proxomed®

kardiomed 700

User Manual

CE 0123

Contents

1 Important Notice!

To ensure correct usage of your machine and software please read carefully the supplied operating manual before putting into operation. Pay particular attention to the safety notices and warnings.

1.1 Identification of the User Manual

- The version is specified on the last page.
- If due to modifications a revision by the manufacturer is required, this is implemented by the manufacturer and identified with a new version number.

1.2 Importance of the User Manual

The User Manual is a part of the product purchase and should be kept for the lifetime of the machine. The Manual should be passed on to future English speaking owners of the machine. For subsequent owners with other language please request separate operating instructions.
The user must ensure that any necessary supplements received are placed into the Manual.
The points mentioned above are also valid for any accessories. In the event of loss of the Manual, another can be ordered for a fee from the manufacturer at any time upon written request.

2 Introduction

You have chosen to purchase products from proxomed®. We thank you for the trust you have shown us. The machine from our product line kardiomed® 700 is designed specially to cover the needs of prevention, rehabilitation, sports performance and fitness.
All machine out of our medical devices range is subjected to extensive safety checks to prevent any possibility of injury. However, please read the present User Manual carefully with all safety instructions and warnings before commissioning the training machine to ensure a safe and intended use.
The useful life of this machine is six years. During this period, we provide technical support and spare parts supply.

Your benefits: The devices of the line kardiomed® 700 are stationary ergometers, which enable cardiovascular training.
Regular training with these devices reduces the risk of cardiovascular disease. The ergometers of the device line enable the planning, control and execution of the perennial training. In addition, the devices are used for precise training control, for the economisation of the cardiovascular system and for use in prevention.
Patients, that due to their physical problems are indicated to have cardiovascular training perform an ergometer training.
You therefore have a training and testing system which is an aid in prevention and rehabilitation measures.
A list of compatible external devices and software can be obtained through your proxomed® team.
Technical and optical modifications as well as misprints reserved.

3 General Information

3.1 About This Handbook

Irrespective of your familiarity with proxomed® training machine or even if you have no experience with this machine at all, this handbook delivers you helpful information. It is so organised that at any time you can access and read the necessary topic related information.
The User Manual should always be available. You therefore avoid unnecessary and time-consuming queries and can eliminate mistakes that could occur quickly.

- The Manual is a part of the product purchase and should be kept for the lifetime of the machine.
- The Manual should be passed on to future owners of the machine.
- The user must ensure that any necessary supplements received are placed into the Manual.
- The points mentioned above are also valid for any accessories.

For users that are familiar with the proxomed® cardiovascular machine some additional concise operating instructions is available. (See Chapter 5). If you are among this group of users and you only need the concise operating instructions, you should still at least review the warnings.

3.2 Scope Of Delivery

Please, check the completeness of the delivery, and inform our sales department immediately, if the delivery is not complete.
Your delivery should contain the following:

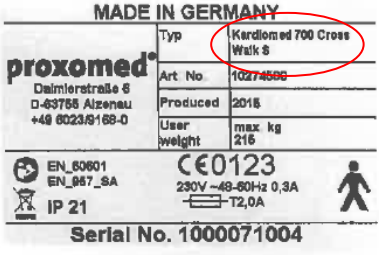
- The correct device (machine type, Series)
- A mains connection cable per device
- The operating instructions to the device, either in paper form or in digital form as a multimedia CD-ROM.

3.3 Identification

The User Manual is valid for the following products:

- kardiomed® 700 Basic Cycle
- kardiomed® 700 Comfort Cycle
- kardiomed® 700 Upper Body Cycle
- kardiomed® 700 Stair
- kardiomed® 700 Cross Walk
- kardiomed® 700 Cross Walk S
- kardiomed® 700 Mill Tour
- kardiomed® 700 Mill Alpin

The device type can be seen on the type sign.



4 Hazards and Safety

Please read the following Chapter carefully and review all safety instructions before you start using your workout machine. Please keep this operating manual in a safe place and pass it on to any future owner if you sell your workout machine.

For evidence of ownership, please complete the following form:

Model type / Product line _____
Serial number _____
Date of purchase _____

Model type / Product line _____
Serial number _____
Date of purchase _____

Model type / Product line _____
Serial number _____
Date of purchase _____

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Serial number _____
Date of purchase _____

Model type / Product line _____
Serial number _____
Date of purchase _____

The following symbols designate important information:

	**Caution!**	This **warning** draws the attention to hazards that could result in personal injury or death.
	**Warning!**	This **warning** draws attention to hazards that could result in property damage.
	**Warning!**	Warning, switch off and unplug the training machine.
	**Tip!**	This **hint** contains important information and tips to improve operation.

4.1 General Information

- Carefully read this manual prior to using your machine.
- Do not operate the unit without instruction.
- Before using the machine please perform a proper functional test (Ref. Chap. 15). For your own safety check the device for damage (loose screws, worn parts) before every use. Ensure that the power connection is not damaged before each use. If the machine is damaged do not use until it is repaired.

- To eliminate risk of injury please wear appropriate clothing and footwear for exercise.
- In case of nausea, dizziness, as well as pain in the chest, limbs or joints, stop workout immediately and inform your trainer and/or a doctor.
- If you wear a cardiac pacemaker or have health problems, please consult your doctor before using the machine. Discuss your workout program with him. Also, train only in "Quick Start" mode.
- Your workout machine is not a toy! Children must be supervised if they are near the machine. Children cannot always judge possible hazards. Parents or other supervisors should always be aware of their responsibility due to the playful and adventurous nature of children which may lead to situations that the workout machine is not intended for.
- The machine is only to be used on instruction of a physician and / or a supervisor. The machine must not be used without the presence of a supervisor.
- Ensure that third parties are not near moving parts.
- Do not place any beverages or food on your training machine. Use the bottle holder.
- Do not stand on the casing of the machine and do not lean on the control panel or the handle bar.
- Start training slowly and gradually increase intensity until you reach the desired level.
- Do not jump from the exercise machine during your workout. Only get off the machine when all moving parts have stopped completely. Otherwise there is danger of injury.
- Maintain the workout positions described in Chapter 9.3 during the entire exercise.
- Please review the additional safety and operational instructions in this manual.
- **Warning: The heart rate monitoring system may be faulty. Too vigorous training can lead to dangerous injuries or death. If your performance drops drastically, stop exercising immediately.**

4.2 Machine Specific Information

The following notes help to avoid danger to health and prevent property material damage.

UPPER BODY CYCLE

- When folding the seat, the space for the seat bar should be free of obstacles. Otherwise there is danger of injury.
- When using the seat, watch out for the handles and moving parts. Danger of blunt injuries (e.g. collision).
- When adjusting the revolving unit, use the adjusting lever on the yellow casing to avoid injuries due to pinching.
- Please keep body parts away from the crank arms range of motion during usage.
- Warning! Do not exceed the maximum user weight of 200 kg.
- Before each use, inspect the seat, the crank arms and the casing for damage. If damaged, have the machine repaired immediately.

CROSS WALK

- Before each use, inspect the pedals (footrest) and the casing for damage. If damaged, have the machine repaired immediately.
- Warning! Do not exceed the maximum user weight of 200 kg.
- Do not take your feet off the foot rests during work out and do not infringe on the protection element.
- Do not hold the pedals against the direction of rotation.
- Do not change the direction of the foot rest motion during the operational movement phase. Change the direction only after the footrests have come to a complete standstill.
- Keep the motion area next to the footrests and the handles clear.
- Warning! There is an increased risk of accident near the pedal motion area. (Pinching).

BASIC CYCLE

- Warning! Do not exceed the maximum user weight of 180 kg.
- Before each use, inspect the seat, pedals, guides and the casing for damage. If damaged, have the machine repaired immediately.
- Do not lean over the handlebar and do not lean to the side of the machine. Danger of tipping.
- Do not remove your feet during training.
- To avoid injury, tighten the pedals and pedal crank after 3 -5 hours of use. Otherwise there is danger of injury.
- To avoid injury, tighten the seat clamp and handlebar clamp after adjusting the height of the seat and handlebar. Otherwise there is danger of injury.

CROSS WALK S

- Warning! Do not exceed the maximum user weight of 200 kg.
- Warning! There is an increased risk of accident near the pedal motion area. (Pinching).
- Before each use, inspect the pedals, guides, saddle and the casing for damage. If damaged, have the machine repaired immediately.
- Do not remove your feet during training.
- Do not hold the pedals against the direction of rotation.
- Do not change the direction of the pedals during the movement phase. Change the direction only after the pedals have come to a complete standstill.
- Keep the motion area next to the pedals and seat adjustment clear.
- Get on and off the machine only when the pedals are not in motion.

COMFORT CYCLE

- Warning! Do not exceed the maximum user weight of 200 kg.
- Before each use, inspect the seat, pedals, guides and the casing for damage. If damaged, have the machine repaired immediately.
- To avoid injury, tighten the pedals and pedal crank after 3 -5 hours of use. Otherwise there is danger of injury.
- To avoid injury, ensure that the seat adjustment is engaged. Otherwise there is danger of injury.
- Do not remove your feet during training.

STAIR

- Warning! Do not exceed the maximum user weight of 200 kg.
- Before each use, inspect the pedals and the casing for damage. If damaged, have the machine repaired immediately.
- Keep the motion area next to the pedals clear.
- Do not remove your feet during training.
- Warning! There is an increased risk of accident near the pedal motion area. (Pinching).

MILL ALPIN / MILL TOUR

- Warning! Do not exceed the maximum user weight of 200 kg.
- Before each use inspect the tread, handlebars and the casing for damage. If damaged, have the machine repaired immediately.
- When the treadmill is in motion do not turn around, stop or jump on and off the treadmill.
- Warning! Beware of the dangerous pinch points at the rear of the treadmill! Ensure that none of the following enter the pull in area at the rear of the treadmill; long hair, clothing, jewellery, shoelaces, towels for example that of the trainee or similar things. Ensure that users are made aware of the danger.
- Maintain a secure area of 2 m behind the MILL.
- Ensure the functionality of the emergency stop before starting the machine.
- Use the emergency stop only when in danger of falling.
- Use the safety line!
- After deactivation, due to pulling on the safety line, switch the machine off at the on/off switch before reactivating the magnets on the treadmill!

4.3 Operational Safety - What To Do?

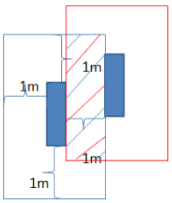
- After delivery ensure that the machine has not been damaged. If in doubt do not start using the machine and inform customer service.
- Slots and openings on the device are used for ventilation. To avoid overheating of components ensure that ventilation slots and openings on the machine are not covered.
- Before starting operation of the machine ensure that the power cable is not damaged.
- After use ensure that the machine is switched off and disconnected from the power socket.
- Ensure a safety distance of 1 m around the machine when setting up. This is to ensure that trainees and others in the area are not in danger. Additionally, pulse measurements are not disturbed.
- For the kardiomed® 700 the protection guidelines according to EN 60601-1-1:2001 apply.
- If the machine is connected to a network, a medical galvanically isolated LAN isolator must be installed for safety reasons. These are available from proxomed Medizintechnik GmbH under the item number 10073030.

4.4 Danger! Electric Shock

- Do not use damaged cables. Do not disconnect by pulling on the power cable, but by unplugging directly at the power socket.
- In the event of fluid getting into the machine, unplug at the power socket immediately and inform customer service.
- Do not insert objects into the machine through the ventilation slots. This can cause a short circuit.

4.5 What Requirements For Correct Installation?

- The machine can be installed on any level and stable surface. Ensure that it stands firmly on the floor.
- An uneven floor should never be levelled by using pieces of wood, paper or similar material. This increases the danger of accidents.
- Make sure that there is a free area of one metre around the machine. This ensures a safe supply and removal to / from the machine. However, the safety areas can overlap (see graph).
- For the Mill Tour & Mill Alpin treadmills, care must be taken to ensure that there is a free area behind the treadmill of **2,000 mm** and is at least as wide as the treadmill itself. The other space around the machine is one metre as described above.



4.6 What Requirements For Repair?

- Electrical components should only be replaced with original parts.
- Repairs should only be carried out by qualified personnel. If qualified personal are not available, contact the proxomed® Service Centre.

4.7 What Should Be Avoided?

- To avoid serious health problems, do not try to train beyond your current fitness level. This can cause serious health problems.
- To avoid increased risk of falling, do not support yourself with the machine and do not make any inappropriate movements on the machine. In this case, there is increased danger of falling.
- The most important warnings are found in the annex to the operating instructions. Separate this annex and ensure that it is available and visible near the training machine. Every user should be made aware of the dangers and the safety instructions. The manufacturer is not liable for damages to persons or material.

5 Quick Reference

After receipt of your machine check that the serial number corresponds with the number on the delivery note (see Type Plate). Check that the delivered machine corresponds with the equipment listed in Chapter 3.2 "Scope of delivery".
After the machine is connected to the mains and switched on, the software will start automatically. This process can take up to 1 minute. The main menu will appear in the touch screen.
You can now insert the chip card, if one is being used. Training starts.
For manual training, select your desired training mode in the main menu between Quick start, Programmes and Profiles, enter the requested values and press NEXT or START to start the training.
Training ends automatically after the pre-set time has expired, STOP can be pressed at any time.
After the training duration, or after STOP is pressed, a short cool-down phase (not by Quick start) occurs, during which the training results are shown.
Pressing STOP a second time returns you to the main menu (if no additional activities are chosen the machine switches to the main menu automatically after 2 minutes).
IPN - Tests are only possible on the following machine types; BASIC CYCLE and MILL. (Optional).

6 Correct Usage

6.1 Introduction

The devices of the line kardiomed® 700 are stationary ergometers, which enable cardiovascular training. The ergometers of the device line enable the planning, control and execution of the perennial training. In addition, the devices are used for precise training control, for the therapy of cardiovascular diseases and for use in prevention.
Patients, that due to their physical problems are indicated to have cardiovascular training perform an ergometer training. The corresponding indication and contraindication positions are described below. Likewise, there are patients who, in addition to their indicated training, complement and support with a cardiovascular training.
The regulated load resistance is created via the brake, which is controlled by the interface for this purpose, after entry of the desired loading parameter.
The ergometer line consists of the following different ergometer types, all of which are controlled by the identical software.

Basic Cycle:
Basic Cycle is a bicycle ergometer that provides cyclical pedal movements against a defined resistance from the body of the trainee. The lower extremity is mainly stressed; the exercise is performed while sitting. The cardiovascular system is stressed and trained by the stress on large muscle groups. To control the stress on the cardiovascular system, the load resistance can be regulated by changing the torque, the speed at the crank, or both parameters.
With the cardiovascular training, the muscles of the lower extremity are trained virtually shock-free.

Cross Walk:
Cross Walk is an elliptical trainer which allows for a continuous, two-way alternate, elliptical movement of feet and arms. The Cross Walk is equipped with an additional motion device for the arms. To control the stress on the cardiovascular system, the load resistance can be regulated.

Comfort Cycle:
Comfort Cycle is a bicycle ergometer that is used to train in a semi-horizontal position. This relieves the spinal column. Patients who complain of problems with the lumbar spinal column during a workout in an upright training position or have problems with saddles and / or the self-stabilisation of the body due to their body problems can be treated in this way. A performance is provided by cyclical pedal movements. To control the stress on the cardiovascular system, the load resistance can be regulated.

Mill Alpin:
Mill Alpin is a treadmill for walking or running. The slope can be set from 0% to 20%. To control the stress on the cardiovascular system, the speed as well as the incline can be regulated.

Mill Tour:
Mill Tour is a treadmill for walking or running. The slope can be additionally set from -5 % to 15 %. To control the stress on the cardiovascular system, the speed as well as the incline can be regulated.

Stair
Stair is a training machine that allows for alternate movements like climbing stairs. Both pedals move independent of each other. To control the stress on the cardiovascular system, the load resistance can be adjusted and the cadence and the step height can be freely determined by the person training.

Mix
Mix is an elliptical trainer which allows for a continuous, two-way alternate, elliptical movement of feet and arms in semi-reclined position. This allows an elliptical training with weight relief; thus, relieving the lumbar spinal column and the hip is possible. To control the stress on the cardiovascular system, the load resistance can be regulated by changing the torque, the speed at the crank, or both parameters.
With the cardiovascular training, the muscles of the lower extremity are trained virtually shock-free.

Upper Body Cycle
Upper Body Cycle is an upper body ergometer. Workout is performed in a seated or standing position by arm movements.
Due to the possibility to remove the seat, a workout at the Upper Body Cycle is particularly suitable for wheelchair users. To control the stress on the cardiovascular system, the load resistance can be regulated by changing the torque, the speed at the crank, or both parameters.
With the cardiovascular training, the muscles of the upper limb and the shoulder muscles are trained virtually shock-free.

Important:
⚠ To avoid over-exertion of the trainee and to prevent serious cardiovascular problems please observe the following contra-indicators described in Chapter 7 for cardiovascular endurance training. If any one of the following symptoms is known prior to work out, you should by no means perform any cardiovascular endurance training on the kardiomed® 700 line of machines.

6.2 Characterisation Of The Patients

The use of the kardiomed® 700 is intended for users up to 80 years, provided the ergonomic requirements are met and the necessary supervision is ensured, and if the contraindications mentioned in Chapter 7 are observed. The use is intended for both female and male users.
Using the devices is possible with a user weight of 40 - 200 kg (Basic Cycle up to 180 kg).
The therapist should be aware of any load requirement that is imposed by the physician.

6.3 Characterisation Of The Use Environment

The trainees perform the training in medical training centres (ambulatory rehabilitation centres, health centres, etc.) and facilities for medical fitness.
The machines can be used at an ambient temperature of +10°C to +40°C and a relative humidity of 30% to 70% (non-condensing) and an atmospheric pressure of 700 hPa to 1060 hPa without any problems.
When using the machine, ensure that it is level and stable. An uneven floor should never be levelled by using pieces of wood, paper
or similar material.
Children should be supervised and never left alone near the ergometer.
It is also important to ensure that there are no bystanders coming into the immediate vicinity of moving parts (cranks, lever arms, pedals, running rugs).

7 Contra-indicators

7.1 Mandatory Contra-indicators

- Unstable Angina Pectoris
- Symptomatic cardiac arrhythmia and / or restricted hemodynamics
- Shortness of breath, anxiety
- Circulatory disorder with rest pain in the affected limbs
- Hypertension, this means with a constant elevated blood pressure the attending physician should be consulted
- Coronary arteriosclerosis
- Pain in the legs when walking less than 100 m
- Acute infections (infections of the respiratory system)
- Fever
- Open wounds
- Circulatory problems, dizziness
- Nausea, vomiting
- Acute coronary syndrome
- Acute myocardial infarction
- Symptomatic high-grade aortic stenosis
- Decompensated cardiac insufficiency
- Acute pulmonary embolism
- Acute carditis (myo-, endo-, pericarditis)
- Acute phlebothrombosis of the lower extremities
- Acute aortic dissection

7.2 Orthopaedic Contra-indicators

- Fractured limbs that are stressed during training and have not sufficiently healed or been sufficiently treated
- Ruptured tendons and ligaments of limbs that are stressed during training and have not sufficiently healed or been sufficiently treated
- A very advanced osteoporosis because of which the stability of the loaded bony structures cannot be guaranteed

If during training any of the following occurs, training is to be stopped immediately to avoid over-exertion:

- Shortness of breath, anxiety
- Angina pectoris (paroxysmal pain in the chest)
- Maximum pulse > 220 - age [s^{-1}]
- Nausea
- Circulation problems
- Malaise
- Rapidly decreasing heart rate
- Rapidly dropping / rising blood pressure
- Known electrolyte disorder

8 Transport and Installation

Please note:
This User Manual provides information on several devices. Details may vary depending on your model!

8.1 Transport

To avoid damage, proxomed® machine are transported by proxomed® directly or by an authorised freight forwarding company. When delivered by the proxomed®, the packaging is recycled or disposed of properly. If proxomed® machines are delivered by a freight forwarder, the clients must dispose of the packaging themselves or may return it to proxomed® (transportation costs are paid by the customer). The machines do not have any transport safety locks!

8.2 Set Up Location And Installation

- Make sure that the surface underneath the machine is level and flat.
- Minor unevenness on the floor can be compensated for by means of the adjustable levelling feet on the machine (only with BASIC CYCLE, COMFORT CYCLE, CROSS WALK and CROSS WALK S). Adjust the levelling feet so that the machine is stable and does not wobble.
- It is essential that the levelling feet are adjusted, as these are necessary for correct support of the machine. (Ref. Chapter 8.7)
- Ensure that the distance between individual machines is at least 1.0 m otherwise the POLAR cardio measuring receivers can be influenced.
- High-frequency and magnetic interference signals (e.g. radios, TV sets, mobile phones etc.) near the cardio machine may also interfere with the cardio measuring receiver.
- In some cases, strong magnetic fields (e.g. high voltage transmission cables, street car power cables) can occur in certain locations which can prevent correct transmission of the cardio signals. If unsure check by using a pulse watch from the company POLAR.
- In the event of a malfunction, or if you suspect a disturbance of the pulse transmission, you should never perform an exercise with automatic heart rate control.

UPPER BODY CYCLE

- Stand behind the machine so that you can see the display.
- Grab the machine under the frame with both hands and lift slightly. The machine can now be rolled into the desired position.

CROSS WALK

- Stand behind the machine so that you can see the display.
- Grab the machine under the frame and lift slightly. The machine can now be rolled into the desired position.
- Ensure that the middle adjusting foot (Ref. Chapter 8.2 of the machine is securely placed on the floor so that the machine is stable.

BASIC CYCLE

- Stand at the machine so you can see the rear of the display.
- Grab the machine by the handlebars with both hands and lift slightly. The machine can now be rolled into the desired position.
- DO NOT lift the machine by the saddle to avoid damage to the pneumatic compression spring.

CROSS WALK S

- Stand at the machine so you can see the rear of the display.
- Grab the machine by the handlebars with both hands and lift slightly. The machine can now be rolled into the desired position.
- DO NOT lift the machine by the saddle to avoid damage to the pneumatic compression spring.
- Ensure that there is enough space behind the machine (40 – 45 cm) so that the backrest can be easily adjusted.

COMFORT CYCLE

- Stand at the machine so that you can see the display.
- Fix the seat at the most rear position on the machine.
- Grab the machine with one hand on the seat and the other on the rail and lift slightly. The machine can now be rolled into the desired position.
- Once the machine is in the desired position, it is necessary that the adjustable foot is set to the desired height (Ref. Chapter 8.2), this serves as the rear support for the machine.

STAIR

- Stand at the machine so that you can see the display.
- Grab the machine under side supporting bars. The machine can now be rolled into the desired position.

MILL ALPIN / MILL TOUR

The installation of this machine should be carried out directly by the manufacturer or by a proxomed® authorised service technician. Only then can safe and proper functionality be guaranteed.

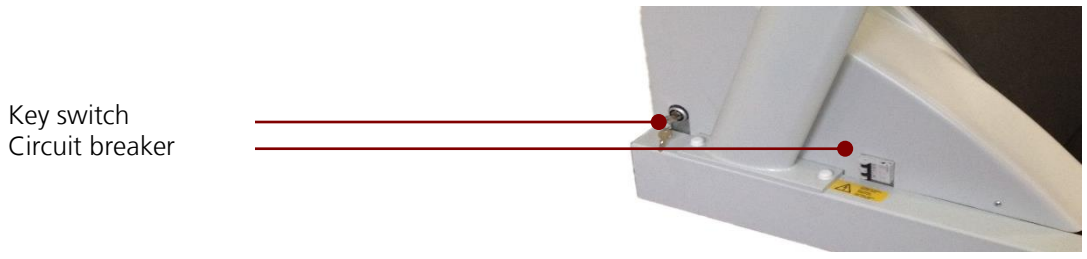
- Inspect the treadmill after installation or relocation and adjust if necessary (check maintenance guidelines Chapter 14.1). The belt should always be centred between the two shafts.
- For safety reasons ensure that a safety area behind the machine of 2,000 mm in length is maintained. Mark the area using a training mat or similar material.

8.3 Ambient Temperature

- The machines can be used at an ambient temperature of +10°C to +40°C and a relative humidity of 30% to 70% (non-condensing) and an atmospheric pressure of 700 hPa to 1060 hPa without any problems.
- Storage temperature between -30°C and +50°C.

8.4 Power Connection

- Before commissioning the machine, visually inspect the delivered power cable and power input module for damage. A damaged power cable or input module must be replaced immediately.
- Connect the power cable to the power input module (see figure). Plug the other end of the power cable into the mains socket.
  Note! Connect the MILL to its own power circuit.
- Power up by operating the switch on the power input module. (I = Power On, O = Power Off).
  To switch on the MILL first position the circuit breakers to position "ON" (Ein). Then the key switch to position "1" (see illustration).



- After the machine is connected to the mains and powered up, an automatic diagnostic program runs. **Note! This process can take 1 - 2 minutes. During this process, do not press any button until the display shows the main menu with the program / profile selection.**

8.5 Power Supply

Operate your machine only on correctly earthed power sockets with 230v ~ /50-60 Hz. If you are not sure of the power supply at the installation site, check with your electricity provider. In any case check with your electricity provider for permission to connect the Treadmill MILL ALPIN/TOUR. With the power

distribution, only use commercial 10 amperes (16 ampere with MILL ALPINE/TOUR MILL treadmills) automatic circuit breakers (type B tripping characteristic).
Note! In the rare event that the circuit breaker trips at power on, the power circuit should be fused with a 10-amp lead fuse (16 amps MILL ALPINE/TOUR MILL treadmills) or a circuit breaker with a different tripping characteristic (e.g. K-Automatic). If not sure, check with an electrician.
Before connection your machine to the mains power circuit, check that the power required is compatible to the mains supply. Machine Type Plate (next to the power in module) indicates the mains voltage and frequency.

WARNING! To avoid the risk of electric shock, this appliance may only be connected to a mains supply with a protective earth conductor.
Always connect the machine directly to the mains socket. DO NOT use extension cables or multi distribution sockets.
Isolated connection lines are required when connecting external equipment to the kardiomed® 700.

8.6 Cabling

- Route power cables in a way that they cannot be stood on or tripped over.
- DO NOT place anything on the cable, as this can cause damage.

Note! Connect the MILL to its own power circuit.

8.7 Components

Upper Body Cycle

1. Ball handle
2. Handle adjustment
3. Rotating lever unit
4. Foldaway seat
5. Power connection / main switch
6. Cockpit

Cross Walk

1. Handle
2. Safety bar
3. Bottle holder
4. Footrest
5. Power connection / main switch
6. Adjustable foot
7. Cockpit

Basic Cycle

1. Handlebar
2. Handlebar adjustment
3. Seat
4. Vertical seat adjuster
5. Horizontal seat adjuster
6. Power connection / main switch
7. Pedals
8. Bottle holder
9. Cockpit

Cross Walk S

1. Seat
2. Backrest
3. Neck pad
4. Pedals
5. Handle
6. Power connection / main switch
7. Cockpit
8. Bottle holder

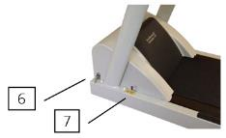
Comfort Cycle

1. Handle
2. Seat
3. Backrest
4. Adjustable foot
5. Pedals
6. Power connection / main switch
7. Bottle holder
8. Cockpit

Stair

1. Supporting bar
2. Pedals
3. Bottle holder
4. Power connection / main switch
5. Cockpit

Mill Alpin / Mill Tour



1. Supporting bar
2. Running belt
3. Adjustable foot
4. Power connection
5. Cockpit
6. Key switch
7. Circuit breaker

9 Commissioning

9.1 Powering Up

- Before switching on your exercise machine, make sure the machine is plugged in.
- Power up by pressing the switch on the power input module. (Not applicable for treadmill MILL ALPINE/TOUR, see next point). Power up by pressing the switch on the power input module. If the switch is in the 0 position the machine is switched off.
- Power up the treadmill MILL ALPINE/TOUR by operating the circuit breaker. Make sure that the key switch is in position 1 and the emergency stop is rotated outwards. The key switch (Ref. Chapter 8.4) offers the possibility to prevent the treadmill from being used without authorisation.
- The display indications show if the machine is powered up.
- After the machine is connected to the mains and powered up, an automatic diagnostic program runs.

NOTE! This diagnostic can take 1 - 2 minutes. During this operation, please do not operate any buttons apart from the main menu on the display.

Note! The machine factory settings are in the English language. To change the language press "Language" (Ref. Chapter 10.1)

9.2 Powering Down

The machine types UPPER BODY CYCLE, CROSS WALK, BASIC CYCLE, COMFORT CYCLE, STAIR, and CROSS WALK S are switched ON/OFF via the mains switch.

The machine types MILL ALPINE, MILL TOUR are switched ON/OFF via the key switch.

9.3 Correct Workout Technique

Through the heart-frequency-controlled training, the optimal load intensity of the trainee can be controlled. From a bio-mechanical point of view ensure that you train to an optimum.
In this Chapter, we have therefore listed the relevant aspects of each cardiac machine.

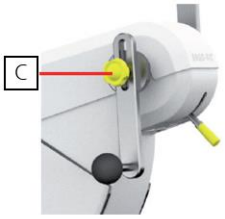
When using your training machine, be careful not to step on the panelling. Stand on the designated surfaces only.

Upper Body Cycle

- Depending on the use, the seat can be used or folded away. Grab the handle [A] below the seat and fold forwards to stow or move back to the rear. Be aware of the hazards noted in Chapter 17.7.

- Adjust the revolving unit (handle and control panel) to your height or your training position (sitting or standing): Stand or sit at the machine. In front of you at the bottom of the rotation axis you will find a lever [B]. Grab the lever on the yellow covering with one hand and press down or pull up. At the same time with the other hand grab one of the training grips and support the action by lightly pushing or pulling on the grip. To lock just release the adjustment lever. For alignment, there is a scale on the right-hand side of the rotating unit.

- For an even run of the crank handle it should be adjusted to the length of your arm. Adjust the hand crank handle length so that your arm is still slightly bent at the furthest position of the crank. For training in a sitting position sit down upright on the seat, the knees should be bent at a right angle. Grab the training handles at the ball and put the cranks horizontally. Release the crank clamp by opening the star knob [C] with a turn counter clockwise. Adjust the crank length by moving the training handle to match your arm length. Tighten the star knob again with a firm clockwise turn. For training in a standing position stand up and adjust the hand crank so that your arm is still slightly bent at the furthest position of the crank. Release the star knob as already mentioned and adjust the crank length and turn the star handle tightly again to fix the adjustment of the crank. For alignment, there is a scale on the right-hand side of the rotating unit as well as a red marking at the handle splint, this is so that you can easily remember your individual crank arm length.



- Position yourself now to the training position and move the crank handles as you know from treading the pedals on a bicycle. When training in a standing position, make sure that your legs are apart about the width of your shoulders. Stand on the platform provided.
- The training position described should be maintained throughout the exercise.
- Change the handle position as needed diagonally or parallel. Release the clamp by opening the star knob (anti clockwise rotation). Finally bring the crank arm to the desired position and turn the star knob in a clockwise direction to tighten.

Cross Walk

- The CROSS WALK is a cross between a stepper and a treadmill. It makes elliptical movements of the legs possible and is easy on the joints. Additionally, you can choose to train with or without using your arms. Thereby the machine becomes a complete body trainer in which case it can be used without any great effort.
- To mount and leave the Cross Walk, the pedal facing the body must be in the lowest position. Step on this pedal and hold on to the bars. Now put the other foot on the other pedal. Maintain an upright position.
- Make sure that you have a firm position on the pedals before you start the training and during training. Always end the training by pushing the STOP button and remove your feet only after the pedals have come to a complete standstill.
- Preferred direction of movement is forwards; practised users can also walk backwards to train their coordination (trains different muscle groups). Direction change is only allowed after the machine has come to a complete standstill.
- The training position described should be maintained throughout the exercise.

Basic Cycle

- Now determine the optimal seat height. The saddle height is crucial for seat comfort. For the determination of the optimal seat height, sit on the saddle and place one heel on the pedal. At the lowest pedal position, you should be able to extend your leg completely.
- To adjust the saddle height, stand at the machine and pull up on the saddle tube adjustment lever [D]. Due to the pneumatic compression spring the saddle will automatically move upwards. To lower the desired position, press down on the saddle using your body weight and at the same time holding the adjustment lever in the up position. To leave the desired height, release the adjustment lever.

- The horizontal saddle adjustment is carried out by means of a lever which is at the lower part of the saddle mount. Pull up on the lever [E] until the saddle can be adjusted. Pace the saddle into the desired position. Push the locking lever back into its original position to lock the saddle.
- Adjust the handlebars to your individual needs. The handlebar is formed ergonomically so that it offers the greatest possible efficiency both in an upright sitting position and in racing position. The angle of the handlebars can be adjusted by using the adjustment lever [F] under the cockpit. Turn the lever in a counter clockwise direction until the handlebar can be moved. Adjust the handlebar to the desired position. Turn the lever back to its original position to fix the position.

- The training position described should be maintained throughout the exercise.

Cross Walk S

- There is a toggle switch on the right side of the so-called seat console. Stand next to the machine and actuate the toggle switch by pressing the AB-switch [G] down until the position is reached whereby you can sit without exerting yourself.

- The electrical position adjustment is designed for short activation times with sufficient time to cool. Incorrect continuous operation can lead to failure due to overheating.

Please note: The required cooling time is 16 times the running time, i.e., the operating time of the lifting motor is 10 seconds, the cooling time required is 160 seconds. The maximum continuous operation is 60 sec.

- Step over the left pedal with your right foot and sit down.
- To make things easier bring the left pedal to the lowest position.
- Put your right foot on the right pedal and the left foot on the left pedal.
- Sit on the machine. Lie down with your back on the reclining area. If you have back problems support yourself with your hands when lying down.
- Now adjust the neck support to the desired position. It can be moved up and down without problems.
- The distance between the reclining area and the pedals can be adjusted. For this action the toggle switch is available, "AUF" button for up and the "AB" button for down. In the correct training position, the knees cannot be stretched completely.
- The reclining area can also be adjusted during training to vary the usage.
- Preferred direction of movement is forwards; practised users can also go backwards to train their coordination (trains different muscle groups). A direction change is only allowed after the machine has come to a complete standstill.
- Try not to move your upper body during the training.
- The training position described should be maintained throughout the exercise. When the machine starts running noises can occur. These will stop after a short period.

Comfort Cycle

- At the start of the exercise set the seat to the optimal position. Pull up the adjustment lever [H] to adjust. Set the seat to the most extended position.
- The lower part of the body does the main part of the work. The upper part of the body is not used. Therefore, keep the upper part of the body as still as possible during training.
- The training position described should be maintained throughout the exercise.

Stair

This exercise machine allows for a movement like climbing stair without putting stress on the joints. With STAIR, the focus lies on the lower body.

- Step on the pedals and hold on to the support bars.
- Do not support yourself. This changes the sequence of movements negatively and lowers the training effect. Only use the supporting bars to keep your balance.
- When you have reached a certain training level, you should not support yourself at all. The arms should swing synchronously to the walking movement.
- Always keep the upper part of the body upright during training (do not push the buttocks out) never completely stretch out the legs.
- Do not actively push down the pedals; these will sink down due to your own body weight. Synchronously to the lowering movement you must slowly reduce the pressure on the opposite pedal by raising your foot, and maintaining contact to the pedal. The pedals therefore work independently of each other.
- Rubber buffers are fitted under the pedals to reduce the impact on the joints when the pedals reach the lower limit position. Make sure you do not do the stair climbing movement to the limits. You should not carry out the movements so that the pedal limits either upwards or downwards are reached, only so can a fluid like movement be guaranteed.
- The intensity is controlled through the pedalling frequency. It is important that you maintain your individual step frequency. Avoid a constant changing of frequency.
- The training position described should be maintained throughout the exercise.

Additionally, for the STAIR:
For persons weighing more than 60kg the indicated walking speed can vary from the actual walking speed.

Mill Alpine / Mill Tour

- You can walk or run on the treadmill. Maintain a straight posture.
- Before starting training, step onto the treadmill, stand at the forwards position of the band and put on the safety line. Gradually increase the speed of the treadmill to get used to the stress and that you do not trip. During training make sure that you do not approach the rear of the treadmill, there is a danger of falling.
- If you have problems keeping your balance use the support bars. Otherwise do not use the support bars. Swing your arms to help maintain your balance.
- To change the load, you can alter the gradient by using the UP and DOWN buttons. With the MILL ALPIN you can choose a gradient of 0% to 20%. With the MILL TOUR from -5% to + 15%.
- Load control is carried out over the speed. You can freely choose the speed (Performance area 0.2 - 25 km/h). The speed of the treadmill will be regulated correspondingly. It is important that you maintain your individual running speed. Avoid a constant changing of speed.

Safety line with the Mill Alpine / Mill Tour

For the safety of our clients a safety line is fitted to MILL ALPIN/TOUR treadmills. This is fastened to the clothing of the client by means of a clamp (refer to graph on the right). In the event of a fall or similar, the safety line comes away from the magnetic contact switch and the treadmill comes to an immediate stop.

Fastening the safety cord:

- Remove the delivered safety line from the transparent plastic.
- Connect the magnet to the magnetic socket.

⚠ The treadmill only functions so long as the magnet is in the socket.

Getting off in an emergency

If the tread must be left quickly in an emergency, it can be achieved by grasping the handlebar at the front or both side handrails and by jumping with both feet on the side platforms.

Emergency Stop switch with the Mill Alpine / Mill Tour

In an emergency, use the emergency stop switch. The treadmill stops suddenly. Afterwards, the treadmill can be safely left to the rear. A safe dismounting in emergencies can be ensured by holding on to the side rail. When operating the machine again the Emergency Off button needs to be rotated to unlatch. The machine software starts from new.
Make sure with the MILL ALPINE/TOUR treadmills that the on / off cycle is at least 30 seconds. Otherwise disturbance in the treadmill motor control can occur.

Restart after STOP with the safety line

After the magnet has been refitted into the socket the machine will return to the main menu.
Training with a chip card:
If the machine was stopped with the safety line before the training program ended, the training data will not be stored on the chip card. The training session can therefore be repeated.

Restart after STOP using the emergency stop

By a renewed start of the machine the emergency stop must be reset by rotating the emergency stop button ¼ turn in a clockwise direction. The machine software will be completely restarted (Ref. Chapter 9.1).
Training with a chip card:
If the machine was stopped with the emergency stop before the training program ended, the training data will not be stored on the chip card. The training session can therefore be repeated.

⚠ The raising motor for the slope adjustment is designed for short action times with sufficient cooling times. Please note: The required cooling time is 16 times the running time, i.e., the operating time of the lifting motor is 10 seconds, the cooling time required is 160 seconds. The maximum continuous operation is 60 sec.

Incorrect continuous operation can lead to failure due to overheating. In this case, allow the motor to cool-down; the function is usually restored.

For the MILL ALPINE / TOUR treadmills, the following applies in addition: When the treadmill is in operation, do not stand on the running belt or do not twist! Risk of injury!

⚠ For the MILL ALPINE / TOUR treadmills, the following applies in addition: For people with a body weight of more than 75 kg and a running speed of more than 16 km / h, speed losses or uniformity restrictions are to be expected. (This depends on the condition of the treadmill and the weight of the user).

9.4 The Cockpit

The cockpit consists of

- Chip card – reader / writer unit
- USB/Audio – connection
- proxomed® -SmartPanel (Touch Screen-Monitor)

BASIC CYCLE, COMFORT CYCLE, UPPER BODY CYCLE, CROSS WALK, CROSS WALK S, STAIR

Connection USB-/ Audio

SmartPanel

Chip card reader

RS232 – Connection socket at the back of the Cockpit

MILL ALPIN, MILL TOUR

SmartPanel

Chip card reader

RS232 – Connection socket at the back of the Cockpit

Connection USB / Audio

RS232 connection socket for PC connection

The machines BASIC CYCLE and MILL ALPIN/TOUR are optionally supplied with RS232 connection sockets for connection to a PC. The connection may only be made with the medical device via an electrically isolated adapter. This can be obtained as a corresponding connection cable from proxomed.
The connection socket is on the rear of the Cockpit.

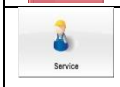
⚠ Please not the following:

- DO NOT lean on the cockpit or the display. This can lead to damage.
- DO NOT use the cockpit to pull yourself up (especially by the COMFORT CYCLE). This can lead to damage.
- DO NOT put pressure on the display.
- Tap the display only lightly.
- DO NOT use pointed instruments (e.g. ballpoint pen) to operate the touch screen.

10 General Operating Notes

10.1 Primary Operating Buttons

The following buttons can be found on the display depending on mode of operation:

Key	Function		Function
	Call trainer (only with proxos Connect SmartPanel).		Change the indication during training to speed indicator.
	Language choice. The languages selected in the configuration menu will be displayed.		Change the indication during training to diagram indicator.
	Access to the log in menu, via the next selection with different permissions.		Change the indication during training to other relevant training parameters.
	Increase of the indicated value.		Increase of the indicated value.
	Decrease of the indicated value.		Decrease of the indicated value.
	Stop the current operation. Return to main menu.		Confirm with “Dialogue“.
	Continue to next step.		Reject with “Dialogue“.
	Start training.		End application. Return to main menu.
	End training.		Trainer Login.
	Login Service Technician		Administrator Login

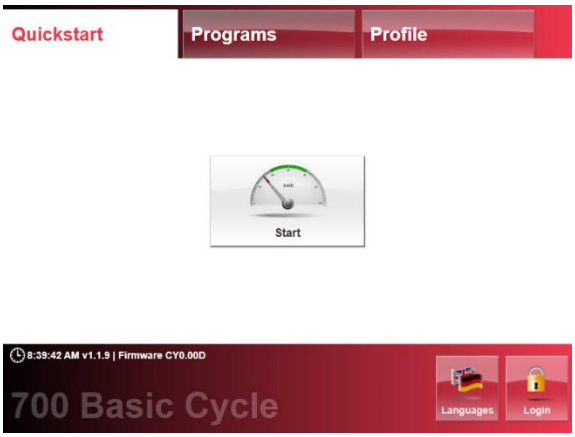
10.1.1 Special Buttons

In order not to clutter the display after the start of training, changes in the training parameters are through the key <Training requirements> and are shown in a different display window.
In special cases, it increases the user comfort when certain parameters can be changed directly.
The predefined parameters are shown either on the left or on the right.

- Touch the display panel
- The display panel is extended to include the <Raise> and <Lower> keys
- Changing the value
- After a few seconds of inaction, the additional keys will disappear

10.2 The Main Menu

Upon power up the machines starts in the main menu.



Training applications

- Quick start:
  For manual training control
- Program:
  Pre-set training or therapy goals, e.g. invigoration, metabolic function, mobility etc...
  The load varies according to the individual profile.
- Profile:
  Pre-set load profile.
  The load is specified by the chosen profile.

Service

- Enter the service menu (Ref. Chapter 10.3)

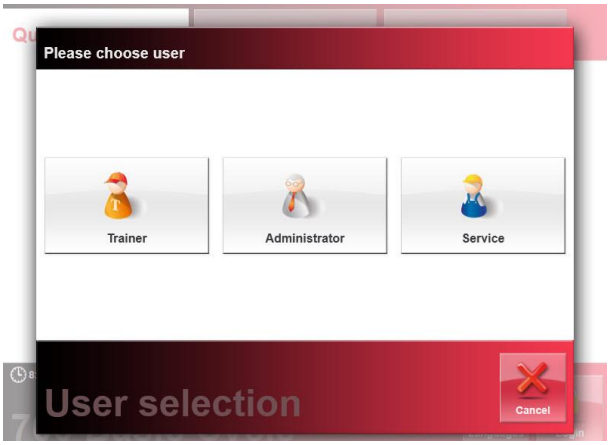
Language choice

- Choose the desired language

10.3 Service menu, Machine Configuration

The service menu allows different actions, dependent on the access as;

1. Trainer
2. Administrator
3. Service (access only for authorised service technicians)



Login Selection:
Choose "Trainer" or "Administrator".

Login as Trainer:
Enter the login code. The factory default administrator code is 0000.
Rights for trainer:

- Changing the training parameters with use of chip card.

Login as Administrator:
Enter the login code. The factory default administrator code is 1111.
Rights for the Administrator:

- Changing the training parameters with use of chip card. (Ref. Chapter 9.5.4)
- Change login code for trainer
- Change login code for administrator
- Reset to factory default
- Access to the maintenance mode
- Configuration (language, time etc.)
- Install software update (Ref. Chapter 12)

10.4 Training control with chip card

The machine of the kardiomed® 700 line has an integrated chip card system which allows a minimum of operational effort.

- All training relevant data can be passed on to the machine via the chip card when used with the proxomed® training plan software.
- At the end of the training the user can insert his chip card into the card reader at the central "Info Point". The training data will be transferred automatically to the training plan software.

For more information on the proxomed® training plan software please request detailed information!

The chip card reader is a very sensitive component. To avoid failure during continuous operation, make sure that only limited force is used when inserting the chip card into the card reader. Insert the chip card into the card reader so that the chip is on the underside of the card.

If the chip card is removed before the training session has ended; the training results will not be stored on the chip card. The training results will only be store after the completion of the predefined training time or through operation of the <STOP> key.

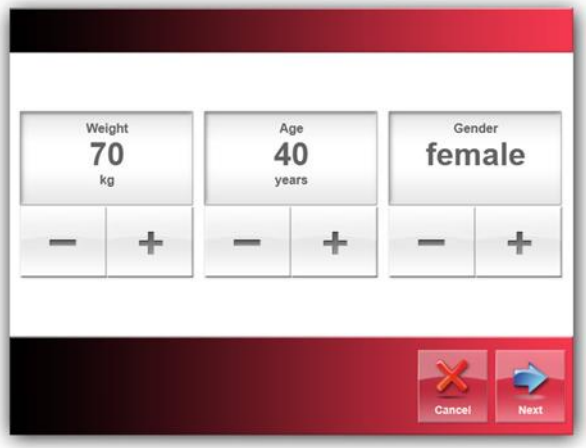
10.5 Parameters Required For Function Of Programs And Profiles

All programs and profiles require pre-setting, which all work according to the same scheme.

A) Manual entry or
B) Via chip card, information is transferred to the machine control software

10.5.1 Enter Body Pre-set Data

This window will only show when the chip card is not used.

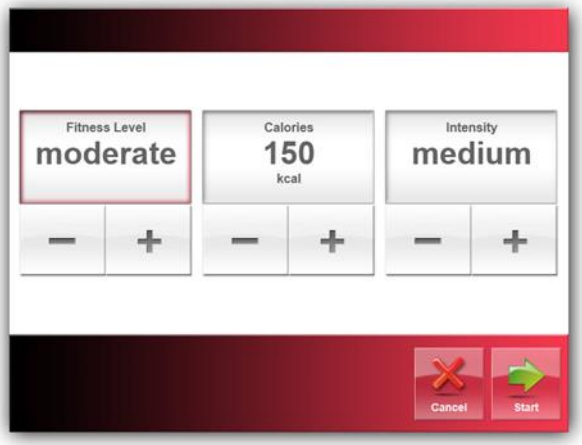


Enter data with + / -.

<Next> to enter pre-set training data.
<Cancel> return to main menu.

10.5.2 Input and Change Training Parameter

This window will only show with chip card when changes are made to the training parameter.



In order not to clutter the display after the start of training changes in the training parameters are through the key <training requirements> and are shown in a different display window.
Enter the pre-set training parameter with + / - .

<START> to begin the training.
<Cancel> return to main menu.

Training condition:

non-trained -	no endurance training
moderate-	minimum 1-hour aerobic training per week
fit-	minimum 2-hour aerobic training per week
sportsman -	at least 3 hours endurance training per week
athlete-	more than 4 hours endurance training per week

Note:

With the treadmills, the training state is decisive for the speed range of the programs with dependent Cardio control.

- Untrained - Max. 10 km/h
- Beginner - Max. 12 km/h

- Well trained - Max. 14 km/h
- Athlete / Competitive athlete without limit

Performance target (kcal):
Defines a training goal, e.g. calories, distance etc.
Threshold (intensity):
Defines the threshold for the automatic load regulation.

10.5.3 User Change Of The Training Parameters

User changes of the parameter data stored on the chip card is possible; however, this will not be stored on the chip card and will therefore have no effect on the training control or the training plan software. Proceed as follows:

- Press the button <Training requirements>.
- Change value. The machine reacts immediately to the changes.
- Press the button <Continue>.

10.5.4 Change and Save Of Training Parameters Through The Trainer Or Therapist

Changes to the training parameters and storage of the changed value onto the chip card for transfer to the training plan software are possible. Proceed as follows:

- Press the button <Training requirements>.
- Press the button <Login trainer>.
- Change value. The machine reacts immediately to the changes.
- Press the button <Logout trainer>.
- Press the button <Continue>.

10.6 Load Adjustments

Adjustments to the load of the different machine types are as follows:

machine type	Power range	Graduation / steps	Load range
UPPER BODY CYCLE	15-400 W	5 W	20 -120 r pm
CROSS WALK	15-200 stress levels	Steps of 5	15 -200 steps / min.
CYCLE	15-600 W	5 W	20 -120 r pm
CROSS WALK S	1 - 29 steps, or 25 - 400 W (with pulse driven programs)	-	20 -120 r pm
COMFORT CYCLE	15-600 W	5 W	20 -120 r pm
STAIR	15 -155 steps per minute	5 stage	15 -155 steps per minute
MILL TOUR	0.2-25 km/h	0.1 km/h	0.2-25 km/h - 5% descent to +15% gradient
MILL ALPIN	0.2-25 km/h	0.1 km/h	0.2-25 km/h 0% descent up to +20% slope

10.7 Heart Rate Measurement

All devices of the kardiomed® 530 line are equipped with the original Polar pulse system, which takes place using a chest-belt detection (chest-belt transmitter is not included). The wireless data transmission into the display electronics takes place uncoded. Polar technology is based on the signal transmission using a magnetic field. This magnetic field can be disturbed by many factors. The most common causes are the use of non-100% Polar compatible chest-belts, which have a much larger reach. Likewise, mobile phones, loudspeakers, TV, power cables, fluorescent tubes and motors with high power can interfere with signal transmission.

Safety instructions according to DIN EN ISO 20957-1:

The heart rate monitoring system may be faulty. Too vigorous training can lead to dangerous injuries or death. If your performance drops drastically, stop exercising immediately.

10.7.1 Correct Positioning Of POLAR® - Transmitter

Dampen the electrodes (the two ribbed rectangular zones on the lower side) before putting on the belt. To obtain an optimal contact to the skin use contact gel as is used for ECG measurements. Adjust the belt length so that it is tight on the skin below the pectoral muscle, but still feels comfortable. The belt should not come loose. Be careful when putting on the chest-belt that it is on correctly – the POLAR logo should be readable from the front.
Also, make sure that the two electrodes are not bent. A pulse measurement can only be carried out when the chest-belt is correctly worn.
For hygienic reasons the transmitter and especially the electrodes should be washed with soap and warm water after each use. Never brush the electrodes! Do not use alcohol!

10.7.2 No Pulse Signal!

When using the Cardio dependent operational mode, a warning dialogue will appear when a pulse signal is faulty or missing. The application will be ended automatically if this condition remains for more than 30 seconds.

10.7.3 Range POLAR® - Transmitter

The range of the transmitter is approx. 80cm. If more than one piece of machine is in use, ensure that there is a minimum distance of 100cm between each piece of equipment; otherwise the transmitters can interfere with each other.

10.7.4 Battery POLAR® - Transmitter

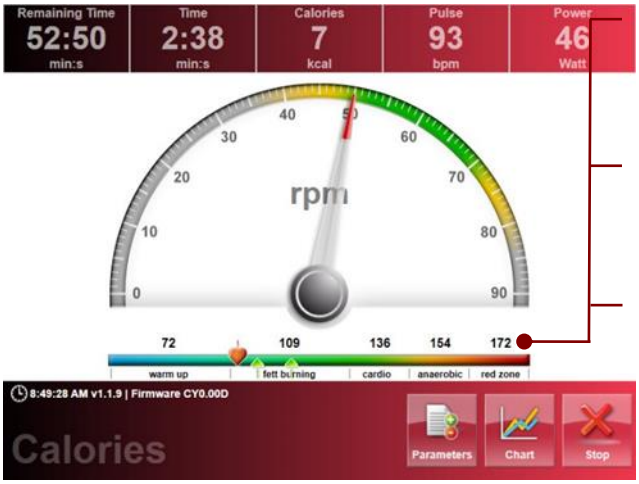
If, after long periods of operation the pulse transmission only works over a small distance between the transmitter and receiver or, ceases to function entirely, it is possible that the battery is empty (normal use is approx. 2500 hours).
Send the transmitter with the empty battery to the following address:
POLAR® Electro GmbH Deutschland, Am Seegraben 1, 64572 Büttelborn/Klein-Gerau. Your transmitter will be returned with a small charge. Do not try to change the battery yourself!

10.7.5 Possible Sources of Interference

- Display screen, electro motor
- High voltage lines, including railway track
- Intense fluorescent tubes in close proximity
- Central heating radiator
- Other electrical machines

The repositioning of the training machine just a few metres from the interference source can be effective. Even altering the angle of the machine just a few degrees can be sufficient.

10.8 Pulse Zone - Indicator



Pulse zone:
The individual pulse zones are calculated using common formulae based on entered body data.

Marking current heart rate:
If a pulse transmitter is worn, the pulse frequency is indicated with a blinking heart on the scale.

Marking target heart rates:
Programs / profiles with a definite target heart rate. Indication is with a green triangle on the scale. This is indicated with a green triangle on the scale.

10.9 PulsLogic – Pulse Dependent Load Regulation

All ergometer machine of the type kardiomed® 700 are equipped with the intelligent PulsLogic – system; this allows the use of the heart rate controlled programs PULSKONSTANT (constant pulse), FETTSTOFFWECHSEL (lipometabolism) and KARDIOTRAINING (cardio training).
The load (load in Watts; speed in km/h or m/min.) is automatically regulated according to certain algorithms (compare 10.9.2) to achieve and maintain the pre-set training heart rate. If the pulse zone value is exceeded, the load is automatically reduced.
The PulsLogic can optimally adjust the load in small or large steps, depending on the training state or heart rate development / increase. A constant target-current-comparison between the current pulse rate and the target pulse rate ensures adjustments which ensure a uniform, physiological control of the performance.
An excess of the heart rate over the predetermined pulse value is prevented by appropriate, effective filters. If the target heart rate is nevertheless exceeded, PulsLogic immediately adjusts the resistance downwards. A longer-term excessive heart rate is practically impossible.

10.9.1 Start Load

The automatic regulation is carried out according to the "Training state". With the training states "fit", "sportsman" and "athlete" the heart rate controlled program starts without any special warm-up phase, however with a moderate start load on order to avoid a too rapid increase in heart rate. The initial load is as follows:

fit:	75 Watt
sportsman:	125 Watt
athlete:	125 Watt

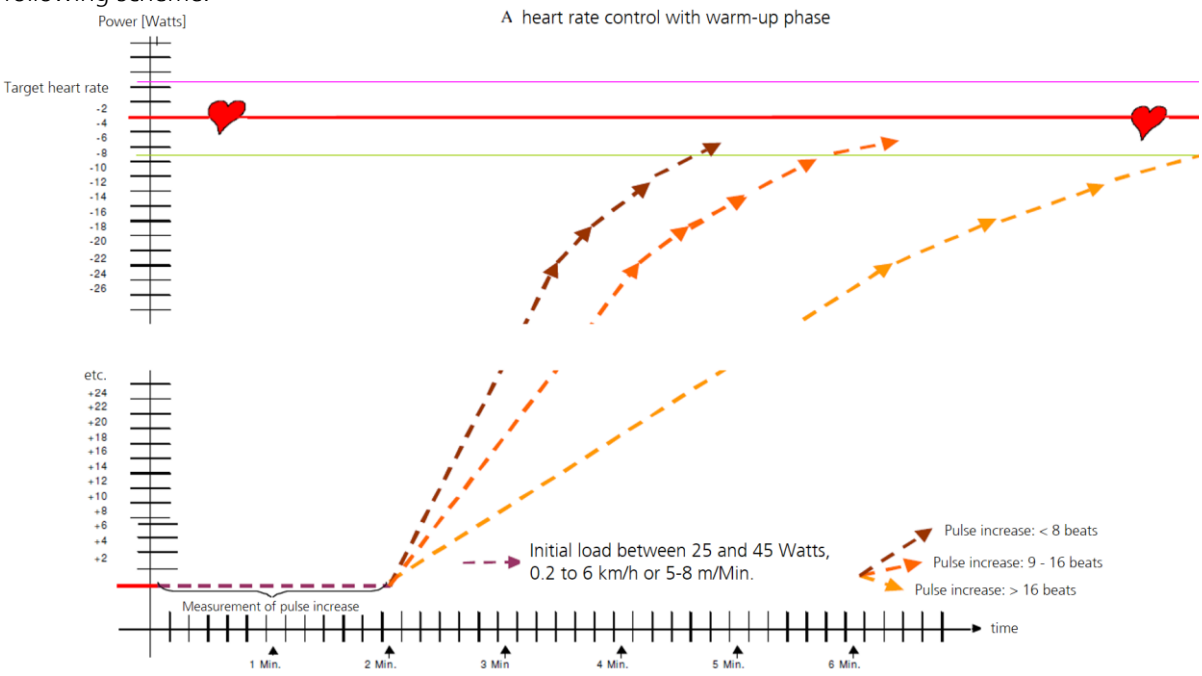
With the training states "non-trained" and "moderate", the Cardio controlled program starts with a warm-up phase and a minimal load. During the 2 minutes warm-up phase the development of the heart rate is measured and used as a factor in the heart rate control algorithm (comp. 10.9.2).

10.9.2 Control Algorithms

Three different programs are used for the control of the load within the scope of PulsLogic.

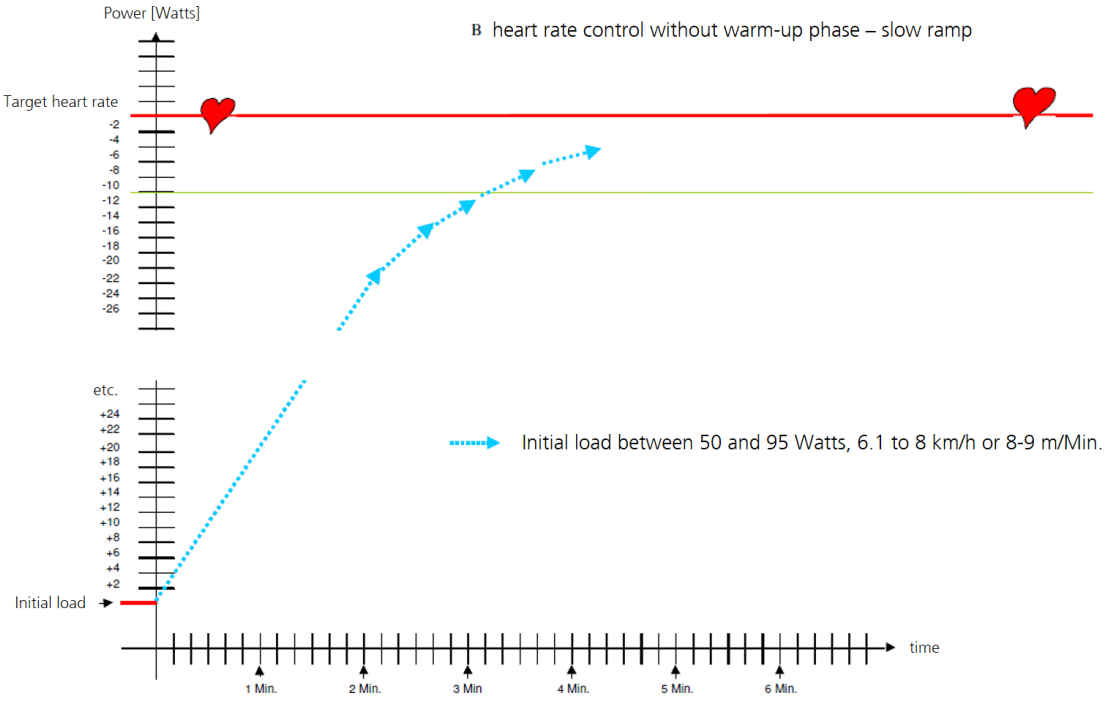
A heart rate control with warm-up phase

This program is used for the training states "non-trained" and "moderate". During the warm-up phase, the pulse increase is measured. Depending on how much this is, the performance is regulated more quickly or slowly until the pulse corresponds to the target pulse. Details can be found in the following scheme.



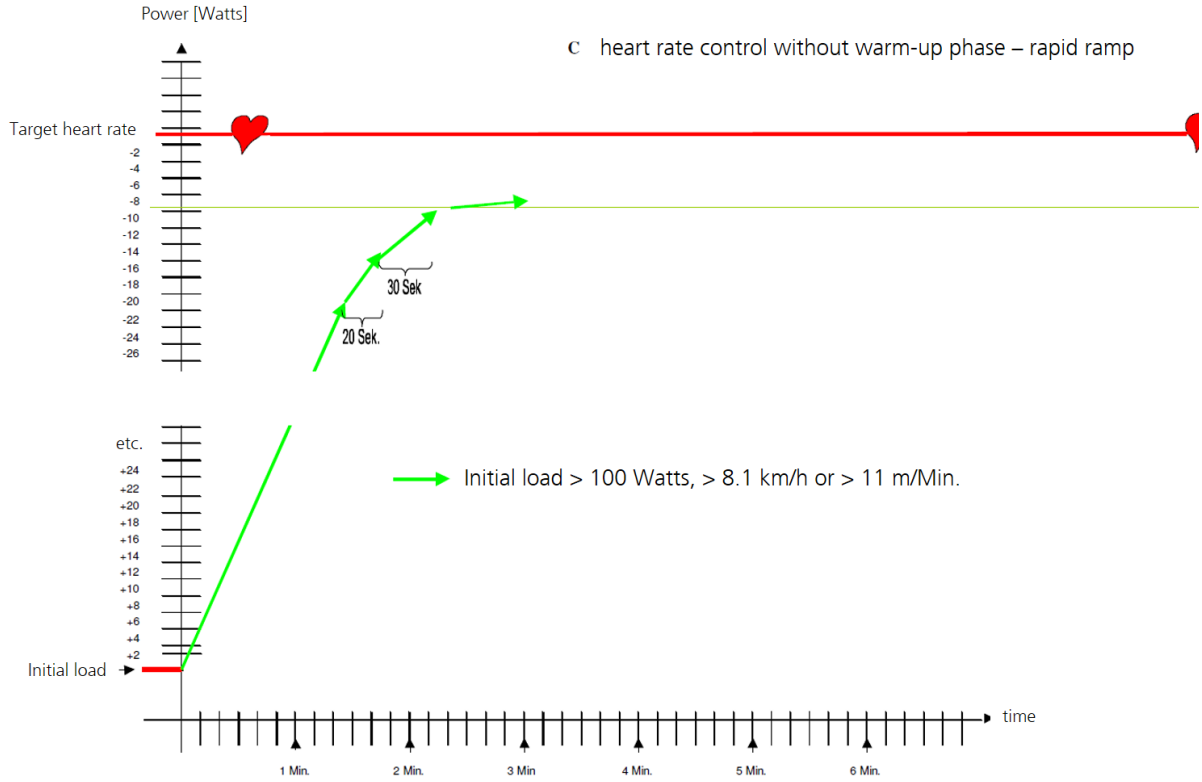
B Heart rate control without warm-up phase - slow ramp

This programme is used for the training state "fit". The load starts without a warm-up phase. The direct start load is 75 Watt. Details can be found in the following scheme.



C Heart rate control without warm-up phase - rapid ramp

This program is used for the training states "sportsman" and "athlete". The load starts without a warm-up phase. The direct start load is 125 Watt. Details can be found in the following scheme.



It is obvious, that by appropriate pre-selection, the way the trainee is guided to the target heart rate varies. It should again be pointed out that an individual stress should be determined by means of an IPN® test carried out beforehand.

10.9.3 Effective Training Zone

The effective training zone is the area between the pre-set pulse value less 10 beats. The effective training begins once the target pulse range is reached.
With the heart rate controlled training programs only those values are included in the evaluation which were measure in the effective training zone.
In the training evaluation, the value "Ø average performance" is a comparison possibility and gives information about the effectiveness of the training.

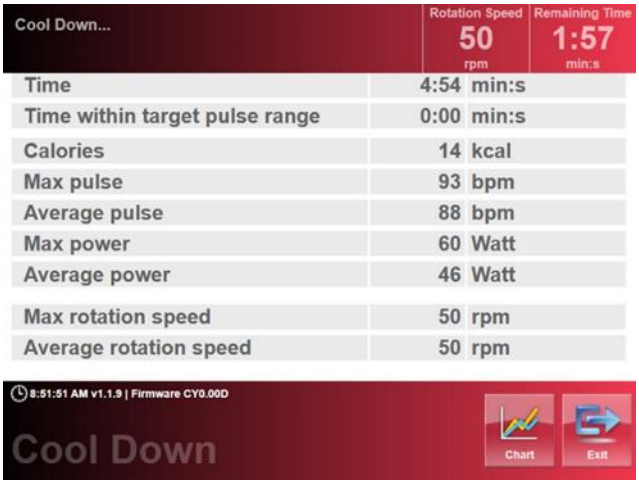
10.10 Abort Training

Press <STOP> to end the training before the predefined training duration has ended.

Answer with <YES> to end the training.

Answer with <NO> to continue the training.

10.11 Training End / Training Evaluation



Cool Down:
With some of the programs / profiles an automatic transition to a cool-down phase is carried out at the end of the programme (10.2).

Training evaluation:
The training values are shown.
If a chip card is used the results of the evaluation will be written to the card.

Training time	Complete training duration
Effective training time	Time in the target pulse range (+0 / -10 beats)
Ø Speed	Ø Speed during the complete training duration
Maximum speed	Max. speed during the complete training period training duration
Ø Pulse	Ø Pulse during the complete training duration
Max. Pulse	Max. performance during the complete training period training duration

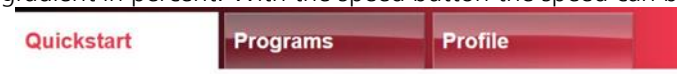
Ø effective performance	Ø time in the target pulse range (+0 / -10 beats)
Ø performance	Ø during the complete training duration
Maximum: Performance	Max. performance during the complete training period training duration
Complete distance	
Complete calories	

11 Description Quick Start, Programs and Profiles

11.1 Quick Start

No pre-sets are necessary. The training can be started immediately with <START>. With the machines, BASIC CYCLE, COMFORT CYCLE and UPPER BODY CYCLE the resistance can be changed by using the <gear> button.
Low gear --> low load --> low speed, compare to a high gear --> high load --> high speed.

Functional differences with
CROSS WALK, CROSS WALK S:
The load is changed with <Level>.
Low level --> low load, compared to high level --> high load.
STAIR:
The load is changed with <Level>.
Low level --> low speed, compared to high level --> fast walking pace.
MILL ALPIN / MILL TOUR:
The load is changed with <Speed> and <Gradient.
"Quick start" requires no pre-sets and therefore allows for a rapid start. The Gradient button changes the gradient in percent. With the speed button the speed can be varied.



Start:
Press <START> to immediately begin training

Speedometer:
Try to keep the speed in the green part of the scale.

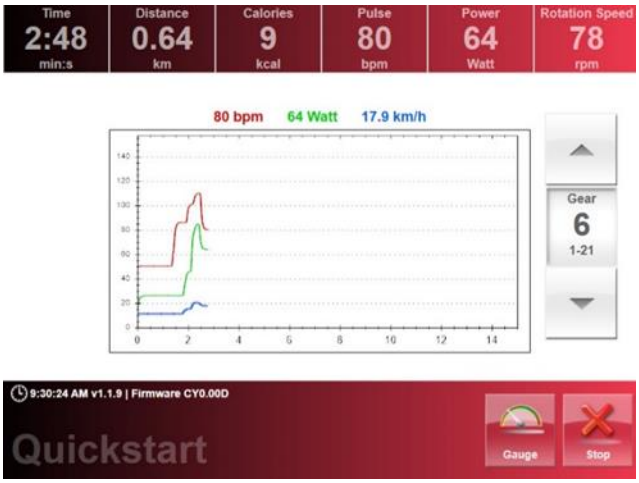


Diagram:
Frequency, performance and rotational speed are displayed with lines.

11.2 Cool-Down

If a cool-down is still ongoing at the end of a completed programme, the load control is based on the following parameters:
Over a period of two minutes the load is reduced every 30 seconds.
The load is based on a reference value. This is the average load during the last 60 seconds of the previously completed programme.

- 0 - 30 Sec. 75% of the reference value
- 30 - 60 Sec. 60% of the reference value
- 60 - 90 Sec. 45% of the reference value
- 90 - 120 Sec. 40% of the reference value

11.3 Program

A "Program" is defined as a training application with defined training or therapy goals, e.g. strengthening, metabolic function, mobility etc.

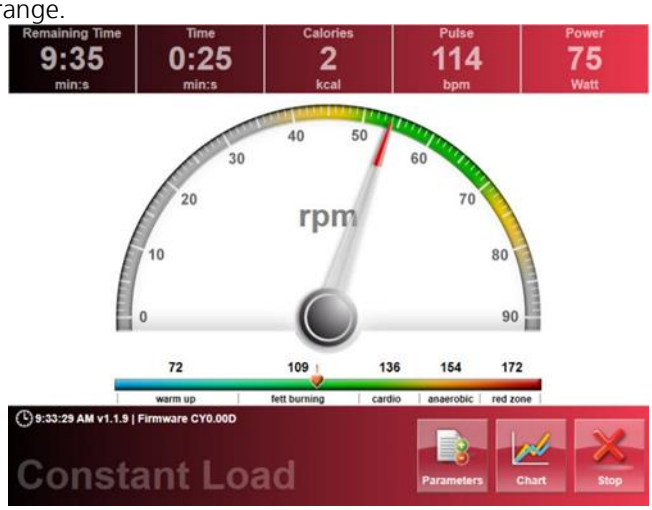
Depending on the different machines the following programmes are implemented:

Machine	Program		
BASIC CYCLE, COMFORT CYCLE, UPPER BODY CYCLE	• Constant load • Lipometabolism	• Iso Kinetics • Pulse constant	• Load sensitive • Cardio training
CROSS WALK **CROSS WALK S**	• Constant load • Lipometabolism	• Load sensitive • Pulse constant	
STAIR	• Constant load • Lipometabolism	• Load sensitive • Pulse constant	
MILL ALPIN **MILL TOUR**	• Constant load • Lipometabolism	• Load sensitive • Pulse constant	

11.3.1 Constant Load

With the "Load constant" programme the pre-set load will be kept constant independent of the pedalling speed. The performance can be changed manually during the training. Correspondingly the load automatically increases by increasing rotational speed and the load decreases by a reduction of the rotational speed. The performance resulting from speed and load remains unchanged.
Pay attention to your pulse during training.

Functional differences with
CROSS WALK, CROSS WALK S:
In the above machine types, the load level is primarily determined by the step speed. The step speed should be kept within the "green zone" (tacho-scale) to achieve a uniform load.
In the "yellow zone" a too high step speed is reached and signalled by rapid automatic deceleration of the machine. By decreasing the step speed to the green zone, the machine reverts to the pre-set load range.



Speedometer:
If possible, keep your movement speed in the green area of the scale.

You can change to the diagram view with the <DIAGRAM> key. The operation is the same as the speedometer view.

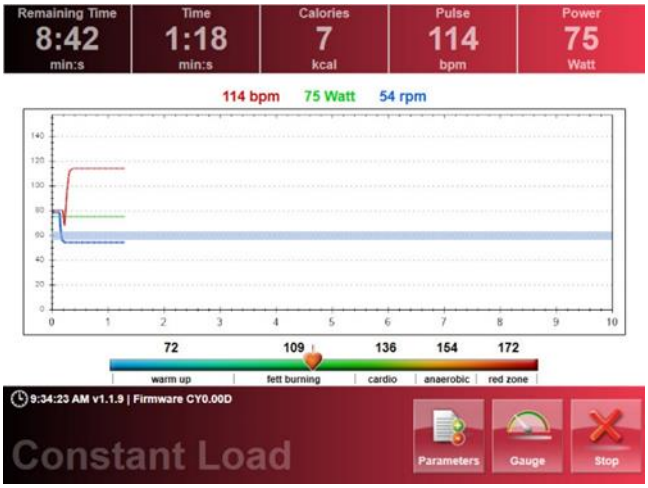


Diagram:
During the training the heart rate, power and speed is displayed.

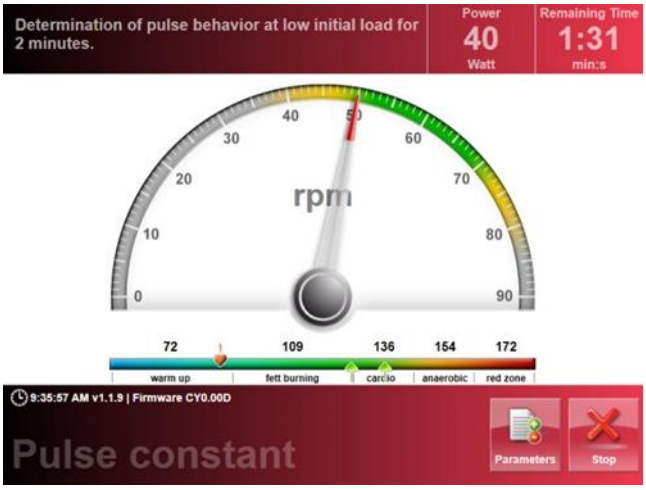
With <TACHO> you can change to the speedometer view. The operation is the same as the diagram view.

Training parameters change:
Press <Training requirements> to change training relevant parameters:

- Training duration
- Load

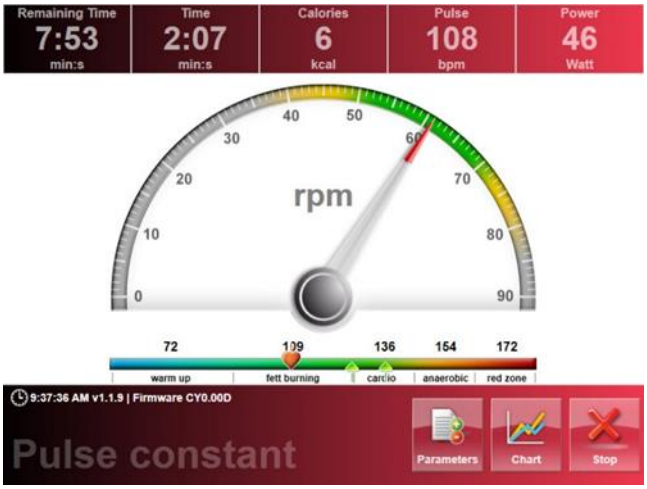
11.3.2 Pulse Constant

Purpose of the program is to train with a predefined heart rate. When using without a chip card, the range of the training pulse to be reached is calculated based on the personal data as a non-binding recommendation and can be corrected if necessary. It is highly recommended to determine the suitable training pulse with an IPN-Test.
For this functional application, a pulse transmitter is required. The application will be stopped automatically if no pulse information is received within 15 seconds after start.
With the training conditions "non-trained" and "moderate" the program starts with a 2 minutes warm-up phase during which time the pulse behaviour is monitored. (Compare Chapter 10.9).
The performance is successively increased until the predetermined training pulse range marked by green triangles is reached.
As soon as the correct training heart rate is reached an audible signal will sound.
If the heart rate increases further during the training and exceeds the defined training pulse range, the performance is successively reduced until the target is reached again.



(Indication during the warm-up phase)

If possible, keep your movement speed in the green area of the scale.



(Indication without or after the warm-up phase)
Training parameters change:
Press <Training requirements> to change training relevant parameters:

- Training duration
- Target pulse range

You can change to the diagram view with the <DIAGRAM> key. The operation is the same as the speedometer view.

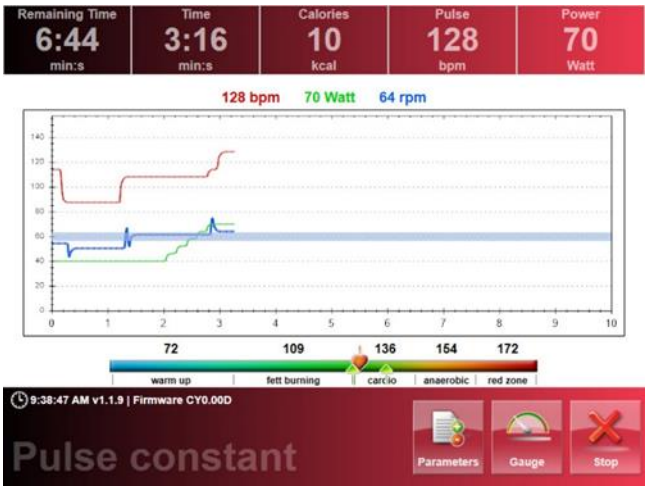
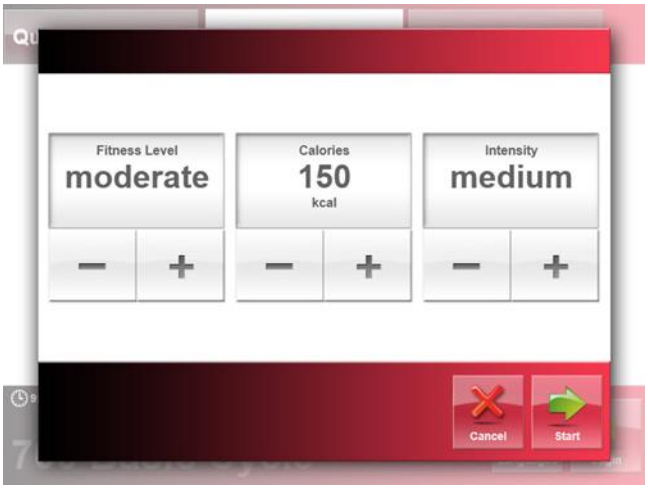


Diagram:
During the training the heart rate, power and speed is displayed.

With <TACHO> you can change to the speedometer view. The operation is the same as the diagram view.

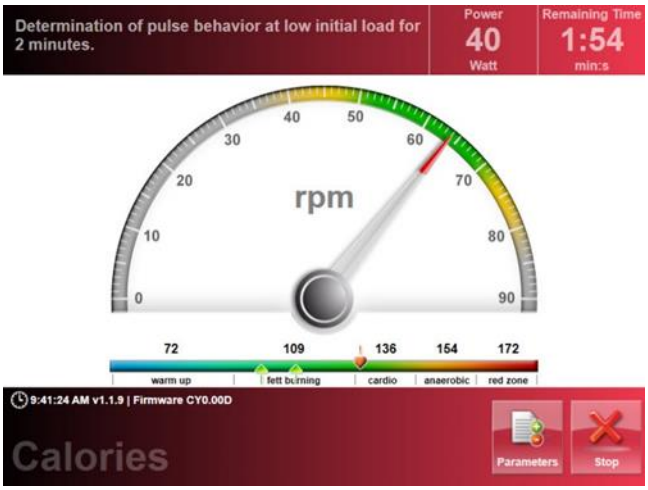
11.3.3 Lipometabolism

The purpose of this program "Calories" is to burn a certain amount of lipometabolism with an optimal fat burning heart rate. This is calculated using standard formulae.
The duration of the programme is calculated from the time required and the burned calories.
When using without a chip card, the range of the training pulse to be reached is calculated based on the personal data as a non-binding recommendation. It is highly recommended to determine the suitable training pulse with an IPN-Test.
For this functional application, a pulse transmitter is required. The application will be stopped automatically if no pulse information is received within 15 seconds after start.
The calories burned calculation is clarified by entering "Physical condition". The input of the intensity (moderate, medium or high) influences the automatic calculation of the training pulse range.
A subsequent correction takes place with a changing of the intensity by pressing the <Training Requirements>. Depending on the selection, the range of the heart rate to be reached is increased or decreased.
With the training conditions "non-trained" and "moderate" the program starts with a 2 minutes warm-up phase during which time the pulse behaviour is monitored. (Compare Chapter 10.9).
The programme "fit" starts with 75 W initial load, the programmes "sportsman" and "athlete" with an initial load of 125W.
As soon as the correct training heart rate has been reached an audible signal will sound.
If the pulse falls below the defined threshold, the resistance is successively increased.
The other way, the resistance decreases when the defined upper threshold is exceeded.



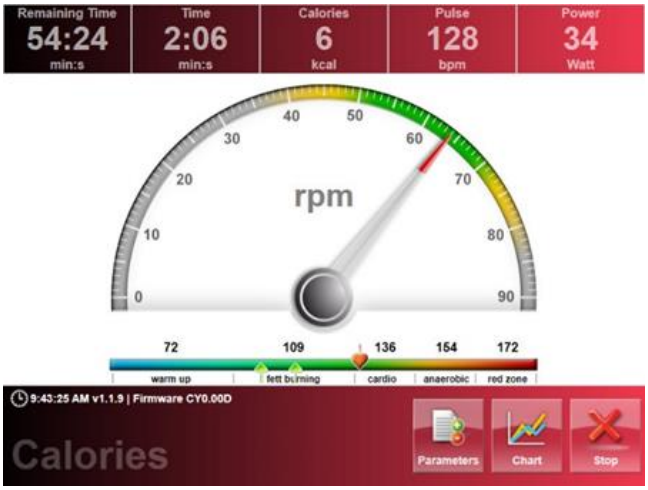
Pre-set of training parameters:

(Applies for applications without chip card)
Change the default values if necessary.



(Indication during the warm-up phase)

If possible, keep your movement speed in the green area of the scale.



(Indication without or after the warm-up phase)

You can change to the diagram view with the <DIAGRAM> key. The operation is the same as the speedometer view.

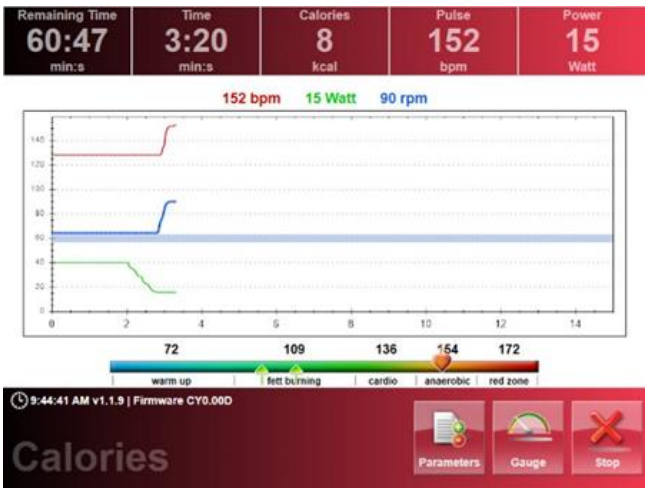


Diagram:
During the training the heart rate, power and speed is displayed.
Training parameters change:
Press <Training requirements> to change training relevant parameters:

- Target calories
- Intensity

With <TACHO> you can change to the speedometer view. The operation is the same as the diagram view.

11.3.4Load Sensitive

With the "Load sensitive" program the pre-set load will be kept constant independent of the pedalling speed. The load automatically decreases by increasing rotational speed and the load increases by a reduction of the rotational speed.
In contrast to the programme "Constant load", it is possible to enter load restrictions of the respective extremity and the cardiovascular system.
A limitation of the cardiovascular system through the additional training parameter
<Max. Pulse>
is possible.

A limitation of the extremity through the additional training parameter
<Max. Load>
is possible.

A 3-fold audible signal will sound if <Max. Pulse> is exceeded. The performance will be reduced until the heart rate is 10% lower than the threshold value. When reached a single audible signal sounds and the performance is again increased to the defined value.
When using without a chip card, a standard value for max. pulse is specified. This can be corrected if necessary. It is highly recommended to determine the suitable training pulse with an IPN-Test.
If the defined pulse limit <Max. Pulse> is permanently exceeded, then the performance should be corrected manually. Only in this way can a physiologically meaningful training be carried out.
For this functional application, a pulse transmitter is necessary. The application will be stopped automatically if no pulse information is received within 15 seconds after start.

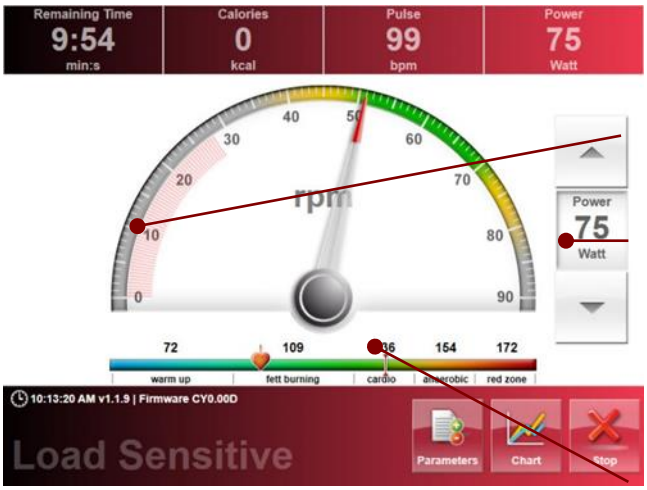
If, because of increasing fatigue, the step frequency decreases strongly, the resistance increases so that the performance is kept constant. The muscular load and the force which must be applied by the muscles are therefore also increasing. To avoid overload, the load is adjusted downwards as soon as the step frequency is in the red area on the display. This critical range of slow step frequency is determined by changes of <Max. Load> in the training requirements and the performance in the display.
Only when the step frequency has increased again is the load increased until the predetermined performance is reached.

Functional differences with
CROSS WALK, CROSS WALK S:
In the above machine types, the load level is primarily determined by the step speed. The step speed should be kept within the "green zone" (tacho-scale) to achieve a uniform load.
In the "yellow zone" a too high step speed is reached and signalled by rapid automatic deceleration of the machine. By decreasing the step speed to the green zone, the machine reverts to the pre-set load range.

STAIR:
With the above mentioned machine a max. load limitation is not possible.

MILL
With the above mentioned machine a max. load limitation is not possible.

Pre-set of training parameters:
(Applies for applications without chip card)
Change the default values if necessary.



Speedometer:
If possible, keep your movement speed in the green area of the scale.
The highlighted areas change with the training parameters <Performance> and <Max. Load>
Training parameters change:
Direct performance modification
Press <Training requirements> to change training relevant parameters:

- Training duration
- Max. Load
- Max. Pulse

Markings for <Max. Pulse>

You can change to the diagram view with the <DIAGRAM> key. The operation is the same as the speedometer view.

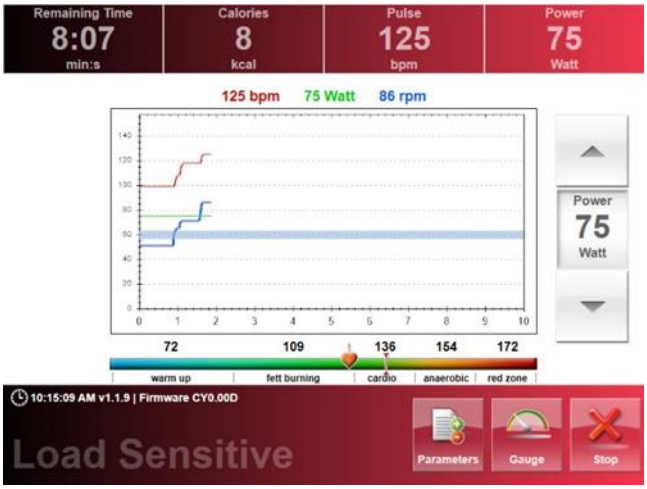


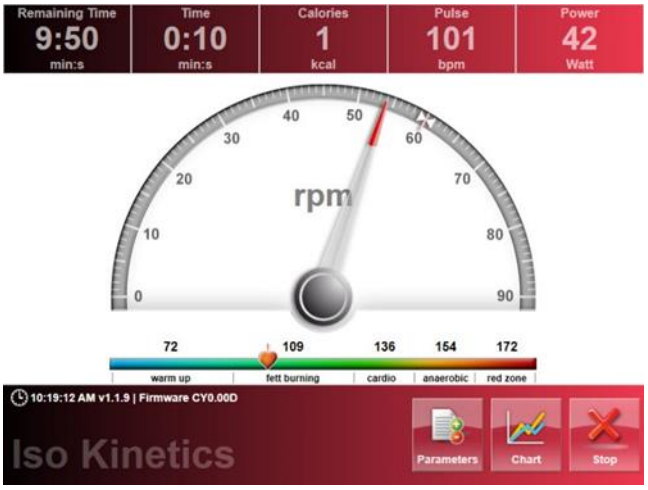
Diagram:
During the training the heart rate, power and speed is displayed.

With <TACHO> you can change to the speedometer view. The operation is the same as the diagram view.

11.3.5Iso Kinetics

The "Iso Kinetics" automatically adjusts the load to the threshold of muscular fatigue.
The minimum speed is pre-set for this purpose as the threshold for the load regulation. The load is low until the threshold is reached. Once the threshold is reached the load is increased.
The load increases once the threshold is exceeded, until the rotational speed falls below the threshold.
The regulation is dynamic, this means that the more the threshold is crossed in either direction the more the load is increased or reduced.
Pay attention to your pulse during training.

Pre-set of training parameters:
(Applies for applications without chip card)
Change the default values if necessary.



Speedometer:
Threshold marking.
If possible, keep your movement speed in the green area of the scale.
The highlighted areas change with the training parameters <Performance> and <Max. Load>

Training parameters change:
Press <Training requirements> to change training relevant parameters:

- minimum speed
- training duration

You can change to the diagram view with the <DIAGRAM> key. The operation is the same as the speedometer view.

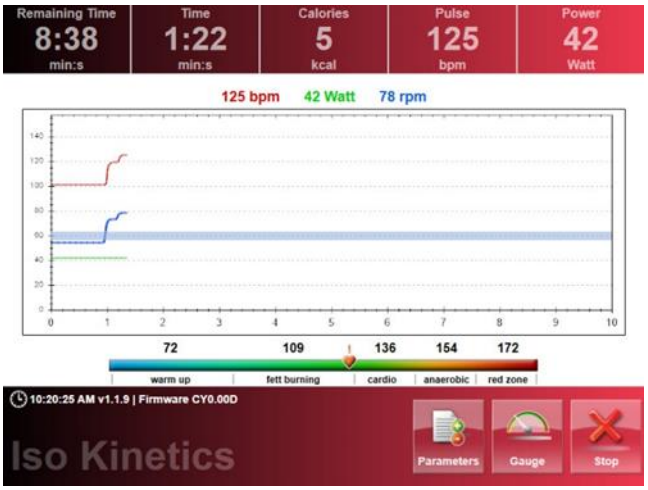


Diagram:
During the training the heart rate, power and speed is displayed.

With <TACHO> you can change to the speedometer view. The operation is the same as the diagram view.

11.3.6 Cardio Training

The aim of the cardio training program is to improve cardio vascular endurance by alternating high pulse phases, followed by relatively low pulse recovery phases.
When using without a chip card, the maximum load pulse and the pulse during the recovery intervals are calculated based on the personal data as a non-binding recommendation. The load pulse can be changed subsequently, if necessary. It is strongly recommended that the maximum training pulse be determined using a professional IPN® test.
For this functional application, a pulse transmitter is required. The application will be stopped automatically if no pulse information is received within 15 seconds after start.

The programme sequence begins with a warm-up phase. The warm-up phase begins relatively easily and increases automatically until the predetermined upper pulse limit is reached. The performance achieved at this time is stored and used for all subsequent load phases.
The performance is automatically adjusted for the duration of the load intervals, with the aim of reaching the defined maximum training pulse. The load intervals are 25 - 40 seconds depending on the training condition.
After the upper pulse limit has been reached, the load is automatically adjusted down until the pulse reaches the lower limit. This is calculated as 60% of the maximum physiologically possible heart rate.
This potentially possible maximum heart rate is calculated using the following validated formulae:

Female:

Fitness level "non-trained" & "moderate":

Maximum heart rate = 209 – 0.7 * age in years

Fitness level "fit", "sportsman" & "athlete":

Maximum heart rate = 211 – 0.5 * age in years

Male:

Fitness level "non-trained" & "moderate":

Maximum heart rate = 214 – 0.8 * age in years

Fitness level "fit", "sportsman" & "athlete":

Maximum heart rate = 205 – 0.5 * age in years

The performance available when the lower pulse limit is reached is stored and used for all subsequent recovery intervals.
The recovery intervals are 180 - 240 seconds depending on the training condition.

Heart rate control	**1**	**2**	**3**	**4**	**5**
	Untrained	Beginner	Trained	Athlete	Competitive athlete
Load phase[s]	25	28	31	34	37
Recovery phase[s]	240	225	210	195	180

11.4 Profile

The term "profiles" refers to training applications with different predetermined load patterns.

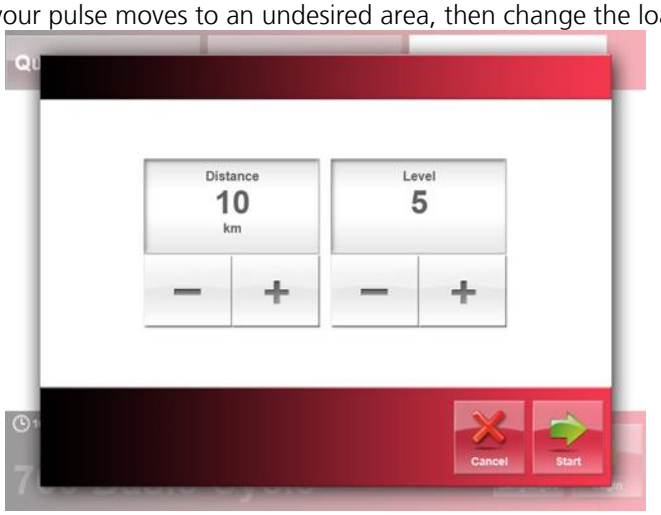
Machine	Profile
BASIC CYCLE, COMFORT CYCLE, UPPER BODY CYCLE	• Rehab • Intervals • Hill profile • Mountain profile • Triple mountain • Cardio test (only Basic Cycle)
CROSS WALK **CROSS WALK S**	• Rehab • Intervals • Hill profile • Mountain profile • Triple mountain

STAIR	• Rehab • Intervals	• Hill profile • Mountain profile • Triple mountain
MILL ALPIN **MILL TOUR**	• Rehab • Intervals • Hill profile	• Mountain profile • Triple mountain • Cardio test (only Basic Cycle)

Depending on the different machines the following profiles are implemented:

11.4.1 Hill Profile

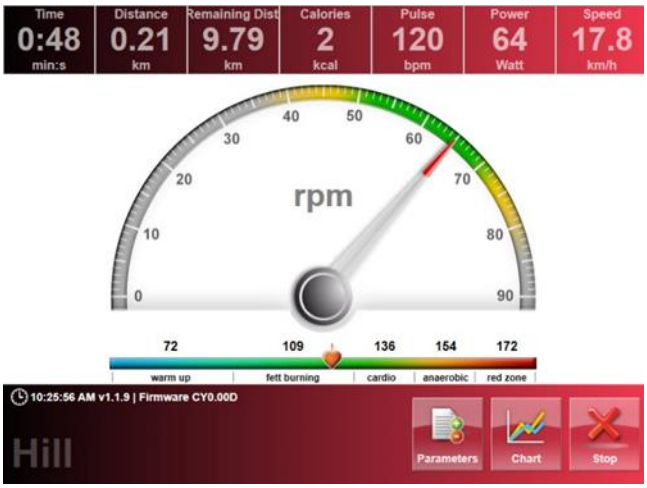
The "Hill Profile" is characterised by numerous slight increases with the corresponding alternating loads. Select in the pre-sets the desired difficulty level <Level> and the distance <Distance>. If necessary, both can be changed during the training.
Each phase of the profile provides a certain load. Throughout the whole profile the speed should be maintained in the indicated zone <Diagram> or in the green area of the scale <Speedo>. This load in this speed area corresponds to the profile specifications. If the load is too high or too low, please alter the difficulty <Level>.
The indication of the individual pulse zones, allows an optimal training efficiency (pulse belt required). If your pulse moves to an undesired area, then change the load.



Pre-set of training parameters:
(Applies for applications without chip card)
Change the default values if necessary.

Diagram:
The blue area marks the recommended speed.
Frequency, performance and rotational speed are displayed with lines.

With <TACHO> you can change to the speedometer view. The operation is the same as the diagram view.



Speedometer:
If possible, keep your movement speed in the green area of the scale.

You can change to the diagram view with the <DIAGRAM> key. The operation is the same as the speedometer view.

Training parameters change:
Press <Training requirements> to change training relevant parameters

- Distance
- Level

11.4.2 Mountain Profile

The "mountain profile" corresponds to climbing and descending a mountain. Correspondingly there are phases with relatively high loads followed by phase's relatively low loads.
Select in the pre-sets the desired difficulty level <Level> and the distance <Distance>. If necessary, both can be changed during the training.
Each phase of the profile provides a certain load. Throughout the whole profile the speed should be maintained in the indicated zone <Diagram> or in the green area of the scale <Speedo>. This load in this speed area corresponds to the profile specifications. If the load is too high or too low, please alter the difficulty <Level>.
The indication of the individual pulse zones, allows an optimal training efficiency (pulse belt required). If your pulse moves to an undesired area, then change the load.
Further operation is the same as the Hill Profile.

11.4.3 Triple Mountain

In the profile "Triple Mountain" three different ascents are simulated, each followed by a moderate stretch. Correspondingly the profile is characterised with 3 phases of relatively high loads, followed by 3 phases of relatively low load.
Select in the pre-sets the desired difficulty level <Level> and the distance <Distance>. If necessary, both can be changed during the training.
Each phase of the profile provides a certain load. Throughout the whole profile the speed should be maintained in the indicated zone <Diagram> or in the green area of the scale <Speedo>. This load in this speed area corresponds to the profile specifications. If the load is too high or too low, please alter the difficulty <Level>.
The indication of the individual pulse zones, allows an optimal training efficiency (pulse belt required). If your pulse moves to an undesired area, then change the load.
Further operation is the same as the Hill Profile.

11.4.4Intervals

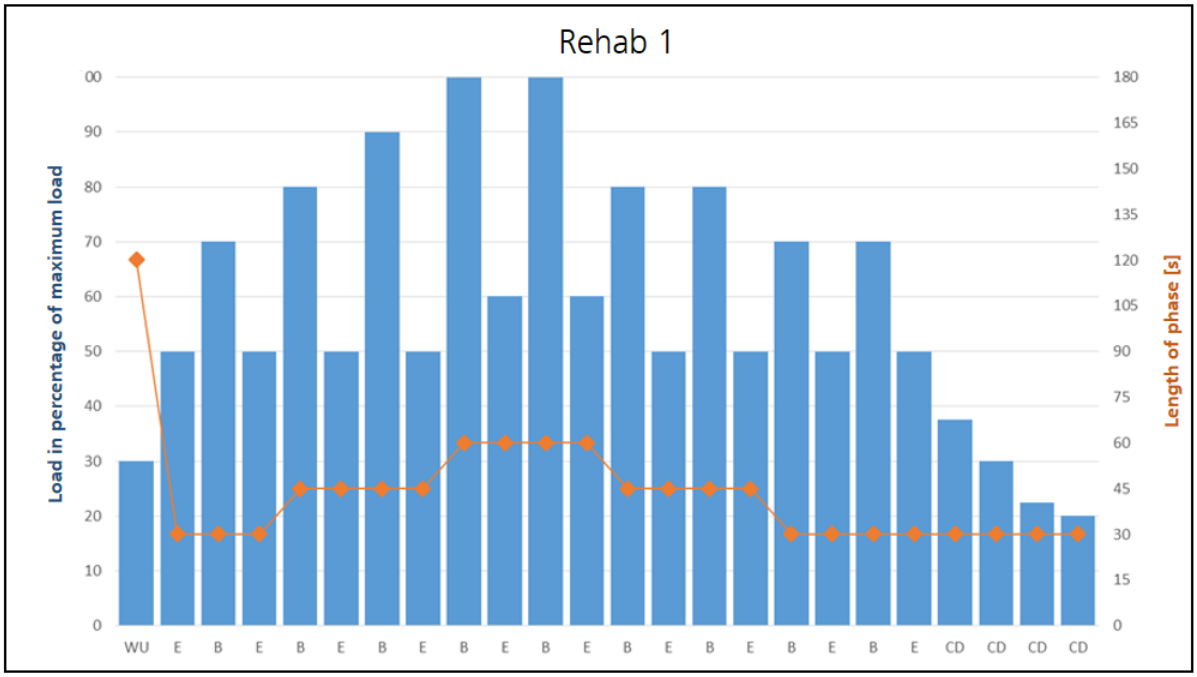
The “Interval profile” is characterised by alternating exercise and recovery phases. Whereby the duration and intensity is of the recovery phases are so chosen that the individual cannot fully recover. Therefore, a strong training stimulus is achieved due to the incomplete recovery.
The profile begins with a gradual warm-up phase, during which the load is automatically increases in steps. The training period for this profile is a fixed 21 minutes, in which the load changes every 60 seconds.
In the pre-sets choose the desired maximum load <Max. Load>. According to this parameter the load for the warm-up phase and the intervals will be individually calculated. If the load is too high or too low, then please change the <Max. Load> parameter.
The indication of the individual pulse zones, allows an optimal training efficiency (pulse belt required). If your pulse moves to an undesired area, then change the load.
Further operation is the same as the Hill Profile.

11.4.5Rehab

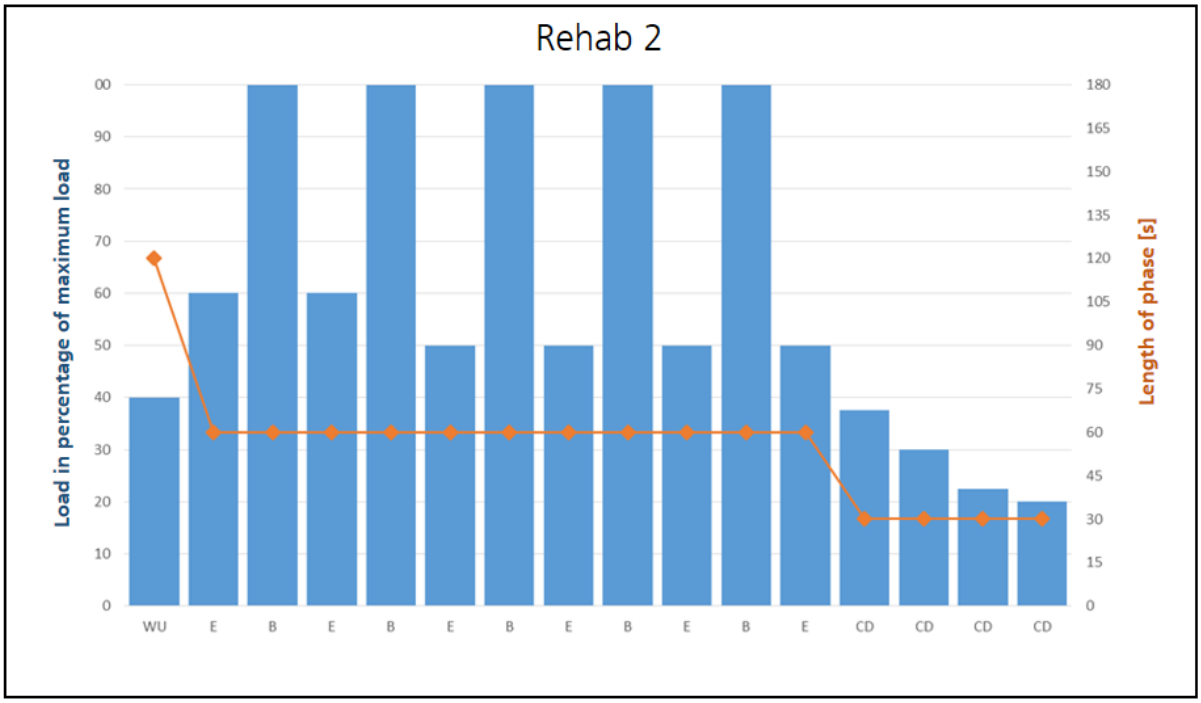
In the profile “Rehab” one of two different profile variations can be chosen:

- Rehab 1
- Rehab 2

Rehab 1:
The "Rehab 1" profile begins with a warm-up phase [WU] of 120 seconds at 30% of the selected maximum power. Then there are 19 intervals, so the time including the warm-up phase is 15.5 minutes. The intervals are indicated by a change of load [B] and recovery [E]. In the pre-sets choose the desired maximum load <Max. Load>. According to this parameter the load for the warm-up phase and the intervals will be individually calculated.
This is followed by a 2-minute cool-down phase [CD]. This is composed of four graduated phases, which are infinitely variable, at 75, 60, 45 and 40% of the last load level. The total time of the programme thus amounts to 17.5 minutes.



Rehab 2:
The "Rehab 2" programme begins with a 60-second warm-up phase at 40% of the maximum performance. This is followed by eleven 60-second intervals so that the time, including the warm-up phase, is 13 minutes. In the pre-sets choose the desired maximum load <Max. Load>. According to this parameter the load for the warm-up phase and the intervals will be individually calculated.
Following the "Rehab 1" programme, a 2-minute cool-down phase follows. The total time of the programme thus amounts to 15 minutes.



Throughout the whole profile the speed should be maintained in the indicated zone <Diagram> or in the green area of the scale <Speedo>. If the load is too high or too low, then please change the <Max. Load> parameter.
The indication of the individual pulse zones, allows an optimal training efficiency (pulse belt required). If your pulse moves to an undesired area, then change the load. In order to prevent an overload of the cardiovascular system, the suggested maximum pulse <Max. Pulse> is calculated according to the personal information entered into the preselected training parameters. This value may need to be adapted to the individual health status.
If this value is exceeded during the training an acoustic signal sounds and a corresponding dialogue appears. Try to reduce your pulse by reducing speed or the load intensity <Max. Load>. If this does not occur within 30 seconds, the application will stop automatically for reasons of safety.

Exceeded pulse:
When the defined maximum pulse is exceeded an acoustic signal sounds and a dialogue appears.
The application stops for reasons of safety after 30 seconds if the pulse does not return to below the set limit.

Further operation is the same as the Hill Profile.

11.4.6 Cardio Test

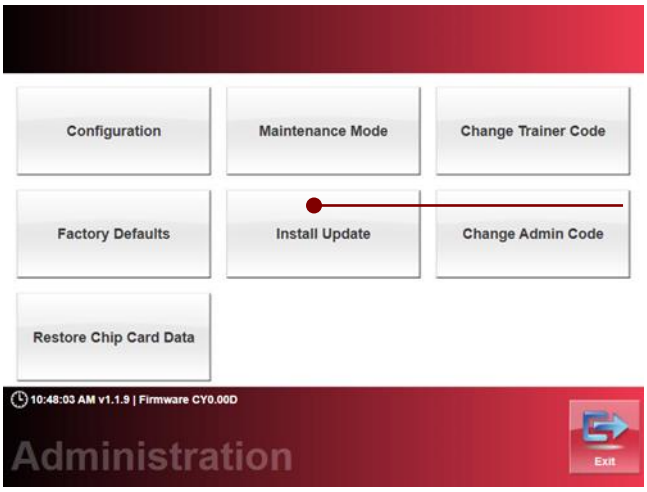
To use the Cardio test the optional RS232 interface is required for connection to a PC and the IPN-Test® Suite software should be installed.
The machine is driven by the PC. During the test, no settings or operator inputs on the machine can be made.
As soon as the test is started on the PC, the device automatically switches to the test screen (see below).

The subject should already be on the machine pedalling with a rotational speed of about 60 rpm before the test with the PC is started. After a short orientation period and so that positioning adjustments can be made where necessary, the test can be run on the PC.
During the test procedure, the subject should be observed at all times in order that the therapist or trainer can intervene at any time.
For further details on the test implementation, refer to the IPN-Test® User Manual.

The load setting on the machine is now controlled by the PC.

Additional details to the IPN-Test® is available in separate instructions for the IPN-Test® - Suite.

12 Software Update

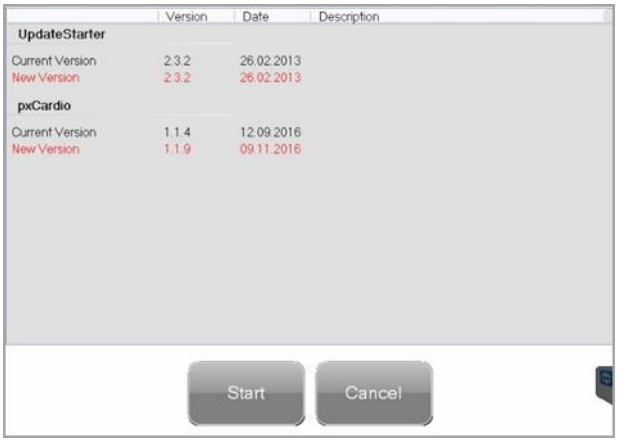


Log in as Administrator.

Selection
Select <Install updates>

Update - prerequisites
You need a USB flash drive with the current software version.

Update from USB flash drive:
Select the <USB flash drive>

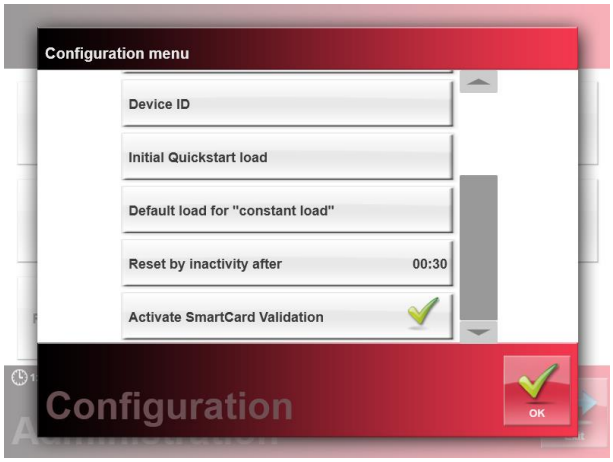


Current and new versions are displayed. Start the update with <Start>

Update successfully installed <Confirm>.
The program restarts. Please wait until the main menu appears.

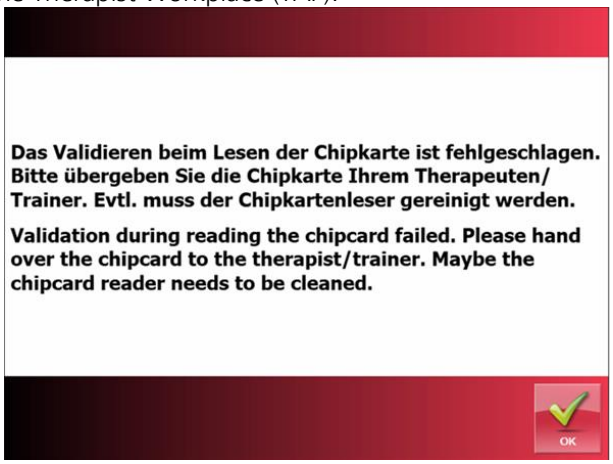
13 Restoration of Chip Card Content

The following describes how the contents of a chip card can be restored when a disruption occurred after inserting a chip card on a SmartPanel, on the proxotrain computer or on the Info Point.
The message of disruption occurs when the validation of chip card has been activated in the configuration menu.



13.1 Introduction

You work with our software-supported machines of the compass, tergumed, kardiomed line and / or with the Workoutpoint. You may also use our proxotrain software for training planning and evaluation.
Under certain circumstances, it may occur that after a chip card has been inserted into the SmartPanel, the proxotrain computer or the Info Point, there is a malfunction resulting in the information below being displayed or similar information. This prevents either the start of a training at the SmartPanel or the reading of a chip card at the Therapist Workplace (TAP).



WARNING:

In this case, the same message will appear on every other device or on the TAP. Please proceed under all circumstances as described in Chapter 2!

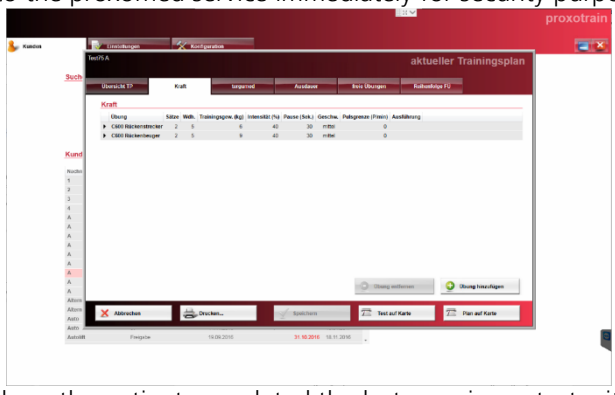
This ensures that no data is lost and the state of the chip card can be restored.

If a patient or client receives this message, he / she will inform the therapist or trainer. The therapist or trainer can then proceed as described below.

13.2 Instructions For Card Recovery

Assign a new card to the affected patient or client in proxotrain!
To do this, call the corresponding person in proxotrain, go to "Show training plan" and then click on the <Plan on card> button and push the chip card for writing into the chip card reader.

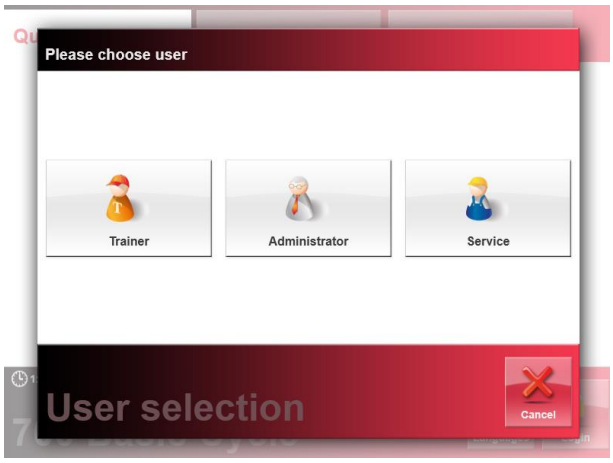
WARNING: The chip card, which caused problems, must not be used again!
Put this aside and send it to the proxomed service immediately for security purposes.



Now go to the machine where the patient completed the last exercise or test without problems. It must be a machine, on which the message shown above from Chapter 1 is NOT shown, also either the penultimate machine which the patient used when the message appeared on a machine or on the last machine when the message appeared in the Info Point or on the TAP.

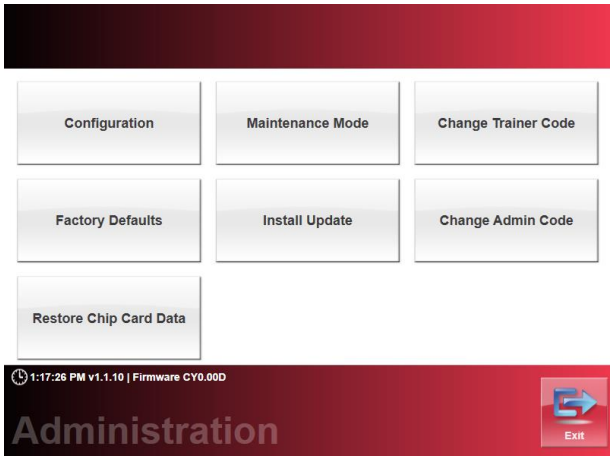
WARNING: Do not insert the chip card yet! Proceed as described below.

Click on <Log in>.



Click Admin and log in as Administrator.

Enter the Admin code "1111" and confirm with <OK>.

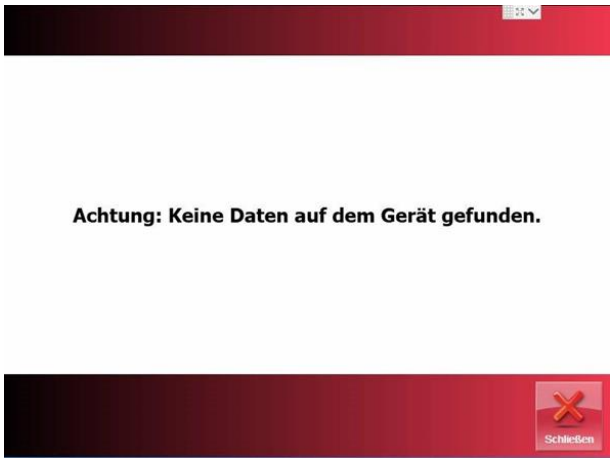


Click on <Restore your chip card> and follow the instructions that are given to you through the screen.

Now insert the chip card ("Bitte Chipkarte einschieben") and follow the instructions below.

Wait until the data has been recovered ("Daten werden wiederhergestellt") and you have received the corresponding information on the screen.
WARNING: The card must not be withdrawn as long as this message is still active!

Now remove the chip card and close the dialogue ("Daten wiederhergestellt. Bitte entfernen Sie die Chipkarte.")!
The card can now be processed regularly in Info Point or a Therapist Workplace.



If no data is available on this device, please return to the device used before this data was restored (Achtung: Keine Daten auf dem Gerät gefunden.").

14 Maintenance

All commercially use machines must undergo regular safety inspections. For proxomed® machines of the kardiomed® 700 line, the inspection interval is one year. The inspections are to be performed by a proxomed® service technician or any person that is empowered to perform STK inspections according to DIN EN 62353.
Regular, thorough care and appropriate maintenance help to maintain the value of your exercise machine and to extend its useful life. For this reason, we recommend regular inspections of the machines. Before every use inspect the covering, seat and guides, handlebar, crank handles, footrests, pedals (footsteps), pedal arms and pedals, treadmill and handholds for damage and have it immediately repaired if necessary. This is an essential prerequisite for maintaining your warranty claims.
If there are any malfunctions, the proxomed® service team are ready to advise you.
Before switching on the machine, always inspect power cord, power plug, power socket and power input for defects.

The following situations make immediate maintenance necessary:

- excessive mechanical stress (sharp impact, broken cable, inappropriately pulled plug),
- liquid has entered the device,
- cables, connectors or casing are damaged,
- covers have dropped off.

Maintenance of the machine may be carried out by the proxomed® customer service within the framework of a maintenance contract.

14.1 Maintenance And Care

proxomed® is constantly striving to keep the necessary maintenance work to a minimum during the production of its training machines.
In the following, some maintenance and inspection work will be presented, divided into machine types. These should be done regularly on your machine.

When cleaning your machine, make sure that:
Please ensure that the mains plug is pulled before opening the cockpit or hood!

- Only clean the machine with a damp cloth, mild detergent or soap, and rub it dry with a soft cloth.
- Above all, avoid oiling or greasing the machine from the outside.
- The treadmill should also be cleaned internally. To do this, unscrew the 7 screws on the front cover. Then pull the hood upwards to remove it. Make sure that the circuit breaker is not damaged. Remove the deposits inside the treadmill using a vacuum cleaner. Pay attention to the deposits on the ventilation grille of the drive motor.

UPPER BODY CYCLE

- Avoid oil and grease to external parts.

CROSS WALK

- Avoid oil and grease to external parts.

BASIC CYCLE

- The moving parts of the machine require no further oiling or greasing.
- Remove dust from the seat guide rod once a week.
- Spray the seat guide regularly with Teflon spray (we recommend "Fin super aerosol" from the company Interflon).

Crank:

- As screws sometimes set and give way after a time, the crank seating and the pedals should be checked after 3 – 5 hours of operation, thereafter monthly.
- If a crank should come loose, tighten up immediately. To do this remove the black covering on the crank shaft and tighten the screw with a box spanner 14 mm (1/4" imperial). The pedal can be tightened with a 15 mm spanner.

CROSS WALK S

- Avoid oil and grease to external parts.
- Clean the chrome rod of the seat weekly from dust.

COMFORT CYCLE

- The moving parts of the machine require no further oiling or greasing.
- Remove dust from the seat guide rod once a week.

Crank:
- As screws sometimes set and give way after a time, the crank seating and the pedals should be checked after 3 – 5 hours of operation, thereafter monthly.
- If a crank should come loose, tighten up immediately. To do this remove the black covering on the crank shaft and tighten the screw with a box spanner 14 mm (1/4" imperial). The pedal can be tightened with a 15 mm spanner.

STAIR
- Avoid oil and grease to external parts.

MILL ALPIN / MILL TOUR

Running belt adjustment:
The rear drive shaft is a dangerous part of the machine, catch and drag danger. Always ensure that hair or clothing cannot come into contact with the drive shaft.

Never adjust the treadmill alone. To ensure safety, this adjustment should always be monitored by a second person. This person can operate the emergency stop in the event of an emergency.
Adjust the fine adjustment of the treadmill on the left adjusting screw of the transport shaft while the machine is running. Use the supplied Allen key (6 mm).
- Run the belt at approx. 12 km / h without gradient.
- Observe the treadmill for at least 2 min.
- The treadmill must be located approximately in the centre of the shaft. If this is not the case, proceed as follows:
- If the treadmill runs to the right, turn the right adjusting screw to the right, if the treadmill runs to the left, turn the right adjusting screw to the left. The screw should only be turned for max. ¼ turn with minor deviations and for larger deviations ½ turn.
- After each adjustment, the treadmill must be checked for 2 minutes. Let the machine run at 5 km / h and at 20 km / h.
- The adjustment process is completed when the treadmill is in the middle of the shaft after an extended run at 12 km / h.
- Mountain running and different running styles can cause the treadmill to move away from the middle. If the treadmill returns to the centre at normal running speed of 12 km / h, you do not need to readjust. When set correctly, the treadmill retains its set position for many months.
- By evenly rotating the left and right adjusting screws clockwise, you can slightly tension the belt. Observe the treadmill tension (do not over-tension the treadmill)!

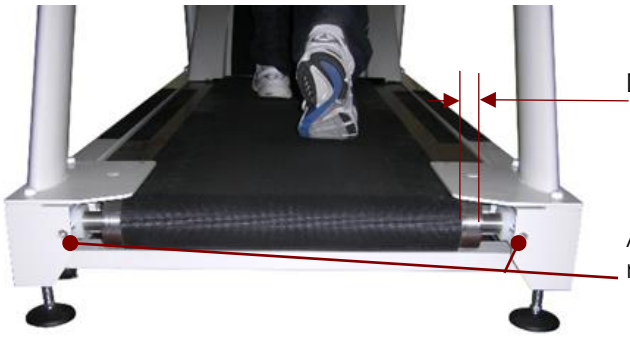
Checking the treadmill tension:
Make sure that the mains plug is pulled before opening the cockpit or hood! After a long period of use or when the belt is incorrectly adjusted, the belt can become loose so that the belt is braked when stepping onto the belt, and the front drive shaft no longer has any complete adhesion with the belt.

In this case, check the belt tension as follows:
- Open the front cover. Make sure that nobody reaches into the machine.
- Now start the machine and use the PLUS button to accelerate the treadmill to 2 km / h.
- Stand behind the treadmill and carefully try to block the treadmill with your foot.
- If you can block the treadmill, the treadmill must be re-tensioned.

If the treadmill is blocked too long, the motor control can shut down because of an over-current, which is indicated by an alarm. In this case, switch the machine off and then on again after 5 minutes.

Re-tensioning the treadmill:
The belt tension must never exceed 0.5%, as damage to the treadmill, the shafts or the bearings cannot be ruled out in this case! Make sure that the mains plug is pulled when re-tensioning the treadmill!
To do this, proceed as follows:
- The correct belt tension is 0.3 - 0.4 %. This means that a double-sided length marking of 1000 mm (which you can attach on both sides with a pin on the loose belt) can be extended to 1003 to 1004 mm with correct tension when the treadmill is loose.

- Turn the left and right adjusting and tensioning screws (Allen key 6 mm) to the right until the correct belt tension has been reached (see point 1).
- The belt can also be tensioned until the shaft no longer rotates when the belt is blocked (see point "Checking the belt tension").



Drive belt tension:

The Poly-V belt is equipped with a belt tensioner and must normally never be tensioned. If the drive belt needs to be re-tensioned, make sure that the mains plug is pulled!

The tension of the belt can be checked according to the section "Checking the belt tension" by blocking the belt. Care must be taken to ensure that the motor does not rotate without load, but has full adhesion with the belt.

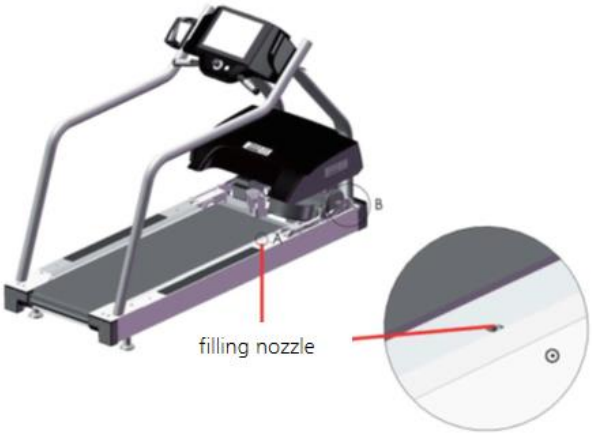
If you have to re-tension the drive belt, it can be adjusted.

Lubrication of the tread:

At the latest after the appearance of the oil interval indicator (every 1,000 km) in the display or after the occurrence of grinding noise during running, the oil film under the treadmill must be checked. Then the oil must be re-adjusted as required and the "oil interval" must be reset.

The oiling is done with the special oil and a 10-ml syringe. Only use the special oil supplied! (Special oil can also be obtained from proxomed® on request). Other available oils and grease can damage the belt and the tread and cause the treadmill to fail.

For a maintenance operation, you need 2 syringes of 10 ml special oil.

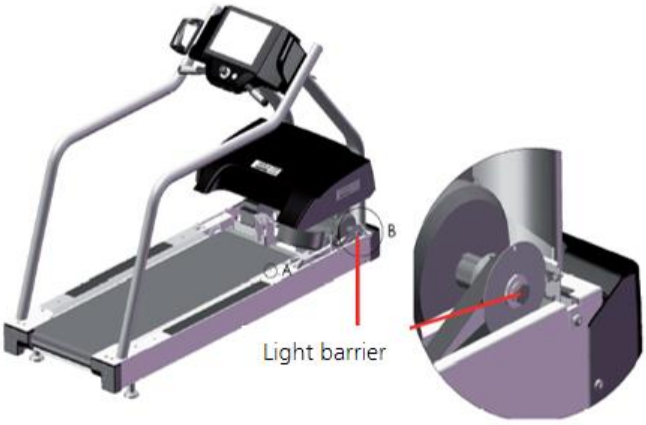


To do this, proceed as follows:

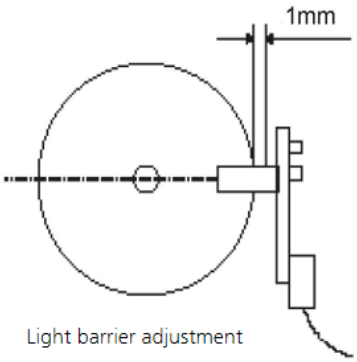
Make sure that you do not come into contact with the treadmill! To ensure safety, this maintenance should always be monitored by a second person. This person can operate the emergency stop in the event of an emergency.

- Now start the machine and use the PLUS button to accelerate the treadmill to 2 km / h.
- Fill the supplied syringe with 10 ml special oil.
- On the side underneath the treadmill is a board, which contains the filling nozzle. Insert the syringe into the filling nozzle and slowly push the contents into the nozzle.
- Fill the syringe with special oil again and repeat the procedure according to point 3.
- Then fill the syringe with air to bring all the oil to the treadmill.
- After oiling, allow the treadmill to run at a speed of 5 km/h for 5 minutes without a person, so that the oil can spread over the tread surface.

Light barrier, cleaning and adjustment:
The light barrier and the slit disc are used to measure the speed and should be carefully cleaned at intervals of 6 months with a damp cloth and alcohol. In the installed state of the disc, the cleaning can also be carried out by means of a bristle brush which has previously been impregnated with alcohol. This allows the optical elements to be cleaned carefully between the disc and the light barrier.



When setting the light barrier, care must be taken that the gap between the disc and the housing of the light barrier is maintained:



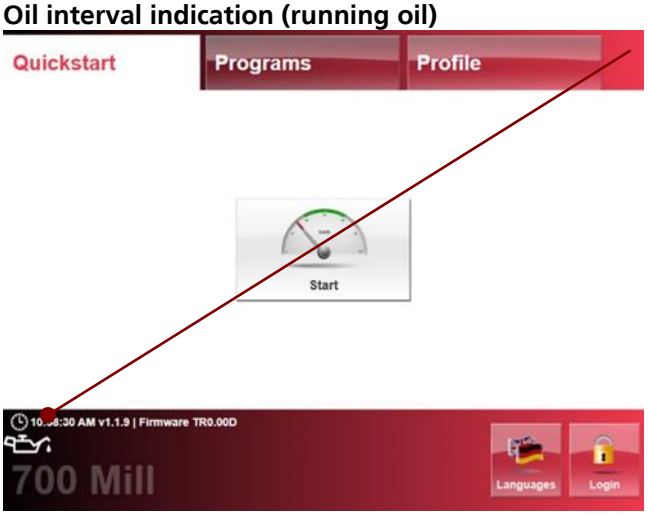
- Slit axial: approx. 1 mm as shown
- Slit radial: approx. 1 mm left and right

It is important to ensure that the imaginary extension of the light barrier is through the shaft centre point of the motor shaft.

14.2 Maintenance Instructions In The SmartPanel

Two different maintenance symbols can be displayed in the main menu. message indicates that the tread must be oiled again. A further message indicates a necessary maintenance of the treadmill.

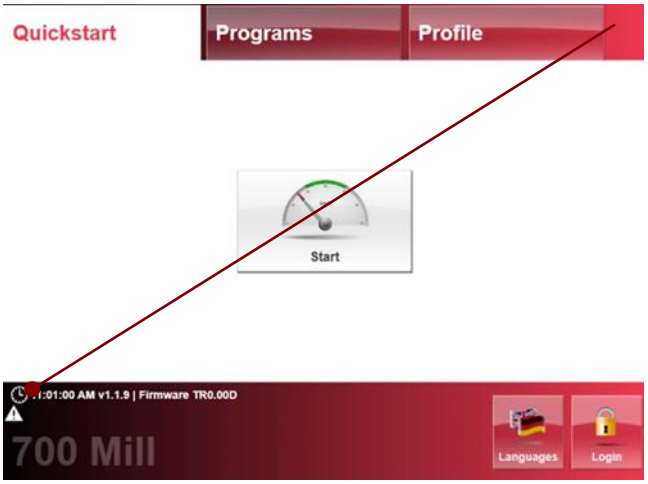
Oil interval indication (running oil)



Every 1000 km, an oil can symbol appears in the lower left area of the main menu, which indicates a necessary lubrication of the running surface (see Chapter 14.1).

After lubrication, the counter must be reset manually.

Treadmill maintenance



Every 30,000 km, a caution symbol appears on the lower left of the main menu, indicating a necessary maintenance of the treadmill.

This message is reset by a service technician after maintenance has been carried out.

14.3 Resetting the maintenance note in the SmartPanel

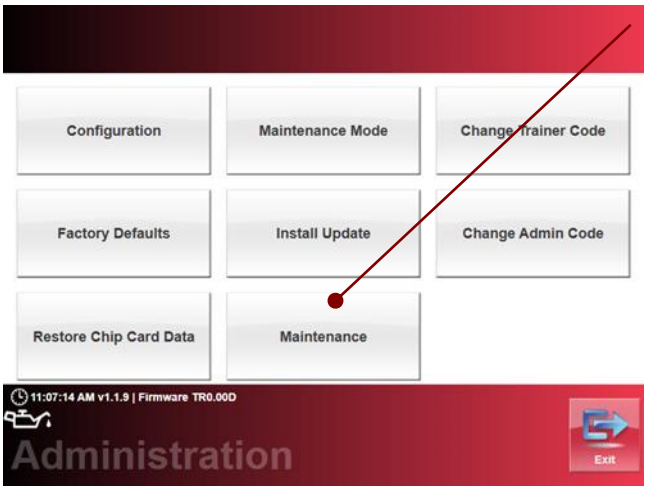
Oil interval indication (running oil)

If the tread has been oiled (see Chapter 14.1), the maintenance counter must also be reset for this maintenance.

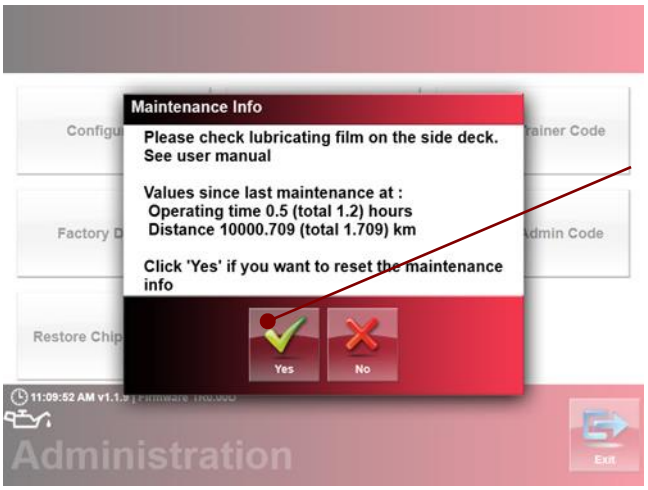
To access the display or to reset it, click the <Login> button at the bottom right of the main menu.

Then click on <ADMINISTRATOR>.

The password is four times the one ("1111").



After clicking on the <MAINTENANCE> button, the current data is displayed.



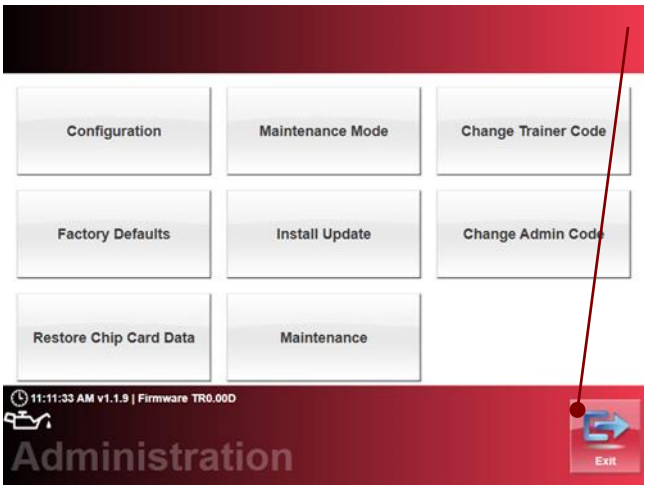
The **Maintenance Information** window displays the current and total runtime and distance.

To reset the counters, click the <YES> button.

If the data is **not** to be reset, click on the <NO> button and the window closes.

Before the counter readings are deleted, a safety check is carried out. Only after this is confirmed with a click on <YES>, are the counter readings reset to "0".

By clicking on <NO> the process can be aborted.

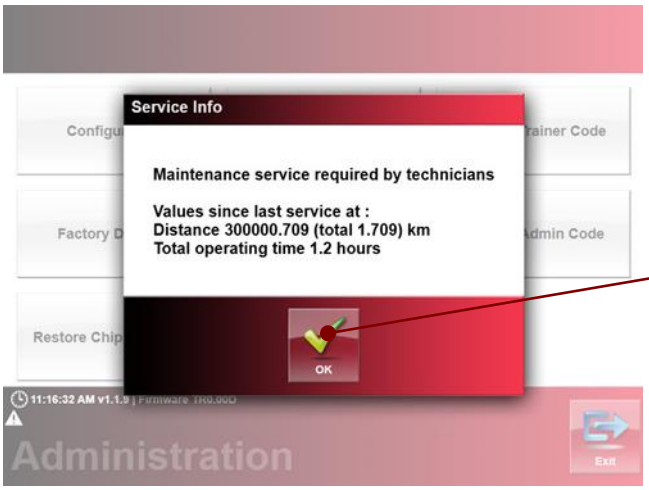


Finally, leave the service menu by clicking the <END> button

Note
The maintenance symbol is not deleted until the main menu is called.

Treadmill maintenance

The message regarding the treadmill maintenance cannot be reset by the user. This is done by the service technician after a maintenance is performed.



In the service menu MAINTENANCE, only the maintenance of the treadmill is necessary in contrast to running oil.

The runtime, the distance and the date of the last maintenance are also displayed.

The window is closed by clicking on <OK>.

14.4 Cleaning And Disinfection

The machine must be cleaned with the prescribed disinfectants after each use.

Perspiration can damage the surface of metal and aluminium parts of your training machine, which can become visible after only a few weeks.
For cleaning your training machine, we recommend the disinfectant "Ecolab P3-sterile" or "Scarabig". These are available at the following companies:

Ecolab Deutschland GmbH
Reisholzer Werftstraße 38-42
Postfach 13 04 06
40554 Düsseldorf
www.ecolab.com

SCARAPHARM chem.-pharm. Produkte GmbH
Wachmannstraße 86
28209 Bremen
www.scarapharm.de

15 Function Control

With the function controls proceed as follows:

UPPER BODY CYCLE

Load regulation:

- Switch on the machine. The main menu should show on the display within 2 minutes. The machine is operational.
- Chose the program <Constant load>.
- Turn the hand crank to the lowest speed, the resistance increases. Increase the speed, the resistance reduces. If this is the case, then you can consider that the speed independent operation is functioning correctly. Make sure that the hand crank does not move when released. If it does not move in the direction of rotation you can assume that the mechanism is functioning correctly. During functional test make sure that body parts are kept away from the crank arms.

Pulse:

- Check the pulse measurement function (Ref. Chapter 10.7)

Additional functions:

- Before climbing onto the machine make sure that seat is in the upper end position and is abut and cannot fold away backwards or to the side. Make sure that the hand crank is locked as described in Chapter 9.3.
- Check that the seat can be folded easily to the front. Make sure that there is a space for the seat tube. Otherwise there is danger of injury.
- Check the forwards and reverse movement of the hand crank by moving the crank in both directions.

CROSS WALK

Load regulation:

- Switch on the machine. The main menu should show on the display within 2 minutes. The machine is operational.
- Select <Power constant>.
- Press <START>.
- Start with low speed or reduce the speed, the resistance increases. Increase the speed, the resistance reduces. If this is the case, you can assume that the automatic load regulation is functioning correctly.

Pulse:

- Check the pulse measurement function (Ref. Chapter 10.7).

Additional functions:

- Check the forwards and reverse movement of the pedals by moving the crank in both directions.

BASIC CYCLE

Load regulation:

- Switch on the machine. The main menu should show on the display within 2 minutes. The machine is operational.
- Chose the program <Constant load>.
- Press <START>.
- Turn the hand crank to the lowest speed, the resistance increases. Increase the speed, the resistance reduces. If this is the case, you can assume that the automatic load regulation is functioning correctly.

Pulse:

- Check the pulse measurement function (Ref. Chapter 10.7).

Additional functions:

- Check that the seat can be folded easily to the front.
- Check if the handle bar can be adjusted without problems.

CROSS WALK S

Load regulation:
- Switch on the machine. The main menu should show on the display within 2 minutes. The machine is operational.
- Select <Power constant>.
- Press <START>.
- Start with low speed or reduce the speed, the resistance increases. Increase the speed, the resistance reduces. If this is the case, you can assume that the automatic load regulation is functioning correctly.

Pulse:
- Check the pulse measurement function (Ref. Chapter 10.7).

Additional functions:
- Check that the seat can be folded easily to the front.
- Check the forwards and reverse movement of the pedals by moving the crank in both directions.

COMFORT CYCLE

Load regulation:
- Switch on the machine. The main menu should show on the display within 2 minutes. The machine is operational.
- Chose the program <Constant load>.
- Press <START>.
- Turn the hand crank to the lowest speed, the resistance increases. Increase the speed, the resistance reduces. If this is the case, you can assume that the automatic load regulation is functioning correctly.

Pulse:
- Check the pulse measurement function (Ref. Chapter 10.7).

Additional functions:
- Check that the seat can be folded easily to the front.

STAIR

Load regulation:
- Switch on the machine. The main menu should show on the display within 2 minutes. The machine is operational.
- Select <Quick start>.
- Select the desired intensity level.
- Walk evenly. Use the entire range of movement. (Approx. 20 cm).
- The resistance adjusts itself automatically.
- Decrease the level, the resistance increases, or the speed of the ascending movement decreases. If this is the case, you can assume that the brake is functioning correctly.

Pulse:
- Check the pulse measurement function (Ref. Chapter 10.7).

MILL ALPIN / MILL TOUR

Speed control:
- Switch on the machine. The main menu should show on the display within 2 minutes. The lift motor drives to a predefined reference point. The machine is operational.
- Chose the program <Constant load>.
- Press <START>.
- Increase the speed control. The speed increases evenly to the selected value and remains constant.

Emergency Off function:

- Operate the Emergency Off button. The treadmill comes to a halt immediately; the display goes out. If this is the case, the Emergency Off function is functioning correctly. To turn the unit back on, turn the emergency stop switch clockwise until it jumps out.

Emergency Stop function:

- Pull on the safety line. The treadmill comes to a halt immediately; the display returns to the main menu. If this is the case, the emergency stop function is functioning correctly. Only when the magnet is attached again to the magnetic socket, is the treadmill again functional.

16 Faults - What to Do?

Despite the high-quality standards of the proxomed® products, faults can occur in rare cases. The purpose of this Chapter is to inform you about the possible causes of these faults and to provide you with troubleshooting options. If a technical defect is suspected, the machine may not be put into operation for safety reasons. If you solve a fault yourself, it would be very helpful for us if you could notify us immediately. This allows us to record the faults in the master file of the device, which ultimately contributes to quality improvement.

Before any intervention in the machine, you must pull the mains plug out of the socket for safety reasons!

16.1 Customer Service

To enable a fast response, you can send us an error or repair order on the Internet at the following address:
http://www.proxomed.com/de/service/reparaturauftrag.php

Alternatively, faults and repair orders can also be faxed using the customer service form (see form on the last page / Chapter 18), to the following fax no:
Service – Fax: +49 (0) 6023/9168-71

If you do not have any of the above, please send an e-mail to service@proxomed.com, or contact our hotline at **+49 (0)6023 / 9168-77**.

The complete postal address of our customer service is as follows:

proxomed Medizintechnik GmbH
– Service –
Daimlerstraße 6
63755 Alzenau
Germany

16.2 Localising The Cause

Malfunctions can sometimes have trivial causes, but sometimes also caused by defective components. We would like to provide you with a guide in this Chapter to solve any problems that may occur. If the measures listed here fail, please contact our service department immediately. Our service team will be happy to help.
If there are any faults, please proceed as follows:

The machine does not work. No indications in the display.

- Check the fuse box. A circuit breaker/fuse may have "triggered" or is faulty.
- Have you used a distribution socket or extension cable? Always connect your machine directly to an electrical outlet.
- Was the Emergency Off switch (only for treadmills) inadvertently actuated?
- Check the electrical outlet. For example, connect another electrical device to the electrical outlet.
- Disconnect the mains plug from the electrical outlet and start with a careful visual inspection of the mains cable.

An error message is shown on the display.

- Make a note of the exact details after the error message appears. Determine if the error has occurred more frequently. If yes, how often?
- Check if there were other machines in operation. If yes, which?
- Check whether a button was pressed at the time of the error message.
- Check whether the machine can be restarted with the "START" button after the fault has occurred, or whether this is possible again after the machine has been switched off.
- If you were not present at the time of the error message, ask the user of the machine for the exact sequence.
- Try to correct the fault or contact our proxomed® Service Centre.

17 Appendix

17.1 Technical Data

In this Chapter, you will find information on the technical data of your cardiac machine. The data are tabulated for the individual machine of the kardiomed® 700 line.

Identifier	UPPER BODY CYCLE
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	0.3 A
Fuse	T 1 A
Standby consumption	Approx. 5W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1, DIN EN 957-5 SA, DIN VDE 0750-238
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	5% to 200 W, from 200 W 10%
Braking system	Eddie current brake
Moment of inertia	11 +/- 2 kg.m²
Measurements in cm (L/B/H)	165.5/63.5/152
Weight	Approx. 115kg
Power range	15 - 400 W
Graduation	5 W
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	Speed dependent and speed independent
Max. weight load	200 kg
Interface	-

Identifier	CROSS WALK
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	0.3 A
Fuse	T 1 A
Standby consumption	Approx. 5W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1, DIN EN 957-9 SA
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	The measuring accuracy of the mechanical power on the axis is +/- 10%
Braking system	Eddie current brake
Moment of inertia	-
Measurements in cm (L/B/H)	185/66/180
Weight	Approx. 95 kg
Power range	1 - 21 load levels
Graduation	5 W
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	-
Max. weight load	200 kg
Interface	-

Identifier	BASIC CYCLE
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	0.3 A
Fuse	T 1 A
Standby consumption	Approx. 5W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1, DIN EN 957-5 SA, DIN VDE 0750-238
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	5% to 400 W, from 400 W 10%
Braking system	Eddie current brake
Moment of inertia	11 +/- 2 kg.m²
Measurements in cm (L/B/H)	118/54/145
Weight	Approx. 58 kg
Power range	15 – 600 Watt
Graduation	5 W
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	Speed dependent and speed independent
Max. weight load	180 kg
Interface	RS232 (optional)

Identifier	CROSS WALK S
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	0.3 A
Fuse	T 1 A
Standby consumption	Approx. 5W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1 SA, DIN EN 957-9
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	The measuring accuracy of the mechanical power on the axis is +/- 10%
Braking system	Eddie current brake
Moment of inertia	-
Measurements in cm (L/B/H)	175/80/166
Weight	Approx. 160 kg
Power range	25 – 400 Watt, 29 stress levels
Graduation	-
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	Speed dependent and speed independent
Max. weight load	200 kg
Interface	-

Identifier	COMFORT CYCLE
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	0.3 A
Fuse	T 1 A
Standby consumption	Approx. 5W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1 SA, DIN EN 957-5, DIN VDE 0750-238
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	5% to 400 W, from 400 W 10%
Braking system	Eddie current brake
Moment of inertia	11 +/- 2 kg.m²
Measurements in cm (L/B/H)	160/54/125
Weight	Approx. 75 kg
Power range	15 – 600 Watt
Graduation	5 W
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	Speed dependent and speed independent
Max. weight load	200 kg
Interface	-

Identifier	STAIR
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	0.3 A
Fuse	T 1 A
Standby consumption	Approx. 5W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1 SA, DIN EN 957-8
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	In the control range of the brake the display accuracy is +/- 10%
Braking system	Eddie current brake
Moment of inertia	-
Measurements in cm (L/B/H)	
Weight	
Power range	-
Graduation	5 stage
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	Speed dependent and speed independent
Max. weight load	200 kg
Interface	-

Identifier	MILL ALPIN / TOUR
Supply voltage 48-60 Hz	220 - 240 V ~
Current consumption	12 A
Fuse	T 16 A (Individual protection is required)
Standby consumption	Approx. 16W
Safety standard	DIN EN 60601-1
Machine standard	DIN EN ISO 20957-1 SA, DIN EN 957-6
Safety class	1, IP21
Approved for applications	Studio, Medical
Accuracy	Speed +/- 5%; Incline +/- 10%
Braking system	-
Moment of inertia	-
Measurements in cm (L/B/H)	210/82.5/140
Weight	Approx. 220 kg
Power range	0.2 – 25 km/h
Graduation	0.1 km/h
POLAR Pulse measurement	1-channel, ECG accurate
Pulse dependent control	with POLAR® - transmitter
Drive	-
Max. weight load	200 kg
Interface	RS232 (optional)
Gradient angle	0% - 20% (ALPIN) -5% - 15% (TOUR)

17.2 Electromagnetic Emissions And Interference Immunity

17.2.1 Electromagnetic Emissions

The products are intended for operation in an environment as described below. Please ensure that the product is operated in an appropriate environment.

Emitted interference measurements	**Agreement**	**Electromagnetic environment**
RF transmission according to CISPR 11	Group 1	The product uses RF energy exclusively for its internal function. Therefore, its RF emission is very low and it is unlikely that adjacent electronic equipment will be disturbed.
RF transmission according to CISPR 11	Class B	DIN EN 55011.
Transmission of harmonics according to IEC 61000-3-2	not applicable	
Transmission of harmonics according to IEC 61000-3-3	not applicable	

17.2.2 Electromagnetic Immunity For Machines That Are Not Life-sustaining

The products are intended for operation in an environment as described below. Please ensure that the product is operated in an appropriate environment.

Immunity test	**IEC 60601-1-2 test level**	**Agreement level**	**Electromagnetic environment**
Conducted RF disturbances according to IEC 61000-4-6	3 V eff. 150 kHz to 80 MHz	3	
Conducted RF disturbances according to IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3	

17.2.3 Electromagnetic Immunity Of The Kardiomed® 700 Line

The products are intended for operation in an environment as described below. Please ensure that the product is operated in an appropriate environment.

Immunity test	**IEC 60601-1-2 test level**	**Agreement level**	**Electromagnetic environment**
Static electricity discharge (ESD) according to IEC 61000-4-2	+/- 6 kV contact discharge +/- 8 kV air discharge	6 kV 8 kV	Floors should be of wood or concrete or be provided with ceramic tiles. If the floor is provided with synthetic material, the relative humidity must be at least 30%.
Fast transient electrical disturbances / bursts according to IEC 61000-4-4	+/- 2 kV for power line +/- 1 kV for input and output lines		The quality of the supply voltage should correspond to a typical business or hospital environment.
Surges according to IEC 61000-4-5	+/- 1 kV push-pull voltage +/- 2 kV common-mode voltage		The quality of the supply voltage should correspond to a typical business or hospital environment.
Voltage dips, short-term interruptions and fluctuations of the supply voltage according to IEC 61000-4-11			The quality of the supply voltage should correspond to a typical business or hospital environment.
Magnetic field at the supply frequency (50/60 Hz) according to IEC 61000-4-8			Magnetic fields at the mains frequency should correspond to the typical values as found in the business and hospital environment.

17.2.4 Recommended Protective Distances Between Portable And Mobile HF Telecommunication Devices And Devices Of The Kardiomed® 700 Line

The products are intended for operation in an electromagnetic environment in which the RF disturbances are controlled. You can avoid electromagnetic interference by keeping the minimum distance between portable and mobile RF telecommunication devices and the product, depending on the output power of the communication device, as indicated below.

Nominal power of transmitter / W	**Protection distance dependent on the transmission frequency / m**		
	150 kHz to 80 MHz d = 3.5/V1*sqrtP	150 kHz to 80 MHz d = 3.5/E1*sqrtP	150 kHz to 80 MHz d = 7/E1*sqrtP
0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33

For transmitters, whose maximum rated power is not given in the above table, the recommended protective distance d can be obtained in metres using the equation belonging to the respective column, where P is the maximum rated power of the transmitter in Watts as specified by the transmitter manufacturer.
Please note:

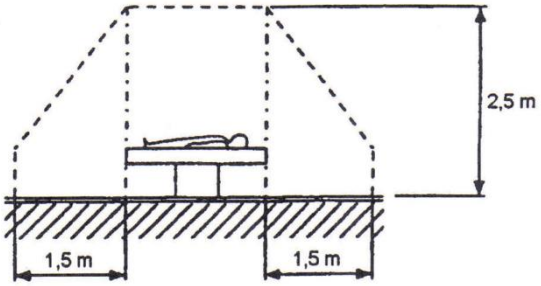
- At 80 MHz and at 800 MHz, the higher frequency range applies.
- These guidelines may not be applicable in all cases. The spread of electromagnetic variables is influenced by the absorption and reflection of buildings, objects and people.

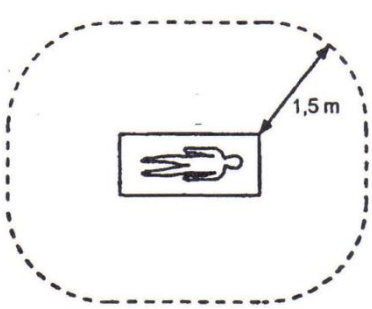
17.3 Safety Regulations

17.3.1 Safety Information

To protect the user, the Association of German Electrical Engineers (VDE) has issued special regulations for medically used rooms and electro-medical equipment.
Devices with power connection must then have an additional protective measure to protect against the transmission of the mains voltage to touchable metal parts, apart from a reliable insulation of the live parts. VDE distinguishes so-called protection classes.
Of the protection classes approved for electro-medical devices, protection class I, i.e. protective measures with protective conductor and protection class II, i.e. protective measures without protective conductor but double insulation, are applied: Devices of protection class I are devices whose metallic housing parts are connected via the protective contact to the protective conductor of the line network. If the insulation fault occurs, the upstream fuse element trips.
The proxomed® machines of the kardiomed® 700 line are assigned to protection class I.
Within the user's environment, parts of non-medical electrical equipment that can be touched after removal of covers, terminals, etc. during routine maintenance, calibration, etc., must operate at a voltage that does not exceed 25 volts AC and 60 volts DC. In addition, the voltage must be generated from the power supply of a separate source as described in the IEC 60601-1. In this case, such a machine part and the exerciser must not be touched at the same time.
The use of electro-medical devices is only carried out with safety-related harmlessness considering the state-of-the-art as well as the occupational safety and accident prevention regulations. Protective measures must be taken against both direct and indirect contact. These include covers and casings, insulation of the live parts in combination with protective measures with protective conductor (according to protection class I), fuse protection as well as compliance with equipment distances.

From experience, we can say that as an environment for these machines 1.5 m is sufficient. At this distance two training machines cannot be electrically connected via a person to each other, which means that an electric shock for this person or for the trainee on the other machines is unlikely.





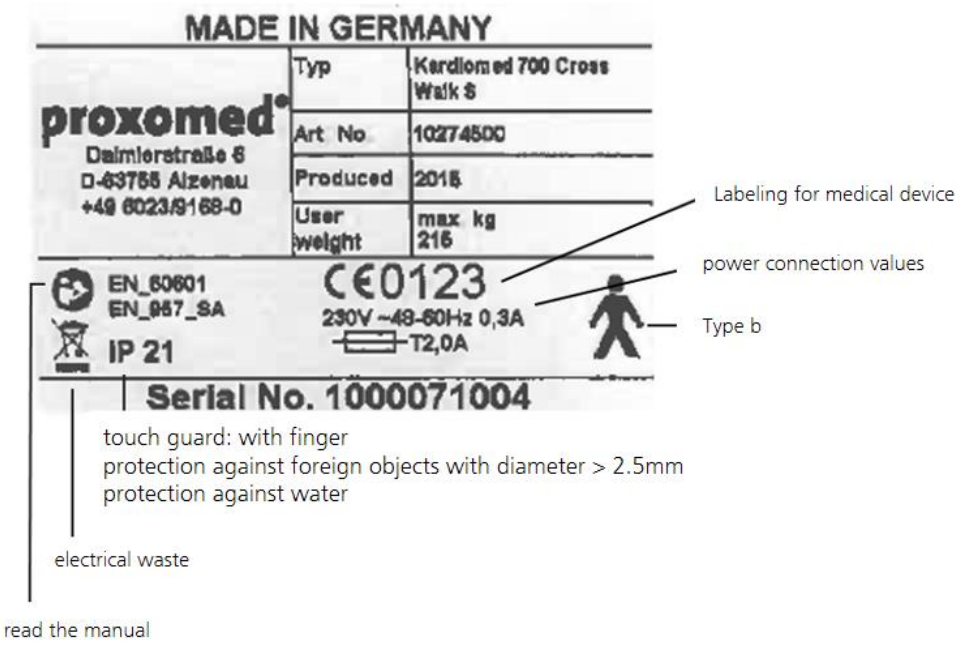
The provisions reproduced in this Chapter refer to the safety model recognised in the Federal Republic of Germany. For other countries, national deviations may have to be considered.

17.3.2 Approval Marks

The CE symbol on the type label of the device refers to the medical device directive 93/42/EEC.
The tests were carried out according to the criteria of interference emission and immunity.
The proxomed® machine kardiomed® 700 line is manufactured under the strictest safety and quality control and is designed for commercial use.
The Type Plate on the device contains the information given in the sketch (exemplified on the kardiomed 700 Cross Walk S):

17.4 Pictograms On The Device

The pictograms used on the proxomed® devices correspond to the standard IEC 417 and IEC 878.
The following symbols are used:




Alternating current


Protective earth


Earth


Equipotential (potential equalisation)


PROTECTION CLASS II device


Observe accompanying documents


“OFF” (Power)

“ON” (Power)


APPLICATION PART OF THE TYPE S B


Dangerous voltage


Observe the User Manual

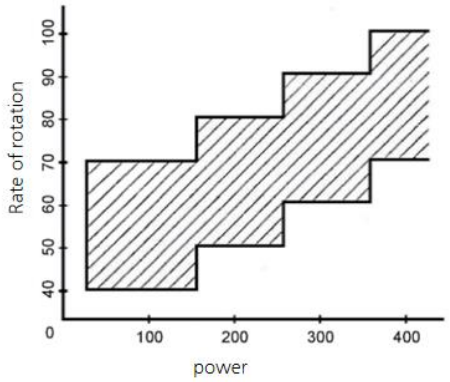

Electrical scrap

17.5 Error Limits

The following error limits apply to the machines BASIC CYCLE and COMFORT CYCLE according to DIN VDE 0750-238:

- The display error for the power P may not exceed ± 5% of the displayed value. However, it does not need to be less than ± 3 W.
- The display error for the speed n may be 1 +/- 2 rpm above 40 rpm.
- The measuring device for determining the power from braking torque and speed of the pedal crank ergometer shall not exceed an error limit of 1%.

The characteristic field for the operating range of the braking torque control can be taken from the following figure:



17.6 Guarantee

The basis are the Terms and Conditions from proxomed for warranty, as far as no other agreement has been made.
Our general Terms and Conditions of sale and terms of payment in the respective current version can be viewed on our website.
http://proxomed.com/de/agb.php
According to our warranty, which can also be viewed in its current form on our website extend these:
http://proxomed.com/de/garantiebedingungen.php
The warranty/guarantee is void if changes are made to the machine without expressed permission or carried out by unauthorised personnel.
Once a warranty condition occurs, you should contact the service hot line by calling the proxomed number +49 (6023) 9168 77.
proxomed® will initiate service immediately and will be carried out at their discretion. The following procedures are possible.

- The service is carried out on site with our service.
- We dispatch the desired spare part.
- We dispatch an exchange machine.

The client should return the defective parts to us within 48 hours. Otherwise, the delivered spare part will be invoiced.
If the cause is not within the warranty / guarantee guidelines, then proxomed reserves the right to invoice all repair costs.
Consumable parts are not subject to warranty. These are saddles, cranks and crank mounting, pedals, pedal loops, batteries, footsteps, telescope systems and the handle foam on the handlebar.
The warranty is void if changes are made to the machine or if devices for control or measurement are installed and these items are not carried out by specialist personnel authorised by the manufacturer or on the express instructions of the manufacturer.

17.7 Hazards

- Do not commission the machine into use before carefully reading the operating manual.
- Check the power connection before commencing training.
- Check connection lines to any externally attached equipment.
- Do not operate the appliance without electricity and only after a proper functional check.
- Only use the machine with instructions for a doctor or trainer. The machine must not be used without the presence of a supervisor.

- Turn the unit off after training and disconnect it from power.
- Train only with appropriate clothing and suitable footwear.
- Do not lean on the cockpit or the machine covers and do not perform any improper movements on the machine.
- Do not start training with maximum intensity, but slowly increase the intensity.
- Before climbing on ensure that the seat is in the correct position. The seat should be at the end of its travel and should not fold away backwards or to the side.
- When opening the seat on the UPPER BODY CYCLE, make sure that the clearance for the seat bar is clear. Otherwise there is danger of injury.
- Keep parts of the body away from crank arm movement areas.
- Unsupervised children are not allowed to use the machine or be near the machine or its moving parts.
- If nausea or dizziness occurs stop training immediately and consult your trainer or doctor.
- Users with a heart pacemaker or with health problems should consult a doctor before use. Before each use check all moving parts as well as the machine covers for damage and have repaired immediately. Ensure that the ventilation holes are not covered to prevent machine from overheating.
- You are expressly warned against improper use.
- Please note all other safety and hazard warnings in the operating manual.

18 Repair Order / Fault Report

CALL NO.:…… Proxomed Medizintechnik GmbH Daimler Straße 6 D – 63755 Alzenau	**REPAIR ORDER** Fault report	proxomed®

Fax communication to Proxomed Service 06023/91 68 71

Hotline: 06023 / 91 68 77 • E-mail: service@proxomed.com • Internet: http://www.proxomed.com

Company / Health Centre / Studio:		Machine:	
Customer no.		Product no.	
Operator:		Machine type:	
Road/Street:		Type of machine:	
Post code / Town/City:		Classification:	
Telephone:		Supplier:	
Fax:		Manufacturer:	
Contact person:		Date of delivery:	
Location / department:		Serial number:	
E-mail / www:		Colour of padding:	
Maintenance contract available: ☐ Yes / ☐ No -- ☐ Desired!		☐ Maintenance ☐ Parts service ☐ Full service	

!

- **If you suspect or discover a technical failure, for safety reasons do not use the machine**
- **If you correct a fault yourself inform Proxomed of the malfunction so that this can then be noted in the machine dossier.**
- **The mains plug must be disconnected before every intervention in the machine for safety reasons!**
- **Proxomed assumes no warranty for the defect itself**

Precise fault description **Please in block letters**	Proxomed	

Spare parts order:

Measures

Service required: ☐ Yes / ☐ No	Urgency: ☐ Low / ☐ High
Location, Date	Signature, stamp

German manufacturers' headquarters:
proxomed® Medizintechnik GmbH
Daimlerstraße 6
D-63755 Alzenau
Tel.: +49 6023 9168-0
Fax: +49 6023 9168-68
www.proxomed.de
info@proxomed.de

Office Switzerland:
proxomed® Medizintechnik
Seestrasse 161
CH-8266 Steckborn
Tel.: +41 52762 1300
Fax: +41 52762 1470
www.proxomed.ch
info@proxomed.ch

Changes:
proxomed® reserves the right to change any product if this action, in our opinion, leads to improved quality and functionality. All illustrations in this User Manual are only approximated for typographical reasons; we assume no liability for typographical errors. Errors and omissions accepted.

User Manual kardiomed 700 Version 15, 31.01.2017

CE 0123

proxomed® is a company certified by the TÜV SÜD Product Service GmbH.