◇BARSKA®

Fitness Watch with Heart Rate Monitor

Includes Chest Strap | Bicycle Mount | Wireless Transmitter
and Soft Carrying Case

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INTRODUCTION

The heart rate monitor is an indispensable aid for a beginner, regular exerciser and even for the professional athlete.

The Heart Rate Monitor features professional heart measuring and data recording functions in addition to the normal time functions of a watch. The sleek styling of the The will allow you to wear it comfortably during exercise as well as everyday use.

To ensure your safety, please use the The under a doctor or coach's direction if you have one of the following conditions:

1. Cardiopulmonary disease
2. Obesity
3. No exercise for an extended period of time

ACCESSORIES INCLUDED

1. Transmitter
2. Elastic Strap
3. Carrying Case
4. Bracket For Bicycle

WEARING THE CHEST BELT

Fig. 1   Fig. 2   Fig. 3

Fig. 4   F ig. 5

Fig. 6   Fig. 7

1. Fasten the fastener at one end, put the chest belt on your chest and loosen the stretch band. (Fig. 1, 2 and 3)

2. Adjust the length of the stretch band until you feel conformable, but the stretch band must cling to the chest; then fasten the fastener at the other end. (Fig. 4)

3. Adjust the sensor to the center of your chest and be sure the backside of the sensor clings to your chest and touches the skin. (Fig. 5.6)

4. The chest belt has to be worn while using the heart rate function. The distance transmission should be less than 1 meter (3 feet).

5. Do not bend or fold the chest belt to prevent damage. (Fig. 7)

BASIC KEY OPERATIONS

SET
LIGHT

P.MODE

T.MODE

ST/SP

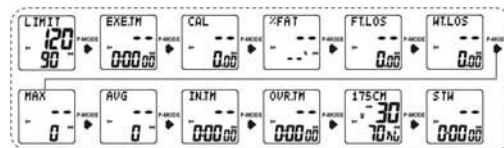| SET	Hold SET for 2 seconds to enter settings in each of the respective areas
T.MODE	Change watch to watch function group
P.MODE	Change watch to pulse function group
ST/SP	Start / Stop
LIGHT	EL Light

TIME MODE CIRCULATION
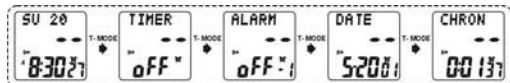
PULSE MODE CIRCULATION

1. Press P.MODE to change setting digit.
2. Press T.Mode to increase the value, hold to increase the value automatically.
3. Press ST/SP to decrease the value, hold to decrease the value automatically.
4. Press SET to complete setting and quit.

CHANGING SETTINGS

If you want to change the settings of a certain mode of the watch do the following:
Go into the Mode you want to change Ex: Clock Mode.
    a). Press and hold SET for 2 seconds to enter settings menu.
    b). Press T.MODE to increase the value of current digit.
    c). Press ST/SP to decrease the value of current digit.
    d). Press P.MODE to go to the next digit.
    e). Press SET to complete settings and quit settings menu.

WATCH AND HEART FUNCTIONS

Watch Functions

Clock	12/24-hour, date, day of week display
Date	Year, month, date, day of week, 2000-2099
Countdown Timer	From 99:59:59-00:00:00
Alarm	Beep alarm, 3 settings available
Chronometer	Stopwatch from 00:00:00-99:59:59
Chime & Key Beep	Chime and key beep option
Water Resistant	Up to 30 meters

EL Back light
Low battery power indicator

Watch Modes

Clock Mode

1. 12H or 24H format.
2. Turn Chime function On/Off by press ST/SP 2 seconds in this mode.
3. Clock Setting
   a). Press T.MODE to select "CLK" mode.
   b). Press SET 2 seconds to start clock setting mode.
   c). Press P.MODE to change the digit to be set.
   d). Press T.MODE to increase the value of current digit, hold to increase the value automatically.
   e). Press ST/SP to decrease the value of current digit, hold to decrease the value automatically.
   f). Press T.MODE or ST/SP to select 12H or 24H mode.
   g). Press T.MODE or ST/SP to reset the seconds to "00".
   h). Press SET to complete setting and quit.
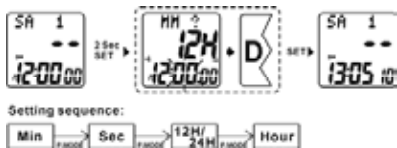
Countdown Timer Mode

1. Press ST/SP to start/stop countdown timer.
2. Symbol as "____" will display when start count down starts.
3. There will be a 10 second beep when the function is completed, "____" will flash, and OVEr will display on the LCD.
4. Stop beep and reload pre-set data by pressing any key.
5. Reload pre-set date at any time by pressing T.MODE 2 seconds.
6. Maximum range for countdown is 99H 59M 59S.
7. Countdown Timer Setting
   a). Press T.MODE to select "TIMER" mode.
   b). Press and hold SET for 2 seconds to enter settings menu.
   c). Press T.MODE to increase the value of current digit.
   d). Press ST/SP to decrease the value of current digit.

   e). Press P.MODE to go to the next digit.
   f). Press SET to complete settings and quit settings menu.

Countdown Timer Mode
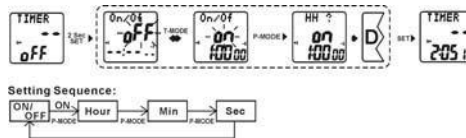
Alarm Mode

1. Press ST/SP to change alarm set (1 to 3).
2. The " 🐕 " symbol will display after alarm setup.
3. The alarm is a 30 second beep, the " 🐕 " symbol will blink.
4. Stop the beep by pressing any key.
5. Take note of the time mode you have selected 12H or 24H.
6. Alarm setting
   a). Press T.MODE to select "ALARM" mode.
   b). Press and hold SET for 2 seconds to enter settings menu.
   c). Press T.MODE to increase the value of current digit.
   d). Press ST/SP to decrease the value of current digit.
   e). Press P.MODE to go to the next digit.
   f). Press SET to complete settings and quit settings menu.

Date Mode

1. Calendar from the year 2000 to 2099.
2. Day of week will display automatically while the date is input.
3. Date setting
   a). Press T.MODE to select "DATE" mode.
   b). Press and hold SET for 2 seconds to enter settings menu.
   c). Press T.MODE to increase the value of current digit.
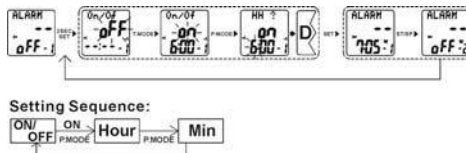   d). Press ST/SP to decrease the value of current digit.
   e). Press P.MODE to go to the next digit.
   f). Press SET to complete settings and quit settings menu.

Fitness Watch with Heart Rate Monitor
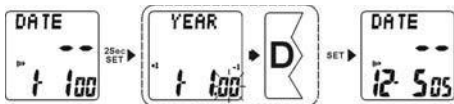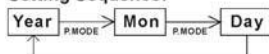
Target Zone Limit

Setting Sequence:

Year → Mon → Day

Chronometer Mode

1. Press ST/SP to start/stop chronometer.
2. Press T.MODE for 2 seconds to reset chronometer data.
3. Maximum range is 99H 59M 59S.

Sound Option

To enable/disable sound for time functions

Go into time mode main menu, press and hold St/Sp, beep will be heard and this 🔔 symbol will appear or disappear on the screen.

To enable / disable sound for heart rate functions

Go into heart rate monitor main menu, press and hold St/Sp, beep will be heard and this (⊙) symbol will appear or disappear on the screen.

Heart Rate Functions

HR	Display the current heart rate (HR)
STOPWATCH	00:00:00 to 99:59:59 when the heart rate is detected
CAL	Calculate expended calories during exercise (0 to 9999.99 Kcal) according to your personal data input
EXE.TIME	Calculate exercise time while the heart rate is at the lower limit of a preset target zone

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WT.LOS	Calculate weight lost from exercise (0 to 9999.99g) according to your personal data input
% FAT Loss	Calculate the percent of fat lost clearly from the all expended calories; thus you will see that the fat lost varies and depends on the intensity of heart rate
FT.LOS	Calculate fat lost from exercise (0 to 9999.99g) according to your personal data input
MAX	Maximum HR during exercise (40 to 240 bpm)
IN.TM	Exercise time within setup target zone (00:00:00 to 99:59:59)
OVR.TM	Time over upper limit of target zone during exercise (00:00:00 to 99:59:59)
USER	User data setup, age (5 to 99), weight (10 to 199 kg or 10 to 499lbs.), and gender
AVG	Average HR during exercise (0 to 240 bpm). bpm (beats per minute) 40 to 240

Heart Rate Modes

Start / Stop Heart Rate Measure Function

1. Press P.MODE for 2 seconds to start heart rate measurement function.
2. When the function is operating, the LCD will display the signal as "♥" and "**bpm**".
3. Press P.MODE for 2 seconds to stop heart rate measurement function.
4. If a signal is not received for 5 minutes, the function will turn off automatically.

Start / Stop Heart Rate Data Record Function

1. Press ST/SP to start heart rate measure function.
2. Press P.MODE to switch to EXE_TM function.
3. Press ST/SP, the signal shown as "**STOP**" at the top right of the display will change to "▮REC▮", and this means the data record

function is started. Stop by pressing ST/SP, the signal will change to "**STOP**".
4. AVG, STW, CAL, EXE.TM, MAX, IN.TM, OVR.TM, WT.LOS and FT.LOS functions will only work while the record function is on.
5. %FAT Loss will be displayed automatically when heart rate is measured. The value will become "--" while no pulse is detected.
6. CAL, WT.LOS, %FAT Loss, and FT.LOS mode will be calculated when the heart rate is equal or over 90 bpm.

Reset Heart Rate Record Data

1. Press P.MODE to switch to EXE_TM mode.
2. Press T.MODE for 2 seconds to clear the record.

Heart Rate Display Description

1. Intensity = Current heart rate / Maximum heart rate.
2. Measure range of heart rate from 40 bpm to 240 bpm.

Target Zone Limit

1. Refer to chart in this section
2. This value depends on the target zone setup, and the lower and upper limits are displayed as a heart rate value.
3. The heart rate display is simple and clear and is convenient for the beginner.
4. The range for each target zone must be more than 10 bpm.
5. The range for the limit mode is from 40 bpm to 240 bpm.
6. To set the Target Zone Limit:
   a). Press P.MODE to change to "Limit" mode.
   b). Press SET for 2 seconds to enter Target Zone Limit setting.
   c). Refer the Changing Settings to adjust the Target zone limit data.

Target Zone Limit

Setting sequence:
Upper Limit → Lower Limit
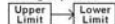
Stop Watch Mode - STW

1. Calculating the exercise time, only works while the heart rate is detected.

2. The range is from 0 hr. 00 min. 00sec. to 99 hr. 59 min. 59 sec.

Calories Mode - CAL

1. Calculates the calories expended for the whole exercise process, not only from exercise.
2. Males expend more calories than females at the same heart rate, likewise, the female heart rate will be higher than male heart rate doing the same amount of exercise.
3. Calories consumption will be affected by Heart rate, gender, weight and type of exercise.
4. The unit of calories is Kcal.
5. The range is from 0 Kcal to 9999.99 Kcal.

Exercise Time Mode - EXE.TM

1. Calculation and recording the exercise time starting when the heart rate reaches the lower value set for the target zone.
2. Total efficient exercise time will be recorded, including the time in and above the target zone.
3. The exercise time records ranges from 00H 00H 00S to 99H 59M 59S.

Weight Lose Mode - WT.LOS

1. Calculates the weight loss during exercise. (Including the consumption of carbohydrates and fat).
2. Range of weight lose from 0 to 9999.99 g.

Percentage Fat Lose Mode - %FAT

1. Calories are expended from burning carbohydrate and fat, and this function can calculate the percentage of fat calories expended.
2. 50% of the energy comes from carbohydrate and 50% from fat when the body is at rest. But the most energy will come from burning carbohydrate when doing intense exercise, because the body needs time to use the fat as fuel. Intense exercise will not help you reduce fat.
3. Fat expenditure depends on the time and intensity of exercise, the more you exercise the more fat will be expended.
4. Long time walking or jogging will be helpful for reducing fat.
5. At the same heart rate, younger men will have a higher percent fat loss.
6. The range of fat percentage is from 0 to 70%.

Fat Lost Mode- FT.LOS

1. Calculates the weight of fat lost during exercise.
2. The actual weight of fat lost from exercise can be important, and it is a valuable reference of weight loss.
3. The range of fat loss is from 0 to 9999.99 g.

Maximum Heart Rate Function- MAX

1. Monitors and records the maximum heart rate during exercise.
2. The range of maximum heart rate is from 40 to 240 bpm.

In Target Zone Time Mode - IN.TM

1. Calculates and records the exercise time within the target zone.
2. The range is from 00H 00M 00S to 99H 59M 59S.

Above Target Zone Mode - OVR.TM

1. Calculates and records the exercise time NOT in the target zone.
2. The range is from 00H 00M 00S to 99H 59M 59S.

User Date Mode - USER

1. Enters the data for gender, age, weight and height of user.
2. Personal data is an important reference for calculating the consumption of calories.
3. Range of age from 5 to 99.
4. Unit of weight: kg from 10 to 199 lb from 10 to 499
6. User data setting:
    a). Press P.MODE to select "USER" mode.
    b). Press SET for 2 seconds to enter user date setting mode.
    c). Press P.MODE to change setting mode.
    d). Press T.MODE or ST/SP to change Gender: male or female.
    e). Press T.MODE or ST/SP to change Weight Unit: kg or lb.
    f). Refer the Changing Settings to adjust the User data.
       see chart below

User Data Setting
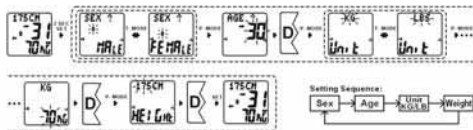
Average Heart Rate - AVG

1. Calculating the average heart rate during exercise. According to this value we can know if the cardiopulmonary condition has been improved while doing the same intensity of exercise.
2. Range of average from 40 bpm to 240 bpm.

PRECAUTIONS

1. Take care of your chest belt. Wash the chest belt by suds, then flush out with water. Let it air naturally, avoiding high temperatures or touching the corrosive as strong acid or alkalis material.

2. Wetting the skin, where will contact the conductive area of the chest belt will improve the conduction and get more stable signal.

3. The physical condition of individual might effect the intensity of measured signal.

4. Avoiding using the heart rate monitor close to trolley car, tram stop, transformer, electric substation and high-tension distribution line etc. Because the radio signal will be affected under the environment as high voltage and strong magnetic field.

5. The fitness watch is water resist up to 30 meters. Never operate any of the buttons while submerged in water. This watch is not designed for diving.

6. Battery can be used for about 1 year according to daily use for 2 hours. Please change the battery by a watch shop, never break the watch down by yourself.

SPECIFICATIONS

Pulse Transmitter	
Battery type	CR2032
Battery life	Average 1300 hours. (You can change the battery by yourself.)
Operating temperature	-10°C~50°C (14°F~122°F)

Pulse Wrist Receiver	
Battery type	CR2025
Battery life	About 1 year
Operating temperature	-10°C~50°C (14°F~122°F)
Water resistance	Up to 30 meters

READ BEFORE USE

<u>Correlation of Basic Metabolism and Heart Rate</u>

The human body needs water, air, sunlight and food to keep alive. Water, vitamin, fibrin, carbohydrate, protein and fat are the main elements in food. The three main elements as carbohydrate, protein and fat that can provide energy to body by burning oxygen. Normally, 5 Kcal will be used for 1 liter of oxygen. The burning oxygen and generated energy is proportional.

So when the body needs more oxygen to burn the frequency of breath and heart beat will increase to provide more oxygen.

Basic energy requirement
Formula 1 - ETotal = basic metabolism + energy consumption
Formula 2 - VO2 =1 MET + O2

1. Basic metabolism
Energy will be expended even while we sit at rest; the consumption of oxygen is approximately 3.5 mℓ/minute/kg. This value called MET (Metabolic Equivalent). The minimum energy for maintaining the daily operation of body is called basic metabolism.

Basic metabolism (O2) = 1 MET = 3.5 mℓ O2/minute/kg

O2 = 3.5 mℓ x 60 x 24 / kg / day = 5.04 ℓ/kg/day
Kcal = 5.04 x 5 Kcal/kg/day = 25.2 Kcal/kg/day (1 ℓ O2 = 5 Kcal)

For example, the basic metabolism for a 70 kg is 1764 Kcal/day. (25.2 x 70)

2. Energy consumption by work or exercise
Body needs energy to work or to exercise. There are only 22~25% (23%) of generated energy will be efficient, i.e. while the body generates energy of 1 Kcal, about 4~5 Kcal will expend. It means about 75~80% of energy will transfer to heat, which will be released by perspiring.

3. Maximum ingestion of oxygen (VO2_max) and maximum heart rate measuring
According to formula (1) and (2) the body required energy, ingestion of oxygen, weight and work/exercise-load are proportional as graph on the following page
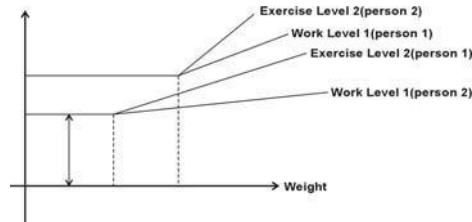
According to formula (2), the increasing work/exercise-load will cause the output energy and VO2 will increase proportionally. But the output energy of body is limited because the lung and heart can not work unconfined. So the physical condition is decided by the maximum ingestion of oxygen, i.e. who has a higher value of maximum ingestion of oxygen has better physical condition. VO_max can be measured precisely in lab, meanwhile the maximum heart rate (HRM_max) can also be measured.

4. Estimated value of maximum heart rate Referring to the ACSM (American Collage of Sports Medicine) formula, the maximum heart rate can be estimated as

HRM_max (BPM, beat per minute) = 220 – Age.

The above mentioned formula to estimate maximum heart rate is just a reference, actually, it will be affected by weight, physical condition and behaviour of life even at the same age. The tolerance is at about 10~12 BPM.

5. Sports and the cardiovascular system
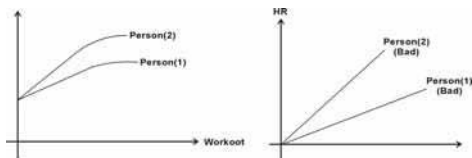
We can improve muscle strength and also cardiopulmonary condition through correct exercise. We can see improvements in the cardiopulmonary condition through the heart rate, which will decrease during exercise at the same intensity. Because of an increase in vital capacity transport, more blood and oxygen are transported by each contraction of the heart, and the skeletal muscles also receive more oxygen. This can be monitored if you use this fitness watch as a guide for exercise. You can also find that recovery time will decrease as the cardiopulmonary condition is improved.

According to the statistics on cardiopathy in people with different careers in Japan, the ratio heart trouble in office staffs is 2 times that of laborers, and that of urbanites is 1.43 times that of people living in villages. Thus, we can see that exercise improves physical condition and prevents cardiopulmonary disease.

Four Essences of Exercise

1. Intensity
2. Duration
3. Frequency
4. Mode of Exercise

According to the purpose of exercise, we give the following brief interpretations:

1. Intensity of exercise:

Usually there are two ways to measure the intensity of exercise:

(a). Relative intensity of exercise (%HRR): At first you have to measure the heart rate at rest (HR_rest). You can record the heart rate on 5 days in succession usually in the morning after you wake up but before you get up, obtaining an average of 5 values. The resting heart rate can also be measured at a time at least 2.5 hours after meal, after sitting calmly for 3-5 minutes before measuring. According to the equation for maximum heart rate from the ACSM (American College of Sports Medicine): HR_max (Unit=BPM: Beats Per Minute) = 220 – Age. For example, the maximum heart rate (HR_max) for a 20 year old man is 220-20=200 BPM.

So the relative intensity of exercise (%HRR) = (Current heart rate – HR_rest) ÷ (HR_max – HR_rest) × 100%

(b). Absolute intensity of exercise (%HR) = Current heart rate ÷ HR_max × 100%

Although recording the relative intensity of exercise (%HRR) can be an accurate monitor of the physical condition, it is inconvenient to measure the heart rate at rest (HR_rest) periodically, so most heart rate monitors calculate the heart rate based on absolute intensity of exercise (%HR). To avoid any misunderstanding and inconvenience to the user, Thes also uses absolute intensity of exercise like other manufactures. The above-mentioned equation for measuring heart rate is only a rough approximation and only for adults. In some cases the people of the same age will have different maximum heart rates, the variance being about 10 to 12 bpm. People who need an especially accurate maximum heart rate are the victims of cardiopulmonary disease or those who suffer from obesity and have not exercised for an extended period of time. The safest heart rate during exercise for a man in healthy physical condition is about 90% of the maximum heart rate, but an elderly person who is obese or in poor physical condition MUST drop down to a safe heart rate zone.

(c). According to ACSM references regarding the intensity of exercise, there are the following levels:

%	HR-Intensity
<35	Very light
<35-54	Light
<55-69	Moderate
<70-89	Hard
>90	Very hard
100	Maximal

(d). You can know your heart rate, heart rate intensity, and calories consumption per hour while exercising by the fitness heart rate monitor.

2. & 3. Duration and Frequency of Exercise:
According to the purposes of exercise, here are example of duration and frequency.

(a). Beginner of exercise:

Week	Frequency (times/week)	Duration (minutes)	Intensity
1-2	3	15-20	Moderate
1-2	3-4	20-30	Moderate

(b). Lose weight:

Week	Frequency (times/week)	Duration (minute)	Intensity
3-5	3-5	30-45	Light
3-5	3-5	45-60	Moderate
3-5	3-5	90-120	Moderate

(c). Improve cardiopulmonary and physical condition:

Week	Frequency (times/week)	Duration (minute)	Intensity

3-5	3-4	20-30	Moderate
3-5	3-5	30-45	Hard

(d). Maintain cardiopulmonary and physical condition:

Week	Frequency (times/week)	Duration (minute)	Intensity
--	3-5	30-45	Hard

(e). Maintain cardiopulmonary and physical condition: You can use fitness heart rate monitor to record the exercise time, efficient exercise time and exercise time within target zone.

4. Mode of Exercise

In allusion to the different purposes of exercise, for the purpose of weight loss, we suggest considering jogging or long time walking. For improving the cardiovascular system by swimming and jogging. To ensure your safety, please ask the advice of a doctor or a coach.

Exercise and Losing Weight

Balanced food intake is important while losing weight, and exercise can speed the expenditure of the calories that we take in. If you exercise 1-hour daily, but never stint yourself on food, you cannot control body weight. You can gain calories easily with a hamburger or a bottle of beer, so you cannot control your weight if the intake and consumption of calories is not balanced. The healthy intake is 15-20% protein, 20-30% fat and 50-60% carbohydrates. Moreover, sufficient vitamins and minerals are necessary. You can expend fat by dieting, but the fatty acids generated might harm your body. A man needs at least 2000~3000 Kcal daily, the value varying according to your personal requirements. We suggest you to ask a nutritionist to know how many calories you need per day, and what kind of food will be good for you.

We presume that you have controlled eating already, and we are going to present the fitness watch functions which can help you achieve the purpose of losing weight.

1). Energy calculations

Calculation of calories

We can use the equation W= F × S × η to find out the calories consumed. "W" means the actual work done and "η" the rate of mechanical efficiency of the body, and the range is 22-25%. According to the equation we can have the following results: when W is 1000 Kcal, and the rate of mechanical efficiency of body is at about 1000÷0.25 - 1000÷0.22, we are talking about a consumption of 4000 - 4500 Kcal, and deducting the actual work of 1000 Kcal, 3000 - 3500 Kcal is expended.

Energy consumption from everyday work:

You can calculate how many Kcal you need for daily work from the chart below.

Item	Duration	Male	Female
Sleep	8 hr	460 Kcal	350 Kcal
Eating	1 hr	90 Kcal	70 Kcal
Driving	0.5 hr	50 Kcal	35 Kcal
Standing	1 hr	125 Kcal	95 Kcal
Office Work	6 hr	620 Kcal	465 Kcal
Cooking	1.5 hr	245 Kcal	180 Kcal
Showering	0.2 hr	70 Kcal	50 Kcal
Shopping	0.5 hr	80 Kcal	60 Kcal

2). Ideal body weight

We know that there are many different equations for calculating the ideal body weight, and usually we use the ACSM equation, which uses BMI (Body Mass Index) as a reference for ideal body weight.

BMI = Weight (kg) ÷ square of height (m2)
Ideal BMI value for males is 22
Ideal BMI value for females is 21

Normally, a range within ±10% of the ideal value can be thought of as the ideal weight, so a suitable BMI for males is 19.8 - 24.2, and for females it is 18.9 - 23.1.

An easy way find your ideal body weight is:

Male: Square of Height (m2) × 22
Female: Square of Height (m2) × 21

For example, the ideal body weight for a male with height of 175 cm is 67 kg (1.752 × 22), and suitable weight is 60.3 - 73.7 kg (±10% of ideal body weight)

3). The right way to lose weight

(a). Heart rate and calories consumption:

The body obtains energy from burning fuels such as carbohydrates and fat, in this process the cardiovascular system delivers oxygen to the skeletal muscles. If the skeletal muscles need a lot of oxygen it is the result of the fuels burning faster. We can train the cardiovascular system and skeletal muscles by exercise. We suggest exercising 20 minutes a day at least 3 to 5 days a week. If you desire to lose fat then exercise over 30 minutes a day is recommended. Fat expenditure depends on the time and intensity of exercise, the more you exercise the more fat will be expended. Warm up and cool down is necessary. Always do a slow warm up and cool down as well as gentle stretching for at least 5 to 10 minutes to avoid athletic injuries. 30 minutes of exercise with the addition of warm up and cool down (10 to 20 minutes) will make the average workout time around 50 minutes. If you do not have the appropriate time or cannot endure exercise for 50 to 60 minutes at one time, 30 minutes of exercise two times a day is also an option. The body will keep burning fat with in 30 minutes after exercise this means more calories will be expended.

(b). The principles of losing and retaining weight:

(b-1). Retaining weight through exercise

Daily amount of exercise = Daily intake of calories - Basic metabolism - Daily energy consumption from work.

(b-2). Losing weight through exercise.

Daily amount of exercise > Daily intake of calories - Basic metabolism - Daily energy consumption from work.

• Surplus body fat of will expended this way.

(c). Proper principle for losing weight

Regular intense exercise can help expend extra calories; however, a plan for losing weight is better. You must have a plan that can ensure the continuation of exercise. As a reference, we suggest staying at each step for 6 months and keeping daily consumption at about 300-500 Kcal and lose 0.5 kg weekly. Do not lose more than 10% of your weight at each step, so as not to harm your body.

4). Control your weight using the fitness watch

The Fitness watch has specially designed functions to help you calculate the consumption of calories and weight loss.

K_cal	Calculate the consumption of calories for each form of exercise.
T_CAL	Record the expended calorie consumption in a week or a month.
WT_LOS	Calculate the weight lost for each form of exercise, including water, carbohydrates and fat.
%Fat Loss	Calculate the percent of fat lost clearly from the all expended calories, thus you will know that the fat lost is different and depends on the intensity of heart rate.
FT_LOS	Calculate the fat expended by each form of exercise (deducting 20% water related to it); The fitness watch will display the actual weight of fat lost.
CAL/H	Calories expenditure per hour. Increasing or decreasing the intensity of heart rate can control target calories consumption.
	For instance: a 25 years old female with a weight of 50 kg, exercising at the level of light intensity.
	Calories expenditure per hour: 210 Kcal (4.2 × 50) ~ 255 Kcal (5.1 × 50).

Male

Intensity Age	Very Light	Light	Moderate	Hard	Very Hard
	59~65%	66~72%	73~79%	80~87%	88~94%
20~29	5.1 ~ 6.3	6.6~7.5	7.8~8.7	9.0~10.2	10.5~11.7
30~39	4.8~6.0	6.3~7.2	7.5~8.4	8.7~9.6	9.9~11.1
40~49	4.5~5.7	5.7~6.6	6.9~7.8	8.1~9.0	9.3~10.2
50~59	4.2~5.1	5.4~6.0	6.3~7.2	7.5~8.1	8.4~9.6
60+	3.9~4.5	4.8~5.4	5.7~6.6	6.9~7.5	7.8~8.7

Female

Intensity Age	Very Light	Light	Moderate	Hard	Very Hard
	59 ~65%	66~72%	73~79%	80~87%	88~94%
20~29	4.2~5.1	5.4~6.0	6.3~7.2	7.5~8.1	8.4~9.6
30~39	4.2~4.8	5.1~6.0	6.3~6.9	7.2~7.8	8.1~9.3
40~49	3.9~4.5	4.8~5.4	5.7~6.3	6.6~7.2	7.5~8.4
50~59	3.3~3.9	4.2~4.8	5.1~5.7	6.0~6.6	6.9~7.5
60+	3.0~3.6	3.9~4.5	4.8~5.4	5.7~6.3	6.3~6.9

The above mentioned functions are available only while the heart rate is over 90 bpm.
Values are calculated depending on the personal data input and the heart rate.

The calculated and recorded calories expended are from the whole process of exercise, not only just from the exercise itself.

All functions related to the equation and generated values are based on the "body load exercise" mode; for example: walking or jogging. The heart rate will not be stable at the beginning of exercise, so the calculating of expended calories will have an error value; the value will become more accurate after warm-up.