daum electronic
best for your fitness

Vita pro de luxe

User Manual

daum electronic
best for your fitness

Contents

This ergometer is specially designed for health and endurance training. High quality manufacturing, a user friendly dashboard, ease of use and maintenance all contribute to make this appliance an ideal training device for sport and fitness purposes. Also note that the complete equipment and the wide performance range should appeal to sport or fitness conscious persons of every age group.

Please Note

Read this user manual thoroughly before using the device.

Please follow the recommendations about your health.

You should undergo a general medical examination before you start a training program.

You should interrupt immediately the training session if you feel uncomfortable, dizzy or in any way ill during a training session.

Always start a training with a low load and then increase the load gradually. At the end of the training reduce the load. After the training you should execute a few stretching and gymnastics exercises to relax your muscles.

Recommendations about the training location

Install your training device on a level ground. The device may damage wooden floors. We therefore recommend the installation of a protective underlay on wooden floors. We also recommend not to install the device on white or light-coloured carpets or mats because they could be stained by the black colour of the device's feet.

We recommend that the training location be properly aerated to provide enough fresh air, but nevertheless avoid draught.

You can use this device in a temperature range from +10°C to +35°C.

Safety notes

Children should only use this device under supervision and they must be provided with a proper explanation of its operating principles.This device is not a toy.

Please make sure the device is in working order. You should never train on a defective device.

The device may only be used by one person at a time.

You should wear appropriate clothing and shoes while training.

The device may only be used if all the parts are firmly attached and no part is loose.

You may only execute the repair operations described in this user manual. Other repair and service operations may only be carried out by qualified specialists.

Do not press the buttons with the fingernails, always use the fingertips to avoid scratching the button.

Avoid wetting the dashboard. If during a training session your dashboard is wetted by sweat you should wipe it with a soft cloth after training.

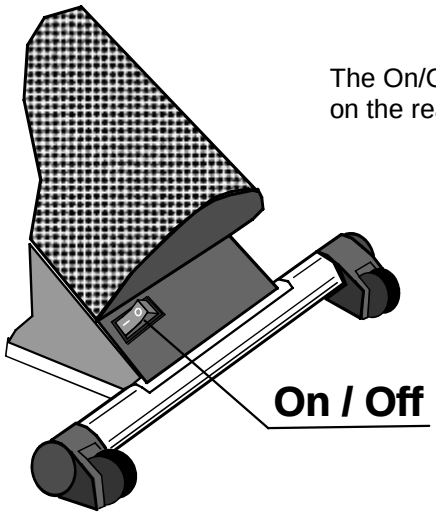
The device surface should not come into contact with corrosive or strong chemicals.

The maximum allowable user weight is 120kg.

Daum electronic gmbh provides a 24 months warranty for the device for private use, and a three (3) months warranty for commercial use.

The warranty is voided in the case of improper utilisation.

Setting Up



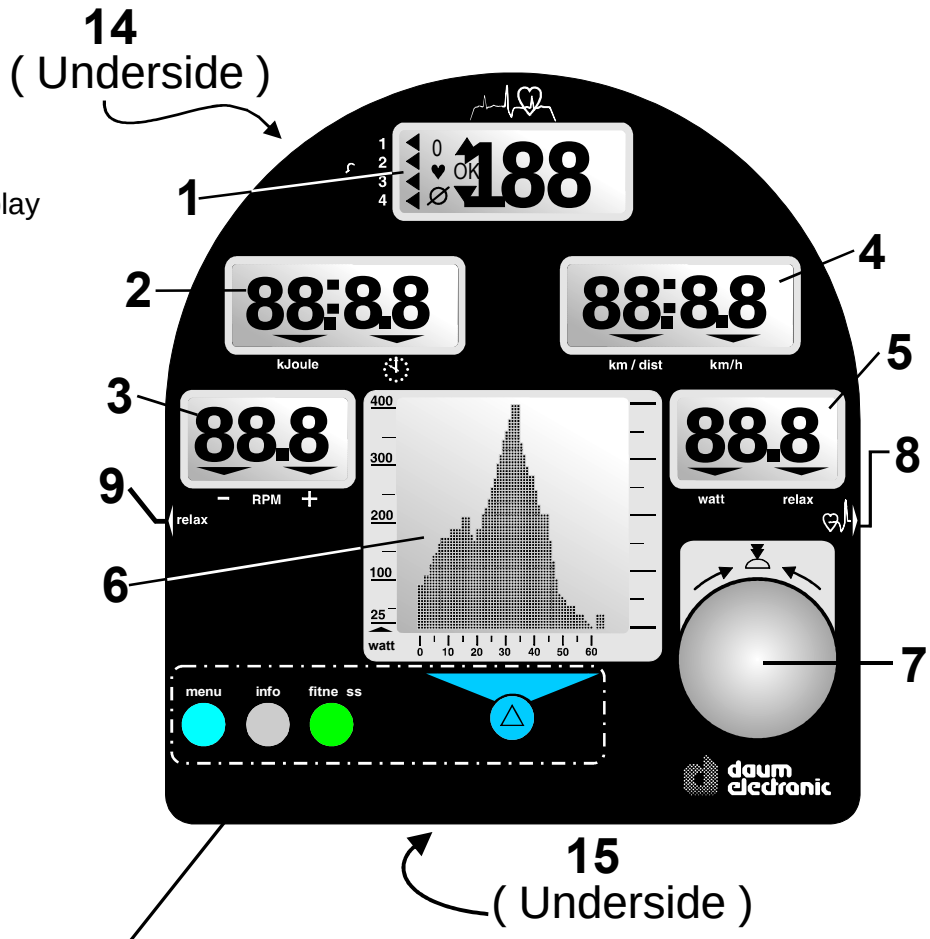
The On/Off switch is located on the rear of the device.

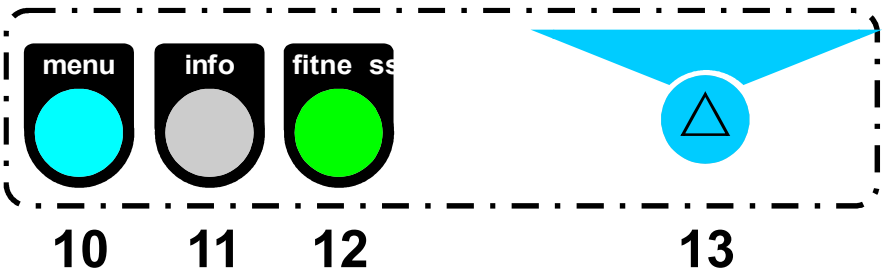
When the device is switched On, the LCD screen displays a big “d” and the system plays a start-up tune.

After this the system displays the program last used. The manual program is displayed on the first start-up.

The Dashboard

1. Heart rate display
2. Dissipated energy and time display
3. RPM display
4. Speed and distance display
5. Load in watt display
6. Graphic screen
7. Control button
8. Pulse sensor connector
9. Relax sensor connector
10. Menu key
11. Info key
12. Fitness key
13. Function key
14. Reset key (recessed)
15. PC connector



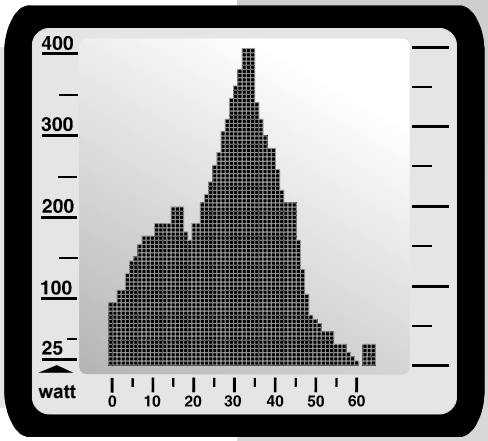


Dashboard Displays

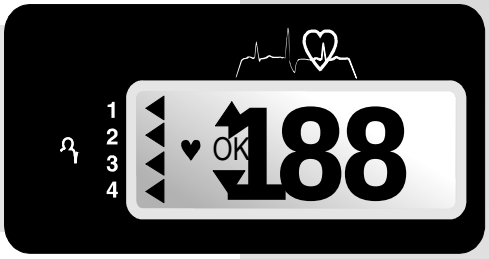
The graphic screen displays the programs. The load (in watt) is shown on the scale on the left side of the screen. The training time is shown on the lower axis.

In heart rate controlled programs the system displays 100 beats per minute at the 200 watt position since the heart rate is displayed to a scale corresponding to one half of the watt scale.

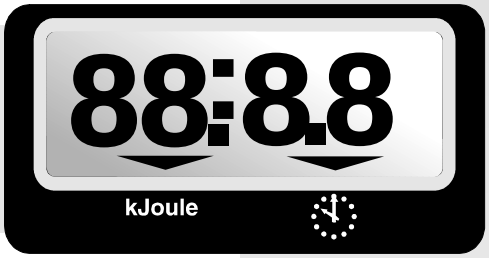
Note: the illustrations may be changed without notice!



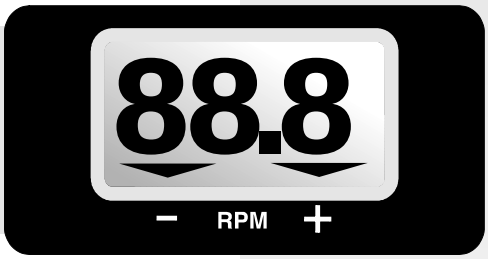
The heart rate window displays the heart rate of the user (1 to 4). When only the upward pointing arrow is displayed in the middle, then this means that the heart rate is too low to ensure an effective training. Inversely, when only the downward pointing arrow is displayed then the heart rate is too high. If the arrow starts blinking then the load is too high and the user should moderate the training. The arrows pointing to the left indicate the user currently selected.



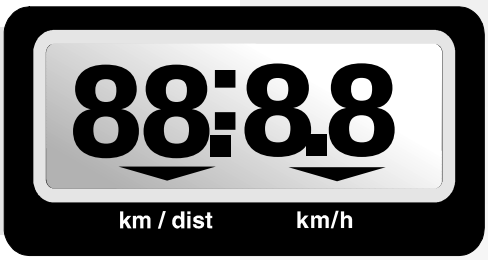
Dissipated energy (in kJoule) and elapsed time display: this window shows the time elapsed since starting training or how many kJoule have been dissipated. Use the Info key to switch between the two values. When the device is unused for an extended period of time this window displays the local time.



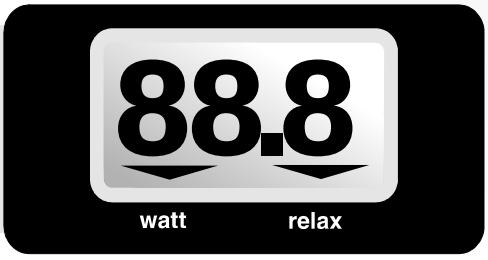
The RPM window indicates the speed in revolution per minute. If the downward pointing arrow on the right side is displayed then the user should pedal faster, the user should pedal slower if the left arrow is displayed.
(+ = pedal faster, - = pedal slower)



Speed and distance window: this window shows the actual speed and distance covered. Use the Info key to switch between these two values.

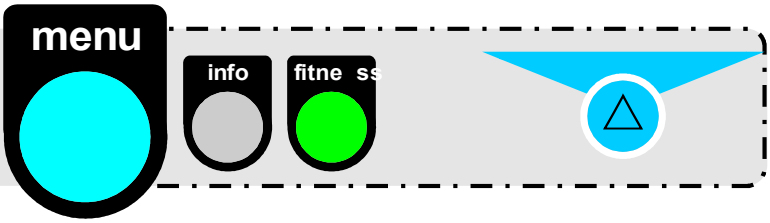


The watt window shows the load in watt. It also shows the relax value with the relaxation function.

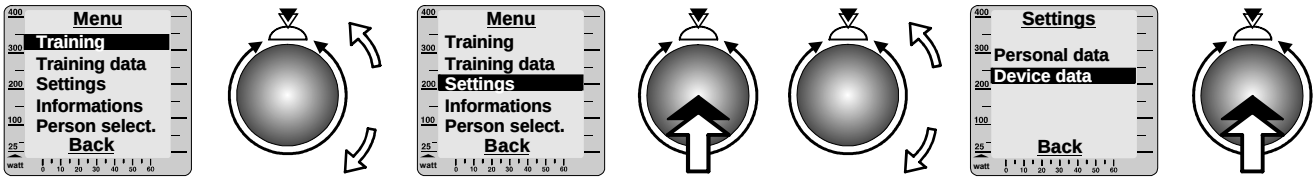


Using the Menu and Language Selection

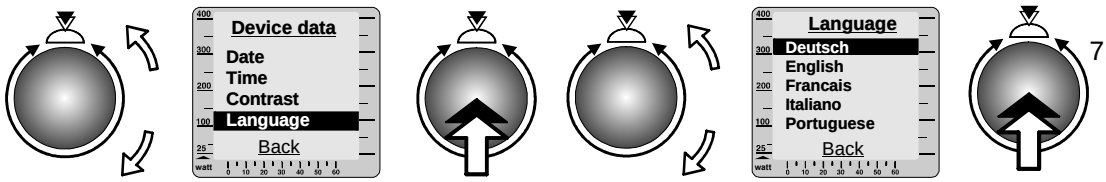
Use the Menu key to call and leave the menu. Use the function key to move back one step in the menu.



Turn the control button to move up or down in the menu. Press the control button to open the selected option, e.g. language selection.

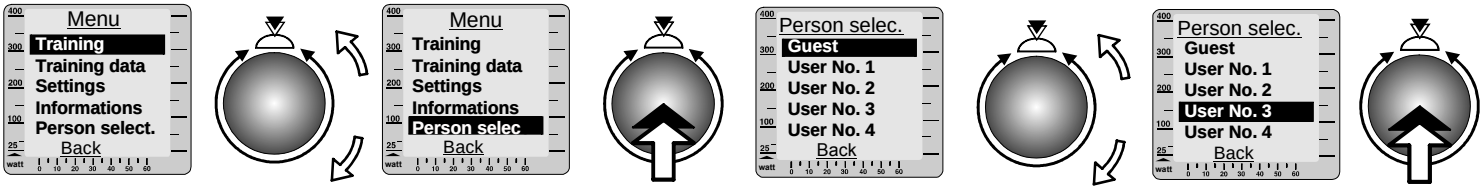


1. Press the **menu** key
2. Turn the control button to select “Setting”
3. Press the control button
4. Turn and press the control button to select “Device Data”



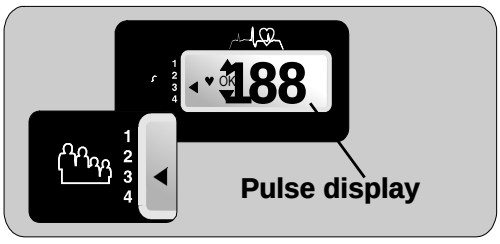
5. Turn and press the control button to select “Language”
6. Turn and press the control button to select required language
7. Press the Menu key to return to your training program, Press the function key to return to “Device Data”

Choosing the User



1. Press the menu key
2. Turn the control button to select “User”
3. Press the control button
4. Turn and press the control button to select a user from 1 to 4 or Guest
5. The selected user is then indicated on the left side of the heart rate window
6. Press the menu key to return to the start.

The device will store the training data of four users. It is therefore important that each user selects his own “number” when training. Guest data are not stored.

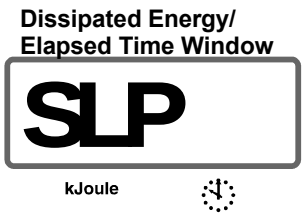


The following is an example of a possible number attribution scheme in a family:

Mother	Father	Daughter	Son
User 1	User 2	User 3	User 4

Stand-By Mode

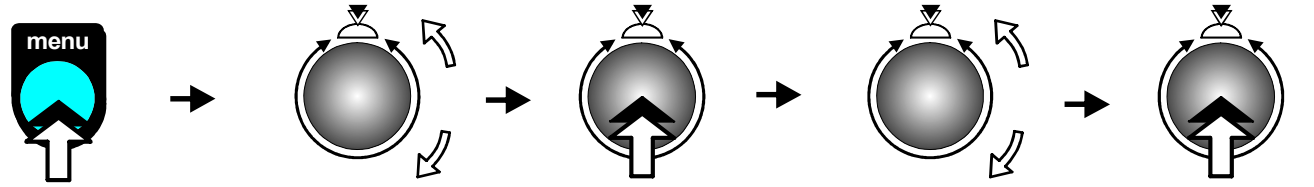
The device switches automatically to stand-by mode if it is left switched on and unused for two hours. This is indicated by the display of “SLP” on the dissipated energy/elapsed time window. (the stand-by mode is deactivated when using ergo_memo or ergo_win.).



Press the control button to restart the device from stand-by mode.

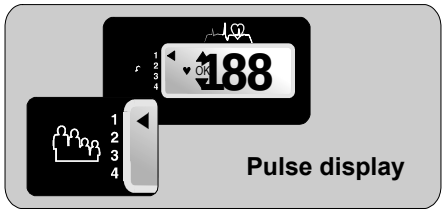
System Settings

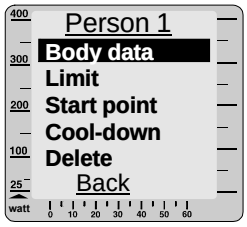
User's data



Press the menu key → Turn to select “Settings” → Press the control button → Turn to select “User's data” → Press the control button

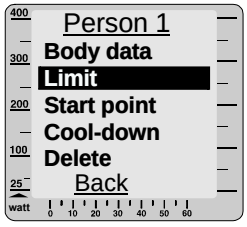
If you want to change the user's data you should always note the presently selected user. This information will always be shown in heart rate window. (see Choosing the User p. 4)





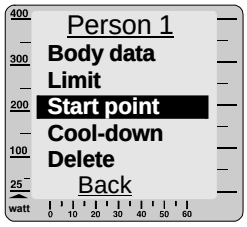
Turn and press the control button to enter and store your physical data.

Birth date	enter your birth date.
Sex	choose M or F to enter your sex.
Height	enter you height in cm.
Weight	enter your weight in kg.
Body fat	enter your body fat content (if available).
Fitn. grading	select the value most appropriate for you.
Frequency	enter the number of times you want to train per week



You can also enter your own limit values. If one of these values is exceeded the system plays an signal melody.

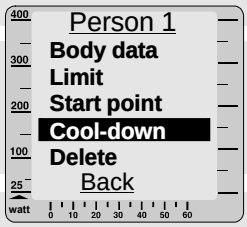
Watt	you can select here the maximal load (between 25 and 400 watts).
Pulse	If you choose e.g. 180W the load will not exceed this value when the actual pulse exceeds the entered limit value the system reduces automatically the applied load.
Time	a signal melody plays when the time limit is exceeded.
Km	a signal melody plays when the distance limit is exceeded.
kJoule	a signal melody plays when the kJoule limit is dissipated.

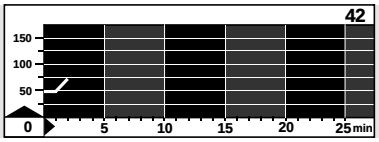


You can set the system to confirm the starting point of the training before every training program. If the “Start Point” option is turned on, you can choose the starting point of the course. If it is turned off then the program begins always at the start of the course.

System Settings

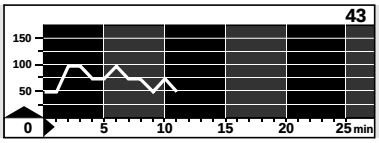
Choose a program to run after every training session for cool-down.





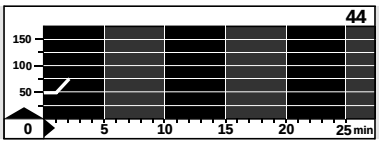
Programm 42
Easy cool-down, 10 min

For women and men with little training experience and following a very light training load



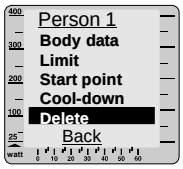
Programm 43
Medium cool-down, 15 min

For women and men with training experience and following an average to heavy training load



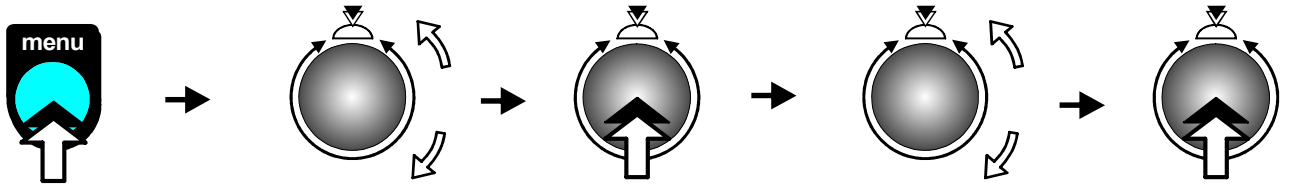
Programm 44
Heavy cool-down, 20 min

For athletes with high performance training. The program allows an accelerated regeneration after the most heavy training loads.

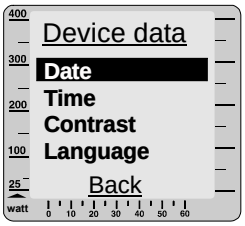


Use the delete function to reset all the data of the selected user back to the factory settings.

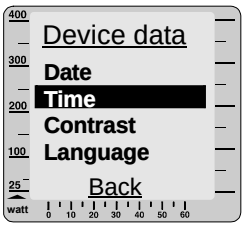
2 Device data



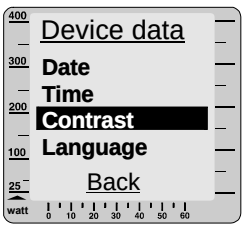
Press the menu key → **Turn to select "Settings"** → **Press the control button** → **Turn to select "Device data"** → **Press the control button**



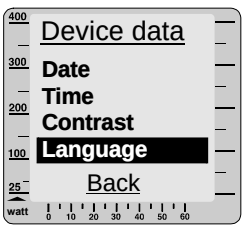
Date entry
1. turn and press the control button to set the day.
2. turn and press the control button to set the month.
3. turn and press the control button to set the year.
(DD/MM/YYYY)



Setting the time
1. turn and press the control button to set the hour.
2. turn and press the control button to set the minute.
3. turn and press the control button to set the seconds.
(HH:MM:SS)



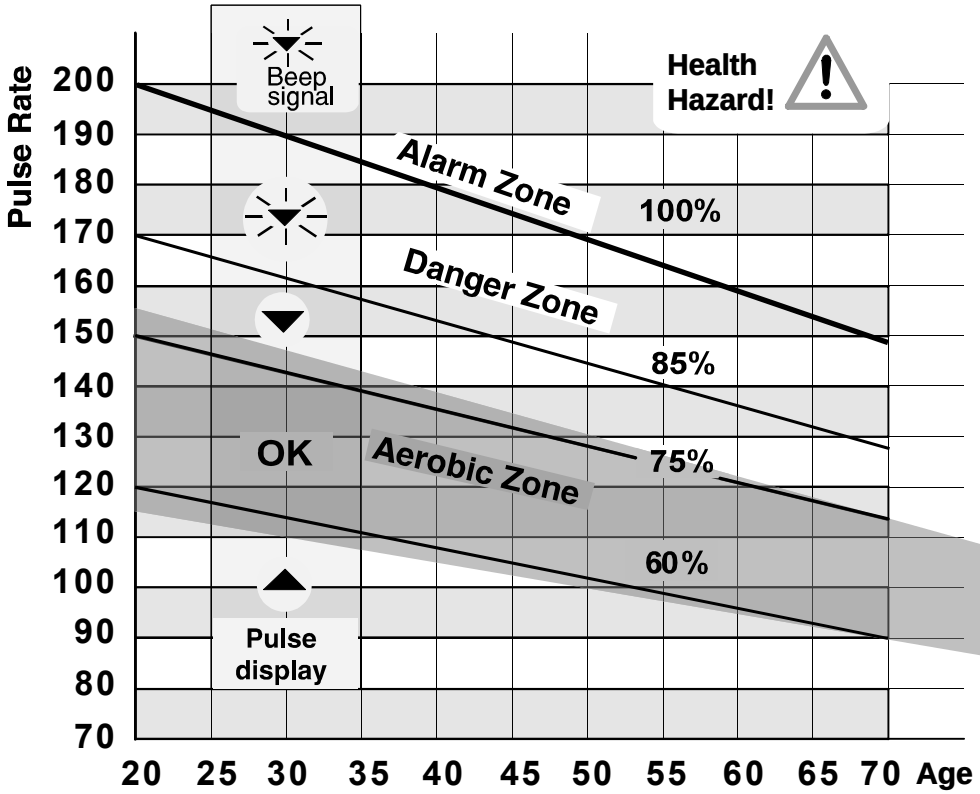
Contrast
You can choose a value for the contrast from 16 to 31.
The optimal value lies normally around 25.



Language
Choose the appropriate language:
German, English, French, Italian, Portuguese, Finnish.

Monitoring the Pulse

Please take serious care to watch your heart rate while training and not to exceed the limits.



Example
for a person 50 years old

Alarm Zone
Pulse above 171

Danger Zone
Pulse 145 - 170

Pulse 128 - 144

Aerobic Zone
Pulse 102 - 127

Pulse 40 - 101

Whenever the actual heart rate exceeds that of the alarm zone the system will give a beep signal and the load will be automatically reduced.

For beginner: the widely accepted recommendation is to train at 55% to 65% of the maximum heart rate. This zone is very well suited for weight loss or for returning users after an extended interruption due to illness.

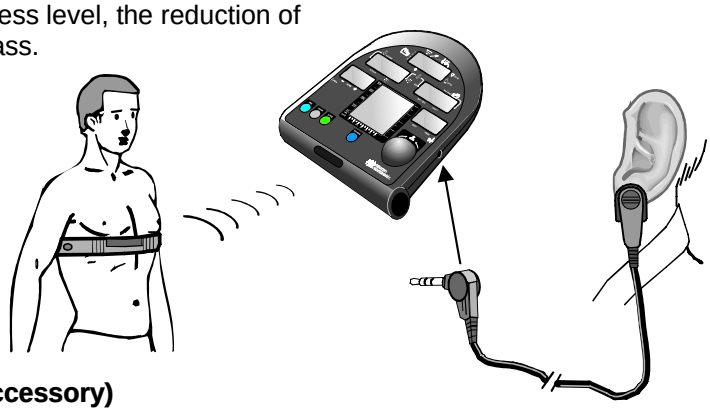
Training in the aerobic zone will always be safe and good for your health.
This zone is located at 60% to 75% of the maximum heart rate.

You will always achieve your training target optimally if you train in the appropriate zone, whether your target is the improvement of your fitness level, the reduction of your body fat content or the development of muscular mass.

A very high Pulse can be very dangerous!

Heart rate measure using the ear clip

Plug the connector on the right side of the dashboard, attach the clip on the other end of the cable to your ear. The heart rate window will then display your heart rate after a short delay.



Heart rate measure using the chest band (optional accessory)

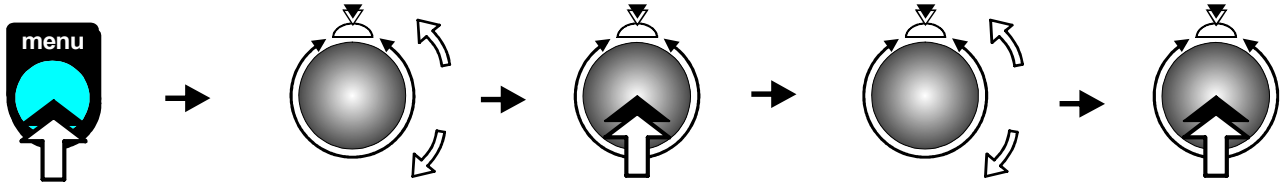
Apply some water on the inner side of the band to the left and right side of the serration and then fasten it to your chest firmly to prevent it from sliding off and insuring the electrodes are in direct contact with the skin.

If you have in the room many devices that may interfere with the signals of a wireless heart rate measuring device, then these devices must be located at a distance of at least 1.5m from the heart rate measuring device.
If more than one wireless heart rate measuring systems are used in the same room then only one of these systems may be located close to the training device.

Warning! If you have a heart pacemaker you should consult your physician to find out if you can safely use the chest band transmitter!

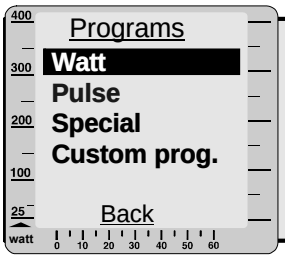
Training

Programs

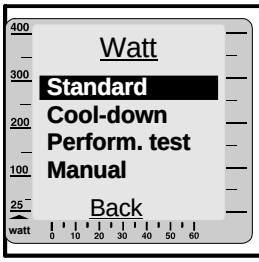


Press the menu key → Turn to select "Trainig" → Press the control button → Turn to select "Programs" → Press the control button

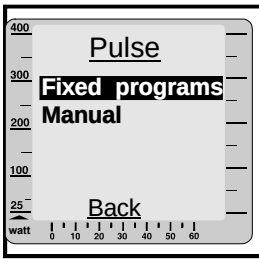
The programs are grouped in five categories.



Watt controlled programs: the applied load in independent of the speed.
Pulse controlled programs: when the heart rate increases the load is decreased and vice versa.
Special programs: strength, intensification and RPM programs.
Custom programs: you can create your own programs.

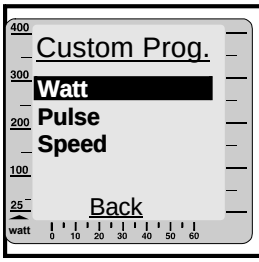


Standard programs: you can choose from 38 programs already stored in the machine.
(you can increase or decrease the difficulty level of these programs by turning the control button).
The actual training position is indicated on the screen.
Cool-down: these programs are design for cool down following the actual training.
Perform. test: use it to test how long you can go under an increasing load.
Manual: you can here increase or decrease the load by turning the control button.



Fixed programs: with the built-in programs the heart rate is directly controlled. The required heart rate varies in the course of the program and thus the corresponding load. If the heart rate increases the load drops automatically; if the heart rate drops the load increases.
Manual pulse program: you decide what heart rate you want in pulses per minute and the device will adjust the load so that this value is maintained.

Strength programs: these programs are based on 15 braking levels (1 to 15). The load in watt corresponding to any braking level is determined from the actual speed multiplied by a factor specific to the program and rounded to 5 watt units.
Constant RPM programs: this program was specially developed for racing bikers, as they want to pedal at their own personal speed regardless of the road condition, ascending or descending.
Increase program: ergo_bike ergometers operate independently of the velocity in the RPM ranges specified in EN 957-1/9. The selected braking power (watt) remains constant whether the user runs slow or fast



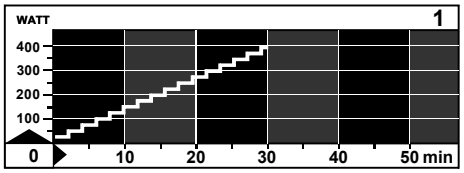
Watt: you can create your own speed independent program.
Pulse programs: you can here develop your own program that will individually control your heart rate during the course of the program.
Speed: create a program defining how fast you wish to run. The load will adjust to keep you running at the required speed.

2 Built-in programs

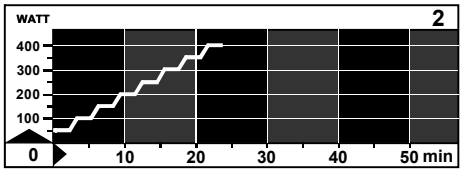
You will find below a presentation of the course of these programs.

Watt controlled

Test programs

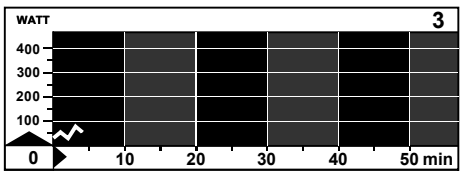


Program 1
Capacity test 25 Watt / WHO-Standard
32 Min. / max 400 Watt

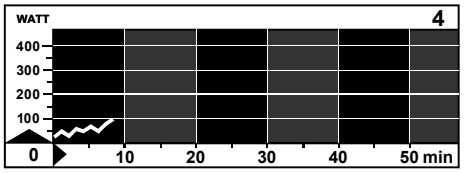


Program 2
BAL-Standard 50 Watts performance test
24 Min. / max 400 Watt
for trained users

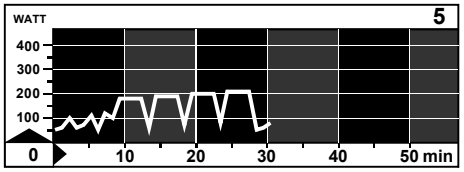
Standard programs



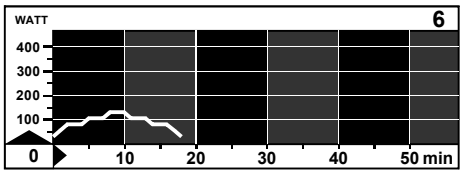
Program 3
Intervall training "Low"
33 Min. / max 110 Watt
Light load training for women and men
with little training experience



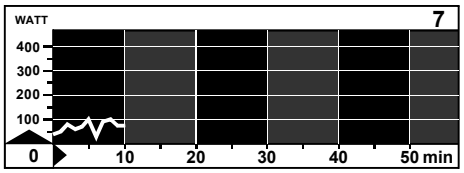
Program 4
Intervall training "Mid"
35 Min. / max 160 Watt
for women and men
with little training experience



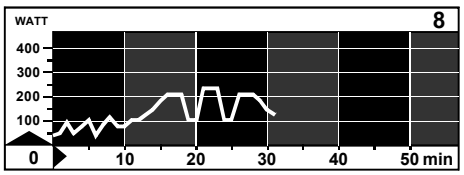
Program 5
Intervall training "High"
38 Min. / max 210 Watt
for women and men
with a good training experience



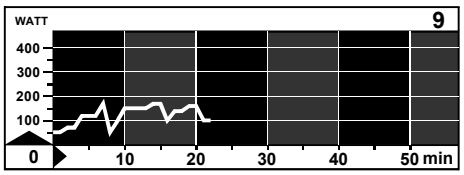
Program 6
Pyramid "Low"
19 Min. / max 115 Watt
for untrained women and men
age up to 35 years



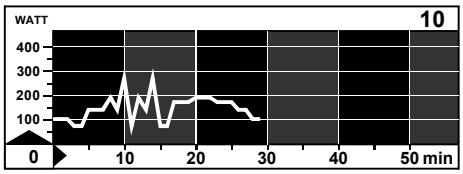
Program 7
Pyramid "Mid"
43 Min. / max 175 Watt
for trained users



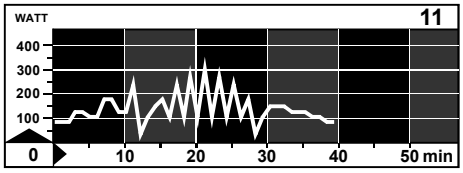
Program 8
Pyramid "High"
45 Min. / max 225 Watt
for trained users



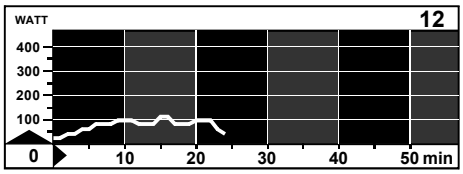
Program 9
The Alps
23 Min. / max 180 Watt
for trained users



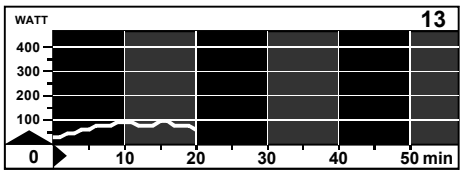
Program 10
Matterhorn
30 Min. / max. 270 watts
for trained users



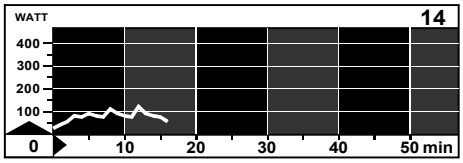
Program 11
Mount Everest
40 Min. / max. 300 watts
for trained users



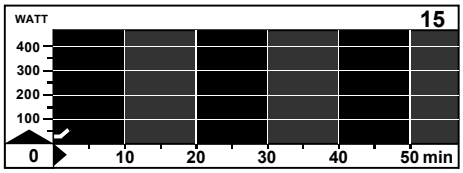
Program 12
Active Profi Lady
25 Min. / max. 110 watts
for untrained women
up to 40 years of age



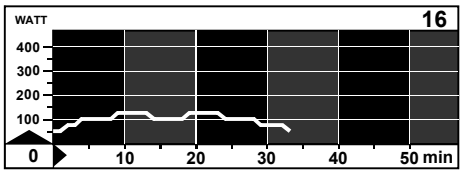
Program 13
Active Sport Lady
22 Min. / max. 90 watts
for untrained women
up to 60 years of age



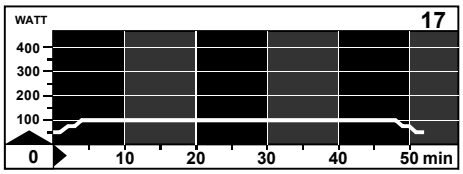
Program 14
Beginners Training 1
18 Min. / max. 125 watts
For young users up to 14 years of age



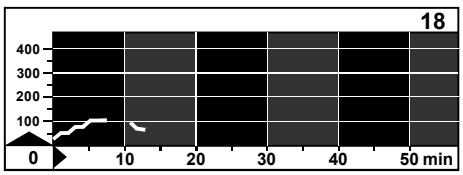
Program 15
Beginners Training 2
23 Min. / max. 130 watts
for untrained men up to 70 years of age



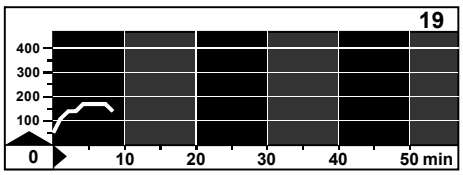
Program 16
Body Watching 1
34 Min. / max 125 watts
for trained women up to 30 years of age



Program 17
Body Watching 2
53 Min. / max 100 watts
for trained women up to 50 years of age
The duration of this training of almost one hour requires strong will and will make you sweat!

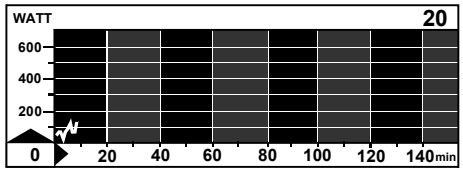


Program 18
Short 1
20 Min. / max. 100 watts
suitable for squeezing a training session between two appointments.

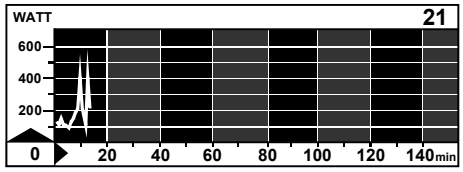


Program 19
Short 2
30 Min. / max. 180 watts
for trained users, who want
to check out their performance.

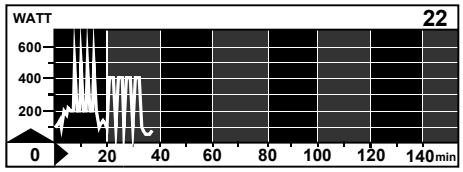
Speed training



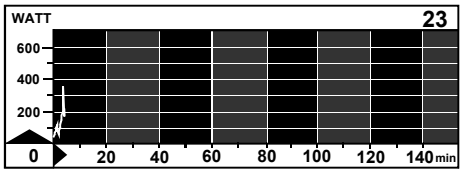
Program 20
Easy excursion, 70 min up to 400 watts
Demanding training for performance sport activity
This excursion is suited to improve your endurance, to train for strength and endurance strength and to improve your tolerance to lactic acid.



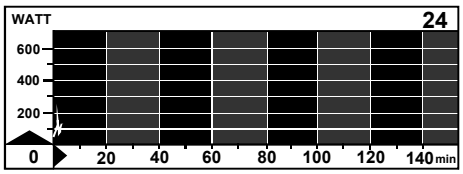
Program 21
Medium excursion, 84 min up to 500 watts
Very demanding training for high performance sport
Excursion with high loads with continually varying loading up to 500 watts. The loading conditions correspond to what is encountered in competitions (either road or mountain circuits)



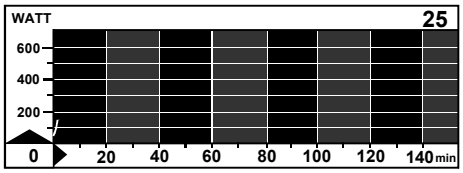
Program 22
Heavy excursion, 100 min up to 600 watts
Very demanding training for professional sport
This program has extreme loading conditions. Please do not develop any exaggerated ambitions and do not overwork!



Program 23
Easy speed training
134 min. / max. 360 watts

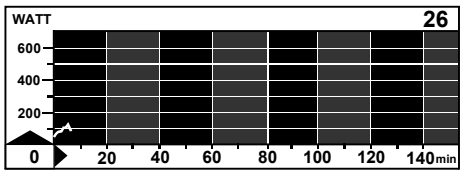


Program 24
Medium speed training
134 min. / max. 420 watts

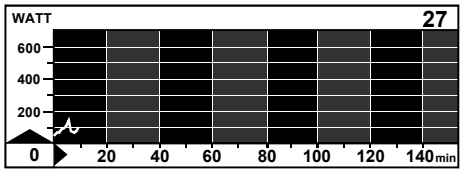


Program 25
Heavy speed training
134 min. / max. 500 watts

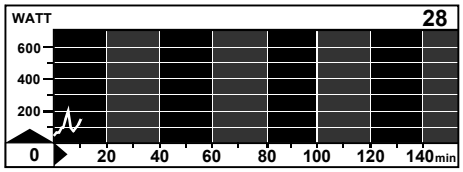
Endurance programs



Program 26
Easy endurance load I, 80 min.
80 min. / max. 450 watts

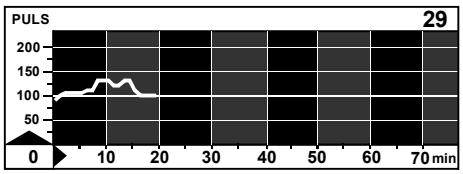


Program 27
Medium endurance load II, 80 min.
80 min. / max. 500 watts

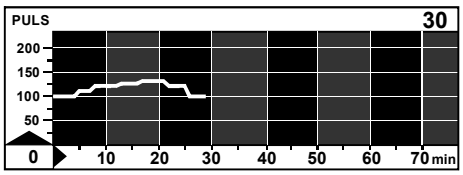


Program 28
Heavy endurance load III, 80 min.
80 min. / max. 550 watts

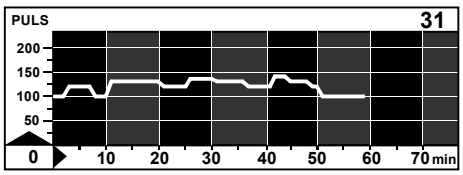
Heart rate programs



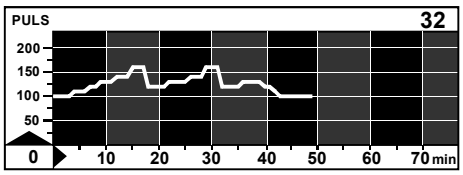
Program 29
preventive, easy short prog., 20 min
20 Min. / max. 130 pulses / min.
light load training for women and men
with little training experience



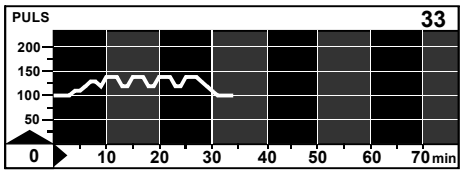
Program 30
Average Optimal Program, 30 min
30 Min. / max. 130 pulses / min.
light loading training for women and men
with little training experience



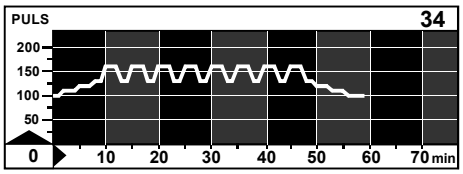
Program 31
long basic endurance prog.
(60 min/low heart rate level)
60 Min. / max. 140 pulses / min.
Endurance training for women and
men with training experience



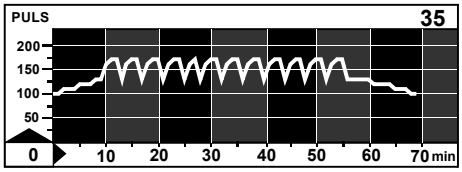
Program 32
Basic endurance program with peak loads
50 Min. / max. 160 pulses / min.
Demanding endurance training for women
and men with training experience



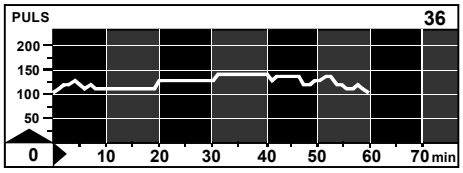
Program 33
Intervall program basic endurance
35 Min. / max. 140 pulses / min.
Endurance training for women and
men with little training experience



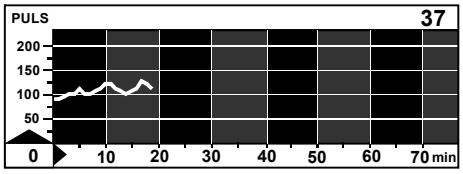
Program 34
Intervall program
(average load level, 60 min)
60 Min. / max. 160 pulses / min.
Interval training in the basic zone for women
and men with little training experience



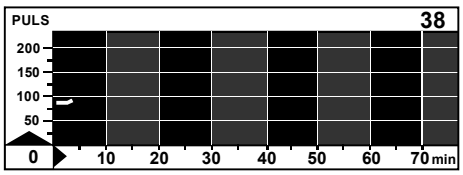
Program 35
Intervall program
(average load level, 70 min)
70 Min. / max. 170 pulses / min.
very demanding interval training in
the higher heart pulse rate zone



Program 36
Step test with 10 min load duration
60 Min. / max. 150 pulses / min.
Load test for the leisure and sport zone

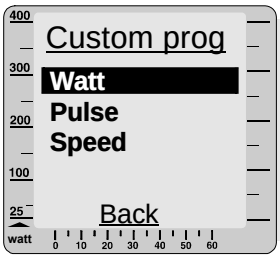


Program 37
Senior I, low heart pulse rate, 25 min
25 Min. / max. 120 pulses / min.
This program is suited for pulse rate
characteristics of senior users

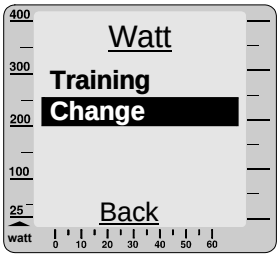


Program 38
Senior II, low heart rate, 40 min
40 Min. / max. 130 pulses / min.
Demanding endurance training in the lower
heart rate zone for active senior users

How to create your own personal programs



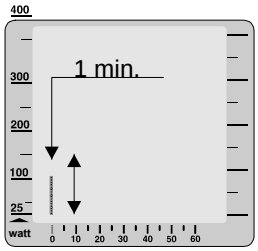
Every user can create one program of each of the following: watt, pulse and speed controlled program. Users number 1 to 3 can create programs with a duration of up to 60 minutes, user number 4 can even create programs with a duration of up to 240 minutes. Start by choosing the type of program you want to create. Make copies of the blank diagrams provided at the end of this user manual and use them to design your programs.



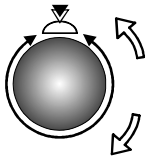
Here is, for instance, the procedure to create a watt controlled program:

Select Watt.

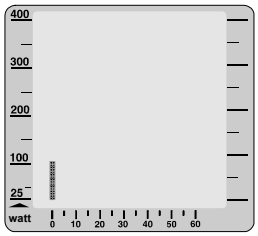
Select Change and start "drawing".



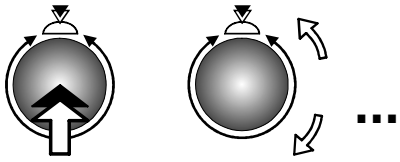
Turn the control button to the left/right to increase/decrease the height of the bar on the display until you set the bar to the proper height.



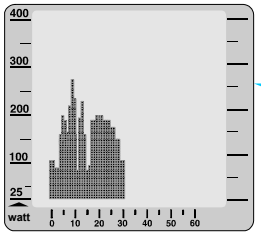
Every drawn bar corresponds to a training duration of one minute.



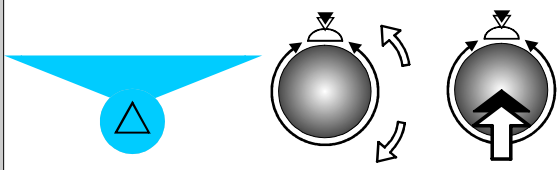
When you set up this step (bar) to the required watt value press the control button. Repeat the same procedure with the following bars.

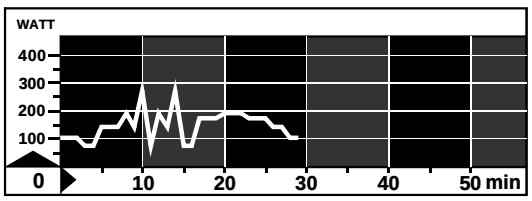


Repeat this procedure until you finish creating your program.

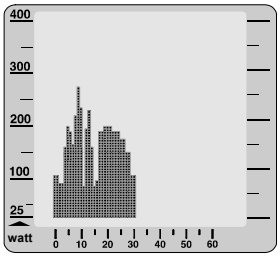


When your program is finished press the function key and answer the question: "Erase the bars starting here? " Answer "Yes" or "No" (meaning: program ends either after the last value/bar entered or, if present, after the last existing value/bar) and select Training. The same procedure applies also for the modification of an existing personal program.





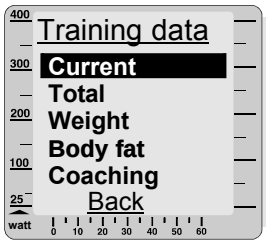
A program designed on the blank diagram to look like the illustration to the left will appear on the screen as illustrated to the right.



For heart rate controlled programs you design a heart rate curve instead of a watt curve. If the heart rate measured during the actual training is below the curve the load will be raised and vice versa.

For speed controlled programs you design a speed curve. When the actual speed during the training is below the curve the load is reduced and vice versa.

4 Training data



You review the training data of the selected user:
- Actual: the training values of the last training
- Total: the values of all the training units together
- Weight: the distribution over a period of 60 days and of 1 year
- Fat content: the distribution over a period of 60 days and of 1 year
- Coaching: the values of the last capacity test and the actual coaching stand

5 Fitness mark

The ***ergo_bike*** can carry out an evaluation your **fitness**. The measurement principle is based on the fact that the pulse rate falls faster within the first minute following a load period for healthy, well-trained users than for healthy, less trained users.

If the user presses the Fitness key during a training session, the present training will be interrupted and the load will be lowered to **25 Watt within 3 to 4 sec.** The graphical screen will display the message "Fitness mark determination". The drop in pulse rate **within 60sec** will be measured (see window no. 2) and the mark computed according to the following scheme and displayed

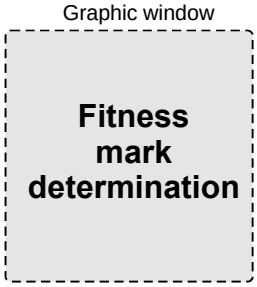
The fitness mark F1 is awarded for a pulse rate drop of more than 25.0% within 60 sec
The fitness mark F2 is awarded for a pulse rate drop of 20.0% to 24.9% within 60 sec
The fitness mark F3 is awarded for a pulse rate drop of 16.0% to 19.9% within 60 sec
The fitness mark F4 is awarded for a pulse rate drop of 12.0% to 15.9% within 60 sec
The fitness mark F5 is awarded for a pulse rate drop of 8.0% to 11.9% within 60 sec
The fitness mark F6 is awarded when the pulse rate drop is less than 8% within 60 sec

The mark of "F0" is awarded if no usable result can be measured

The training program resumes at the actual position after the evaluation process. The load in Watt is raised within 3 to 4 seconds to its value just before the evaluation and the training can be continued.
A fitness evaluation is not possible after the training session is finished.

Fitness evaluation process

Graphic window



! A pulse measuring device (pulse sensor / ear clip or the cardio sensor chest band) must be connected and functional during the whole fitness evaluation process.

The measuring process takes one minute and its progress is displayed.

1. Train at least **15 minutes** in the **OK-area**.

2. Continue pedalling "loosely" at the load of 25 Watt during the 60 sec measurement process.

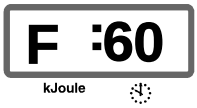
3. 

Press the fitness key only when the two dots in display **window no. 2** are blinking.

Window no. 2

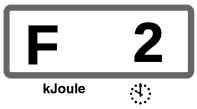
The two dots blink during the training!

4. **Window No. 2** displays an **"F"**, and a timer from **1 to 60 seconds** during the measurement process.



5. 

After one minute window no 2 displays the **F mark** and the system plays a short melody.



Example of the display of fitness mark 2

Description

The Conconi Test / E

The Conconi test was originally developed for running to control the training intensity and to determine the performance ability. This test uses the fact that the heart pulse rate increases linearly with the load. This is true only up to a certain pulse rate and load. The pulse rate curve deviates from the linear if the load is further increased above this point (see fig. 3 page 21). This deviation point indicates the so-called anaerobic threshold according to researches by Conconi (for the Conconi test also known as the Conconi threshold).

The anaerobic threshold is the point where the organism produces more lactic acid than it can eliminate. This means that, from this point, lactic acid starts to accumulate in the body and eventually leads to a load collapse. The threshold is used to determine the training domains and to evaluate the performance ability (you will find some practical hints about determining the training domains below)

The main advantage of the Conconi test, as compared to e. g. the lactate performance test, is the smallness of the necessary financial, technical and personal investment. At this point we should also mention that the Conconi test is controversial among many training professionals. It is widely used in Italy and Switzerland. Others have a critical approach toward the Conconi test for the following reasons:

A maximum loading is necessary when undergoing the test. For this reason it is recommended to pass a medical examination before taking the test. The Conconi test should only be taken by healthy individuals.

About 20% of all the tests do not show a deviation point. Sometimes the pulse rate increases linearly up to more than 190 pulses per minute.

Nevertheless, the Conconi test permits an easy and accurate control of the training for many athletes, and an evaluation of their performance ability.

Taking the Conconi test with the *ergo_bike*:

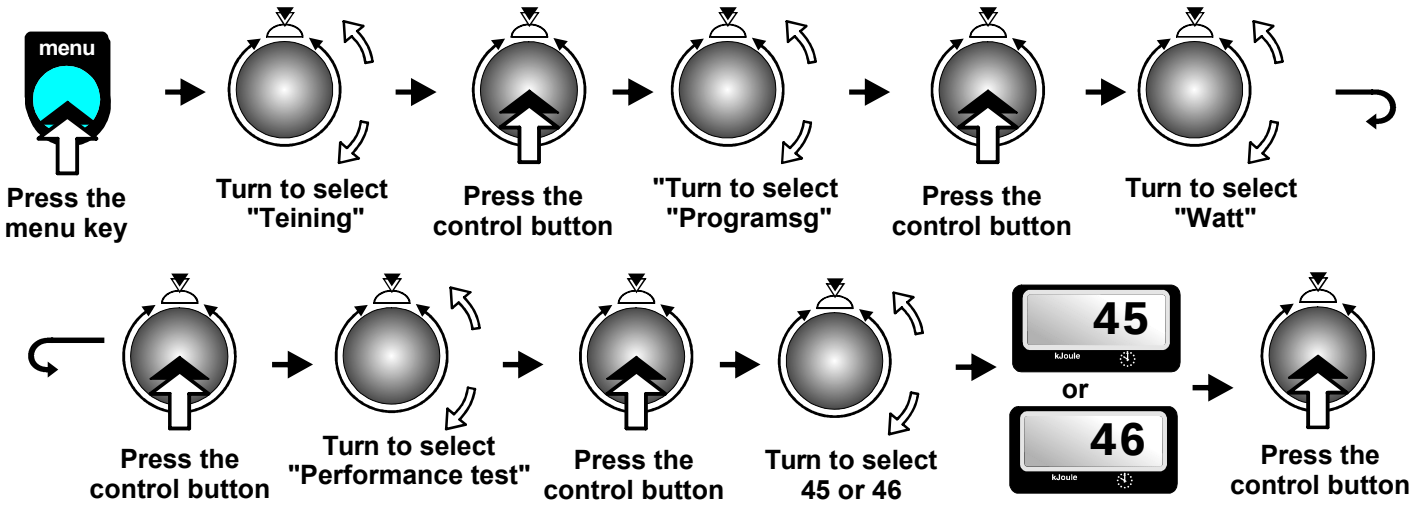
The Conconi test should in principle starts with an easy start-up program. One of the easier and shorter warm-up programs should be used here. The pulse rate should not exceed 130 beats per minute during warm-up. Since the performance ability of users is widely spread, two special programs are provided for taking the Conconi test.

Program 45 begins with a load of 60 watts and is intended for users with lesser training experience, while **program 46** is intended for the more capable users. The load is increased by 20 watts every program step for both programs.

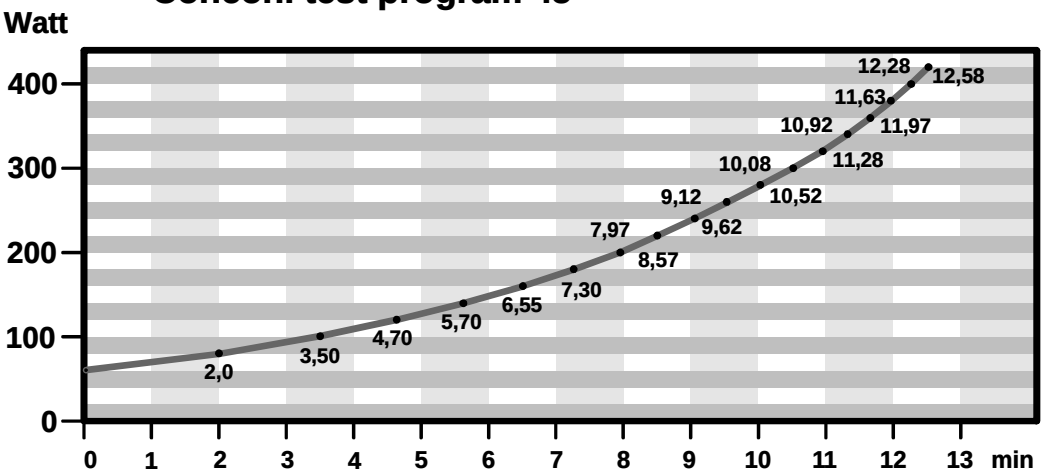
You will find a test protocol on page 19. Write down the pulse rate values achieved and the corresponding load levels (in watt). You can then fill in the values for **protocol 1** for the Conconi test (program 45, from 60 to 400 watts) in the upper part of the protocol.
For the higher Conconi test corresponding to **protocol 2** (program 46) fill in the heart rate values for load values of 120 to 700 watts maximum.

The test should be terminated whenever the user feels he reached his maximum load capacity. An overload should absolutely be avoided!

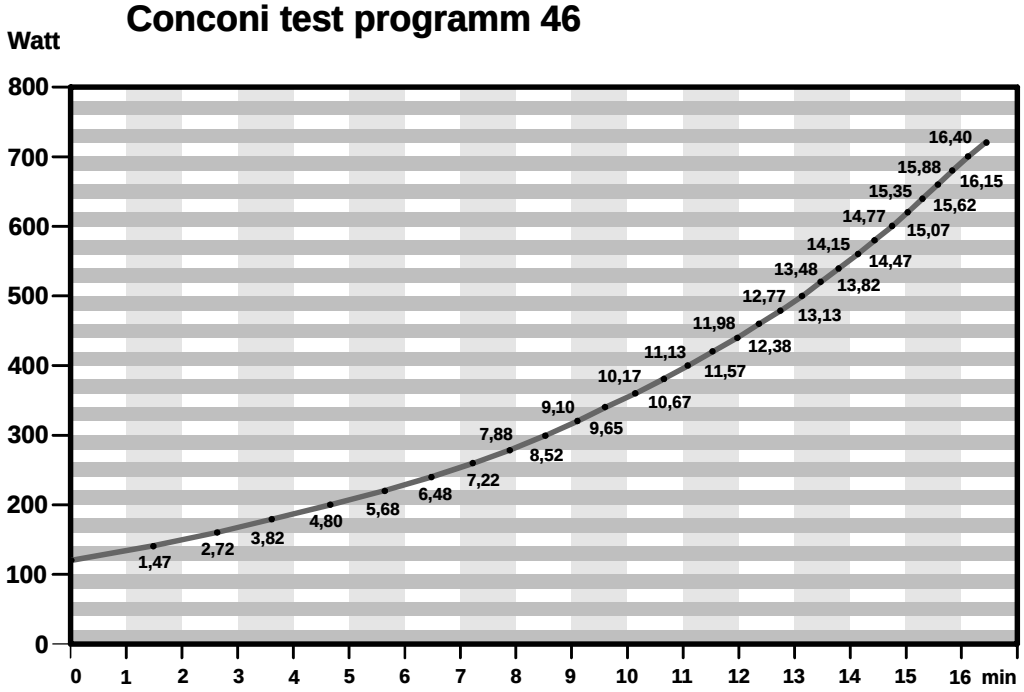
Test programs



Conconi test program 45



Conconi test programm 46



3 Test protocols

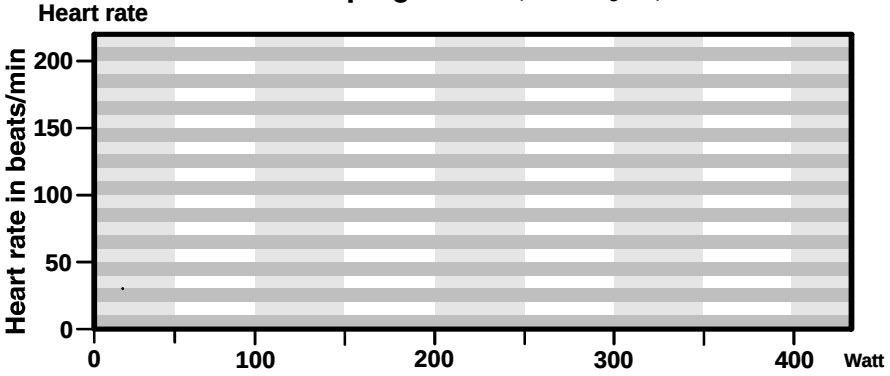
TEST PROTOCOL / Conconi Test ***ergo_bike*** Vita Pro

Name..... Date..... Time.....

Load in Watt	Heart pulse rates in beats / min Heart rate at rest.....	Notes about the test
PROTOCOL 1 / Program E 45: 60		
80		
100		
120		
140		
160		
180		
200		
220		
240		
260		
280		
300		
320		
340		
360		
380		
400		Program E 45 (60 to 400 watts)
PROTOCOL 2 / Program E 46 (from 120 to 700 watts): 420		
440		
460		
480		
500		
520		
540		
560		
580		
600		
620		
640		
660		
680		
700		Program E 46 (120 to 700 watts)

Heart pulse rates
after 1 minute
after 2 minutes
after 3 minutes

Conconi testprogram 45 (blank diagram)



Maximum loading is necessary when running the Conconi test. Therefore we recommend undergoing a medical examination before taking the test. Only healthy individuals may take the Conconi test!

There is no valid correspondence between the Conconi threshold and the lactate threshold.

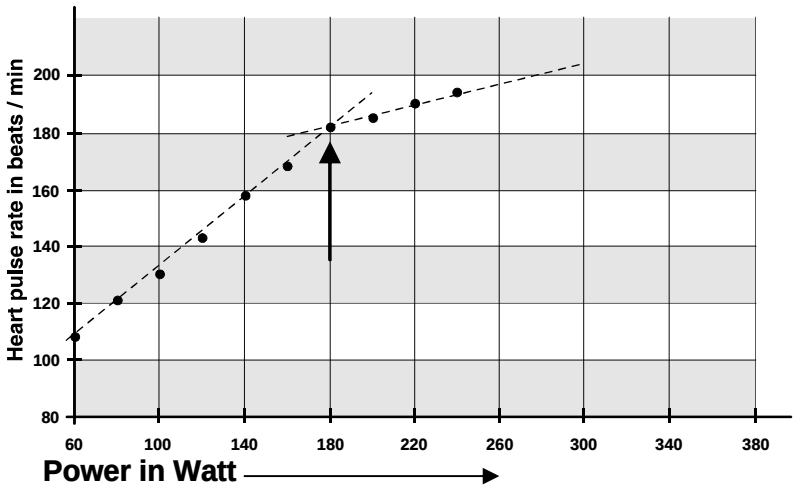
4 Description

Evaluating the Conconi test

After the achieved heart rates have been properly recorded in the protocol, you can proceed with the graphical evaluation of the Conconi Test. Therefore construct a co-ordinate system as shown in **figure 1** below. The horizontal axis **(X axis)** represents the performance in watt, starting with the lowest test value. For the Conconi test this value is, for instance, 60 watts. The vertical axis **(Y axis)** represents the heart pulse rate for every test step. In the example below the heart rate for the first test step (60 watts) is around 105 beats per minute, for the second step (80 watts) it is 120 beats per minute, etc.

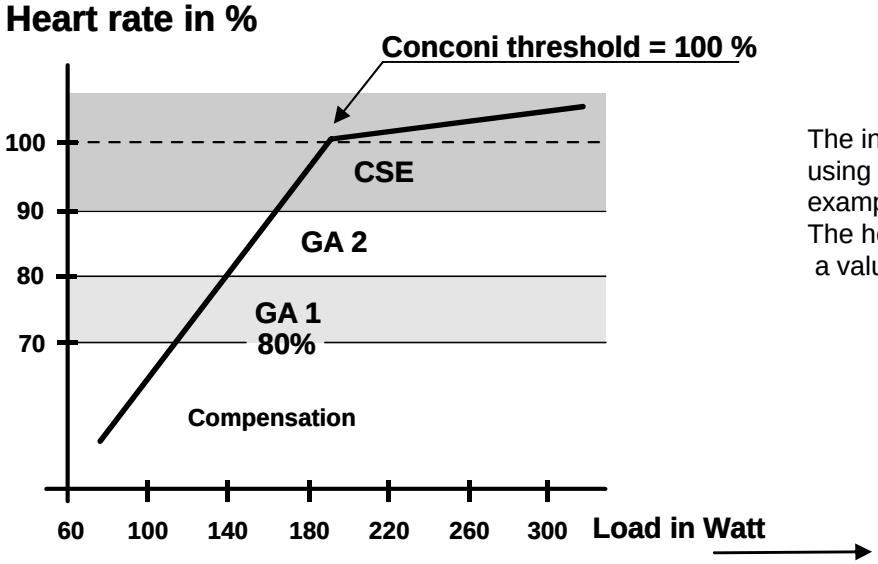
After all the heart pulse rate points have been represented in the co-ordinate system, proceed with joining the individual points to form the line representing the linear increasing portion of the curve. In the figure this is the straight line with the steep slope.

The higher points (higher load steps) will generally lie underneath this line. These points can also be joined by a straight line as shown in the figure (this is the second line with the lesser slope).



The intersection of these two lines is shown in fig 1 by an arrow.
This intersection point is called the deflection point and corresponds to the anaerobic Conconi threshold. In fig. 1 this threshold is at 181 beats per minute. This heart rate is determined by drawing a straight line parallel to the lower axis (X axis) starting at the deflection point toward left. The point where this line intersects with the vertical Y axis (heart rate) is the point we want to determine (in our example 181 beats/min.).

Fig. 1: Graphical evaluation of the Conconi Test



The individual training domains can be determined using the heart rate at the deflection point (in our example 181 beats/min.) as shown in figure 2. The heart rate at the deflection point is assigned a value of 100%.

Fig. 2: Determining the training domains

Compensation training

The compensation domain lies underneath 70 percent. In our example this represents the region below 127 beats per minute. Training in this domain is for active recovery.

GA 1 - Training

The GA 1 domain lies between 70 and 80 percent. In our example this corresponds to 127 to 145 beats per minute. Training in this domain sets the foundation of the performance abilities. The most part of the training should occur in this domain (for endurance sports).

GA 1 Training is the central element of biking in the preparation phase.

Function

Development of basic endurance as foundation for all the more intense training units.

Training method

- The actual training follows the continuous training method with constant load and a pedalling speed of 80 to 110 RPM, duration of 2 to 5 hours.

GA 2 - Training

GA 2 - Training, more intensive biking, is used for achieving a higher loading for experienced athletes with a good basic endurance ability.

Training method

- Warm-up and biking for 10 to 30 minutes, since GA 2 Training puts high loading on the musculature and circulation system.
- High heart rate limit of 80 to a maximum of 90 percent (in our example 145 to 163 beats/min)
- The actual training follows the interval method (e. g. 8 x 4 min with 2 min. at no load) or alternatively the continuous method.

CSE (competition specific endurance) Training

Most intensive form of training for top athletics shortly before and during competition phase. The heart rate increases up to 100 % of the Conconi threshold (in our case 181 beats per minute). CSE training is run in the interval methods (e. g. 8 times 1 minute with 3 minutes at no load).

Function

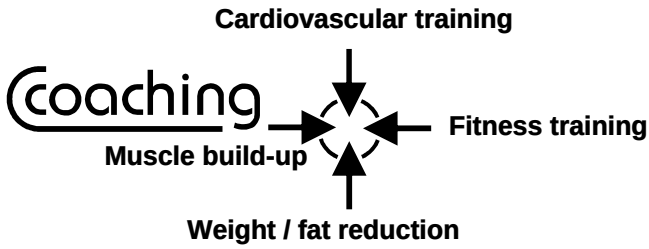
Achieving maximum fitness. Getting used to very high lactic acid concentration in the musculature. Improving elimination of lactic acid.

Training method

- Warm-up and biking for 10 to 30 minutes, since CSE Training puts high loading on the musculature and circulation system.
- High heart rate limit up to 100% of the Conconi threshold.
- The actual training follows the interval method (e. g. 8 times 1 minute with 3 min. at no load)

Coaching

1 What ist Coaching?



The **"Coaching"** concept introduces an intelligent training program offering the user four different training objectives (see illustration above) to choose from. The ergo_bike will compute and monitor an optimal training plan based on the age, gender, available time, and an individual fitness test. This training plan will be continually updated and adjusted through regular and automatic control of the training results to ensure an optimal training course and success.

Warning!

1. **The Coaching program was developed for healthy users. Therefore we urgently recommend that users undergo a thorough medical examination to determine their physical ability for sport activities before starting a training with the Coaching program. Should a user feel ill during a coaching training, he or she should seek medical advice about physical activities and continuing the training.**

2. The user is required to enter the amount of time he or she can or want to train (the number of training units per week), and to evaluate his or her own fitness level. The user should not overestimate his capacity regarding the number of training units and their difficulty grade. In sport activity overworking does not help, while a thoughtful and controlled training plan leads generally faster and more efficiently to its objective.
   The same applies also to the self evaluation of the user physical performance capacities before the start of a Coaching plan. A user who evaluates his capacities at a lower level will achieve his training objectives safely and without overworking, even though in a longer period of time.

3. The user must take a capacity test at the start of the Coaching plan, and then once every 4 weeks. The computer uses this test to determine the load prescriptions (e.g. the maximum load in watt and the maximum heart rate during the training) for the start of the Coaching program and then for every successive period of 4 weeks. This test is a full load test, and the user should only take it to the point where he can go without overworking or overloading himself.

4. When used properly, the coaching program will not turn users into high performance athletes. The goal of this program is to preserve your health and to increase your performance capacities, and to make you globally "fit".

2 Entering Personal Data

The following basic prerequisites must be satisfied, and the important settings must be done on the dashboard before the coaching program can be started.

1. A user should train with the coaching program only with the **pulse sensor on** (ear clip or even better with the cardio sensor chest band) (see page 7).

2. The program must be assigned to a specific user identification number 1 to 4 (see page 4).

3. Since the program depends on many personal and exact data, if possible, **all the required data and alarm values must be entered before the starting the program** (see page 5) for the first time. Take into consideration that, as a special case for the Coaching program, the data about the **training duration** (time), the **distance** (km), and the **kJoule burned need not be entered**. These values are computed by the computer of the ergo_bike for the Coaching program. Any data entered for the alarm values for the training duration, the distance, and the kJoule burned will be ignored by the Coaching program or set to their default value (in this case 0).

Personal performance evaluation

The users must evaluate their very personal performance capacities before starting a training with the Coaching program. The following section should help the users evaluate their own performance capacities.

0 = Beginner:
You don't have any training experience or practice physical activity only occasionally and very irregularly. This applies also for users who are returning from a long training interruption (e.g. because of a wound or an illness).

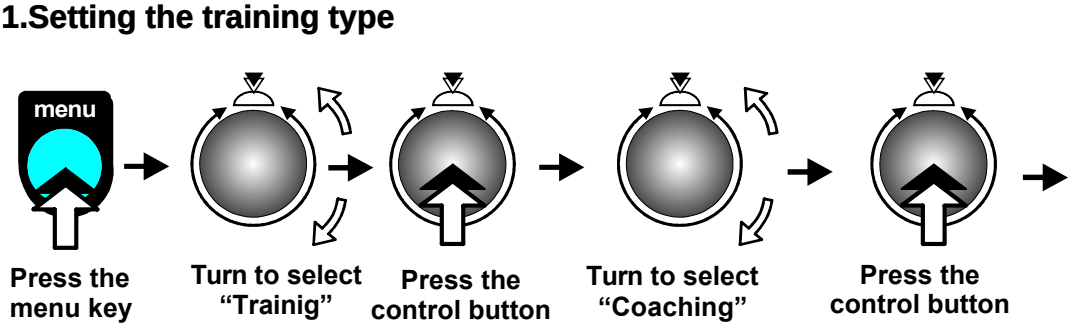
1 = Average:
You do sport regularly. But you are mainly oriented toward recreational sport activities, less toward endurance sport. The training frequency is about 1 to 2 hours per week.

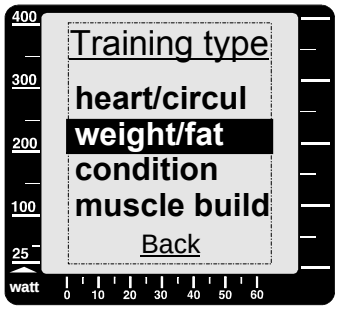
2 = Advanced:
You do regularly endurance sport (e.g. jogging, biking, etc.). The training frequency is about 2 to 4 hours per week.

3 = Very well trained:
You have an extensive training experience in endurance sport. Your physical performance and load capacity is above average. The training frequency is at least 3 hours per week, preferably in endurance sport.

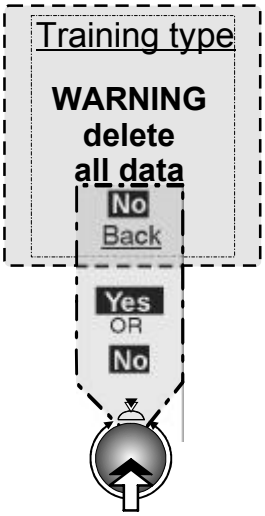
3 Training with the Coaching program

1.Setting the training type





With this setting the user sets his personal training target.



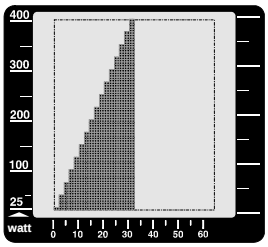
This setting can be changed only after confirming the safety message "Delete all data?". If this message is confirmed by turning the control button to select "Yes" and pressing the control button, then all the programmed Coaching settings and stored training data for the actual training plan for the selected user identification number will be permanently erased! After this step, a new Coaching training can be started with the setting of another training objective. If you don't wish to erase the available data, and thus continue training with the actual training target, then you should select "No" by turning the control button and press it to confirm.

You can now begin with the Coaching program.

The Coaching program starts by determining the performance capacity of the user by mean of a capacity test.

4 Taking the capacity test (program 1)

After starting the ergometer the graphic screen displays the diagram of the capacity test.



(the load increases by 25 watt every 2 minutes)

Capacity Test 25 watt / WHO Standard
(32 Min. / max 400 Watt)

Do not exceed your personal load limit! Interrupt the training immediately if the load or effort becomes too heavy.

press the “Menu” key after completion of the test

You should avoid extreme efforts on the day before the test and on the day of the test. Sleep sufficiently before the test. You should postpone the test if you feel ill (e.g. cold with fever). If you are unsure, consult a physician. Please keep a pedalling speed of 65 to 80 RPM during the test.

In order to take the capacity test you must have the physical capacity to run the test program at least up to 75 watts, in other words you must complete the first 4 minutes. Otherwise the test evaluation will read “not run” and any further training with the Coaching program will not be allowed! If this is the case, please retake the test and run it at least up to 75 watt. This load value is far below the capacity of the average user and according to medical research within the reach of every healthy adult user. If you have trouble reaching this load value then you should not continue with your Coaching training! In this case please consult a physician and take a thorough medical check, and talk with your doctor before you continue training with the ergometer. The “Coaching training” has been designed for use exclusively by healthy users!

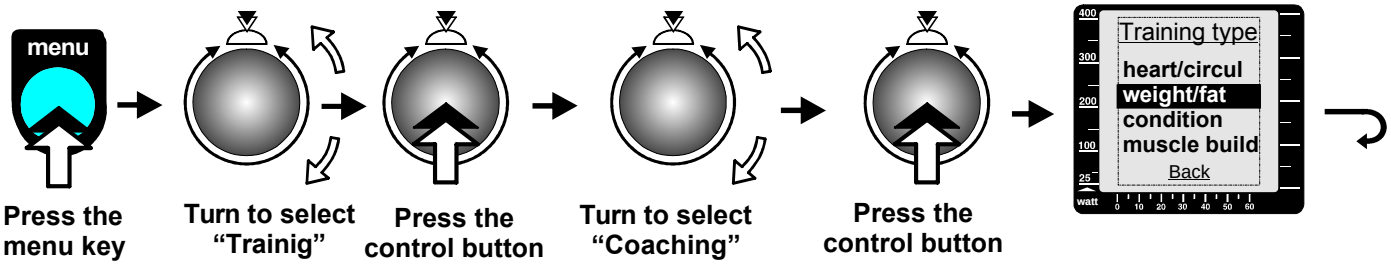
The evaluation test is complete at the latest when the user reaches the load of 400 watts after 32 minutes. Though, it is more realistic to expect that a user will not have the capacity to run the test to 400 watts (normal case!!) and will interrupt the test by pressing the “Menu” key because he lacks the strength or to avoid an overload. If you feel tired or exhausted (avoid overloading) please simply stop pedalling and confirm the end of the test by pressing the Menu-key! The Coaching program will automatically terminate the capacity test when you reach the higher heart rate limit corresponding to your age, gender, capacity, etc!

Attention, the test will possibly be terminated too early if the higher heart rate limit setting value is too low.

After the evaluation test is taken the system will display “OK” as a confirmation of the completed evaluation test. The program will include the actual capacity values in the determination of the personal training plan, and compares them with the test results of the capacity tests taken at 4 weeks interval.

Attention, a completed and accepted capacity test counts as the training activity for one calendar week. Thus the actual coaching program can only be continued on Monday of the following week. Obviously, each user is free to train with other programs during this waiting period.

5 Display the training plan / training unit Running the training unit



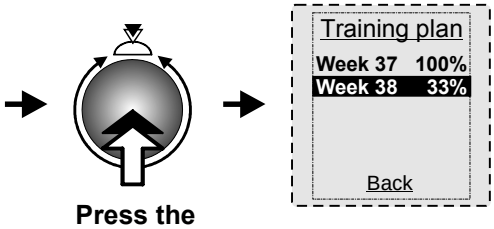
Press the menu key

Turn to select "Trainig"

Press the control button

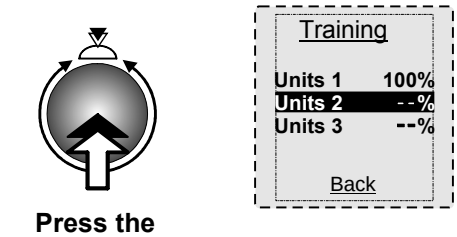
Turn to select "Coaching"

Press the control button



Press the control button

The evaluation test was run in the first training week (week 37), and that week is then completed to 100%. The weekly training for the actual week 38 has been completed to 33%.
The system displays dashes "---" for the calendar weeks that did not start yet. When the user confirms the selected training week, the system displays the next screen "training" (training units).



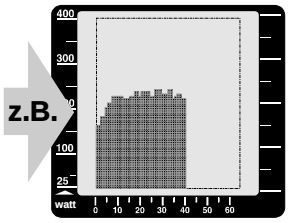
Press the control button

The screen shows that the first training unit (unit 1) of the actual week has been completed to 100%. No training activity has yet been competed for the second training unit. The program is ready to run this training unit.

Press the control button

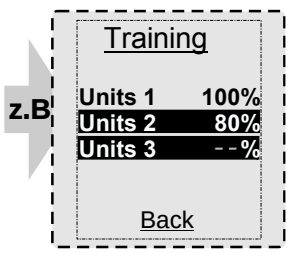
When the user confirms the selected training unit, the system displays the message **"Coaching Pr. xx/xx min, put on the heart rate sensor and start training"**

When you start the training the system displays the diagram of the first program selected by the computer for the **"training unit"**



The not completed training units (<100%) will be resumed at the minute at which the training were interrupted last time.

The training unit not completed to 100% will always be concurrently selected. The display will show to the side the percentage of completion of the respective unit (e.g. 80%). The training can only proceed with the following unit (also selected) after the incomplete unit has been completed to 100%. The selection (highlight) of the incomplete unit is then removed.



Cool down programs that may eventually be attached to run automatically do not count toward completion of the unit, i.e. 100% will be achieved before the start of the cool down programs.

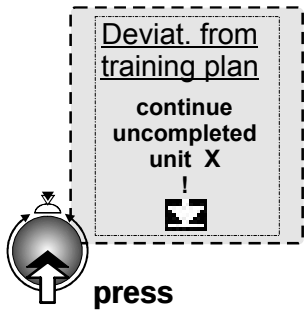
Training process

The Coaching program can only help the user achieve his intended goal from training if the prescribed training units are run consciously. This should be the normal situation.

In the case that a user must deviate from the training plan prescribed by the Coaching program because of illness, vacation or others reasons, the Coaching program offers possibilities to adjust the training.

A training unit (TU) is not completely run:

The system displays the message shown to the right the next time the Coaching function is called and before the display of the training units selection. It is confirmed by pressing the control button. The number of the incomplete units will be displayed after the word “unit” instead of the “X”. This message will not appear after this unit is completed.

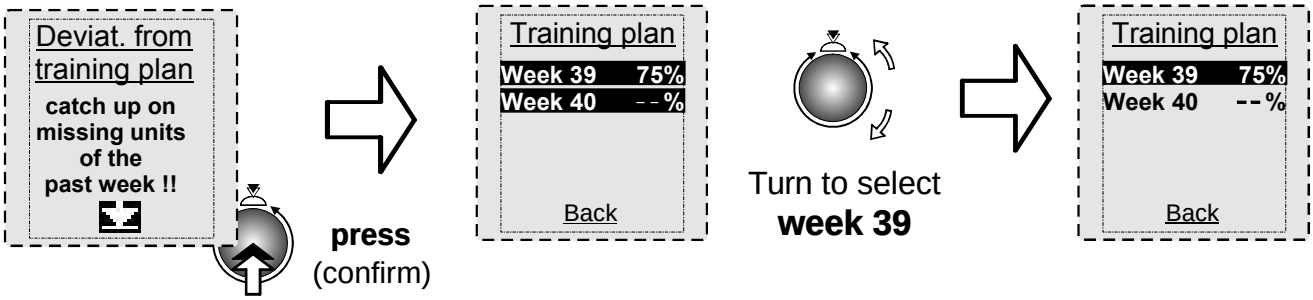


The user runs too few TUs during the calendar week:

The message to the right will be displayed at the start of the following week, after the training type is selected and before the training plan. It is confirmed by pressing the control button. This message will not be displayed as soon as the missing training unit(s) is (are) completed.

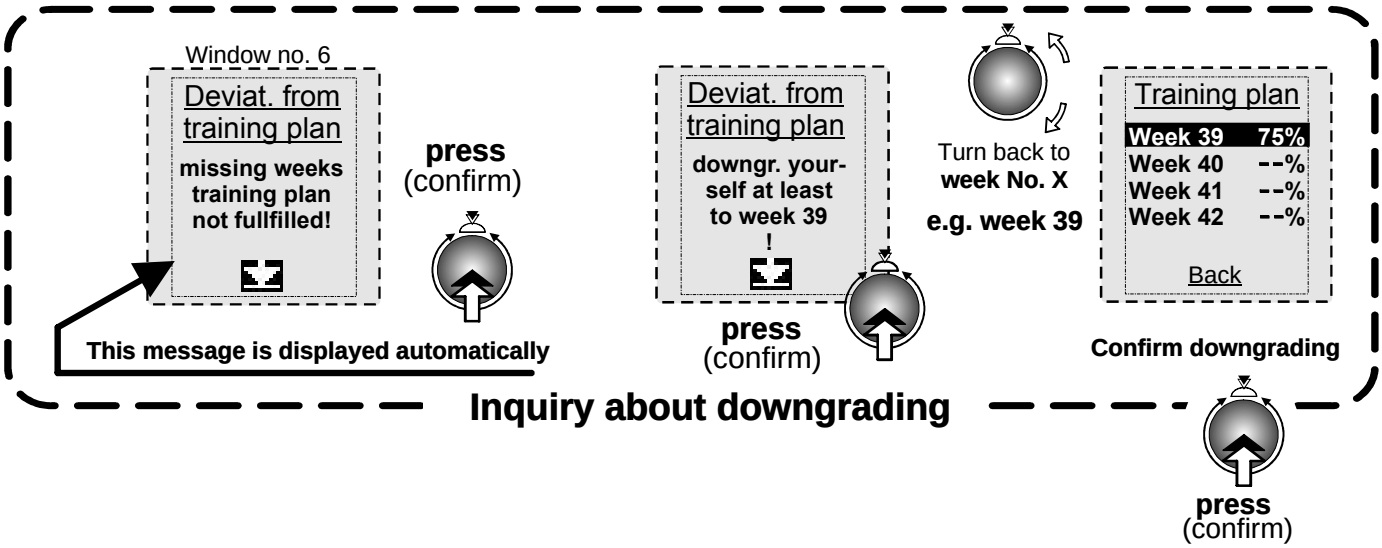
Catching up incomplete training units

In the case of training interruption, you have the possibility to **downgrade** the training plan using the control button. It is then allowed to select a previous week (backward scrolling). Before the start of every training session, the computer runs a review of the training status and displays the results on the graphic display, with information about any eventual deviation from the training plan. This could be, for instance, missing training units from the previous week, which the computer determines immediately at the beginning of the training session in the following week, and signals by the message **“Deviation from training plan” ---- “Catch up on the missing units of the past week”** (see illustration below). The missing units (in the example below week 39) of the previous week must be completed to 100% before the training of the actual week 40 can start.



In the situation described here, the previous week (e.g. week 39) will remain selected (highlighted) until the missing 25% training units are completed and week 39 is complete to 100%. Only then you will be allowed to start the training of the actual week 40. The highlighting (selection) of week 39 will be removed when the value reaches 100%. If the training is interrupted for a longer period (1 to X weeks) because of illness or vacations, it becomes then impossible to catch up with the missing training units in a short period. For this situation, the Coaching program offers the possibility to downgrade a variable number of weeks. In the example below, the training was interrupted for 2 weeks (week 40 and 41), and 67% of the last training week, which is only completed to 33%. In this situation the program recommends downgrading to week 39. Then week 39 will also have to be completed to 100% before the training can resume with the actual week 42.

Downgrading the Coaching Program by 2 weeks



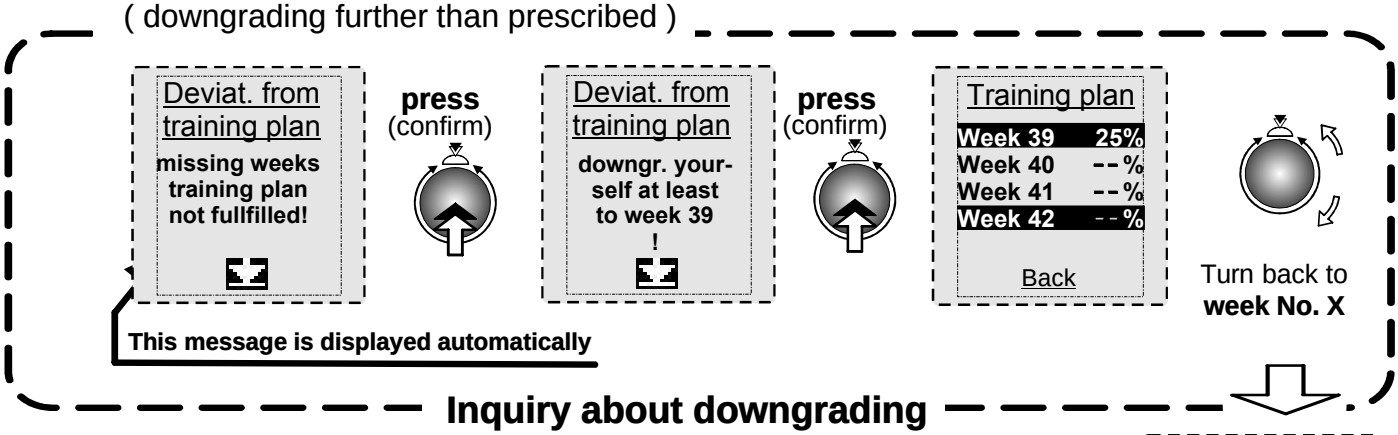
The lower target week of the downgrade can be set by mean of the control button. When a downgrade is confirmed, all the weeks downgraded, which were already completed, and all their training units will be reset to “0%”. Only the completed units of the week to which the downgrade is done (e.g. 75%) will be preserved. Also, now the actual date (e.g. week 42) will be used for the downgraded week. The illustration to the right (above) shows the display after a downgrade of 2 weeks to week 39. Both the downgraded week 39 and the actual week 42 are highlighted (selected). The selection of the downgraded week will be removed when it is completed 100%. Only then the training can resume with the actual week (e.g. week 42). .

The missing training units (25%) are completed later.

7 Downgrading

Downgrading the Coaching program further than the minimum recommendation

(downgrading further than prescribed)



If, following an interruption, a downgrade is done to a week with partially completed training units (for instance only 25%), then the user will have to first complete the missing training units to 100%. This represents a non-negligible extra load for the user, particularly if weakened by an illness. Because the missing training units (e.g. 75%) must be completed in addition to the normal 100% training units of the actual week (week 42) during the actual training week (e.g. 42) (this would total to 175%).
Therefore, we recommend giving up the last completed training units (e.g. the 25%), and to downgrade the training one more week (e.g. to week 38 / see window no. 6 / illustration to the right). **Consequently, the training profile will be extended by 3 weeks.**

The illustration to the right shows that the training can resume with the actual week (42), without completing the training of week no. 39 that is interrupted at 25% when the training plan is downgraded by an extra week to week no. 38, which is completed to 100%.

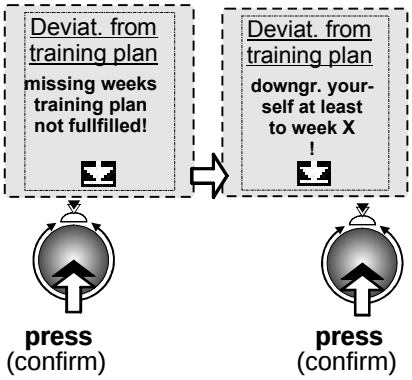
Start the training unit (e.g. week 42)

When the actual week (e.g. week 42) is completed to 100% the reference to the downgrade is removed (e.g. to week 38) and the system displays a normal training plan (see illustration to the right below).

From now on, the training will proceed normally, i.e. as soon as week 42 is completed to 100%, the training plan proceeds with week 43.

The user is on vacation and does not train for one or more complete weeks:

The next time the coaching function is called the message shown here will be displayed after the training type is selected and before the training plan. The “x” in the message text will be replaced in the actual message by the number of the last calendar week whose completed part is > 0 %. You will find more recommendations about personal and individual downgrading on pages 27 and 28 in the case of illness, prolonged absence, many missed training sessions, etc.



Notes about downgrading in the case of training interruption:

We advise beginners or the lesser active sportsmen, in the case they need to downgrade following a prolonged training interruption, to downgrade farther behind than the program suggests. The lost training is nevertheless very small and will be rapidly recovered. A well-trained user can close the interruption by doing a shorter downgrade and compensate the training. The training structure of the coaching is well thought and has a very cautious approach particularly towards health risks.

It is very often the case that a very high training frequency is selected at the start of a Coaching plan, which cannot be held in real life. If you get the message “Deviation from training plan” many times, do not hesitate to reduce the training frequency. An essential aspect of the training on an ergometer is that is be done with a positive state of mind. **In any case, you should avoid stress during the training!**

1. Training interruption because of vacation and without sport activities during that period:

1a) **1 Week training interruption:**
Please continue with the last training week not completely done.

1b) **2 Weeks training interruption:**
Please downgrade by at least 3 weeks in the training plan.

1c) **3 and more weeks training interruption:**
Please downgrade by at least 4 weeks.

1d) **In the case of a training interruption of more than 6 weeks**:
we advise the user, particularly beginners, to restart a Coaching plan from the beginning.

2. Training interruption because of illness.

You should seek the advice of your physician before resuming the training. Many illnesses (e.g. infection with fever) will make you lose more physical capacity and endurance than a normal training interruption. Given the high number of illnesses we can only provide a very general overview.

2a) **1 week training interruption because of a common, light infection:**
Downgrade by about 3 to 4 weeks. We recommend consulting your physician before restarting the training.

2b) **2 weeks training interruption because of flu infection with fever:**
Downgrade to at least 4 weeks. We recommend consulting your physician before restarting the training.

2c) **We urgently recommend you consult your physician about resuming the training in the case of any serious illness** (e.g. viral flu, orthopaedic problems, wounds).

8 Loading scheme of the Coaching program

Cardiovascular **training:** (sample with 3 training units per week)

This type of training applies carefully its loading and leads to a healthy increase of the capacity of your cardiovascular system.

1st Unit: 20 min with low heart pulse rate for cardio training.
2nd Unit: fixed program no. 6 for 19 minutes.
3rd Unit: pulse controlled fixed program with individual pulse rate prescriptions.

After about 24 weeks of training:
1st Unit: 45 min with low heart pulse rate for cardio training.
2nd Unit: pulse controlled fixed program with individual pulse rate prescriptions.
3rd Unit: fixed program no. 4 for 35 minutes.

Weight reduction: (sample training with 4 training units per week)

This training type applies a cautious loading at low heart rates. The training units have an extended training duration (up to 70 minutes). These units require endurance and motivation from you, but they help you achieve a stable weight reduction. Naturally, under the condition that you keep your daily calorie intake constant. Using this program, you can achieve a weight reduction of about 1.5 to 2 kg in the first 4 weeks, and then about 200 to 500 gr. per week in the following weeks.

1st unit: 30 min training with low heart pulse rate to burn fat.
2nd unit: fixed program no. 12 for 25 minute.
3rd unit: pulse controlled program with individual pulse rate prescriptions.
4th unit: pulse controlled program with individual pulse rate prescriptions.

After about 21 weeks of training
1st unit: 50 min training with low heart pulse rate to burn fat.
2nd unit: pulse controlled program with individual pulse rate prescriptions.
3rd unit: fixed program no. 17 for 53 minutes.
4th unit: pulse controlled program with individual pulse rate prescriptions.

Fitness training: (sample training with 5 training units per week)

This training type helps you achieve endurance and fitness. It focuses on low intensity, somehow longer training units.

1st unit: fixed program no. 3 for 33 minutes.
2nd unit: 30 min pulse controlled fixed program with individual pulse rate prescriptions.
3rd unit: fixed program no. 12 for 25 minutes.
4th unit: 35min training at the individual endurance pulse rate.
5th Test for re-evaluation and determination of your personal heart pulse rate at training.
(This test will be carried out every 4 weeks, as was already mentioned on page 25.)

After about 18 weeks of training:
1st unit: 50 min training at the individual endurance pulse rate.
2nd unit: pulse controlled fixed program with individual pulse prescriptions.
3rd unit: fixed program no. 4 for 35 minute.
4th unit: pulse controlled fixed program with individual pulse rate prescriptions.
5th unit: fixed program no. 17 for 53 minute.
(This test will be carried out every 4 weeks, as was already mentioned on page 25.)

Muscle build-up (sample training for 6 training units per week)

This training type leads to improving fitness and endurance. In addition to endurance training units, you will be required in this program to run training units with low pedalling speed (60 RPM). This will reliably increase your strength and endurance power, and support muscle build-up in a proportional way.

1st unit: fixed program no. 3 for 33 minutes.
2nd unit: Strength program for 20min for muscle build up.
3rd unit: 20min pulse controlled fixed program with individual pulse rate prescriptions.
4th unit: Strength program for 25min for muscle build up.
5th unit: fixed program no. 7 for 43 minutes.
6th Test for re-evaluation and determination of your personal heart pulse rate at training.

After about 11 weeks of training:
1st unit: fixed program no. 5 for 38 minutes.
2nd unit: Strength program for 40min for muscle build up.
3rd unit: 35min pulse controlled fixed program with individual pulse rate prescriptions.
4th unit: Strength program for 35min for muscle build up
5th unit: pulse controlled fixed program with individual pulse rate prescriptions.
6th unit: fixed program no. 8 for 45 minutes.

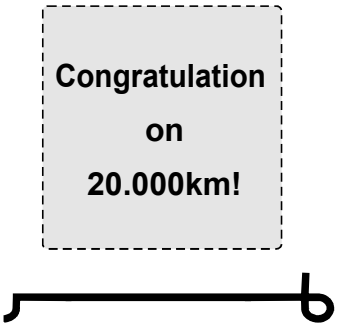
You should keep a pedalling speed of 60 to 80 RPM with the strength program, which corresponds to the requirements of the coaching program.

Your perseverance will be rewarded

Take part in the

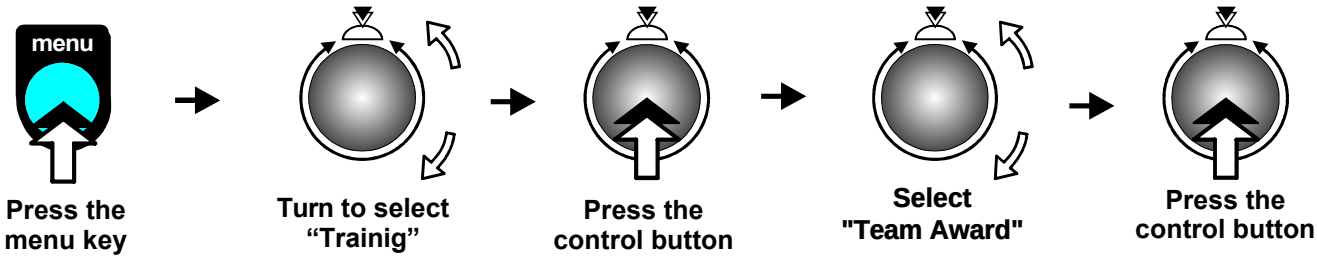
Team Award

ergo_bike Team Award

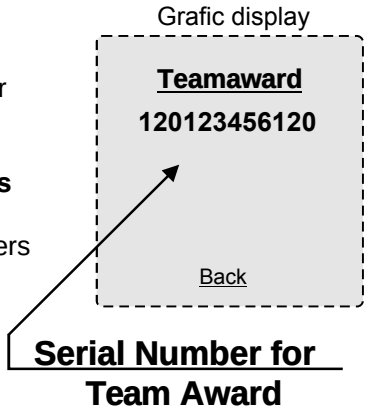


Team Award awarding levels

1,000 km	5,000 km	10,000 km	20,000 km



If you send us the code number displayed in window no. 6, together with your name, your address, your email address, the serial number of your device (on the name plate), and the serial number of your dashboard (see **"Menu", "Information", "Version Data", "Serial Number"**); we will send you an award for your performance. **Give us a chance to surprise you!**
And you will be admitted in the **"Hall of Fame"** of the ***ergo_bike*** users



You can enter the required information directly to our web page at www.daum-electronic.de, under the heading **"Team Award"** (the simplest possibility), or send us an email to "TeamAward@daum-electronic.de", or send us a fax to +49 / (0) 911 753714 or write to us to

daum electronic GmbH,
Team Award department
Flugplatzstr. 100,
D-90768 Fürth

The Relaxation function

The Relaxation funktion

The relaxation function is a **Biofeedback-process** that is carried out by measuring the electrical resistance of the skin. The measured values are indicated by means of optical and audio signals.
Biofeedback is thus the translation into perceptible signals of physiological processes occurring in our body, which our senses can barely, or not at all, perceive. The relaxation function is the ***ergo_bike'*** way of helping you relax and eliminate stress. You should use this option particularly after a physical endurance training.

Connecting the relaxation sensor

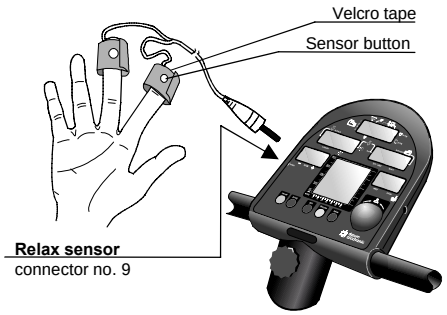
1. Take the Velcro bands of the fingers' sensor out of the package and open them.

2. Place the open tape on one of your fingertip. Make sure there is good contact between the silver buttons and your skin. The wires from the tape should lead away from the back of your hand.

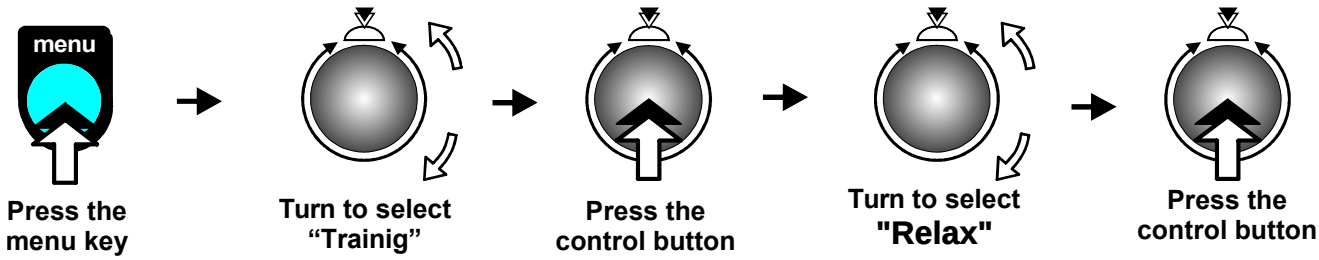
3. Put down the side of the Velcro tape with the sensor button on your finger and wrap the other side around it and press it firmly in place.

4. Wrap the other tape around your middle finger in the same fashion.

5. Plug the connector of the relaxation sensor into the **"relax"** input socket no. 9 on the dashboard.



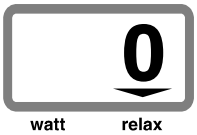
Relaxing
Relax program / process description



The wide down pointing arrow in **window no. 5** switches from Watt to Relax.
A value is displayed, which **starts at 199**.

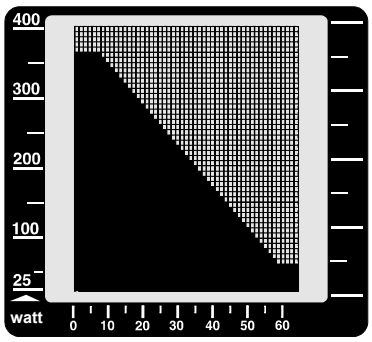
The displayed value drops gradually as you relax after training, and increases with the stress level.

Watt display



The **Relax-value** can drop all the way to almost **zero**. The user should therefor contribute to his/her relaxing and avoid any other stress. You can support this process by getting off the device and sit in a relaxed position, or lay down close to the ***ergo_bike*** and calm down.

The graphic screen displays a representation of the relaxation process. The displayed line shows the transition from the maximal value (199) to the minimum relax value (0). This process is also visible in window no. 5. The same process is presented in a graphical form in window no. 6 (see illustration to the right).



The actual relax level is indicated by a blinking bar in the display window

The complete relaxing process is divided into 25 levels. A short beep sound signals when each level is achieved. The successive beeps are each lower in tonality.

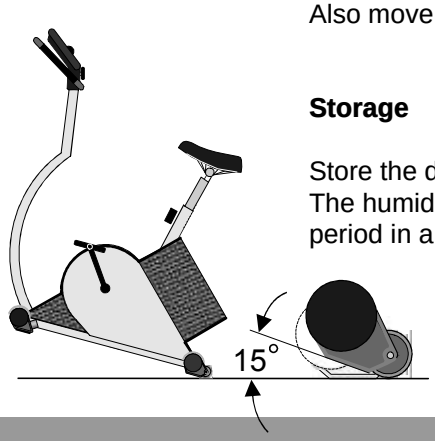
Transport and storage

Transport

The rear standard feet are equipped with roller casters to ease moving the device.

Hold the handlebars column with one hand and grab and raise the foot with the other hand, this way will ensure you have a good grip. Please take care to keep your back straight and to avoid injuries.

Also move the device on flat floors to avoid damaging the bearings.

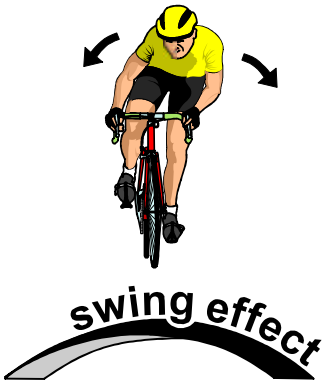


Storage

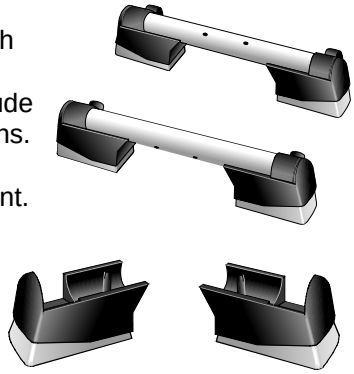
Store the device in dry and warm rooms, at a temperature range of 0 to +25°C. The humidity ratio should not exceed 70%. If you store the device for an extended period in a cold room you should let it warm up again before using it.

Accessories (sold separately)

Swing feet

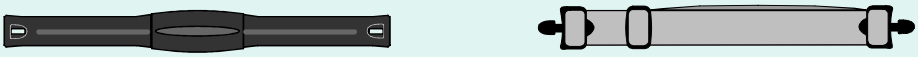


The oscillating movements occurring naturally with real bikes cannot normally be reproduced when training on an ergometer. These movements include balancing movements or back and forth oscillations. The rigid construction, and the fixed feet used to support the device prevent any dynamic movement. Moreover, heavy training would eventually lead to overloading the frame and mounting parts. Squeaking noises are a typical consequence of such overloads.



The wireless ergo_bike chest band

We recommend using the wireless chest band to achieve a better and more precise heart rate measurement. The corresponding receiver is built into the device.



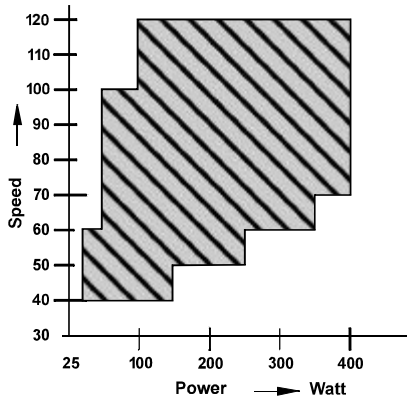
Multifunction memory card reader

Training data will automatically be stored in full details on the ergo_memo-card through the reader attached to the PC interface of the dashboard. The 32MB version of the card permits storage and evaluation of up to 2000 hours of training.

You will find more accessories on our Internet site at www.daum-electronic.de

Specifications

Braking system: Computer-controlled, full electronic eddy current brake operating in the speed ranges shown in the diagram to the right.



Load range: 25 to 400 Watt

Speed range: 0 to 199 RPM

Load precision +/- 10%

Loading levels: In 5-Watt increments, manually adjustable

Drive: Single-stage, maintenance-free steel-ribbed belt drive in a spring supported drive unit.

Flywheel: Machined

Programming system: Single button programming

Bio Feedback Function: Bio feedback based on the electrical resistance of the skin, measurement via finger electrodes, approx. 100 KOhm to 3 MOhm, self calibrating, display on LCD Panel in 255 levels and audible time controlled relaxing melody.

Fitness level: Six age-related fitness levels grading, displayed on LCD panel and through 6 commendation melodies.

Saddle height adjustment: 21 levels setting for body sizes from 120 to 190 cm

Handlebars adjustment: about 360° continuously (without the triathlon add-on)

Displays: 5 liquid crystal panels for pulse, distance, speed, average speed, load in Watt, kJoule burned, pedal speed (RPM) and training time. 1 graphic display / 76 x 64 pixels / total of 4864 pixels

Heart rate measurement: On the ear, measuring range 50 to 199 pulses/min., telemetric using Cardio sensor chest band (optional accessory)

Limit values setting: Heart rate, distance, training time, kJoule, maximum load in watt.

Alarm signals: Acoustic and optical

Weight**:** About 40 kg

Dimensions: W x H x L 55 cm x 123 cm x 85 cm

Power supply: 230 V alternating current, 50 Hz, 50 W

Safety standards: GS, CE

Safety class: 2

Conformity

To The Technical Plant And Equipment Act

daum electronic hereby declares that this product complies with the following provisions regarding electromagnetic compatibility and electrical safety:

- EN60335-1 edition of July 2003, Specification for safety of household and similar electrical appliances. (part 1: General requirements)
- 89 / 336 / EEC of May 3, 1989 including subsequent changes (Recommendation 92 / 31 / EEC of April 28, 1992 and recommendation 93 /68 / EEC of July 22, 1993)
- 73 / 23 / EEC of February 19, 1973 including subsequent changes (Recommendation 93 / 68 / EEC of August 30, 1993)
- EN55014-1 edition of September 2003, Electromagnetic compatibility. Requirements for household appliances, electric tools and similar apparatus. Part 1: Emission
- EN55014-2 edition of August 2002, Electromagnetic compatibility. Requirements for household appliances, electric tools and similar apparatus. (Part 2: Immunity. Product family standard)

Technical safety recommendation:

Compare the supply voltage on the nameplate on the housing with your local supply voltage prior to plugging the power cord to the power supply. Contact you dealer If the values are not the same.

The device is completely disconnected from the power supply by pulling out the power cord, therefore it should always be plugged into an easily accessible socket.

If the dashboard were subject to operational troubles due to static electricity turn the device OFF and then back ON again using the main switch.

Area of application:

The device is suitable for therapeutic utilisation at home.
(it is manufactured in compliance with DIN EN 957-1/9 Class A)

it does not meet the requirements of medical diagnostic applications (clinical use).

Glossary

Aching muscles Painful phenomenon of the muscles tissues, occurring when the aerobic zone is exceeded leading to an overproduction of lactic acid. In order to avoid it, the ergo_bike compares measured data, input parameters and statistical values and displays the resulting aerobic zone status.

Aerobic zone The training phase during which the load on the muscles is enough to keep them supplied with oxygen, but not enough to cause an overproduction of lactic acid (aching muscles). Aerobics also makes use of the aerobic zone.

Bio-Feedback Acoustic and/or optical feedback on the metabolism and condition of the body.

BMI Body-Mass-Index

Calorie (abbr.: cal) Energy measurement unit. Officially obsolete, but still in common use. It refers to thermal energy in particular. The conversion factor to the unit in use today (J): 1 cal = 4.1868 J, or the other way around 1 J = 0.2388 cal

Coaching Automatic training control oriented towards training objectives.

Eddy current brake Uses the fact that electric currents induced in a conductor by a fluctuating magnetic field produce joule-type energy which can be used for an electronically controlled brake.

Energy balance The balance between energy intake and energy usage. There can only be a balance if intake and output are the same. For example, in Germany every person consumes on average 400 - 500 Kcal more than he or she can use.

Joule (abbr.: J)
1 kJoule = 1000 Joules Energy measurement unit, named after the british physicist James Prescott Joule. (see calorie)

Lactic acid (aching muscles)

LED Light Emitting Diode: when current is passed through a LED it emits light, either visible or invisible. It is used for indicator lamps or remote controls.

Physical kJoule Represents only the mechanical work done on the ergometer; it is computed by mean of the following formula:

Power [Watt] * Time [Sec] = Work [Joule]
Exemple100 Watt * 60s = 6000 Joule = 6 kJoule

This value does not cover the energy needed by the body to maintain its vital functions (e.g. respiration, blood circulation, metabolism).

Physiology The science of life processes

Realistic kJoule Using the data of the height, the weight, the age, and the sex, the system computes the approximate basic and total quantity of burned energy. The system will then display the approximate amount of kJoule actually burned during the training on the ergometer.

RPM Revolutions per Minute.

Self test When switched on, the ergo_bike computer checks the electronic circuits it uses to make sure every thing functions properly.

Virtual Reality An illusion of reality generated by technical means that is influenced by external impulses or gives impulses to its surrounding. The ergo_bike uses these possibilities through an optional accessory set. This way, you can travel through beautiful landscapes while training, or experience competition circuits.

Watt (abbr.: W) Unit of measure of the work done per unit time:

1 W = 1 J / s = 1 Nm / s = 1 VA

WHO World Health Organisation

In the case of a failure ..... what to do if...?

All ***ergo_bike*** ergometer bikes undergo a detailed test before they are shipped.

Should you, in spite of this, face a functional failure, the following recommendations should tell you what to do.

General procedure to identify the cause of a failure

The ***ergo_bike*** bikes consist essentially of two functional units
- the dashboard and the drive unit.

The drive unit is located inside the device, behind the saddle column. It contains the power supply, the eddy current brake and the related electronic circuits.

The dashboard contains the electronic circuits used for system control, display and data processing. The dashboard and the drive unit communicate via a cable, which is routed through the handlebars column, having a connector on the dashboard, on the drive unit and in the handlebars column.

Should the assembled ***ergo_bike*** fail to function, the defect would generally be found either on the dashboard, the drive unit or the cable connecting them.

The most frequent cause of complaint turns out to be jamming the connecting cable during the assembly process of the *ergo_bike*, or not properly plugging the cable connector.

In the event of a failure, check carefully first if

- The cable connector located on the lower end of the handlebars column is properly connected, and that the cable was not jammed or cut when the handlebars column was mounted onto the frame. To do this you need to disassemble the handlebars column.
- The cable was not jammed or cut while mounting the dashboard on the handlebars column, or if the cable connector to the circuit board inside the dashboard is loose. To do this you need to disassemble the dashboard.

Fastening screws

All the fastening screws must be tightened from time to time. We recommend tightening them at least after the first 50 km and then once every 500 km.

Contacting your dealer or the service department of the ergo_bike

If the cause of the failure could not be identified, you should contact your dealer or the repair hotline of daum electronic gmbh (telephone number ++49 / (0) 911 / 97 536-0).

We need the following information:

1. The **device number** (this number is on the silver label on the rear lower part of the frame).
2. The **dashboard version number** (you can access this number under the “Menu”, “Information”, “Version Data”, "Serial Number” on the graphic display).
3. The **proof of purchase and the device reference sheet**.
4. ***ergo_bike*** ergometer bikes have a built-in failure diagnostic system, which signals device functionality using a red and a yellow LED.

   These LEDs are located behind the transparent side cover (to the right side looking in the front direction) in the upper right section on the circuit board of the drive unit, and can be seen from the outside (through the grid). With the device switched on, the yellow LED should blink when pedalling slowly, and blink faster when pedalling fast.

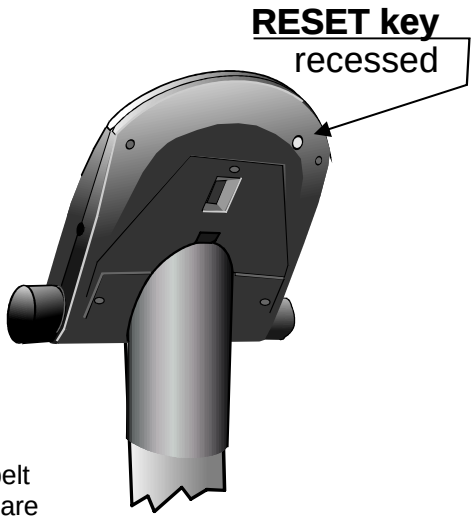
   With the device switched on, the red LED should light with high intensity when pedalling against a low load, and decrease in intensity as the load increases.

Please inform us of the status of these LEDs for all complaints concerning “the device is not braking” or “the device is not braking properly.” This enables us to draw relatively concrete conclusions about the cause of the failure.

If you wish to obtain more information on your device, please visit our service and repair hints web site on Internet (**www.daum-electronic.de**). You can also call our service and repair hotline

(telephone number ++49 / (0) 911 / 97 536-0).

Software Failure / Loss of Dashboard Control



All computer controlled appliances have one undesirable characteristic in common that is that the normal software operation can sometime fail for generally unknown reasons. This situation is generally described by the expression “the system has frozen”. Should the dashboard operation fail and cannot be restored by means of normal keys operations, then the solution would be to press the recessed RESET key (No. 14) underneath the dashboard with a pointed tool (e.g. a pencil or ball pen).

Noises

ergo_bike ergometers are equipped with quality ball bearings and a silent belt drive. However, it cannot be avoided that remaining noises be heard, which are in the range of LpA 52 dB (decibel).

The squeaking or other disturbing noises generally originate from:

- Loosening of the pedal arm fastening screws!
- The pedals
- The fastening screws of the feet or handlebars column!

These screws must be tightened from time to time, but in any cases every 500 km!!

Notes about the pulse alarm

If you enter the age of the user under **“Age”**, and a heart rate limit value that should not be exceeded under **“heart rate”** in the **“limit values”** menu (see page 5), then the alarm will always sound whenever

- the aerobic zone corresponding to the age of the user is exceeded (see page 7)

and

- the value entered under heart rate higher limit is reached (see page 5)

If you want the alarm to sound only when the heart rate limit value entered under “heart rate higher limit” is reached, you should enter 10 as the user age under “Age”!!

Drive / Braking unit (eddy current brake)

If a major failure is detected on the **drive unit**, it is possible to replace the complete unit. The braking unit, which consists of the flywheel, a transformer, a belt tensioning device and the mounting plate, is mounted with only three screws.
You can order an exchange unit from **daum electronic GmbH**. The defective unit can then be relatively easily replaced with the new one, without requiring any adjustment, by your dealer or a bike mechanic.

The flywheel of the ***ergo_bike*** is equipped with two journal bearings. These bearings continue to run for a little while after you stop pedalling. Feeling a light drag on the foot rods is then normal. The journal bearings should be lubricated with Klüberplex BEM 34-132 grease every about 3000km (if the drag on the foot rods increases and becomes uncomfortable), depending on the load.

Warranty conditions

Please consult your dealer/retailer in the case of a failure or trouble. The manufacturer **daum electronic GmbH** provides the warranty to your retailer according to the following conditions:

1. We guarantee that our products are free of manufacturing and/or material defects.

2. We will correct any problem pertaining to the above categories, with the exclusion of customer claims not related to those categories through upgrading services provided by us. We reserve the right, upon returning of the product in question, to exchange it with another product of the same type and value or, at our own discretion, to take it back against repayment of the amount paid by the customer (deducting overhead costs).

3. Our warranty covers a period of two years for parts and labour in the case of private utilisation of the product, and a period of three months, for parts and labour, in the case of commercial utilisation of the product, in both cases starting on the manufacturing date.

   We will fulfil this warranty service provided the customer will pay all freight and transport costs, including those for spare parts, and the cost of any packaging material we should possibly need to use.

   Returned devices will only be accepted if in the original packaging.
   (see illustration on page 44)

   Advance replacement of parts under warranty will be invoiced and delivered against payment (COD).
   The amount paid will be immediately refunded upon reception of the returned old part by us.

4. All other warranty claims, specially claims for the compensation of direct or indirect damages, or damage to a third party, or damages to other objects, as well as of damages due to failure, and of labour costs, are expressly excluded to the extend authorised by law. Should the repair fail within a reasonable delay, the customer has the right to demand a price reduction or the cancellation (modification) of the contract at his discretion.

5. We decline any responsibility for any wear occurring through normal utilisation. The warranty will be considered null and void if our instructions for mounting and utilising the device are not respected, or if the chemical products we recommend and deliver are not used, or if any modification was made to the device without our prior approval.

6. It is the customer's responsibility to check each one of our deliveries immediately upon reception. Any complaints about missing or defective parts must each be immediately transmitted in writing.

7. We do not guarantee that the delivered product will be suitable for the usage intended by our customer. Extended agreements need to be expressly confirmed in writing.

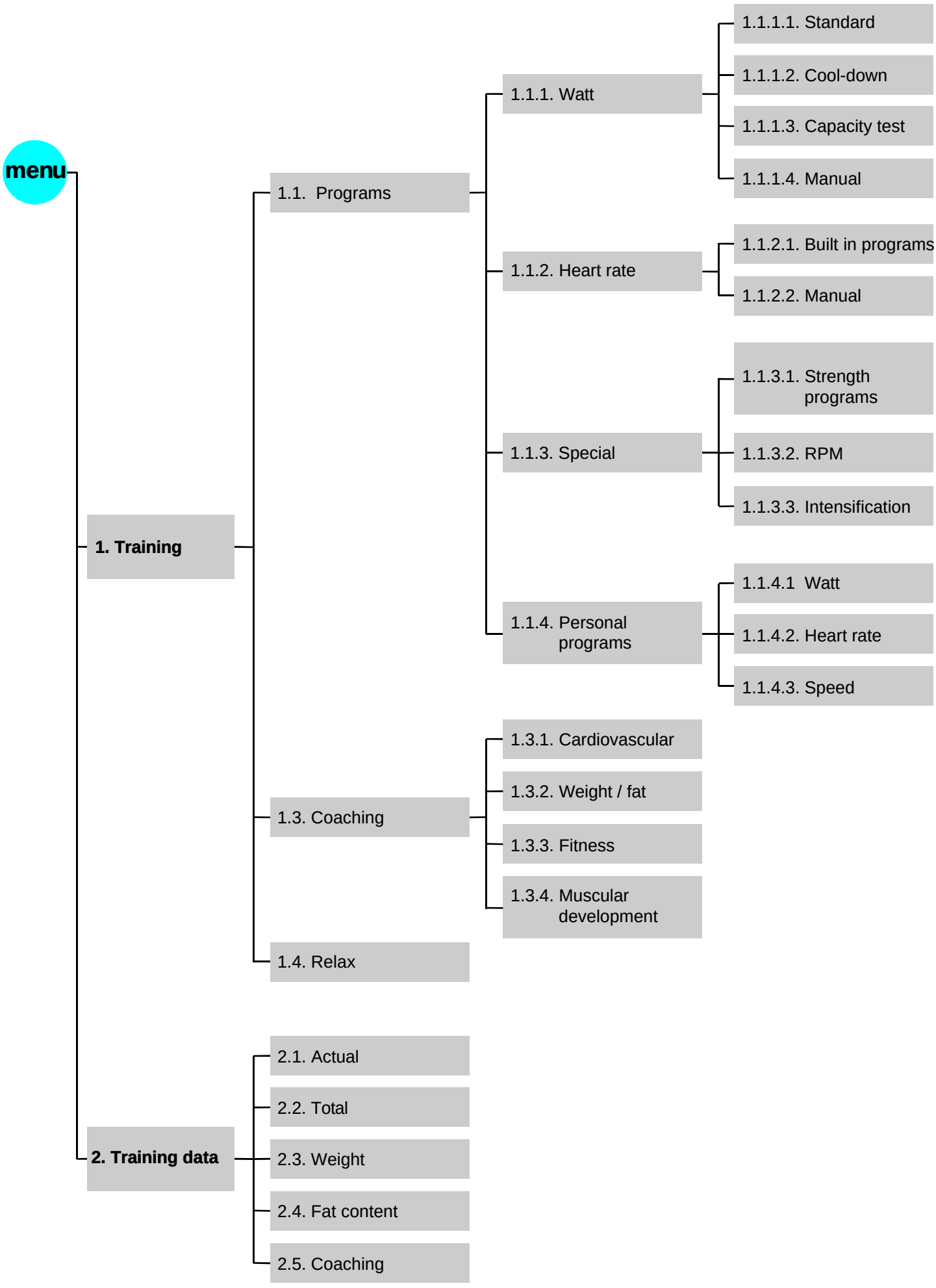
8. Any technical advice provided by us is formulated according to the best of our knowledge and in good faith, based on our own experience and testing. We do not assume any responsibility for this service, unless serious negligence can be proven on our part.

   If you wish to obtain more information on your device, you can visit our service and repair hints web site on Internet (**www.daum-electronic.de**).You can also call us on our repair hotline at daum electronic gmbh

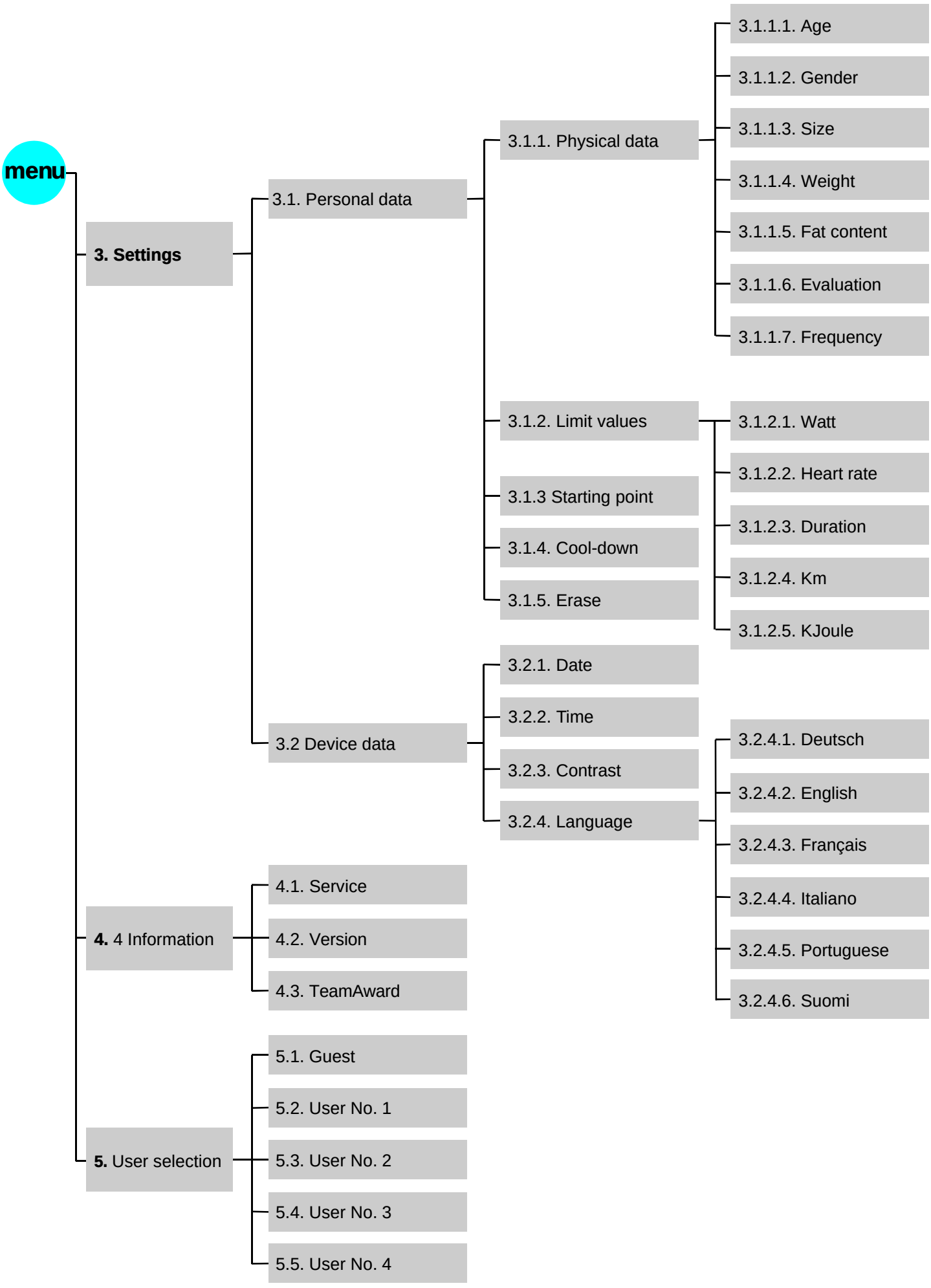
   (telephone number ++49 / (0) 911 / 97 536 - 0).

daum electronic gmbh, Fürth

Menu Diagram

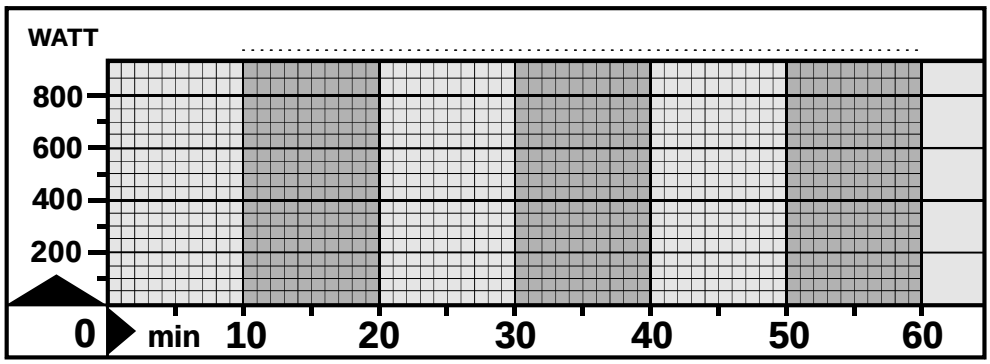


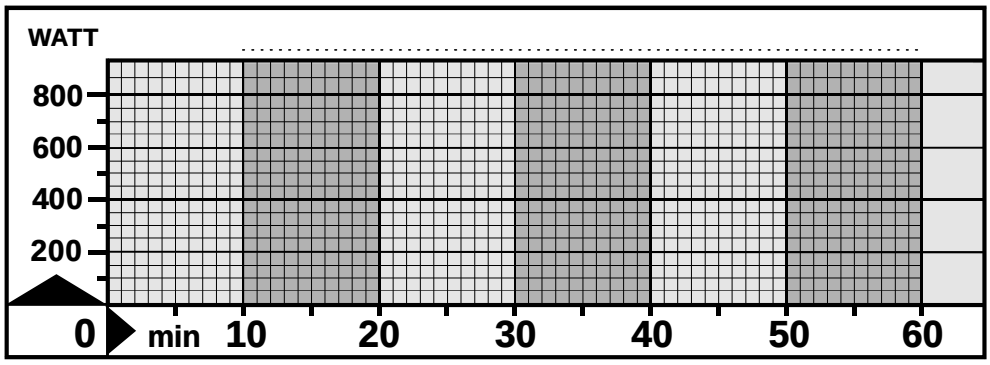
Menu Diagram

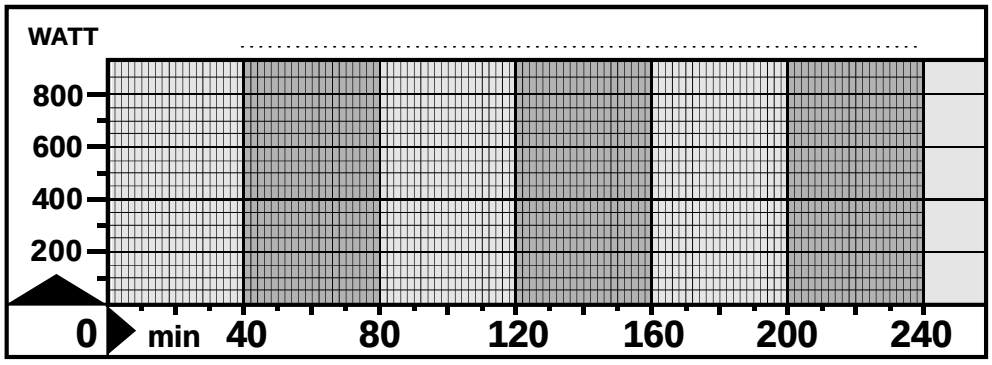


1

Use copies of the following diagrams to design your watt controlled individual programs.

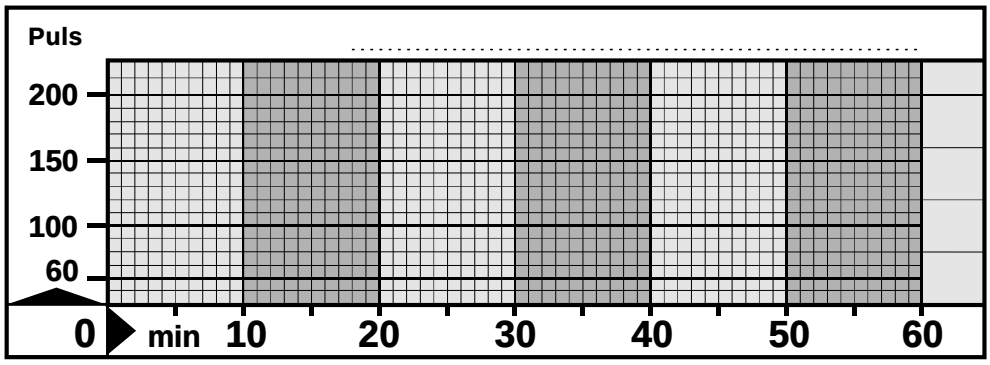


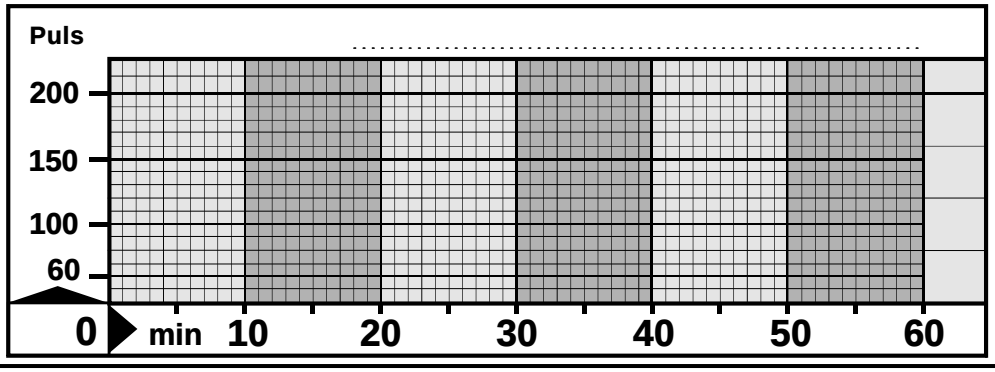


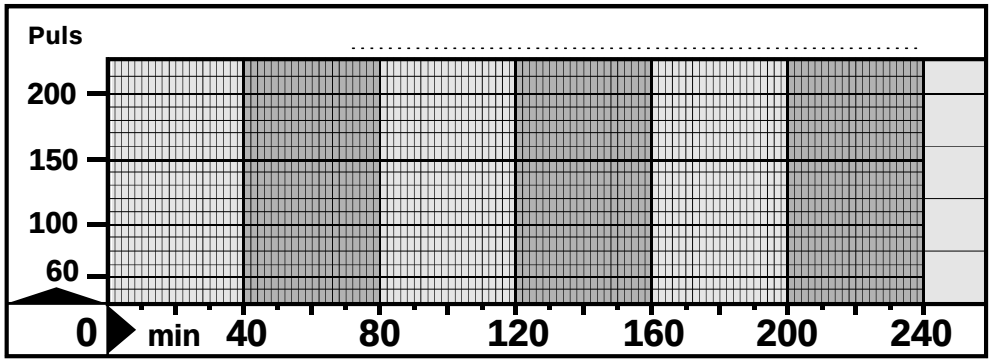


2

Use copies of the following diagrams to design your heart rate controlled individual programs.

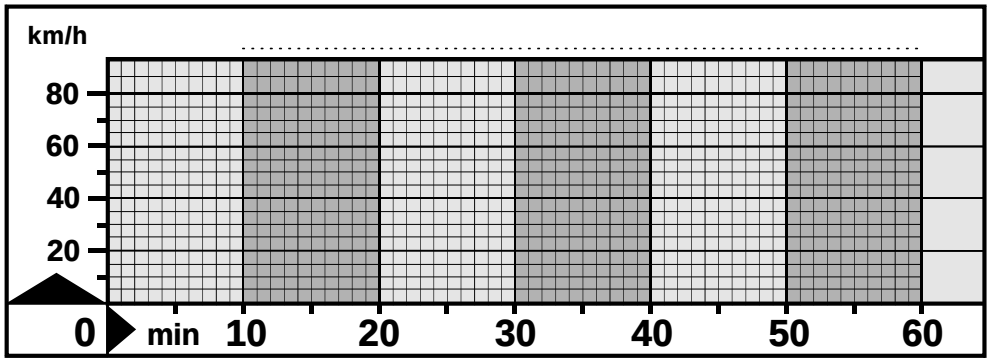


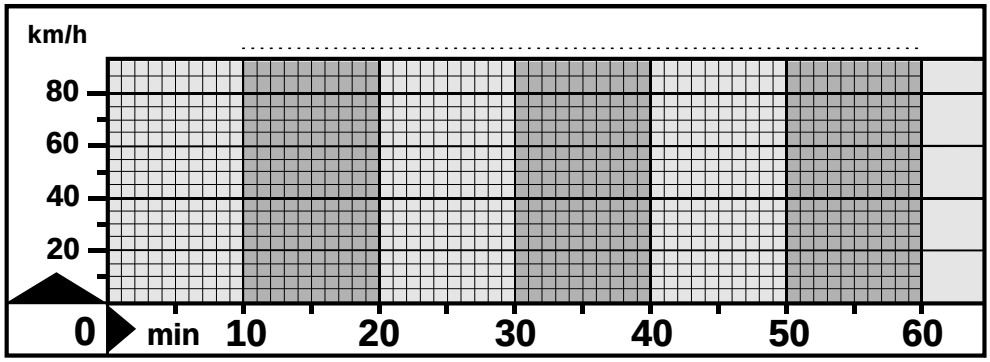


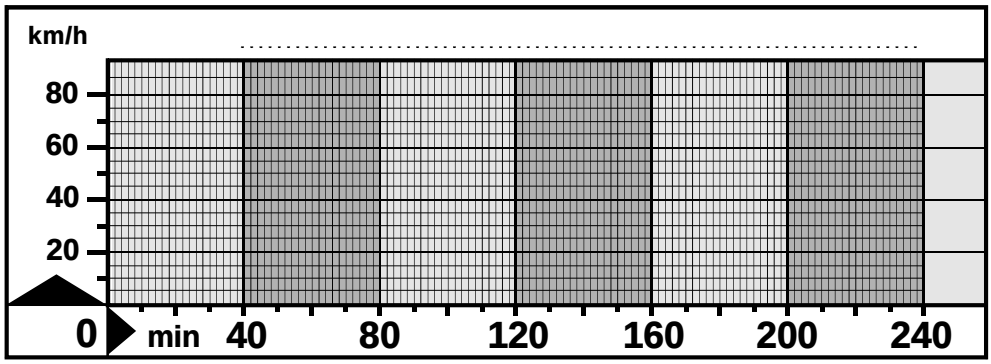


3

Use copies of the following diagrams to design your speed controlled individual programs.







Installation hints

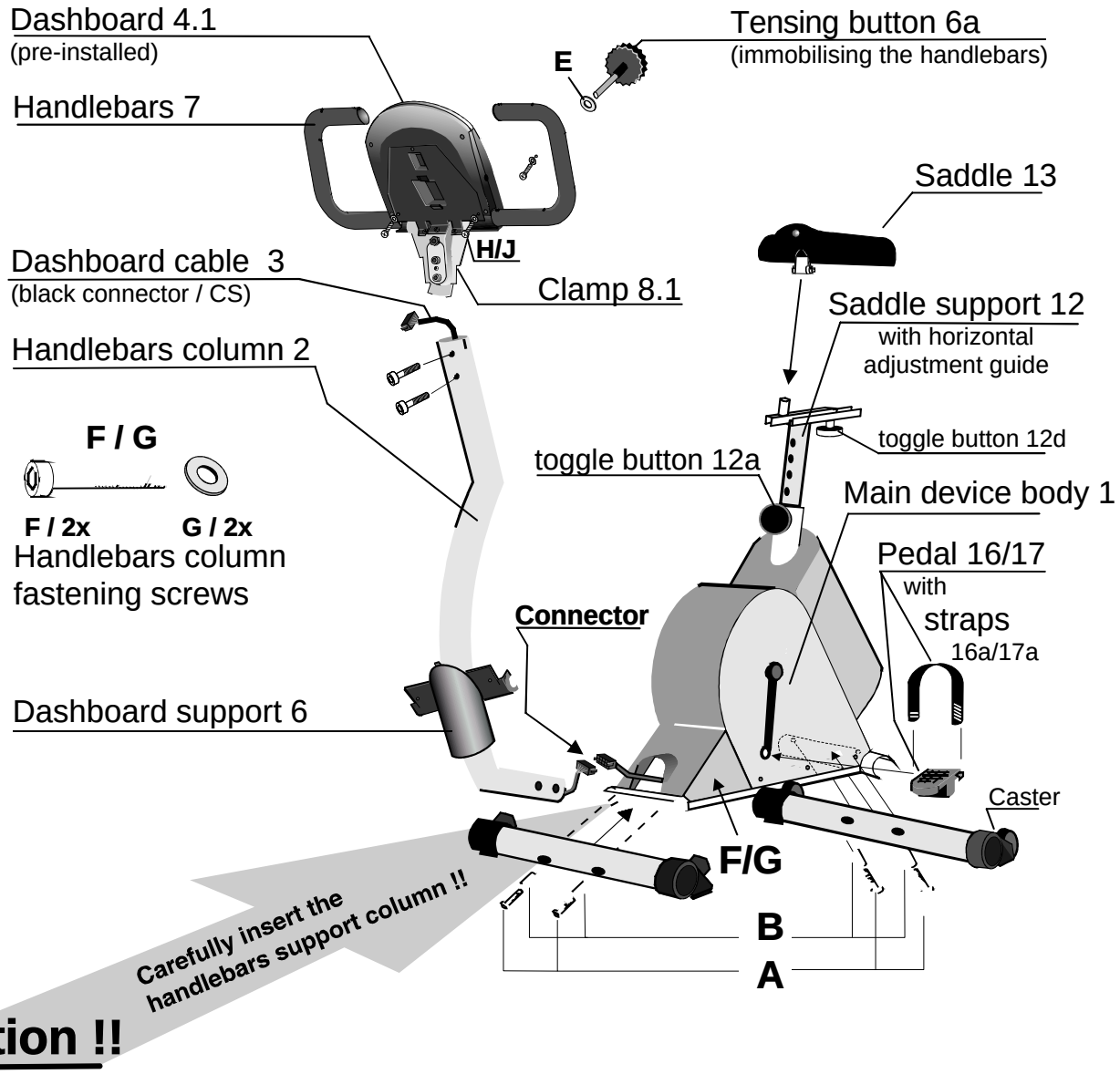
Miscellaneous

Install the ***ergo_bike*** on a level floor. The manufacturer will not be held responsible for any damage done to the floor. We thus recommend installing the device on a protective base.

The ***ergo_bike*** is not intended for use in damp rooms. Rust could develop, which would damage parts of the device and impair both the operating functions and the safety features.

The ***ergo_bike*** uses a mains voltage of 230 Volt, 50/60 Hz and has a power consumption of 50 Watt. The power supply you wish to use must fulfil these requirements!

Any fault or defect on the device that have an impact on safety must be repaired. Defective or broken parts must be replaced immediately (see spare parts list page 51). The device is not to be used until the repair is complete.



The cable of the handlebars support column must be driven into the column (after plugging the connector) before inserting the column into the frame. Otherwise, the cable could be crushed, which could lead to malfunctions of the ergo_bike!

Package Contents

Although it is possible for one person to assemble the ergo_bike alone, this operation is easier and faster to execute by two persons working together.

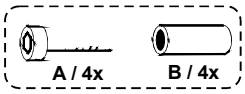
The package contains:

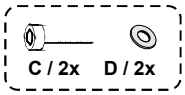
1 ergo_bike main device (with mounted pedal cranks)
1 Saddle
1 Dashboard with protection plate, clamp and handlebars
1 Dashboard support (cover / clamp)
1 Handlebars column with integrated dashboard cable
(cable connecting the dashboard to the main device)
2 device feet
2 Pedals
2 Pedal straps
1 Saddle support
1 Tensing lever

ergo_bike package contents

Mounting hardware:

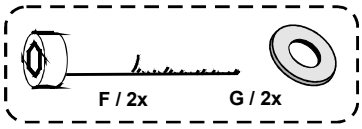
4	Recessed head screws M 8x50	(A)
4	Spacer sleeves 12Ø x 37.5 mm	(B)
2	Recessed head screws M8 x 40	(C)
2	Washer DIN 125 8.4	(D)
2	Recessed head screws M 10x70	(F)
2	Washers DIN 125 10.5	(G)
2	Screws sw DIN 7971 2.9x19	(H)
2	Washers DIN 125 3.2	(J)

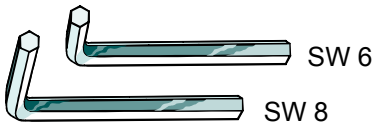


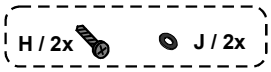


Tools

1 Wrench 13/15 mm
1 Allen wrench SW 6
1 Allen wrench SW 8



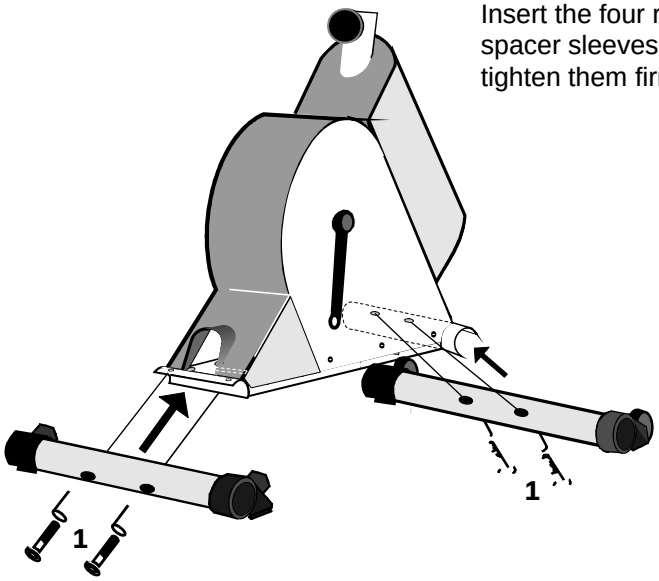




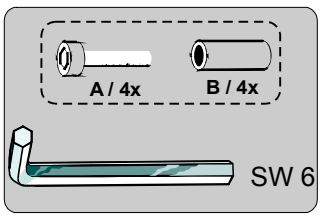
Accessories

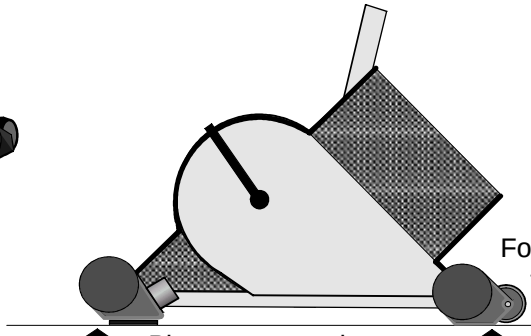
1 Pulse sensor Ear clip
1 Relaxation sensor
1 Software update cable
1 User manual

Assembling the feet



Insert the four recessed head screws with spacer sleeves (1) trough the two holes and tighten them firmly.





Foot with caster roller to the rear.

Please respect the proper positioning of the feet.

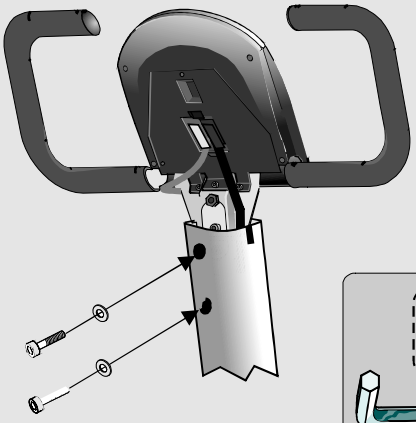
Installing the dashboard and the handlebars column

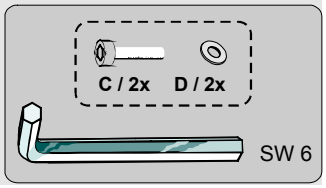
1

Pull the dashboard cable through the handlebars column.

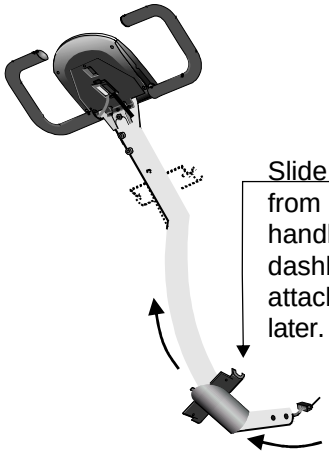
2

Attach the dashboard to the handlebars column by means of the recessed head screws and the washers





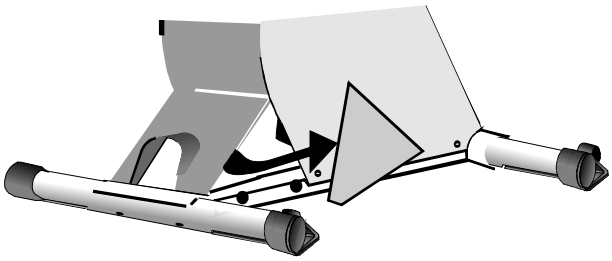
3



Slide the dashboard holder from below upwards on the handlebars column. The dashboard holder will be attached by means of screws later.

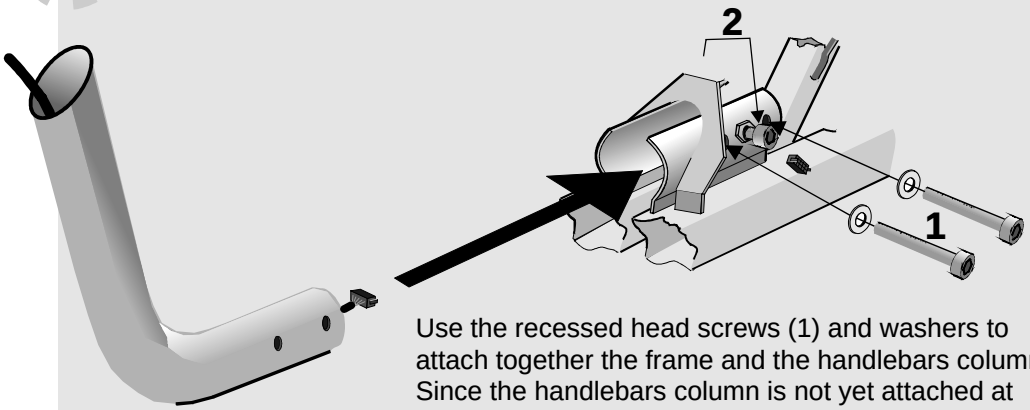
4

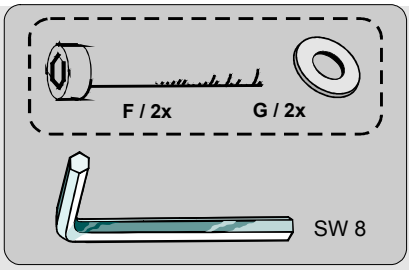
Remove the perforated plate cover on the left side, looking to the front direction. For this pull the plate from below.



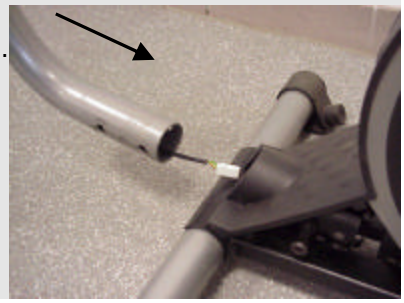
5

Insert the handlebars into the front opening of the frame.

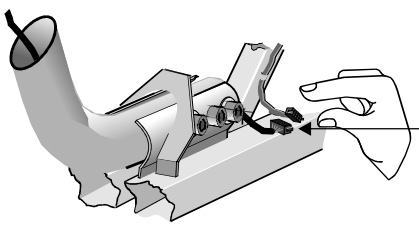




Use the recessed head screws (1) and washers to attach together the frame and the handlebars column. Since the handlebars column is not yet attached at this moment, please take care to keep it upright (straight). Then attach the handlebars column by alternatively screwing in the two pre-installed screws (2) until it is immobilised. The immobilising screw on the right side can be reached through a hole in the perforated plate triangle on the right side.



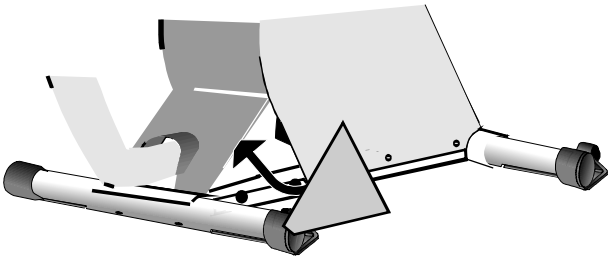
6

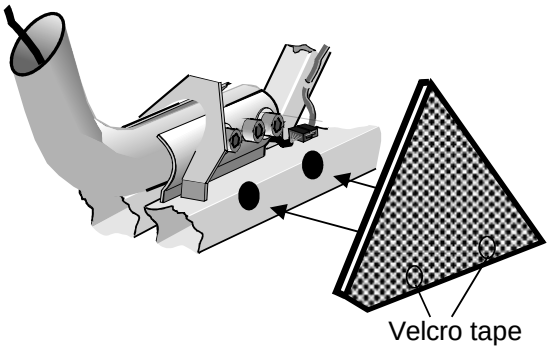


Connect the connector of the cable from the dashboard with the cable from the frame.

Mounting the perforated plate cover

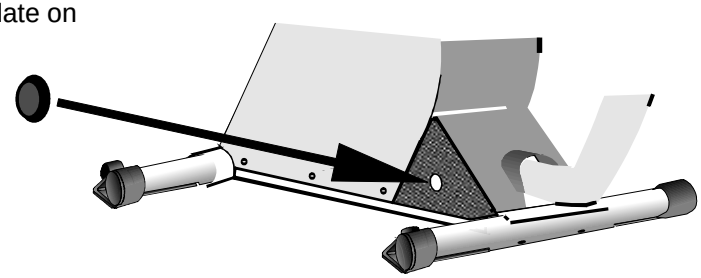
Reassemble the perforated plate cover on the left side. Start by pressing it on the top end and then on the lower part.





Mounting the cover cap

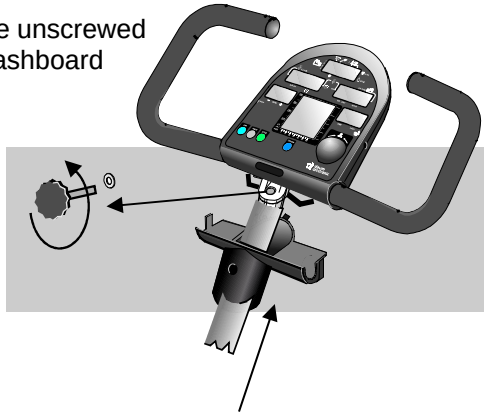
Close the opening hole in the perforated plate on the right side with the cover cap.



Mounting the dashboard holder

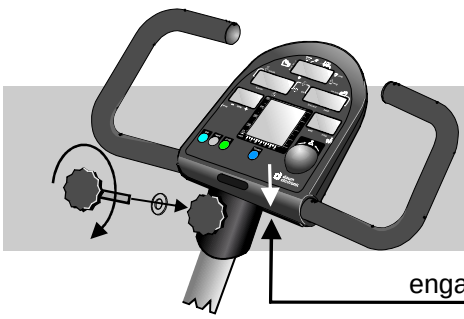
1

The tensing button must be unscrewed and removed before the dashboard holder can be attached.



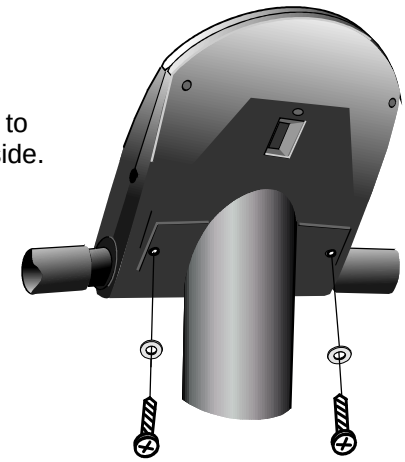
2

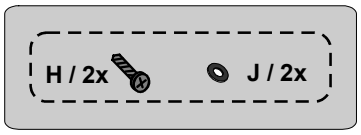
Then screw the tensing button with the washer back again to immobilise the handlebars.



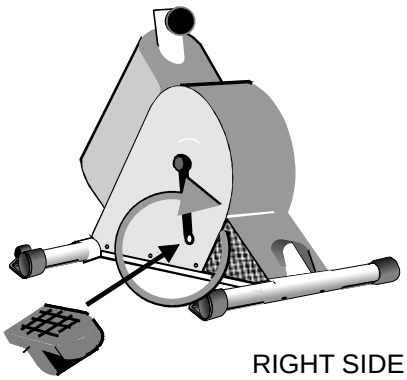
engage the dashboard holder with the housing.

3 Screw the dashboard holder to the dashboard on the back side.



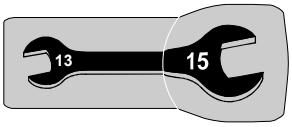


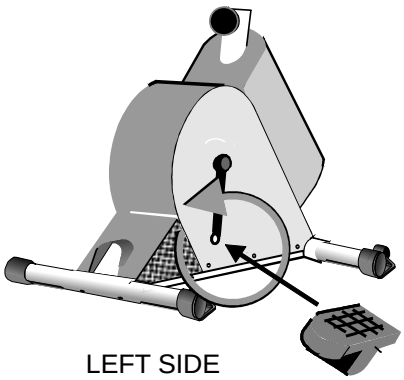
Mounting the pedals



RIGHT SIDE

Turn the right side pedal clockwise to attach it firmly. Turn the left side pedal counter-clockwise.

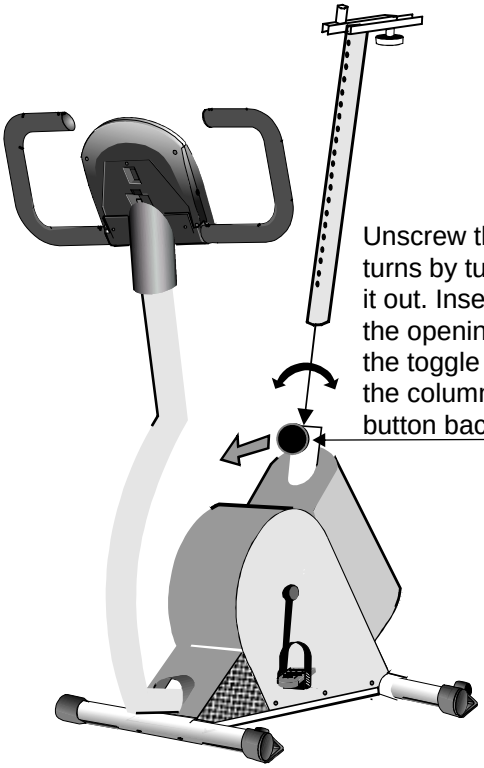




LEFT SIDE

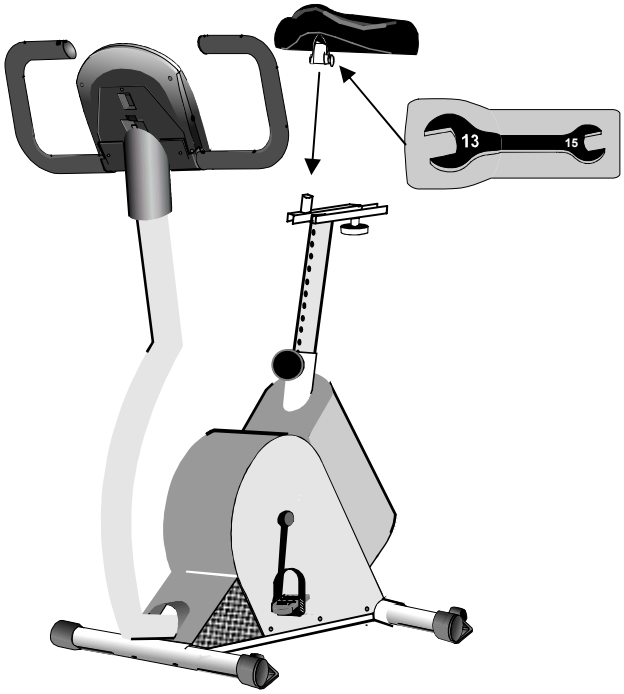
Mounting the saddle

1

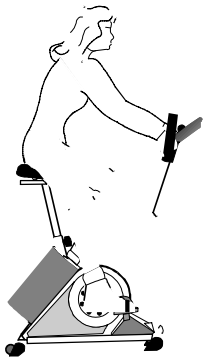


Unscrew the toggle button by a few turns by turning it to the left and pull it out. Insert the saddle column into the opening of the frame and release the toggle button to let it engage with the column. Then tighten the toggle button back.

2 Install the saddle on the dowel pin of the saddle carriage on the saddle holder and tighten the nuts.

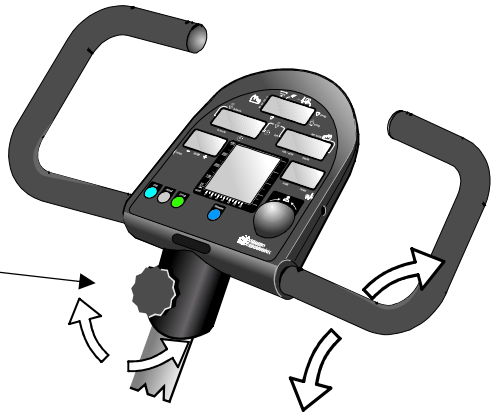


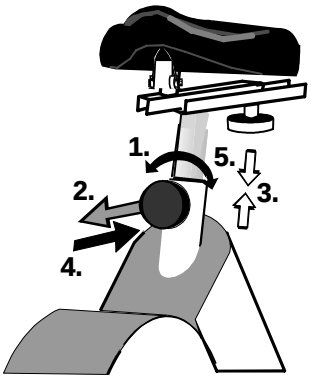
Fine Tuning



A comfortable and relaxed sitting posture is crucial for ensuring that training with the ergo_bike be effective and useful. Just like riding a street bike, your back should be straight and your legs should bend slightly at the knee when the pedals reach their lowest point. This posture is illustrated in the drawing to the left.

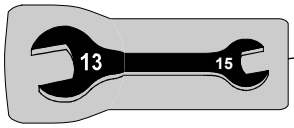
Loosen the tension button on the dashboard holder and move the handlebars until it stops in the required position. Retighten the tensing button after you put the handlebars in the required position.

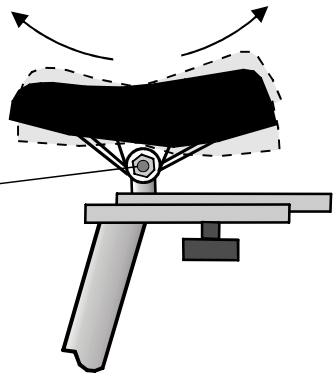


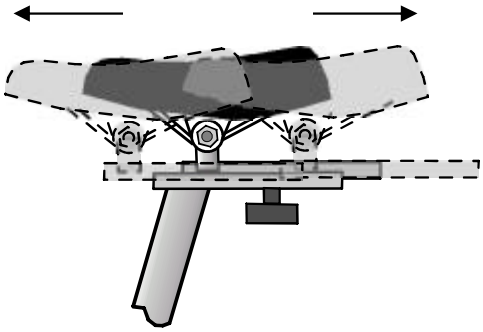


To adjust the height of the saddle, loosen the toggle button (1) and pull it out (2). Now you can move the saddle column up and down (3). When the column is in the required height release the toggle button to let it engage. Finally tighten the toggle button back (5) by turning it to the right.

To adjust the inclination of the saddle loosen the two nuts under the saddle. Put the saddle in the required position and the retighten the two nuts.

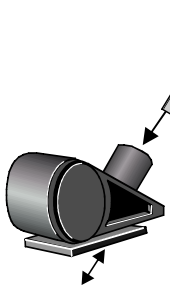






The sitting position can be adjusted by mean of the sliding rail of the saddle holder. Loosen the tommy head button underneath the sliding rail and slide the saddle to the required horizontal position. After adjusting the saddle position retighten the tommy head firmly.

If the ***ergo_bike*** is installed on an uneven floor, use a screwdriver to adjust the compensation setting in the front feet to ensure a stable stand.



Front Foot

With compensation setting for the floor distance

Miscellaneous

Every 500 km of cumulated running distance you should check whether all the screws are still firmly set. Tighten them back as needed.

Care should be taken to remove sweat from the dashboard and the frame after every training session to protect the paint against rust. Rust damage caused by sweat is not covered by the warranty!

Use a soft cloth wetted with water to clean the outer surface of the device. A light soap solution may also be used to wet the cloth.

Replacing the V-belt

Required tools:

1 M 12 hexadecimal head bolt or recessed head bolt (commercially available) and an appropriate wrench or Allen wrench

1 Phillips screwdriver

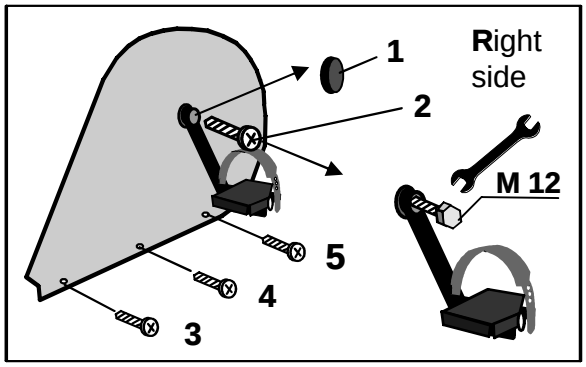
1 6mm Allen wrench

Procedure to replace the V-belt

Unplug the power cable from the main power supply before opening the device!
Take particular care to avoid damaging the internal parts of your ergo_bike while you are working.

The manufacturer will not be liable for any damages arising as a result of negligence while changing the V-belt!
V-belts are wearable parts and as such are not covered by the warranty.

The V-belt is located on the right side of the device.



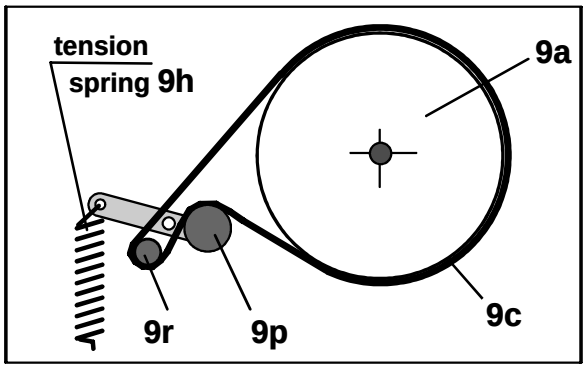
1. Remove the protective cap (1) of the axle centre.

2. Loosen the screw attaching the pedal rod (2). (6mm Allen wrench).

3. Screw in an appropriate M 12 bolt, with a hexadecimal or recessed head, into the thread of the pedal axle until the pedal comes off the axle shaft. Hold the pedal firmly and remove it.

4. Loosen the screws (3 to 5) on the lower right side cover.

5. Carefully remove the side cover.



6. The driving parts on the carrier plate /drive unit are now freely accessible. Press on the belt tension lever and the tension spring (9h) to release the V-belt tension, and then pull the belt from the pulley (9a).

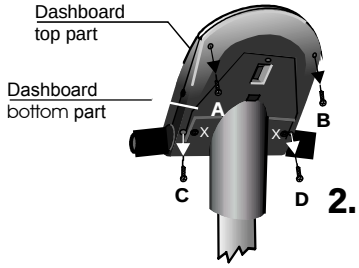
Follow the same steps (1 to 6) as described above in reverse sequence to install the new V-belt.

Before installing the new V-belt, you should clean the belt slipping surfaces of the pulley and the drive shaft, as well as the belt itself, with alcohol or cleaning petrol to remove the grease.

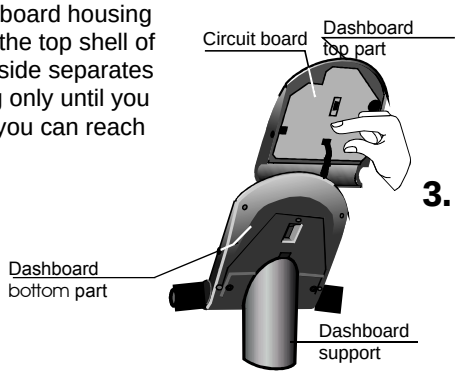
Exchanging the Dashboard / Replacing the Battery

Required tools: Phillips screwdriver / Blade 1 x 70 mm

1. **Unplug the power cord!**
   (For your personal safety and to protect the sensitive electronic parts inside the dashboard)
2. The top part of the dashboard is secured to the bottom part by mean of 4 Phillips screws (A, B, C, D). Use an appropriate screwdriver to unscrew these screws from underneath the dashboard. (See the figure to the right) Please note that the screws C & D are located toward the outward border and are deeply recessed in the dashboard bottom part. Do not unscrew the nearby located screws (X)!

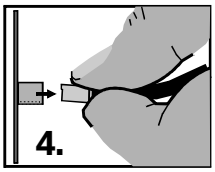


3. Then you can remove the top part of the dashboard very carefully. First open the dashboard housing by raising it from the higher side slightly and grasp (hold) with both hands underneath the top shell of the dashboard. Raise the higher part of the dashboard top shell further until the lower side separates from the dashboard support. Be careful to raise the top shell of the dashboard housing only until you feel a slight resistance from the cables that are connected from underneath, and until you can reach the connectors on the circuit board with your thumb and index finger.

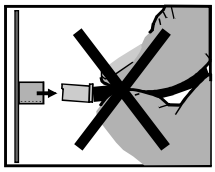


4. You must unplug both connectors.
   Never pull on the cables to unplug them!! This would tear them off!

Never pull the cable!
It could tear off!



Be careful when pulling the connector in order to avoid damaging the circuit board and the electronic parts!



5. Plug the dashboard connector and the hand pulse connector to the female connector of the corresponding colour until they lock in position. Then pull carefully the two cables through the opening of the bottom part of the dashboard and the dashboard support and take care not to jam the cables when you reinstall the top part of the dashboard on the bottom part.
6. Screw the removed housing screws (A, B, C, D) from underneath the dashboard and tighten them.
7. You can know plug the power cord, turn on the device and test its operation.

Replacing the dashboard battery

A button cell battery (CR 2032) is located on the underside of the dashboard circuit board. This battery must be replaced when the time and date keeping function fails. Problems when turning on the machine and display failures are also signs of an empty battery.

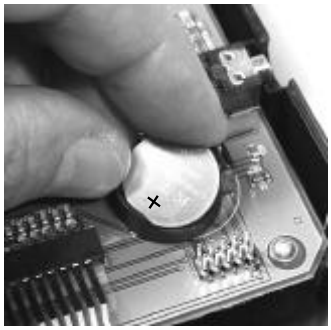
Warning: The device must be switched OFF when replacing the battery. Afterward you must set the date and time.

CAUTION!
Failure to correctly replace the battery may create an explosion risk.

Unscrew and remove the 4 screws on the lower part of the dashboard. Then tilt the upper part of the dashboard up carefully.

Take care not to separate any cable connection.

Never touch the electronic parts of the dashboard with your fingers! Charges of static electricity can destroy the sensitive parts.



Press the clip holder outward with a pin to replace the battery, remove the battery and insert a new one with the plus symbol up.

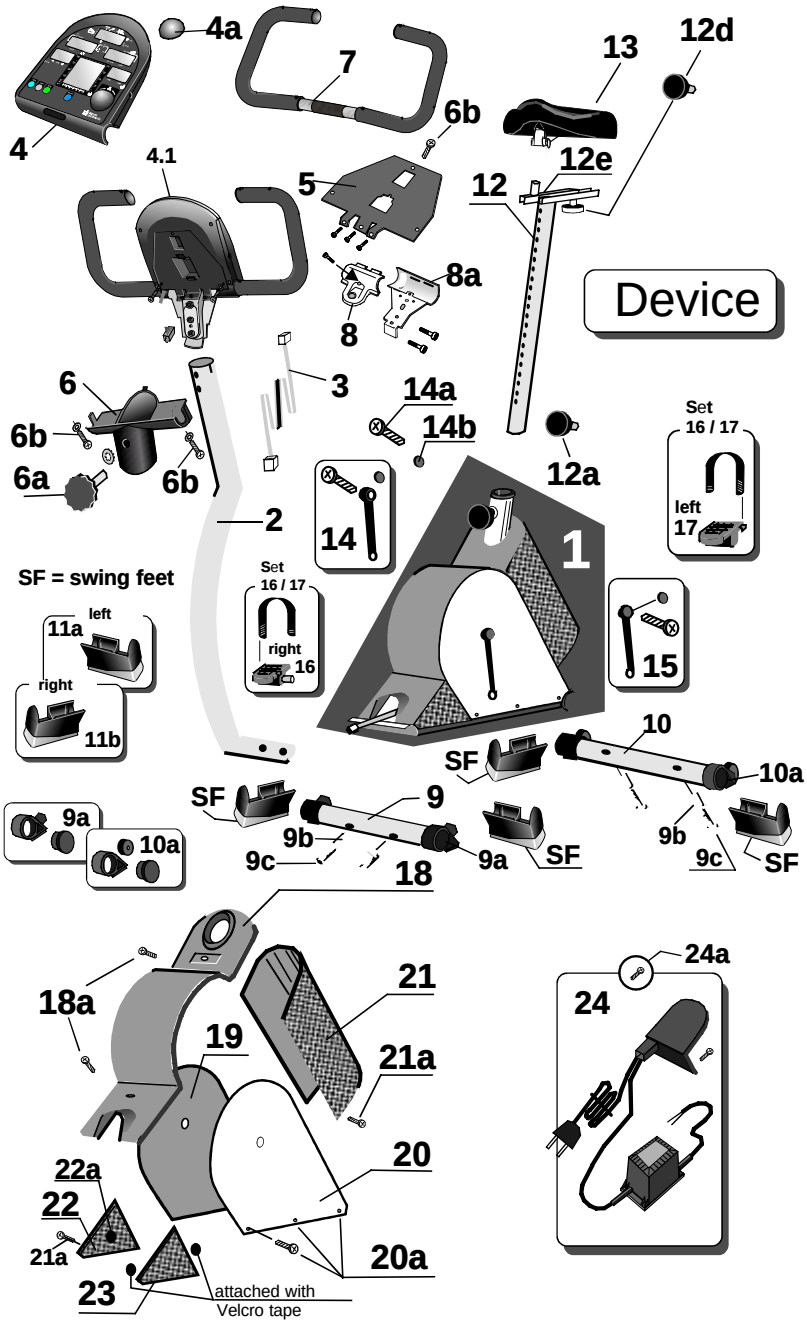
Reassemble the upper part of the dashboard carefully.

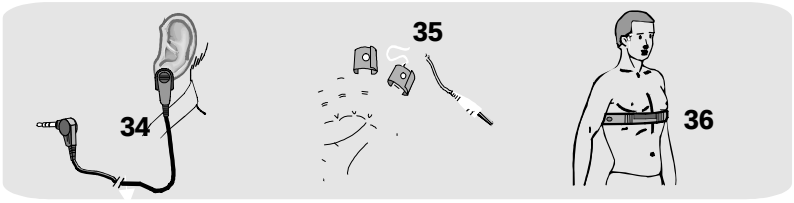
Caution! Do not pinch any cable!

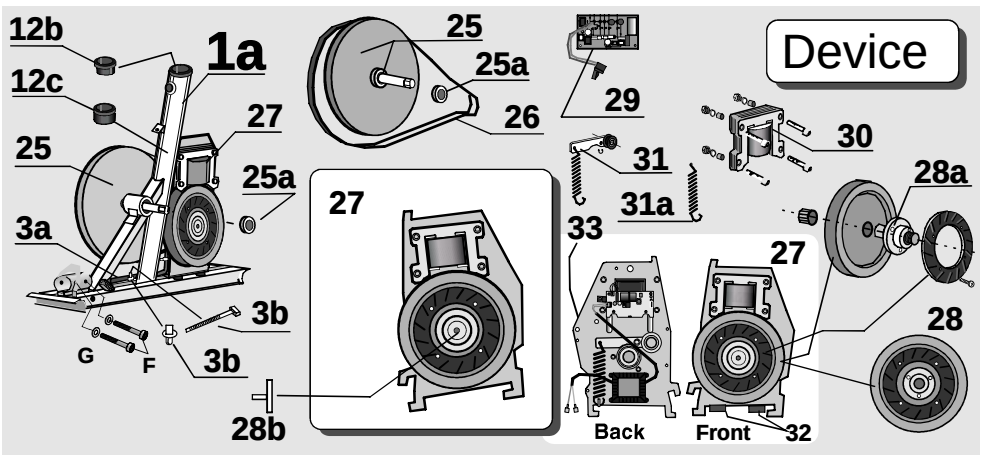
Notes about used button cell batteries
- Keep batteries away from children, and do not swallow them!
- Do not recharge empty batteries and do not throw them in fire.

Please recycle used batteries by bringing them to the appropriate collect point, or return them to your dealer.

Spare Parts List







No.	Spare part	Order No. Vita pro de luxe
1	***ergo_bike*** pro complete body	M60 95 627 A
2	Handlebars column	00 18 208 A
2a	Handlebars column mounting screw	00 21 914
3	Connection cable dashboard / body	12 10 802
3a	Cable drive unit / dashboard	12 10 801
3b	Mounting base for locking band	03 00 035
3c	Locking band PLT 1,5 M	07 50 090
4	Dashboard / complete top part with electronic circuits	M70 95 682
4a	Control button No. 6	00 17 422
4b	Dashboard upper part	00 17 436
4c	Dashboard bottom part	00 17 437
4d	Circuit board / dashboard electronics	M13 00 583
5	Protective plate	00 17 138
5a	Screws for the dashboard housing	00 03 120
6	Dashboard holder	00 37 404
6a	Tensing lever / handlebars positioning	00 17 317
6b	Screws for the holder	00 21 913
7	Handlebars	90 91 073
8	Handlebars clamp (top)	00 17 233 A
8a	Handlebars clamp (bottom)	00 17 232 A
9	Complete foot front	M80 90 197
9a	Foot set with adjustable height (front)	00 17 418
9b	Spacer sleeve for fastening the foot	00 09 535
9c	Screws for fastening the foot	00 21 850
10	Complete foot rear	M80 90 198
10a	Foot set with caster (rear)	00 17 419
11	SF = “swing feet” (basic accessory)	00 17 630
11a	“swing feet” / left foot	M80 90 510
11b	“swing feet” / right foot	M80 90 520
12	Saddle column with adjustable saddle holder	00 17 199
12a	Tommy head for saddle column adjustment	19 00 239
12b	Saddle column guide 1 (top)	00 17 185
12c	Saddle column guide 2 (bottom)	00 17 186
12d	Locking screw button / saddle adjustment	00 17 194
13	Saddle	00 17 432
14	Pedal arm right side	00 17 510
14a	Screw for attaching the pedal arms	00 30 570
14b	Pedal arm screw cover	00 17 560
15	Pedal arm left side	00 17 520
16/17	Pedals set with strap (complete for left and right)	00 17 530
18	Upper body cover	00 17 337
18a	Screws for fastening the upper body cover	00 23 411
19	Side cover right side	M00 18 331
20	Side cover left side	M00 18 330
20a	Screws for fastening the side cover	00 26 413
21	Perforated plate	M80 90 231
21a	Screws for fastening the perforated plate cover	00 21 510
22	Perforated plate cover right side	M80 90 238
22a	Cover	-
23	Perforated plate cover left side	M80 90 236
24	Cover with On/Off switch, power supply and cable	50 00 100
24a	Screws for fastening the back cover	00 24 411
25	Belt pulley with welded pedal shaft and inserted roller bearing	M80 90 170
25a	Roller bearing for pedal	00 09 316
26	Drive belt (V belt)	00 31 070
27	Complete drive unit	M 60 90 000
28	Complete flywheel	M 80 90 052n
28a	Flywheel flange with roller bearing	50 00 200n
28b	Screw for flywheel	00 17 286
29	Control board with photoelectric relay	E 80 90 025
30	Brake magnet	18 20 000
31	Complete belt tensioning device	00 37 313
31a	Belt tensioning spring	00 09 232
32	Rubber pad D 25 x 10	00 07 320
33	Rubber pad D 25 x 15	00 07 325
34	Pulse sensor	00 17 900
35	Relaxation sensor	E80 90 080
36	Cardio Sensor Chest band	90 91 015

When ordering parts, please include the device serial number with the part number. You will find the device serial number on the specifications plate located on the rear plastic cover close to the ON/OFF switch

daum electronic
best for your fitness

daum electronic gmbH
Flugplatzstr. 100
D - 90768 Fürth

Tel. ++49 / (0) 911 / 97 536 - 0
Fax. ++49 / (0) 911 / 75 37 14
www.daum-electronic.de

ergo bike
Vita pro de luxe
Order **No. 90 95 682**

Index-06-4