ERGOFIT

CARDIO 400 MED/HOME series

User Manual

CE

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The medical devices comply with the requirements of REGULATION (EU) 2017/745, the devices for home use comply with the Low Voltage Directive 2014/35/EU.

CE

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This user manual has been created with the utmost care. However, if you find any details that do not match your training device, please let us know so that we can address any discrepancies as quickly as possible..

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Dear Customer!

We are pleased that you have chosen a training device from ERGOFIT. You now own a sophisticated and exclusive training system that combines the highest technical standards with practice-oriented ease of use.

This user manual contains information about several device types. For this reason, you may also find explanations that do not apply to your training device.

Important information for operating and using your device can be found in this user manual. We therefore recommend that you carefully read this user manual before starting your training so that you can quickly become familiar with your device and know how to use it correctly and safely.

If you have any questions that are not answered on the following pages, please contact us. The PHYSIOMED ELEKTROMEDIZIN AG team is here for you!

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Please note:
The operating instructions apply to several device types.
Therefore, there may be detailed differences depending on the device type!

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Chapter 1 General Information

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1 General Information

1.1 ERGOFIT cardio devices at a glance

PHYSIOMED ELEKTROMEDIZIN AG offers with the CARDIO 400 MED/HOME series a line of cardio equipment that serves to train the cardiovascular system and enables the use of small muscle groups. Regardless of your age, gender, or fitness level, the ERGOFIT brand cardio devices offer you optimal training opportunities.

Standard highlights include optimal load dosing and precise training control. The low noise level, easy operation of the devices, and customer-oriented design impressively demonstrate what matters most in training equipment: a high technical standard, optimal training possibilities, and precise training control with user-friendly application.

However, high-tech alone does not guarantee for outstanding training equipment. The training device must also meet biomechanical and sports medicine requirements. The human is the focus. A sophisticated training and testing system can only develop from the combination of technical-electronic know-how with the latest findings in sports medicine and training science, which has been successfully achieved here.

Our CARDIO 400 series is divided into:

- ⊗ the **CARDIO 400 HOME series**: devices specifically tailored to the needs of the home environment.
- ⊗ the **CARDIO 400 MED series**: devices specifically tailored to the needs of the medical field

The lifespan of the devices is 8 years.

Your benefits:
Regular training on these devices reduces the risk of cardiovascular diseases and increases personal performance in an optimal way - even into old age. You thus have a training and testing system that is an indispensable aid in improving cardio-pulmonary endurance as well as in prevention and rehabilitation measures. You feel fit, more resilient, more attractive, and balanced.

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1.2 General information about this manual

Whether you are already familiar with ERGOFIT brand training equipment or have no experience with it yet, this user manual provides you with helpful information.

It is structured so that you can always look up the information you need by topic via the table of contents. For users already familiar with ERGOFIT brand devices, a quick start guide has also been created. If you belong to this group of users and only refer to the quick start guide, you should nevertheless refresh your memory of the safety instructions beforehand.

The manual shows you different tips and tricks that will quickly make you an experienced user of your cardio device and show you all the possibilities of this device.

You should always keep the user manual handy. This will save you unnecessary and time-consuming inquiries and allow you to quickly resolve any errors that may occur.

1.3 Scope of delivery

Please check the completeness of the delivery and notify our sales department immediately if it's incomplete.

Your delivery should contain the following components:

1. The correct device (device type, series)
2. One power cable per device (CYCLE 407 MED/457 MED; for the CYCLE 400/450, the power cable is permanently attached to the device)

Please note that accessories (e.g., POLAR transmitter) are not included in the scope of delivery. These must be ordered separately.

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1.4 Disposal of the devices

Electronic devices do not belong in household waste but must be disposed of separately. Old devices contain valuable recyclable materials that should be recycled.



The crossed-out wheelie bin (also see type plate) means that it is an electrical device that does not belong in residual waste. The bar under the bin symbolizes that the device was put into circulation after 13.08.2005.

As a customer of PHYSIOMED ELEKTROMEDIZIN AG, you are obliged to delete personal data from the device to be disposed of.

Devices used in the private sector can be handed in at a public recycling centre.

For more information on waste electrical equipment, visit the website of the Stiftung Elektro-Altgeräte Register (EAR): „https://www.stiftung-ear.de“.

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Chapter 2 Safety Instructions

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Please note:
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2 Safety Instructions

Please read this chapter carefully before putting your new training device into operation and observe all warnings listed here. Keep the user manual carefully so that you can make it available to the new owner in case of a possible sale of the device.

For your proof of ownership, note:
Device type/Product line _____
Serial number _____
Date of purchase _____
You will also need this information for any warranty claims.

The following symbols are used to mark important information:

	**Caution!**	You must observe this **warning** to be able to avert dangers to your life and health.
	**Attention!**	You must observe this **warning** to avoid property damage.
	**Attention!**	Be **sure** to switch off the training device and unplug it from the power outlet.
	**Tip!**	This **note** contains important information and tips with which you can achieve an improvement in the operating process.

2.1 What should you consider when using your training device?

- ⊗ Read the user manual carefully before operating the device.
- ⊗ Do not operate the device without instruction.
- ⊗ The owner is responsible for informing the user about all safety instructions and warnings as well as the operating instructions.
- ⊗ Only operate the device after a proper functional check (for more information, see Chapter 7.3). For your own safety, check the device for damage (loose screws, worn parts) before each use. If defective, the device must not be used until it has been repaired.
- ⊗ Before each use, check the firm seat of the saddle by fixing the horizontal and vertical saddle adjustment. Make sure that the stop screw on the underside of the seat post is present and firmly screwed in. Otherwise, there is a risk of injury.

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- ⊗ To keep the risk of injury as low as possible when using the training device, only train with sportswear and appropriate footwear.
- ⊗ In case of nausea, dizziness, chest or limb pain, you should stop training immediately, notify a trainer and/or consult a doctor.
- ⊗ If you rely on a pacemaker or are health impaired, consult your doctor before using the device. If necessary, coordinate the training program with him. Also, only train in MANUAL mode.
- ⊗ Your training device is not a toy! Therefore, never leave children unsupervised near the device. They cannot always correctly assess possible dangers. Parents and other supervisors should always be aware of their responsibility, as children's natural playfulness and desire to experiment can lead to situations and behaviours for which the training device was not designed.
- ⊗ The use of the device is carried out on the instructions of a doctor and/or a supervisor. The device must not be operated without supervision.
- ⊗ Make sure that no outsider comes into the immediate vicinity of moving parts.
- ⊗ Attention! The permissible body weight of the user may not exceed 180 kg. Always make sure that this weight is not exceeded.
- ⊗ Do not place drinks or food on your training device.
- ⊗ Do not stand on the device's casing and do not lean on the cockpit or the handlebars.
- ⊗ Check the saddle, handlebars, pedals, and casing weekly for damage and have them repaired immediately.
- ⊗ Retighten the pedals and pedal arms after 3-5 hours of operation. Otherwise, there is a risk of damage to the device and associated risk of injury to the trainee. (Left pedal has left-hand thread, right pedal has right-hand thread, see Chapter 9.1 for more details).
- ⊗ After adjusting the seat position, be sure to tighten the corresponding seat clamp again. Otherwise, there is a risk of injury.
- ⊗ Warm up sufficiently before each training session. Start the training on the device slowly and only gradually increase the intensity to the desired and controllable performance level.
- ⊗ Do not lean over the handlebars and do not shift your body weight over the side of the device. There is a risk of tipping.
- ⊗ Do not take your feet off the pedals during training.
- ⊗ Do not jump off the device during training.
- ⊗ Do not touch the USB port or the audio port during training.
- ⊗ Caution! The heart rate monitoring system may be faulty. Excessive training can lead to dangerous injuries or death. If your performance decreases unusually strongly, end the training.
- ⊗ The use of the Polar pulse measurement accessory has effects on the safe use of the devices. Heart rate measurement systems can be inaccurate and pose a potential risk to the patient.
- ⊗ Observe further safety and operating instructions in the user manual.

All safety instructions listed in the user manual are based on years of experience and self-understanding.

2.2 Operational safety, what needs to be done?

- ⊗ After delivery, make sure that the device has not been damaged during transport. If in doubt, do not operate the device and inform customer service.
- ⊗ Slots and openings on the device serve for ventilation. Do not cover these openings, as this can lead to overheating of the components.
- ⊗ Check the power connection cable for any damage before putting the device into operation.
- ⊗ Switch off the device after training and disconnect it from the mains.
- ⊗ Set up the training device so that there is sufficient free space (at least 1m) around the device. This ensures that there is no danger for the trainee and bystanders. In addition, this prevents interference with pulse measurement.
- ⊗ For devices of the CARDIO 400 MED series, the protective volume regulations (patient environment) according to EN 60601-1 applies.
- ⊗ Devices of the ERGOFIT brand cannot be operated with other electrical devices such as ECG, blood pressure monitors, etc. The tested safety and approval of the devices as medical products only applies to standalone use.

2.3 Caution: Electric shock

- ⊗ Only connect the device to a suitable power supply. (See Chapter 5.4.1)
- ⊗ Ensure correct climate conditions. (See Chapter 5.3)
- ⊗ Do not use damaged cables.
- ⊗ Do not pull the plug out of the socket by the cable, but by the plug itself.
- ⊗ Only open the device when it is switched off and the mains plug has been pulled out of the socket.
- ⊗ If liquid gets into the device, immediately pull the mains plug out of the socket and notify customer service.
- ⊗ Do not insert any objects through the ventilation slots into the interior of the device. These can cause an electrical short circuit.

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2.4 What requirements should be placed on the location?

⊗ The device can be set up on any level and stable floor. Make sure it stands firmly on the ground.

⊗ Never compensate for unevenness of the floor by placing wood, cardboard or similar materials underneath. This leads to an increased risk of accidents.

2.5 What should be considered during repair?

⊗ Electrical parts may only be replaced with original parts.

⊗ Only have repairs carried out by qualified persons. If you do not have the necessary qualification, contact the PHYSIOMED Service Center. Electrical or mechanical changes or modifications by unauthorized persons must not be carried out, otherwise any warranty claims will be void.

2.6 What should be avoided?

⊗ Improper use is to be warned against. If you use your device for purposes other than intended, any resulting damage is at your own expense. Any warranty claim is void!

⊗ Devices of the ERGOFIT brand cannot be operated with other electrical devices such as ECG, blood pressure monitors, etc. The tested safety and approval of the devices as medical products only applies to standalone use.

⊗ Never use the device in any way other than described in the user manual. This can lead to damage to the device and even health damage.

⊗ Never try to train above your current performance level. This can cause significant health damage.

⊗ Never train on a defective device.

⊗ Never operate the device without power.

⊗ Never try to train above your current performance level. This can lead to significant health damage.

⊗ Never lean on the device and do not perform any improper movements on the device. In this case, there is an increased risk of falling.

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The most important safety instructions are summarized again in the appendix of the user manual. Detach this summary and hang it up clearly visible near the training device. Every user of the device must be made aware of the dangers and safety regulations. The manufacturer assumes no liability for personal injury or property damage.

2.7 Contraindications

For the following conditions, the devices are contraindicated and must not be used:

Absolute Contraindications:

- ⊗ Unstable angina pectoris
- ⊗ Symptomatic cardiac arrhythmias and/or limited hemodynamics
- ⊗ Shortness of breath, feeling of tightness
- ⊗ Circulatory disorders with resting pain in the affected limbs
- ⊗ Hypertension, i.e., in case of constantly elevated blood pressure, consult the treating physician
- ⊗ Coronary arteriosclerosis
- ⊗ Pain in the legs when walking less than 100 m
- ⊗ Acute infections (diseases in the respiratory area)
- ⊗ Febrile illnesses, febrile infections
- ⊗ Open wounds
- ⊗ Circulatory problems, dizziness
- ⊗ Nausea, vomiting
- ⊗ Acute coronary syndrome
- ⊗ Acute myocardial infarction
- ⊗ Symptomatic severe aortic stenosis
- ⊗ Decompensated heart failure
- ⊗ Acute pulmonary embolism
- ⊗ Acute carditis (myo-, endo-, pericarditis)
- ⊗ Acute phlebothrombosis of the lower extremities
- ⊗ Acute aortic dissection

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Orthopaedic Contraindications:

- ⊗ Fractures of the limbs used during training that have not yet been adequately treated/healed
- ⊗ Ruptures of tendons and ligaments of the limbs and joints used during training that have not yet been adequately treated/healed
- ⊗ Severe osteoporosis to the extent that the stability of the loaded bone structures cannot be guaranteed

If the following symptoms occur during training, the training must be stopped immediately to avoid overloading the human organism:

- ⊗ Shortness of breath, feeling of tightness
- ⊗ Angina pectoris (sudden pain in the chest)
- ⊗ Maximum pulse > 220 - age [s-1]
- ⊗ Nausea
- ⊗ Circulatory problems
- ⊗ Discomfort
- ⊗ Severely decreasing heart rate
- ⊗ Rapidly decreasing / rapidly increasing blood pressure
- ⊗ Known electrolyte imbalance
- ⊗ Balance problems
- ⊗ Visual impairments
- ⊗ Mental disabilities

Target patient group:
In compliance with the intended use, all devices are intended for professional use in health-care facilities, such as orthopaedic and physiotherapy departments in hospitals, rehabilitation clinics, etc. Depending on the indication, the patient‘s health condition and the treatment goal, the devices can be used in prevention and rehabilitation.

Clinical benefit:
CARDIO 400 MED devices support physiotherapeutic interventions. The clinical benefit for the patient lies in the complementary use of the devices and an improved cardiopulmonary endurance as a result.

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2.8 Undesired side effects

Undesired side effects refer to unintended effects during or immediately after use within the scope of intended use.

From internal market surveillance, it is known that the following side effects may occur occasionally:

⊗ Muscle soreness after too intensive training.

⊗ Joint complaints after too high chosen training intensity.

⊗ Pressure pain on the ischial tuberosities after sitting too long on the ergometer.

⊗ Skin redness on the hands after gripping too tightly.

⊗ Tension due to ergonomically poorly chosen posture during execution.

These side effects are uncritical and usually subside spontaneously after a few days.

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Chapter 3 Quick Start Guide

Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

3 Quick Start Guide

After receiving your cardio device, first check whether the serial number of the device (see type plate) matches that of the delivery note and whether the components listed under Chapter 1.3 „Scope of delivery“ are included in your delivery (not for the CARDIO 400 HOME series).

After you have connected the device to the power supply and switched it on, the software version will be displayed. Then the main menu appears.

On the cockpit, you will find the PLUS, MINUS, START and STOP buttons in the corresponding order.

The large monochrome display consists of an illuminated display and shows the completed training time (min:s), your current heart rate, the performance (Watt), the speed range (1/min) or the speed (km/h; not for CYCLE 400 HOME/407 MED), the distance covered (m or km) and the calories you have burned.

When you start training on the cardio device, the main menu always appears on the display first. The menu item „MANUAL“ is automatically selected, confirm this by pressing the START button. You are now in manual operating mode.

In this mode, you can train for as long as you like and vary the load level as desired by pressing the PLUS or MINUS button. The training parameters are displayed on the screen throughout the entire training session.

If you want to end the training, press the STOP button. The training values remain visible for reading. Pressing the STOP button again will take you back to the main menu (alternatively, the device will automatically switch back to the main menu after 2 minutes if you do not perform any further actions).

Attention!
For training in the other modes, please read the detailed descriptions.

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Please note:
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4 Intended Use

4.1 Series

To meet the needs of our customers and to keep up with technical innovation, PHYSIOMED ELEKTROMEDIZIN AG has developed the following device series to improve cardiopulmonary endurance.

4.1.1 CARDIO 400 HOME Series

The devices in this series are stationary training devices primarily designed for cardiovascular training. They were specifically designed for the requirements in the home environment (EN 20957 HA). They enable control, monitoring and documentation of the training.

4.1.2 CARDIO 400 MED Series

The devices in this series are stationary training devices that, in addition to training cardiopulmonary endurance and precise training control, serve as aids for diagnosis/performance diagnostics and therapy of cardiovascular diseases. They meet the requirements of medicine and must therefore enable precise measurement technology in addition to pure fitness training. Their explicit evaluations serve to optimize health training and allow its continuous documentation. With these devices, to ensure measurement accuracy, metrological controls must be carried out at regular intervals (every 2 years) (according to MPBetreibV).

4.2 Devices

All devices of the CARDIO 400 HOME/400 MED series are bicycle ergometers that serve to train the cardiovascular system. Through cyclical pedaling movements, performances are achieved. The training load can be controlled for optimal stress on the cardiovascular system. To achieve optimal adaptation to the individual needs of customers, the CYCLE has been equipped with various features.

4.2.1 CYCLE 400 HOME

The CYCLE 400 HOME features a manually controllable program, a pulse-controlled cardio training program and 5 predefined profiles as well as the possibility to train via gear shifting.

4.2.2 CYCLE 407 MED

The CYCLE 407 MED features a manually controllable program, a pulse-controlled cardio training program and 2 predefined WHO profiles as well as the possibility to perform manual or pulse-controlled countdown training.

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4.2.3 CYCLE 450 HOME

The CYCLE 450 HOME features a manually controllable program, a pulse-controlled cardio training program, various predefined profiles as well as individually creatable user profiles, 3 test programs, and the possibility to train via gear shifting.

4.2.4 CYCLE 457 MED

The CYCLE 457 MED features a manually controllable program, a pulse-controlled cardio training program, various predefined profiles and individually creatable user profiles, 3 test programs, 1 changeable WHO profile as well as the possibility to perform manual or pulse-controlled countdown training.

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Chapter 5 Transport and Setup

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Please note:
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5 Transport and Setup

5.1 Transport

Show Image To avoid damage, ERGOFIT brand devices are transported directly by PHYSIOMED ELEKTROMEDIZIN AG or by an authorized forwarding company. If delivered by PHYSIOMED ELEKTROMEDIZIN AG, the packaging is recycled or properly disposed of. If the devices are delivered by a forwarding company, you can recycle the packaging yourself or return it to PHYSIOMED ELEKTROMEDIZIN AG (transport costs are borne by the customer).

⚠ The devices have no transport lock!

To place the CYCLE in the desired location, observe the following:

1. Position yourself in front of the device so that you can see the display.
2. Now grip under the seat with both hands and lift the device slightly. You can now easily roll the device to your desired position.

5.2 Location and Installation

To protect the power cable from damage during transport, it is placed between the casing and the foot frame.



Transport the device to its future location and mount the foot caps.

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Attention! Only run the cable under the foot frame after you have mounted the foot caps: please run the cable under the foot frame to the rear end of the device. Make sure that the cable is not pinched between the casing and foot frame or between the casing and floor!

Correct **Wrong**



Transport and Connection

- ⊗ Make sure that the standing surface is level and horizontal.
- ⊗ Small unevennesses unevenness's in the floor can be compensated by the adjustable feet on your device. Adjust these feet so that the device has a firm stance and does not wobble.
- ⊗ Note that the distance between individual devices should be at least one meter, as otherwise interference with the POLAR pulse receivers may occur.
- ⊗ High-frequency and magnetic sources of interference (e.g., radios, televisions, mobile phones) in the immediate vicinity of your cardio device can also lead to malfunctions in pulse measurement.
- ⊗ Furthermore, in rare cases, strong electromagnetic fields (e.g., from high-voltage cables or overhead lines of trams) can interfere with pulse transmission at certain locations.
- ⊗ In case of interference or suspected interference with pulse transmission, you should under no circumstances perform training with cardio control (training in CARDIO mode).
- ⊗ Set up the device so that disconnection from the power switch and mains plug is always easily possible.

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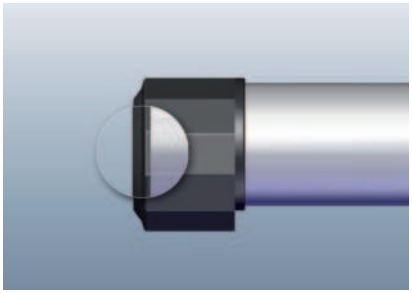
Note that the adjustable feet of the CYCLE are covered with plastic caps. In exceptional cases (e.g., in combination with aggressive cleaning agents), this can leave marks or discoloration on the standing surface.

Level Adjustment:

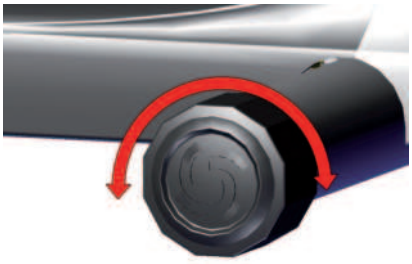
Please ensure a secure stand when setting up the device. Observe the following steps for this.



1. Mount the enclosed foot caps by placing them on the designated tubes.



2. Make sure that the foot caps are pushed on as far as they can go.



3. By rotating (possible in both directions), you can adjust the foot caps so that the training device has a secure stand.

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5.3 Ambient Temperature

⊗ The training device can be operated without problems at an ambient temperature of +10°C to +40°C, a relative humidity of 30% to 75% (non-condensing) and an air pressure of 700 hPa to 1060 hPa.

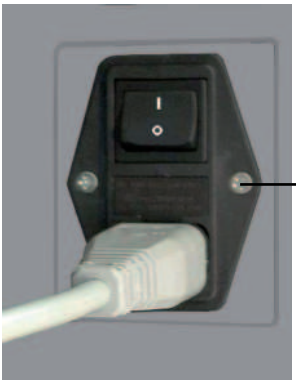
⊗ The device can be stored at a temperature of -30°C to +50°C.

5.4 Connecting

1. Before starting up, visually inspect the supplied power cable and socket (power input module, only CARDIO 400 MED series). Damaged cables and sockets must be replaced immediately.

2. Take the power cable and plug it into the designated power input module. Plug the other end of the cable into the power outlet.

3. Switch on your device by activating the switch on the power input module (CARDIO 400 MED series, I = On, O = Off) or by activating the foot switch on the power cable (CARDIO 400 HOME series).



power input module with power plug

4. After you have now connected your device to the power supply and switched it on, an automatic operational check runs. During this operational check, the software version of your device is displayed. Then the main menu appears.

5. Stand on the cockpit side of the device (looking at the display) and check if the display is functioning. If this is not the case, check that you have carried out the above steps correctly. Additionally, check if the power outlet is live.

5.4.1 Power Supply

Only operate your device on grounded outlets with 230 ~/50-60 Hz (see Chapter A). If you are unsure about the power supply at the installation site, ask your energy provider. Use standard 10 A circuit breakers (with B tripping characteristic) in your house distribution. If these circuit breakers trip in individual cases now of switching on, the circuit must be secured with 10 A fuses or fuses with a different tripping characteristic (e.g. K-type circuit breakers). If necessary, ask your electrical installer.

Before connecting your training device to your power supply system, compare the typetype of plate information (next to the power input module) about the permissible mains voltage and mains frequency with the local data.

Always connect the device directly to a power outlet. If possible, do not use extension cables or multiple socket distributors, or only suitable ones according to EN 60601-1 standard.

5.4.2 Cabling

If you have several ERGOFIT brand devices, then switch the devices on and off one after the other when they are connected to the same power circuit.

⊗ Route the power cable so that no one can step on it or trip over it.

⊗ Do not place any objects on the cable, as this may damage it.

5.5 Potential Equalization

To avoid interference, a potential equalization line can be connected to the devices. Potential equalization is not standard and must therefore be retrofitted by the service if required. In this case, please contact our service department or a field service representative. Since the devices are prepared for the installation of potential equalization, the retrofit can also be carried out on site.

5.5.1 Position of the Potential Equalization Terminal

The terminal for the potential equalization line is located at the front bottom of the device, under the wheel cover. Never connect the potential equalization line to the gas or water line or to any other pipes. Always use only the designated proper potential equalization connections.

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5.6 Components (Images similar)

5.6.1 CYCLE 400 HOME



1 Seat
2 Horizontal saddle adjustment
3 Seat height adjustment
4 Power cable output
5 Pedals
6 Adjustable feet
7 Cockpit with display
8 Handlebar (with electrodes for hand pulse)
9 Book support

5.6.2 CYCLE 407 MED



1 Seat
2 Horizontal saddle adjustment
3 Seat height adjustment
4 Power input module
5 Pedals
6 Adjustable feet
7 Cockpit with display
8 Handlebar
9 Book support

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5.6.3 CYCLE 450 HOME



1 Seat
2 Horizontal saddle adjustment
3 Seat height adjustment
4 Power cable output
5 Pedals
6 Adjustable feet
7 Cockpit with display
8 Handlebar (with electrodes for hand pulse)
9 Book support

5.6.4 CYCLE 457 MED



1 Seat
2 Horizontal saddle adjustment
3 Seat height adjustment
4 Power input module
5 Pedals
6 Adjustable feet
7 Cockpit with display
8 Handlebar
9 Book support

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Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

6 Startup

6.1 Switching On

⊗ Before switching on your device (CARDIO 400 MED series), check if the power plug is plugged into the socket.

If you have connected several devices to one main switch, please switch each of your devices on or off individually. If several devices are switched on simultaneously, technical malfunctions can occur.

⊗ Now switch on your device by activating the switch on the power input module. To do this, you must tilt the switch to the I position. If the switch is in the 0 position, the device is switched off (applies only to the CARDIO 400 MED series). For the CARDIO 400 HOME series, the device is switched on by activating the foot switch.

⊗ You can immediately tell if the device is switched on by the display illumination.

6.2 Switching Off

⊗ Switch off your device by activating the switch on the power input module. To do this, you must tilt the switch to the 0 position (CARDIO 400 MED series) or activate the foot switch (CARDIO 400 HOME series).

Make sure that the on and off intervals do not fall below a time of 30 seconds.

6.3 Correct Training Technique

Regular training on these devices reduces the risk of cardiovascular diseases and increases personal performance in an optimal way. Furthermore, you should ensure that you also train optimally from a biomechanical point of view. In this chapter, we have therefore listed some relevant aspects for the use of bicycle ergometers.

When using your training device, make sure that you do not step on the casing. Use only the designated foot areas.

1. First determine the optimal seat height. The saddle height is crucial for seating comfort and, not least, for a „round pedal stroke“. To determine the optimal saddle height, sit on the saddle and place a heel on a pedal. In the lowest pedal position, you should be able to fully extend your leg.
2. CYCLE 400 HOME/407 MED: To adjust the saddle height, stand next to the device and turn the knob on the seat tube counterclockwise. Now pull the knob out of the hole pattern on the seat tube until you can move the seat tube. Set the desired height and let the knob snap back into the seat tube. Fix the seat tube by turning the knob clockwise.

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3. CYCLE 450 HOME/457 MED: To adjust the saddle height, stand next to the device and pull the adjustment lever on the seat tube upwards. Due to the integrated gas pressure spring, the saddle automatically lifts upwards. If you want to lower the saddle, push it down to the desired position using your body weight with the adjustment lever pulled up. To fix the seat height, release the adjustment lever and it automatically returns to the starting position.
4. To adjust the saddle in the horizontal plane, loosen the star grip by turning it counterclockwise. The saddle can now be adjusted continuously. Fix the seat position by turning the star grip clockwise.
5. When doing CARDIO training, make sure that the rotation speed is greater than 50 1/min (at power > 25 W), otherwise the resistance of the device becomes too high. Pay attention to the speed range (arrow up (CYCLE 450 HOME/457 MED) or arrow right (CYCLE 400 HOME/407 MED) means you need to pedal faster and arrow down (CYCLE 450 HOME/457 MED) or arrow left (CYCLE 400 HOME/407 MED) means you need to pedal slower). The higher the rotation speed, the lower the joint stress.
6. The described exercise position should be maintained throughout the entire exercise.

6.4 The Cockpit

One of the main goals of PHYSIOMED ELEKTROMEDIZIN AG is to produce particularly user-friendly devices. Therefore, all devices of the CARDIO 400 HOME/400 MED series are equipped with a simple, easy-to-understand user guidance. In addition, the cockpits of the different devices are uniformly designed to offer you the comfort of easy operation. Anyone who has understood the operation of one device type can also operate all other devices of the corresponding line.

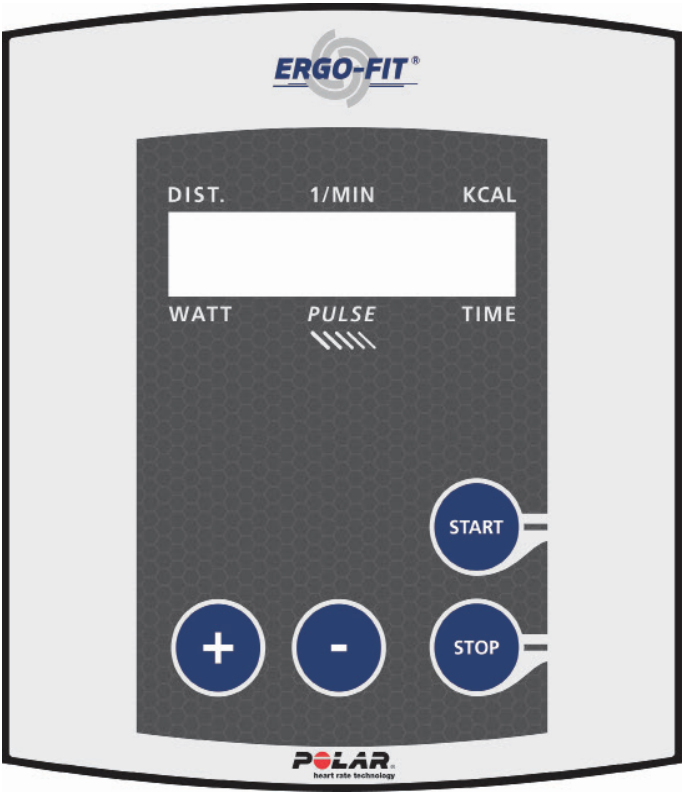
There are two types of displays: A small monochrome display (CYCLE 400 HOME/407 MED) and a large monochrome display (CYCLE 450 HOME/457 MED).

The cockpit consists of a display and control elements (buttons). Before taking a closer look at the cockpit of your device, you should note the following:

1. Do not lean on the cockpit or the display. This can lead to damage.
2. Do not exert pressure on the display.
3. Only tap the buttons lightly. The button press is confirmed by a signal tone.

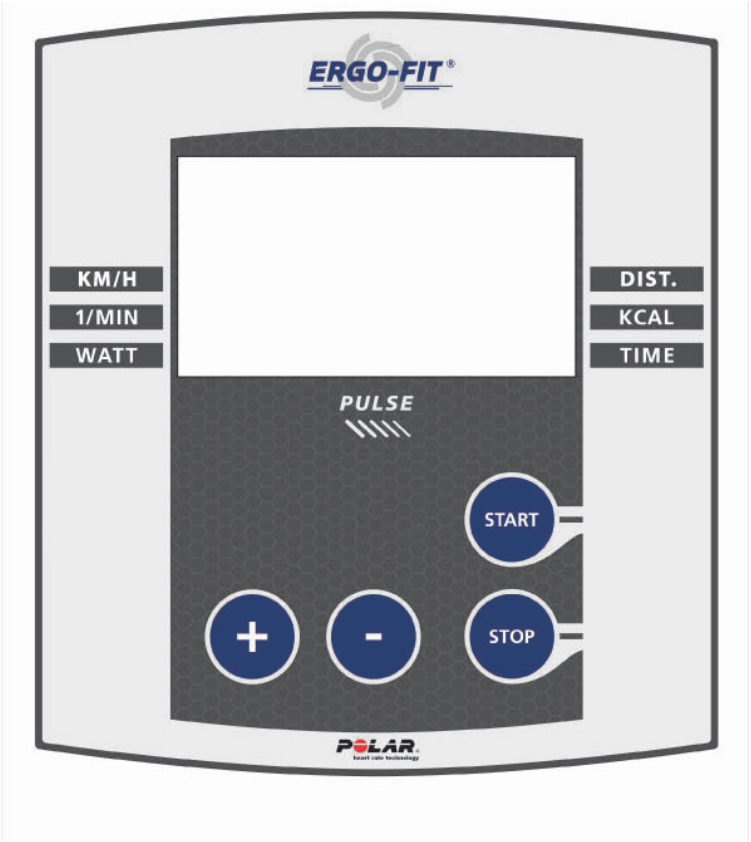


Cockpit CYCLE 400 HOME/407 MED (small monochrome display):



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Cockpit CYCLE 450 HOME/457 MED (large monochrome display):



6.4.1 The Buttons

On the cockpit - depending on the device type - you will find the following buttons, whose function is briefly explained:

- ⊗ PLUS button: With this button, you can increase the resistance of the load or change parameter specifications.
- ⊗ MINUS button: With this button, you can decrease the resistance of the load or change parameter specifications.
- ⊗ START button: With this button, you can confirm the selection of the training mode or preset or changed parameter specifications.
- ⊗ STOP button: With this button, you can cancel functions or stop the device.

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6.4.2 The Display

The devices of the CARDIO 400 HOME/400 MED series are equipped with a large (CYCLE 450 HOME/457 MED) or small (CYCLE 400 HOME/407 MED) monochrome display.

Below you will find the information on the respective displays, units of measurement and their meaning.

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Training parameters

Device	Display	Meaning	Unit
CYCLE	DIST.	Distance	m,km
	1/MIN	Number of revolutions per minute	1/min
	KM/H	Speed	km/h*
	WATT	Current power output	Watt
	KCAL	Calorie consumption (average value)	kcal
	TIME	Training time	00:00 (min:sek)
	PULSE	Current heart rate per minute *with POLAR transmitter or hand pulse (only CYCLE 400/450)*	1/min
	flashing heart	the pulse signal is being received**	

* *Parameter „KM/H“ only for CYCLE 450 HOME/457 MED*
** *if an „E“ appears at the position of the pulse display, this means an erroneous or no pulse reception (see Chapter 7.4)*

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Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

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7 Operation

7.1 Operating Modes

When you switch on your training device, the main menu with the program selection always appears on the display first. The menu item MANUAL (for CYCLE 400 HOME/407 MED MU* speed-independent) is automatically selected. You can switch to another training mode with the PLUS/MINUS buttons and then confirm it with the START button. Depending on the device type, you have the following options:

	CYCLE 400 HOME	CYCLE 407 MED	CYCLE 450 HOME	CYCLE 457 MED
MANUAL	X	X	X	X
PROFILES	X		X	X
CARDIO	X	X	X	X
GEAR SHIFT	X		X	
WHO-PROFILES		X		X
COUNTDOWN		X		X
TEST			X	X

If you want to return to the main menu from a submenu, simply press the STOP button once or several times.

☞ *Attention! If you are a pacemaker wearer, you should only train in MANUAL mode!*

71.1 MANUAL

In this mode, you can train for as long as you want and set the workload yourself.

1. Use the PLUS/MINUS buttons to navigate until the MANUAL program is highlighted. Confirm your selection with the START button.
2. You are now in the training mode. Here you have the option to change the workload intensity in 5W increments by pressing the PLUS or MINUS button. If you want to make a large change in workload intensity, press and hold the PLUS or MINUS button.
3. End the training by pressing the STOP button. The training parameters remain displayed for reading. By pressing the STOP button again, you return to the main menu. Alternatively, if you do not perform any further actions, the device automatically switches back to the main menu after 1 minute.

*Manual independent

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You can freely vary the minimum/maximum load in MANUAL mode. The lower/upper load limit is as follows - depending on the device type::

Device type	Power range	Increments	RPM range
CYCLE 400 HOME	0-400 W *	5 W	20-120 Umdrehungen/min
CYCLE 407 MED	0-400 W *	5 W	20-120 Umdrehungen/min
CYCLE 450 HOME	0-400 W *	5 W	20-120 Umdrehungen/min
CYCLE 457 MED	0-400 W *	5 W	20-120 Umdrehungen/min
* Default setting 25 W, by pressing the MINUS button, the resistance can be reduced to 0 W.			

Please note for CYCLE 407/457 MED that the device does not meet the requirements of DIN VDE 0750-238 in the resistance range below 25 W!

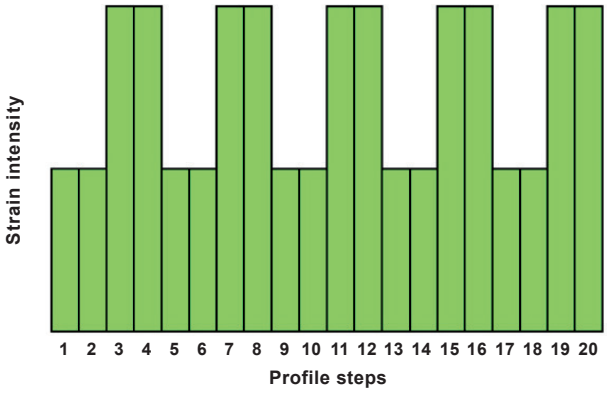
7.1.2 PROFILES

Depending on the device type, you can choose between power profiles (load and fixed profiles), incline profiles (gears/only CYCLE 450 HOME) and pulse profiles (heart rate/only CYCLE 450 HOME and CYCLE 457 MED).

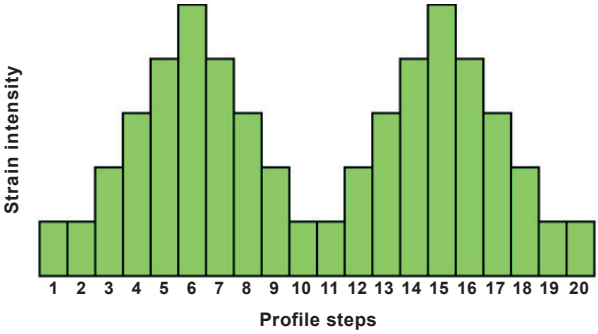
Power profiles (CYCLE 400/450 HOME, CYCLE 457 MED):
Here you can choose between 5 predefined profiles (fixed profiles/P1 - P5) and 4 individually created user profiles (load profiles only CYCLE 450 HOME and CYCLE 457 MED). The profiles differ in their different sequence of changing load levels, comparable to a hilly landscape.

The 5 fixed profiles (1 - 5) look as follows:

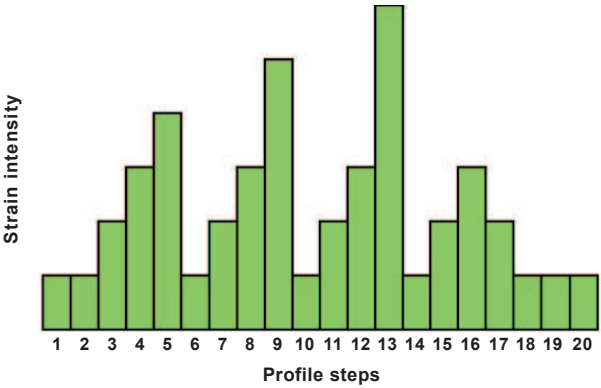
Profile 1:



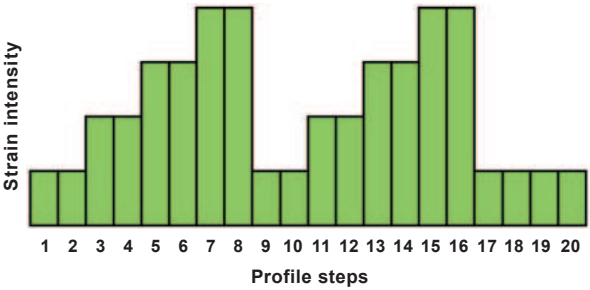
Profile 2:



Profile 3:

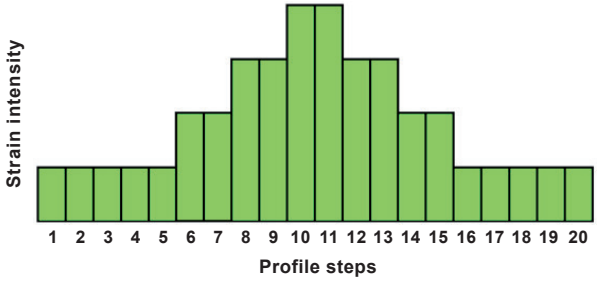


Profile 4:



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Profile 5:



Incline profiles (Gears/CYCLE 450 HOME):
Here you can choose between 4 individually created user profiles.

Pulse profiles (Heart rate/CYCLE 450 HOME, CYCLE 457 MED):
Here you can choose between 4 individually created user profiles.

How to select a fixed profile (P1 - P5):

1. Use the PLUS/MINUS buttons to navigate until the PROFILES program is highlighted. Confirm your selection with the START button.
2. In the „PROFILES“ submenu, you can now select one of the profiles using the PLUS or MINUS button. Confirm this selection with the START button. For CYCLE 450 HOME and CYCLE 457 MED, you first need to use the PLUS/MINUS buttons to choose between profile selection and profile editor, confirm with START, then select the corresponding profile type (fixed profiles, load profiles or heart rate) with the PLUS/MINUS buttons, and confirm again with START.
3. Now you need to determine how high the maximum and minimum workload intensity should be. Adjustment is done via the PLUS or MINUS button, confirmation via START.
4. Now set the maximum training time. By pressing the PLUS or MINUS button, you can choose between different training times, ranging from 10 to 60 minutes duration (default 10 min). Confirm again with the START button.
5. You are now in the training mode. Here you have the option to change the workload intensity within the predefined intensity range at any time by pressing the PLUS or MINUS button. The time course is displayed inversely in the profile.
6. For CYCLE 400 HOME, the training automatically ends after the selected period of time has elapsed. Alternatively, you can end the training prematurely by pressing the STOP button. For CYCLE 450 HOME and CYCLE 457 MED, the profile section repeats until the training is ended with STOP. In all cases, the training parameters (dist., kcal, km etc.) remain displayed for reading. By pressing the STOP button again, you return to the main menu.

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How to create a new user profile (A-D)

(only CYCLE 450 HOME and CYCLE 457 MED)**:**

1. Use the PLUS/MINUS buttons to navigate until the PROFILES program is highlighted. Confirm your selection with the Start button.
2. Select the Profile Editor with PLUS/MINUS buttons, confirm with START.
3. Now you need to select the corresponding profile type (load profiles, heart rate, gears) with the PLUS/MINUS buttons and confirm with START.
4. Then use the PLUS or MINUS button to navigate until the desired user profile (A-D) is highlighted. By pressing the START button, you enter the editing level.
5. Press START again to change the profile.
6. In the editing level, you can determine how high the workload intensity should be for each load level. Adjustment is done via the PLUS or MINUS button (default setting start profile level 1). By pressing the START or STOP button, you can switch between the profile levels. By pressing the STOP button at profile level 1 or pressing the START button at profile level 20, you return to the main menu. Your changes are saved.
7. In the main menu, select the PROFILES program again using the PLUS or MINUS button, confirm with START, then confirm PROFILE SELECTION with START. Select the desired profile with the PLUS or MINUS button and confirm with START. Now the four user profiles appear (exception profile „Gears“, see point 10). Select the desired one with the PLUS or MINUS button and confirm with START. For further procedure see points 8-10.
8. If you have chosen the profile type „Load profiles“, you have the option to change the starting load using the PLUS/MINUS buttons. Confirm with the START button and then set the maximum training time. By pressing the PLUS or MINUS button, you can choose between different training times, ranging from 10 to 60 minutes duration (default 20 min). Confirm using the START button. Continue to point 11.

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9. If you have chosen the profile type „Heart rate“, you have the option to set the maximum training time. By pressing the PLUS or MINUS button, you can choose between different training times, ranging from 10 to 60 minutes duration (default 20 min). Confirm using the START button. Now the cardio parameters are displayed. Additionally, you have the option to change the starting load using the PLUS/MINUS buttons. Confirm with the START button. Continue to point 11.

10. If you have chosen the profile type „Gears“ (only CYCLE 450 HOME), enter your weight using the PLUS/MINUS buttons. After confirming with START, the four user profiles appear. Select the desired one with the PLUS or MINUS button and confirm with START. Now you have the option to set the maximum training time. By pressing the PLUS or MINUS button, you can choose between different training times, ranging from 10 to 60 minutes duration (default 20 min). Confirm using the START button. Continue to point 11.

11. You are now in the training mode. Here you have the option to change the workload intensity within the predefined intensity range at any time by pressing the PLUS or MINUS button. Additionally, the time course is displayed inversely in the profile.

12. For CYCLE 400 HOME, the training automatically ends after the selected time period has elapsed. Alternatively, you can end the training prematurely by pressing the STOP button. For CYCLE 450 HOME and CYCLE 457 MED, the profile section repeats until the training is ended with STOP. In all cases, training parameters (dist., kcal, km etc.) remain displayed for reading. By pressing the STOP button again, you return to the main menu.

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7.1.3 CARDIO

For heart rate-controlled training (cardio training), the optimal workload intensity of the trainee is targeted. To perform CARDIO training (heart rate-controlled training), you need a chest strap with POLAR transmitter for devices in the CARDIO 400 MED series. This is the only way to reliably measure your heart rate and enable automatic workload regulation. For devices in the CARDIO 400 HOME series, heart rate measurement can alternatively be performed via hand pulse. The CARDIO mode serves to control the workload intensity via the heart rate, with the aim of maintaining the predetermined training heart rate constant throughout the training period.



Persons wearing a pacemaker or taking heart medication (e.g. beta-blockers) should not train in Cardio mode!

Before starting training, you must set the following parameters:

PULSMA = Upper heart rate limit during training
PULSMIN = Lower heart rate limit during training
STARTING LOAD = Initial load at the start of training

Proceed as follows for training:

1. Use the PLUS/MINUS buttons to navigate through the main menu until the CARDIO program is highlighted. Confirm the selection with the START button.
2. For Cycle 457 MED, you are now in the „CARDIO SELECTION“ submenu. Here you can choose between CARDIO and CARDIO COUNTDOWN. If you choose CARDIO COUNTDOWN, see Chapter 7.1.6., otherwise continue with point 3. For all other Cycle versions, you are directly in the Cardio program.
3. Now change your age using the PLUS or MINUS button and confirm with START.
4. First set the upper heart rate limit. Change the preset value (depending on age input) with the PLUS or MINUS button (the lower heart rate limit changes synchronously). Once you have set your individual upper heart rate limit for training, confirm your input with the START button.
5. Now you can change your lower heart rate limit using the PLUS or MINUS button (default 10 beats difference to upper heart rate limit). Confirm again with START.

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6. Now you need to set the starting load (default 25W) for the training. This is done again via the PLUS or MINUS button and confirmation with START.

7. The display switches to CARDIO mode. Your current heart rate is determined. The workload can still be changed during training using the PLUS or MINUS button.

8. End the training by pressing the STOP button. The training parameters (Watt, 1/min etc.) remain displayed for reading. For CYCLE 450 HOME and 457 MED, the heart rate curve is additionally displayed graphically. The training range is marked by 2 horizontal lines. By pressing the START button, the average speed is displayed for CYCLE 457 MED. By pressing the STOP button again, you return to the main menu.

7.1.4 **GEARS** (only CYCLE 400/450 HOME)

In this mode, you can train for as long as you want. With the integrated gear shift, you can regulate the workload and thus simulate real bicycle riding.

1. Use the PLUS/MINUS buttons in the main menu to navigate until the GEARS program is highlighted. Confirm the selection with the START button.

2. Now enter your body weight by pressing the PLUS or MINUS button and press the START button.

3. You are now in the training mode. Here you have the option to shift up or down a gear at any time by pressing the PLUS or MINUS button and thus regulate the workload. For CYCLE 450 HOME, you can also switch to the incline display by pressing the START button. You can vary this with the PLUS/MINUS buttons. By pressing the START button again, you return to gear selection. For CYCLE 400 HOME, the display in the upper left of the screen alternates at intervals of about 10 seconds between the distance (the distance covered) and the pedalling speed (in km/h).

4. End the training by pressing the STOP button, the training values remain displayed for reading. Pressing the STOP button again brings you back to the main menu. Alternatively, if you do not perform any further actions, the device automatically switches back to the main menu after 1 minute.

If the working range of the brake is exceeded, an „!“ appears next to the power display, i.e. the displayed power no longer corresponds to the power delivered at the crank. By varying the rpm or gear selection, the possible power can be achieved again.



7.1.5 WHO-PROFILES

The WHO profiles are step profiles (profiles with step-like load increase) firmly defined by the World Health Organization. For CYCLE 407 MED, you can choose between two step durations and step loads, for CYCLE 457 MED there is the possibility of an individually created user profile.

Please proceed as follows (CYCLE 407 MED):

1. Use the PLUS/MINUS buttons to navigate until the WHO PROFILE program is highlighted. Confirm the selection with the START button
2. In the submenu, select the desired time (2 min or 3 min) by pressing the PLUS or MINUS button, confirm with the START button. Then select the load level (25 W or 50 W) and confirm it with START. (Use STOP to switch between lines)
3. You are now in the „WHO PROFILE“ training mode. By pressing the STOP button, you end the load phase and switch to the recovery phase. By pressing the STOP button again, you return to the main menu.

Please proceed as follows (CYCLE 457 MED):

Before starting training, you must set the following parameters:

Starting load:	Load of the first load step [W]
Time:	Duration of the individual load steps [min]
Load step:	Step height of the individual load steps [W]
Recovery:	Load in the recovery phase [W]

1. Use the PLUS/MINUS buttons in the main menu to navigate until the WHO PROFILE program is highlighted. Confirm the selection with the START button.
2. You can increase or decrease the individual parameters with the PLUS/MINUS buttons, use STOP to switch to the next parameter. After you have set the parameters, you must confirm all entries again with START. The changed parameters are now saved for further applications.
3. You are now in the training mode. By pressing the STOP button, you end the load phase and switch to the recovery phase. By pressing the STOP button again, you return to the main menu.

For the WHO profiles, the automatic load increase can be interrupted during operation with the START button. The display changes from „ACTIVE“ to „HOLD“. In „HOLD“ mode, the power can be varied manually with the PLUS/MINUS button. If you want to reactivate the automatic load increase, press the START button again. The display then changes back from „HOLD“ to „ACTIVE“. In both modes, you can end the load phase and switch to the recovery phase as usual with the STOP button. The display shows „PASSIVE“. This gives the doctor the possibility to put more individual strain on his patient than before.

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7.1.6 COUNTDOWN (only CYCLE 407/457 MED)

In this mode, you can train for a predetermined duration and set the workload yourself. The countdown training distinguishes between Manual Countdown and Cardio Countdown programs:

Manual-Countdown:

1. Use the PLUS/MINUS buttons in the main menu to navigate until the COUNTDOWN program (for 407 MED MANUAL COUNTDOWN) is highlighted. Confirm the selection with the START button.
2. Decrease or increase the time setting to the desired training duration using the PLUS/MINUS buttons and confirm with START.
3. You are now in the training mode. Here you have the option to change the workload intensity at any time by pressing the PLUS or MINUS button.
4 After the predetermined training duration has elapsed, the training ends automatically, but you can also end the training at any time by pressing the STOP button. The training values remain displayed for reading. Pressing the STOP button again brings you back to the main menu. Alternatively, if you do not perform any further actions, the device automatically switches back to the main menu after 1 minute.

Cardio-Countdown:

1. Use the PLUS/MINUS buttons in the main menu to navigate until the CARDIO program (for 407 MED CARDIO COUNTDOWN) is highlighted. Confirm the selection with the START button. For Cycle 407 MED, continue with point 3.
2. The „Cardio selection“ submenu appears. Use the PLUS/MINUS buttons to select the CARDIO COUNTDOWN program. Confirm the selection with the START button.
3 Change the age setting with the PLUS/MINUS buttons and confirm with START.
4. Decrease or increase the time setting to the desired training duration using the PLUS/MINUS buttons and confirm with START.

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5. First set the upper heart rate limit. Change the preset value (depending on age input) with the PLUS or MINUS button (the lower heart rate limit changes synchronously). Once you have set your individual upper heart rate limit for training, confirm your input with the START button.

6. Now you can change your lower heart rate limit using the PLUS or MINUS button (default 10 beats difference to upper heart rate limit). Confirm again with START.

7. Now you need to set the starting load (default 25W) for the training. This is done again via the PLUS or MINUS button and confirmation with START.

8. The display switches to CARDIO mode. Your current heart rate is determined. The training starts with the first load level.

9. You can end the training prematurely by pressing the STOP button. The training parameters (Watt, 1/min etc.) remain displayed for reading. For CYCLE 450 HOME/457 MED, the heart rate curve is additionally displayed graphically. The training range is marked by 2 horizontal lines. By pressing the START button, the average speed is displayed for CYCLE 457 MED. By pressing the STOP button again, you return to the main menu.

10. After the predetermined training duration has elapsed, the training ends automatically, and the training values remain displayed for reading. Pressing the STOP button again brings you back to the main menu. Alternatively, if you do not perform any further actions, the device automatically switches back to the main menu after 1 minute.

7.1.7 **TEST** (only CYCLE 450 HOME and CYCLE 457 MED)

The tests are step tests. The values given in the tests are only recommendations and not suitable for diagnosis!



To be able to perform a test, you need a chest strap with POLAR transmitter. Only this way can your heart rate be measured. Heart rate measurement via hand pulse serves only as a control!



You have 3 test programs available in the „TEST“ training mode:
Depending on your age, fitness level or individual peculiarities or health restrictions, you must decide on a predetermined heart rate (130, 150, 170).

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A PWC test is a submaximal test with a fixed heart rate:

PWC 130 = Upper heart rate limit 130, untrained older test person

PWC 150 = Upper heart rate limit 150, untrained younger test person

PWC 170 = Upper heart rate limit 170, trained test person

For PWC 130, the initial load is 25 W, for PWC 150 and PWC 170, the initial load is 50 W each. The load increases by 25 W (PWC 130) or 50 W (PWC 150, PWC 170) every 2 minutes. An evaluation is only made if the corresponding heart rate is reached, and the respective load level has been completed.

As a test result, you receive a Watt/kg value. Using this value, you can determine your current fitness level with the help of the PWC classification table (see Chapter A.6. Test evaluation)

How to perform a test:

1. Use the PLUS/MINUS buttons to navigate until the TEST program is highlighted. Confirm your selection with the START button.
2. You are in the „Test selection“ submenu. Select the desired test procedure using the PLUS/MINUS buttons and confirm this selection with the START button.
3. Now set your weight using the PLUS and MINUS buttons and confirm again with START.
4. Enter your age by pressing the PLUS or MINUS button and press the START button.
5. The display switches to „RESTING PULSE MEASUREMENT“ mode. Here, the „resting pulse“ is determined, this takes about 15-20 seconds. Then the „resting pulse“ is displayed on the screen.
7. With valid heart rate measurement, the test begins after a few seconds. For this, the display switches to the operating display and starts with the first load level.
8. As soon as your heart rate is above the previously defined limit (130, 150, 170), the test automatically ends after the load level to be trained has elapsed.
9. After the test ends, the test parameters remain displayed for reading. By pressing the STOP button again, you return to the main menu.

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7.1.8 Basic Settings

To make changes to the basic settings, you have 4 buttons available:
PLUS button: You can move through the menu and increase settings.
MINUS button: You can move through the menu and decrease settings.
START button: You confirm your selection.
STOP button: You cancel a function or exit a menu.
Setting the language:
You are in the main menu. By simultaneously pressing the PLUS and MINUS buttons, you enter the service menu. Now select the function „Language selection“. Here you have the option to change the language.
Setting the time and date:
You are in the main menu. By simultaneously pressing the PLUS and MINUS buttons, you enter the service menu. Now select the function „Time and date“. Here you have the option to make the corresponding changes.

7.2 Behaviour at End of Operation

When ending the operation of a CYCLE of the CARDIO 400 HOME/400 MED series, no special instructions need to be observed. The training can simply be ended. There is no further danger due to the freewheel.

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7.3 Functional Check

For the functional check, proceed as follows:

Brake function

⊗ Switch on the device. You can immediately tell if the device is ready for operation by the display illumination.

⊗ Select the „MANUAL“ mode and increase the power setting (see Chapter 7.1.1).

⊗ Move the crank in the lowest rpm range (observe arrows!), the resistance increases. Now increase the rpm to the maximum rpm, the resistance decreases. If this is the case, you can assume that the rpm-independent operation is in order.

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Pulse

⊗ Check the pulse measurement function (see Chapter 5.2). Remember that you need a POLAR transmitter set (transmitter, chest strap) for this (use of the POLAR transmitter set as described in Chapter 7.4).

⊗ Check the pulse measurement function by placing both hands on the hand pulse electrodes and check if a pulse value is displayed on the screen (only CARDIO 400 HOME series). If no pulse value is displayed, moisten your palms and test the function again.

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Other functions

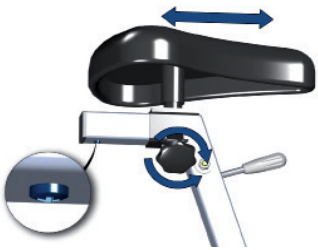
⊗ Check if the seat can be easily adjusted.

⊗ Check the horizontal adjustment of the saddle:

Loosen the star grip counterclockwise, move to the desired position, fix by turning the star grip clockwise. The saddle must not be able to move horizontally after tightening the star grip, even with greater force.

⊗ Make sure that the stop screw on the underside of the seat post is present and tightly screwed in. Loosen the saddle by turning the star grip counterclockwise and push it as far back as possible. It must stop at the stop screw and must not slip off the saddle rod. (See also insert „Warranty declaration“).

stop bolt



7.4 Heart Rate Measurement

To achieve optimal training results, we recommend controlled training through heart rate measurement. Here, there is the possibility of continuously displaying and controlling the heart rate using a POLAR transmitter set

7.4.1 Pulse Transmission via Chest Strap (POLAR-Gurt und POLAR-Sender)

Please note:
Heart rate-controlled training with POLAR heart rate monitor is not a medical application. The display of the pulse frequency is only for the information of user and therapist. The use of the Polar pulse measurement accessory has effects on the safe use of the devices. Heart rate measurement systems can be inaccurate and pose a potential risk to the patient.
Moisten the electrodes (the two ribbed rectangular areas on the underside) carefully before putting them on. To establish optimal skin contact, you can use a contact gel, as is also used for ECG measurement. Adjust the strap length so that the strap fits snugly against the skin, below the chest muscle, but is still comfortable. The strap must not loosen. Make sure that the chest strap is put on correctly, the POLAR logo must be readable from the front.



Also make sure that the two electrodes of the strap are not bent.
Only if the chest strap is correctly positioned can a pulse measurement be carried out. If this is not the case, an „E“ appears on the display in the position of the pulse reading (erroneous or no pulse reception). If this is the case, check the position of the chest strap again.

For hygiene reasons, you should clean the transmitter, especially the electrodes, with warm water and mild soap after use and then dry them. Never brush the electrodes! Do not use alcohol!

7.4.2 Pulse Transmission via Hand Pulse

For devices in the CARDIO 400 HOME series, heart rate measurement can alternatively be performed via hand pulse.

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For pulse transmission, you must place both hands on the hand pulse electrodes. Transmission is only possible if there is contact with both hands and the pulse value is displayed on the screen. If an „E“ appears on the display in the position of the pulse reading (erroneous or no pulse reception), no pulse measurement can be carried out. If this is the case, moisten your palms and test the function again.
Problems can occur with pulse frequency transmission via hand pulse if the trainee has, as described, too dry or too rough hands or if the contact with the electrodes is interrupted, for example by an unstable hand position.

The following points must also be observed:

⊗ Hand pulse electrodes should only be disinfected when slightly damp, never wet!

⊗ Increasing hand pressure has no effect, it can damage the electrodes!

PHYSIOMED ELEKTROMEDIZIN AG recommends pulse control via chest strap (POLAR strap and POLAR transmitter) as more accurate pulse measurement is possible.

7.4.3 Range of POLAR Transmitter

The range of the transmitter is about 80 cm. If you operate several ERGOFIT cardio devices, make sure there is a distance of at least 100 cm between the devices, as the transmitters may interfere with each other.

Attention! A defined accuracy of pulse measurement for medical purposes cannot be guaranteed, but in general, it can be assumed to function.



7.4.4 Battery of POLAR Transmitter

If pulse transmission only works at a short distance between transmitter and receiver or not at all after prolonged operation, it is possible that the battery of your transmitter is empty (it normally operates for about 2500 hours).

Please contact Polar Central Service directly. You can register a service request online there: https://support.polar.com/en/repair/de/support/service

You will receive your transmitter back with a new battery for a fee. Do not attempt to change the battery yourself under any circumstances!

7.4.5 Potential Sources of Interference

- ⊗ Screens, electric motors
- ⊗ High-voltage lines, including from railway lines
- ⊗ Strong fluorescent tubes in the immediate vicinity
- ⊗ Central heating radiators
- ⊗ Other electrical devices

Often, placing the training device just a few meters away from the source of interference can effectively remedy the situation. Sometimes just changing the direction by a few degrees is enough.

If the heart rate display is irregular despite technically perfect conditions, check the heart rate manually or consult a doctor for a check-up if in doubt.

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Chapter 8 Training

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Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

8 Training

8.1 What does training achieve?

The demands of daily life in our modern society are no longer sufficient to keep us physically fit. Cardiovascular diseases are still the leading cause of death.

From this perspective, cardiovascular training should be given absolute priority.

All activities where the pulse rate is increased for 15-20 minutes or longer are considered „aerobic training forms“.

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8.2 Cardiovascular Training

To get the most benefit from your equipment training, you should be familiar with some training principles. Your overall fitness depends largely on your body‘s ability to supply your muscles with oxygen. Oxygen is the key to the energy stored in the muscles.

Let‘s look at some factors crucial to this process in more detail: The heart as a complex pump is responsible for the smooth blood flow in the body. Regular aerobic training increases the stroke volume of the heart, i.e., it pumps more blood through the body with each beat. The heart thus works more efficiently both during training and at rest.

As soon as oxygen enters the lungs, it is mixed with blood in tiny air sacs, the alveoli. Regular aerobic training can increase the efficiency of these alveoli, allowing more oxygen to enter the bloodstream and be transported to the muscles.

Hemoglobin is the substance in the blood that absorbs oxygen. Regular aerobic training increases the hemoglobin content in the blood, which in turn leads to better oxygen supply to the muscles.

It is a fact that heart diseases occur much less frequently among people who train regularly.

In summary, it can be said that through regular training, the oxygen supply is improved and the probability of heart disease decreases. ERGOFIT cardio devices are therefore used in both studio and rehabilitation settings.

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8.3 Load Parameters

The intensity of your training program should be appropriate to your heart rate. This can only be determined after a targeted performance assessment. Our cardio devices allow you to constantly monitor your pulse rate even during training.

If you are a beginner, it is advisable to train in the lower range of your aerobic training zone until your fitness level begins to improve.

8.4 Training Structure - What should you consider?

If you are training for the first time or resuming training after a long break, your training session should be structured as follows, for example:

1. **Warm-up:** Train for 5 minutes at low intensity. This optimally prepares your body for training**.**
2. **Stretching:** Then leave the device and stretch the muscle groups that you will be straining in your subsequent training.
3. **Main part:** Now you are well prepared for the aerobic phase, which should take at least 15-20 minutes. Your goal is to keep your pulse rate continuously within the correct load range.

8.5 Weight Reduction - Advantages

Most beginners primarily want to reduce their body weight, especially body fat tissue. Regular training stimulates the metabolism, so that more calories are inevitably consumed, both during training and at rest.

Most beginners derive the greatest aerobic benefit from a load corresponding to 70% of the maximum heart rate. As fitness improves, an adjustment of the training intensity becomes necessary. However, it is wrong to assume that the harder you train, the greater the progress you make.

If a certain load limit is exceeded, the advantages of aerobic training are drastically lost, the body can no longer supply the muscles with sufficient oxygen and instead produces large amounts of lactic acid, which forces us to quickly stop training.

At a load intensity just below the anaerobic threshold, we are able to train for much longer. This means that in this way we both burn a lot of fat and optimally strengthen our aerobic system.

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8.6 Training Tips

When training with the devices, your heart rate should not exceed a certain upper limit. Only below this limit are you still training in the aerobic range. This can be determined according to medical guidelines, performance diagnostic test procedures or a general rule of thumb.

The pulse upper limit is calculated according to the following rule of thumb:

180 - age = pulse upper limit

For example, for a 50-year-old this would result in a maximum heart rate of 130 beats per minute, for a 30-year-old a maximum heart rate of 150 beats per minute, etc.

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Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

9 Maintenance

All commercially used devices must undergo regular maintenance/safety checks.

Regular, thorough care and especially expert maintenance contributes to the preservation and longer service life of your training device. Therefore, we recommend regular inspection of the devices. Before each use, check covers, seat with guide, handlebar, hand cranks, foot supports, pedals (foot treads), pedal arm straps, treadmill and handles for damage and have them repaired immediately if necessary. This is an essential prerequisite for maintaining your warranty claims. In case of malfunctions, the technicians and engineers of the PHYSIOMED ELEKTROMEDIZIN AG service team are happy to assist you.

Before switching on the devices, you should always check if the power cord, power plug, power socket and power input on the device are faultless.



Immediate maintenance work is required if:

- ⊗ the device has been subjected to extreme mechanical stress (impact, cable defect or impermissible pull),
- ⊗ liquid has entered the device,
- ⊗ cables, connectors, covers show damage,
- ⊗ covers have fallen off.

The maintenance of the devices can be carried out by the PHYSIOMED ELEKTROMEDIZIN AG customer service, also within the framework of a maintenance contract.

9.1 Care and Maintenance

PHYSIOMED ELEKTROMEDIZIN AG is constantly striving to minimize the necessary maintenance work in the manufacture of its training devices.

In the following, some maintenance and control work isare presented - divided according to device types. You should carry out these regularly on your device.

Switch off the device and unplug the power plug from the socket before opening the device or working on the device.



Observe the following during maintenance:

- ⊗ The device requires little maintenance.
- ⊗ The moving parts of the device do not need any further oiling or greasing.
- ⊗ Check saddle, handlebar, pedals, casing for possible breakages before each use.

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Pedal crank

⊗ As screws settle after some time, i.e. give way, the seat of the pedal cranks and pedals should be checked first after 3-5 operating hours, then monthly. (Left pedal has left-hand thread, right pedal has right-hand thread)

⊗ If a pedal crank comes loose, screw it back on immediately. To do this, remove the black cover cap from the crank axle and tighten the screw underneath with a 14 mm (1/4 inch) socket wrench. The pedal can be tightened on the pedal crank with a 15 mm open-end wrench.

Saddle

⊗ Make sure that the stop screw on the underside of the seat post is present and tightly screwed in. If the stop screw is damaged or not present, the device must be taken out of service and repaired by qualified personnel. Otherwise, there is a risk of injury.



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9.2 Cleaning

As minimizing sources of infection plays an important role, we recommend disinfectants based on alcohol.

Product recommendation:

The following disinfectants have been tested and proven:

⊗ Descosept Sensitive by Dr. Schumacher GmbH

⊗ Mikrozid universal liquid by Schülke & Mayr GmbH.

Usage:

The agents are applied undiluted to the surface and left to act. Make sure to wet completely. For more detailed information and exposure times, refer to the manufacturers‘ data sheets.

Notes:
We advise against these disinfectants for galvanized components, as they attack the surface. To clean sensitive parts, we recommend a damp cloth, mild commercial cleaners or soapy water and subsequent drying with a soft cloth.

When cleaning your device, pay attention to the following:

⊗ Note that the power plug is pulled out when cleaning the device!

⊗ Avoid oiling and greasing the device from the outside under any circumstances.

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Chapter 10 Malfunctions - What to do?

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Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

10 Malfunctions - What to do?

Despite the high-quality standard of PHYSIOMED ELEKTROMEDIZIN AG products, malfunctions may occur in rare cases. The aim of this chapter is to inform you about the possible causes of these malfunctions and to show you your options for troubleshooting. If a technical defect is suspected, the device must not be put into operation for safety reasons. If you can remedy a malfunction yourself, it would be very helpful if you could report this malfunction to us immediately. This allows us to note the errors in the master file of the device, which ultimately contributes to quality improvement.



Before any intervention in the device, you must unplug the power plug from the socket for safety reasons!

10.1 Locating the cause

Malfunctions can sometimes have banal causes, but sometimes they can also be due to defective components. We would like to provide you with a guide in this chapter to help you solve any problems that may occur. If the measures listed here do not bring success, please contact our service department immediately. Our service team will be happy to help you further.

In case of malfunctions, please proceed as follows:

The machine does not work (no audible sound when switching on, blank display)

- ⊗ The fuse box is located at the power input module of the device. Pull this out and check whether a fuse has „popped out“ or is defective (CARDIO 400 MED series).
- ⊗ Have you used a power strip or extension cord? Connect your device directly to a socket only.
- ⊗ Check the socket. For example, plug another electrical device into the socket.
- ⊗ Unplug the power cord from the socket and start a careful visual inspection of the power cord.

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An error message appears on the display

- ⊗ Note down the exact details after the error message appears.
- ⊗ Determine if the error has occurred frequently before. If so, when and how often?
- ⊗ Check whether other devices were still in operation in parallel. If so, which ones?
- ⊗ Check whether a button was pressed at the time of the error message.
- ⊗ If you were not present at the time of the error message, ask the user of the device about the exact sequence of events.
- ⊗ In case of an error message, contact our service team directly.

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Please note:
The user manual applies to several device types.
Therefore, there may be detailed differences depending on the device type!

A Appendix

A.1 Customer Service

If you cannot remedy a malfunction yourself or if you want to order spare parts, please contact our customer service.

Service: Phone: +49 6023 9168-0
E-Mail: service@physiomed-group.com

Repairs to ERGOFIT brand devices are carried out by certified service technicians. Of course, only original accessories are used for repairs.

When requesting spare parts, please remember to provide the following information when ordering:

- ⊗ Device type
- ⊗ Serial number
- ⊗ Spare part name
- ⊗ Spare part number

A.2 Technical Data

This chapter provides information on the technical data of your cardio device.

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A.2.1 CARDIO 400 HOME Series

Model	CYCLE 400	CYCLE 450
Supply voltage 50-60 Hz	100 - 230 V ~	100 - 230 V ~
Power input	0,4 A	0,4 A
Safety standard	DIN EN 60335-1	DIN EN 60335-1
Device standard	EN 957 HA	EN 957 HA
Protection class	II	II
Tested for use in	Home use	Home use
Accuracy	10%, EN 957 HA	10%, EN 957 HA
Brake system	Eddy current brake	Eddy current brake
Moment of internia	11 +/- 2kg·m²	11 +/- 2kg·m²
Dimensions in cm (L/B/H)	120/62/140	120/62/140
Weight	approx. 48 kg	approx. 48 kg
Speed range	20 - 120 l/min	20 - 120 l/min
Power range	0 - 400 W	0 - 400 W
Steps	5 W	5 W
Trainig programmes	MANUAL, PROFILES, CARDIO, GEARSHIFT	MANUAL, PROFILES, CARDIO, GEARSHIFT, TEST
Test programmes	-	PWC 130, PWC 150 and PWC 170
Display parameters	WATT, PULSE, TIME, KM/H, DIST., l/MIN, KCAL	WATT, PULSE, TIME, KM/H, DIST., l/MIN, KCAL
POLAR heart rate measuring	1 channel	1 channel
Heart rate dependent strain control	with POLAR sender or hand pulse	with POLAR sender or hand pulse
Activation	rpm-dependent	rpm-dependent
Max. body weight	180 kg	180 kg

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A.2.2 CARDIO 400 MED Series

Model	CYCLE 407 MED	CYCLE 457 MED
Supply voltage 48-60 Hz	100 - 230 V ~	100 - 230 V ~
Power input	0,4 A	0,4 A
Fuses	T 1,6 A L 250 V	T 1,6 A L 250 V
Safety standard	DIN EN 60601-1	DIN EN 60601-1
Device standard	DIN VDE 750-238	DIN VDE 750-238
Protection class	I	I
Tested for use in	Medical therapy	Medical therapy
Accuracy	5%, DIN VDE 750-238	5%, DIN VDE 750-238
Brake system	Eddy current brake	Eddy current brake
Moment of internia	11 +/- 2kg·m²	11 +/- 2kg·m²
Dimensions in cm (L/B/H)	120/60/140	120/60/140
Weight	approx. 48 kg	approx. 48 kg
Speed range	20 - 120 l/min	20 - 120 l/min
Power range	0 - 400 W	0 - 400 W
Steps	5 W	5 W
Trainig programmes	MANUELL, WHO-PROFILE, CARDIO, COUNTDOWN	MANUELL, PROFILE, CARDIO, TEST, COUNTDOWN, WHO-PROFILE
Test programmes	-	PWC 130, PWC 150 und-PWC 170
Display parameters	WATT, PULSE, TIME, KM/H, DIST., l/MIN, KCAL	WATT, PULSE, TIME, KM/H, DIST., l/MIN, KCAL
POLAR heart rate measuring	1 channel	1 channel
Heart rate dependent strain control	with POLAR sender	with POLAR sender
Activation	rpm-independent	rpm-independent
Max. body weight	180 kg	180 kg

A.3 Electromagnetic Emissions and Immunity

The devices of the ERGOFIT brand have been developed in accordance with the standard for electromagnetic disturbances, requirements and tests DIN EN 60601-1-2:2015. This standard serves the basic safety and treats the essential performance characteristics in the presence of electromagnetic disturbances and for the electromagnetic disturbances emanating from the medical devices themselves, depending on the electromagnetic environment in which the devices are used. Places of use for the intended use of the devices are environments in professional healthcare facilities outside the vicinity of HF surgical equipment and outside the HF-shielded room of an ME system for magnetic resonance imaging as well as in areas of home healthcare (e.g. doctor‘s offices connected to the public supply network).
As with any electrically operated device, 100% interference-free operation cannot be guaranteed. In certain environments where high-intensity disturbances occur, interactions or disturbances may occur. The following warnings should be observed:

WARNING:

⊗ Danger of malfunctions!

Avoid operating immediately next to or stacked with other equipment. If such use becomes necessary, the training equipment and other equipment must be observed to ensure proper function.

⊗ Possibility of increased electromagnetic emissions and reduced electromagnetic immunity of this device! Danger of malfunctions! Do not use any accessory components or cables other than those specified or supplied by the manufacturer. (Device connection cable, interface cable (network))

⊗ Degradation of the performance of this device!

Portable HF communication devices (including peripheral devices such as antenna cables and external antennas) must maintain a distance of at least 30 cm (12 inches) from any part of the system, including cables specified by the manufacturer.

Also note Chapter 7.4 Heart rate measurement and other hazard information. Should electromagnetic disturbances occur in connection with a device, we recommend the following measures:

⊗ Change the orientation or location of the neighbouring device

⊗ Increase the distance between the devices

⊗ Connect the monitor and the other devices to sockets on different circuits

⊗ Contact the manufacturer or a service technician

These guidelines may not be applicable in all cases. The propagation of electromagnetic quantities is influenced by absorption and reflection from buildings, objects and people.

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Electromagnetic emission and immunity, compliance and test level

ERGOFIT products are intended for use in the areas specified above. Please make sure to only use the product in appropriate environments. The product uses HF processes only for internal functions. Since the machine complies with the requirements of class B, its RF emissions are rather low, and it is unlikely that neighboring electronic devices will be affected. When determining the limit values according to DIN EN 61000-3-2, it is assumed that the device is used professionally.

Electromagnetic Interference Measurements	Required < Criterion	Observed < Criterion
RF emissions in compliance with CISPR 11, German version in compliance with DIN EN 55011, conducted radio interference voltage	Class B	Class B
RF emissions in compliance with CISPR 11, German version in compliance with DIN EN 55011, radiated radio interference voltage	Class B	Class B
Distortion due to harmonics in compliance with IEC 61000-3-2	Class A	Met
Voltage fluctuations and flicker in compliance with IEC 61000-3-3	Pt < 1	Pt < 1

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Electromagnetic Interferrence Immunity, Compliance and Test Level

Noise immunity measurements	Required	Observed
Static electricity discharge (ESD) in compliance with IEC 61000-4-2	Contact ±8 kV Air ±2 kV, ±4 kV, ±8 kV, ±15 kV	Contact ±8 kV Air ±15 kV
RF radiation in compliance with IEC 61000-4-3	3 V/m or 10 V/m 80 MHz to 2.7 GHz	10 V/m 80 MHz to 2.7 GHz
RF radiation in the immediate vicinity of wireless communication devices in compliance with IEC 61000-4-3	see the following table	see the following table
Magnetic filed for supply frequency (50/60 Hz) in compliance with IEC 61000-4-8	30 A/m 50 Hz or 60 Hz	100 A/m 50 Hz
Fast transient electrical disturbances/bursts in compliance with IEC 61000-4-4	+/- 2 kV / 100 kHz repetition frequency for power cable	+/- 2 kV / 100 kHz repetition frequency for power cable
Surges in compliance with IEC 61000-4-5	Line - Line: ±0.5 kV, ±1 kV Line - PE: ±0.5 kV, ±1 kV, ±2 kV	Line - Line: ±0.5 kV, ±1 kV Line - PE: ±0.5 kV, ±1 kV, ±2 kV
Conducted RF interference in compliance with IEC 6100-4-6	6 Vrms 150 kHz to 80 MHz	6 Vrms 150 kHz to 80 MHz
Voltage dips, brief voltage interruptions and voltage fluctuation in compliance with IEC 61000-4-11	30 % 10ms → B 60 % 100 ms → C >98 %5000ms → C	30 % 10ms→A 60 % 100 ms→A >98 %5000ms→A

Immunity to wireless communication devices (according to IEC 61000-4-3/DIN EN 61000-4-3, RF radiation)					
Test Frequency	**Range (MHz) Service**	**Max. Power (W)**	**Distance (m)**	**Test level required (V/m)**	**Test level achieved (V/m)**
385	380 – 390 TETRA 400	1,8	0,3	27	28
450	430 – 470 GMRS 460, FRS 460	2	0,3	28	28
710 745 780	704 – 787 LTE Range 13, 17	0,2	0,3	9	9
810 870 930	800 – 960 GSM 800 /900, TETRA 800, iDEN 820, CDMA 850, LTE Range 5	2	0,3	28	28
1720 1845 1970	1700 – 1990 GSM 1800, CDMA 1900, GSM 1900, DECT, LTE Range 1, 3, 4, 25, UMTS	2	0,3	28	28
2450	2400 – 2570 Bluetooth, WLAN 802.11 b/g/n, RFID 2450, LTE Range 7	2	0,3	28	28
5240 5500 5785	5100 – 5800 WLAN 802.11 a/n	0,2	0,3	9	9

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A.4 Safety Regulations

A.4.1 Safety Instructions

For the protection of the user, the Association of German Electrical Engineers (VDE) has issued special regulations for medically used rooms and electro-medical devices.

According to this, devices with mains connection must, in addition to reliable insulation of the live parts, have an additional protective measure to protect against the transfer of mains voltage to touchable metal parts. The VDE distinguishes so-called protection classes for this purpose.

Of the protection classes approved for electro-medical devices, mainly protection class I, i.e. protective measures with protective conductor, and protection class II, i.e. protective measures without protective conductor but with double insulation, are used:

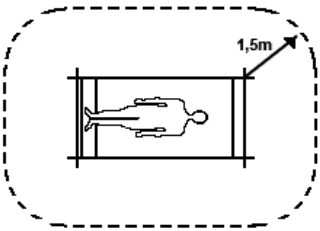
Devices of protection class I are devices whose metallic housing parts are connected to the protective conductor of the mains via the protective contact. The upstream fusing element trips in case of an insulation fault.

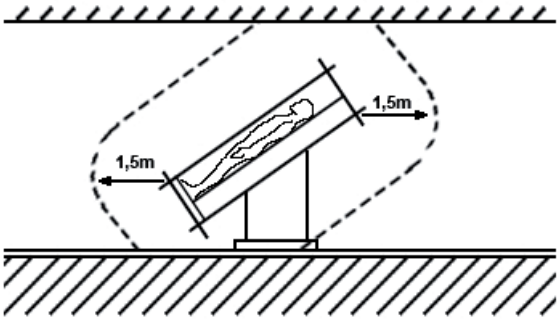
The CYCLEs of the CARDIO 400 HOME series are assigned to protection class II. The CYCLEs of the CARDIO 400 MED series are assigned to protection class I.

Within the user‘s environment, parts of non-medical electrical equipment that can be touched after removing covers, connectors, etc. during routine maintenance, calibration, etc. must operate with a voltage not exceeding 25 volts alternating current and 60 volts direct current. In addition, the voltage must be generated from a source separated from the power supply by one of the methods described in IEC 60601-1, Section. In this case, such a device part and the trainee must not be touched simultaneously.

The use of electro-medical devices is only permitted if there are no safety concerns, considering the state of the art as well as occupational health and safety and accident prevention regulations. Protective measures must be taken against both direct and indirect contact. These include covers and enclosures, insulation of live parts in combination with protective measures with protective conductor (corresponding to protection class I), fuses and the maintenance of equipment distances.

In practice, an experience value of 1.5 m distance has been established as the environment for these devices. This distance prevents two training devices from being conductively connected via one person, making an electric shock for this person or for those training on the devices unlikely.





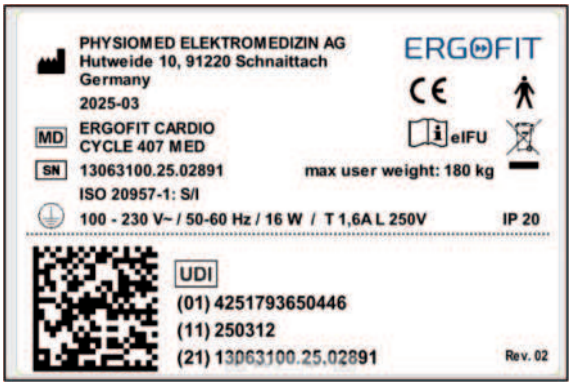
The regulations reproduced in this chapter refer to the safety model recognized in the Federal Republic of Germany. For other countries, national deviations may need to be considered.

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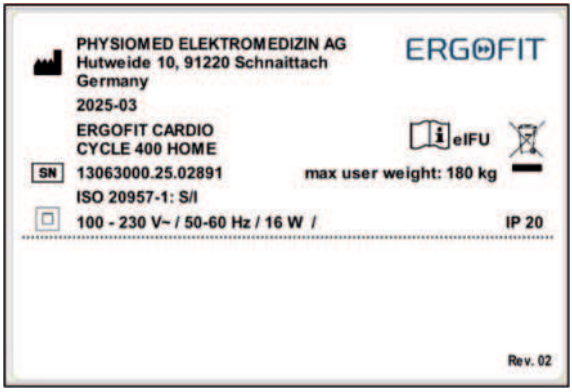
A.4.2 Test Marks

The devices of the CARDIO 400 MED series are manufactured under the strictest safety and quality controls and are designed for commercial use, the devices of the CARDIO 400 HOME series are approved for private use. All standards and guidelines applied during development are listed in the associated declarations of conformity, which you can obtain on request from our headquarters at +49 6023 9168-0.

The example type plates shown illustrate the information that can be found on the type plate:



Nameplate CARDIO 400 MED Series



Nameplate CARDIO 400 HOME Series

A.4.3 Pictograms on the Device/Nameplate

The pictograms used on the devices correspond to the standard IEC 60417-DB, IEC/TR 60878 and EN 15223-1.

The following pictograms serve for general information. They may appear on and in the devices.


Alternating current


Earthing terminal


Earthing


Potential compensation


Devives of protection class II


Danger! See accompanying documents


OFF (Power supply, connection with the grid)


ON (Power supply, connection with the grid)


Device of type B


Device of type BF


Dangerous electric tension


Please note user manual


Electrical waste


Contact protection: with finger
Foreign matter protection: medium-sized objects (diameter greater than 12 mm)
No protection against water


Manufacturer data combined with year of manufacture



Designation



Medical Device/Designation


Fuse



max. User Weight

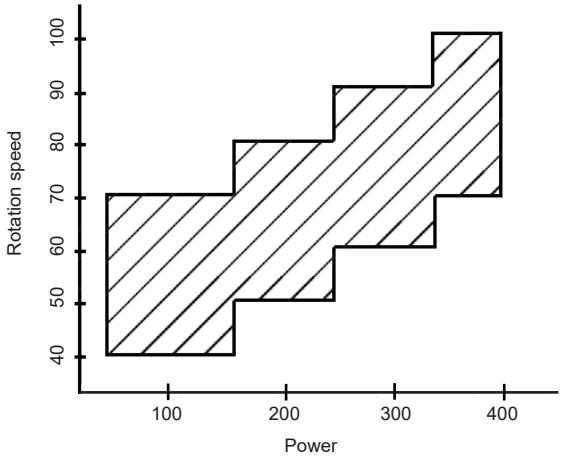
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A.5 Error Limits

For the CYCLEs of the CARDIO 400 MED series, the following error limits apply according to DIN VDE 0750-238:

1. 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.
2. The display error for the speed n may be ± 2 min-1 above 40 min-1.
3. The measuring device for determining the power from braking torque and speed of the pedal crank ergometer must not exceed an error limit of 1%.

The characteristic field of the working range of the braking torque control can be seen from the figure:



Der Arbeitsbereich wird im Display wie folgt dargestellt:

As shown right to the rotational speed (CYCLE 450/457) As shown right/left to the rotational speed (CYCLE 400/407)	**Devices in compliance with**	
	VDE 750-238	**EN 957**
none	5% range	10% range
Points	10% range	10% range
Arrows	Deviation > 10%	Deviation > 10%

A.6 Test Evaluation

PWC 130	m	f	PWC 150	m	f	PWC 170	m	f
1	0,27	0,21	1	0,33	0,27	1	0,39	0,32
2	0,53	0,42	2	0,67	0,53	2	0,78	0,64
3	0,80	0,63	3	1,00	0,80	3	1,17	0,97
4	1,07	0,84	4	1,33	1,07	4	1,56	1,29
5	1,33	1,07	5	1,67	1,33	5	1,94	1,61
6	1,60	1,27	6	2,00	1,60	6	2,33	1,93
7	1,87	1,48	7	2,33	1,87	7	2,72	2,26
8	2,13	1,69	8	2,67	2,13	8	3,11	2,58
9	2,40	1,90	9	3,00	2,40	9	3,50	2,90
10	2,67	2,11	10	3,33	2,67	10	3,89	3,22
11	2,93	2,32	11	3,67	2,93	11	4,28	3,54
12	3,20	2,53	12	4,00	3,20	12	4,67	3,87
13	3,47	2,74	13	4,33	3,47	13	5,06	4,19
14	3,73	2,96	14	4,67	3,73	14	5,44	4,51
15	4,00	3,17	15	5,00	4,00	15	5,83	4,83
16	4,27	3,38	16	5,33	4,27	16	6,22	5,16
17	4,53	3,59	17	5,67	4,53	17	6,61	5,48
18	4,80	3,80	18	6,00	4,80	18	7,00	5,80

The classification in fitness level 9 corresponds to a „very good" fitness. An Olympic champion would have a fitness level of 18.

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A.7 Guarantee Declaration

2 years guarantee (see general terms and conditions point 8.1 Guarantee „PHYSIOMED ELEKTROMEDIZIN AG grants 2 years guarantee for its own products. In the first year, travel costs and working hours incurred within Germany are covered in addition to the spare parts. In the second year, only the spare parts. For merchandise, the guaranteeguaranteed provisions of the respective manufacturer apply“)

For defects in the delivery, which also include the absence of expressly assured properties, the seller is liable as follows, to the exclusion of further claims:

1. All parts that are found to be unusable or restricted in use in consequence of a circumstance dated before the transfer of risk - notably because of faulty design, bad manufacturing material or faulty workmanship - shall be repaired or replaced during a period of 24 months after delivery. The decision if the fault will be repaired or should be replaced will be at the seller‘s discretion. The supplier shall only be liable for deficiencies of drawings and materials delivered or chosen by the seller if he would have been able to recognise the deficiency when applying professional accuracy unless the seller notified the purchaser of the recognised deficiency immediately.
2. The purchaser‘s right to claim ends in all cases after 24 months after transfer of the object.
3. No guarantee shall be assumed for damage as a result of inappropriate or improper use, faulty assembly or faulty startup carried out by the purchaser or a third party, natural wear, faulty or careless handling, inappropriate equipment or exchange work material, faulty construction works, chemical, electrochemical or electric influences, except in the event that they can be traced to the fault of the seller. The purchaser will assume all risks in connection with the delivery, even in case of free freight ex-factory.
4. Initially, the seller has the right to two rectifications or replacements. Should these fail, the purchaser has the right of abatement or rescission within the scope of valid legislation. The seller will have a period of six weeks as from communicating the notice of defect for rectification.
5. Improper modifications or repairs carried out on behalf of the purchaser or a third party without prior permission of the seller will abrogate warranty claims.
6. If goods are exported, warranty will be restricted to the availability of loose spare parts ex-factory within the warranty period. Packing costs, freight charge and labour will be at the expense of the purchaser. In case the purchaser demands on-site repair by a technician of the factory or another service address, the purchaser will assume the costs of travelling expenses and labour.
7. All merchandise that has not been produced by the seller is subject to legal provisions.

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The following parts are excluded from the guarantee:

- ⊗ Pedal straps
- ⊗ Handlebar/railing hose
- ⊗ Saddle
- ⊗ Drive belt
- ⊗ Chains
- ⊗ Adjustment lever
- ⊗ Pedals
- ⊗ Seat and tread surfaces, handles
- ⊗ Fuses
- ⊗ Freewheel

If the maintenance instructions are not observed, the guarantee claim expires!

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A.8 Entry in the Medical product book/Inventory (only for medical products)

In compliance with Art. 14 para. 7 and Art. 12 of the regulation on the erection, operation, and use of medical devices („MPBetreibV“) as of June 29, 1998 (BGBt 1. p. 1762), last modified 21.04.2021 (BGBI. I p. 833), the person who carries out metrological controls must immediately record the measured values, the measuring method, as well as other evaluation results into the registry of medical devices. As during metrological control of your medical device the registry of medical devices was not available, we ask you to use the following data for your documentation.This information is only required for machines referenced in Appendix 2 of the MPBetreibV.

Operator:

Company: _____

Contact person: _____

Street: _____

Post code, place: _____

Manufacturer:

PHYSIOMED ELEKTROMEDIZIN AG, Hutweide 10, 91220 Schnaittach

Device identification

Device designation: _____

Model: _____

Serial number: _____

_____

Measuring method and evaluation:

☐ Guide to metrological controls.

☐ Appendix _____of calibration regulations.

☐ Remarks: _____

Applied perpendicular: _____

Entry of measured results: see following page(s)

☐ metrological control o.k.; annual designation of sealing:

☐ metrological control **not o.k.; old sealing oliterated**

☐ Testing of the measuring device according to the manufacturer‘s procedure.

_____

Signature

Measuring method and evaluation:

- ☐ Guide to metrological controls.
- ☐ Appendix _____of calibration regulations.
- ☐ Remarks: _____

Applied perpendicular: _____

Entry of measured results: see following page(s)

- ☐ metrological control o.k.; annual designation of sealing:
- ☐ metrological control **not o.k.; old sealing oliterated.**
- ☐ Testing of the measuring device according to the manufacturer‘s procedure.

_____

Signature

Measuring method and evaluation:

- ☐ Guide to metrological controls.
- ☐ Appendix _____of calibration regulations.
- ☐ Remarks: _____

Applied perpendicular: _____

Entry of measured results: see following page(s)

- ☐ metrological control o.k.; annual designation of sealing:
- ☐ metrological control **not o.k.; old sealing oliterated.**
- ☐ Testing of the measuring device according to the manufacturer‘s procedure.

_____

Signature

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Insert card for the Medical Product Book/Inventory

Operator: _____
_____
_____

1. Designation of the medical device:

   _____

2. Functional test and introduction:

   Functional test carried out

   on: _____ by: _____

   Introduction carried out

   on: _____ by: _____

   Introduced person: _____
   _____
   _____

3. Metrological inspection: at least every two years
   (Machines and deadlines specified in Appendix 2 of the MPBetreibV)

   Next inspection: _____

   by (person‘s name): _____

4. Safety inspection/maintenance test: recommendation every 12 months

   Next inspection: _____

   by (person‘s name): _____

5. Testing of the calibration of the measuring device according to the manufacturer specifications.

   Next inspection: _____

   by (person‘s name): _____

6. Date, type and consequence of the defect and repeated identical operating fault:

   _____

   _____

7. Reports of incidents to authorities and manufacturer:

   _____

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Specific Hazard Warnings
CARDIO 400 MED Series

- ⊗ Do not start the machine before carefully reading the owner‘s manual.
- ⊗ Check the power connection before training.
- ⊗ Never use the device without current and use only after a proper functional test.
- ⊗ The machine is only to be used after consulting a doctor and / or a supervisor. The machine must not be used without the presence of a supervisor.
- ⊗ Switch off the machine after training and disconnect it from the grid.
- ⊗ Wear only appropriate sportswear and footwear during training.
- ⊗ Never lean on the control panel or the casing and make improper movements.
- ⊗ Never start training with the maximum strain. Increase its intensity slowly.
- ⊗ Check if the seat is secured in position before getting on the machine.
- ⊗ Do not lean over the handlebar and do not shift your body weight over the side of the machine. There is a danger of falling over.
- ⊗ Children must not use the machine unsupervised and must stay away from the machine and moving parts.
- ⊗ In case of nausea or dizziness, you should stop training immediately, inform the fitness coach and / or see a doctor.
- ⊗ If you have a cardiac pace maker or a health condition, see your doctor before using the training machine.
- ⊗ Do not jump from the training machine during your workout.
- ⊗ Do not take your feet off the pedals during training.
- ⊗ Before each use, check moving parts and the panelling of the appliance for damage and have this repaired immediately.
- ⊗ The ventilation slots must not be covered. This can cause the machine to overheat.
- ⊗ Only use the machine for the purposes it is designed for.
- ⊗ Please consider further safety and operational notices in the manual.
- ⊗ Caution! The heart rate monitoring system may be faulty. Excessive training can lead to dangerous injuries or death. If your performance decreases abnormally, stop training.

All safety instructions in this manual are based on many years of experience and selfconception.

These safety precautions must be displayed where they are visible from the exercise machine! ll users of the machine must inform themselves of the dangers and safety regulations. The manufacturer will not be liable for personal injury or material damage.

Specific Hazard Warnings
CARDIO 400 HOME Series

- ⊗ Do not start the machine before carefully reading the owner‘s manual.
- ⊗ Check the power connection before training.
- ⊗ Never use the device without current and only use after a proper functional test.
- ⊗ Switch off the machine after training and disconnect it from the grid.
- ⊗ Wear only appropriate sportswear and footwear during training.
- ⊗ Never lean on the control panel or the casing and make improper movements.
- ⊗ Never start training with the maximum strain. Increase its intensity slowly.
- ⊗ Check if the seat is secured in position before getting on the machine.
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User Manual | **CARDIO 400 MED/HOME series**