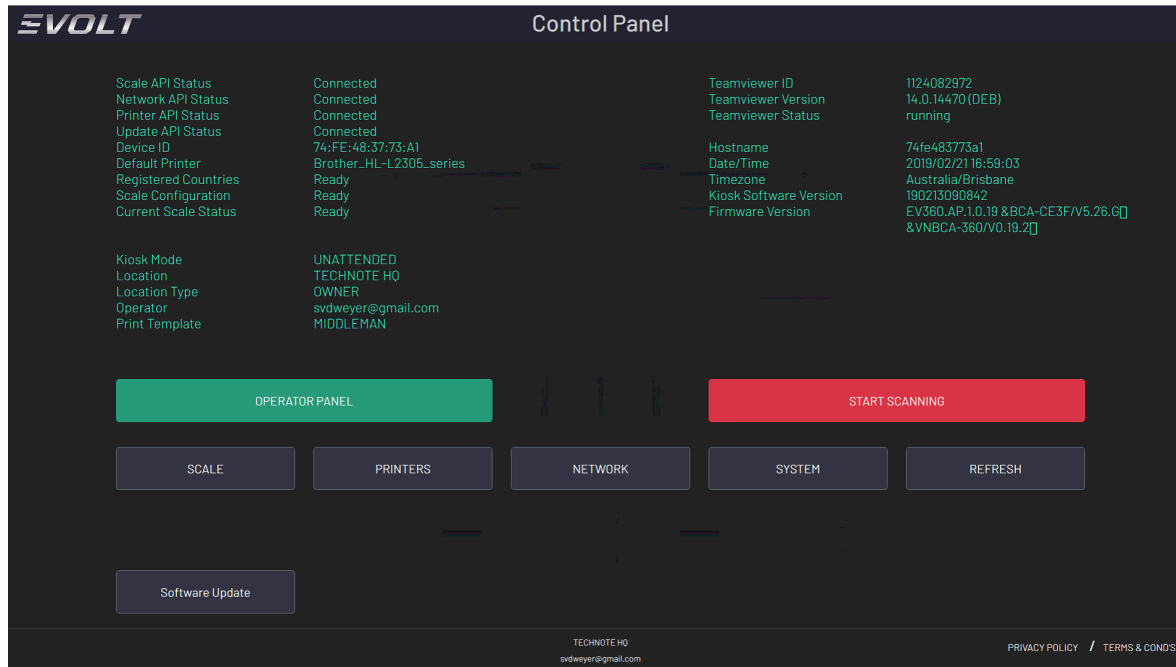
Plate electrode **(Applied Part)**

Weight scale **(Applied Part)**

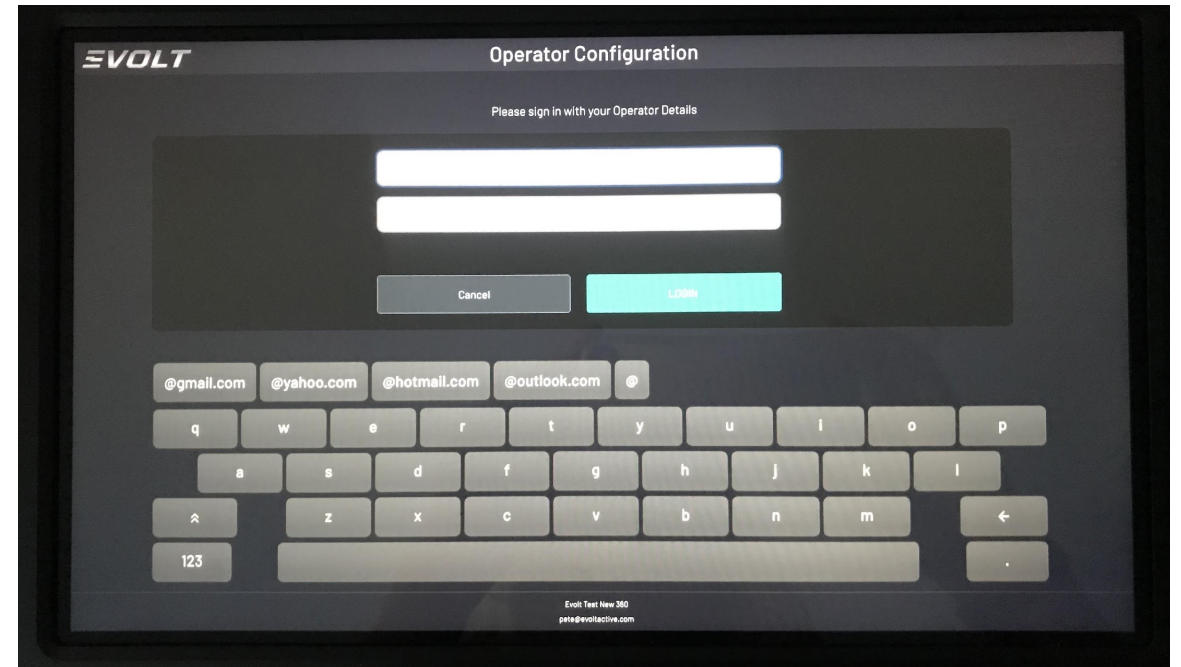
SYSTEM SET UP

CONTROL PANEL

- Click "Operator Panel"



- Enter your Operator Email and Password
- Click "Save"



SYSTEM SET UP

OPERATOR CONFIGURATION

- Click the location drop down box and click the desired location.
- Click "Unattended"
- Choose the desired print mode
- Choose the desired volume
- Click "Save Configuration"

The screenshot shows the 'Operator Configuration' interface. It features a dark background with white text. At the top left is the 'EVOLT' logo. The title 'Operator Configuration' is centered at the top. Below the title, there are four rows of settings: 'Location' with a dropdown menu showing 'TECHNOTE HQ (AUSTRALIA)'; 'Kiosk Mode' with two buttons, 'ATTENDED' (grey) and 'UNATTENDED' (green); 'Printing' with three buttons, 'OFF' (grey), 'MANUAL' (grey), and 'AUTO' (green); and 'Volume' with a slider bar ranging from 0 to 100, with a green knob positioned at 12. At the bottom, there are two buttons: 'Cancel' (grey) and 'Save Configuration' (green). The footer contains the text 'TECHNOTE HQ' and 'svdweyer@gmail.com'.

SCALE CONFIGURATION

- Ensure Abdominal Circumference is in the "ON" position
- Ensure Abdominal Obesity over 18 is in the "ON" position
- Set the Measurement mode to "Precision"
- Set the Weight of Clothes at "0.3kg"
- Click "Save"

The screenshot shows the 'Scale Configuration' interface. It features a dark background with white text. At the top left is the 'EVOLT' logo. The title 'Scale Configuration' is centered at the top. Below the title, there are several rows of settings: 'Scale Mode' with a dropdown menu showing 'METRIC'; 'Scale Weight' with a text input field showing '00.0' and a 'Calibrate' button; 'Abdominal Circumference' with two buttons, 'ON' (green) and 'OFF' (grey); 'Abdominal Obesity over 18' with two buttons, 'ON' (green) and 'OFF' (grey); 'Measurement Mode' with two buttons, 'NORMAL' (grey) and 'PRECISION' (green); and 'Weight of Clothes' with a slider bar ranging from 0.0 kg to 3.0 kg, with a green knob positioned at 0.3 kg. At the bottom, there are two buttons: 'SAVE' (green) and 'CANCEL' (grey). The footer contains the text 'TECHNOTE HQ' and 'svdweyer@gmail.com'.

SYSTEM SET UP

EVOLT Scale Configuration

Scale Mode: METRIC

Scale Weight: 00.0

Abdominal Circumference: ON OFF

Abdominal Obesity over 18: ON OFF

Measurement Mode: NORMAL PRECISION

Weight of Clothes: 0.3 kg (range: 0.0 kg to 3.0 kg)

Buttons: Calibrate, Backup, SAVE, CANCEL

TECHNOTE H0
svdweyer@gmail.com

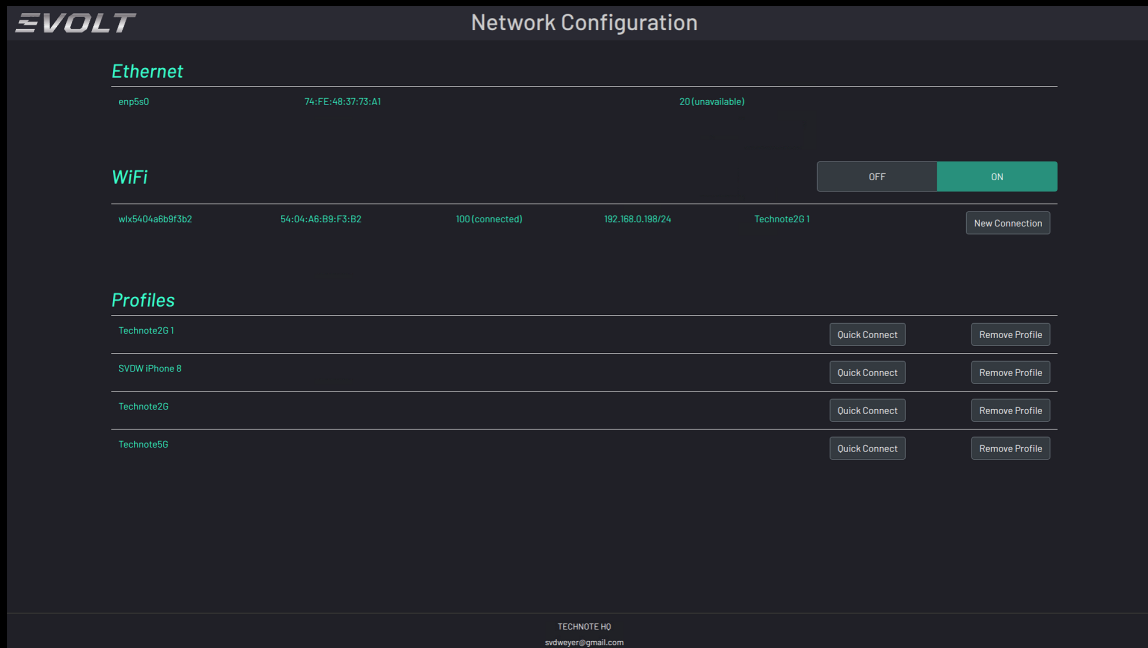
- Ensure Abdominal Circumference is in the "ON" position
- Ensure Abdominal Obesity over 18 is in the "ON" position
- Set the Measurement mode to "Precision"
- Set the Weight of Clothes at "0.3kg"
- Click "Save"

SYSTEM SET UP

NETWORK CONFIGURATION

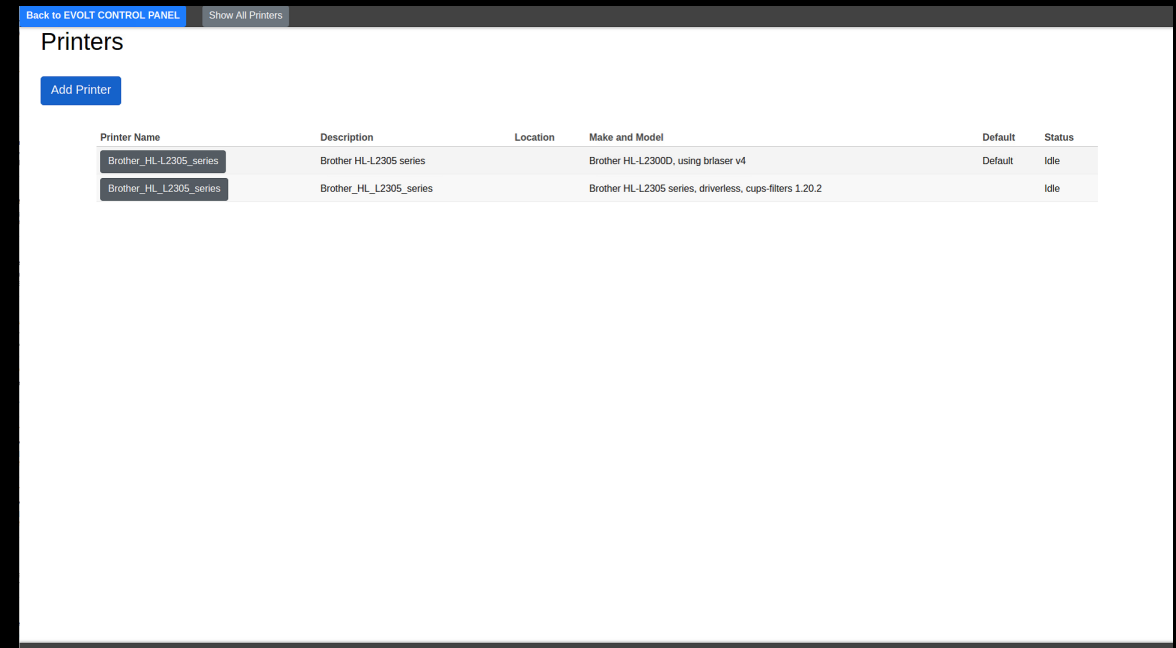
- Click the Wi-Fi in the "ON" position
- Click "New Connection"
- Find your desired Wi-Fi location and Click "Quick Connect" to insert your password details

Note. The system should show 100Connected



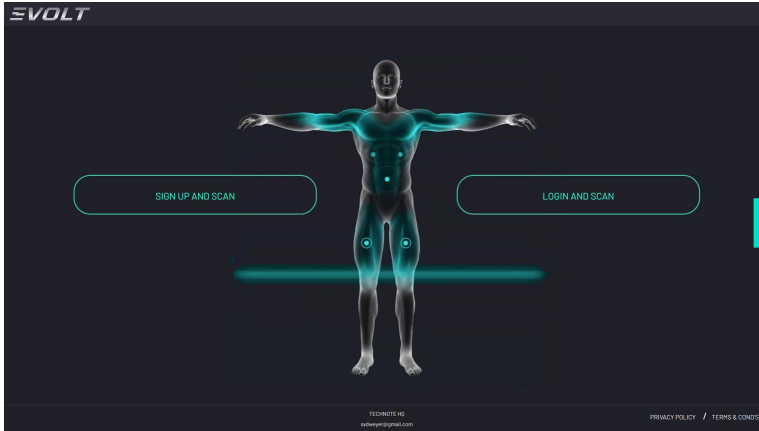
CONNECTING PRINTER

- Ensure your printer is connected to the same Wi-Fi connection as the EV360
- Click "Printer"
- Click "Add Printer"
- Click on your printer as listed

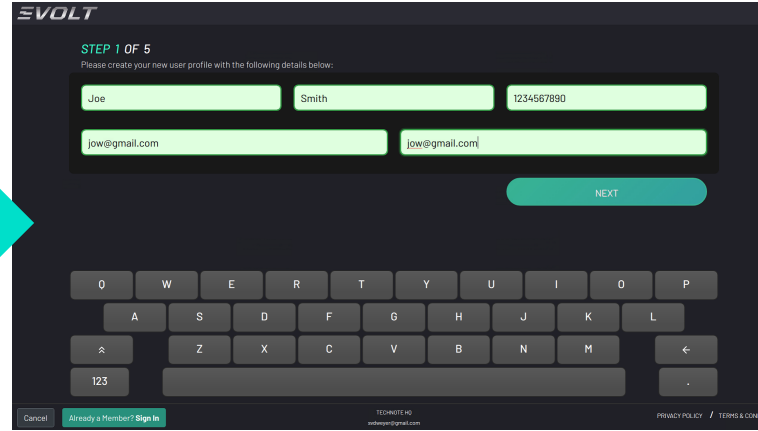


USER EXPERIENCE

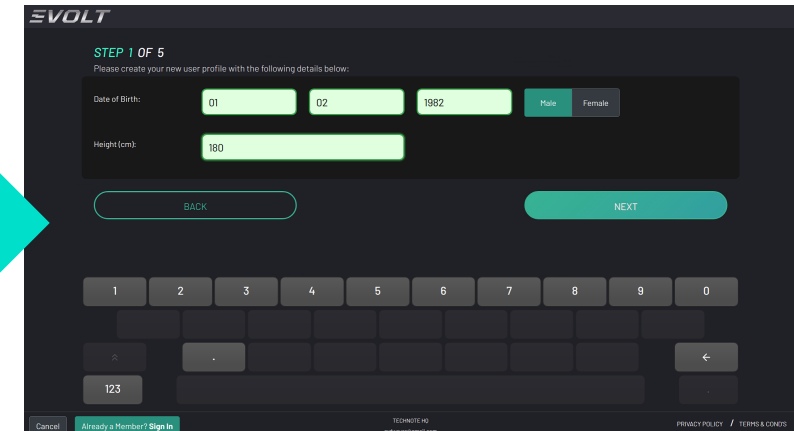
Voice activated instructions



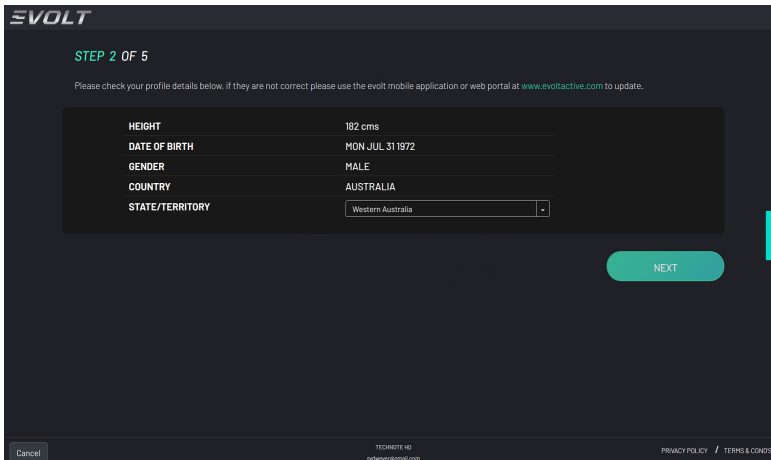
Access the Kiosk as a new Member via "sign up and scan" or an existing Member via "login and scan"



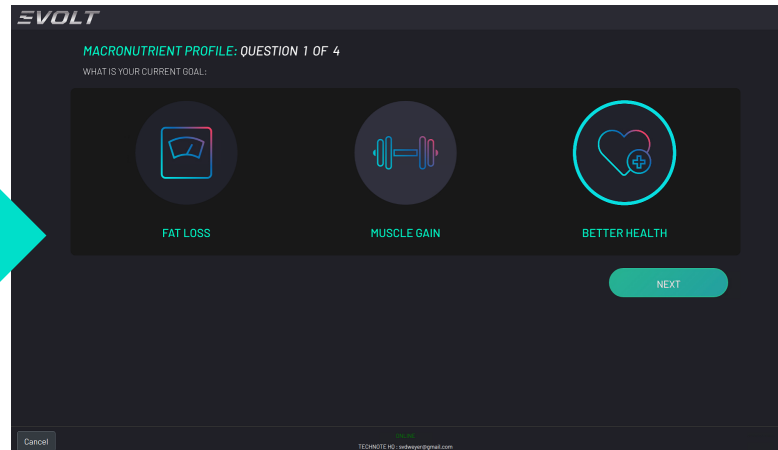
Enter new Member details



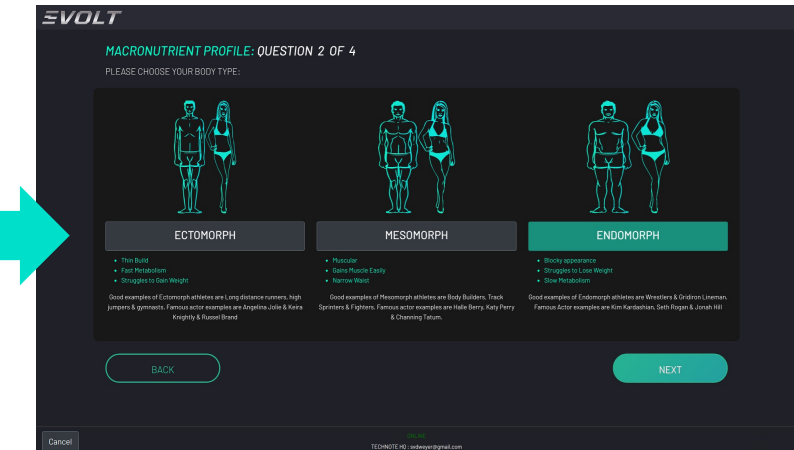
Enter new Member details



Enter new Member details



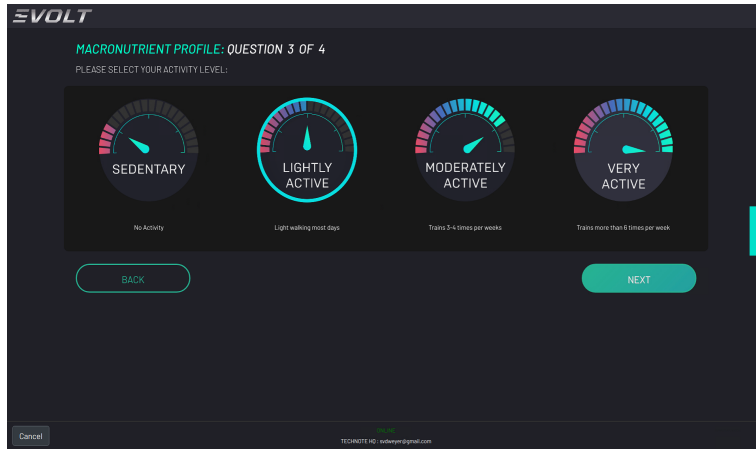
Enter new Member Goal details



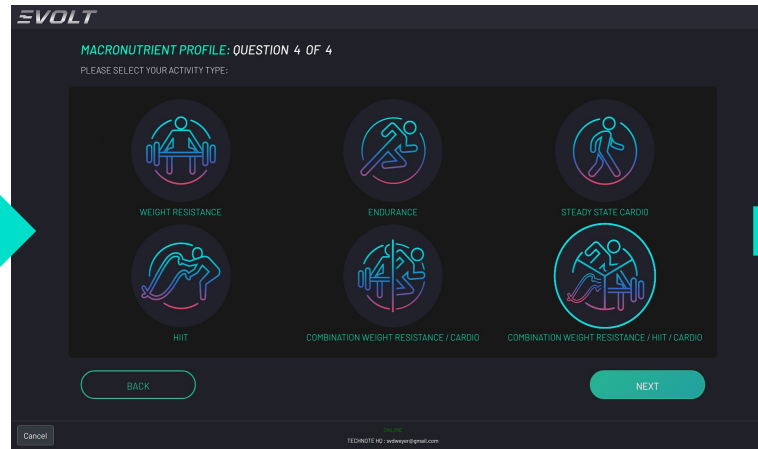
Enter new Member Body Type details

USER EXPERIENCE

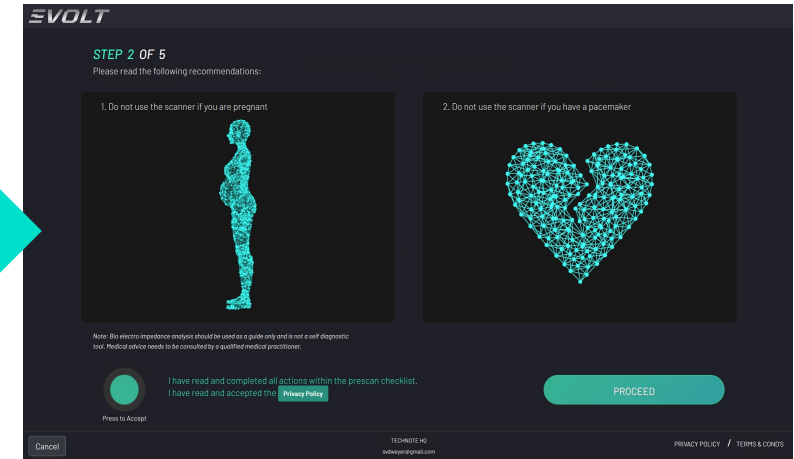
Voice activated instructions



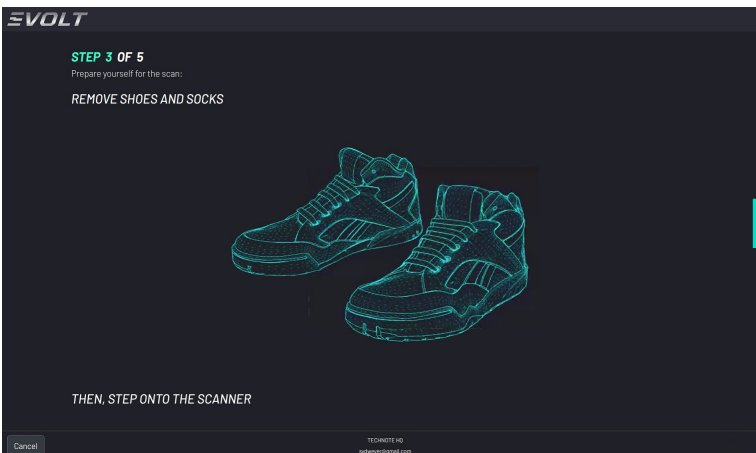
Enter new Member activity level details



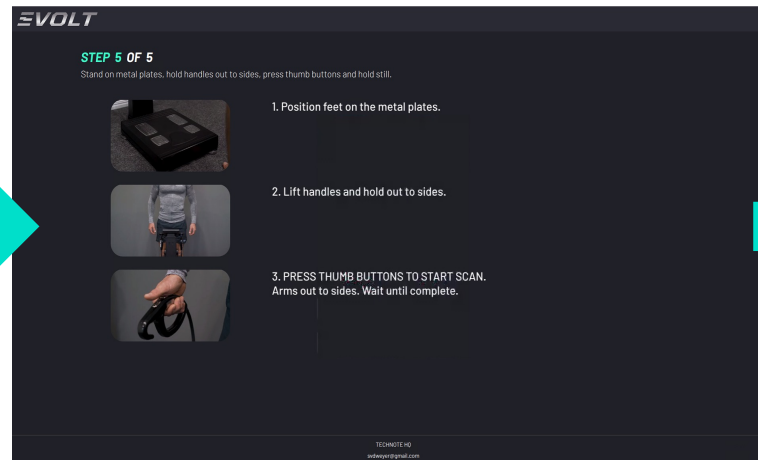
Enter new Member activity type details



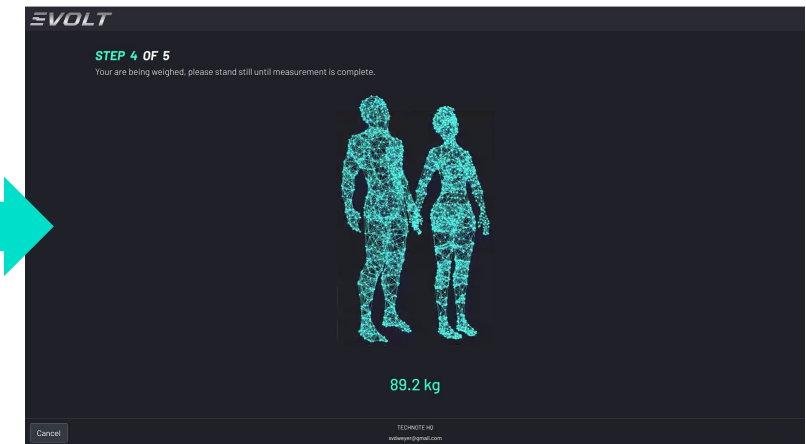
Accept Member terms and conditions to continue



Member prompted to stand on device



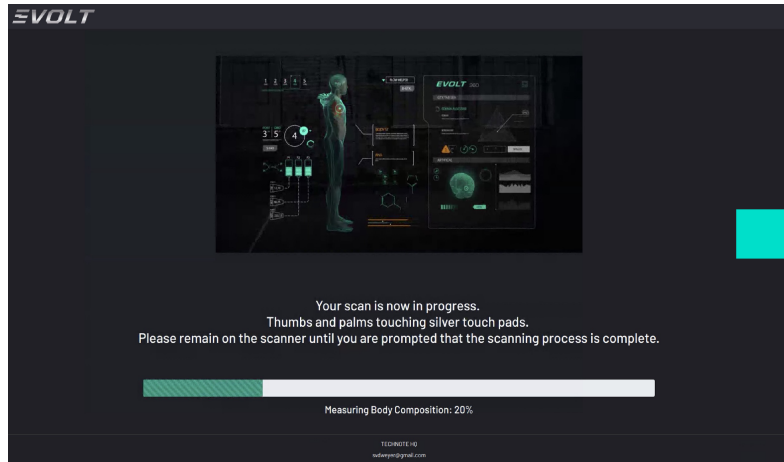
Member prompted to make contact with tactile points



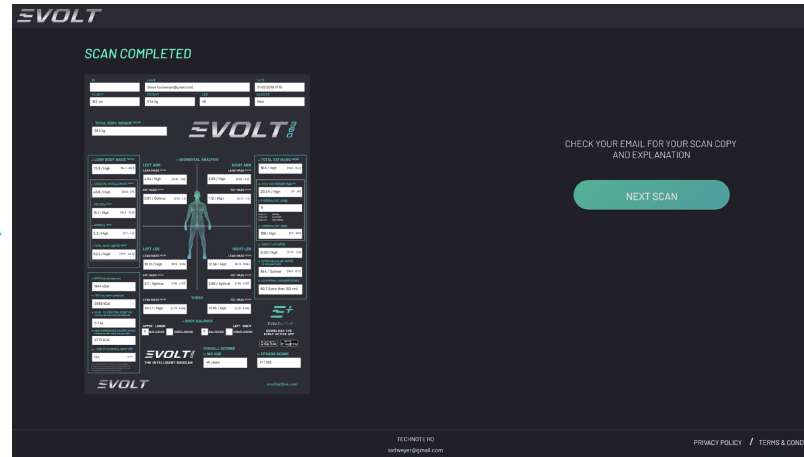
Member weighed

USER EXPERIENCE

Voice activated instructions



Progression shown during scanning



Once completed, print out shown

INSTALLATION

• Power Supply

Connect the power cable to the '**ADAPTER INPUT**' placed on the lower back panel of the device. Connect the cable. Turn on the power switch placed next to Power input, then after moment initial screen animation is displayed automatically.



Caution

1. Before connecting a peripheral device to the device, the power should be turned off. Otherwise the devices can be damaged by electric shock or malfunction.
2. When the device and the peripheral devices are connected each other, the order of turning of the devices should start from the device to keep the functions and safe of the device.
3. This device should be only powered through the cable provided by OUR COMPANY.
4. Be careful not to touch the base part of the scale when switching on the device. If at turning on the switch loads any weight on plate electrode, a measuring error might occur with the scale's zero point.
5. Do not install the equipment where power can not be disconnected.

2) Connecting Printer

① Connecting the device and the printer directly
Connect A4 printer offered with this device to the "**USB(A)**" port placed on the rear panel of this device with USB cable.



MEASUREMENT ANALYSIS

Precaution for measurement

- The reliability of the results can be assessed by its accuracy. The "Accuracy" of the device is determined by comparing the actual body composition and the results from Body Composition Analyzer. The "Reproducibility" is determined when the device gives the identical results under the same conditions. In order to maintain the accuracy of the results, the following guidelines should be kept.
- ① Water volume increases after a meal. Therefore, measure on an empty stomach.
 - - Measure 3 ~ 4 hours after a meal.
 - - Avoid beverages containing caffeine or beverages functioning as diuretics 4 hours before measurement.
 - - Drink 2 cups of water 2 hours before the measurement.
 - ② Before measurement, the subject should be in a stable condition.
 - - Measure 3 ~ 4 hours after a bath, a sauna, exercise or activity that sweats a lot.
 - - Or measure before these actions.
 - ③ Avoid drinking alcohol 24 hours before the measurement
 - ⑪ Wear clothes as light as possible.
 - ⑫ Once the subject is on the scale, avoid sudden movement from sitting to standing position. Body fluid goes down to the lower body and affects the results. Thus, subjects should be measured after maintaining standing position for 5 minutes.
 - ⑥ Clean both the electrodes and measuring body parts.
 - ⑦ Changes in room temperature may affect the results. Measurement should be done in a temperature around 20 °C.
 - ⑧ Body composition and weight varies even during a day. Therefore, the measurement should be performed at the same time every day. For a person who stands for a long period of time during the day, it is advised to measure in the morning.
 - ⑨ Go to bathroom before measurement.
 - ⑩ Maintain correct position and posture during the measurement

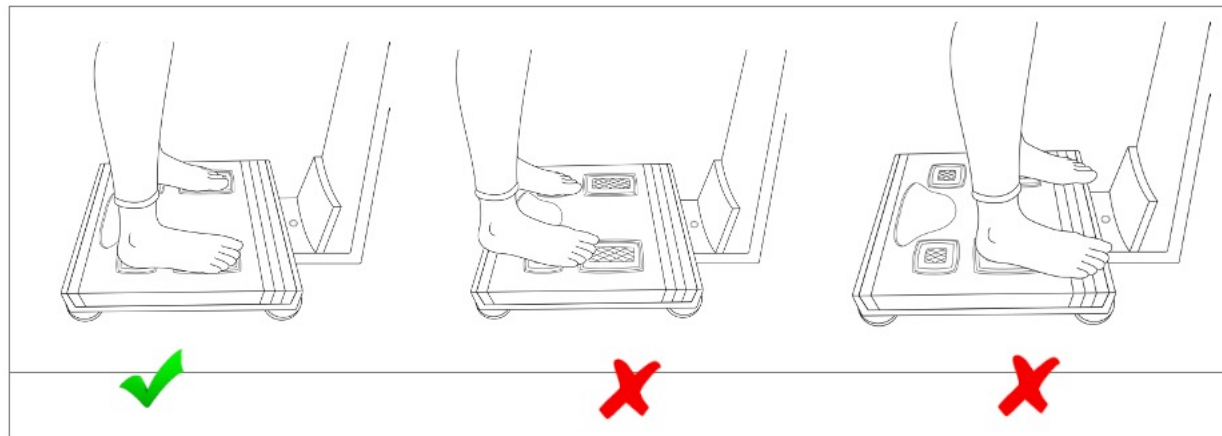
MEASUREMENT ANALYSIS

- In order to keep one's health and the balance of body composition, check the changes of body composition through continuous analysis and compare the results. Make sure that the body composition should be measured under the same physical and environmental conditions. If the condition before the measurement such as volume of a meal, mealtime, and activities (exercise, sauna, drinking lots of beverage, urination, etc.) are kept same, the reproducibility of a device is obtained. Therefore, the data can be used to evaluate the change of body composition.

2. Correct position to measure

1) How to touch electrodes

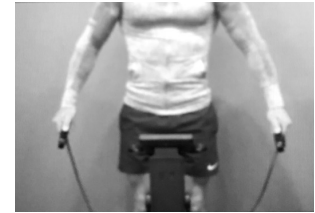
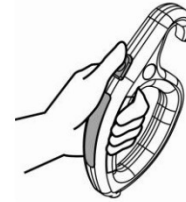
- Make sure that the plate electrodes are clean.
- Take off the socks or stockings then, stand on the plate electrodes.
- Remove sweat or foreign matters on the soles.
- Fairly place the bare feet on the plate electrodes. Make sure that the clothes are not between the soles and the plate electrodes.
- When ankle electrode is selected to measure body composition, pull down the socks as show in the picture



MEASUREMENT ANALYSIS

2) How to grip handle electrodes

- Ensure contact with all fingers including thumbs and palms as shown in the image
- Ensure palms have full contact with electrodes at all times.
- Stretch out arms enough to ensure that arms are not touching the body
- Stand still throughout the measurement ensuring there is not movement of the head, arms or feet



WARNING



When using an ankle electrode, be careful not to trip on the electrode before and after a measurement.

Use the ankle electrode after reading and understanding the instructions enough.

Especially the elderly and the infirm have to be more careful of the safety while using the ankle electrode

1. When the subject has hands or feet that are too small to cover all electrodes sufficiently for measurement, please pay attention to touch all electrodes fairly. How one touches electrodes will affect the reliability of the analyzed value.

2. During measurement the subject should not be touched by another person or by conductive materials.

3. If 8 electrodes are not perfectly touched during measurement, measuring is quit or the data is not reliable.

WARNING



If 8 electrodes are not perfectly touched during the measurement, the result is not reliable, or the device quits the measurement.

Measuring Posture

- Step the scale in the bare feet. Stretch both arms and spread them 30° from the body.

- Press start buttons with thumbs for 2 ~ 3 seconds to start the measurement. Once it starts, release the start button and hold the same posture until the measurement is over.

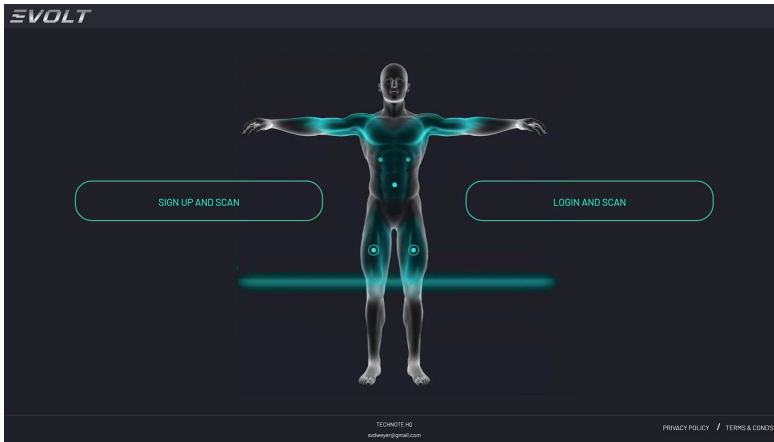
- Do not speak or move the body until the measurement is completed.

- Do not bend or shake the arms until the measurement is completed.

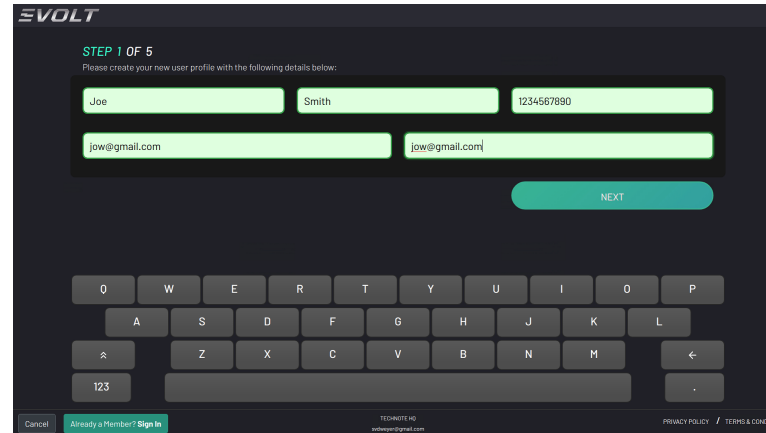
- The measurement will be stopped if all eight electrodes are not fairly touched

MEASUREMENT

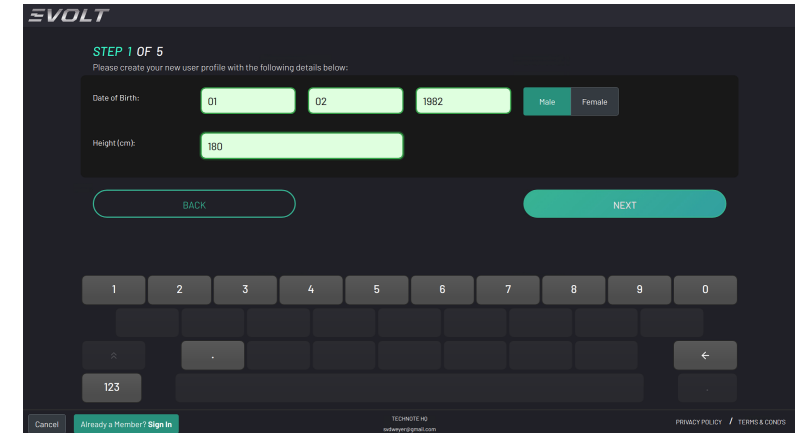
- Click "Sign up and Scan"



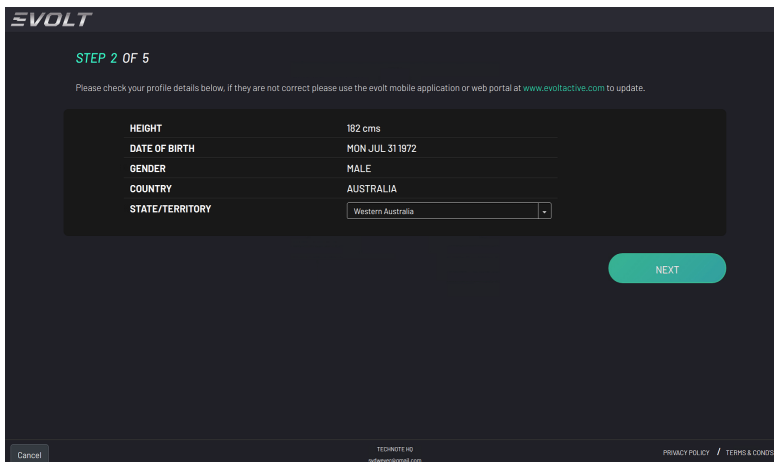
- Enter your first name, last name, mobile phone number and email twice then click "Next"



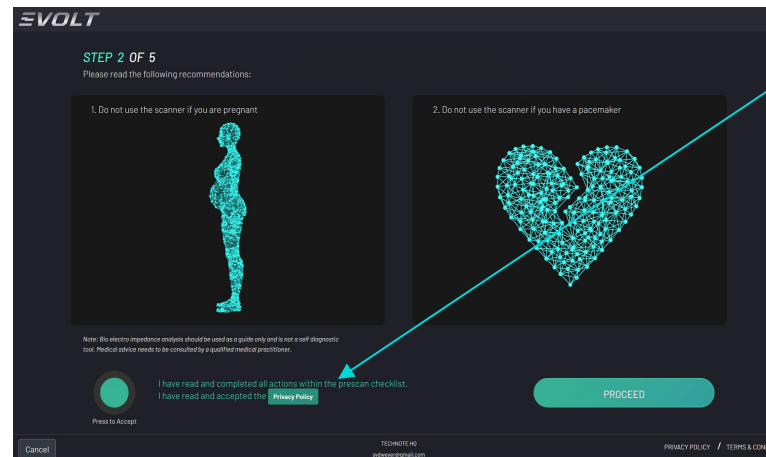
- Enter your date of birth, gender and height and click "Next"



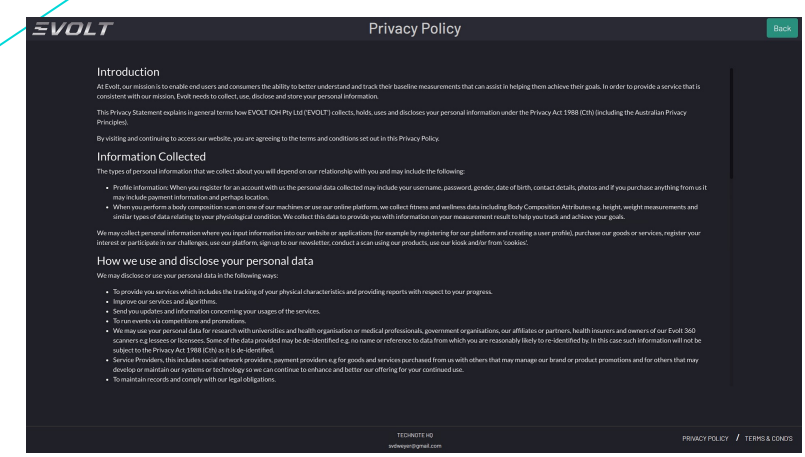
- Confirm your entered details then click "Next" if correct



- Confirm that you are not pregnant or where a pacemaker device then click "Next"

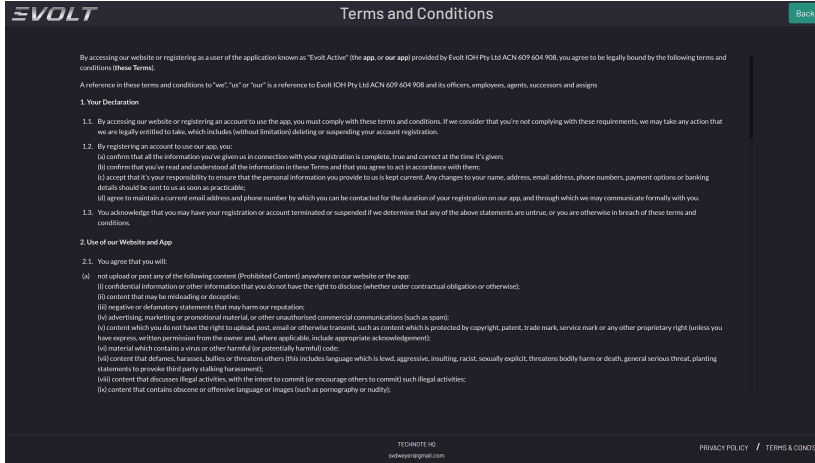


- Terms & Conditions are available to view prior to accepting the scanning process.

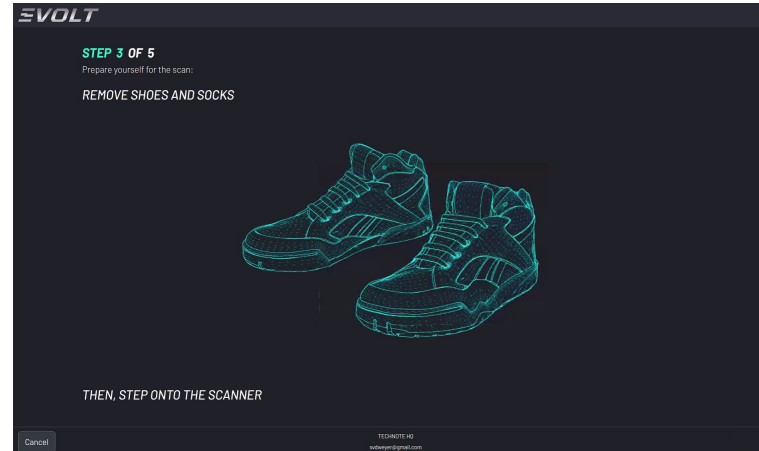


MEASUREMENT

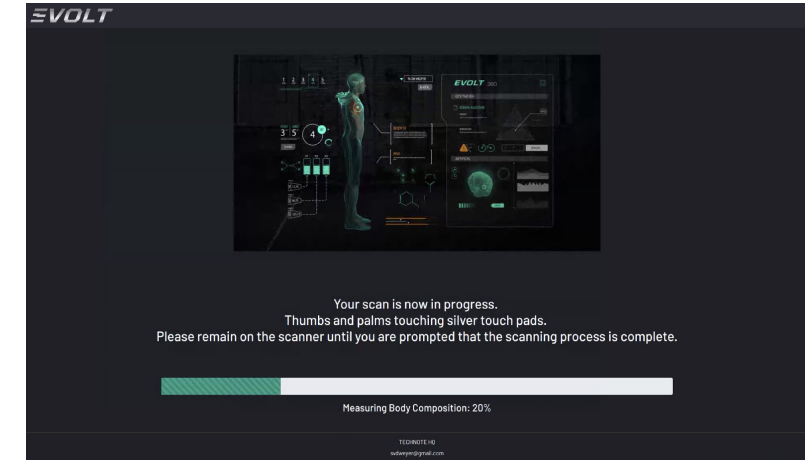
- Terms & Conditions continued



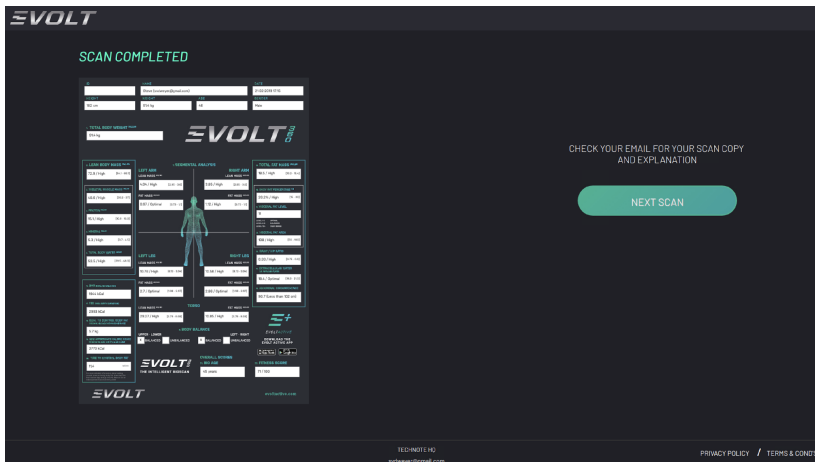
- Remove shoes, sock and/or stockings or any other foot wear



- The screen shows a completion tab to show the progress of the scan



- Once scanning process is complete, the system will produce a pdf image of the result sheet. You can then print



RESULTS EXPLAINED

1. LEAN BODY MASS: Consists of muscle, protein, and mineral (everything excluding body fat). A higher LBM relative to total body weight will assist with improving your metabolism to burn more fuel and utilize body fat to sustain a healthier overall body.

2. SKELETAL MUSCLE MASS: Refers to the muscles attached to all the bones that you utilize for training and cardiovascular activity. In basic terms, high skeletal muscle mass produces more heat to burn fuel, i.e. giving you a higher BMR (basal metabolic rate - the rate at which your body burns calories at complete rest). A high metabolism is driven by increased amounts of skeletal muscle mass, together with sufficient protein intake which repairs and nourishes muscle cells as they break down (as well as assist in a host of other very important roles within the body i.e. hormone production, cell rejuvenation etc.)

3. PROTEIN: This refers to the amount of nitrogen cells your body contains. Nitrogen is a component of protein which provides your body with the ability to repair tissues and cells and crucial for the development and growth of skeletal muscle mass. Ensuring adequate protein intake for your height, age, gender and activity level is very important for this process, not only for the development and repair of skeletal muscle mass, but also for the regeneration of cells for overall good health and anti-aging purposes.

4. MINERAL: This is your bone mineral estimate. Having high skeletal muscle mass and protein mass will assist in maintaining good bone mineral content. Bone content can decrease with age, especially for women, so it is imperative for those who have a low bone mineral estimate to commence a weight resistance training program and consume adequate amounts of protein in their diet. This should not be confused with a Bone Mineral Density Test which must be completed via DEXA scan.

5. TOTAL BODY WATER: This consists of intra-cellular and extra-cellular water (water inside the cell and outside the cell) Healthy adults body water should be approx. 45-65% of the total body weight. Ensuring adequate fluid intake throughout the day, dependent upon activity level, will ensure that you stay hydrated throughout the day. A general guide that you are drinking enough fluid will result in urinating clear fluid in the afternoon.

6. BODY FAT MASS: Your lean body mass subtracted from your overall weight gives you your total body fat (kg/lbs). This measurement includes two types of body fat, subcutaneous body fat as well as visceral body fat.

7. SUBCUTANEOUS FAT MASS: Subcutaneous fat mass (shown in kg or lbs and also in %) is the fat that is located underneath the skin. Subcutaneous fat mass is the most widely distributed fat tissue comprising of adipocytes (fat cells) which acts as an energy reserve. The number of adipocytes are determined by nutritional status and genetics.

8. VISCERAL FAT MASS: Visceral fat mass (shown in kg or lbs and also in %) is the intra-abdominal fat which is located inside the abdominal cavity and not visible to the eye. Carrying a high amount of visceral fat is known to be associated with insulin resistance, which can lead to glucose intolerance and type 2 diabetes.

9. VISCERAL FAT AREA: Visceral fat area is indicated in cm². The optimal range for men is 50-100cm² and 40-80cm² for women. Checking for reductions in visceral fat area can identify smaller changes.

10. BODY FAT PERCENTAGE: The percentage of body fat compared to body weight. Overall body fat percentage is very individual and looks different on any given person. Therefore, it is inaccurate to compare body fat percentages from person to person. A more accurate reflection of reduction in subcutaneous fat is to look at the segmental body fat in kg/lbs for each limb on the scan.

11. VISCERAL FAT LEVEL: Visceral fat refers to the fat that is hidden and stored around your internal organs. It is important to note that a person can look quite lean (ie. Low subcutaneous fat) but still have high visceral fat, so it is important to identify all levels of body fat for a complete understanding of individuals' overall body composition and health status. The visceral fat analysis is measured between a score of 1-20 with 1-9 being within balanced ranges based on accepted normative data. For general guidelines to improve and lower your visceral fat level, ensure that you are following a nutritious eating plan that includes high alkaline foods such as green, cruciferous vegetables (or supplement with a good quality greens supplement) as well as ensuring sufficient amount of protein intake and good quality fats. Lowering stress situations can be difficult, however cortisol reduction supplementation may be used to assist.

Level 1 - 5: Optimal | **Level 6 - 9:** Balanced | **Level 10+:** Over Range

12. INTRACELLULAR FLUID (ICF): In simplistic terms, intracellular fluid is fluid inside the cell. By definition, intracellular fluid is the place where most of the fluid in the body is contained. This fluid is located within the cell membrane and contains water, electrolytes and proteins. Potassium, magnesium, and phosphate are the three most common electrolytes in the ICF. Intracellular fluid accounts for approximately 62.5% of your total body water.

13. EXTRACELLULAR FLUID (ECF): In simplistic terms, extracellular fluid is fluid outside the cell. By definition, extracellular fluid is the fluid that travels in the circulatory system in blood plasma, the liquid component of blood as well as within the lymphatic system. Intracellular fluid accounts for approximately 37.5% of your total body water.

14. BMR (BASAL METABOLIC RATE): The minimum amount of energy required to sustain vital functions whilst at rest. Increasing total skeletal muscle mass and protein mass is crucial to increase BMR.

15. TEE (TOTAL ENERGY EXPENDITURE): Total Energy Expenditure is the amount of energy expended to sustain normal daily function (non-exercise activity) as opposed to basal metabolic rate which is energy required to sustain normal bodily function at bed rest.

15. TEE (TOTAL ENERGY EXPENDITURE): Total Energy Expenditure is the amount of energy expended to sustain normal daily function (non-exercise activity) as opposed to basal metabolic rate which is energy required to sustain normal bodily function at bed rest.



116. BIO AGE: Your Bio Age is based on your internal health i.e. muscle mass, body fat etc. If your Bio Age score indicates your body is younger than your chronological age, you are on the right track, if not, consider the hints within these explanations



17. BWI® SCORE: Bio-Wellness Index (BWI®) score is a calculation based on the integrity of lean body mass versus total fat mass in order to provide a more purposeful number out of 10 as an overall measure of progress in the promotion of healthy lean body mass for longevity. Currently, the antiquated score of BMI uses only a measure of height over weight which doesn't distinguish whether the weight gained is lean body mass rather than fat mass. Significant

- Increased metabolism of lean muscle assists with reduction of obesity
- Increased muscle glycogen (carbohydrate) storing capacity for exercise
- Maintaining muscle over the lifespan can aid in reducing in obesity and weight gain as a result of aging (in presence of sarcopenia)
- Improved ability to tolerate high stress environments

- Improved responses to critical illness and disease (you could say also prevention of disease in the case of obesity)
- Decreased osteoporosis
- Improved bone density
- Improved independence and activities of daily living in older adults
- Decreased risk of falls in older adults
- Protection against injury from bumps and knocks

The BWI® Score is about establishing the right composition of weight gained or lost and takes into account the age and gender of the individual in comparison to the World Health Organization standards. The higher the score out of ten, the better the wellness of the individual or the total collated group. The purpose of the BWI® is to provide one simple metric as a measuring score of body composition health.

Athletic Rating – 9.0 - 10 | **Optimal Rating** – 8.0 - 8.9 | **Average Rating** – 7.0 - 7.9

Below Average Rating – 6.0 - 6.9 | **Poor Rating** – 0 - 5.9

18. SEGMENTAL ANALYSIS: This shows what each section is made up of in terms of lean body mass and subcutaneous fat mass. The Lean Mass of 5 body parts (left/ right arms, left/ right legs & trunk). This is a great way to discover the presence of any muscular dominance as well as track muscular increases in a specific body part. Likewise, your fat mass of 5 body parts (left/ right arms, left/ right legs & trunk) is also shown. This is a great way to track fat loss in a specific body part and this should be used as the best method to track reductions rather than a total body fat percentage, remembering that it can take significant time before visual changes can be seen. Seeing the numbers on the follow up scans can provide the motivation to stay consistent or make amendments to ensure changes are made.

19. ABDOMINAL CIRCUMFERENCE: The approximate measurement around your navel circumference.

20. WAIST / HIP RATIO: An indicator of your internal fat distribution. The higher the number the more uneven the distribution can become between the waist & the hip. Calculated by dividing waist girth by hip girth.

21. CALORIES: Calories are a unit of measure of fuel intake in simplistic terms. There are a base amount of calories required for the body to sustain basic function. By definition a calorie is the energy it takes to raise the temperature of 1 gram of water 1 degree Celsius. Calories are broken down into 3 macronutrients which provide different requirements to the human body and each contain different calorie amounts.

22. PROTEIN: Proteins are essential nutrients required by the body for the structure, function, and regulation of the body's cells, tissues, and organs. Protein is important for the repair and growth of skeletal muscle tissue. Protein contains 4 calories per gram.

(i) Aragon et al 2017 ISSN position stand diets and body composition

(ii) Jager et al 2017 ISSN Position stand Protein and Exercise

(iii) Phillips et al 2016 Protein requirements beyond the RDA implications for optimising health.

23. CARBOHYDRATE: Carbohydrates primary role in human physiology is energy provision, constituting the body's preferred fuel source for energy. Carbohydrates are generally classified as complex and simple, which basically refers to the rate at which the body digests and absorbs the sugars. Carbohydrates can be categorised into starches, fibrous and fruit. Carbohydrates contain 4 calories per gram.

24. FAT: Dietary fats are an essential macronutrient that provides the body's major energy stores. There are a wide variety of foods that contain dietary fat including essential fatty acids required for bodily functions such as the formation of cell membranes, brain and nervous system development and function as well as hormonal health. Fats contain 9 calories per gram.

YOUR NUTRITION: Macronutrients are energy-providing chemical substances consumed by organisms in large quantities. The three macronutrients in nutrition are carbohydrates, fats, and proteins. Everybody has an individual macronutrient profile depending on their body composition.

To learn more about your macros, [DOWNLOAD THE EVOLT ACTIVE APP](#).

YOUR SUPPLEMENT RECOMMENDATIONS: So what are supplements? Supplements are exactly how they spelled out. They are designed to supplement your daily dietary requirements. Most people do not have the ability to take in either enough nutrients or all of their nutrients. Therefore, it becomes necessary to utilize supplementation to ensure all of their daily requirements are met. Especially if you are trying to reach a particular goal, play a specific sport or medically require more of a specific type of nutrient.

It is important to note that supplements aren't just for athletes or people who frequent the gym, they are for everyone who needs to add nutrients to their daily diet.

DISCLAIMER: These suggestions are designed for guidance only and are not to be taken as medical advice. We recommend you seek professional assistance from your Medical or Healthcare Professional.

For more information about your Scan Results, please go to the FAQ page on the website - WWW.EVOLT360.COM.

MALE BODY FAT % TABLE: Based on WHO/NIH guidelines Age Low Normal High

Age	Low	Normal	High	Very High
20 - 30	< 8	8 - 20.9	21 - 25.9	> 26
40 - 59	< 11	11 - 22.9	23 - 28.9	> 29
60 - 79	<13	13 - 24.9	25 - 30.9	> 31

FEMALE BODY FAT % TABLE: Based on WHO/NIH guidelines

Age	Low	Normal	High	Very High
20 - 30	< 21	21 - 32.9	33 - 38.9	> 39
40 - 59	< 23	23 - 34.9	35 - 40.9	> 41
60 - 79	<25	25 - 37.9	38 - 42.9	> 43

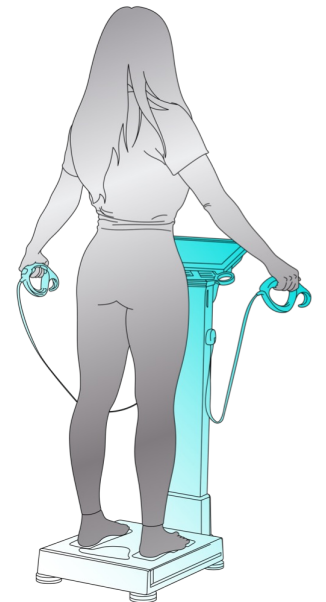
The Evolt 360 utilizes BIA technology (Bioelectrical Impedance Analysis). BIA works by passing a safe, low-intensity electrical current through the body via the tactical points on the machine (feet and hands). In very simplistic terms, the resistance to flow of the current determines the difference between muscle mass, fat mass (including visceral and subcutaneous), water and mineral.

The science behind BIA is well researched and validated in peer-reviewed published literature as a reliable, un-intrusive measure of body composition when conditions are standardized.

The basis of the accuracy and repeatability of BIA as a technology relies on 5 factors to ensure absolute integrity, those being age, gender, height, weight, impedance measurement (i)(ii)(iii)(iv)

The Evolt 360 utilizes a 5-compartment model of BIA which enables the measurement of each compartment of the body separately to provide a more conclusive result.

- (i) Games et al 2017 BIA of body composition
- (ii) Meleleo et al 2017 Evaluation of body composition with Bioimpedance
- (iii) Raeder et al 2018 Validity of BIA in estimation of FFM in colorectal cancer patients
- (iv) Sergi et al 2014 Assessing appendicular skeletal muscle mass with BIA



STORAGE & MAINTENANCE

1. Pay attention to the allowable value to electric current
2. Avoid direct sunlight, humidity, dust, thick oil and salty or extreme changes in temperature.
3. Do not install or store the device in a place where any chemicals or gas is stored.
4. Do not use the device in any unstable, vibrating, or impact-giving area.
5. Do not put or drop anything on the device and avoid strong impact.
6. Do not disassemble or remodel the device.
7. Do not splash any fluid on this device or insert any foreign substances.
8. If this unit has not been used for a long time, use this after confirming by an expert if all function and appearance are in good condition.
9. In case of inserting foreign substances or exposing to particular environment, this device must be examined by an expert before use.
10. Use the power cable, plug, and fuse that are offered by our company. At this time, confirm the covering of cable, the state of plug connection, and other check points to the things below.
 - RS 232C cable
 - USB port
 - Adapter
11. When pulling out the power cable, turn off the power switch first and then pull the plug out.
12. Storage ambient: Temperature -25 ~ 70 °C, Humidity lower than 93 % (non condensing)
13. Operation ambient: Temperature 5 ~ 40 °C, Humidity 15 ~ 93 % (non condensing)
14. Do not store or use this device under 70 kPa (700 mbar) or over 106 kPa (1060 mbar) of atmospheric pressure.
15. Cleaning & Disinfection
 - ① Cleaning: Use a soft gauze cloth with volatile liquid like alcohol (Ethyl or Isopropyl alcohol 70~90%) to clean it.

Clean it every 2~3days. Do not use a wet cloth.
 - ② Disinfection: After measurement, use a soft gauze cloth with volatile liquid like benzene and alcohol. Then, wipe the enclosure with soft lint. Please wipe after every measurement for electrode disinfection.
16. Refer to "SAFETY PRECAUTIONS."

STORAGE & MAINTENANCE

WARNING



Users must wipe with safety equipment such as gloves in disinfecting electrode.

Our company doesn't take any responsibility for safety accidents caused by carelessness or incorrect use of the product.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The device could be sent back to the manufacturer for recycling or proper disposal after their useful lives. Alternatively, the device shall be disposed in accordance with national laws after their useful lives.

PACKING AND TRANSPORT

Our company follows his packing ways to protect any impact during transporting etc. So please do not transport or move the unit without our company's packing condition as your wishes.

ERROR & REPAIR

Error	Cause	Repair
Out of range of impedance	<p>When the subject's body impedance deviates from the limit</p> <ul style="list-style-type: none"> - Insufficient touch to electrodes - Impedance is out of range - Range: 100 ~ 950 Ω 	<ul style="list-style-type: none"> • Clean the measuring parts (the electrodes, palms, and soles) and try again. • Measure again with correct posture. • Do not move during measurement. • If the same error is repeated, please contact our company or its local distributor from where this device is purchased.
Out of range of body fat	<p>When the subject's P.B.F. deviates from the limit</p> <ul style="list-style-type: none"> - Incorrect input of personal data - P.B.F. is out of range 	<ul style="list-style-type: none"> • Clean the electrode holders and try again. • After checking that there is neither something with wrong input of personal data (age, gender) nor with measuring error of weight and impedance, try again. • It can't measure if the P.B.F. is out of range. • When the same error occurs even after re-measurement, please contact our company or its local distributor from where the device was purchased.
Out of range of measurement	<p>When the subject's fatness is deviated from the limit</p> <ul style="list-style-type: none"> - Mechanical error 	<ul style="list-style-type: none"> • Input height correctly or if installed height already, measure again. • Confirm to measure weight and try again correctly. • It can't measure if the fatness is out of range. • When the same error is occurred even re-measurement, please contact with our company or its local distributor where is purchased.
Insufficient electrode connection	<ul style="list-style-type: none"> • When even one of all 4 electrodes connects with ankle insufficiently 	<ul style="list-style-type: none"> • Connect to ankle all 4 electrodes once more.

ERROR & REPAIR

ERROR	CAUSE	REPAIR
to Ankle		
Can't input the height	When the subject's height is deviated from the limit - Incorrect input of height	<ul style="list-style-type: none">• Input height correctly. If the subject's height is out of range, height can't be entered.
Can't measure the weight	When the subject's weight deviates from the limit - Measuring error - Moving during the measurement	<ul style="list-style-type: none">• Measure the weight again. Don't move or speak during measurement.• It can't measure if the weight is out of range.• When the same error occurs even after re-measurement, please contact our company or its local distributor from where device is purchased.

ERROR & REPAIR

Error code	Cause	Repair
38001	<ul style="list-style-type: none"> • Electrode and measuring parts are not detected or dirty • Faulty in impedance measuring 	<ul style="list-style-type: none"> • Try to measure again after cleaning the electrode holders with soft gauze. • Try again after cleaning the hands and soles. • Check if foreign materials are between electrodes and measuring parts. • Try again in correct posture and hold the electrodes according to the measuring method.
38003	<ul style="list-style-type: none"> • There is an error in measured impedance by external influence. 	<ul style="list-style-type: none"> • Check installation condition (AC cord or around equipment) • Contact our company or distributor.
38004	<ul style="list-style-type: none"> • Out of measurement range of impedance • range: 100~950Ω 	<ul style="list-style-type: none"> • Try again after cleaning the hands and soles. • Check if foreign materials are between electrodes and measuring parts. • It can't measure if the impedance is out of range.
38005	<ul style="list-style-type: none"> • Out of measurement range of PBF • range: Under 75% 	<ul style="list-style-type: none"> • Try again after cleaning the hands and soles. • It can't measure if the PBF is out of range.
38006	<ul style="list-style-type: none"> • Continuous error for 3 times 	<ul style="list-style-type: none"> • Step off and try again. • Contact our company or distributor.
38007	<ul style="list-style-type: none"> • Disconnect Color board and Main board 	<ul style="list-style-type: none"> • Contact our company or distributor.

SERVICE

1. AFTER SERVICE

If there is any problem with the unit, please follow the steps below;

- Contact our company's Support & Service Department immediately. After gathering the model name, Serial Number, date of purchase and description of the problem, contact our company with information shown below.
- Try to solve the problem over the phone with the personnel of local service department. If the problem cannot be solved over the phone, return the unit directly to service department.
- Our company or local distributor will make available on-request circuit diagrams, component part list, descriptions, calibration or other information which will assist your appropriately qualified technical personnel to repair those parts of the unit which are designated by our company as repairable.

How to contact our company -

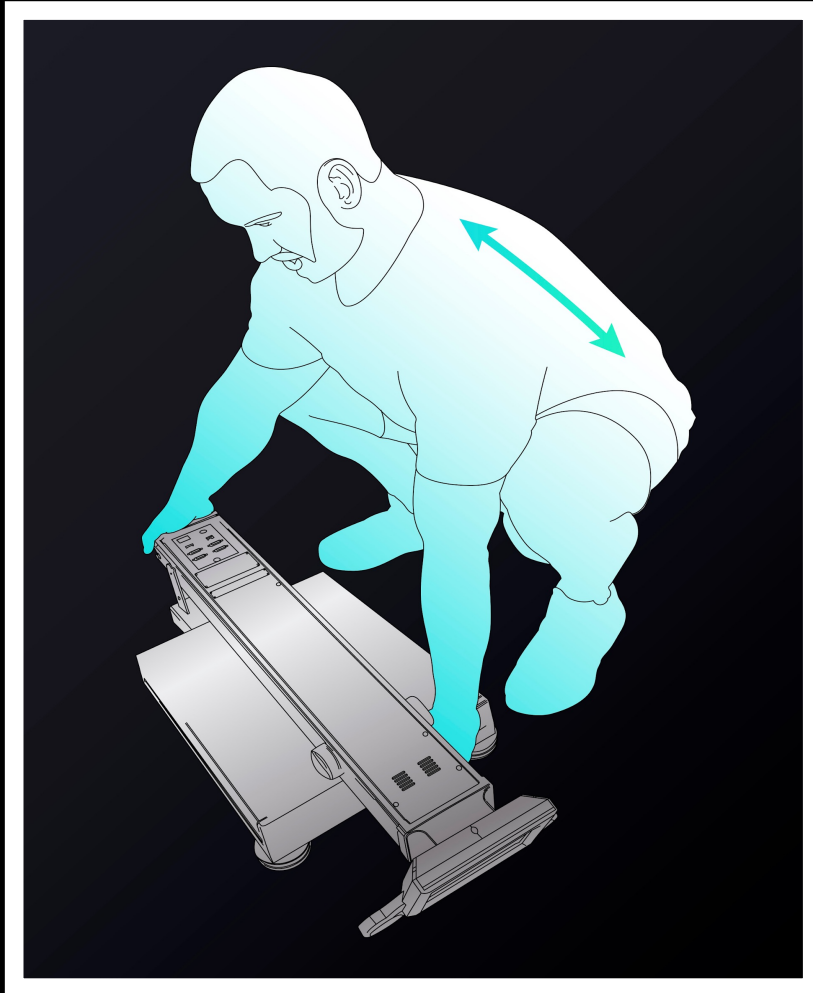
Customer Service & Support
EVOLT IoH Pty Ltd
2/2 Newcastle Street,
Burleigh Heads, QLD, 4220
Australia
Ph: +617 5535 6227
Email: info@evolt360.com

2. PACKING AND TRANSPORT

Our company wraps this device up with the most suitable method to protect it from any impact or damage during shipping and transporting. This device can be damaged during delivery if it is packed in other ways except the one our company uses. Please handle this device carefully without any impact in packing and delivery. If this device needs to be transported wrap this device up again and transport it as follows.

- Turn off the power.
- Turn off the power of the peripheral devices and disconnect all cables.
- Disassemble the device in reverse order of assembly.
- Pack the device with the original packing materials.
- Transport it carefully

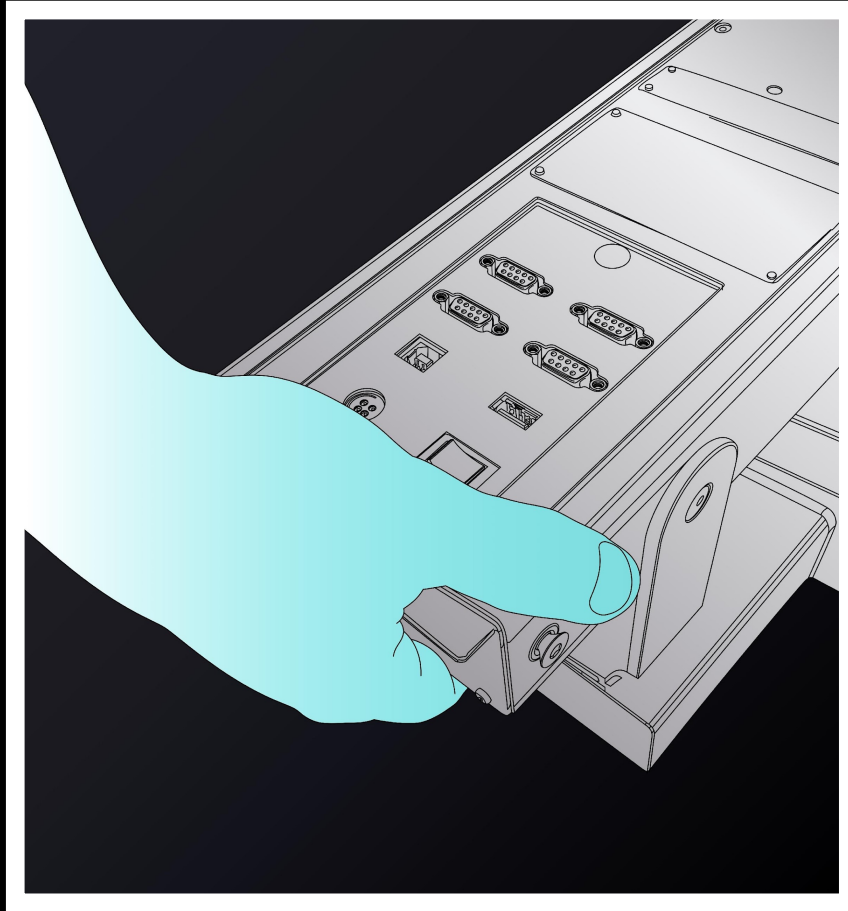
Correct Handling Technique



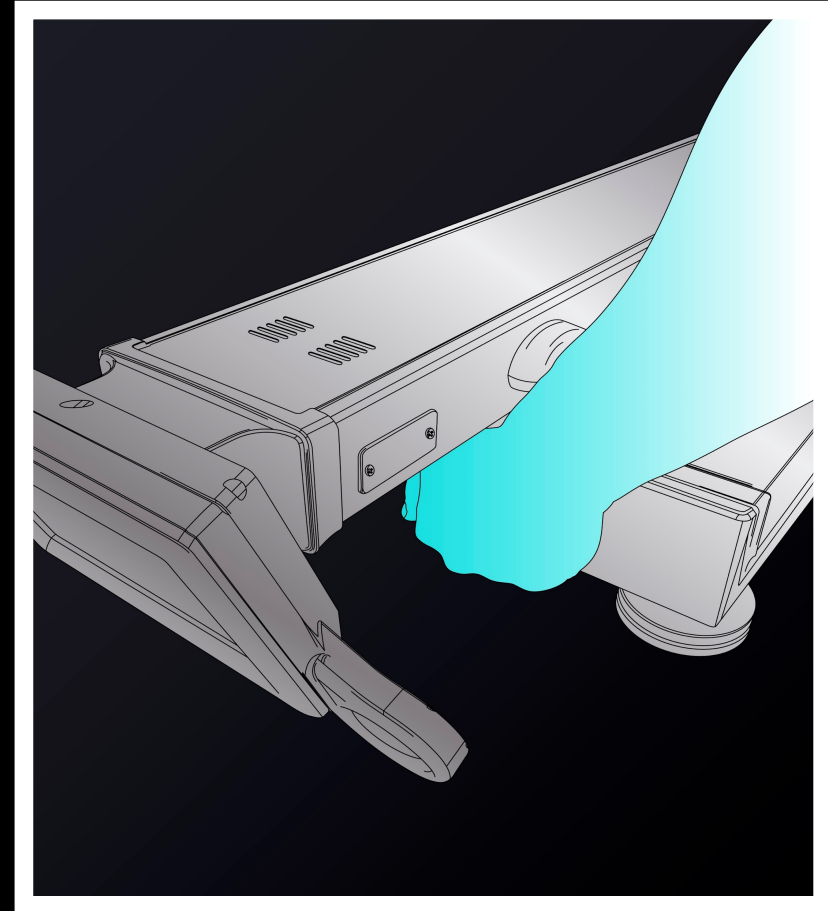
Ensure that your back is kept in a straight position at all times, keeping your feet, shoulder width apart, use your legs to lift the machine up as shown in the figures above. **DO NOT** round your back.

Correct Handling Technique

A



B



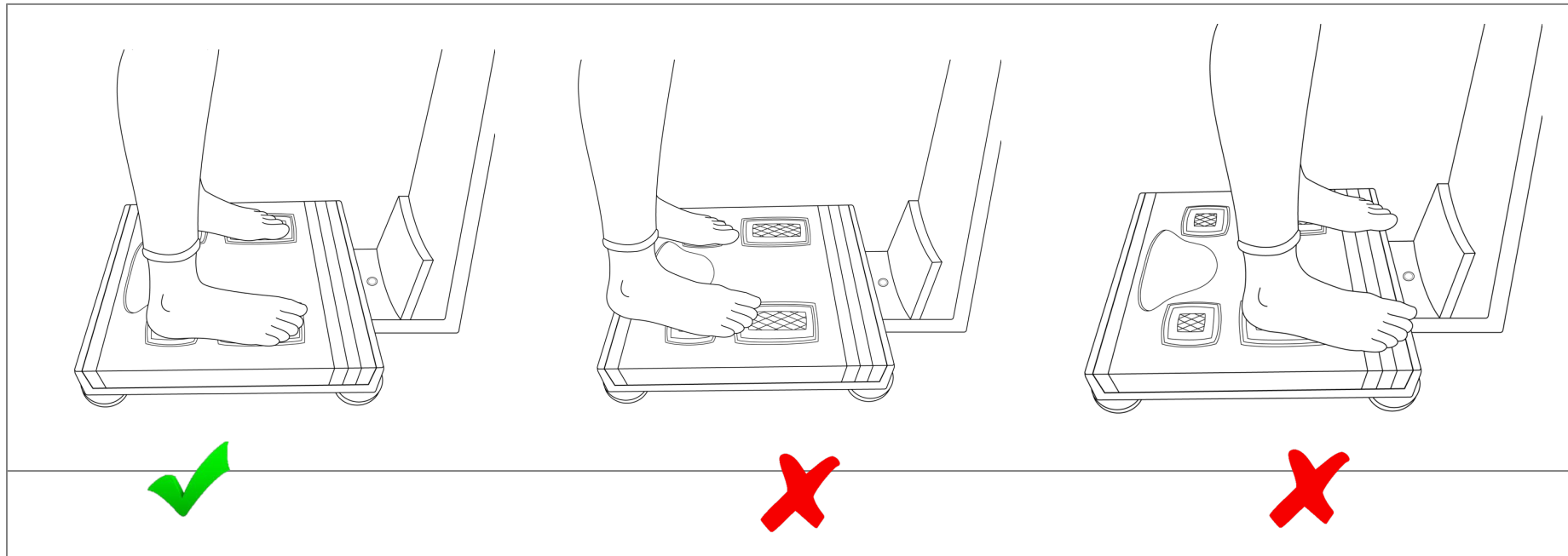
When the unit is folded, firmly grasp the base of the neck as shown in figure A with one hand and grasp the other side of the unit by grasping under the scale between two feet as shown in figure B.

Correct use of the EV360

Correct position to measure

1) How to touch electrodes

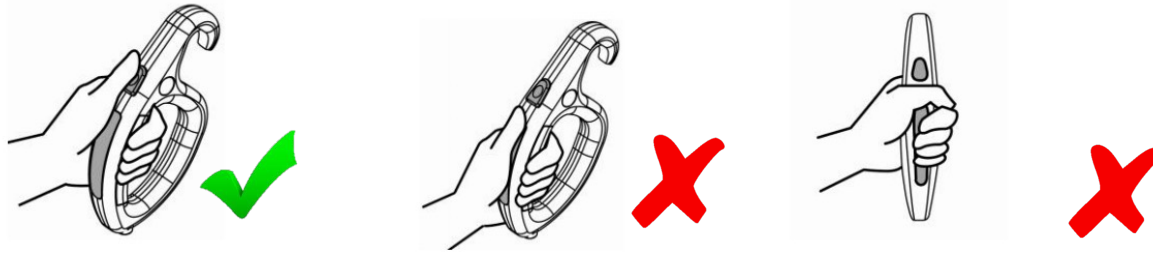
- Make sure that the plate electrodes are clean. Use antiseptic wipes on all silver plate electrodes after each use to ensure cleanliness and hygiene.
- Take off the socks or stockings then, stand on the plate electrodes.
- Remove sweat or foreign matters on the soles.
- Fairly place the bare feet on the plate electrodes. Make sure that the clothes are not between the soles and the plate electrodes.
- When ankle electrode is selected to measure body composition, pull down the socks as show in the picture



Correct use of the EV360

2) How to grip handle electrodes

- Ensure contact with all fingers including thumbs and palms as shown in the image
- Ensure palms have full contact with electrodes at all times.
- Stretch out arms enough to ensure that arms are not touching the body
- Stand still throughout the measurement ensuring there is not movement of the



WARNING



1. When the subject has hands or feet that are too small to cover all electrodes sufficiently for measurement, please pay attention to touch all electrodes fairly. How one touches electrodes will affect the reliability of the analyzed value.

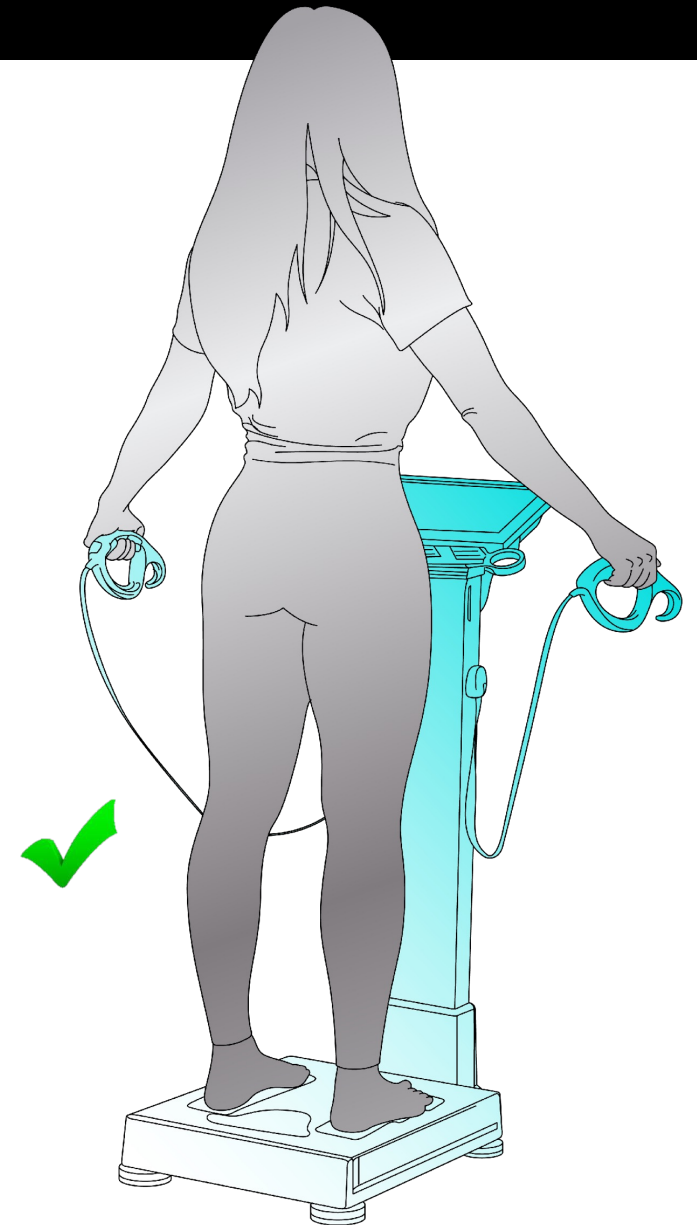
2. During measurement the subject should not be touched by another person or by conductive materials.

3. If 8 electrodes are not perfectly touched during measurement, measuring is quit or the data is not reliable.

If 8 electrodes are not perfectly touched during the measurement, the result is not reliable or the device quits the measurement.

Measuring Posture

- Step the scale in the bare feet. Stretch both arms and spread them 30° from the body.
- Do not speak or move the body until the measurement is completed.
- Do not bend or shake the arms until the measurement is completed.
- The measurement will be stopped if all eight electrodes are not fairly touched



WARRANTY

Name of product	Body Composition Analyzer		
Name of model	EV360		
Serial number			
Period of warranty	Within 1 year from the date of purchase		
Date of purchase			
Customer	Add.	Name Tel.	
Dealer (market)	Add.	Name Tel.	

NOTE

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Periodic Check List

Management No.

Item		Inspection Subject	Requirements	Judgement	Remarks
Visual Check					
Mainframe	1	Enclosure	No scratch, crack, deformation and rust	Pass/Fail	
				Pass/Fail	
	2	Labels and panels	No peeling and dust	Pass/Fail	
	3	LCD	No Damage	Pass/Fail	
Accessories	4	Electrode	No scratch and damage	Pass/Fail	
	1	Power Cord	No scratch and damage	Pass/Fail	
	2	User manual	Kept in proper place	Pass/Fail	
Mechanical Check					
Mainframe	1	Keys	Smooth operation	Pass/Fail	
	2	Rocorder	Smooth operation with no abnormal sound	Pass/Fail	
	3	Touch Screen	Smooth operation	Pass/Fail	
Accessories	1	Power Cord	Smooth operation and removal	Pass/Fail	
Electrical Check					
Mainframe	1	Power Supply	Screen Display upon power on	Pass/Fail	
	2	Dispay	No abnormality and flickering	Pass/Fail	
	3	Printing	Printing possible	Pass/Fail	
	4	Measurement	Proper measurement	Pass/Fail	

General Judgement

Model EV360

Installation place

Check date

Copy this sheet for use

If repair is required, write down so in the Remarks column.

Checked by

Serial

Date of purchase

Approved by

CHECKLISTS

Daily Check List

Management No.

Item		Inspection Subject	Requirements	Judgement	Remarks
Visual Check					
Mainframe	1	Enclosure	No scratch, crack, deformation and rust	Pass/Fail	
				Pass/Fail	
	2	Labels and panels	No peeling and dust	Pass/Fail	
	3	LCD	No Damage	Pass/Fail	
Accessories	4	Electrode	No scratch and damage	Pass/Fail	
	1	Power Cord	No scratch and damage	Pass/Fail	
	2	User manual	Kept in proper place	Pass/Fail	
Mechanical Check					
Mainframe	1	Keys	Smooth operation	Pass/Fail	
	2	Rocorder	Smooth operation with no abnormal sound	Pass/Fail	
	3	Touch Screen	Smooth operation	Pass/Fail	
Accessories	1	Power Cord	Smooth operation and removal	Pass/Fail	
Electrical Check					
Mainframe	1	Power Supply	Screen Display upon power on	Pass/Fail	
	2	Dispay	No abnormality and flickering	Pass/Fail	
	3	Printing	Printing possible	Pass/Fail	
	4	Measurement	Proper measurement	Pass/Fail	

General Judgement

Model EV360

Installation place

Check date

Copy this sheet for use

If repair is required, write down so in the Remarks column.

Checked by

Serial

Date of purchase

Approved by

SPECIFICATION

Model	EV360
Measuring method	Tetra-polar electrode method using 8 touch electrodes.
Frequency Range	5, 50, 250 kHz
Measuring site	Whole body and Segmental measurement (arms, legs, and trunk)
Main items	[Result for Body Composition Analysis] Body Composition Analysis (Weight, LBM, Body fat, SLM, Protein, Mineral, TBW), Muscle/Fat analysis (Weight, SMM, Fat mass), Obesity analysis (BM, PBF, Obesity degree, AC), Abdominal analysis (WHR, VFL, VFA), Control guide (Weight and control, Muscle mass and control, Fat mass and control, Target to control, control to week, Duration to control), ECW, Body composition change (Weight, SMM, Fat mass), Comprehensive evaluation (Body type, Biological age, BMR, TEE, BCM), Balance assessment (Upper body L/R, Lower body L/R), Segmental(Left arm, Right arm, Left leg, Right leg, Trunk) Fat mass/Lean mass, Impedance (Segmental & Frequency), Blood pressure (when connected with blood pressure monitor of our company), QR code [Body Composition Analysis (Weight, LBM, Body fat, SLM, Protein, Mineral, TBW), Muscle/Fat analysis (Weight, SMM, Fat mass), Obesity analysis (BMI, PBF, WHR), Child growth curve (height, weight), Comprehensive evaluation (Body type, BMR, TEE, BCM, Obesity degree), Balance assessment (Upper body L/R, Lower body L/R), Control guide (Target weight, Weight control, Muscle control, Fat control), Segmental(Left arm, Right arm, Left leg, Right leg, Trunk) Fat mass/Lean mass, Impedance (Segmental & Frequency), QR code
Current	Within 180 μ A \pm 15
Power supply	Input: 100-240VAC, 50/60Hz, 1.5 A Output: +12V, 5.0A
Display	12.5 Inch Wide Color LCD
Input device	Touch pad, PC remote control
Transmitting device	USB port , RS-232C port
Printing device	USB port (the printer assigned by our company), Thermal print (option)
Dimension	641 \times 436 \times 1029mm(W \times D \times H)
Weight	About 18kg (main unit)
Measuring range	100 ~ 950 Ω
Measuring time	Approx. 30 seconds
Input height	50 ~ 220 cm / 1ft 7.7in ~ 7ft 2.6in
Measuring weight	10 ~ 250 kg / 22lb ~ 551.1lbs
Applicable age	1 ~ 99 years old
Operation ambient	Ambient temperature range +5 to +40 °C. Relative humidity range 15 to 93 % (non condensing) Atmospheric pressure range 70 kPa (700 mbar) to 106 kPa (1060 mbar)
Storage ambient	Ambient temperature range -25 to +70 °C Relative humidity range lower than 93 % RH
Software name and version	EV360 .AP.1.0.19 & BCA-CE3F/V5.26.G & VNBCA-360/v0.19.2. NOTE. For purpose of improvement, specifications and design are subject to change without notice.



EVOLT'S MISSION STATEMENT

"Educating people with the knowledge of their body composition, providing inspiration from information."

- EVOLT.

"To be the most trusted company for people's wellness journey, by evolving body composition intelligence and providing a complete ecosystem for personal measurement."

EVOLT