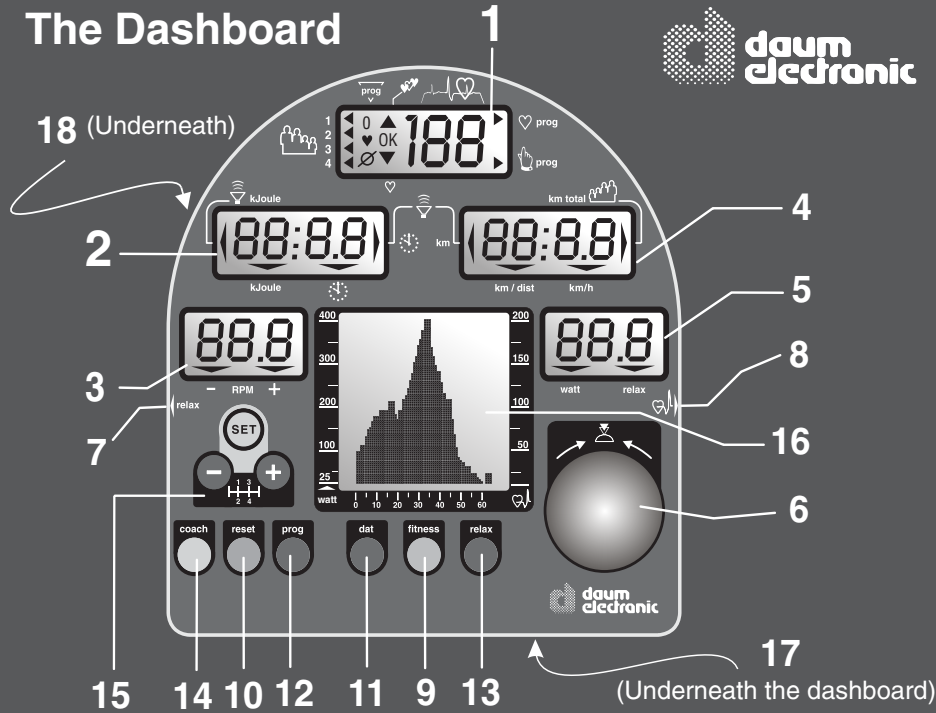


8008 TRS

User Manual



The Dashboard



1. LCD-Display

User
Pulse rate
Pulse status
Program number
Program display

2. LCD-Display

Kilojoule burned
Training time
Fitness grade
Limit values for
Kilojoule burned
and training duration

16. LCD Graphic Display

User number
Program selection
Coaching processes
Relax status
Diagrams / trainings programs
Initialization / time, date
Team Award

3. LCD-Display

Pedal speed
(RPM)

4. LCD-Display

Distance
Total kilometers
per user
Distance covered
Average speed

5. LCD-Display

Braking power in Watt
Relax status

6. Control button

- 7. Relax sensor connector
- 8. Pulse sensor connector /
Ear clip
- 9. fitness key
- 10. reset key
- 11. dat key
- 12. prog key
- 13. relax key
- 14. coach key
- 15. Gear shift
- 16. LCD Graphic Display
- 17. PC Interface connector
- 18. RESET key (recessed)

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A



Notes about Software Update

The heart of the dashboard consists of a modern Flash ROM Processor

It allows upgrading all the software related functions, training programs and fitness tests to the latest release, even years from now.

The latest software is available for download at the *ergo_bike* homepage on Internet and can be transferred to the dashboard with the *ergo_win 2002* PC program

You will find the instructions for this operation in the "*read me*" file that comes with the software.

Visit us on Internet!

www.daum-electronic.de

Your password for the service area:
"ergo-service"

The present instruction manual describes the
ergo_bike model **8008 TRS**

This ergometer bike is specially designed for athletic training. High quality manufacturing, easy to see dashboard, ease of use and maintenance contribute to make this appliance an ideal training device for athletic and fitness training at home for athletes and fitness conscious persons of every age group.

What is an Ergometer-Bike?

An ergometer bike must provide the possibility to enter the required braking power, in 5 watts increments.

With the *ergo_bike 8008 TRS* the load is then maintained independently of the pedal speed, in revolution per minute, within the RPM ranges shown in the graph on page 9, which means the user has possibility to train with a load that is considerably independent of the pedal RPM.

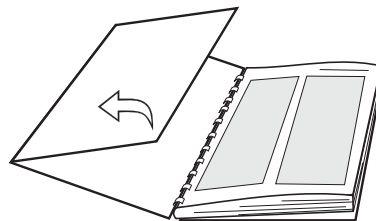
The full electronically controlled, maintenance free, eddy current brake adjusts the braking load to fit the personal requirements and allows a load selection from 25 to 800 Watt.

About this manual

The cover of this manual contains a foldout page. This greatly simplifies the general manipulations and the location of the display and control components on the folded out page.

You will find an explanation of the concepts and expression that are new to you in the **Glossary** in the appendix.

Important information and significant remarks are identified with the **corresponding information sign**. You should read them very carefully.



B

Setting up

General information

Switching On / Off

Please read the **Notes on Safety** (page 19) before switching the *ergo_bike* on, and follow the **installation and assembly instructions** (pages M1 - M15).

The **On/Off switch (power switch)** is located at the back in a rectangular plastic frame on the rear perforated plate cover.

Upon turning on the power switch (On/Off), **the six display windows of the dashboard will display all the symbols and number segments for about eight seconds.** This is a self test run by the computer on the entire system.

The dashboard of the *"8008 TRSi"* shows a **Graphic LCD** in its center (see page 4). **You will find a special description of this equipment part and its operation in appendix L (LCD Graphic Display).**

The graphic display (window no. 6) provides for more functional and visual convenience. Displaying training diagrams, user guidance and hints are functions that can only be displayed on a graphic display.

The *ergo_bike* switches automatically to **stand by mode** if it is left switched **on and unused for about two hours.** This is signaled by three beep sounds and ten times blinking of all the windows, and by the display of **"SLP"** in **window number 2.** All other windows are blanked. This mode is terminated by pressing **control button number 6.**

The *ergo_bike* should be switched off by mean of the **On/Off switch** or by pulling the power cord **plug** from the power outlet.

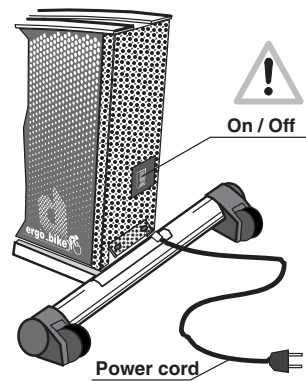
Always press the Reset key before switching the device off in order to save the distance covered in kilometers.

(This does not apply for the values of the "guest" user.)

Please note:

The value of the daily kilometer counter (**the wide arrow pointing to Distance**) will always be added to the total kilometer counter (**the arrow pointing to User/Km Total**),

1. if the *ergo_bike* goes in **Stand By mode (SLP-Mode)**.
2. or if the **Reset key** is pressed, or when
3. another person starts a session and **another user identification number** is selected.

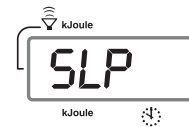


LCD Graphic Display
Window no. 6



See page L1 for
explanation about
the display

Window no. 2



Display-
window

"Stand-By mode" (SLP)

The Dashboard

C

Control Button No. 6

Usage

Control button no. 6 is the central control element of the *ergo_bike*.

Two functions in one button!

A: Turning the control button:

- Changes the value displayed in the active display window

B: Pressing the control button:

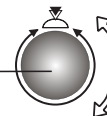
- Activates the *ergo_bike* when in the SLP mode
- Stores the value selected by turning the button
- Changing to the next data to enter
- Changing the display between Time/km/h and KJoule/Distance



Instructions to **turn** the control button are indicated in this manual

Entry / Function A :

by this symbol



Age	in one year increment
Sex	Male (M) / Female (F)
Height	in one cm increment
Weight	in 0.5 kg increment
Body fat content	in 0.5 percent increment
Individual performance rating	in level unit increment
Training frequency	in number of days
Watts	in five watts increment
Pulse rate	in one beat per min increment
Time	in one minute increment
Distance	in one kilometer increment
KJoules	in ten kilojoules increment
Coaching program	Menu control / scroll function

Instructions to **press** the control button are indicated in this manual

Entry mode / Function B :

by this symbol



when setting personal data	confirming and storing of the data (pages 16/17)
when switching or selecting / in general	
To change the display from Time / km/h to the display of KJoule / Distance	while training (see page 8)

C

The Dashboard

Displays / Function keys / Input connectors

Control elements of the dashboard

1. - 5. LCD Displays

Display windows no. 1 to 5
(see pages 5, 6, 8-10)

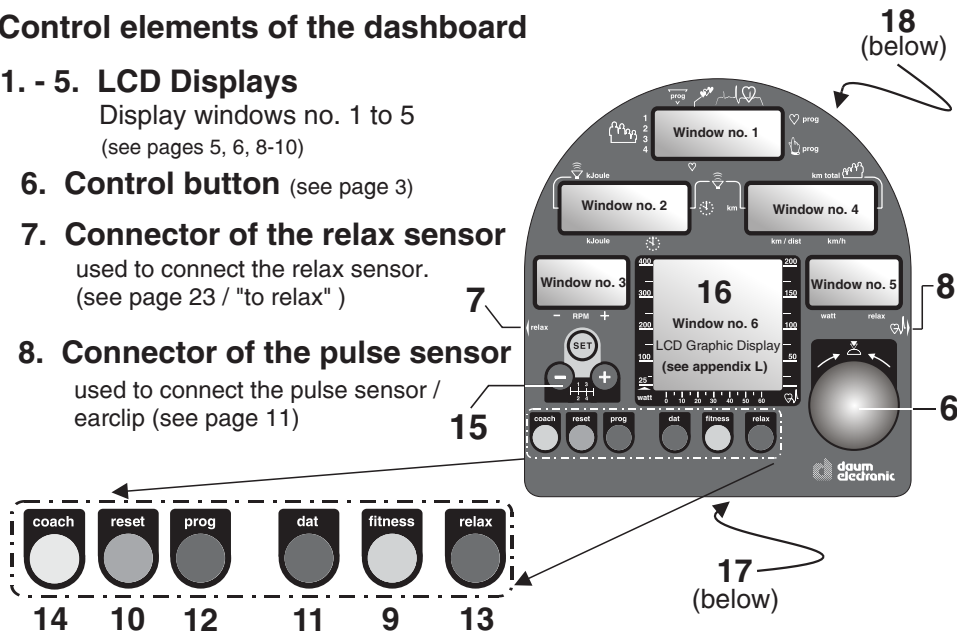
6. Control button (see page 3)

7. Connector of the relax sensor

used to connect the relax sensor.
(see page 23 / "to relax")

8. Connector of the pulse sensor

used to connect the pulse sensor /
earclip (see page 11)



9. fitness - key

(has 2 functions / pages 21, 22)

10. reset - key

(see pages 2,14,16, 23, 26, 30, H4, H5, H7)

11. dat- key

(see pages 16, 26/27, H4)

12. prog - key

(see pages 26/27, 39, 31)

13. relax - key

(see page 23)

14. coach key

(page H4, H6-H7, H12)

15. Derailleur control

(page 54, 55)

16. LCD graphic display

Window no. 6 (see pages L1 - L2)

17. Connector

PC-interface

(see page 12)

18. RESET - key (recessed)

for the dashboard computer (see page G3) *
what if...?

1. Recalls a fitness mark

(see page 21)

2. Recalls the values of the last training session

Resets the display windows.

(see page 22)

allows the entry of **personal data** that will be used to determine the alarm values to be monitored during training sessions

This key is used to recall the programmed training sessions. (see page 26)

Starts the relax program used with the relax sensor (accessory).

Used to set the Coaching program.

keys used to control the electronic "gear-shift" system.

provides functional and visual comfort.
(see appendix L for a description / LCD-Graphic display).

The PC interface (connector) is located on the underside of the dashboard within the square opening (see page 12)

The RESET key is located on the underside of the dashboard, above the protective plate and is intended to be used in the case of a failure of the internal computer software.*

The Dashboard

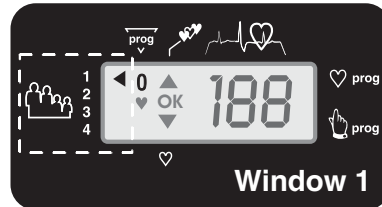


Window No. 1 User instruction

1. Selecting the user identification number

The *ergo_bike* computer will record, store and evaluate the training data of up to **four users** separately.

Before using the equipment, **you must assign a user number to every user.**



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

Guest users, or any persons, whose training data will not be saved, should use **identification number "0"**. When using this ID number **the arrow pointing to User 1 to 4 will not be displayed**. Instead **the number "0"** is displayed under *prog*.

No training data will be saved for the "Guest" user when the *ergo_bike* is turned off! However, the distance traveled in kilometers will be added to the total kilometer counter (km-total).

Set up of the User identification number 1 to 4 or Guest 0

1. **reset** press repeatedly until the **user arrow** ◀ or the **"0"** under *prog* starts to flash

Either the user arrow ◀ or 0 blinks

LCD graphic display
(see appendix L)
Window no. 6

Window 1

- the left arrow points to the selected user number, e.g. 3
- the right arrow points to the selected program and the program number is displayed under *prog*, e.g. C

Window 4

- the total number of travelled kilometres, e.g. 3054km

The graphic display (window no. 6) will simultaneously display the setup procedure as shown to the right

Changing the selection

1. Turn, (to the right or left) until the **blinking user arrow** ◀

2. points to the required user number or **"0"** blinks under *prog*

3. Press **1 x**

The settings are confirmed and saved
User 1 - 4 or e.g. Guest 0

Window no. 1

Window no. 6

The graphic display (window No. 6) will simultaneously display the setup procedure as shown to the right.

C

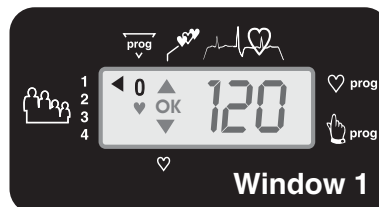
The Dashboard

Window No. 1

Heart pulse rate

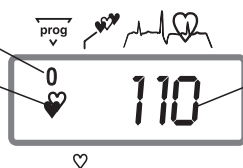
Displaying the pulse rate

The pulse rate or pulse status is only displayed if the **pulse sensor (ear clip)** or the **cardio chest band** is connected or when both hand are holding the pulse sensors (on the handle).



Selected program

a **blinking heart** indicates that the pulse sensor (ear clip) or the Cardio chest band is correctly connected and functioning, or that both hands are holding the hand pulse sensors.



actual pulse rate

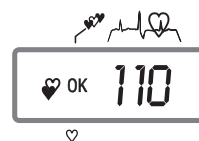
Window No. 1
(simplified representation)

Displaying the aerobic pulse zone

The aerobic zone is a function of the age, it can be determined on the graph "Target pulse frequency" and the table "target zones of heart frequency" (page 7).

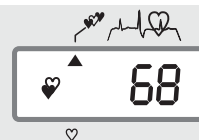
The aerobic pulse zone is only displayed if the user enters his age. (see page 16 / personal data / alarm levels / age entry)

If the user is training within the **aerobic rate zone**, "OK" is displayed in **window No. 1** (beside the blinking heart).



The upward pointing arrow ▲ indicates

that the user is training below the **aerobic zone**. To get to the "OK" zone the user must either train longer and/or increase the braking power in Watt.



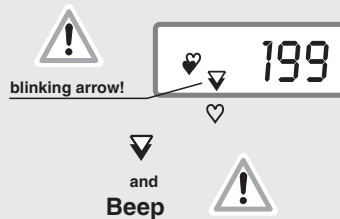
The downward pointing arrow ▼ indicates

that the user is training above the **aerobic pulse rate zone**. To get to the "OK" zone the user must reduce the braking power in Watt.



The downward pointing arrow ▼ starts **blinking** to indicate that the **aerobic rate zone is exceeded by an excessive margin** (the danger-zone is reached), and the user risks injury by overexercising.

A beep sound combined to the downward blinking arrow indicates that the user has reached the "**alarm zone**". The **ergo_bike** starts reducing the braking power automatically at a rate of 5 Watt per second until the pulse rate of the user falls into the "**danger-zone**".




If the training session is program controlled, and if the training is carried on, the watt setting will automatically be reduced by the same reduction needed to bring the pulse rate to the "danger zone"!



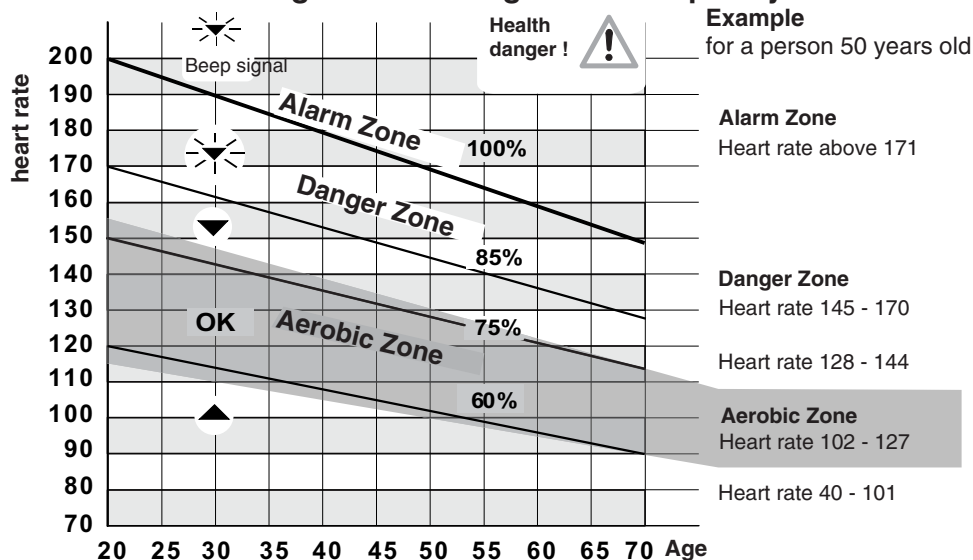
Heart rate frequencies / aerobic zone

Table of target heart rate zone / aerobic zone

Target zone of heart rate frequency to the maximum heart rate

	Aerobic Zone			Danger Zone	Alarm Zone
	▲	OK	▼	⚠	⚠
Age	up to 59%	60%-75%	76%-85%	86%-100%	Beep sound
20	40 - 119	120 - 150	151 - 170	171 - 200	above the Danger Zone  The braking power will automatically be reduced!
25	40 - 116	117 - 146	147 - 165	166 - 195	
30	40 - 113	114 - 142	143 - 161	162 - 190	
35	40 - 110	111 - 138	139 - 157	158 - 185	
40	40 - 107	108 - 135	136 - 153	154 - 180	
45	40 - 104	105 - 131	132 - 148	149 - 175	
50	40 - 101	102 - 127	128 - 144	145 - 170	
55	40 - 98	99 - 123	124 - 140	141 - 165	
60	40 - 95	96 - 120	121 - 136	137 - 160	
65	40 - 92	93 - 116	117 - 131	132 - 155	
70	40 - 90	91 - 113	114 - 127	128 - 150	
75	40 - 86	87 - 109	110 - 123	124 - 145	

Overview diagram of the target heart frequency rate



If the braking power is reduced by, e.g., 50 Watt in the danger zone, and the value set for the next program step is, e.g., 150 Watt, then the training will in fact be carried forward with a load of 100 Watt, as will be shown in the Watt display (window No. 5). The computer makes this adjustment as a safety measure.

C

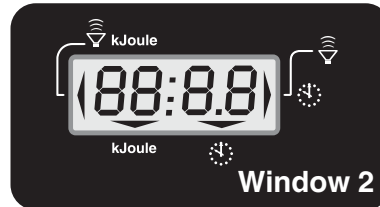
The Dashboard

Window No. 2

Training time and kJoule

Displays :

- the actual training time
- the preselected alarm time
- the reaching of a time limit (time limit arrow)
- the actual kjoule burned
- the preselected kjoule limit
- the actual clock time

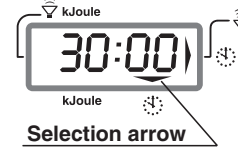


Display example
Training duration of 30 minutes

1. Training time

When the **selection arrow** is pointing to the clock symbol:

- the elapsed training time is displayed (max. 9 hr 59 min)
(display in minutes/seconds)



1a. Time limit

The **time limit arrow** is displayed when the preset time limit is reached.

- This arrows indicates that the preset time limit has been reached or exceeded. Additionally the system emits an acoustic signal.

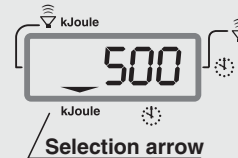


Switching between the time and kJoule display using control button no. 61

2. kJoule

When the **selection arrow** points to **kJoule** then:

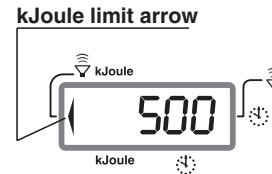
- the energy spend in kJoule is displayed.



2a. kJoule limit

The **kJoule limit arrow** is displayed when the preset kJoule limit is reached.

- This arrows indicates that the preset kJoule limit has been reached or exceeded. Additionally the system emits an acoustic signal.



(see also pages 14 - 17 / the section on training preparations “personal data / Alarm levels” or entering the preset values and “Settings verification”)


The Dashboard

C


Windows No. 3 & No. 4 RPM / km/h and km total

Displays: RPM (Pedals revolutions per minute)

The *ergo_bike* is independent of the RPM in the RPM ranges shown in the diagram to the right. This means that the user will have to provide an effort corresponding to the displayed Watt-power, within the actual RPM range.

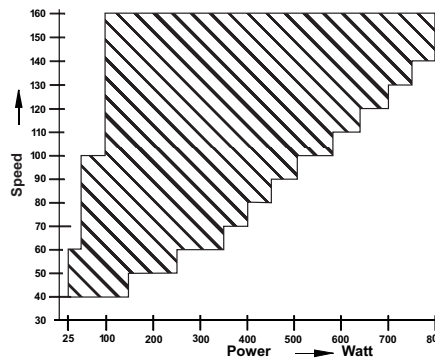
The arrow  points to the **minus sign** to indicate that

- **The user is pedaling too fast**
(It is then possible that the displayed power in Watt is not exactly true).

The arrow  points to the **plus sign** to indicate that

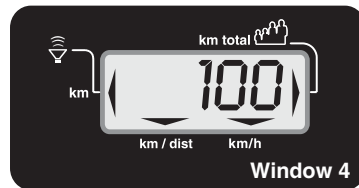
- **The user is pedaling too slow**
(It is then possible that the displayed power in Watt is not exactly true).

The power in watt is indicated to a precision of about $\pm 10\%$ in the RPM ranges delimited by the arrows



Displays:

- km/h
- Users / km total
- Distance
- The reaching of a distance limit



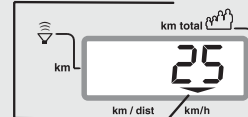
1. km/h

When the **selection arrow**  is pointing to km/h the displays shows:

- **the actual speed**
- **the average speed.**

(when reviewing the values of the last training session)

Selection arrow



2. Users / km total

When the **selection arrow**  is pointing to Users / km total the displays shows:

- **the total number of kilometers covered by the user or under the specified user identification number** (for the whole life of the *ergo_bike*).



C

The Dashboard

Window No. 4 and Window No. 5

Distance/Watt & Relax

Distance and reaching of a distance limit

Switching between the km/h and distance display using button no. 6

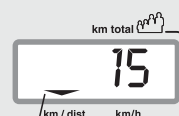


Distance km/h Distance km/h

3. Distance

When the **selection arrow** is pointing to the **km/dist**:

- the distance in km covered during the present training session is displayed.



Selection arrow

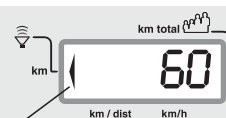
3a. Limit (km)

The **distance limit arrow** is displayed when the preset distance limit is reached.



acoustic signal

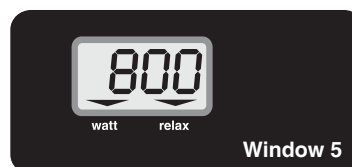
- This arrow indicates that the preset distance limit has been reached or exceeded. Additionally the system emits an acoustic signal.



Distance limit arrow

Displays:

- the braking power in Watt
- a Relax level



1. Watt

When the **selection arrow** is pointing to the Watt:

- the braking power in Watt (25 to 800 Watts) is displayed.



Selection arrow

2. Relax

When the **selection arrow** is pointing to the Relax:

- a Relax level, between 0 and 255 is displayed.



Selection arrow

The Dashboard

C


Pulse sensors / Cardio sensor chest band

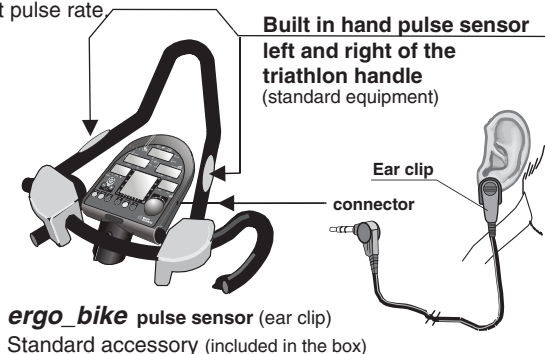


The **pulse sensor (ear clip)** included in the package is an important accessory to the **ergo_bike**. You should not start any training session without it, or without the **Cardio sensor chest band** available as an option! The **pulse sensors built into the handle** can be used to control or monitor the heart rate over short periods of time.

The ear clip pulse sensor illuminates the ear lobe to measure the pulse rate. Every heart pulse modulates the light passing through the lobe, and can thus be detected by an infrared sensor and displayed as heart pulse rate.

Pulse sensor (ear clip)

1. Insert the connector into the **socket no. 8** on the dashboard marked with .
2. You should rub the ear lobe energetically with your fingers to stimulate blood circulation.
3. Attach the pulse sensor (**ear clip**) to the ear lobe so that the two contact surfaces sit entirely on the skin. The **heart symbol in display window 1 starts blinking** to indicate that the ear clip is properly attached and functional!

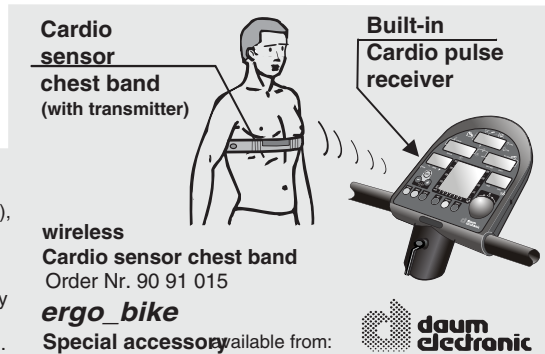


Warning!

Strong light sources, like sunlight, halogen projectors or neon lamps, and also ear piercing or ear rings, and the intake of beta-blocker could affect the measurements!

The wireless **Cardio sensor chest band** (see the figure to the right), available as an **optional accessory** (order number 90 91 015), permits **more precise measurements**. (See page T 1)

You will find a precise description of the display and the meaning of the corresponding display symbols on page 6 (**Displaying pulse status**).



All **ergo_bike** ergometers are equipped with a **built-in**, not visible from the outside, **Cardio pulse receiver**. This allows receiving of the pulse rate transmitted by any standard chest band, of the coded and non-coded type. You only need a **cardio sensor chest band** (see page T1) to achieve wireless heart rate measurement.

Warning: using two chest bands simultaneously in the same room, either of the coded or non-coded type, to achieve wireless heart rate measurement can lead to the display of a wrong pulse rate on the dashboard of the **ergo_bike**.

Pulse measurement over the hand surface

The sensors built in the handle are used to control and monitor the pulse rate over short periods of time. To achieve a correct measure you should lay your hands relaxed and loose (not tight) on the electrodes. The electrical resistance of the skin varies as a consequence of blood pressure variations due to heart pulses. These variations are measured by the electrodes and displayed as heart rate on the dashboard.

Advice: If measuring the pulse rate over the hand electrodes gives no results, we recommend using either the ear clip method or the Cardio sensor chest band. The variations of the electrical resistance of the skin are so small for some persons that they cannot be used to acquire any usable results.

C

The Dashboard

PC Interface

Description

ergo_win 2002

(PC-Software for the communication with the *ergo_bike 2002 pc*)

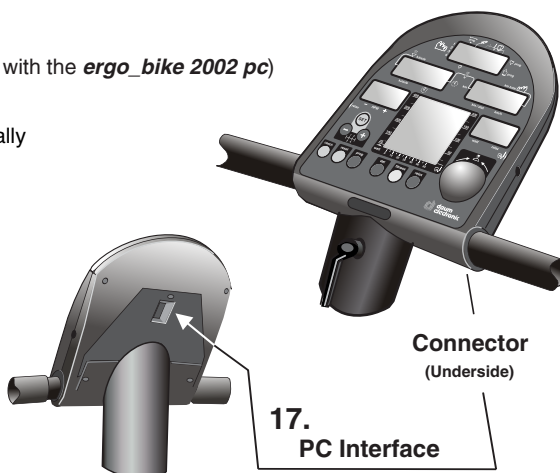
The training support provided by the **ergo_win 2002** software was specially developed for the **daum electronic ergometers of the 2002 pc series**.

Comprises:

- CD-Rom
- Interface cable

Hardware requirements (minimal requirements)

- Pentium processor
- 20 MB free hard disk space
- Available serial (Com) port
- CD-ROM drive
- Keyboard
- Operating system: Windows 98 / ME
Windows 2000 / NT



Features highlights:

- **Internet capable.**
- Animated races against oneself, against a computer opponent, against another ergometer or an internet training partner in real time.
- Uncountable number of training programs through exchange and download possibilities over Internet.
- Extremely simplified programming of your own watt and pulse controlled program profiles.
- Tour planning for distance controlled training programs.
- Extended weight and body fat analysis.
- Fully automatic Conconi test / PWC test
- Extended training evaluations
- Possibility to export all the data to other programs, e.g. Excel.
- Extended Coaching functions
- User management with individually configurable user interface.
- Saving, evaluation and archiving of all the training data.
- Provides a wealth of background information on topics of sport medicine and sport physiology.
- Modern user interface.
- Simple operation.

Order Nr. 90 91 012

order from:



The Dashboard



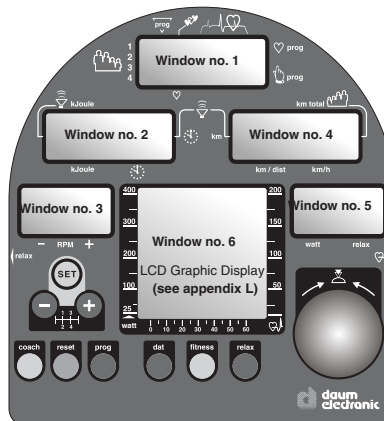
Display windows Basic set up

Manual setting “0”

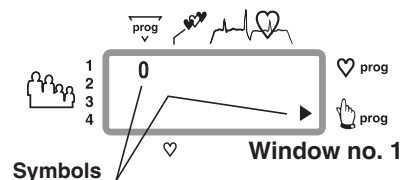
When the *ergo_bike* is switched on (using the power switch), or when the “SLP” state (sleep mode) is canceled using control button No. 6, it goes into ready state. You can directly start training without the need to do any particular setting!



This symbol means start operating / turning the pedals.



The following symbols/numbers in display window no. 1 mean that the *ergo_bike* is set in manual mode for the indicated user number, and without the entry of any personal alarm values:



When you start moving the pedals display windows no. 2, 4 and 5 show the actual training values.

The smallest load value for a training with the *ergo_bike* is 25 Watts. You can increase or decrease the load in five Watts increments by turning the control button no. 6.

The pulse frequency will be displayed in window no. 1 when the pulse sensor (ear clip), or the Cardio Sensor chest band, is connected and functional or when both hands are laid on the hand pulse sensors on the handle.

Values displayed in the dashboard windows during a training session:

Window no. 1	Heart pulse rate (this value is only displayed if the pulse sensor (ear clip) or the Cardio Sensor chest band is connected and functional)
Window no. 2	the elapsed time since the beginning of the training.
Window no. 3	RPM the actual speed of the pedals in revolutions per min.
Window no. 4	the actual theoretical velocity (km/h)
Window no. 5	the actual load setting (in Watt) and the Relax levels
Window no. 6	graphical representation of the training session and operating menus

D Preparing for training

Personal settings

Training

1. User identification allocation

1.1 Selection of the user ID number [User (1 to 4) + Guest]

The computer of the *ergo_bike* records, saves and evaluates, separately the training data of up to **four users** (user identification number 1 to 4).

Additionally, **guests or other users**, whose training data should not be stored, can train under **user identification number "0"**. (see page 5)

reset 1. press repeatedly until the user arrow is blinking in window no. 1

User arrow blinks

Window no. 1
 - The left side arrow points to the selected user number, e.g. User number 3
 - The program number is displayed under prog

Window no. 4
 - the total number of traveled kilometers

Window no. 6
 The graphic display shows the number 3 in reverse (negative). This means user number 3 is selected.

See page 5 for a more detailed description of the setting procedure, see appendix L for explanations about the graphic display.

2. Setting up personal data and alarm levels

Training efficiency and control of over and under loading can only be achieved when the personal data are entered.

The **computer of the ergo_bike** compares these entries with the actual training values and evaluates them accordingly.

Possible entries:	Age	for example 45 years (from 10 to 99)	DF 40
DF = Default value	Sexe	male / female M or F	DF = F
	Height	for example 180 cm (from 100 to 220)	DF 180
	Weight	for example 70.0 kg (from 30.0 to 150.0)	DF 70,0
	Body fat content	for example 30.0 (from 0.0 to 55.0)	DF 30,0
	* personal performance evaluation	for example 0 = beginner (from 0 to 3) 3 = very well trained	DF 0
Entry sequence for the alarm values	Training frequency	for example 4 days (from 3 to 7 days)	DF 3
	Watt upper limit	for example 200 Watt (from 25 to 800)	DF800
	Upper limit for heart pulse rate	for example 115 beats (from 80 to 220) (Confirm with a physician and do not exceed the recommended value)	DF 220
	training duration	for example 25 min. (from 00:00 to 99:99)	DF 00:00
	distance	for example 15 km (from 0 to 99)	DF 0
	Kilojoule burning	for example 350 kJoule (from 0 to 1000)	DF 0

* See the notes about evaluating your own performance level in chapter H (Coaching), page H3.

About the age entry

Every user should always enter his **age** when **training with the ergo_bike**, since it is a significant figure for the determination of the load requirement and for the corresponding fitness evaluation.

Preparing for training

D

Setting up the personal data and alarm levels

About the sex and height

This data completes the profile stored by the computer for each user. And even the minimal difference in capacities due to the sex has an important impact.

About the weight

The weight has an important impact in the training for fitness improvement, and in the global physical activities. The user should therefore enter this value consciously, in order for the training to be properly measured and evaluated. The weight can be entered or adjusted daily (see page 56). Thus, the fitness evaluation function can produce more precise data about the training results.

About the body fat content

You should use a good body fat analyser, available commercially, to determine the body fat content value. The measured values (between 0% and 55%) can be entered daily in the computer of the *ergo_bike* (see page 56). The default value (DF) is set at 30%.

About the personal performance evaluation

Here the user is required to evaluate his or her own performance capacities. The user must grade his performance according to the following scale 0 - 1 - 2 - 3. Where grade 0 means the user is a beginner and grade 3 means the user is a very well trained sportsman. (See also the information about your own performance evaluation on page H3 in the chapter about the Coaching program).

About the Watt upper limit

If an upper limit for the load in Watt is entered (default value/ DF = 800 watt), then the pulse controlled programs will raise the load up to this limit. No further increase of the load will occur when the entered limit is reached, even if the pulse rate did not yet reach the target value.

This also applies to all types of programs (watt, speed, manual, RPM, etc.), as the load in watt will not exceed the value entered for the limit.



About the pulse rate limit

Users should preferably consult a physician to determine the reasonably acceptable personal pulse rate.

(see also page 7 / Table and diagram of the target pulse rate)

Rule of thumb to	for burning fat	160 - (minus) age = pulse rate
determine the pulse rate limit:	for endurance training	200 - (minus) age = pulse rate

The *ergo_bike* warns you when the limit pulse rate is exceeded and the **danger zone** is reached, by displaying a **blinking arrow in window no. 1**, and by an additional beep sound when you enter the **alarm zone**.

(see pages 6 and 7 / aerobic pulse zone and target pulse rate)

About the duration of the training, distance and kJoule burned

These data / alarm value entries determine indirectly when a training program is terminated, i.e. when A - a time limit, B - a distance limit or C - a limit value of kJoule to burn is reached.

2.0 Data entry and alarm levels set up

The **dashboard of the *ergo_bike*** permits the entry of **personal alarm levels for pulse rate, upper watt limit, training time, distance and burned kJoule**. When an alarm level is reached during training, a beep signal is sounded and the corresponding **limit arrow** is displayed. If you continue training, the beep signal stops, and only the arrow indicates that the corresponding alarm has been reached.

If the **alarm level of the pulse rate** is reached or exceeded, the *ergo_bike* reduces automatically the braking power in five watts per second increments until the actual pulse rate falls below the alarm level.

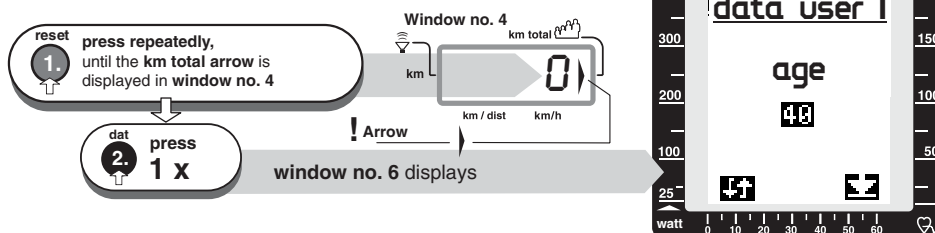
The entry of the age is mandatory for the display of the aerobic pulse zone for the user.

(see page 6)

! The manual program must be selected before the entry of the data or alarm levels, otherwise the entry of the pulse rate level will be skipped.

D Preparing for training

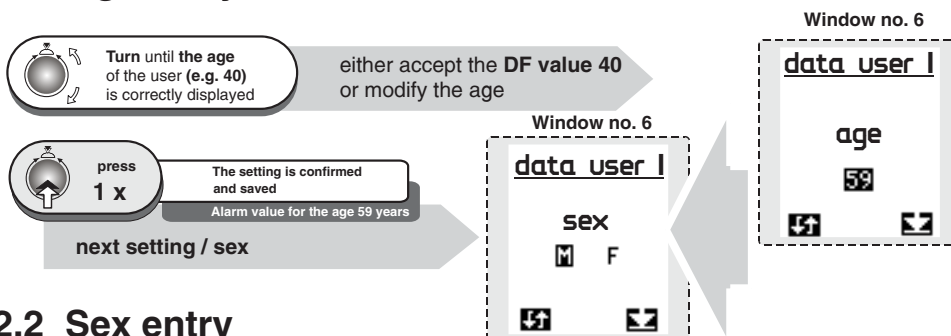
Entry procedure for the personal data and alarm values



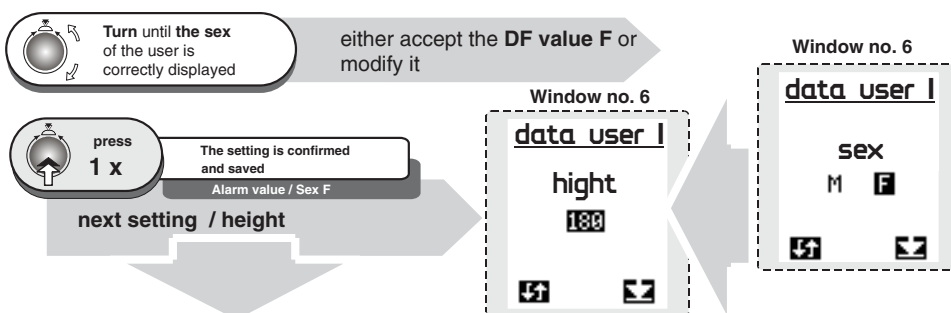
The value displayed for km total will be 0 km when setting up a new device. Otherwise, the number of kilometres accumulated for the respective user (1 to 4) will be displayed.

The default setting is 40 years (DF)

2.1 Age entry



2.2 Sex entry



2.3 height entry (see page 17)

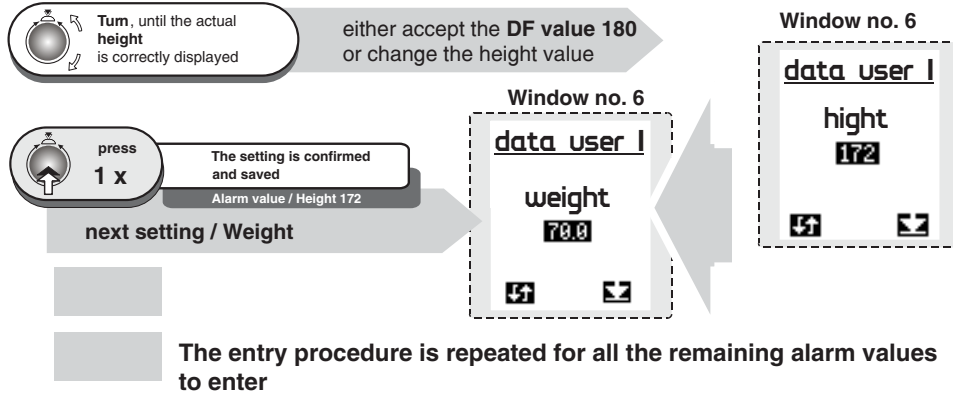
Preparing for training

D

Personal settings

Training

2.3 Height entry



2.4 weight entry

in kg from 30.0 to 150.0
(Default value 70.0)

2.5 Body fat content entry

Values from 0.0 to 55.0
(Default value 30.0)

2.6 personal performance evaluation

Value of 0 to 3
(Default value 0)

2.7 Training frequency

Value of 3 to 7 days per week
(Default value 3)

2.8 Watt limit entry

Watt values from 25 to 800
(Default value 800)

2.9 Pulse rate limit entry

Pulse rate value between 80 and 220
(Default value 220)

2.10 Time entry

Values between 00:00 and 99:00
(Default value 00:00)

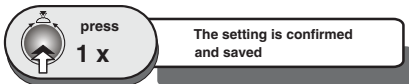
2.11 Distance entry

km value from 0 to 99
(Default value 0)

2.12 kJoule entry

kJoule values between 0 and 1000
(Default value 0)

The default value will be used to evaluate the training programs for all the values that the user will not enter



the procedure to confirm the entered value is repeated for all the remaining alarm data entry.

hint

to quit the selection menu



press the reset-key

Checking of the entered data is done in the same sequence as their entry.

E

Training

Introduction



The **ergo_bike** makes it possible to define and control the exercise sequence yourself. It is thus possible to adapt constantly the training plan to the capacities of the user. This device is suitable for therapeutic use. It does not meet the requirements of medical and diagnostic usage (in medical clinics).

This ergometer has been essentially designed for endurance, agility and physical condition training and for strengthening the heart and circulation systems and to help develop the muscular mass. The goal of such training is to increase the capacity of the body to absorb oxygen, and to improve its overall flexibility. The inclusion of the pulse rate in the parameters used to control the loading enables training in the efficient aerobic zone.

Being in the aerobic zone means the muscles loading is at the exact level where they can be adequately supplied with oxygen without overproduction of lactic acid (aching muscles). Therefore, the ergometer bike is also a great value for sports medicine and physical education.

The fact that the training effort can be finely measured, gives you the possibility to carry out physical stress tests to get information on your physical condition. You can thus identify early any heart and circulation problems and, with the help of a physician, set up a special endurance training plan to treat them.

A comfortable and relaxed sitting posture are of great significance for the efficiency and the benefit of the **ergo_bike**. You should not be tensed up while training. You should wear loose sport clothes so that you don't get into sweat too easily and are not constricted. Your back should be straight (as opposed to the racing posture, see fig. B), and your legs should still be slightly bent at the lower pedal position. This posture is illustrated in figure A. You should adjust the handlebar and saddle height and inclination to suit your needs.

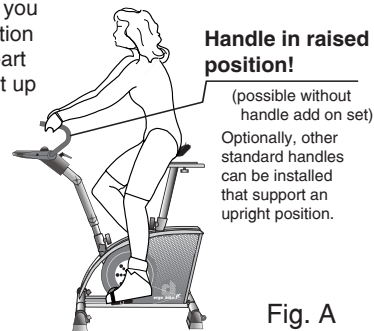


Fig. A

Sport physicians recommend preparing for training with relaxing exercises, which can be followed by some stretching exercises. Any user who does not feel completely fit, considering either the health or physical aptitude aspect, should prepare himself before training with the ergometer, or consult a physician if in doubt.



Fig. B

Training properly



Training properly means to **load the body reasonably**, in order to **achieve the required fitness level and to retain it**.

A lower load will not bring the required effect, while overloading can be dangerous!

Training units per week

Generally speaking, training twice a week will help retain your physical condition. To improve your fitness level you must train at least **three or four times** per week. Therefore, the "**Coaching**" program will only make sense, and be usable, with more than 3 training units per week.

You should consult a physician before increasing the number of weekly training units, to avoid overloading yourself.

Safety information

Information about personal safety



The **ergo_bike** ergometer is intended for use by adults. **It is not a toy.** Children should only be allowed to train with the ergometer under adult supervision.

Persons suffering from any of the following diseases should consult their family physician or a specialist before starting training with the **ergo_bike**.

- Heart disorders like angina pectoris, coronary thrombosis, stenosis, high blood pressure
- Diabetes
- Respiratory disorders like asthma, chronic bronchitis, etc.
- Rheumatism
- Gout
- or any other disease or illness

You should never train when you feel ill or weak (your own body is often the best sensor).

If a user starts feeling ill or weak, he or she must immediately stop the training, relax and consult a physician.

Persons who are not used to exercise, and are not used to providing a physical effort regularly must start with an easy training program, and then increase the load very gradually. Persons with declared health problems must evaluate their personal risks with the help of their family physician.

You should never use the **ergo_bike to find out your maximum degree of physical endurance** by setting the load in Watt and your pulse rate too high. **This can have serious consequences on your health!!!**

The 8080 TRS is suitable for athletic training at home.

(It does not meet the requirements for medical diagnosis usage in medical clinics.)

Note

You will find more information about training for sport and health in the pocket book "**Training with the bike ergometer**" *Improvement of health and fitness as training target with the ergo_bike.*

Order from: **daum electronic GmbH, Flugplatzstr. 100 D-90768 Fürth**
Fax ++49 (0) 911 75 37 14

Training conditions

You should pay attention to providing good training conditions, this includes choosing the training room and installation place. Makeshift installation places do not incite to training!

E

Training

Manual training



Miscellaneous about manual training



Under training program "0" (manual) you can adjust the pedaling effort (braking power) between 25 and 800 Watts by turning the **control button No. 6**, and also change it during the training in 5 Watt increment to adjust the load to your personal requirements.

Preparing for training

- **Select the user identification number** (1 to 4) or guest (page 5)
- **Set personal data and alarm levels** (pages 14 to 17)
Where you determine
 - a) **Timed training** (Enter an exercise duration as alarm level)
 - b) **Distance related training** (Enter a training distance / km as alarm level)
 - c) **Kilojoules related training** (Enter a KJoule value as alarm level)

Health and rehabilitation training

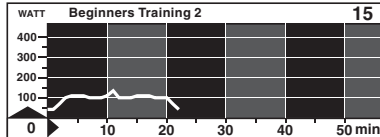
This type of training should be performed only according to the time and effort prescriptions of a physician or therapist.

Training examples



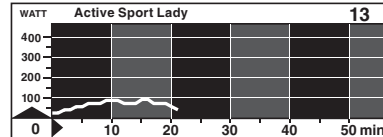
The effort settings in Watt can be freely varied according to the performance diagram selected to "run" and be set according to the represented time intervals.

Beginner program



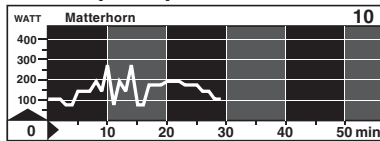
23 min / 130 Watt max.
for untrained men up to 70 years of age

Active Sport Lady



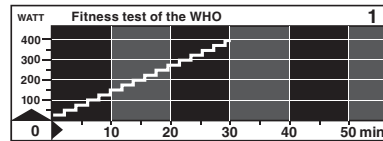
22 min / 90 Watt max.
for untrained women up to 60 years

Active sports persons



30 min / 270 Watt max.
for trained users

Fitness test of the WHO



Fitness test 25 Watt / WHO-Standard
32 Min. / 25 - 400 Watt
(increased in 25 Watts increments at two minutes interval)

About the fitness test 25 Watt / WHO-Standard



This exercise takes the user to his/her performance limits. You should only take it after consulting a physician, and you should interrupt the test immediately at the first sign of discomfort or pain!

Fitness mark / fitness evaluation

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 the training session 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

- ! 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.

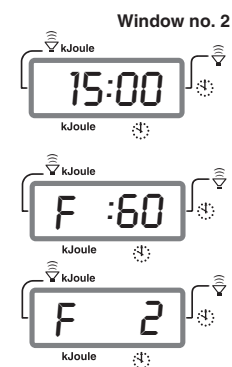
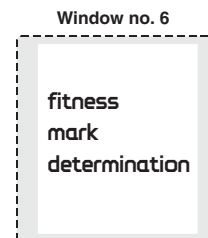
1. Train at least **15 minutes in the OK-area** (see page 6).
2. Continue pedalling "loosely" at the load of 25 Watt during the 60 sec measurement process.
3. Press the fitness key only when the two dots in display **window no. 2** are blinking.



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 small melody.

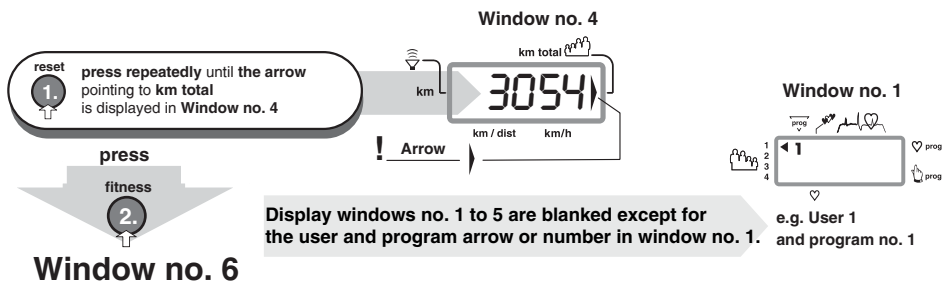


Example of the display of fitness mark 2

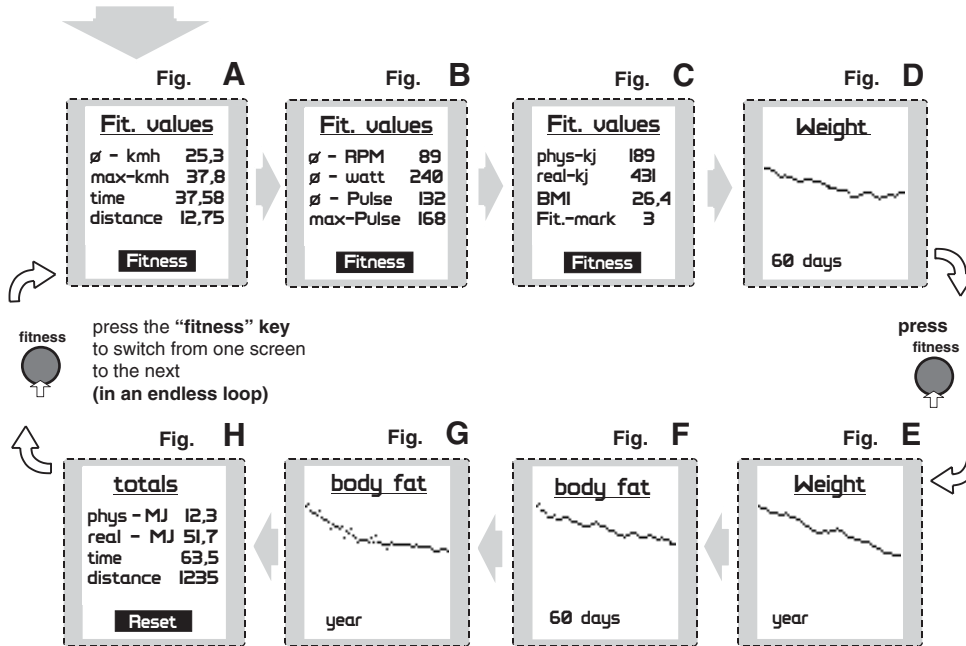
E

Training programs

Recalling Fitness and Training Value



Press the fitness key to switch from one display screen to the next. The various data screens are displayed in the sequence represented below. The last data screen (out of 8) displays a summary of the data per user. For each user, the system sums up the total number of kilometres travelled, the **physical MJoule (=1000kJoule)** and the **realistic MJoule**. In guest mode, the system displays the sum of the data of the four users together!



see also the recommendation about the weight and body fat determination on page 56 (the entry procedure is described on pages 14 to 17)

reset

Press the reset key to interrupt the display sequence and return to the main menu.

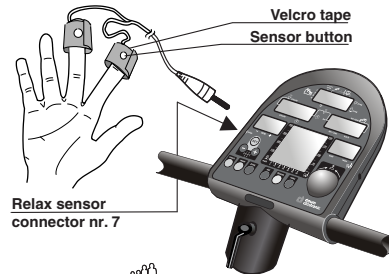
Relaxing

The relaxation function

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*'s 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. 7 on the dashboard.



Relaxing

Relax program / process description

reset

1.

Press repeatedly, until **Window no. 4** (right side) displays the **arrow pointing to km total**

Window no. 4

! Arrow pointing to km total

relax

2.

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

Window no. 5

3.

personal relaxing process

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

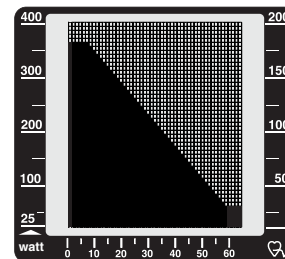
The **Relax-value** can drop all the way to almost **zero**. The user should therefor contribute to his/her relaxing and avoid any other stress. You can support this process by getting off the device and sit in a relaxed position, or lay down close to the *ergo_bike* and calm down.

Window no. 5

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.

Window no. 6



F

Training Programs

Programs Overview

The following table lists the programs installed in the **8008 TRS**.

<i>ergo_bike</i> Programs	8008 TRS
Manual Program Manual / 0	●
Cardio Program Cardio / C	●
Individual / P (IL 60) Watt	●
Individual / P (IL 240) Watt	●
Individual / P (IP 60) Pulse	●
Individual / P (IP 240) Pulse	●
Individual / P (Ir 60) km/h	●
Individual / P (Ir 240) km/h	●
Intensification Prog. / L RPM	●
RPM Program / A RPM	●
Strength program / H braking level	●
Fixed programs watt controlled	No. 1 - 19
Fixed programs pulse controlled	No. 29 - 38
Fixed programs (watt controlled / 800 Watt)	No. 20 - 28
Cool Down Programs	No. 42 - 44
Hawaii Competition circuit	No. 39
Roth Competition circuit	No. 40
Lanzarote Competition circuit	No. 41
Tour de France / 1997	stages 1 to 21
Conconi Test	No. 45 / 46
Coaching	●

Training Programs



Programs Overview

The training programs are identified on the display windows of the dashboard by the figures, letters or symbols shown below.

Overview / program types		Selection Arrow	Setting	Setting	Display	Display
1.	Manual Program / 0 (watt controlled)	▶		0		
2.	Cardio Program / C (pulse controlled)	▶		C		
3.	Individual Program / P (60 / 240 Min.) (watt controlled) individual IL (pulse controlled) individual IP (speed controlled) individual Ir	▶	Individual / P • • •			
				IL	<i>ind</i>	0
				IP	<i>ind</i>	1
				Ir	<i>ind</i>	2
4.	Intensification Prog. / L (RPM dependent)	▶	Intensification / L	L		
5.	RPM Program / A (RPM controlled)			A		
6.	Strength Prog. / H (Braking level controlled)			H		
7.	Fixed Programs (watt controlled / 400 Watt)			1 - 19		
8.	Fixed Programs (watt controlled / 800 Watt)			r	20 - 28	
9.	Fixed Programs (pulse controlled)			P	29 - 38	
10.	Hawaii circuit No. 39			<i>h</i>	<i>CONA</i>	<i>iron</i>
11.	Roth circuit No. 40			<i>o</i>	<i>roth</i>	<i>iron</i>
12.	Lanzarote circuit No. 41			<i>t</i>	<i>LANC</i>	<i>iron</i>
13.	Tour de France / 1997 1 to 21			F	<i>tdf</i>	1 - 21
14.	Cool Down Programs You can attach the cool down programs to the following programs and use them after the main program to "cool down": • Individual / P (IL / IP / Ir) • All watt and pulse controlled fixed programs No. 1 to 41 • All competition circuits			c	<i>cool</i>	
					corresponds to prog. no. none 0 or 42 ← 1 or 43 ← 2 or 44 ← 3	
15.	Conconi Test			E	45 / 46	
16.	Coaching		Display no. 6			

F

Training Programs

Programs selection

Training Program selection

Several training programs are stored in the *ergo_bike* that help automate training sessions. When running a program, the load will be adjusted, increased or decreased, depending on the distance, pulse rate or even velocity, according to the watt values prescribed by that particular program.

The table on page 24 lists the available programs on each *ergo_bike* model respectively.

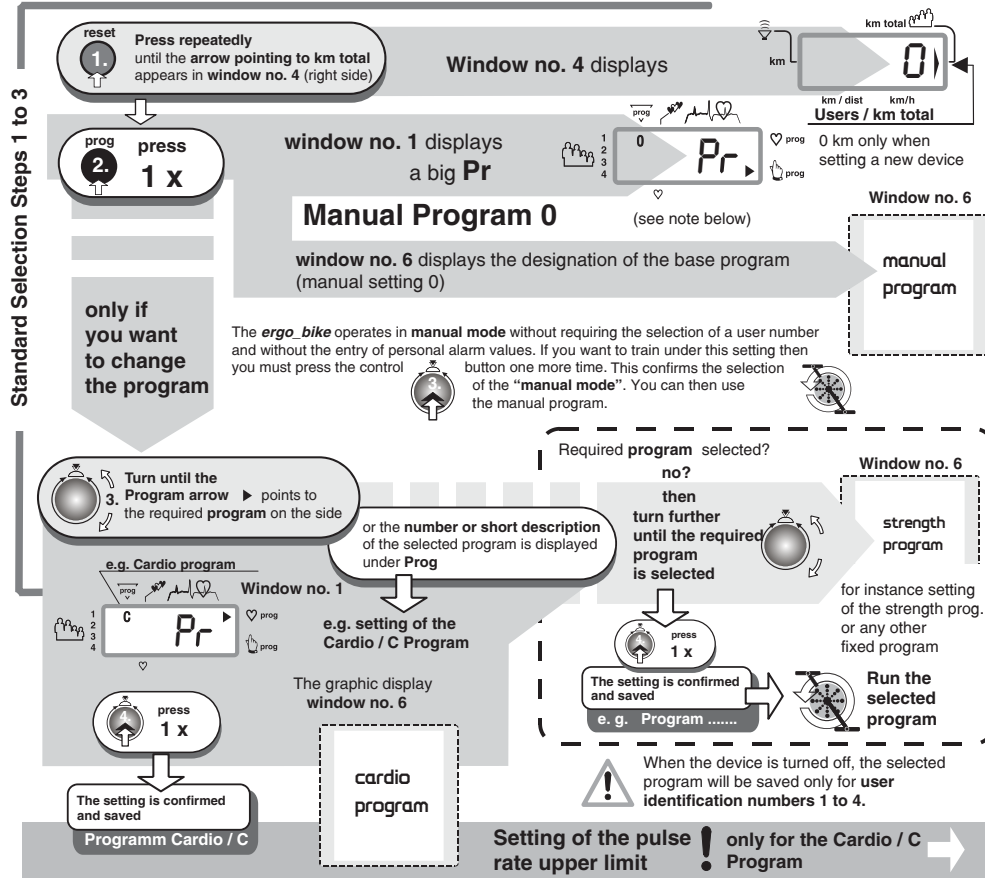
Use display windows nr. 1 / nr. 4 and nr. 6 for setting and functions description.

hint

to quit the selection menu



press the reset-key



Training Programs

F

Cardio - Program / C

This program is specially developed for efficient heart and blood circulation training.

The braking power (Watt) is automatically regulated, so that the pulse rate set by the user remains constant during the whole training session.

Select the program (see page 26) “Standard selection steps”

Running the Cardio-Program C

- Select the user identification number (see page 5)
- Put on the pulse sensor (see page 11)
- Select the Cardio-Program C (see page 26)
- Set the required heart pulse rate, then press control button No. 6 (see below)

The selected heart pulse rate remains stored even after the *ergo_bike* is switched off.



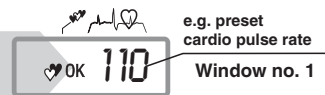
Start pedalling

The braking power (Watt) will be automatically raised until the target heart pulse rate is reached. Well-trained users have the possibility to reduce the time needed to reach the target pulse rate by turning control button No. 6 to raise the braking power (Watt).

Window no. 5 first displays 25 Watt, which are then raised by five Watts every 15 seconds until the required heart pulse rate is reached. Then the braking power (Watt) is automatically regulated to the value that keeps the pulse rate at the selected value.

The display of the pulse rate

The OK display indicates that the pulse rate does not exceed the preselected pulse rate by more than five pulses.



e.g. preset cardio pulse rate
Window no. 1

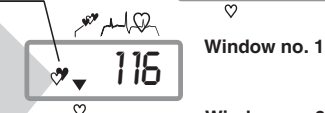
The up pointing arrow indicates that the pulse rate is lower than the preselected cardio rate.



Window no. 1

The blinking heart indicates that the pulse sensor (ear clip) or the Cardio sensor chest band is installed and operating.

The down pointing arrow indicates that the pulse rate is higher than the preselected pulse rate by more than five pulses. In this case the braking power (Watt) will be reduced by 10 Watt / 15 seconds continually until the preselected cardio pulse rate is again reached.



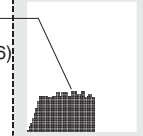
Window no. 1

Watt diagram

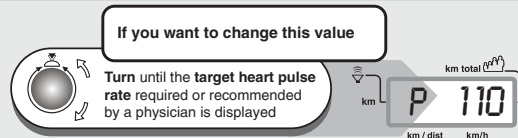
Window no. 6

Example of a curve representing the power in watt in one minute step (window no. 6):

The power starts at 25 watts for the Cardio Program and is increased by 5 watts every 15 sec until the required pulse rate is reached.



Window no. 4 displays a “P” and a number between 80 and 199, the prescribed training pulse rate.



If you want to change this value

Turn until the target heart pulse rate required or recommended by a physician is displayed



press 1 x



Window no. 4 the value is O.K.

The setting is confirmed and saved

e. g. Program no. C

We recommend the use of the possibility of entering alarm levels (see pages 14 to 17)! With the exception of the entry of a pulse rate alarm level.

The heart pulse rate should never be set too high in order to avoid overloads (see page 7). When in doubt you should always consult a physician or therapist.

F

Training Programs

Individual Program P

The Pulse - Individual Program / IP

This program allows the setting of pulse-load profiles individually suited to the user with maximum duration as follows:

You can enter a heart rate value, between 60 and 199 pulses per minute, for every single training minute. Please note that the maximum acceleration of the human pulse rate is limited. It cannot, for instance, accelerate from 60 to 199 pulses per minute within one minute.

Model	8008 TRS
User 1	60 minutes
User 2	60 minutes
User 3	60 minutes
User 4	240 minutes

We recommend thus to define a pulse acceleration profile suitable to the fitness level of the user.

OK indicates that the pulse rate does not exceed the defined pulse rate by more than five pulses per minute.

The top pointing arrow indicates that the pulse rate is lower than the defined pulse rate.

The down pointing arrow indicates that the pulse rate is higher than the preselected cardio rate by more than five pulses. In this situation the braking power (Watt) will automatically be reduced by 5 Watt / 15 seconds continually until the preselected cardio pulse rate is again achieved.

The blinking heart indicates that the pulse sensor (ear clip), or the Cardio Sensor chest band, is installed and operating.

Training with the Pulse - Individual Program / IP

- **Select user identification number** (see page 5)
- **Put on the pulse sensor** (see page 11)
- **Select the Pulse Individual Programm / IP** (see page 26 and 30) "Standard selection steps 1 to 3"
- **Create a new pulse individual program / IP** (see page 30)
- **Start pedaling to start the training session**

Display window No. 5 will first display 25 watt, which are then raised by five watts every 15 seconds until the **pulse rate preset** for the actual training minute is reached. Then the braking power (watt) is automatically regulated to the value that keeps the pulse rate of the user at the value preset in the program.

A short melody is played when the program ends!

If a Cool Down Program is selected and attached (see page 38), the training will automatically proceed with it.

The braking power (watt) can be manually changed by turning control button No. 6. Well trained users can thus reduce the time needed to reach the pulse rate preset in the program. If the *ergo_bike* is currently automatically reducing the braking power (watt), then it may only be further reduced with the control button.

You should also use the possibility of entering an alarm value when using with this program, with the exception of entering a pulse alarm (see pages 16 and 17).

Training Programs



Individual Program P

The Watt Individual Program / IL

This program allows the design of watt loading profiles individually suited to the user with maximum duration as follows:

Model	8008 TRS
User 1	60 minutes
User 2	60 minutes
User 3	60 minutes
User 4	240 minutes

A braking power between 25 and 800 watt can be preset for every single training minute.

Training with the Watt - Individual Program / IL

- Select user identification number (see page 5)
- Put on the pulse sensor (see page 11)
- Select the Watt Individual Program / IL (see page 26 and 30) "Standard selection steps 1 to 3"
- Start pedaling to start the training session

A short melody is played when the program ends.

If a Cool Down Program is selected and attached (see page 38), the training will automatically proceed with it.

The Speed Individual Program / Ir

This program allows the design of training programs, with loading profiles related to the speed, individually suited to the user with maximum duration as follows:

The program keeps the travel speed at the value preset in the program. Whenever the speed increases to a value higher than the preset value by more than 2 km/h, the braking power (watt) is automatically increased by 5 watt/second. If it falls below the preset value by more than 2 km/h, the braking power (watt) is correspondingly reduced.

You can preset a speed value between 5 and 99 km/h for every single minute of the training session.

Model	8008 TRS
User 1	60 minutes
User 2	60 minutes
User 3	60 minutes
User 4	240 minutes

Training with the Speed Individual Program / Ir

- Select user identification number (see page 5)
- Put on the pulse sensor (see page 11)
- Select the Speed Individual Program / Ir (see page 26 and 30) "Standard selection steps 1 to 3"
- Create a new Velocity Individual Program / Ir (see page 30)
- Start pedaling to start the training session

A short melody is played when the program ends.

If a Cool Down Program is selected and attached (see page 38), the training will automatically proceed with it.

F



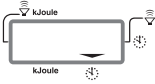

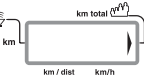


















Training Programs

Individual Program P

Selection and programming of the Individual Programs IL / IP, Ir

The *ergo_bike* "vita 2002 pc de luxe" is equipped with individual training programs IL / IP / Ir. The table below shows you how to call and program these programs.

The following table shows how to call and program the specific programs.

	Display 5	Display 2	Display 1	Display 4	Display 6
reset 1. 					
	until the arrow in Window No. 4 pointing to Users / km total appears on the right side press		displays: • the selected user number • evtl. a program number • evtl. a program arrow	displays: Users / km total	displays:
prog 2. 		evtl. a Prog. No., evtl. a Prog. Name		evtl. a Prog. No., evtl. a Prog. Name	 e.g.  e.g.
			displays:	displays:	displays:
turn 3. 	until window no. 1 displays the prog. designation "IL" or "IP" or "Ir" and <i>Ind</i> appears in window no. 2	the short designation <i>Ind</i>	 and the selected prog. designation IL or IP or Ir	the corresponding prog. number 0 or 1 or 2	 e.g. empty display if programming the IL prog. for the first time or  e.g.
			displays:	displays:	displays:
prog 4. 	1 x press For the Watt Individual Program IL the watt load prescribed for the first minute is displayed	E = Entry 1 = first minute of training	For the Pulse Individual Program IP the pulse rate prescribed for the first minute is displayed	For the Speed Dependent Individual Program Ir the speed value in km/h prescribed for the first minute is displayed when the selection arrow is pointing to km/h.	The diagram of the last individual IL program entered  e.g.
	Should the displayed value be modified?				A blinking signal indicates that the watt values can be entered for a new program
Confirm the setting 5. 	Turn the control button No. 6 to set: • The load in watt required for the first training minute of the IL - program	E = Entry 2 = second minute of training	the pulse rate prescribed for the second minute is displayed.	the speed value in km/h prescribed for the second minute.	
	1 x press the watt load prescribed for the second minute is displayed				
	Should the displayed value be modified?				
Confirm the setting 6. 	Turn the control button No. 6 to set: • The load in watt required for the second training minute of the IL - program	E = Entry 3 = third minute of training	the pulse rate prescribed for the third minute is displayed	the speed value in km/h prescribed for the third minute.	This setting can be modified in one-minute step. The bar corresponding to the current minute blinks to indicate how the diagram will be modified  e.g.
	1 x press the watt load prescribed for the third minute is displayed				
Confirm the setting etc. (up to 30 or 240 one minute steps)					 confirm 
					

When this program is run, the display follows the same pattern as for normal watt controlled programs. The graphic display also supports the programming of an individual program: The stored program is displayed on the screen, with a blinking bar corresponding to the watt value for the current minute that can be modified by turning the control button. This bar represents the preset watt value for the minute displayed in window 2. When you press the control button, the next bar starts blinking and can be changed.

These entries can be repeated for a total of 60 minute-steps for user identification numbers "1 to 3". Individual training profiles of up to 240 minutes can be programmed for user number "4"

Training Programs

F

Intensification prog. / L, Constant RPM prog. / A and Strength prog. / H

Training with the intensification prog. / L,
the constant program / A,
or the strength program / H

The selection of the training program and
the program flow are supported by the
graphic display (window no. 6).

Program selection and program specific settings

- Select user identification number (see page 5)
- Set your personal data and alarm values (see page 14 to 17)
- Put on the pulse sensor or the cardio sensor chest band (see page 11 and T1)
- Select the intensification program / L (see page 26) “Standard selection steps 1 - 3”
(see also window no. 6)

The intensification program / L

ergo_bike ergometers operate, according to DIN 13405, independently of the velocity in the defined RPM ranges. The selected braking power (watt) remains constant whether the user pedals slow or fast (see page 9).

The intensification program is the only exception. When running this program the *ergo_bike* reacts like a standard bike. The **braking power (Watt)** is increased when the user increases the pedaling speed, as shown in display **window No. 5**. The power is reduced when the user reduces the pedaling speed.



start pedaling, e.g. at 50 RPM.

If the user reduces the pedaling speed, the braking power in watt will also be reduced.

Select the **required braking power (Watt)** by turning **control button No. 6** while pedaling at a constant speed of **50 RPM**.



Afterwards, whenever the pedaling speed **is reduced or increased by more than 3 RPM** the braking power is reduced or increased accordingly, and the new value is displayed in **Window No. 5**.

The constant RPM program / A

This program is designed for sport bikers, who want to maintain their personal pedaling speed constant regardless of a climbing or descending route.

Prog **Start pedalling until you reach the required personal speed (RPM), e.g. 50.**



Press the program key, a short audio signal (beep) confirms that the speed, e.g. 50 RPM (pedal speed), is stored.



When the user increases the pedaling speed by at least 5 RPM, or reduces it by at least 6 RPM, the braking power (Watt) is correspondingly increased or reduced in 5 Watt-per-second increments to force the user back to the selected speed of **50 RPM**.

The strength program / H

The particularity of the strength program is that the program behaviour is defined neither by various settings of the braking power in watt, nor by speed settings (RPM), but is based on a total of 15 braking levels (1 to 15). The power in watt corresponding to each of the braking level is computed by multiplying the actual speed in RPM by a specific factor prescribed by the braking level and rounded to the nearest 5 watt.



Select the required **braking level (1 to 15)** by turning **control button no. 6**

(The braking level number is displayed in window no. 1 under the symbol **prog** instead of a program number)



Start pedalling

The actual power is computed every minute according to the pedalling speed and the selected braking level, and displayed as a performance curve in the form of a bar graph.

We recommend keeping a pedalling speed of 60 to 80 RPM with the Coaching program.

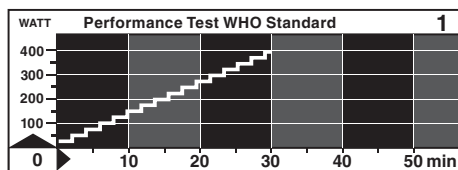
F

Training Programs

Watt Controlled Fixed Programs

1 - 5

See page 26 for the procedure to select the training program !



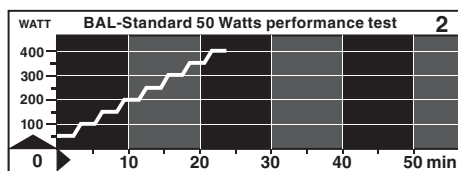
Program 1

Performance test 25 Watt / WHO-Standard
32 Min. / max 400 Watt

Run this program under test conditions.
A melody is played upon completion of the test.
Press the fitness key immediately after the training ends
to obtain your fitness mark (1 - 6), see page 21.



Do not exceed your personal load limit!
Stop training immediately if the load / effort is too high.

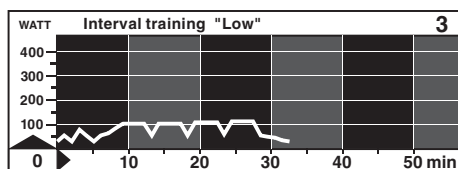


Program 2

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

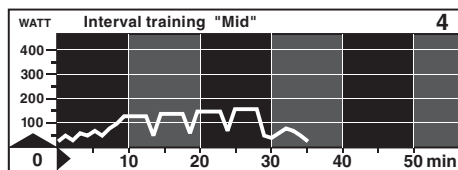
The following programs are suited for endurance built-up and strengthening, and to prepare the heart and circulation system to training effort.

The actual interval program is followed by a short relieve section to accelerate the regeneration.



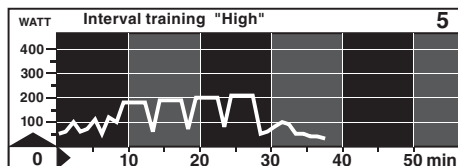
Program 3

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



Program 4

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



Program 5

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

Training Programs

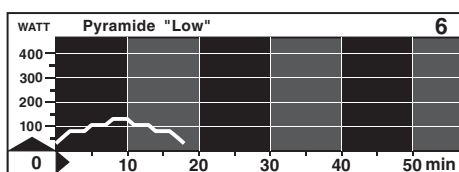
F

Watt Controlled Fixed Programs

6 - 11

See page 26 for the procedure to select the training program!

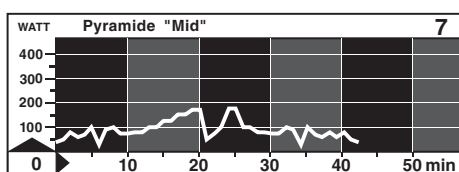
These programs apply a strongly rising load at start, and then reduce it after a short recuperation period. This simulates riding up a hill with a flat top.



Program 6

Pyramide "Low"

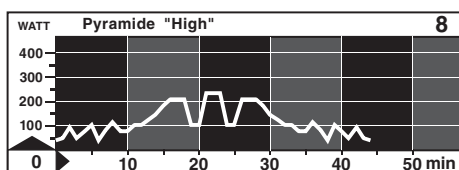
19 Min. / max 115 Watt
for untrained women and men
age up to 35 years



Program 7

Pyramide "Mid"

43 Min. / max 175 Watt
for trained users

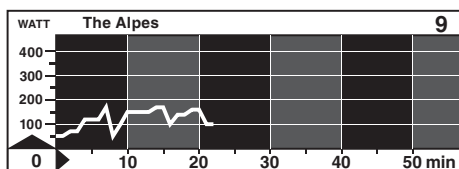


Program 8

Pyramide "High"

45 Min. / max 225 Watt
for trained users

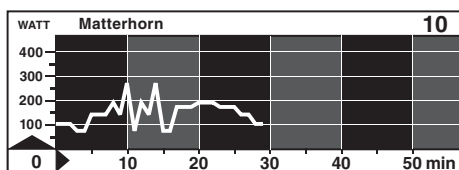
The following programs consist of a very steeply rising loads followed by steep load reductions and increases. At the end the program takes you to a flatter area, where it feels like the imaginary "mountain excursion" ends in a "foothill".



Program 9

The Alpes

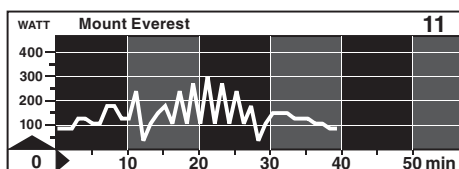
23 Min. / max 180 Watt
for trained users



Program 10

Matterhorn

30 Min. / max 270 Watt
for trained users



Program 11

Mount Everest

40 Min. / max 300 Watt
for trained users

F

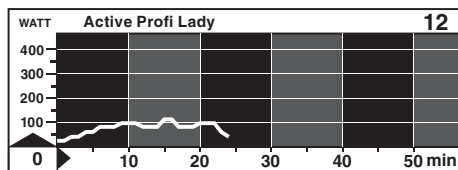
Training Programs

Watt Controlled Fixed Programs

12 - 15

See page 26 for the procedure to select the training program!

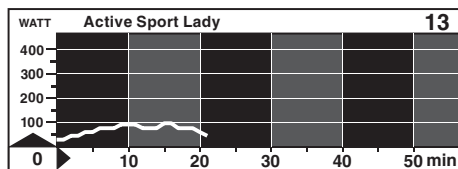
These programs apply a gently rising load with easy recuperation periods where the required effort is slightly reduced.



Programm 12

Active Profi Lady

25 Min. / max 110 Watt
for untrained women
up to 40 years of age

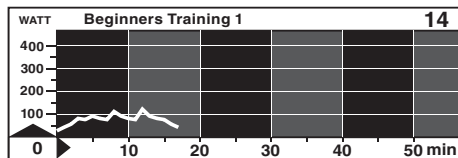


Programm 13

Active Sport Lady

22 Min. / max 90 Watt
for untrained woman
up to 60 years of age

This program is suitable for introducing kids and teenagers to a conscious training with the Ergometer.

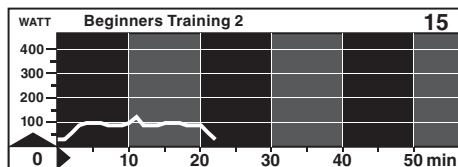


Programm 14

Beginners Training 1

18 Min. / max 125 Watt
For young users up to 14 years of age

This program applies a variable load. After a moderate load increase, recuperation periods and load increases are mixed at the top.



Programm 15

Beginners Training 2

23 Min. / max 130 Watt
for untrained men up to 70 years of age

You do not have to execute the programs to the end. Do not forget to obtain your fitness mark and to use the relaxation function.

Training Programs

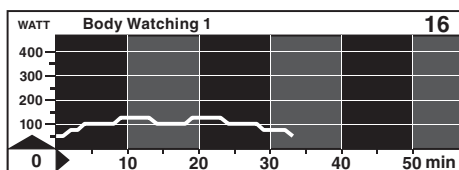
F

Watt Controlled Fixed Programs

16 - 19

See page 26 for the procedure to select the training program!

The following programs are designed for strong-willed women, who are willing to lose weight while undergoing a bearable load.

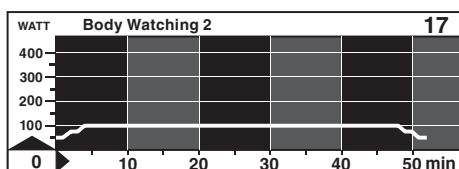


Program 16

Body Watching 1

34 Min. / max 125 Watt

for trained women up to 30 years of age



Program 17

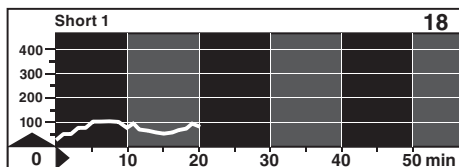
Body Watching 2

53 Min. / max 100 Watt

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!

Users who have a tight schedule do not have to give up training with the ergometer.

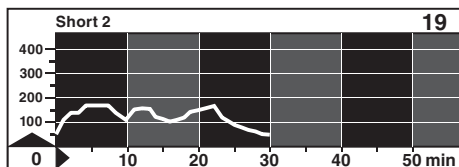


Program 18

Short 1

20 Min. / max 100 Watt

suitable for squeezing a training session between appointments.



Program 19

Short 2

30 Min. / max 180 Watt

for trained users, who want to check out their performance.

You do not have to execute the programs to the end. Do not forget to obtain your fitness mark and to use the relaxation function.

F

Training Programs

Pulse Controlled Fixed Programs

29 - 33

Select the training program (see page 26) !
The program No. is displayed in window No. 2!

Window No. 1



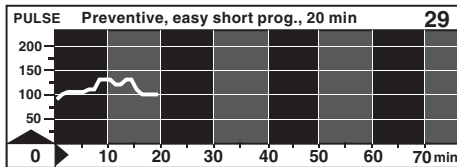
Window No. 2



Program-No. 29 - 38

In pulse-controlled programs, the program regulates and controls the pulse rate of the user.

This program is suitable for beginners and health-concerned users, to develop endurance and to adapt the heart and circulation systems to training.

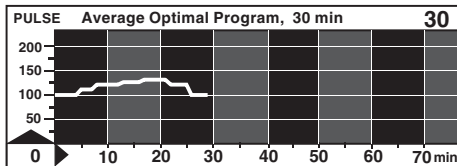


Programm 29

preventive, easy short prog., 20 min

20 Min. / max. 130 pulses / min.
light load training for women and men
with little training experience

This program takes place mostly in the aerobic zone. Enough oxygen is available for the body to extract its energy. It is suitable for building up endurance. Heart and circulation systems are gently loaded.

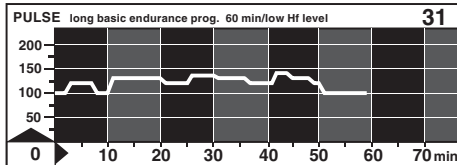


Program 30

Average Optimal Program, 30 min

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

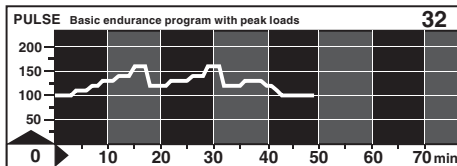
The following programs are specially suitable for endurance training



Program 31

long basic endurance prog.
(60 min/low pulse rate level)

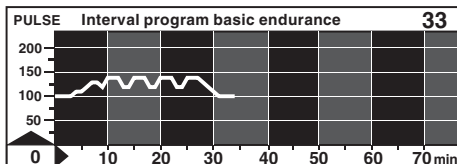
60 Min. / max. 140 pulses / min.
Endurance training for women and men
with training experience



Programm 32

Basic endurance program with peak loads

50 Min. / max. 160 pulses / min.
Demanding endurance training for
women and men with training experience



Programm 33

Interval program basic endurance

35 Min. / max. 140 pulses / min.
Endurance training for women
and men with little training experience

Training Programs

F

Pulse Controlled Fixed Programs

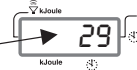
34 - 38

Select the training program (see page 26) !
The program No is displayed in window No. 2!

Window No. 1



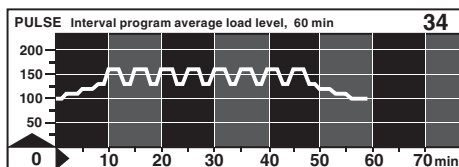
Window No. 2



Program No. 29 - 38

In pulse-controlled programs, the program regulates and controls the pulse rate of the user.

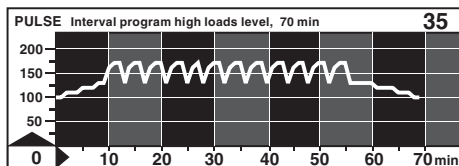
The heart rate is maintained in the endurance zone. Specially suited for beginners and for working out the endurance and heart circulation systems.



Program 34

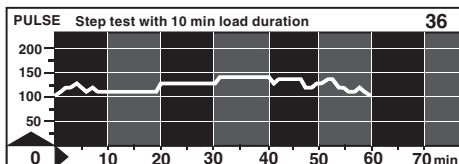
Interval program
(average load level, 60 min)
60 Min. / max. 160 pulses / min.
Interval training in the basic zone for women and men with little training experience

An interval program to achieve higher heart pulse rates. It comes very close to competition conditions. Suited for efficient sportspersons up to high performance athletes.



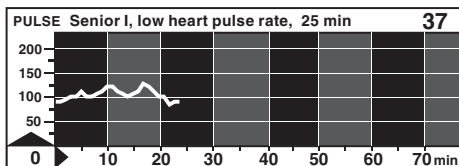
Program 35

Interval program
(high loads level, 70 min)
70 Min. / max. 170 pulses / min.
very demanding interval training in the higher heart pulse rate zone



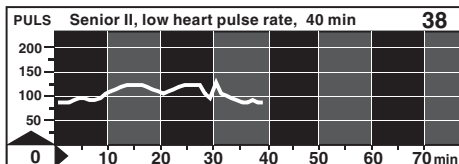
Program 36

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 pulse rate, 40 min
40 Min. / max. 130 pulses / min.
Demanding endurance training in the lower heart pulse rate zone for active senior users

F Training Programs

Cool-Down Programs

Physical trainings should not be terminated abruptly, instead they should end gradually, because the so called active regeneration process guarantees the best recovery possibilities. The **Cool-Down programs of the ergo_bike** were specially designed to provide this active regeneration.

Users should select the cool-down program which better fits their general fitness level.

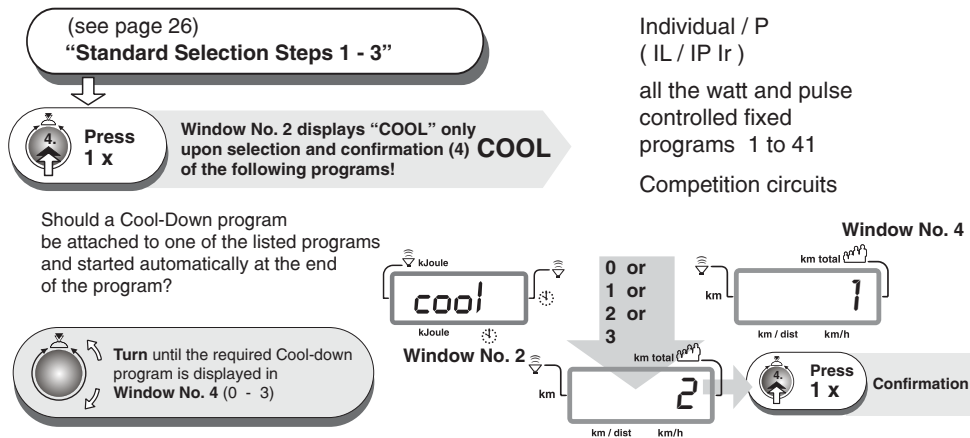
ergo_bike ergometers offer the possibility to attach to some of the training programs one of the three available cool-down programs (see page 25). This attached program will then be called automatically at the end of the "main program", allowing it to run without interrupting the training session.

- Cool 0 = no attached Cool-Down Program
- Cool 1 = Program 42
- Cool 2 = Program 43
- Cool 3 = Program 44

It is also possible to call and run the cool-down programs separately like any other program (see page 26). The setting Cool 0, 1, 2 or 3 is also displayed in the windows, but is meaningless and can be confirmed by pressing the control button.

Attaching Cool-Down Programs

Setting procedure



You should check the fitness mark (see page 21) after an effort phase, and not after training with a Cool-Down Program.

Training Programs

F

Cool-Down Programs

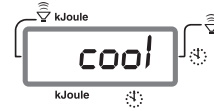
42 - 44

Select the training program (see page 26) !
The program name is displayed in window No. 2!

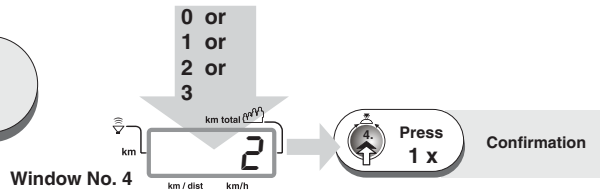
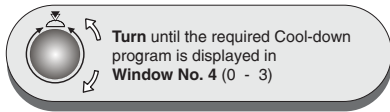
Window No. 1



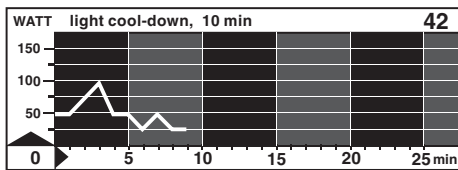
Window No. 2



Proceed with the setting of the cool-down program in Window No. 4

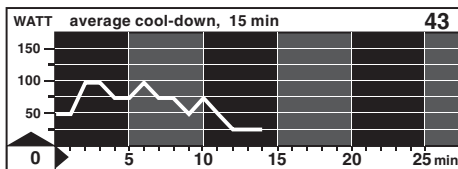


The Cool Down Programs are a perfect way to end a training.



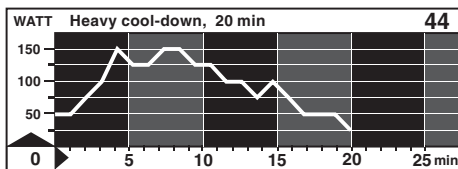
Program 42 light cool-down, 10 min

10 Min. / max. 100 watts / min.
for women and men with little training experience following a very light training load



Program 43 average cool-down, 15 min

15 Min. / max. 100 watts / min.
for women and men with training experience and following an average to heavy training load



Program 44 Heavy cool-down, 20 min

20 Min. / max. 150 watts / min.
for athletes with high performance training.
The program allows an accelerated regeneration after the most heavy training load.

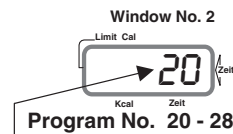
F Training Programs

Watt Controlled Fixed Programs / 800 Watt

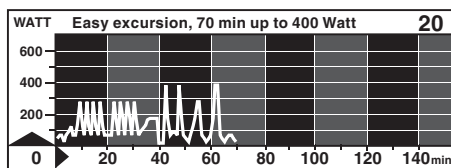
20 - 25

Select the training program (see page 26)!
The program No. is displayed in window No. 2!

Window No. 1
Prog.-Nr.



Do not exceed your personal load limits!
Stop training immediately if the load or effort
becomes too difficult (heavy).

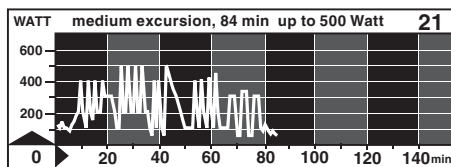


Program 20

Easy excursion, 70 min up to 400 Watt

Demanding training for performance sport activity

This program is suited to improve your endurance, to train for strength and endurance strength and to improve your tolerance to lactic acid.

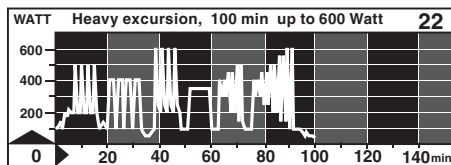


Program 21

medium excursion, 84 min up to 500 Watt

Very demanding training for high performance sport

Program with high loads with continually varying loading up to 500 Watt. The loading condition corresponds to what is encountered in competitions (either road or mountain biking)



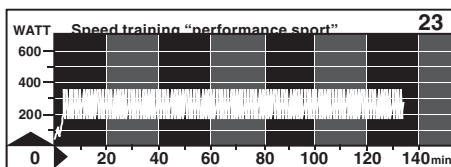
Program 22

Heavy excursion, 100 min up to 600 Watt

Very demanding training for high performance sport

This program has extreme loading conditions.
Please do not develop any exaggerated ambition
and do not overtrain!

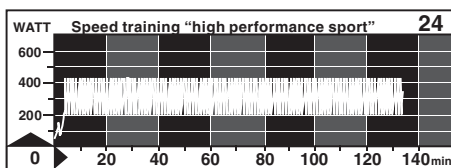
The display of the load in watt switches to second resolution scale (see note page 41)*



Program 23

Speed training "performance sport"

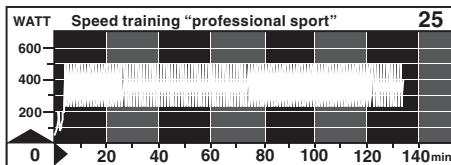
134 Min. / max. 360 Watt



Program 24

Speed training "high performance sport"

134 Min. / max. 420 Watt



Program 25

Speed training "professional sport"

134 Min. / max. 500 Watt

Training Programs

F

Watt Controlled Fixed Programs / 800 Watt

26 - 28

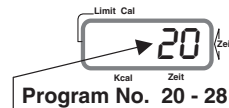
Select the training program (see page 26)!
The program No. is displayed in window No. 2!

Window No. 1

Prog.-Nr.



Window No. 2

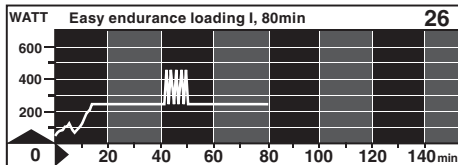


* These high performance watt loading profiles 20 to 28 comprise sequences where the load in watt varies in single second interval. When such a sequence is reached during a training session, the graphic display switches to display the profile on a 60-second scale with the actual training second identified by a blinking bar. When the end of the sequence with load variation at second interval, the display switches back to display the load profile to a minute scale.

The following programs (26 to 28) are used as load test and to evaluate the competition-specific endurance capacity.

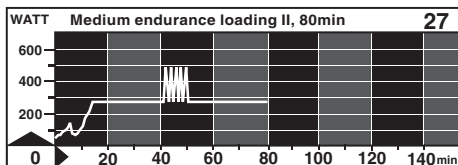


Do not exceed your personal load limits!
Stop training immediately if the load or effort becomes too difficult (heavy).



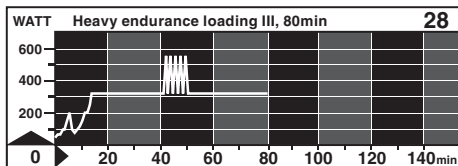
Program 26

Easy endurance loading I, 80min
80 Min. / max. 450 Watt



Program 27

Medium endurance loading II, 80min
80 Min. / max. 500 Watt



Program 28

Heavy endurance loading III, 80min
80 Min. / max. 550 Watt

These tests simulate very closely the requirements for racing conditions, for street and mountain biking. They help evaluate your capacity to tolerate high lactic acid concentration levels.

F

Training Programs

International Triathlon Circuits

39 - 41

Select the training program (see page 26) !
The program name is displayed in window No. 2!

Window number 4 displays **IRON**

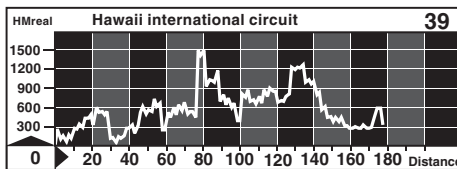
- Ironman international circuit "Hawaii"

- European Triathlon circuit "Roth"
(world greatest Ironman competition)

- International Triathlon circuit "Lanzarote"

Window No. 1	Window No. 2
Prog	20
h	CONR
o	roth
t	LANC

HMreal = realistic height

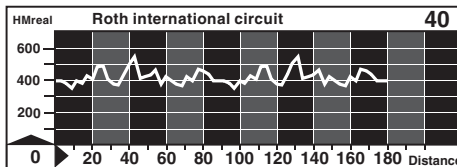


Program 39

Hawaii international circuit

180 km distance / HMreal 0 - 1500 meter

World championship and first Ironman biking circuit



Program 40

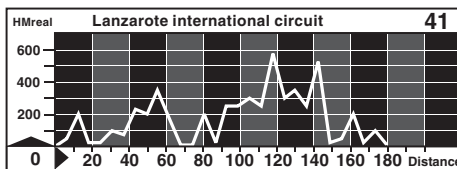
Roth international circuit

180 km distance / HMreal 350 - 570 meter

Demanding circuit, characterized by a particularly varied profile

Duration of the competition (indicative value)

Dr. Rainer Müller = 4 hours and 24 minutes



Program 41

Lanzarote international circuit

180 km distance / HMreal 20 - 580 meter

Most demanding circuit of the Ironman international series



Do not exceed your personal load limits! The performance requirements correspond to competition conditions and should be considered as absolute maximum training values. The load in watt can be manually reduced, by mean of the gear shift, to a value suited to the user's individual capacity whenever the load or effort gets too intense. Liquids intake in sufficient quantities while training is absolutely necessary. The training must immediately be interrupted in cases of overload, discomfort or pain! When in doubt, you should consult a physician.

Training Programs

F

Tour de France 97

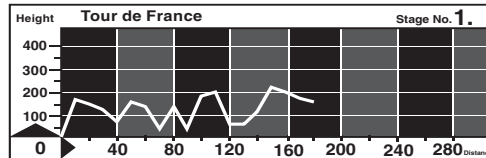
International circuit of the "Tour de France 97"

(21 days or competition stages)

All the 21 stages of the "Tour de France 97" are stored in the *ergo_bike 8008 TRS*, and can be run to simulate the tour according to the performance diagrams or used as training model.

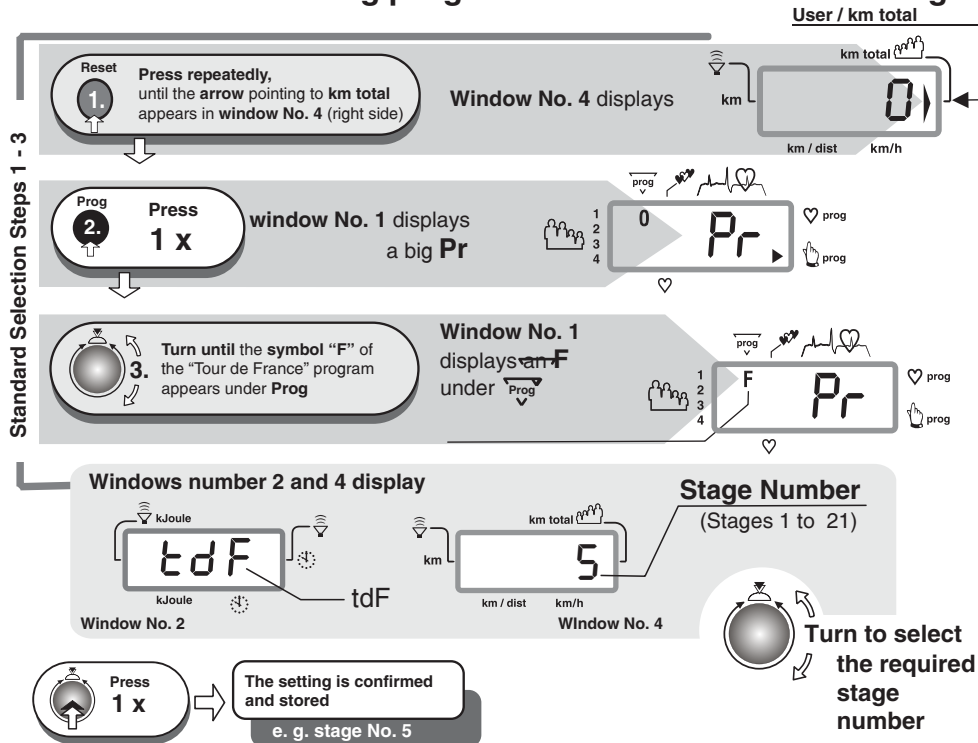


Do not exceed your personal load limits! The performance requirements correspond to competition conditions and should be considered as absolute maximum training values. The load in watt can be manually reduced, by mean of the gear shift, to a value suited to the user's individual capacity whenever the load or effort gets too intense. Liquids intake in sufficient quantities while training is absolutely necessary. The training must immediately be interrupted in cases of overload, discomfort or pain! When in doubt, you should consult a physician.



Hint:
Attach Cool-Down programs, see page 38.

Selection of the training program or the Tour de France stage

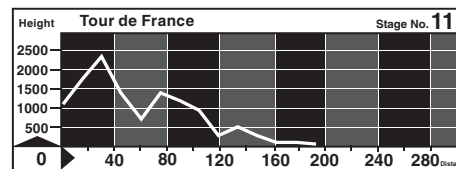
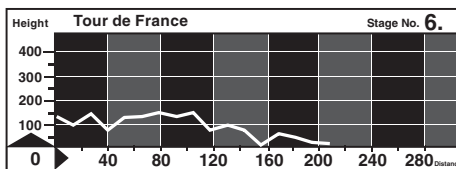
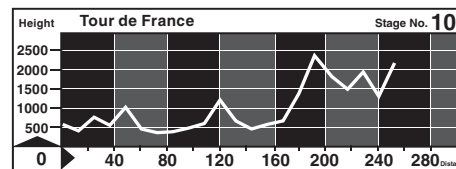
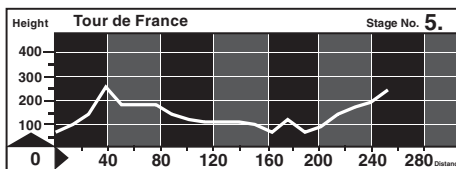
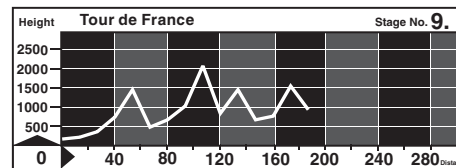
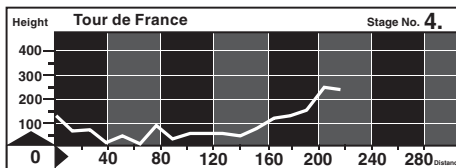
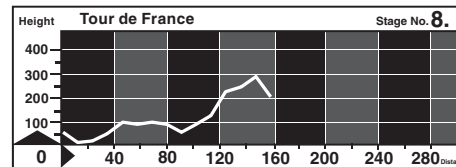
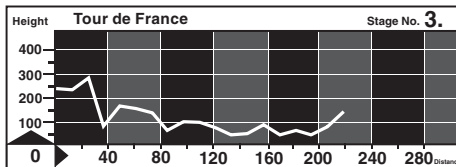
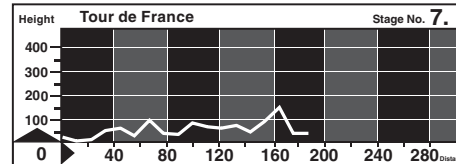
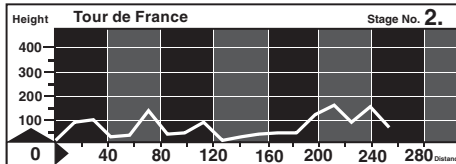


F

Training Programs

Tour de France 97

Stages No. 2 to 11



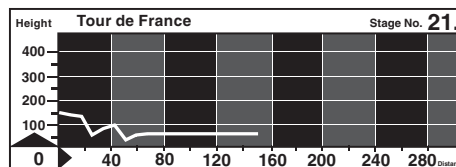
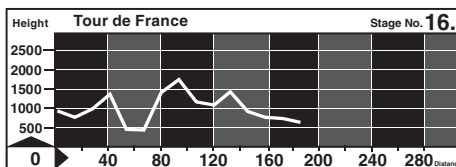
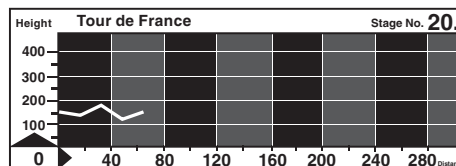
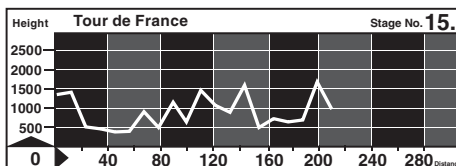
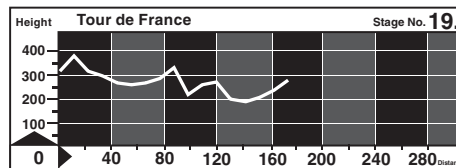
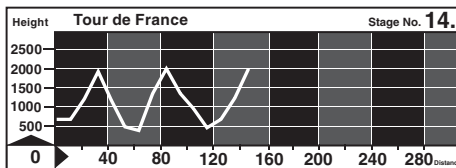
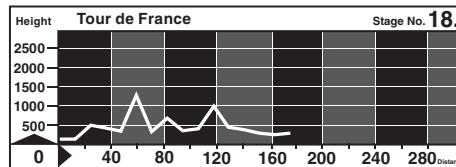
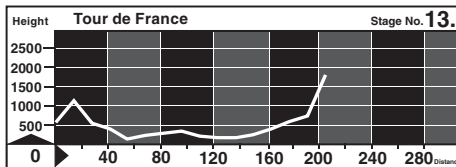
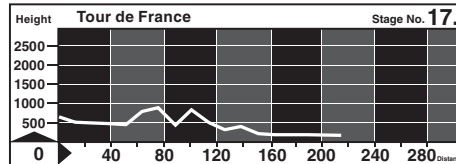
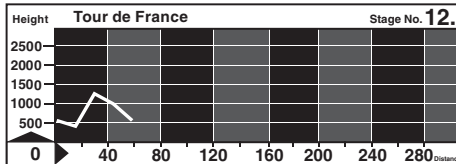
Do not exceed your personal load limits! The performance requirements correspond to competition conditions and should be considered as absolute maximum training values. The load in watt can be manually reduced, by mean of the gear shift, to a value suited to the user's individual capacity whenever the load or effort gets too intense. Liquids intake in sufficient quantities while training is absolutely necessary. The training must immediately be interrupted in cases of overload, discomfort or pain! When in doubt, you should consult a physician.

Training Programs

F

Tour de France 97

Stages No. 12 to 21



Do not exceed your personal load limits! The performance requirements correspond to competition conditions and should be considered as absolute maximum training values. The load in watt can be manually reduced, by mean of the gear shift, to a value suited to the user's individual capacity whenever the load or effort gets too intense. Liquids intake in sufficient quantities while training is absolutely necessary. The training must immediately be interrupted in cases of overload, discomfort or pain! When in doubt, you should consult a physician.

F

Training Programs

Conconi Test

Description

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 49). 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.

Durchführung des Conconi-Tests mit dem *ergo_bike*:

The Conconi test should in principle start 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 pulses per minute during warm-up. Since the performance ability of users is widely spread, we provide two programs for taking the Conconi test.

Program 45 begins with a load of 60 watts, and is suitable for users with a limited experience of sport activity, and **program 46** which targets users with more endurance capacity. During the test the load is increased by 20 watts every program step, for both test programs.

You will find a test protocol on page 48. 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 easier Conconi test (program 45, from 60 to 400 watts) in the corresponding area.

For the heavier Conconi test, fill the heart pulse rates obtained in **protocol 2** (program 46) starting at 120 and up to a maximum of 700 watts.

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

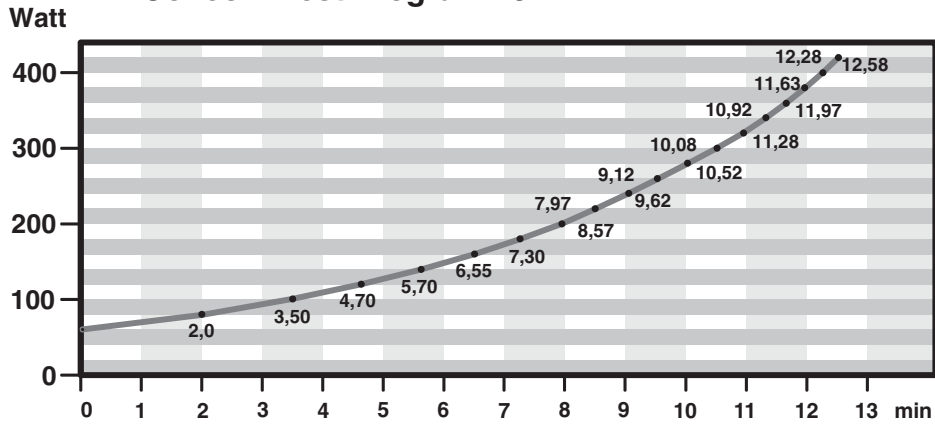
Training Programs



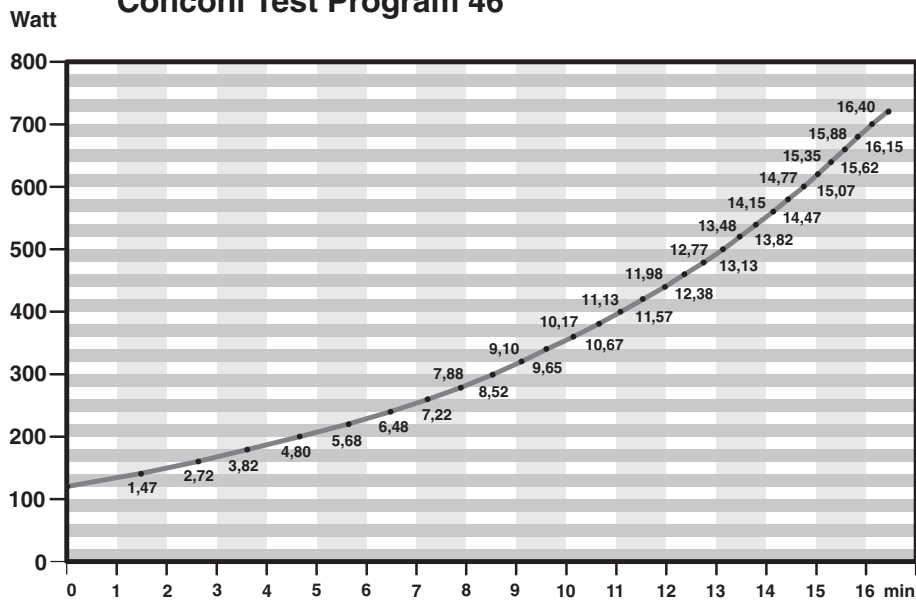
Conconi Test

Test Programs

Conconi Test Program 45



Conconi Test Program 46



F

Training Programs

Conconi Test

Test Protocols

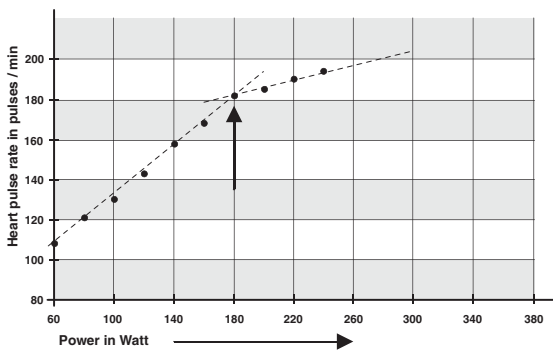
TEST PROTOCOL / Conconi Test		<i>ergo_bike 8008 TRS</i>	
Name.....		Date.....	
		Time.....	
Load in Watt	Heart pulse rates in pulses / min		Notes about the test
	Pulse rate at rest.....		
PROTOCOL 1 / Program E 45 (from 120 to 700 watts)	120	60	
	140	80	
	160	100	
	180	120	
	200	140	
	220	160	
	240	180	
	260	200	
	280	220	
	300	240	
	320	260	
	340	280	
	360	300	
	380	320	
	400	340	
	----- 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		_____	

Auswertung des Conconi-Tests

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 coordinate system as shown in **figure 3** 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 the heart rate for the first test step (60 watts) is around 105 pulses per minute, for the second step (80 watts) it is 120 pulses per minute, etc.

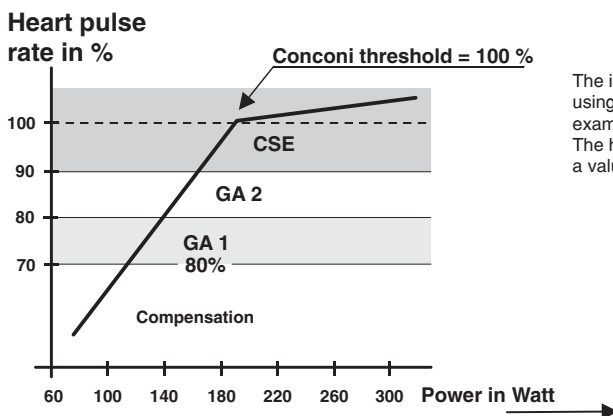
After all the heart pulse rate points have been represented in the coordinate system, proceed with joining the individual points to form the line representing the linear increasing portion of the curve. In the figure this is the straight line with the steep slope.

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 3 by an arrow. This intersection point is called the deflection point and corresponds to the anaerobic Conconi threshold. In fig. 3 this threshold is at 181 pulses 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 pulses/min.).

Fig. 3: 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 pulses/min.) as shown in figure 4. The heart rate at the deflection point is assigned a value of 100 %.

Fig. 4: Determining the training domains

F

Training Programs

Conconi Test

Description

Compensation training

The compensation domain lies underneath 70 percent. In our example this represents the region below 127 pulses 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 pulses 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 pedaling 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 pulse rate limit of 80 to a maximum of 90 percent (in our example 145 to 163 pulses/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 pulses 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 pulse 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)

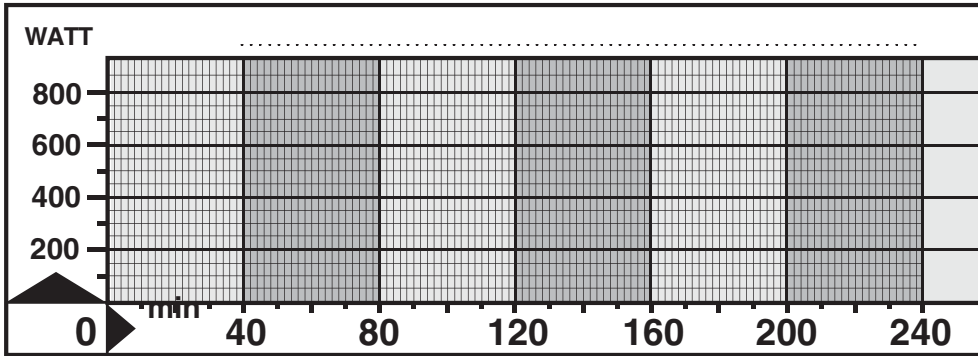
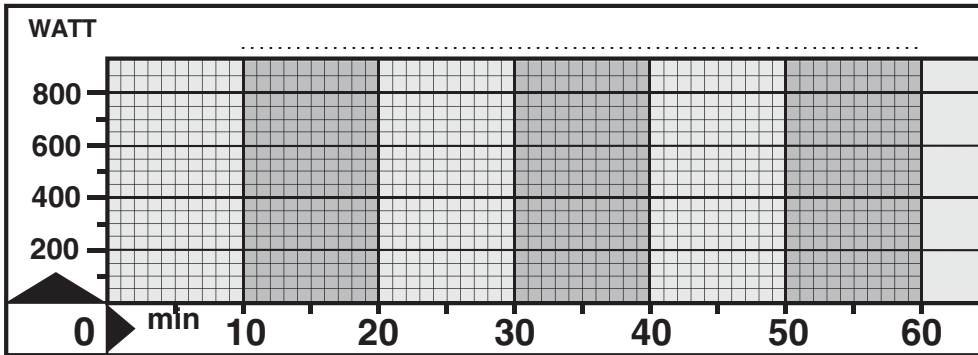
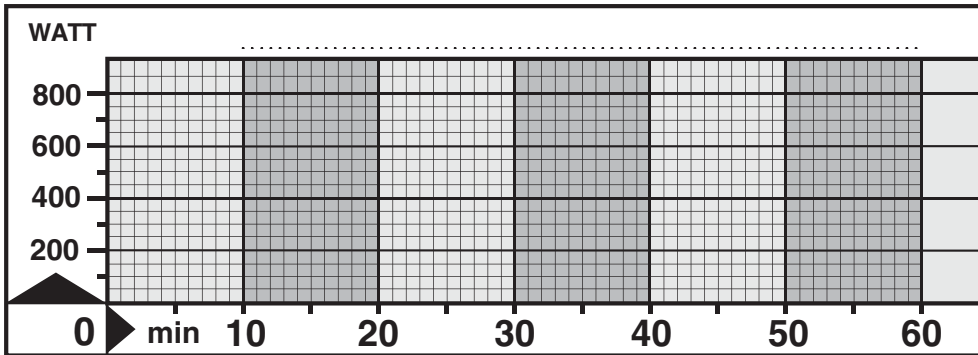
Training Programs

F

Supplement to the Individual Program / IL *Copy samples*

The **Watt Individual Program / IL (page 29)** allows the creation and programming of special and personal training profiles in one minute steps and 5 watts levels.

Use the blank diagrams below as original to make copies. Then use the copies to draw the performance curves for the individual training profiles. Use these diagrams to guide you in the programming process (page 30), and to archive the personal training programs.



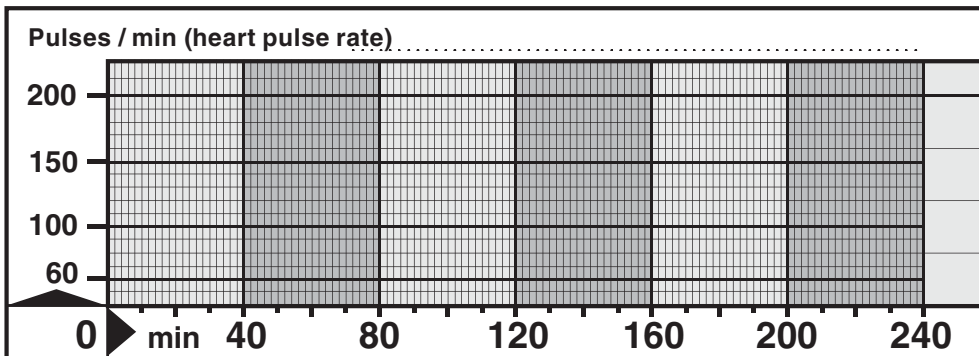
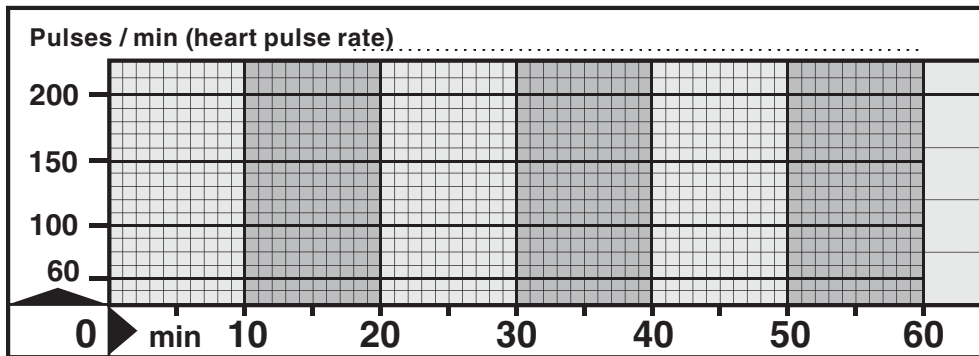
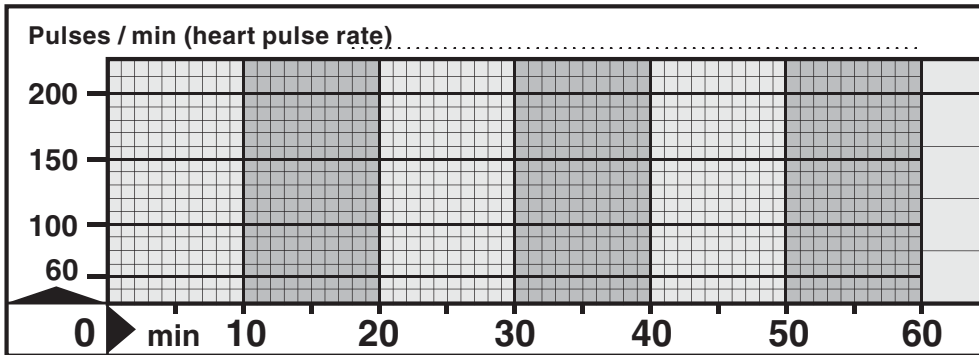
F

Training Programs

Supplement to the Individual Program / IP *Copy samples*

The **Pulse Individual Program / IP (page 28)** allows the creation and programming of special and personal training profiles based on various pulse rate steps (in pulses per minute) or on prescribing a constant pulse rate for a given period of time.

Use the blank diagrams below as original to make copies. Then use the copies to draw the performance curves for the individual training profiles. Use these diagrams to guide you in the programming process (page 30), and to archive the personal training programs.



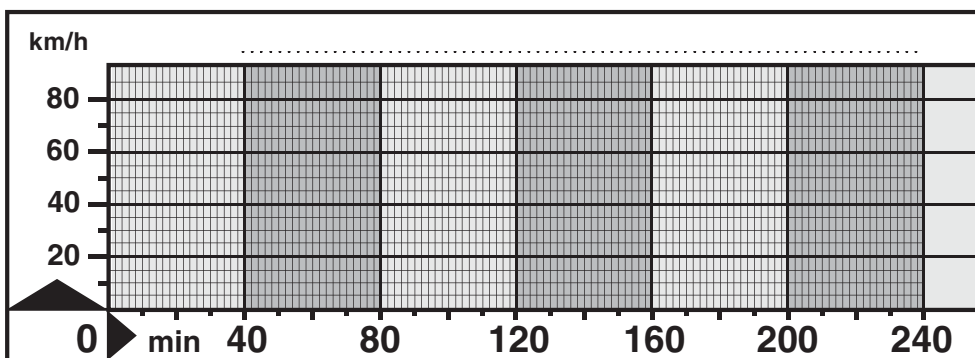
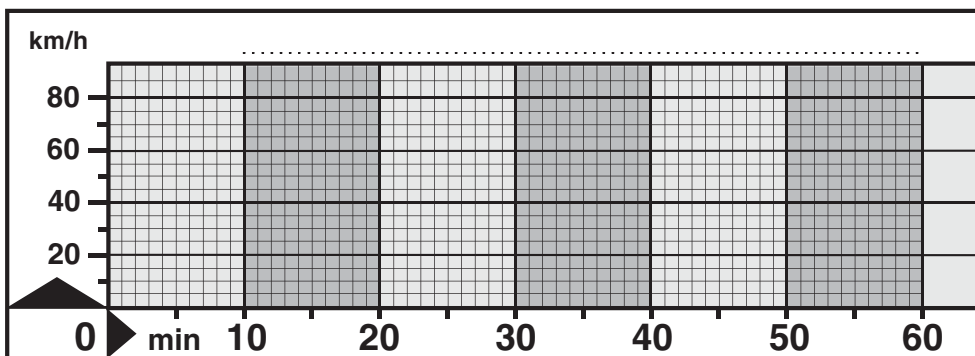
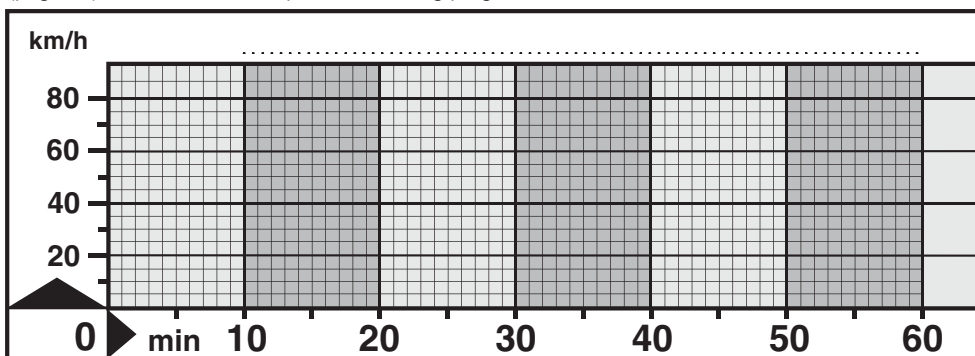
Training Programs

F

Supplement to the Individual Program / Ir *Copy samples*

The **speed Individual Program / Ir (page 29)** allows the creation and programming of special and personal training profiles in various speed levels (in 1 km/h steps).

Use the blank diagrams below as original to make copies. Then use the copies to draw the performance curves for the individual training profiles. Use these diagrams to guide you in the programming process (page 30), and to archive the personal training programs.



F

Training Programs

Gear Shift

Description

The gear shift of the *ergo_bike 8008 TRS*

The *ergo_bike 8008 TRS de luxe* is equipped with an electronic gear shift (derailleur) that provides committed athletes with a more realistic biking experience on the preprogrammed circuits. 28 speeds enable a linear shifting over the whole performance domain of the bike in road, off-road and triathlon biking.

The distance traveled per pedal revolution in the highest gear is **9.27 meters**. This corresponds to a ratio of **53:12** with a **28 inches wheel**.

The distance traveled per pedal revolution in the lowest gear is **3.57 meters**. This corresponds to a ratio of **42:24** with a **28 inches wheel**.

The table below gives the exact transmission ratios of the *ergo_bike 8008 TRS*.

Front gear / rear gear	Gear	Ratio	cm/revolution	Speed in km/h for		
				50 RPM	100 RPM	150 RPM
42 : 24	1	1.75	357.5	11	22	33.1
	2	1.85	388.2	11.6	23.3	34.9
	3	1.95	409.0	12.3	24.5	36.8
	4	2.05	429.7	12.9	25.8	38.7
	5	2.15	450.5	13.5	27	40.5
	6	2.24	471.2	14.1	28.3	42.4
	7	2.34	491.9	14.8	29.5	44.3
	8	2.44	512.7	15.4	30.8	46.1
	9	2.54	533.4	16	32	48
	10	2.64	554.2	16.6	33.2	49.9
	11	2.74	574.9	17.2	34.5	51.7
	12	2.84	595.6	17.9	35.7	53.6
	13	2.94	616.4	18.5	37	55.5
	14	3.03	637.1	19.1	38.2	57.3
	15	3.13	657.9	19.7	39.5	59.2
	16	3.23	678.6	20.4	40.7	61.1
	17	3.33	699.3	21	42	62.9
	18	3.43	720.1	21.6	43.2	64.8
	19	3.53	740.8	22.2	44.4	66.7
	20	3.63	761.6	22.8	45.7	68.5
	21	3.73	782.3	23.5	46.9	70.4
	22	3.82	803.1	24.1	48.2	72.3
	23	3.92	823.8	24.7	49.4	74.1
	24	4.02	844.5	25.3	50.7	76
25	4.12	865.3	26	51.9	77.9	
26	4.22	886.0	26.6	53.2	79.7	
53 : 12	27	4.32	906.8	27.2	54.4	81.6
	28	4.42	927.6	27.8	55.7	83.5

Transmission ratio: $1.75 + (\text{gear} - 1) * 0.098767$

distance in cm : Transmission ration * 210
(per pedal revolution)

Velocity in km/h: RPM * distance in cm
per pedal revolution * 0.0006

Training Programs

F

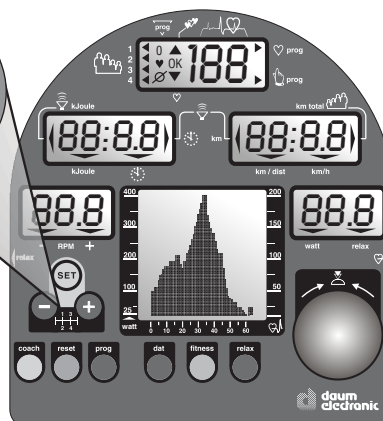
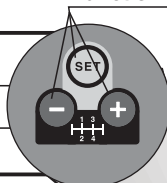
Gear Shift

Description

Functions / 28 Gears Shift

Press the Gear key (SET)		Activates and deactivates the gear shift system
press	Gear key +	shift to a higher gear
	Gear key -	shift to a lower gear

Function keys / Gear shift



Using the gear shift system

The gear shift (derailleur) is usable on the circuit profiles of Ironman Roth, Lanzarote, Hawaii and the "Tour de France" program. Wind and rolling resistance are integrated in the braking power of the ergometer to simulate real biking conditions, which provides for a very realistic training. In climbing situations, the inertia of the user is taken into account and related to the velocity in order to increase the resistance continually and gradually.

The user manual contains a graphical representation of the circuit profiles to simplify the utilisation of the programs. These diagrams (power profiles) are also displayed on the graphic display, and the actual training minute is indicated by a blinking bar which helps in following the progress of the program. This way you can prepare yourself in advance to the upcoming variation in the profile of the circuit and shift to the optimal gear at the right moment.

Manipulating the gear shift (derailleur)

The gear shift (derailleur) of the *ergo_bike 8008 TRS* is build realistically and is nevertheless functional. Shifting to a higher gear (a longer distance is traveled per revolution of the pedal, the resistance is tougher) is obtained by pressing the **Gear key +**

Shifting to a lower gear (a shorter distance is traveled per revolution of the pedal, the resistance is reduced) is obtained by pressing the **Gear key -**.

You should try to use the gear shift as directly as possible. The shifting operation occurs thus with a very short delay. To avoid strong variations of the resistance to pedaling, you should shift the gears "one by one".

The shifting process is controlled by a key bloc (see above). The gear shift system is activated by pressing the SET key of the gear system, and deactivated by pressing the same key at the end of the training. Shifting of the gears is done linearly **from 1** (smaller gear) **to 28** (higher gear) by pressing the **Gear key +** and the **Gear key -**.

Take into consideration that the optimal pedaling speed in "normal" training is about 90 to 110 RPM. A few situations deviates from this figures, for instance some special forms of endurance training (very low pedaling speed) or technical training (partially higher speed).

F Training Programs

Information about the programs

Starting a training program at a later point

Standard Selection Steps 1 to 3

- 1. reset** Press repeatedly until the arrow pointing to km total appears in window no. 4 (right side)
- 2. prog** press to change the program: Then turn until...
- 3.** Set the number of the required watt controlled fixed program 1 to 28, 42 to 44 under Prog (in Window No 1) or the number of the pulse controlled fixed prog. 29 to 38, or select one of the circuits roth, cona, lanc, and tdf (in window no. 2 - see pages 25, 42, 43).

Window no. 4 displays km total 3054

Window no. 1 displays a big Pr and the number of the selected prog. (e.g. nr. 15)

The power diagram corresponding to the newly selected program, for instance prog. no. 6, is displayed in the graphic window (window no. 6).

Simultaneously window no. 2 displays "00:00" for the watt and pulse controlled programs indicating the first minute of the program.

or window no. 4 displays "0" to indicate the first kilometer of the distance controlled programs roth, cona, lanc and tdf

4. Confirm program selection

Select the starting point (minute or km) for the fixed program "X" (in windows no. 2 and 4)

The pixel bar representing the new start point of the program blinks as a guide to help you control the setting process

Confirm the new starting point for the program

After the setting and confirming operation, the program proceeds with the option "Attaching Cool Down programs". You will find a description of the cool down programs and their setting on pages 38 - 39.

About the determination and entry of the weight and body fat content

- We recommend using a standard scale with body fat measurement capacity to determine the weight and body fat, daily if possible.
- These values should be entered daily into the dashboard computer as described on page 17 "Data and alarm values entry". Each value for the weight and the body fat will then be displayed over the last 30 days, as well as over the last elapsed year (see sample displays to the right).
- The data must be entered when the value has changed. Otherwise, the system will assume the data remained the same and will copy the last entered value over for the curve.
- The diagrams are displayed when the fitness values are recalled (see description page 22)
- If the many differing values of the data are entered on the same day then the last value entered before the date change is saved.
- You should double check each value entered for correctness, because entered data cannot be changed after a calendar day **unless all the previously entered weight and body fat data are completely erased!**
- The determination and entry of the weight and body fat are especially important when using the Coaching program, because the variation of the weight, as well as the body fat data, for the respective user, is taken into consideration for the planning of the training.

Sample display about weight and body fat measurement



Training programs

F

Team Award

Your perseverance will be rewarded

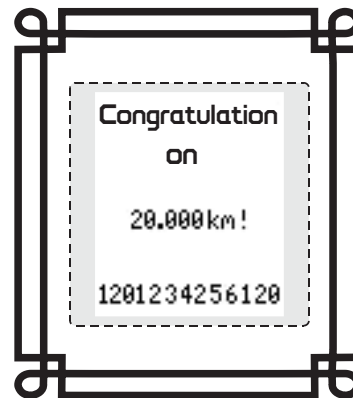
Take part in the



Team Award



When a user reaches a total of 1,000, 5,000, 10,000, and 20,000 kilometres, window no. 6 will display the following congratulation message:



Team Award awarding levels

1.000 km	5.000 km	10.000 km	20.000 km
----------	----------	-----------	-----------

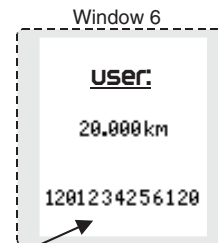
Afterward, The congratulation message will always be displayed for 5 seconds when the user number for which the award has been issued is selected.

If you send us the code number displayed on the lower part of 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 "Initialising" / Setting mode "Version" / page i2); 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 informations directly to our web page at www.daum-electronic.de, under the heading der "Team Award" (the simplest possibility), or send us an email to "TeamAward@daum-electronic.de", or send us a fax to +49 911 753714 or write to us at **daum electronic GmbH**,

Team Award department
Flugplatzstr. 100,
D-90678 Fürth



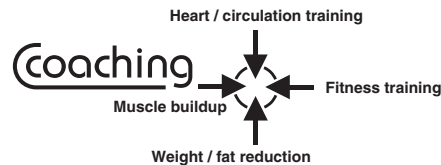
Code number for the Team Award



H

Coaching

Introduction



The “**Coaching**” concept introduces an intelligent training program offering the user four different training objectives to choose from (see illustration above). The computer takes charge of the supervision and control of the training.

Users have various interests. Some users may wish to practice a special heart and blood circulation training for health reasons, while others may prefer fitness training or weight and fat content reduction, or even muscular mass development.

The **ergo_bike** will compute and monitor an optimal training plan based on the age, sex, 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 and success.

The **ergo_bike** will input the physical condition of the user, and the training objective the user sets for himself, and produces the correct training plan automatically.

- Coaching means: “Set your training objective and start training”. Everything else will be individually adapted to the user.
- You can then visualise and follow the progress of the training, and the weight and/or body fat content reduction on the graphic display screen.
- Coaching is, when used properly and with discipline, a simple, very efficient, and logical program. The coaching program is the ideal training partner of any user who wants to train regularly with an ergometer.

It is important here to apply the program as much as possible in conformity with the training prescription issued by the computer for each of the users, no. 1 to 4, and that the training objectives selected by each user correspond to his needs. Every user using this program, with regular training and proper programming, will experience a positive effect on his fitness level and his general stand toward training with an ergometer.

This program has been developed by Dr. Müller-Hörner, a physician and triathlete, and integrated into the **ergo_bike software**.

Fundamental

The intelligent Coaching training program offers ergometer users the possibility to approach the training device without worries. The device takes care of all information and prescription to establish an optimal training model for the user. Instead of simply training “**haphazardly**”, users benefit from a professionally constructed training plan, taking into account their available time, their actual and individual capacities, and their personal objectives.

To optimally use this program you must take the following essential points into consideration:

- 1.** All programs and training profiles were developed for healthy people. Users wishing to use the Coaching program are required to invest a substantial amount of time, to demonstrate endurance and willingness to perform, and to be disciplined. **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 intelligent 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 own fitness level (see page 14 - Alarm value training frequency). 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 (see pages 14 and H3). 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 performance test at the start of the Coaching program, and then once every 4 weeks (see pages H6 / H12). The computer uses this test to determine the load prescriptions (e.g. the maximum load in watt and the maximum heart pulse 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.

**Very important!**

Please do not let your ambition pull you; you must absolutely avoid a physical overload. Interrupt the test immediately if you feel the effort required is too high!

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".
5. The user must make a very personal decision before the start of a coaching program; which training objective is the most important for him. The main objectives of the coaching program are: **heart / circulation training, fitness training, weight / fat content reduction and muscle buildup** (see also the overview diagram "Coaching" on page H1). The user will not have access to the control menu of the coaching program without making this personal decision and setting of the training objectives (see page H4 / setting the program).



Subsequent changing of the training objectives is only possible under the provision of confirming a safety message (see the note about the safety message "Warning: Delete all data?").

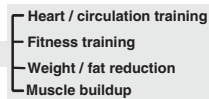
The data that will be deleted here are all the personal data and alarm values, as well as all the data stored about the training, weight, and fat content.

Preparing to training with the Coaching program

- Put on the **pulse sensor** (earclip) or the **Cardio sensor chest band** (pages 11 and T1)
- **Set the user identification number** (see pages 5 and 14)
- **Set the data and alarm values properly** (see pages 14 to 17)
- **Enter your personal performance evaluation** (see page H3)

A / First time training

- **Start the Coaching program** (see page H4)
- **Set the training type** (see page H4)
- **Display the training plan** (see page H5)
- **Display the training unit** (see page H5)
- **Take the performance test** (see pages H6 and H12)



B / Training after the performance test

- **Running the training unit** (see page H7)
- **Training control** (see page H8)
- **Training deviations** (see pages H8 to H11)
 - **Catching up with incomplete training units** (see page H9)
 - **Downgrading the program for incomplete weeks** (see pages H9 - H10)
 - **Completely downgrading the program plan** (see page H11)
 - **Training deviations / examples** (see pages H8 - H9)
 - **Training interruption / vacation, illness, etc.** (see page H11)
- **Training samples** (see pages H13 to H14)
 - **Heart-circulation training** (see page H13)
 - **Fitness training** (see page H13)
 - **Weight and fat reduction** (see page H14)
 - **Muscle buildup** (see page H14)

H

Coaching

Personal data entry

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 (ear clip), or the cardio sensor chest band (see pages 11 and T1), on.
2. The program must be assigned to a specific user identification number (1 to 4 / see pages 5 and 14 - User identification number selection). Otherwise, the entry of personal data and alarm value will not be possible.
3. Since the program depends on many personal and exact data, if possible, **all the required data and alarm values** (see pages 14 to 17) must be entered **before starting the program 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 based on other data such as the **training type**, the **training plan**, and the **training control**. 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 About entering the alarm values / pages 14 to 17

The users must evaluate their very personal performance capacities (in 4 levels) in connection with the selection of a user identification number and the entry of the required personal data and alarm values, particularly needed for the utilisation of the coaching program. The directions provided in 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. In this case we recommend selecting the beginner (0) category. 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.

Coaching

H

A / First Time Training

1. Start the Program

reset
1. Press repeatedly until the arrow pointing to km total appears in window no. 4 (right side)

Window No. 4 displays
e. g. km total 3054

coach
2. press 1 x

Window No. 6 displays

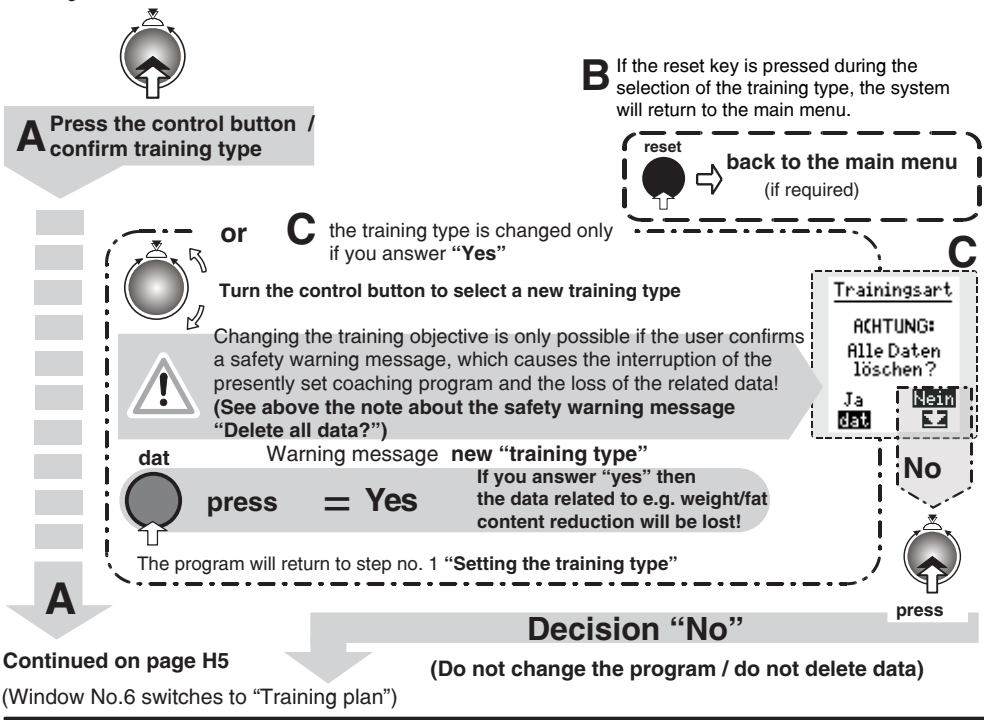
e.g. of training objective / training type weight and/or fat content reduction

1. Setting the training type

see the graphic display (window no. 6) page L1

With this setting the user determines his basic training objective and thus the type of program profile.

! **This setting cannot be changed during a training plan!**
This setting can be changed only after confirming the safety message "Delete all data?" (see C below). If this message is confirmed by pressing the **dat** key (no. 11), 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.




H

Coaching

Displaying the Training Plan and Training Units

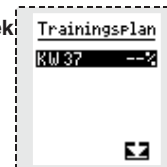
2. Display the training plan / display performance test & starting week

When the required training objective is confirmed, the system **displays the training plan when starting a new Coaching program bloc**. The week corresponding to the actual day date (real calendar date) will always be highlighted (in our example week 37).

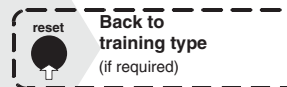


Display sample for advanced training

In the actual week no. 38, 33% (one training unit of a total of 3 training units per week) of the weekly training plan is filled (run). Week no. 37 is already completed and the training plan prescribed by the computer has been 100% filled.



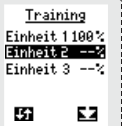
B.1 If the reset key is pressed while the training plan is displayed, the system will return to the display of the training type selection.



3. Displaying the training unit

Once the start week is confirmed (e.g. week 37), the system displays the **“training”** screen about the training unit **when starting a new Coaching program bloc**.

The user can take the **evaluation test** (program no. 1 - performance test according to WHO standards / see pages H6 - H12), after confirming the message **“test --%”** displayed in the **“training”** screen (training units).



Sample display for advanced training

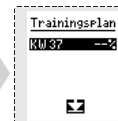
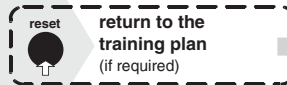
The sample screen to the left shows a situation where one training unit, out of the total units required in one week, is completed to 100%. The second training unit is not yet complete. This second unit must then be executed next and completed to 100%.

continue to taking the evaluation test



When setting a new Coaching plan the program proceeds automatically to the evaluation test (program 1) and requires the user to take the test.

B.2 If the reset key is pressed while the **“training”** is displayed, then the system will return to the display of the training plan selection.



Coaching

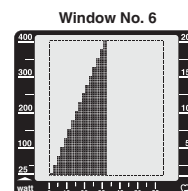


Performance test

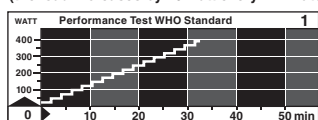
4. Taking the performance test (program 1)



When you start the training the system displays the diagram of the first program selected by the computer for "training unit 1".



(the load increases by 25 watt every 2 minutes)



Performance 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 "coach" key after completion of the test



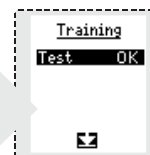
You will find a precise description of the program profile for the performance test on page H12.



In order to take the test with success you must be physically able to run the test to at least 75 watts, i. e. to complete the first 6 minutes of the test. Otherwise, the test will be flagged as "not taken", and further training with the Coaching program will not be allowed. If this happens to you, please take the test another time and run it to at least 75 watts. This load value lies below the average popular capacity and is within the reach of every healthy adult according to medical research. If you find it difficult to go beyond this limit then you should not proceed with the Coaching training! In this case, you should undergo a medical health check and discuss with you physician before continuing your training with the ergometer. The "Coaching training" is designed for healthy persons!

The evaluation test is complete when the user reaches the upper load limit 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 the end to 400 watts (**normal case!!**) and will interrupt the test by pressing the "coach" key because he lacks the strength or to avoid an overload (**see the warning about program 1 and the training with the ergometer in general**). After the evaluation test is taken the system will display "OK" as a confirmation of the completed evaluation test. This confirmation "OK" will be displayed whether the program was run completely to 100% or not. The program will include the actual performance values in the determination of the personal training plan, and compares them with the test results of the performance tests taken at 4 weeks interval.

When window no. 6 displays "test" highlighted and followed by "OK", this means that the evaluation test and the first calendar week are completed and the user **can begin the normal training plan starting in the next week.**



The evaluation test is for every user a relatively high effort. Therefore, the first training week includes this performance test as the only training unit. The normal training profile comprising 3 to 7 training units (per week) begins in the following calendar week. The actual coaching program can only start on Monday of the following week. Users who want to start the coaching training immediately after the test, will have to wait until the next calendar week has started. Obviously, users are free to train with other programs and to run them outside of the coaching program, provided they have the proper fitness and endurance level.

5. Completing the training units

reset 1. Press repeatedly until the arrow pointing to km total appears in window no. 4 (right side)

Window No.4 displays
e. g. km total 3054

Users / km total
km total (km/h)
3054
km / dist km/h

coach 2. **press** 1 x

only if another setting is required!
Set another training type
see the graphic display (window no. 6) page H5

turn

displays the menu about **training type** see Graphic display (window no. 6) to the right

Window No. 6
Trainingsart
Herz/Kreisl.
Gewicht/Fett
Kondition
Muskelaufbau

The display on the graphic screen switches to **"training plan"**, and displays the actual situation.

confirm the selected training type, e.g. **"weight/fat"**, by pressing control button no. 6

press

The training program (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%.

press

the display on the graphic screen switches to **"training" (training unit)**, where the actual situation is displayed

Trainingsplan
KW 37 100%
KW 38 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).

e. g.

Training
Einheit 1 100%
Einheit 2 --%
Einheit 3 --%

The screen displayed in window no. 6 shows that the first training unit (unit 1) of the actual week has been completed to 100% (see training plan / week 38). No training activity has yet been completed for the second training unit. The program is ready to run this training unit.

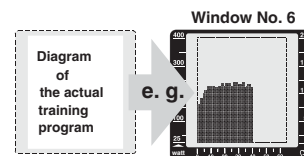
Window No. 6

When the user confirms the selected training unit, the training starts with the display of the screen corresponding to the respective program (load diagram or pulse rate display).

Starting the training unit



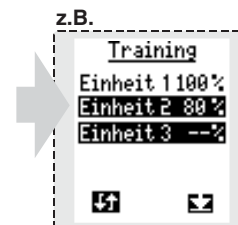
When you start the training the system displays the diagram of the first program selected by the computer for "training unit 1".



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 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 and only the actual unit remains selected.

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



Training control

The control of the training is coupled with the clock module in the dashboard and follows the real date. Generally speaking, the user should have the possibility to decide when and how often he wants to train in the week, instead of being only directed by the program. If it should become clear during the training that the user does not have the time and endurance, or even the physical fitness, that the Coaching program requires, there is a possibility to modify the program course so that the particular user can run it. This kind of program correction is also needed in the case of training interruptions because of illness, vacations or any other difficulty.

The user follows all the prescriptions and respects the training plan to the end:

This is the desirable goal of the Coaching and it means that the user is carrying out all the prescribed training units and is achieving his training objective with success, such as weight reduction, improving his fitness level, muscle buildup, or to strengthen his cardiovascular system with measurable results.

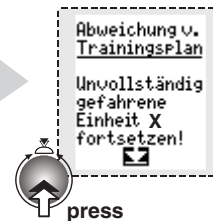
The user does not follow all the prescriptions and is prevented from completing the training because of vacations, illness, etc.:

The possibilities of correcting the program, or of downgrading the scheduled plan, mentioned above are intended for this situation; they enable recovering the training and avoid completely interrupting the training program. You will find exact description of this procedure under “**Deviations/training plan**” and “**Downgrading**” (see below and pages H8 to H11).

Control in the case of deviations from the prescribed training plan:

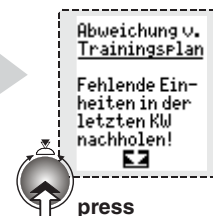
If a training unit (TU) is not completely run:

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 unit 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:

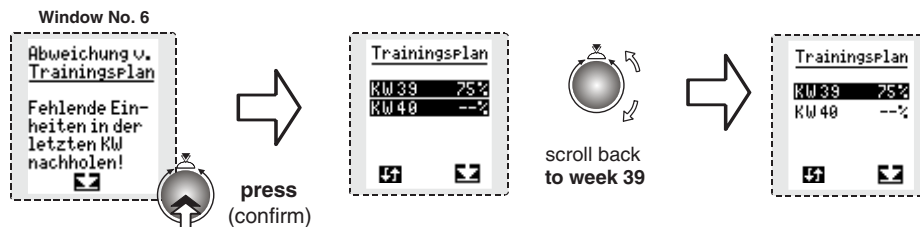
The message to the right will be displayed at the start of the following week, after the selection of the training type and before the training plan. It is confirmed by pressing the control button. This message will not be displayed as soon as the missing training unit(s) is (are) completed.



Deviation from the Training Plan

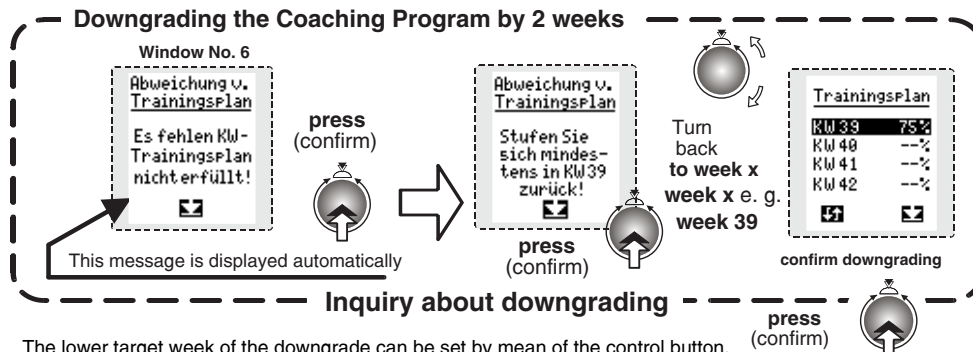
Training deviation / Catching up the incomplete training unit

In the case of training interruption, you have the possibility to **downgrade** the training plan using control button no. 6. It is allowed to select one or several previous weeks (backward scrolling); on the other hand, it is not allowed to select a higher week. Before the start of every training session, the computer runs a review of the training status and displays the results on the graphic display (window no. 6), 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.



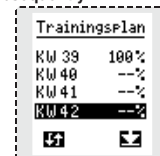
In the situation described here, the previous week (e.g. week 39) will remain selected (highlighted) until the missing 25% training units are completed and week 39 is complete to 100%. Only then will you be allowed to start the training of the actual week 40. The highlighting (selection) of week 39 will be removed when the value reaches 100%.

If the training is interrupted for a longer period (1 to X weeks) because of an illness or vacations, it becomes then impossible to catch up with the missing training units in a short period of time. 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.

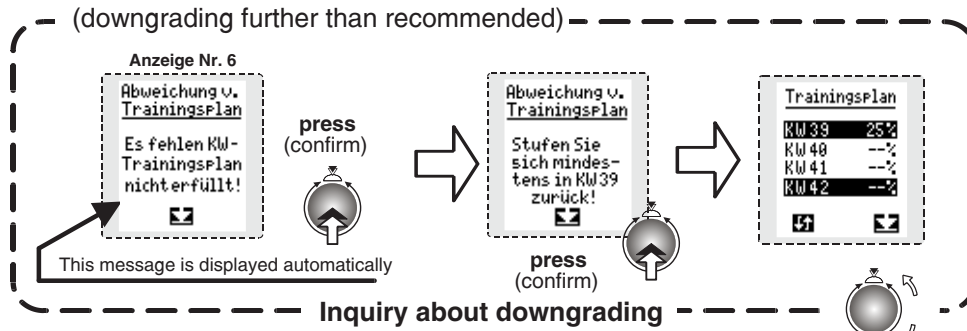


The lower target week of the downgrade can be set by mean of the control button. When a downgrade is confirmed, all the weeks downgraded, which were already completed, and all their training units will be reset to "0%". Only the completed units of the week to which the downgrade is done (e.g. 75%) will 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 100% completed. Only then can the training resume with the actual week (e.g. week 42).

missing training (25%) units completed subsequently



Downgrading the Coaching program further than recommended



If, following an interruption, a downgrade is done to a week with partially completed training units (e. g. only 25%), then the user will first have to complete the missing training units to 100%. This represents a considerable extra load for the user, particularly if he is weakened by an illness. Because the missing training units (e.g. 75%) of the incomplete week 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) (totaling 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 - window no. 6 - illustration to the right). **Consequently, the training profile will be extended by 3 weeks.**

The screen shows that the training can resume in the actual week (42) without running the partially completed training of the week 39 when the training plan is downgraded one more week to the 100% completed week 38.

Start the training unit in week 42



The downgrading display (e. g. to week 38) is removed when the actual week (e. g. week 42) is completed to 100% and a normal training plan is again displayed (see below to the right).

From now on the training continue normally, i. e. a new week plan will start in week 43 as soon as week 42 is completed to 100%.

scroll
back
to week x
week x e. g.
week 38

Trainingsplan	
KW 38	100%
KW 40	--%
KW 41	--%
KW 42	--%

Trainingsplan	
KW 38	100%
KW 40	--%
KW 41	--%
KW 42	100%

Trainingsplan	
KW 42	100%
KW 43	--%

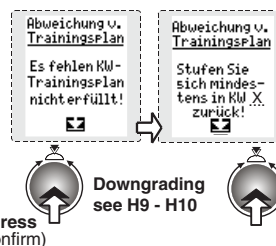
H

Coaching

Downgrading

The user is on vacation and does not train for one or several 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 H9 and H10 in the case of an illness, prolonged absence, many missed training sessions, etc.



Notes about downgrading in the case of training interruption:

We advise beginners or the lesser active sportspersons, 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 it is 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 to restart a Coaching plan from the beginning, particularly for beginner users.

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 possible 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).

Coaching



Performance Test / Fitness Evaluation

Aptitude or Performance Test / following WHO-Standard (program 1)

The fitness test is taken at the very beginning of the Coaching and before the first training unit, to establish your personal aptitude to physical effort. Afterwards, the test is taken once every 4 weeks, and will be requested by the program menu. The Coaching plan will then be individually adapted to the capacities of the user based on the new test results.

About the evaluation test and the tests in the training profile:

1. You should avoid extreme efforts on the day before the test and on the day of the test.
2. Sleep sufficiently before the test.
3. You should postpone the test if you feel ill (e.g. cold with fever). If you are unsure, consult a physician.
4. For your own safety, you should consult a physician to evaluate your aptitude to physical effort and to clarify your personal risks.

You must wear, and enable, the Cardio sensor chest band or the pulse sensor (ear clip) to measure the pulse rate during the test (program 1 - 25 watts WHO standard - see diagram below).



The **WHO-Test** begins with a load of 25 watts. The load is then increased by 25 watts every 2 minutes.

Please keep a pedalling speed of 65 to 80 RPM during the test. Very strong users can also pedal at about 80 to 100 RPM.

Stop pedalling when you feel tired and exhausted (**avoid overloading!**), and confirm the end of the test by pressing the Coaching key!

There is also another possibility to terminate the test. When your pulse rate reaches a limit corresponding to your age, sex, performance capacity, etc., the ergometer will automatically interrupt the load!

All the performance values will be stored by the ergometer.

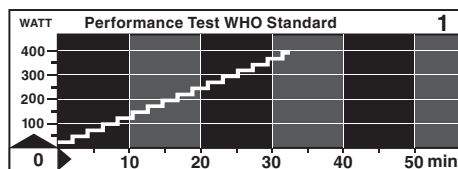
The coaching program will be developed based on these values and individually adapted to you.

After the test the screen will again display the training units completed in the actual training week.

The display (see window no. 6) corresponds to the diagram below.

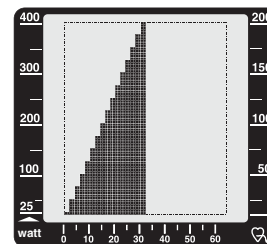
The load curve is displayed on the screen. When this program is run, the highest watt value of 400 watts is reached in 32 minutes.

(the load increases by 25 watt every 2 minutes)



Do not exceed your personal load limit!
Stop training immediately if the load / effort is too high.

Window No. 6



Program 1

Performance Test 25 watts / WHO Standard

32 Min. / max 400 Watt

Run this program under test conditions.

A melody is played upon completion of the test.

Press the “**coach**” key at the end of the test to confirm.





Training profile / pace

After the first training units are completed, the user should take a personal pace to be able to run the following training units as prescribed by the program, in a comfortable schedule and without hurry. Otherwise, this would have a negative impact on the whole Coaching training, since it will cause many irregularities, interruptions, and general frustration.

Coaching Training Samples

Sample training weeks with the 4 Coaching programs:

(Since all the Coaching programs will be adapted to your own needs and capacities, the sample weeks presented in the following section would only in exceptional cases correspond exactly to your own individual training weeks)

The program of heart/circulation (cardiovascular) training is the one with the lower load pattern of the 4 Coaching programs. The objective of the training is to lead to a healthy increase of the capacity of your cardiovascular system.

1. Heart - circulation training: (sample with 3 training units per week)

At the beginning of the training:

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

After about 24 weeks of training:

1. Unit: cardio-vascular training for 45 min with low heart pulse rate.
2. Unit: pulse controlled fixed program with individual pulse rate prescriptions.
3. Unit: fixed program no. 4 for 35 minutes.

The program about **fitness training** is a classic among the 4 Coaching programs. It helps you achieve endurance and fitness. It focuses on low intensity, somehow longer training units.

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

At the beginning of the training:

1. unit: fixed program no. 3 for 33 minutes.
2. unit: 30 min pulse controlled fixed program with individual pulse rate prescriptions.
3. unit: fixed program no. 12 for 25 minutes.
4. unit: 35min training at the individual endurance pulse rate.
5. 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 in page H12.)

After about 18 weeks of training:

1. unit: 50 min training at the individual endurance pulse rate.
2. unit: pulse controlled fixed program with individual pulse prescriptions.
3. unit: fixed program no. 4 for 35 minute.
4. unit: pulse controlled fixed program with individual pulse rate prescriptions.
5. unit: fixed program no. 17 for 53 minute.

Training Samples

In the program about **weight and fat reduction** training units are composed very carefully, so that they are run with a low heart pulse rate but for 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 calory 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.

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

At the beginning of the training:

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

After about 21 weeks of training

1. unit: 50 min training with low heart pulse rate to burn fat.
2. unit: pulse controlled program with individual pulse rate prescriptions.
3. unit: fixed program no. 17 for 53 minutes.
4. unit: pulse controlled program with individual pulse rate prescriptions.

The program about **muscle build up** is designed for women and men who want to develop their body beside improving their 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 buildup in a proportional way. This is the most physically demanding of all the Coaching programs.

4: Muscle buildup (sample training for 6 training units per week)

At the beginning of the training:

1. unit: fixed program no. 3 for 33 minutes.
2. unit: Strength programm for 20min for muscle build up.
The strength program is described on page 31 .
3. unit: 20min pulse controlled fixed program with individual pulse rate prescriptions.
4. unit: Strength programm for 25min for muscle build up.
5. unit: fixed program no. 7 for 43 minutes.
6. Test for re-evaluation and determination of your personal heart pulse rate at training.

After about 11 weeks of training:

1. unit: fixed program no. 5 for 38 minutes.
2. unit: Strength programm for 40min for muscle build up.
3. unit: 35min pulse controlled fixed program with individual pulse rate prescriptions.
4. unit: Strength programm for 35min for muscle build up
5. unit: pulse controlled fixed program with individual pulse rate prescriptions.
6. unit: fixed program no. 8 for 45 minutes.

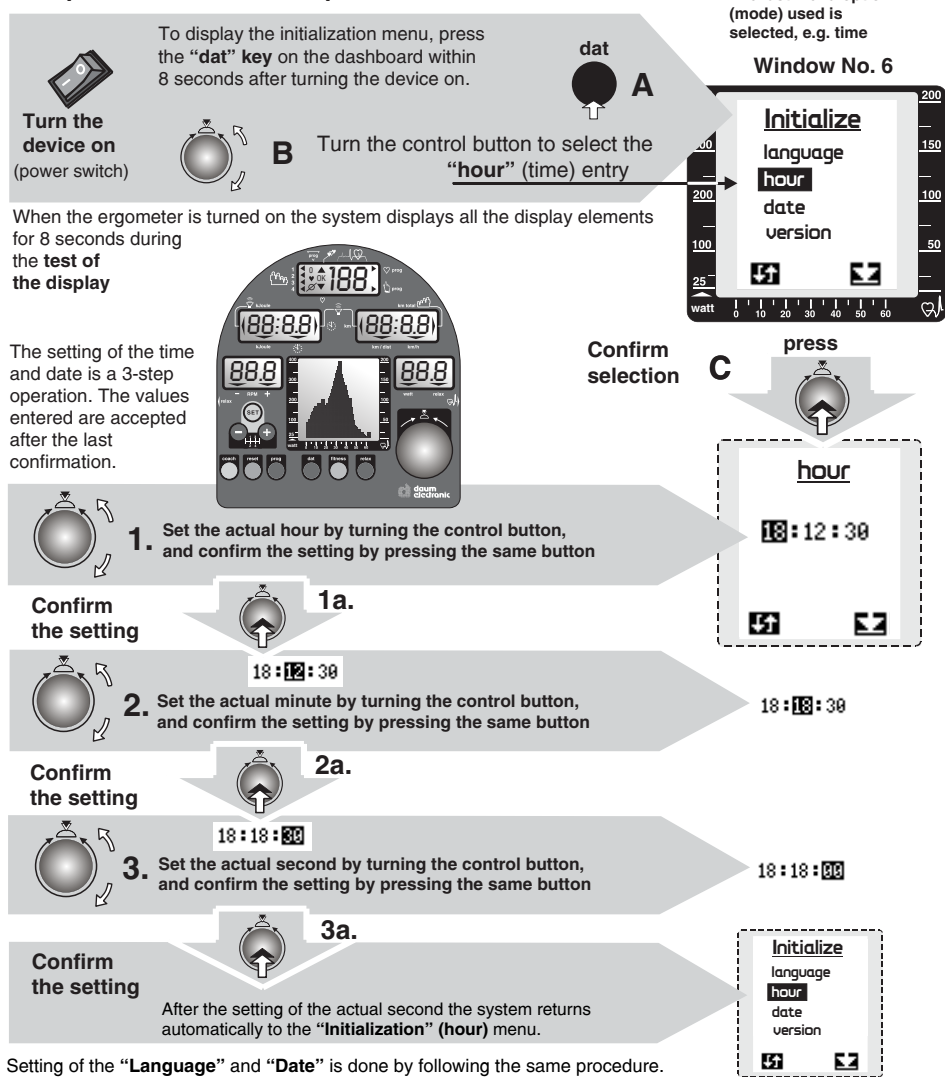
You should keep a pedalling speed of 60 to 80 RPM with the strength program, which corresponds to the requirements of the coaching program.

Initialization

Setting the language, time, and date

Setting the time and date is needed to support the execution of the intelligent training programs, particularly the Coaching program. Therefore, the control software of the computer-controlled dashboard of the new *ergo_bike* has a special menu for all the setting and basic functions needed to support the automation process and must be set as a background for the ergometers programs. This menu allows also to review some important parameters. This menu option is supported by the central graphic display (see pages L1 - L2).

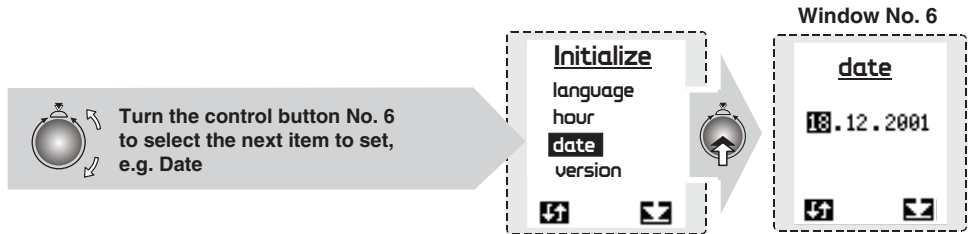
Set up menu, Initialization option



Initialization

Menu control

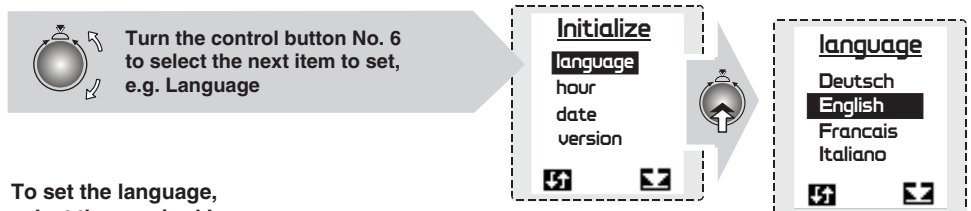
Training



If you want to change the date setting



To set the date follow the same sequence as for setting the time (1 to 3)



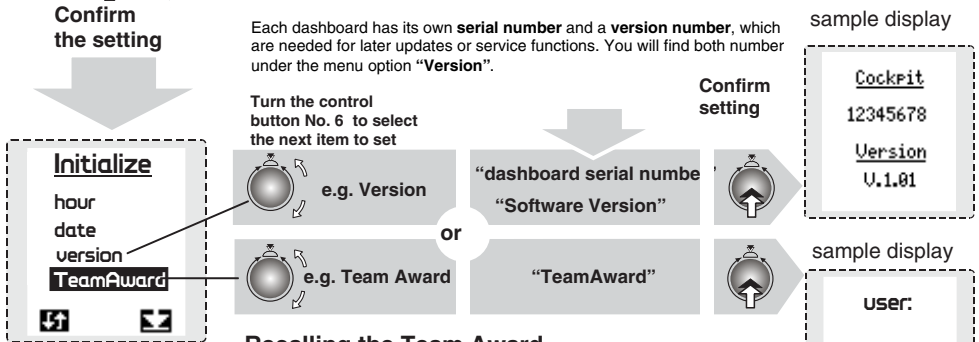
If you want to change the language setting

To set the language, select the required language then confirm the selection



Select the language to use by turning the control button No. 6

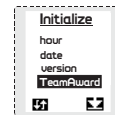
Confirm the setting



Recalling the Team Award

The status of each user with the Team Award can be viewed under the menu option Team Award.
As long as the total number of kilometres covered is still less than 1000 km the display will only show the symbol "-/-".

return to the main menu
(if required)



return to Initialization

Press the dat key to leave the initialization menu.



LCD Graphic Display

Miscellaneous

Description

Graphic Display

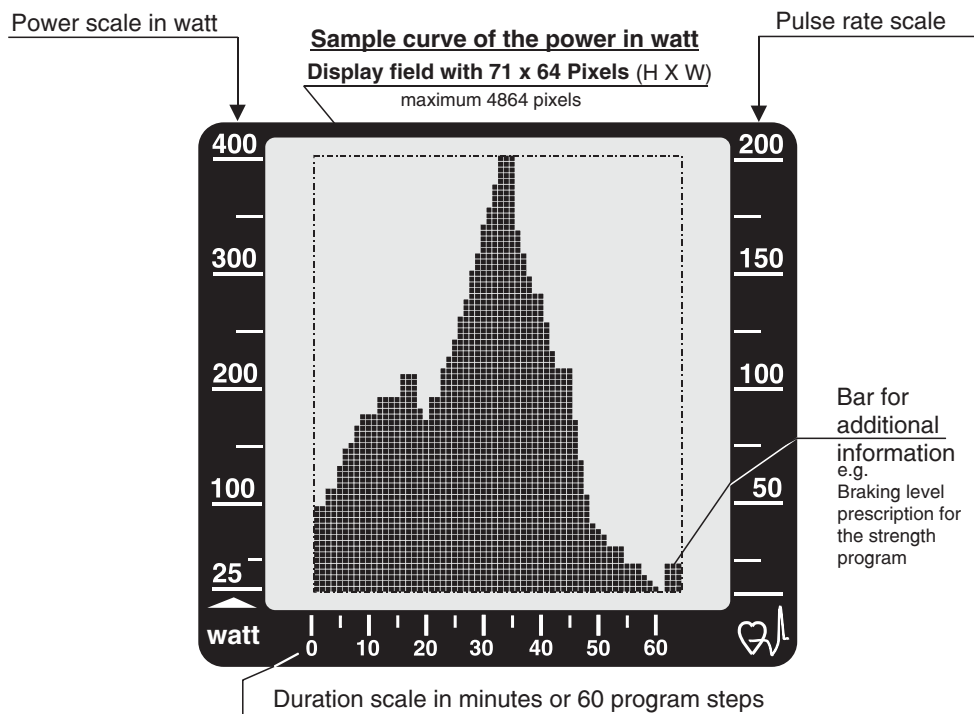
The LCD graphic display is located in the centre of the dashboard; it is used to simplify the device operation and to represent training profiles. It also allows the entry of the user data without errors and easily using a menu control system. The 4800 picture elements (pixels) permit the representation of the whole power range in 5 watts increments. The training duration is represented on the screen at 1 minute interval.

The scale at the left side of the display (window no. 6) is graduated in watt. It permits to read absolute watt values from 25 to 400 watts. When the load exceeds the value of 400 watts on the **8008 TRS** the graphic display switches automatically to a compressed display mode. In this mode, the display shows one pixel per 10 watts, instead of one pixel for 5 watts. Consequently, the height of the curve is reduced to one half. The display range is now of 25 to 800 watts, instead of the 25 to 400 watts shown on the scale on the left side. After the switch to the 800 watts mode, the value 100 on the scale actually means 200 watts, the value 200 means 400 watts, the value 300 means 600 watts and the value 400 means 800 watts.

The scale at the right of the display is the pulse rate scale. It permits to read absolute pulse rate values from 40 to 200 pulsations per minute.

The lower border of the display window has the training duration scale, which is graduated from 0 to 60 minutes or training steps.

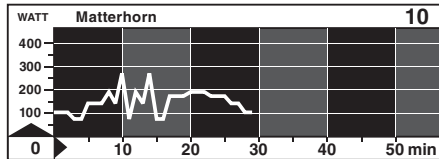
Visualizing training status and profiles



LCD Graphic Display

Description

Below is an example for the representation of the diagram of one of the fixed programs of the ergometer.

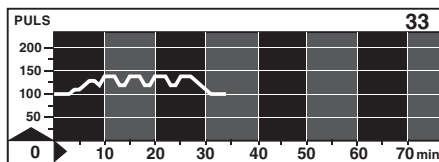
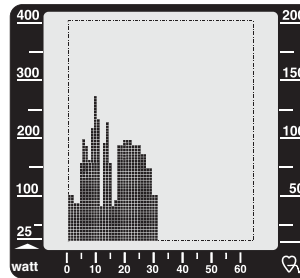


Program 10

Matterhorn

30 Min. / max 270 Watt
for trained users

e.g. Program 10
Watt display

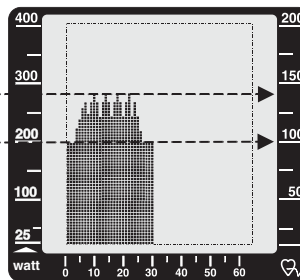


Program 33

Basic endurance

35 Min. / max. 140 pulsations / min.
Endurance training for women and men
with little training experience.

e.g. Program 33
Display of the pulse rate



e.g. pulse variations of
40 pulsations/min

Below are some display samples for the most important functions and program status, as they are displayed on the graphic display when entering personal data, selecting a program and operating through menu control.

Personal data / entry
of an alarm value

data user I

sex
M F

Selection of a user
identification number

User:
guest
1 2 3 4 0

Selection of a
fixed program

**cardio
program**

Setting training type
(Coaching program)

train. type
heart / circul.
weight / fat
condition
muscle build

Viewing training plan
(Coaching program)

training plan
week37 100%
week38 33%

Recalling
fitness values

Fit. values
Ø - kmh 25,3
max-kmh 37,8
time 37,58
distance 12,75
Fitness

Visual representation
of weight reduction

Weight

year

Initialising / setting
time, date, etc.

Initialize
language
hour
date
version

Team Award

User:
20.000km
1201234256120

Information about the serial
number and other codes

Cockpit
12345678
Version
U.1.01

M

Assembly

Installation Hints

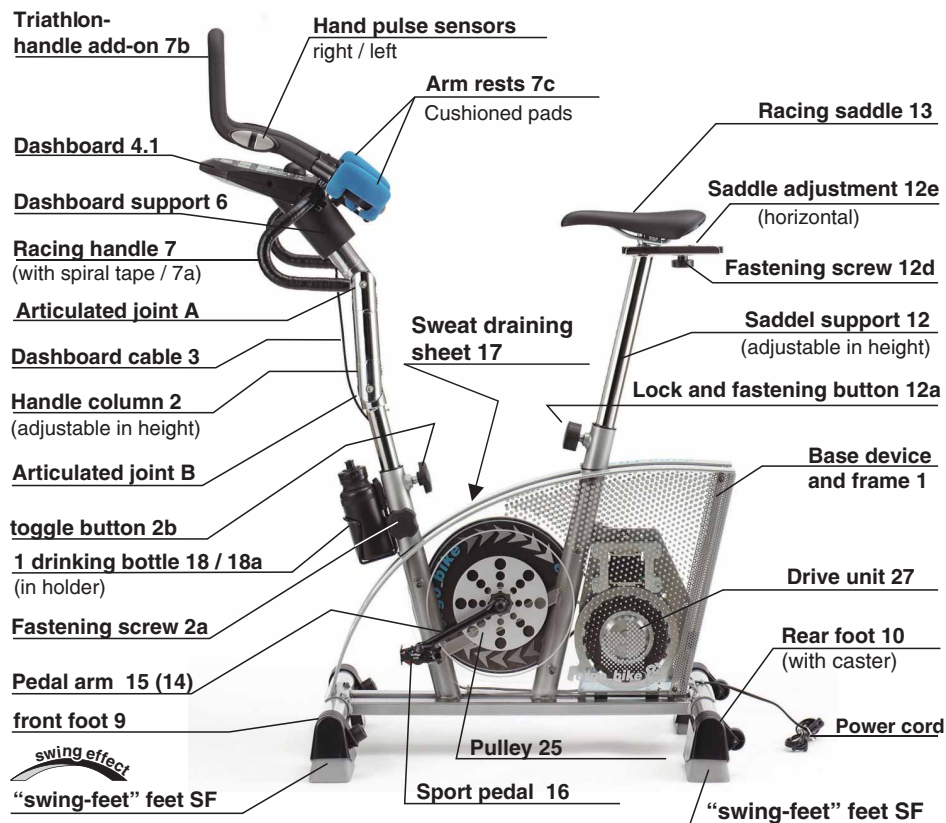
Miscellaneous

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 220 to 240 Volt, 50/60 Hz and has a power consumption of 50 Watt. The power supply you wish to use must fulfill these requirements!

Any defect or deficiency of the device that could have an impact on the safety should absolutely be corrected immediately. Defective or broken parts should be replaced immediately (see spare parts list on pages W3/W4). In the case of a defect, the device should not be used until it is completely repaired.



The cable of the handle column must be driven carefully into the front tube of the frame, to avoid damaging or crushing it. Also, you should never use force to insert the handle support column into the frame tube.

Assembly

M

Unpacking / Contents

Contents of the box

The package contains all the parts necessary for installing and using the *ergo_bike*, including the required tools.

Please make sure no parts are missing!

When unpacking the parts, make sure you remove them carefully from the cardboard box, not only to avoid personal injuries, but also to avoid any damage or loss of parts.

The package contains:

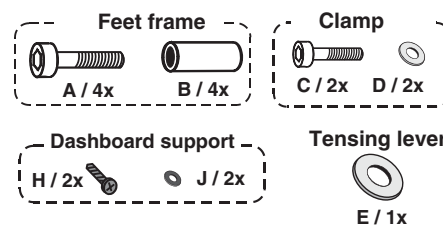
- 1 *ergo_bike 8008 TRS* base device (with mounted pedal arms)
- 1 Racing saddle
- 1 Saddle support with adjustment
- 1 Dashboard with support plate, clamps
- 1 Dashboard support (cover / clamps)
- 1 Tensing lever
- 1 Racing handle with wrapping tape
- 1 Triathlon handle add-on with hand pulse sensors including mounting part
- 2 Cushion rests with fastening screws
- 1 adjustable handle column with dashboard cable
- 2 Feet
- 4 "swing feet" feet
- 2 Racing pedals
- 1 Drinking bottle with holder and mounting screws



8008 TRS Contents of the box

Hardware:

- 4 Recessed head screws M 8x50 (A)
- 4 spacer sleeves 12 \varnothing x 32 mm (B)
- 2 Recessed head screws M8 x 40 (C)
- 2 Washer DIN 125 8.4 (D)
- 1 Washer DIN 125 8.4 (E)
- 2 Screws sw DIN 7971 2.9x13 (H)
- 2 Washers DIN 125 3.2 (J)

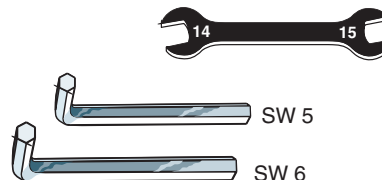


Tools

- 1 Wrench 14/15 mm
- 1 Allen wrench SW 5
- 1 Allen wrench SW 6

Accessory

- 1 Pulse sensor earclip
- 1 Relaxation sensor
- 1 Software-update-cable
- 1 User manual



M

Assembly

Installation hints

Short Description

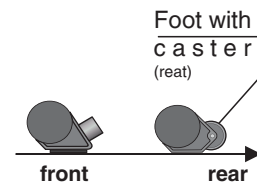
1. Assembling instructions / Installing the feet

Required hardware: 4 x recessed head screws A **SF = "swing feet"***
4 x spacer sleeves B (see pages M4 to M7)

Required tool: Included SW6 Allen wrench

1.1 Pull the main device from the package and put it down in an upright position.

1.2 Please take the type of foot into consideration!
- Install the **foot with roller casters** at the rear
(under the U-shaped perforated plate)
- Install the **foot with adjusting screw** at the front
The caster and the adjusting screws must be pointing to the rear!



Montage

1.3 SF = "swing-feet",* if you wish to install this optional accessory, can be mounted before or after the feet are assembled (see the description on pages M4 to M7).

1.4 Slide each of the **spacer sleeves B** around one of the **4 recessed head screws A** respectively.

1.5 Lift the rear of the main device and rest it on the frame's front cross bar in order to mount the rear foot.
(We recommend letting a second person help lift and hold the device.)

1.6 Put the foot with casters in the rear crossbar and align the holes to the threads in the crossbar.

1.7 Insert the first **recessed head screw with spacer sleeve** into one of the holes and screw it in lightly (not tight).
Do not tighten the screw yet, and do not use force to screw it in!

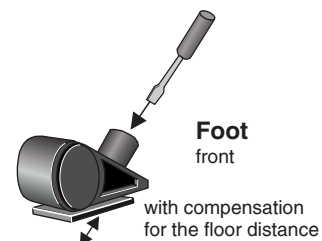
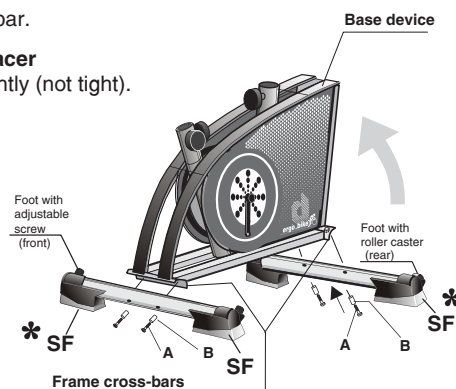
1.8 Repeat this operation with the second **recessed head screw with spacer sleeve** (as described under step 1.7).

1.9 Tighten the recessed head screws.

1.10 Lower the device with the attached rear foot, and lift it in the opposite direction (to the rear).

1.11 Proceed with mounting the front foot in the same sequence described in steps 1.5, 1.6, 1.7 and 1.8

1.12 If the *ergo_bike* is installed without the "swing feet" (SF) on an uneven floor, use a screwdriver to adjust the compensation setting in the front feet to ensure a stable stand.

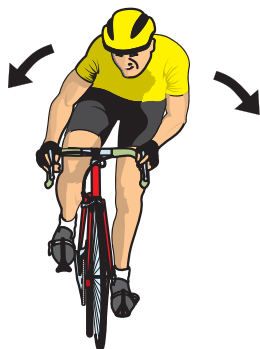


Assembly

M

Accessory / "swing foot"

Description

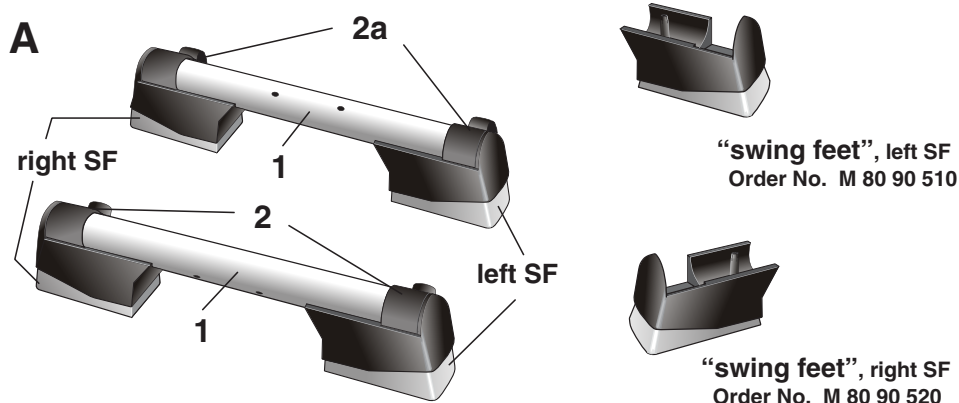


The oscillating movements occurring naturally with real bikes cannot normally be reproduced when training on an ergometer. These movements include balancing movements or back and forth oscillations. The rigid construction, and the fixed feet used to support the device prevent any dynamic movement. Also,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



The **swing foot** technology was developed to address this shortcoming. This is done by partially absorbing the dynamic load generated by the "biking" effort, and allowing the typical "biker's oscillation". Thus, the user experiences the natural biking swing with the corresponding dynamic balance behaviour. Moreover, noises and shocks are reduced, and frictional loadings to the floor are minimized.

Fig. A: *ergo_bike* foot set with support feet (1), standard feet (2 adjustable/front and 2a with caster/rear) and installed "swing foot" (right SF/left SF).



M



swing effect

All *ergo_bike* ergometers come equipped with the new “**swing feet**” technology. The device can also be used without the “**swing effect**”. For this you must remove the installed “**swing feet**” (see the description on the back of this page).

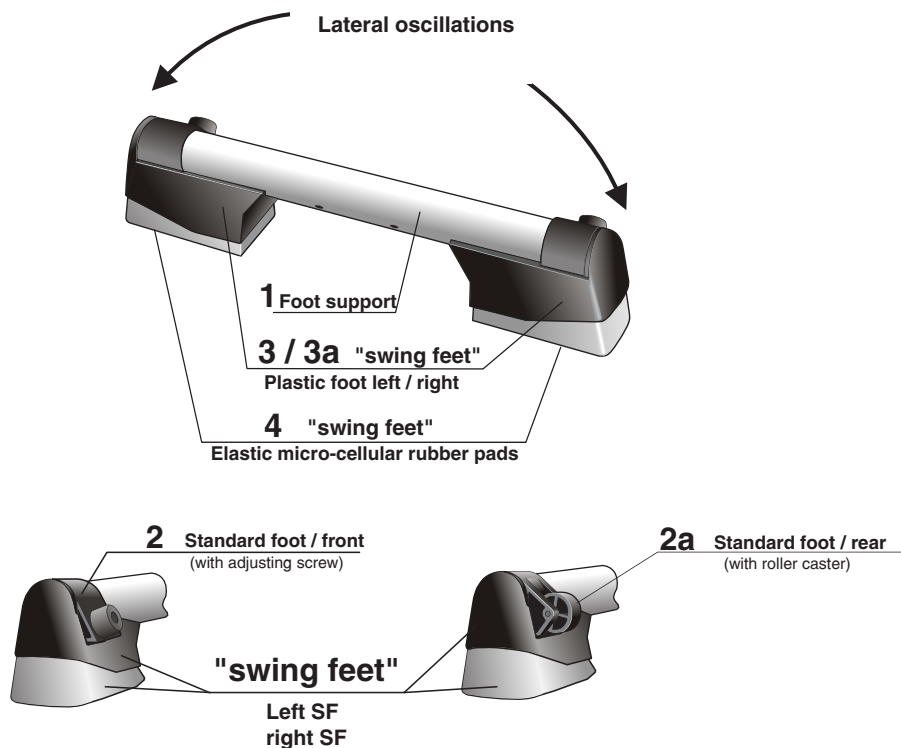
“**Swing effect**” Benefits and features

- **Comfortable suspension**
- **Prevention of muscular tension**
- **Soft swing movements in all directions**
- **Joints protection by the way of reduced pressure and chocks on intervertebral discs, vertebral joints and on the cartilages in the articulations of the feet and knee**
- **Exceptionally silent operation**
- **Optimal training, close to real biking conditions**
- **A totally new training experience, and a decisive step toward optimal training with minimal overloading risk**
- **Frame and drive parts protection**
- **Minimizing the frictional load on the ground (floor)**

ergo_bike ergometers can be set to **swing** (oscillate) or to **stand still**, and they can be easily moved on the **integrated casters**.

“swing feet”

Operation and mounting of the “swing feet”



It is possible for the elasticity to drop or be insufficient if the swing feet (left SF/right SF) are used for an extended period, or when an overweight person uses them. If the user is overweight (more than 100 kg), then the bike should be used with the standard feet (2/2a), i. e. without swing feet, or with the optional larger reinforced swing feet.

Therefore we recommend doing an evaluation of the elasticity of the swing feet upon reception and at regular intervals. The plastic feet (3/3a) must never touch the floor while training. If this is not the case, then the micro-cellular rubber pads (4) are worn out and the swing feet must be replaced. If the user is too overweight, then he/she should exercise only with the standard feet (2/2a), i. e. without the swing feet.

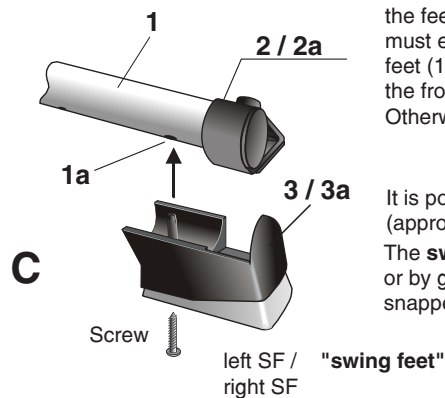
The manufacturer is not liable for any damage done to the floor as a consequence of installing the ergometer. The user must carefully choose the location for installing the ergometer such that no damage is inflicted on the floor. If in doubt, we recommend installing an appropriate base (underlay).

M

Assembly

Description

ergo_bike swing effect feet / Assembly

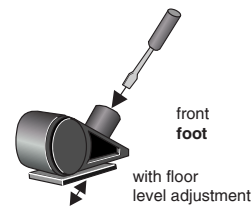


The **swing feet** (right SF and left SF/fig. C) are attached to the feet from underneath. The pins of the plastic feet (3/3a) must engage in the corresponding holes (1a) of the support feet (1) below the standard feet (2/2a). The adjusting pin of the front standard feet should be completely screwed in. Otherwise, the swing feet cannot snap into place.

It is possible to attach the **swing feet** with screws (approx. 4.5x30mm) to improve the stability.

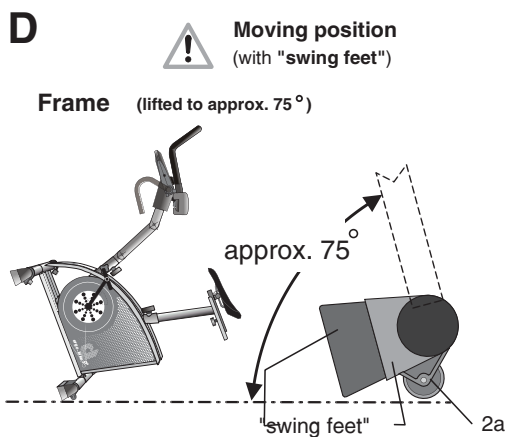
The **swing feet** can be removed by simply pulling them out or by giving them a sharp rap, provided they are only snapped in position.

When using the *ergo_bike* without the **swing feet** on an uneven floor, use a screw driver to adjust the pin of the front standard feet (see fig C.1) to achieve an even stand.



C.1

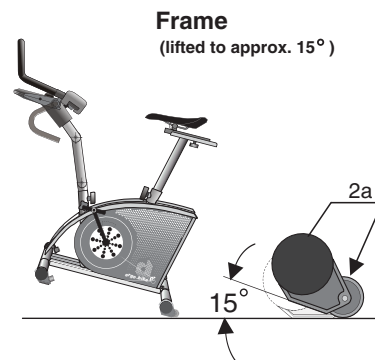
The rear standard feet (2a) are equipped with roller casters to ease moving the ergometer. When the **swing feet** are installed, (left SF/right SF) the device must be raised to a relatively steep angle (approx. 75°/Fig. D) to bring the roller casters in contact with the floor. Without **swing feet** raising the frame to an angle of approx. 15° (Fig. D.1) is enough.



! Moving position (with "swing feet")

Moving position (without "Swing feet")

D.1



Mounting the handle column

2. Inserting the adjustable handle column in the frame

Required tools: Allen key SW6

The adjustable handle column (2) consists of 3 main segments connected by articulated joints. This allows to freely adjust the height, the distance to the saddle, and the inclination of the dashboard (3) with the handle (7).

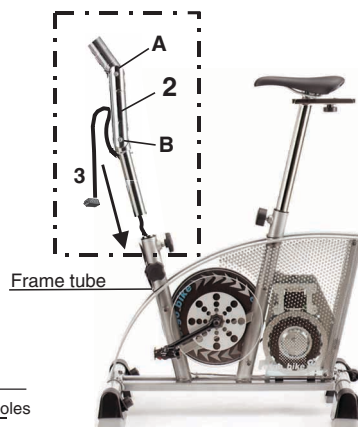
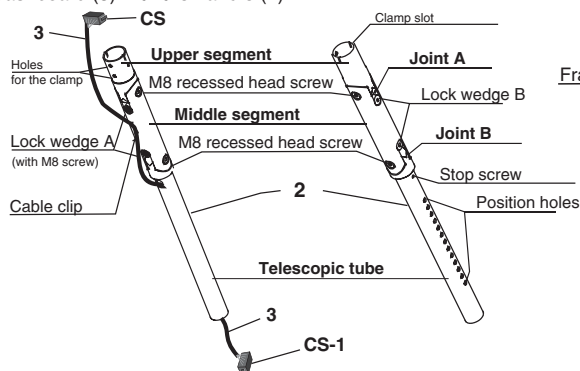


Fig. 1

2.1 Insert carefully the preassembled handle column (2), with the telescopic tube first, into the opening of the front frame tube. Take special care to avoid jamming the dashboard cable (3), which is protruding at the lower end of the column. The position holes of the telescopic tube must be pointing to the back, to allow the toggle button (2b), to allow the button to engage into one of the holes. The connector (CS-1) of the dashboard cable (3) must protrude out of the lower part of the frame tube when the handle column is inserted in the frame tube until it stops. The fastening screw (2a) can be used to immobilise the handle column. This screw must be tightened very firmly after the fine tuning (see page M14 - handle height).

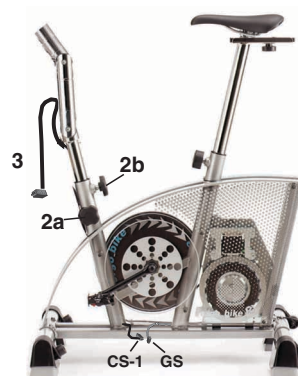


Fig. 2

2.2 Pull a short piece of the dashboard cable (3) from the frame tube (bottom) and feed it between the square frame tubes. Then connect the connector (CS-1) of the dashboard cable (3) with the connector (GS) the base cable (3a) (Fig. 3). Then push back the cables with the connectors and hide them in the frame.

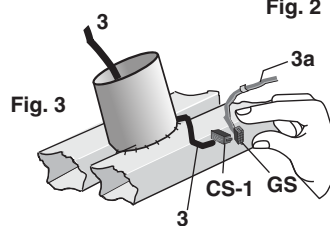
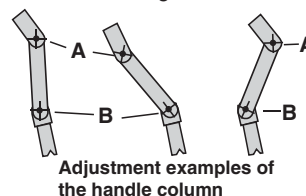


Fig. 3

2.3 Angle and articulated joint setting of the handle column

The joints A and B are fastened by mean of an M8 recessed head screw to the side (tensing screw), and from the front side by mean of special lock wedges (A and B - M8 recessed head). To adjust the angle of the dashboard support, you must first release both fastening of the joint using the supplied SW6 Allen wrench, adjust the joint to the required angle, and retighten the fastening firmly (see also page M14).

You must regularly check the tightening state of the joint fastening, and retighten them when needed.



Adjustment examples of the handle column

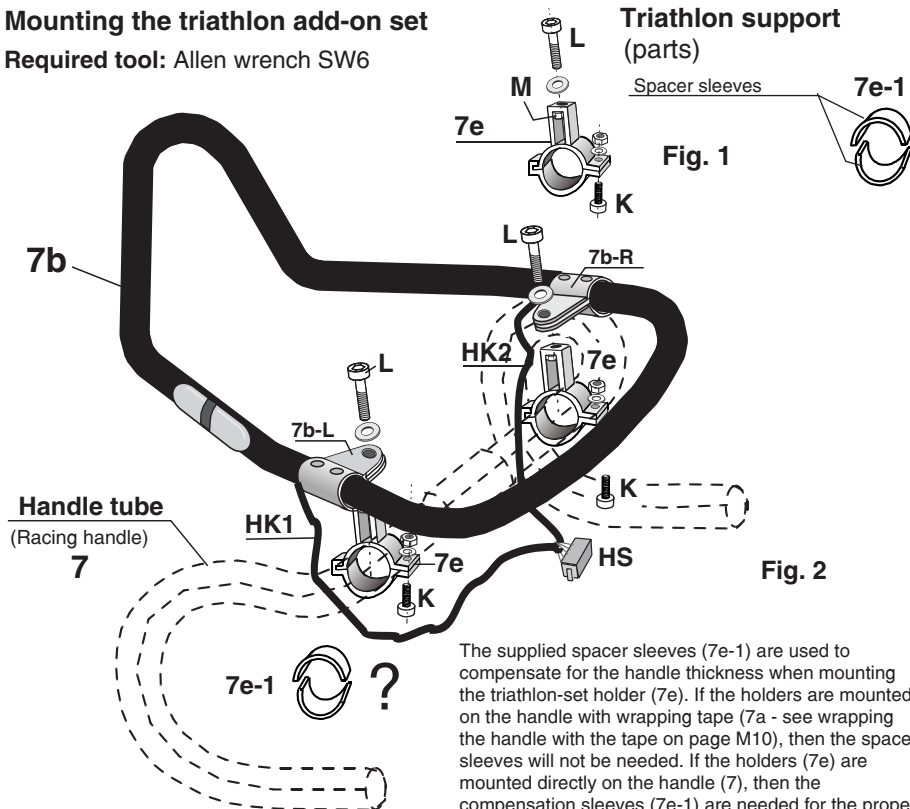
M

Assembly

Mounting the Triathlon Add-On Set

3. Mounting the triathlon add-on set

Required tool: Allen wrench SW6



The supplied spacer sleeves (7e-1) are used to compensate for the handle thickness when mounting the triathlon-set holder (7e). If the holders are mounted on the handle with wrapping tape (7a - see wrapping the handle with the tape on page M10), then the spacer sleeves will not be needed. If the holders (7e) are mounted directly on the handle (7), then the compensation sleeves (7e-1) are needed for the proper fastening. In this case the wrapping tape (7a) will be installed later.

Mounting steps

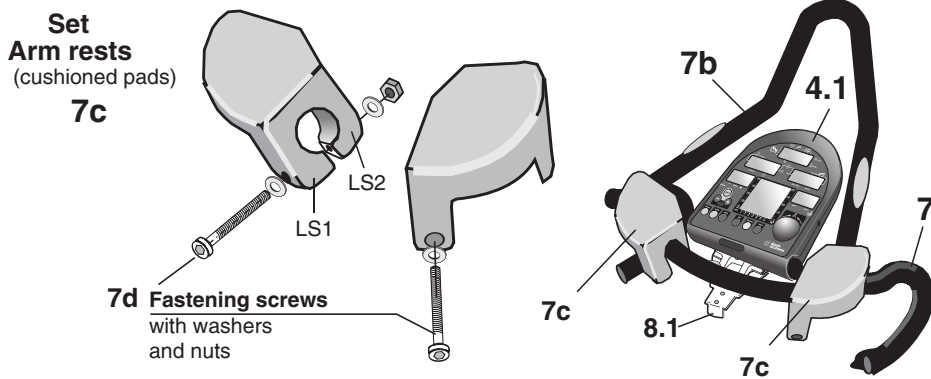
- 3.1** Join the upper and lower parts of the triathlon holder (7e) together around the handle tube (7), either with or without the spacer sleeves (see above), and fasten them with an M8 screw (K), with washer, and appropriate nut, at first without tightening. Mount the second holder (7e) in the same way, also without tightening, at a distance of about 230 mm (from the centre of the threaded hole of the holder 7e) over the centre of the handle (7).
- 3.2** Then you can install the preassembled triathlon handle. Position the left and right fastening tongues (7b-R / 7b-L) above the holders (7e) so that you can screw the M8 screws (L) with washer in the nuts (M) that are located in the shaft of the holders (7e).
- 3.3** Adjust the angle of the triathlon handle add-on (7b) to your personal needs (see page 14/15), and to fit with the dashboard (4.1), with the racing handle (7), and also with the articulated joints setting of the handle column(2). Afterwards, you should tighten all the screws firmly.

See chapter 4 - Assembling the dashboard - for the connection of the hand pulse connector (HS)

Assembly

M

Arm Rests / Wrapping the Handlebar Tape

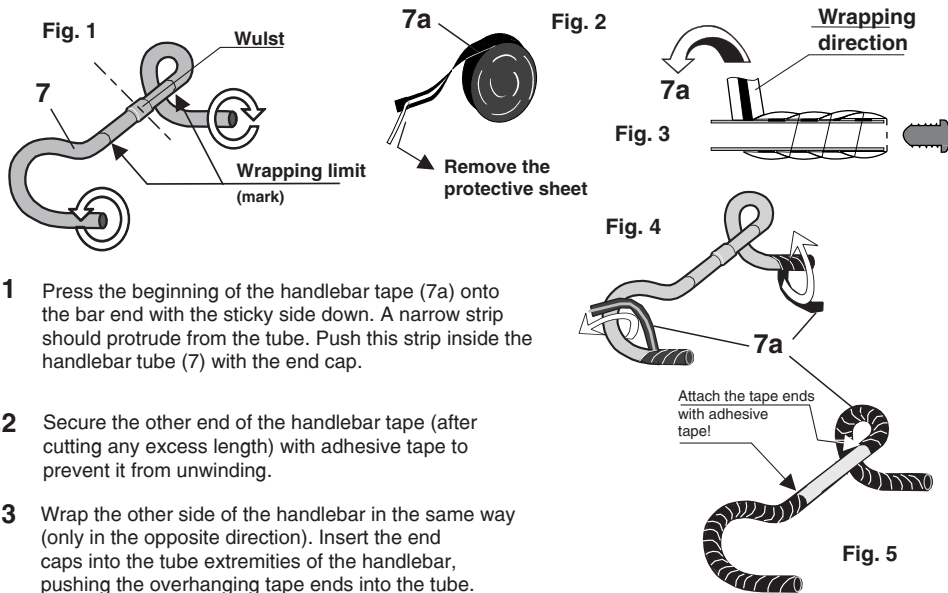


- 3.4** Special cushioned armrests (7c) are supplied to ensure a comfortable arm rest when using the triathlon handle add-on (7b). These pads are designed to fit on the corner curvature of the handle add-on (7b). The elastic tongues (LS1/LS2) of the cushioned pads must be fastened with the special screws (7d). You must use the supplied screws with their appropriate washers. Otherwise, the screw head will thrust too deeply into the cushioning. We recommend mounting the arm rests after the dashboard is mounted (see pages M11 & M12) since they could hinder you while mounting the dashboard.

4. Wrapping the racing handlebar

The included handlebar wrapping tape (7a) is used to wrap the handlebar (7) to provide a better hold and adequate sweat absorption material.

Wrapping should start at each end of the handlebar. Follow the indicated wrapping direction (see fig. 1)!



- 4.1** Press the beginning of the handlebar tape (7a) onto the bar end with the sticky side down. A narrow strip should protrude from the tube. Push this strip inside the handlebar tube (7) with the end cap.
- 4.2** Secure the other end of the handlebar tape (after cutting any excess length) with adhesive tape to prevent it from unwinding.
- 4.3** Wrap the other side of the handlebar in the same way (only in the opposite direction). Insert the end caps into the tube extremities of the handlebar, pushing the overhanging tape ends into the tube.

M

Assembly

Mounting the dashboard

5. Assembly guide / Mounting the dashboard

Parts needed:

- Dashboard with the racing handle (7),
Triathlon handle add-on (7b),
protective plate (5) and clamp (8.1)
- Dashboard support (6) with inner ring (6x)
- tensing lever (6a) and appropriate washer (E)
- 2 recessed head screws with washers (C/D)
- 2 fastening screws with washers (H/J)

Tools needed:

- Allen wrench SW5
- Phillips screwdriver (not supplied)
- Standard screwdriver (not supplied)

5.1 The dashboard holder (6) with its inner ring (6x) must be fitted onto the handle column (2) before it is possible to mount the dashboard (4.1) with the racing handle (7) on the handle column (2). Both parts can simply be left loose at the bottom of the column for the moment. (See position A)

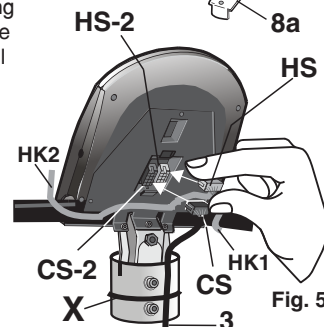
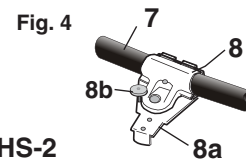
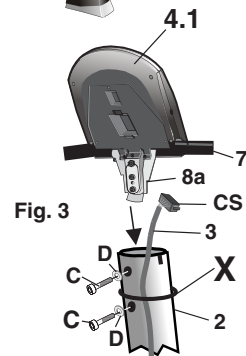
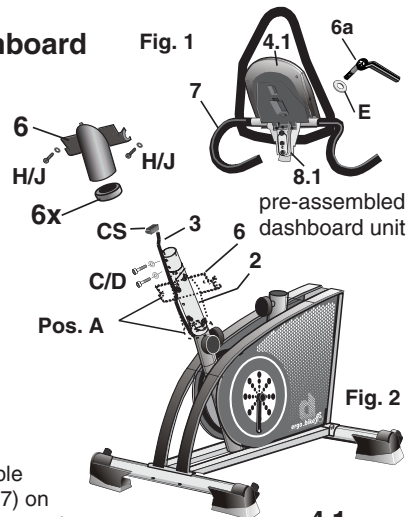
5.2 The dashboard unit (4.1) is preassembled with the carrier plate (5), the clamp (8.1) attached to that plate, and the handle (7) with the handle add-on (7b). First insert the clamp (8.1) into the slots at the upper end of the column (2), without fastening, to position the whole unit. You might need to exert some pressure to insert the rear tongue (8a) of the clamp because of tolerances.



You should take special care to avoid jamming the cable (3) on the outside of the handle column (2)! We recommend attaching the cable to the upper part of the column with an elastic band or adhesive tape (see X).

You may only release the handle (7) after you have tightened both of the M8 recessed head screws (C), with their washers (D), in order to secure a stable stand on the column (2). Unscrew the front screw (8b) attaching the add-on set (7b) to the racing handle (7) until the handle (7) starts moving freely and can be adjusted to an approximate position. The final adjustment will be done later.

5.3 Plug the black connector (CS) of the dashboard cable (3) into the corresponding black socket (CS-2) on the circuit board (within the lower opening in the housing and the protective plate). Then plug the white connector (HS), which is attached to the two wires HK1 & HK2 of the hand pulse sensors, to the corresponding white socket (HS-2) within the same opening in the housing.



Assembly

M

Description

- 5.4** After plugging the cable connectors in the rear side of the dashboard, raise the dashboard holder (6) all the way up. Align carefully the dashboard cable (3) and the cables(HK1 & HK2) very closely along the clamp (8.1) in the area of the inner ridge of the holder end (6).



Please pay extra attention to avoid jamming the cables in the narrow passages within the dashboard holder!

Pull the hand pulse cables (HK1/HK2) closely along the triathlon set holder (7e) down to the handle tube (7), and from there through the lateral opening in the housing.

- 5.5** The dashboard holder (6) is attached to the dashboard housing (4.1) by pressing the clip on the front. **Then you must ensure that both of the hand pulse cables run freely around the handle (7) and the clamp (8.1), and are not jammed between the carrier plate (5) and the dashboard holder (6),** before you can screw two small self-boring screws (H) with washers (J) through the protective plate (5) into the dashboard housing (4.1). **Otherwise, there is a risk of cutting the cables if the handle or handle add-on is turned.**



The inner ring (6x) should be pressed into the holder (6) from below. The cable (3) will have enough room between the handle column (2) and the inner ring (6x).

- 5.6** Finally, screw the tensing lever (6a) with its washer (E) to fasten the handle (7). You should always tighten it slowly, and always respect the lock-positions. Removing the preassembled dashboard unit is done in the reverse sequence as described above.

5.7 Fine adjustments

Dashboard angle setting / **Articulated joint A**

Angle setting of **articulated joint C**

Racing handle (7) B.1

Triathlon add-on set (7b) B.2 /

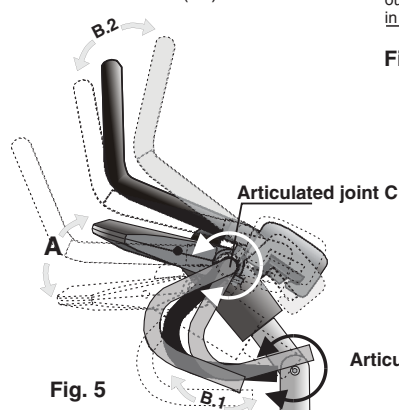
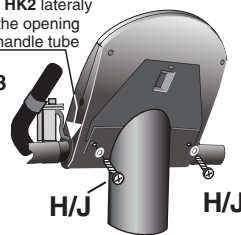


Fig. 5

Pull the cables HK1 & HK2 laterally out of the opening in the handle tube

Fig. 3



Articulated joint A

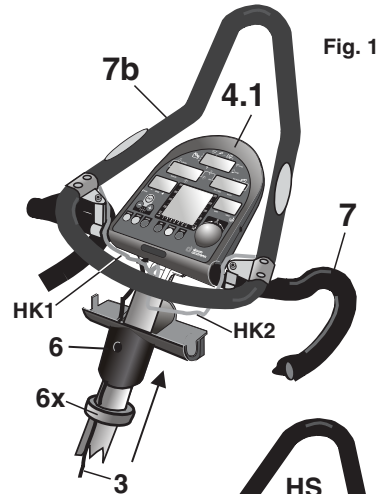


Fig. 1

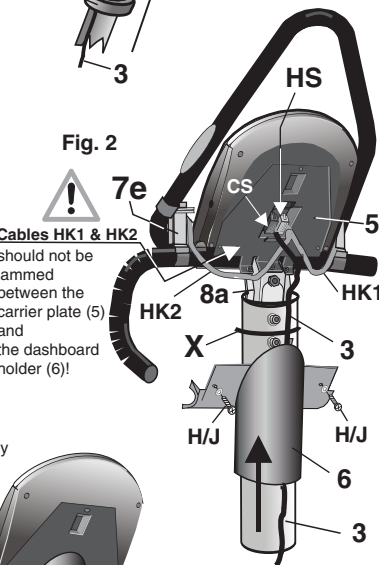


Fig. 2



Cables HK1 & HK2 should not be jammed between the carrier plate (5) and the dashboard holder (6)!

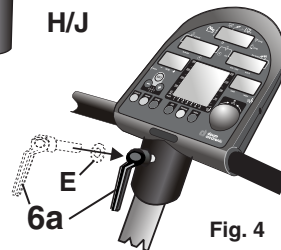


Fig. 4

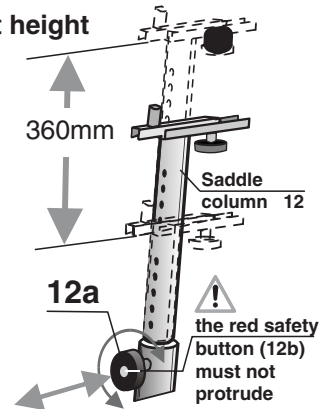
M

Assembly

Mounting and Adjusting the Saddle

6. Mounting the saddle column and adjusting seat height Adjusting range = 360 mm / 21 stop positions

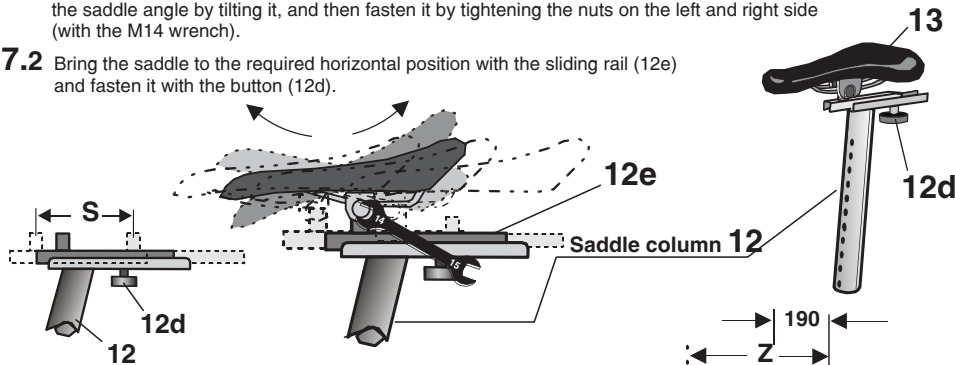
- 6.1 Unscrew the toggle button (12a) by about 1 to 2 revolutions, and pull the spring loaded plastic button
- 6.2 Insert the saddle column (12) into the support tube and bring it to the required position.
- 6.3 Release the toggle button (12a) and then push or pull the saddle column (12) carefully **until the toggle button (12a) audibly engages in the corresponding hole (21 stop holes over 360mm) of the saddle column (12). The locking is visually indicated by the red plunger button (12b) plunging into the toggle button (12a)! The red plunger button (12b) must not protrude!** This indicates that the lock pin of the toggle button (12a) is not engaged in the corresponding hole of the saddle column!
- 6.4 Retighten the toggle button (12a) by a few turns to fasten it after the red plunger button (12b) locks in position.



7. Mounting the saddle, adjusting its angle and horizontal position

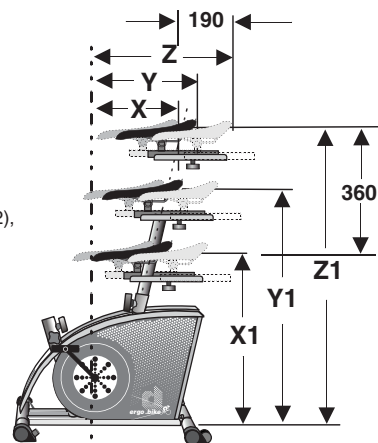
Tool needed: 14 mm Wrench

- 7.1 Install the saddle (13) on the dowel pin of the saddle carriage on the saddle holder (12e) and set the saddle angle by tilting it, and then fasten it by tightening the nuts on the left and right side (with the M14 wrench).
- 7.2 Bring the saddle to the required horizontal position with the sliding rail (12e) and fasten it with the button (12d).



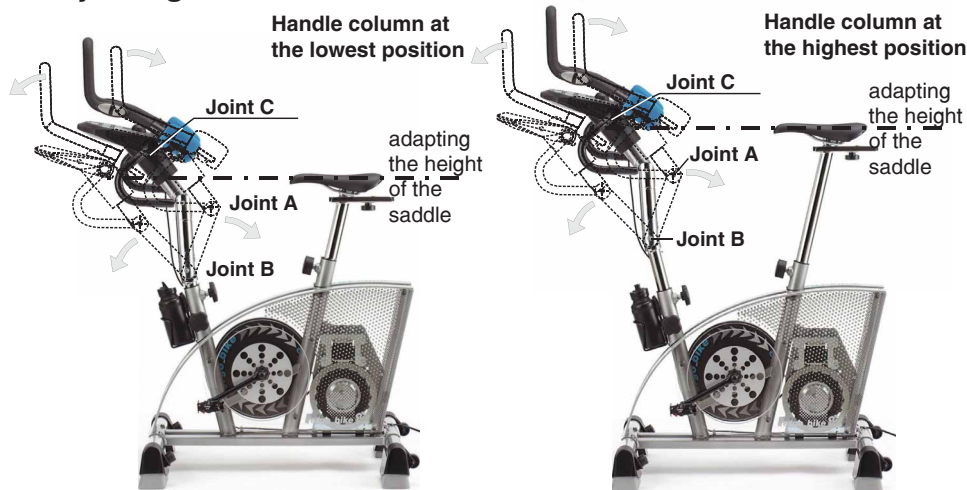
7.3 Saddle adjustment

The position of the saddle is very important to ensure a correct seating position and body posture during the training with the ergometer bike. The saddle of the *ergo_bike 8008 TRS* can take many various position with its height adjustable saddle column (12), and to its sliding rail (12e). The height difference between X1 - Z1 is of 360 mm. The horizontal shift range (80 mm) is determined based on the 12.5° tilt of the saddle column and the adjustment range (S = 110 mm) of the sliding rail. This gives a maximal adjustment range of 190 mm globally from the vertical centre line of the pedals (X - Y).



Adjusting the Position and Height of the Handle

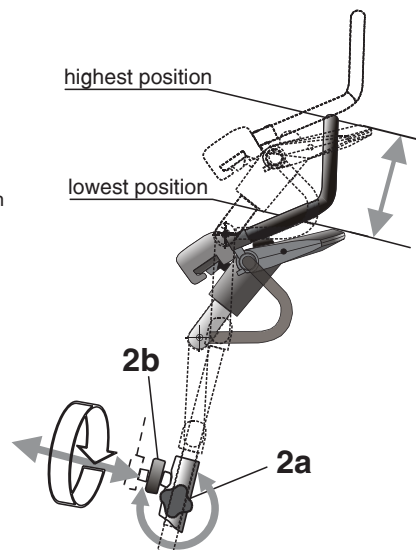
8. Adjusting the handle column



The position of the handle is very important to ensure a correct body posture during the training with the ergometer bike. The 3 independent articulated joints (A, B, C) allow to freely adjust the dashboard (4.1) with the racing handle (7) and the triathlon add-on (7b) to the required position. You can thus continuously adjust the angle of the dashboard to the viewing angle, as well as its height relative to the pedal's centre (central point of the bike geometry), and its horizontal distance from the same pedal centre or the saddle. The **ergo_bike 8008 TRS** can then be individually adjusted to fit the body height of the users and to their training habits (straight seating or leaning down as in racing position), or to reproduce the geometrical properties of any "outdoor" training device (e.g. racing bike or mountain bike).

8.1 Adjusting handle height

1. Unscrew the **tensing screw 2a** on the side of the handle column by a few turns.
2. Loosen the **toggle button 2b** on the handle column by a few turns, until it you can move the handle column up or down.
3. Then shift the handlebars up or down to bring it to the required position.
4. Tighten the **toggle button 2b**; take care to engage the screw into one of the stop holes. Then you can tighten the toggle button firmly.
5. Tighten the **tensing screw 2a** firmly.



9. Fine Tuning

Training with the *ergo_bike 8008 TRS* is often intended to maintain and improve the physical condition achieved using a road or a racing bike. To do this, it is required to assume a sitting posture on the *ergo_bike*, that is as much as possible, identical to that on the racing or road bike. Therefore, you should measure the saddle height and tilt angle, the distance between the saddle and the pedal axle as well as the distance between the pedal axle and the handlebars on the road training bike and reproduce them exactly on the *ergo_bike 8008 TRS*.

An almost horizontal chest posture is recommended and taken by racing bikers. The legs should be slightly bend at the pedal lowest (bottom) position. At the horizontal crank position, the kneecap of the forward pointing foot should stand vertically above the pedal axle.



The height and tilt angle of the handle column should be adjusted reasonably. Never set the handle to extreme height or extremely forward positions, and never stand and bend forward during training! The *ergo_bike* could then lose its stability and tip over! (Danger of falling and of injuries)

Assembly

M

Mounting the Drinking Bottle & the Pedals

10. Mounting the drinking bottle

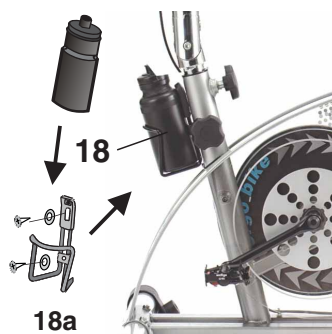
Needed tool: Phillips screwdriver

The front frame tube has two threaded holes intended for the screws used to mount the drinking bottle holder (18a).

Use the supplied phillips screws to mount the bottle holder (18a).

Hinweis: If the threaded holes of the dashboard column do not correspond to the holes in the holder, you can adjust the holder by sliding its lower part to adjust the distance between the holes to the correct value.

Then simply put the drinking bottle (18) in the installed holder.



11. Mounting the pedals

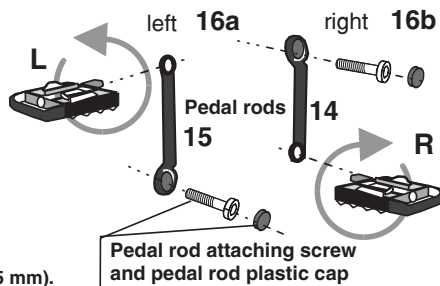
Required tool: 15 mm wrench

Screw the pedal marked with an “L” (16a) to the pedal rod on the left side (15), and the one marked with an “R” (16b) to the pedal rod on the right side (14) of the bike when facing forward.

Warning!! The left pedal (16a) has a left-hand thread, and must therefore be screwed in place by turning it counterclockwise. The right pedal (16b) has a right-hand thread and must therefore be screwed in place by turning it clockwise.



Turn pedal



To avoid damaging the thread, you should start screwing the pedals in place by hand, and then tighten them very firmly using the wrench (15 mm).

! **Warning!** Damage to the thread of the pedal rods is not covered by the warranty!

You must tighten the pedals and pedal-rods screws (under the pedal rod plastic cap) after running a distance of about 100 km, and then every 500 km!

The threads of the pedal rods are compatible with those of standard bikes. Consequently, you can install any pedal of the commercially available various pedal types as needed.

Adjusting the pedals

Refer to the setting instructions included with the pedals.

W

Maintenance

Cleaning / Care

Cleaning outside surface

Wet a soft cloth with water and use it to clean the *ergo_bike*. A light soap solution may also be used to wet the cloth.

Wipe the surface applying light pressure. While wiping the dashboard or the perforated plate cover, be careful not to apply too much pressure to prevent water from entering the dashboard or the device.



Do not use any strong or corrosive cleaning solution, or one containing solvent, like, e.g., alcohol, stain remover, petrol, metal polish, etc.

We recommend using a commercial antistatic, either in liquid or spray form, to neutralize the strong static charge generated while cleaning. Specially on the large plastic and transparent side panels of the high end *ergo_bike* models.

Sweat is an extremely aggressive fluid, which attacks paint as well as metal and electronic parts. Therefore, care should be taken not to let sweat drop on the device, or otherwise it should be carefully removed after training. Damage caused by sweat is not covered by the warranty! The *ergo_bike* is not completely sealed against sweat infiltrations.

The handle wrapping tape can be ordered as spare part (see page W4) in case it becomes very dirty or is worn out.

The drinking bottle must be cleaned after use for hygienic reasons. We also recommend, if this bottle is not used often, to clean it before filling it.

Drive v belt

The *ergo_bike* is a belt driven ergometer. This means that the force applied to the pedals is transmitted by a V-belt to the drive unit. The advantage of this is that the *ergo_bike* runs very quietly and smoothly.

V-belts eventually wear out and must be replaced when this is the case. If you feel a slip in the drive while training, the reason could be a worn out V-belt.

Noises

The *ergo_bike* ergometers are equipped with quality ball bearings and silent belt drive. Still, it is unavoidable that you hear a few remaining noises in the range of up to LpA 52 dB (decibel).

Squeaking and cracking noises are generally caused by the loosening of the screws attaching the pedal rods (arms), the pedals, the feet or the dashboard support column.



About the V-belt

The driving surfaces of the drive and the V-belt pulley are covered with a rubber layer by the manufacturer. **This favors the development of an optimal fitting of the V-belt into the grooves of the driving pulley during the first 500 to 1000 kilometers.**

During this fitting-in process, the belt will lose the excess rubber, which will be visible in the form of black powder deposits. You can remove this deposit using a small brush or a vacuum cleaner.

The V-belt is easily replaced. This maintenance operation can be performed by users with manual skills.

If you have difficulties obtaining a replacement V-ribbed belt for your *ergo_bike*, you can order one directly from the manufacturer, **daum electronic GmbH**.

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 for replacing the V-belt:



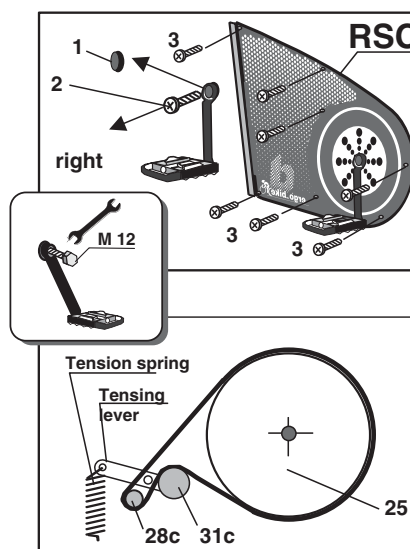
Unplug the power cable from the power socket before opening the device!

Take care not to damage the inner parts of your *ergo_bike* while you are working.

The manufacturer, **daum electronic gmbh**, will not be liable for any damages arising as a result of negligence while changing the V-belt!

1. Remove the protective cap (1) of the axle center.
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. (see small figure).
4. Hold the pedal firmly and remove it.
5. Loosen the 7 screws (3) on the right side cover (RSC).
6. Carefully remove the side cover.
7. Press on the belt tensioning roller (31c) against the spring tension to loosen the V-belt tension, and then pull the belt from the pulley (25) and drive shaft (28c).
8. Clean the contact surface of the pulley and the drive shaft and degrease them with alcohol before installing the new V-belt.

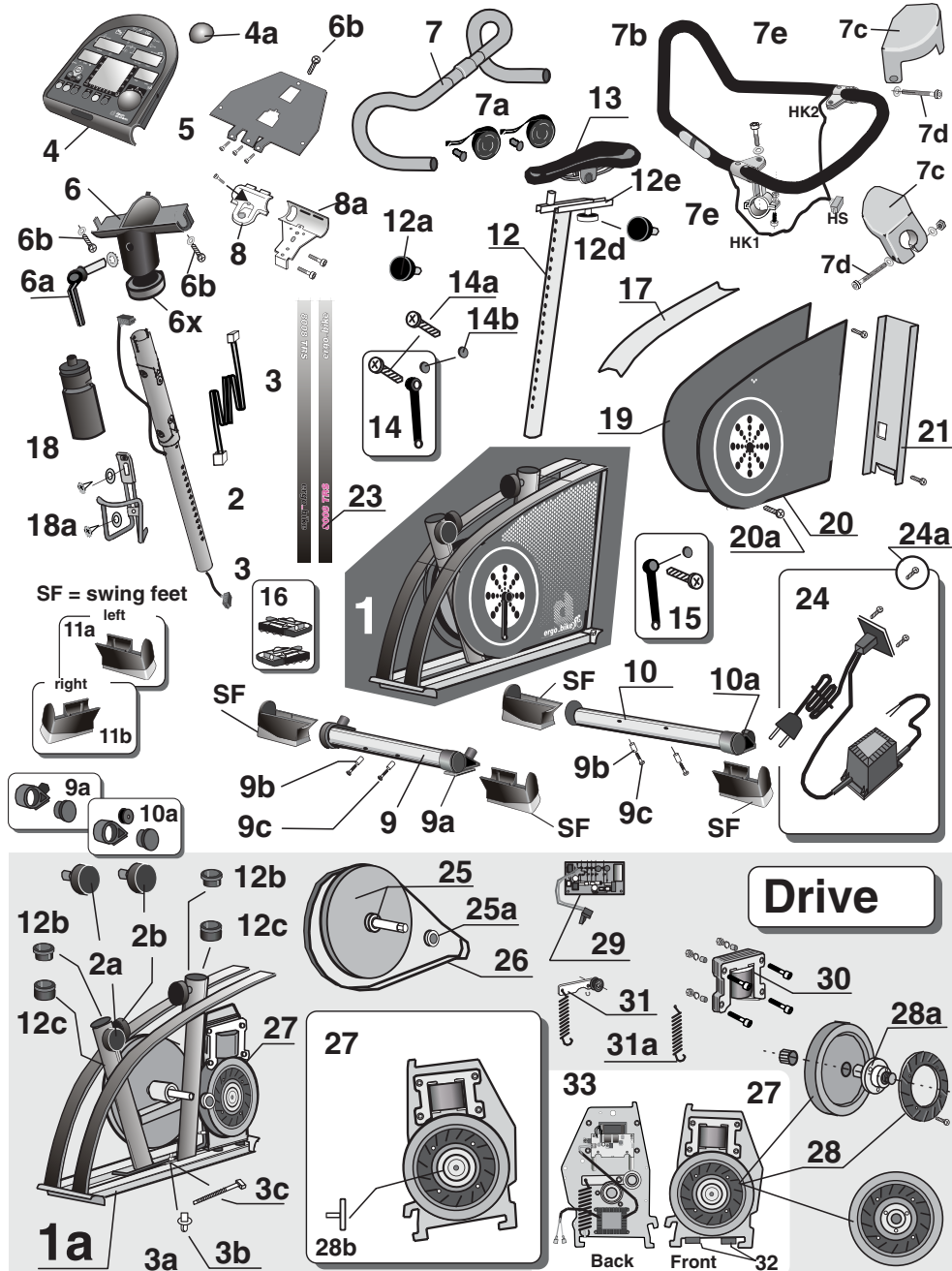
Install the new V-ribbed belt by going through the same steps described above in the reverse sequence.



W

Maintenance

Spare parts list



Maintenance



Spare parts list 8008 TRS

Listing

No.	Spare part	Order No.	silverline	blackline
1	ergo_bike complete body		M60 90 635	M60 90 636
2	Handle column	00 17 299 A		
2a	Tensing screw for the lateral fastening of the handle column	M 80 90 194		
2b	Toggle button - handle column adjustment	M 80 90 193		
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 90 282	M70 90 282
4a	Control button No. 6	00 17 423		
4b	Dashboard upper part	00 17 405		
4c	Dashboard bottom part	00 17 404		
4d	Circuit board / dashboard electronics	M13 00 582		
5	Protective plate	00 17 136		
5a	Screws for the dashboard housing	00 03 120		
6	Dashboard support with inner ring	00 17 403		
6a	Tensing lever / handle positioning	00 17 316		
6b	Screws for the support	00 21 913		
7	Racing handle	00 17 406 A		
7a	Wrapping tape for the handle (right/left) with caps	00 17 357		
7b	Triathlon handle add-on with hand pulse sensors	00 17 378		
7c	Arm rests / Cushioned pads	00 17 401		
7d	Fastening screw for the cushion set	00 21 655		
7e	Holder / Handle add-on with mounting hardware	00 17 402		
8	Handle clamp (top)	00 17 233 A		
8a	Handle clamp (bottom)	00 17 232 A		
9	Complete front foot		M80 90 197	M80 90 171
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 rear foot		M80 90 198	M80 90 173
10a	Foot set with caster (rear)	00 17 419		
11	SF = "swing feet" (base assessor)	00 17 630		
11a	"swing feet" / left foot	M 80 90 510		
11b	"swing feet" / right foot	M 80 90 520		
12	Saddle column with adjustable saddle holder	00 17 199		
12a	Tommy head for saddle column adjustment	19 00 238		
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	Racing Saddle	00 17 435		
14	Pedal rod right side	00 17 510		
14a	Screw for attaching the pedal rods	00 30 570		
14b	Pedal rod screw cover	00 17 560		
15	Pedal rod left side	00 17 520		
16	Pedals set	00 17 535		
17	Sweat sheet	00 17 407		
18	Drinking bottle	01 00 045		
18a	Holder for the drinking bottle with mounting screws	01 00 060		
19	Side cover right side		M80 90 314	M80 90 314
20	Side cover left side		M80 90 312	M80 90 312
20a	Screws for fastening the side cover	00 24 411		
21	Perforated plate with mounting screws		M80 90 234	M80 90 235
23	Decoration tape set		06 50 941	06 50 942
24	Cover with On/Off switch, power supply and cable	50 00 400		
24a	Screws for fastening the back cover	00 24 310		
25	Belt pulley with welded pedal shaft and inserted roller bearing	M 80 90 075.1		
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 light guard	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 (see page 11)	00 17 900		
35	Relaxation sensor (see page 23)	80 90 080		
36	Cardio Sensor Chest band (see pages 11 & T 1)	E90 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 of the device.

W

Maintenance



Exchanging the Dashboard / Replacing the Battery

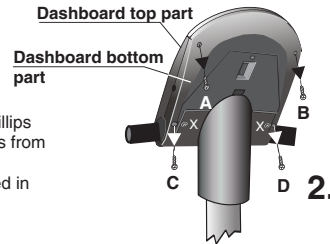
It is possible to replace or disassemble the complete top part of the dashboard, for all *ergo_bike* models, in the case that the display windows, the membrane switch, the control button, or the circuit board located underneath it malfunctions or simply to replace the battery. The disassembly is a relatively easy operation and is done as described below.

Required tools: Phillips screwdriver / Blade 1 x 70 mm

1. Unplug the power cord!

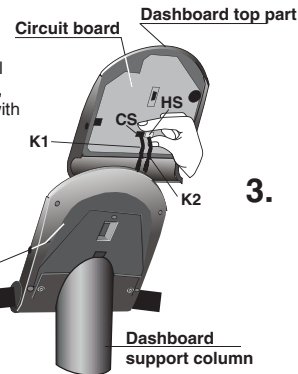
(For your personal safety and to protect the sensitive electronic parts inside the dashboard)

- The top part of the dashboard is secured to the bottom part by means 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)!



- 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 (K1 and K2) that are connected from underneath, and until you can reach the connectors (CS black & HS white) on the circuit board with your thumb and index finger.

- You must unplug both connectors (CS and HS). **Never pull on the cables to unplug them!! This would tear them off!** Unlock the connector by pressing on the lock clip and pull it gently from the receptacle. (See figure 4). Sometimes the lock clip will be removed from the connector at the factory.



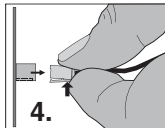
Hand pulse sensors and dashboard connectors
(location on the circuit board)

Dashboard connector / CS (black)
Lock clip
(with locking tip)

Female connector / CS-2
(attached to the circuit board)

Hand pulse sensors connector / HS (white)
Lock clip
(with locking tip)

Female connector / HS-2
(attached to the circuit board)

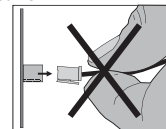


4.

Be careful when pulling the connector in order to avoid damaging the circuit board and the electronic parts!
The connection is unlocked by pressing the elastic connector clip.



Do not pull the cable under any circumstances! They would tear off!



Follow the same steps in reverse sequence to reassemble the dashboard top part

- Plug the dashboard connector / CS (black) and the hand pulse connector / HS (white) to the female connector of the corresponding color until they lock in position. Then pull carefully the two cables (K1 and K2) 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.
- When reinstalling the top part of the dashboard top shell, first lock the lower end with the dashboard support and then lower it onto the dashboard bottom part.
- Screw the removed housing screws (A, B, C, D) from underneath the dashboard and tighten them.
- You can now plug the power cord, turn on the ergometer and test its operation.

Battery replacement (button cell)

The button cell battery is located on the underside of the circuit board of the dashboard, at the lower end to the right (close to the printed circuits). Replace this battery when you notice a loss of time and date on the system clock. Therefore you must disassemble the dashboard top part as described above at steps 1 to 3, separate it from the bottom part of the dashboard, and reassemble them in reverse sequence.

Technical Information



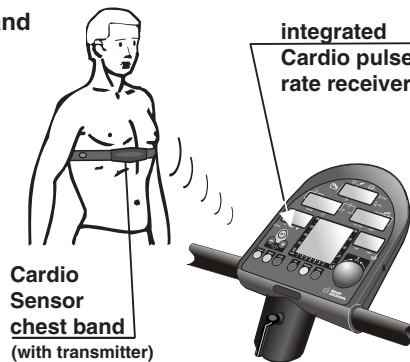
Special Accessories

Special Accessory Cardio Sensor chest band

The **Cardio sensor chest band** measures your pulse rate directly above the heart and transmits the data directly to the integrated wireless cardio pulse receiver. The location of the chest band and transmitter directly above the heart enables very accurate pulse rate measurement. The data is wirelessly transmitted to the computer of the *ergo_bike*.

Pulse rate measurement using the **Cardio Sensor chest band** is particularly useful when exact values are required. This can be the case if your physician needs the data of your training sessions with the ergometer in the context of a treatment.

All *ergo_bike* ergometers are equipped with a **built-in Cardio pulse rate receiver**, not visible from the outside. This allows receiving of the pulse rate transmitted by any standard chest band, of the coded and non coded type. You only need a **cardio sensor chest band** to achieve wireless heart pulse rate measurement.



What is in the box of a Cardio Sensor chest band

- 1 Skin-friendly Cardio Sensor chest band with integrated pulse sensor and transmitter
 - 1 Adjustable elastic band to attach it to your chest
- The chest band is available from daum electronic gmbh; Order no. 90 91 015.

Putting on and using the Cardio Sensor chest band

1. Remove your upper body clothing or pull your shirt up to uncover the area of the heart. Your skin should be slightly moist, but not wet. If your skin is too wet, dry it with a towel, if it is too dry, moisten the inside (contact surface) of the chest band slightly.



Wireless Cardio Sensor Chest Band
Order no. 90 91 015

2. The sensor chest band with the transmitter in the middle has surface recesses at both ends. The elastic band is fitted with round locking toggles at both ends. Insert one of the toggles through one of the square holes in the sensor band. Turn the toggle 90° and press it firmly into the recess.



3. Hold the Cardio sensor chest band over your chest.
4. Pull the elastic band around your back and fasten the other toggle into the opening on the other side of the sensor band.
5. There is a buckle on the elastic band, enabling you to adjust it. To obtain a comfortable fit, hold the buckle firmly and pull out a section of the band.
6. Adjust the pulse sensor band so that the thicker part of the band, which contains the sensor and transmitter, lies on the chest directly above your heart.

Warning: using two chest bands simultaneously in the same room, either of the coded or non-coded type, to achieve wireless heart rate measurement can lead to the display of a wrong pulse rate on the dashboard of the *ergo_bike*.

The button type battery should be replaced when you note a loss of battery power. Simply remove the battery cover using a coin and replace the battery with an equivalent new one.

Battery housing





Technical Information

Specifications

Specifications

Braking system:	Computer-controlled, full electronic eddy current brake operating in the speed ranges shown in the diagram on page 9.
Load range:	25 to 800 Watt
Speed range:	0 to 199 RPM
Load precision:	+/- 10%, see page 9
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:	fast setting in 21 levels for body sizes of 120 to 190 cm
Handle setting:	approx. 320° continuously (without the triathlon ad-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
Pulse measurement:	On the ear, measuring range 50 to 199 pulses/min., telemetric using the Cardio sensor chest band (optional accessory), or over the pulse sensors integrated in the triathlon handle add-on)
Limit values setting:	Pulse, distance, training time, kJoule, and maximum load in watt.
Alarm signals:	Acoustic and optical
Weight:	about 40 kg
Dimensions:	W / H / L 55 cm x 123 cm x 85 cm
Power supply:	220 V or 230 V alternating current, 50 Hz, 50 VA
Safety standards:	GS, CE
Safety class:	2

Technical Information

T

Safety Requirements

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:

- 89 / 336 / EWG of May 3, 1989 including subsequent changes (Recommendation 92 / 31 / EWG of April 28, 1992 and recommendation 93 / 68 / EWG of July 22, 1993)
- 73 / 23 / EWG of February 19, 1973 including subsequent changes (Recommendation 93 / 68 / EWG of August 30, 1993)
- EN 55081-1 (EMC, Generic Emission Standard; Part 1: Residential commercial and light industry)

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.



Area of application:

The device is suitable for therapeutic utilization at home (complies with Class A DIN EN 957-1/5).

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

The maximum allowed load capacity is **120 kg !**

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- 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.
- BMI** Body-Mass-Index
- 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.
- Coaching** Automatic training control oriented towards training objectives.
- Bio-Feedback** Acoustic and/or optical feedback on the metabolism and condition of the body.
- Calorie (abbrev.: 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
- 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 (abbrev.: 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.
- Physiology** The science of life processes
- Physical kJoule** Represents only the mechanical work done on the ergometer; it is computed by mean of the following formula:

$$\text{Power [Watt]} * \text{Time [Sek]} = \text{Work [Joule]}$$
Exemple: 100 Watt * 60 s = 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).
- 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 (abbrev.: W)** Unit of measure of the work done per unit time:
 $1 \text{ W} = 1 \text{ J} / \text{s} = 1 \text{ Nm} / \text{s} = 1 \text{ VA}$
- WHO** World Health Organization

General Recommendations

What to do, if ...?

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

All *ergo_bike* ergometers 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* ergometers 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 handle support column, and is equipped with connectors at the dashboard, at the drive unit and in the handle 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 found on the lower end of the handle support column is properly connected, and that the cable was not jammed or cut when the handle support column was mounted on the frame. To do this you need to disassemble the handle support column.
- The cable was not jammed or cut while mounting the handle on the support 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_lyps*

If the cause of the failure could not be identified, you should contact your dealer or our repair hotline (telephone number 0190 / 770 383 - a fee of 1.48 Euro per min. applies).

We need the following information:

1. The **device number** (this number is on the silver label on the lower part of the frame).
2. The **dashboard version number** (you can access this number under the initialization function / Chapter i / page i2 - see under "Dashboard" and under "Version" on the graphic display / displayed in window no. 6).
3. The **proof of purchase and the device reference sheet**.
4. *ergo_bike* ergometers 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). You can them from 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 at www.daum-electronic.de. By entering the password "**ergo-service**" you gain access to an area reserved to *ergo_bike* owners where you will find additional detailed service hints. You can also call our service and repair hotline (telephone number **0190 / 770 383 - a fee of 1.48 Euro per min. applies**).



General Recommendations

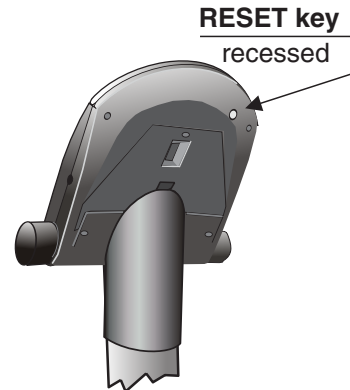
What to do, if ...?

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 mean of normal keys functions, then the solution would be to press the recessed RESET key (No. 18) underneath the dashboard with a pointed tool (e.g. a pencil or ball pen).



Please note that all the personal data, and all training data and results will be definitively lost when you press the RESET key!!



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 noises generally originate from:

- Loosening of the screws used to fasten the pedal rods
- The pedals
- The screws fastening the feet or handle column.

These screws must be tightened every 500 km!!

Notes about the pulse alarm

If you enter the age of the user under **“Age”**, and a pulse limit value that should not be exceeded under **“pulse higher limit”** in the **“Data entry and alarm levels set up”** mode (see pages 14 to 17), 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 **“pulse higher limit”** is reached (see pages 14 to 17)

If you want the alarm to sound only when the pulse limit value entered under “pulse higher limit” is reached, you should enter zero 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 pedals is then normal. The journal bearings should be lubricated with Klüberplex BEM 34-132 grease every about 3000km (if the drag on the pedals 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 labor in the case of private utilization of the product, and a period of three months, for parts and labor, in the case of commercial utilization of the product, in both cases starting on the manufacturing date.

We will fulfill 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 M2)

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 authorized 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 utilization. The warranty will be considered null and void if our instructions for mounting and utilizing 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 at (www.daum-electronic.de). By entering the password "**ergo-service**" you will get access to an area reserved to **ergo_bike** owners, where you will find additional detailed service hints. You can also call us on our repair hotline (telephone number **0190 / 770 383 - a fee of 1.48 Euro per min. applies**).

daum electronic gmbh, D-90768 Fürth



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D - 90768 Fürth

(Hotline - a fee of 1.48 Euro per min. is charged)

Tel. ++49 / (0) 190 / 770 383

Fax. ++49 / (0) 911 / 75 37 14

www.daum-electronic.de

ergo_bike

8008 TRS
silverline

Order No. 90 90 282

8008 TRS
blackline

Order No. 90 90 292

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