



Owner's manual



CARDIO LINE 400

CARDIO LINE 400

Please read this manual carefully before use and keep it in a safe place for future reference



Further information on ERGO-FIT products available from:

**ERGO-FIT GmbH & Co. KG**

Blocksbergstraße 165

D-66955 Pirmasens

Phone: 06331/2461-0

Fax.: 06331/2461-55

E-Mail: [info@ergo-fit.de](mailto:info@ergo-fit.de)

<http://www.ergo-fit.de>

Development and production of all devices of the MED series according to the European Medical Device Directive 93/42/EWG. They thus show the CE marking and the number of the notified body.

**CE0297**

© 2019 by ERGO-FIT GmbH & Co. KG. All rights reserved.

This owner's manual has been created with great care. Please inform us of any detail that does not correspond to your training tool to allow for the quickest possible remedy of any possible discrepancy.

This document is protected by copyright. All rights originating from this, particularly the right of copying, duplication, distribution as well as translation and reprint, even copies in extract, are reserved. No part of this manual may be reproduced, manifold or distributed for any kind of purposes or in any kind of form, by any means, (print, photocopy, microfilm, or any other information-saving mechanisms) without prior written permission given by the company ERGOFIT GmbH & Co. KG.

Trade mark:

ERGO-FIT and the ERGO-FIT Logo are registered trademarks of ERGO-FIT GmbH & Co. KG. All other trademarks mentioned or shown in the following text are trademarks of the respective owners and are recognised as protected.

Technical and optical modifications as well as misprints reserved.

Version: CARDIO LINE 400-20190115-en

Printed in Germany

Dear customer,

we are glad that you have decided to purchase an ERGO-FIT training tool. You are now the owner of a sophisticated and exclusive training system that combines highest technical standards with practice oriented ease of use.

You will find important information on the operation and use of your training machine in this owner's manual. We recommend that you read this owner's manual carefully before training in order to become familiar with your training device quickly and to understand its correct and safe use.

Should you have any questions that are not answered in this manual, please contact us. The ERGO-FIT team is always there for you!

## Table of Contents

1	General information .....	1
2	Safety information .....	5
3	Short manual .....	11
4	Destination of the product .....	13
5	Transport and set up .....	17
6	Start up .....	25
7	Operation .....	33
8	Training .....	49
9	Maintenance .....	53
10	Troubleshooting .....	57
A	Appendix .....	61

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!



## Chapter 1      General information

1.1	ERGO-FIT Cardio equipment at a glance .....	2
1.2	General information on this manual .....	3
1.3	Scope of delivery .....	3
1.4	Service .....	4
1.5	Disposal .....	4

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 1 General information

### 1.1 Cardio equipment at a glance

ERGO-FIT's CARDIO LINE 400 offers you a cardio machine range dedicated to train the cardiovascular system. It allows for training of smaller muscle groups. ERGO-FIT cardio machines offer you best training possibilities, regardless of your age, gender or state of fitness.

Among others, the optimal load regulation and the precise training control are highlights of the whole product line. In addition, the quiet operation, the ease of use and the customisation demonstrate ERGO-FIT's focus: A high technical standard, optimal training possibilities and precise training control, combined with customerfriendly ease of use.

However, technology alone is not all that is required to develop outstanding training machines. They also need to meet biomechanical and sports medical requirements. Priority is given to the human being. Thus, a sophisticated training and testing system can only be developed by combining technical electronic expertise with the latest advances in sports medicine and coaching science. ERGO-FIT clearly met this target.

Our CARDIO LINE is divided in

- ⊗ **CARDIO LINE 400:** training machines especially designed for use in a gym.
- ⊗ **CARDIO LINE 400 MED:** training machines especially designed for medical purposes.

The lifetime of the equipment is 6 years.

#### Advantages and benefits

Regular training on these machines reduces the risk of cardio-vascular diseases and increases physical capacities in an optimal way - even at an advanced age. Your workout machine represents an indispensable tool in injury prevention and rehabilitation. You will feel fit, more agile, more attractive, and more balanced.



## 1.2 General information on this manual

This manual provides you with helpful information, regardless of if you are already familiar or have no experience with ERGO-FIT training machines.

It is structured in such a way that you can find the desired information in the table of contents easily and thematically. In addition, a short manual has been produced for those users who are already familiar with ERGO-FIT training machines. However, if you belong to this user group and wish to read the short manual only, you should review the safety information first.

The manual will give you many hints and tips, which will familiarise you with your cardio machine's features and allow you to become an experienced user very quickly.

You should always keep this manual easily accessible. This saves you from having to make unnecessary and time-consuming queries and enables you to fix any possible error rapidly.

## 1.3 Scope of delivery

Please check if the delivery is complete and inform our sales department immediately of any missing parts.

Please ensure that the following parts are included in your delivery:

1. The correct type of training machine (model, series)
2. One mains connection cable for each unit (CYCLE 407/457 MED/457 MED SPO<sub>2</sub>; CYCLE 400/450's mains cable is firmly connected with the machine)

*Please note that accessories (e.g. POLAR-sender) are not included in the delivery and need to be ordered separately.*

## 1.4 Service

Our service comprises problem analysis, technical support, and information services.

In case of technical questions and service orders, please call us at:

Head office:	Phone: +49 (6331) 2461-0
	Fax: +49 (6331) 2461-55
Service und Ersatzteile:	Phone: +49 (6331) 2461-20 international
	or: +49 (6331) 2461-45 international
	or: +49 (6331) 2461-23 national
	or: +49 (6331) 2461-27 national
	or: +49 (6331) 2461-29 national

## 1.5 Disposal

These machines are appliances according to the Electronic Equipment Act. They do not belong into the regular household waste but must be disposed of by a certified company. For more information on responsible bodies please see

stiftung elektro-altgeräte register (EAR)

Benno-Strauß-Straße 1

D-90763 Fürth

Phone: +49 (911) 766650

Fax: +49 (911) 7666599

Mail: [info@stiftung-ear.de](mailto:info@stiftung-ear.de)

Web: [www.stiftung-ear.de](http://www.stiftung-ear.de)

## Chapter 2 Safety information

2.1	What you need to know when using your training machine .....	6
2.2	Operational safety - What needs to be done .....	8
2.3	Caution: Risk of electric shock .....	8
2.4	Choosing the right place of installation .....	9
2.5	What needs to be considered in case of repair .....	9
2.6	What should be avoided .....	9
2.7	Contraindications .....	9

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 2 Safety information

Before starting to use your new ERGO-FIT equipment, please read the following chapter carefully and respect all safety regulations.

Please keep this manual in a safe place in order to be able to provide it to future owners if you sell your training machine.

For evidence of ownership, please fill in the following data:





Model/product line: \_\_\_\_\_

Serial number: \_\_\_\_\_

Date of purchase \_\_\_\_\_

You will also need these data in case of guarantee claims.

The following symbols designate important information

	<b>Caution!</b>	It is absolutely necessary to observe this <b>warning</b> in order to avert any danger to your life or health.
	<b>Danger!</b>	It is absolutely necessary to observe this <b>warning</b> in order to avoid any material damage.
	<b>Danger!</b>	<b>Danger:</b> It is imperative to switch off and disconnect the training machine.
	<b>Hint!</b>	Important information and hints are displayed here to improve operations.

### 2.1 What you need to know when using your training machine?

- ⊗ Please read the owner's manual carefully before starting to use your new ERGOFIT equipment.
- ⊗ Familiarise yourself with the machine before you start it (only CARDIO LINE 400 MED, MPBetriebV).
- ⊗ It's the owner's responsibility to inform the users of all warnings and instructions provided with the equipment.
- ⊗ Only use the machine after a proper function test (get more information on this in chapter 7.3). For your own safety and before every use, please check the machine for damage (loose screws, worn parts, cords etc). If the machine is damaged, do not use it until it is repaired.
- ⊗ Before using the machine please check that the saddle is firmly seated by fixing the horizontal and vertical saddle adjustment. Make sure that the stop bolt is underneath the seat post and that it is screwed in tightly. Otherwise there is a risk of injury.

- ⊗ In order to reduce any risk during training, please put on sportswear and appropriate footwear.
- ⊗ In case of nausea, dizziness, pain in the chest, limbs or joints, stop training immediately and see a doctor.
- ⊗ If you have a cardiac pace maker or a health condition, please see your doctor before using the training machine. If this is the case, you should discuss the training programme with him. In addition, you should only train in MANUAL mode.
- ⊗ Your training machine is not a toy! Never leave children unattended with the machine. Children cannot always assess possible danger. Parents or other supervisors should always be aware of their responsibility because children dispose of a natural play instinct and eagerness to experiment that may produce situations and behaviour the training machine is not designed for.
- ⊗ The machine should only be used after consulting a doctor and / or a supervisor. The machine must not be used without the presence of a supervisor.
- ⊗ Make sure that persons who stand close to the machine are not hit by moving parts.
- ⊗ Danger! The user's maximum body weight is 180 kg. Make sure not to overload the machine.
- ⊗ Do not place any beverages or food on your training machine.
- ⊗ Do not stand on the casing of the machine and do not lean on the control panel.
- ⊗ Once per week, inspect the seat, the handlebar, the pedals, and the casing for damage. If the machine is damaged, get it repaired immediately.
- ⊗ Tighten the pedals and the pedal arms after 3 to 5 operating hours. Otherwise, there is a risk of damage, which can be a risk of injury to the user. Note that the left pedal has a left-handed thread and the right pedal has a right handed thread. See Chapter 9.1 for a more detailed description.
- ⊗ Make sure to tighten the seat clamp after adjusting the seat. Otherwise, there is a risk of injury.
- ⊗ Warm up thoroughly before training. Start the training slowly and gradually increase the intensity until you reach the desired degree of difficulty within your range of control.
- ⊗ 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.
- ⊗ Do not take your feet off the pedals during training.
- ⊗ Do not jump from the training machine during your workout.
- ⊗ Do not touch the USB port, RS232 port or audio port during the training.
- ⊗ CAUTION! The heart rate control system may be faulty. Excessive training may cause dangerous injury or even lead to death. Immediately stop training in case of an unusually strong reduction of your physical performance.
- ⊗ Please review the additional safety and operational instructions in this manual.

**SPO<sub>2</sub>-module:**

- ⊗ Do not use this module near any MRT or X-ray devices.
- ⊗ Keep the SPO<sub>2</sub> module away from flammable gases.
- ⊗ Check all components of the SPO<sub>2</sub> module (finger clip, cables etc.) for damages. In case of damages do not use the device until it is repaired.

- ⊗ Keep the SPO<sub>2</sub> module away from any liquid as well as any condensations.
- ⊗ Nail polish or artificial nails can influence the SPO<sub>2</sub> measurement. Remove nail polish or artificial nails before using the sensors.
- ⊗ Taking medicine that changes the blood color, the administration of intravascular dyes or a high concentration of dysfunctional hemoglobin can lead to incorrect results.
- ⊗ Intense light such as OP lamps, bilirubin lighting, fluorescent lamps, infrared heat lamps and direct sun light can lead to incorrect SPO<sub>2</sub> results.
- ⊗ Using third-party parts can cause malfunction and loss of biocompatibility. Only use original parts and sensors.
- ⊗ Do not use the device if you suffer from edemas, skin irritations or have an open wound.
- ⊗ Do not attach the SPO<sub>2</sub> sensor to limbs with blood pressure cuff.

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

## **2.2 Operational safety - what needs to be done**

- ⊗ After delivery, make sure that the machine has not been damaged during transport. In case of doubt, contact our customer service and do not start the machine.
- ⊗ Slots and openings on the machine serve as ventilation. Do not cover these openings, because this can cause the elements to overheat.
- ⊗ Check if the power connection cords are damaged before starting the machine.
- ⊗ Switch off the machine after training and disconnect it from the grid.
- ⊗ Set up the training machine so that there is sufficient open space around it (at least 1 m) to avoid any danger for the user or others. The user will not collide and in addition, this prevents interferences in heart rate measuring.
- ⊗ The provisions EN 60601-1-1:2001 (medical electrical equipment) are valid for machines of the series CARDIO LINE 400 MED.

## **2.3 Caution: Risk of electric shock**

- ⊗ Only connect your machine to an appropriate mains supply (see Chapter 5.4.1).
- ⊗ Make sure to have the right climate conditions (see Chapter 5.3).
- ⊗ Do not use damaged power cords.
- ⊗ To unplug the cord, grasp the plug and not the cord. Do not unplug by pulling on the cord.
- ⊗ The machine must not be opened before it is switched off and unplugged.
- ⊗ If liquid gets inside the machine, disconnect the plug immediately and call the customer service.

- ⊗ Do not put any objects through the ventilation slots into the machine. This may cause a short circuit.

## 2.4 Choosing the right place of installation?

- ⊗ The machine can be set up on any level and stable floor. Make sure that it stands firmly on the floor.
- ⊗ Never put wood, cardboard or similar materials underneath the machine to compensate for surface unevenness. This increases the risk of an accident.

## 2.5 What needs to be considered in case of repair

- ⊗ Electric parts may only be replaced by original equipment.
- ⊗ Repairs must be carried out by a qualified technician only. If you do not have the necessary qualifications, contact the ERGO-FIT Service Centre. Electrical or mechanical modifications or alterations performed by unauthorized personnel may void the warranty.

## 2.6 What should be avoided

- ⊗ Only use the machine for the purposes it is designed for. If you use the ERGO-FIT machine improperly, you will be charged for all damages resulting from this. Any guarantee claim will be excluded!
- ⊗ Never use the machine in any way other than for those purposes described in this manual. Improper use can damage the machine and be hazardous to your health.
- ⊗ You should never exercise on a damaged machine.
- ⊗ The machine must not be used without electric current.
- ⊗ When exercising, you should never try to exceed your current performance level. This may seriously damage your health.
- ⊗ You should never prop up your body on the machine and make improper movements. This increases the risk of falling.

A summary of the most important safety precautions can be found in the appendix of this manual. You should remove this summary and display it near the machine where it is clearly visible. All users of the machine must familiarise themselves with the dangers and safety regulations. The manufacturer will not be liable for personal injury or material damage.

## 2.7 Contraindications

Please note:

To avoid overstress of the athlete and subsequent serious diseases of the cardiovascular system the following contraindications must be observed during performance of an endurance training, i.e. if one of the following symptoms is already known before the training is started in no case an endurance training may be performed on a machine of the CL 400:

**Absolute contraindications:**

- ⊗ angina pectoris
- ⊗ cardiac arrhythmia and/or decompensated heart failure
- ⊗ distress respiratory, sense of oppression
- ⊗ circulatory disorder with rest pain in affected extremities
- ⊗ hypertonia (constantly raised blood pressure) (in this case, please contact your doctor)
- ⊗ coronarsklerosis
- ⊗ stress pain in your legs when walking less than 100 m
- ⊗ Acute respiratory infections
- ⊗ Feverish infections
- ⊗ circulatory problems, feeling of dizziness
- ⊗ nausea, Vomiting
- ⊗ Acute coronary syndrome
- ⊗ Acute myocardial infarction
- ⊗ symptomatic severe aortic stenosis
- ⊗ decompensated cardiac insufficiency
- ⊗ acute pulmonary embolism
- ⊗ acute carditis (Myo-, Endo-, Pericarditis)
- ⊗ acute phlebothrombosis of the upper extremities
- ⊗ acute aortic dissection

If the following symptoms occur the training must immediately be stopped to avoid an overstress of the human organism!

- ⊗ distress respiratory, sense of oppression
- ⊗ angina pectoris (chestpain in sudden attacks)
- ⊗ maximum heart rate > 200-age
- ⊗ nausea, emesis
- ⊗ circulatory problems
- ⊗ illness (heavily tiredness, lassitude, feeling of dizziness)
- ⊗ rapidly decreasing heart rate
- ⊗ rapidly decreasing/increasing blood pressure
- ⊗ main artery disease
- ⊗ moderate cardiac valve diseases
- ⊗ electrolyte imbalance
- ⊗ arterial hypertension (RR > 200/110mmHg)
- ⊗ Tachyarrhythmie oder Bradyarrhythmie
- ⊗ hypertrophic-obstructive cardiomyopathy and other forms of outflow tract obstruction
- ⊗ advanced AV-blockages
- ⊗ anemia
- ⊗ physical and/or mental health problems
- ⊗ arrhythmias



---

## Chapter 3      Short manual

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

### 3 Short manual

After delivery of your cardio machine, please check first if the serial number (see type label) is identical with the one indicated on the delivery note and if all components listed in chapter 1.3 („Scope of delivery“) are included in the delivery (not available on CARDIO LINE 400 MED).

After the machine has been connected to the mains and switched on, the software version is shown on the display. Thereafter the main menu will appear.

The control panel contains the PLUS, MINUS, START and STOP buttons in this order. The big monochrome display is illuminated and shows the elapsed training time (min:s), your present heart rate, the performance in Watts, the speed range (1/min), the speed (km/h, not available on CYCLE 400/407 MED/457 MED SPO<sub>2</sub>), the distance (m or km) as well as calories burnt.

When you switch on your cardio machine, the main menu will always appear first on the display. The choice „MANUAL“ is selected automatically. Press the START-button to confirm this. You are now in the manual mode.

In this mode, you can work out for any amount of time and choose any strain level that pleases you by pressing the PLUS and MINUS buttons. The workout parameters will be displayed for the full training session.

If you would like to end the training session, please press the STOP-button. The training parameters remain on the display. Press the STOP-button again to return to the main menu. The display will also return to the main menu automatically after 2 minutes if no action is carried out.

Danger! For workouts in other modes, please read the detailed instructions.

## Chapter 4 Destination of the product

4.1	Product lines .....	14
4.1.1	CARDIO LINE 400 .....	14
4.1.2	CARDIO LINE 400 MED .....	14
4.2	Models .....	14
4.2.1	CYCLE 400 .....	14
4.2.2	CYCLE 407 MED .....	14
4.2.3	CYCLE 450 .....	15
4.2.4	CYCLE 457 MED .....	15
4.2.5	CYCLE 457 MED SPO <sub>2</sub> .....	15

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## **4 Destination of the product**

### **4.1 Product lines**

In order to meet our customers' desires and to implement technical innovations, ERGOFIT developed the following product lines.

#### **4.1.1 CARDIO LINE 400**

The machines of this product line are stationary exercise machines primarily dedicated to train the cardiovascular system. They are especially designed for home use (EN 957 HA). They allow for management, control, and documentation of the workout.

#### **4.1.2 CARDIO LINE 400 MED**

The machines of this product line are stationary exercise machines that are designed for precise performance diagnostics in addition to training the cardiovascular system, diagnostics and therapy of cardio-vascular diseases and performance diagnostics in competitive sports. These product lines fulfil medical requirements and therefore need to allow for precise measuring technology besides pure fitness training. Explicit assessment of the results provides optimisation of health training and allow for its continuous documentation. To ensure measuring accuracy, metrological controls need to be carried out on these machines at regular intervals (every second year, in compliance with MPBetreibV).

### **4.2 Models**

All models of the CARDIO LINE 400/400 MED are exercise bike ergometers designed for cardiovascular training. A cyclic kicking movement produces the strain. The training strain is controllable to provide optimal cardiovascular system load. The CYCLE is equipped with various features in order to attain an optimised adaptation to the customer's individual needs.

#### **4.2.1 CYCLE 400**

The CYCLE 400 is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, and 5 predefined profiles as well as the option to exercise in gearshift mode.

#### **4.2.2 CYCLE 407 MED**

The CYCLE 407 MED is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, and 2 predefined WHO-profiles as well as the option to do countdown training in manual or heart rate controlled mode.

#### **4.2.3 CYCLE 450**

The CYCLE 450 is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, several predefined profiles as well as individual user profiles, 3 test programmes and the option to exercise in gearshift mode.

#### **4.2.4 CYCLE 457 MED**

The CYCLE 457 MED is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, several predefined profiles as well as individual user profiles, 3 test programmes, 1 WHO-profile that can be modified, the option to do countdown training in manual or heart rate controlled mode. Furthermore, the machine can be controlled by ECG equipment. An external connection (RS 232) is standard equipment on the CYCLE 457 MED.

#### **4.2.5 CYCLE 457 MED SPO<sub>2</sub>**

The CYCLE 457 MED SPO<sub>2</sub> is equipped with a manually controllable programme, a heart rate controlled cardio exercise programme, several predefined profiles as well as individual user profiles, 3 test programmes, 1 WHO-profile that can be modified, the option to do countdown training in manual or heart rate controlled mode. Furthermore, the machine can be controlled by ECG equipment. The CYCLE 457 MED SPO<sub>2</sub> comes standard with an external connector (RS 232) and a SPO<sub>2</sub> module.



## Chapter 5 Transport and set up

5.1	Transport .....	18
5.2	Set up and the right place for set up .....	18
5.3	Ambient temperature .....	21
5.4	Power connection .....	21
5.4.1	Power supply .....	22
5.4.2	Cabling .....	22
5.5	Potential compensation .....	22
5.5.1	Position of the potential compensation clamp .....	22
5.6	Components .....	23
5.6.1	CYCLE 400 .....	23
5.6.2	CYCLE 407 MED.....	23
5.6.3	CYCLE 450.....	24
5.6.4	CYCLE 457 MED/457 MED SPO <sub>2</sub> .....	24

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 5 Transport and set up

### 5.1 Transport

In order to avoid damage, ERGO-FIT machines are transported by ERGO-FIT GmbH & Co. KG directly or by an authorised freight forwarding company. After delivery, packaging will be collected and disposed of professionally. If ERGO-FIT machines are delivered by a freight forwarder, the customer must dispose of the packaging himself or can send it back to ERGO-FIT GmbH & Co. KG. (The customer is responsible for the transportation costs).



The machines do not have any shipping locks!

To place the CYCLE at the desired location, please consider the following aspects:

1. Position yourself so that you can see the display.
2. Grasp the seat with both hands and slightly lift the machine. You can now roll it easily to the desired position.

### 5.2 Set up and the right place for set up

Place the mains cable between the casing and the foot frame to protect it against damage during transport.



Move the machine to its future location and mount the foot caps.



Danger! Mount the foot caps first before laying the cable underneath the foot frame: Lay the cable underneath the foot frame to the rear end of the machine. Make sure not to pinch the cable between the casing and the foot frame or between the casing and the floor!



**CORRECT**



**WRONG**



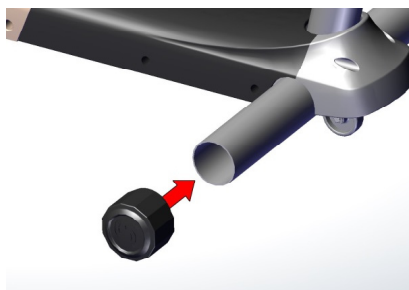
- ⊗ Make sure that the surface underneath the machine is level and horizontal.
- ⊗ The adjustable feet underneath the machine are designed to compensate for minor unevenness. Adjust these feet to attain a stable position on the floor and prevent tilting of the machine.
- ⊗ Please make sure the distance between each machine is at least one metre, or you might experience errors of the POLAR heart rate receiver.
- ⊗ High-frequency and magnetic disturbance signals (e.g. radios, TV sets, mobile phones etc.) in close proximity to your cardio machine area may also interfere with the pulse transmission.
- ⊗ In rare cases, strong electromagnetic fields in some locations may interfere with the transmission of the heart rate (e.g. high voltage circuit or tramway contact wires).
- ⊗ In case of interference or if you suspect there is interference with the heart rate transmission, do not, under any circumstances, use the machine for a cardio controlled workout (in CARDIO mode).
- ⊗ Set up the machine so that power switch and plug can easily be disconnected.



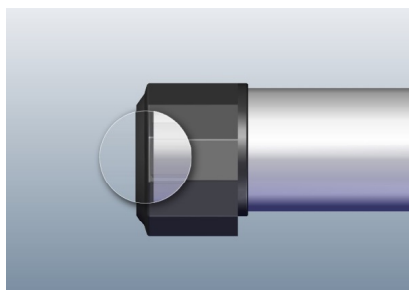
Please note that the adjustable feet of the CYCLE are equipped with plastic protection caps. In exceptional cases (e.g. when using strong cleaning agents), this may leave marks or stains on the floor.

**Niveauregulierung:**

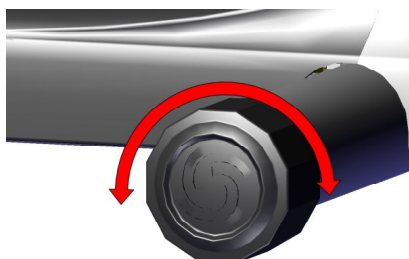
Bitte achten Sie bei der Aufstellung des Gerätes auf einen sicheren Stand. Beachten Sie hierfür nachfolgende Schritte.



1. Attach the provided foot caps by clipping them on the corresponding tubes.



2. Push the foot caps all the way to the stop.




3. Adjust the foot caps by twisting them in either direction to avoid rocking movements of the workout equipment .

### 5.3 Ambient temperature

- ⊗ Your ERGO-FIT exercise machine may be used at an ambient temperature of +10°C to +40°C, a relative humidity of 30 to 70% (non-condensing) and an atmospheric pressure of 700 hPa to 1060 hPa without causing any problems.
- ⊗ When switched off, the ERGO-FIT machine may be stored at a temperature between -30°C to +50°C.

### 5.4 Power connection

1. Carry out a visual inspection of the mains connection cable and the connectors (power input module on CARDIO LINE 400 MED only) before starting the machine. Damaged power cords and connectors need to be replaced immediately.
2. Damaged power cords and connectors need to be replaced immediately. Take the mains connection cable and plug it into the appropriate power input module (see figure, CARDIO LINE 400 MED only). Plug the other end of the cable into the mains socket. 
3. Switch on your exercise machine by pushing the button located on the power input module (CARDIO LINE 400 MED, I = switch on, O = switch off) or by pushing the foot actuated switch on the power cord (CARDIO LINE 400)..



*Power input module  
with mains plug*

4. After your exercise machine has been connected to mains and switched on, it automatically carries out an operating check. During this operating check, you will be able to read the software version of the unit on the display. Thereafter the main menu will appear.
5. Stand on the side of the control panel (view onto the display) and check if the display works. If this is not the case, make sure you followed the steps above correctly. In addition, verify if there is electricity in the mains socket.

### 5.4.1 Power supply

Use your exercise machine only on earthed (grounded) mains sockets with 230 V~/50-60 Hz (see chapter A). If you have any doubts about the power supply at the setup location, ask your electricity supplier. Only use customary 10 ampere automatic circuit breakers (type B tripping characteristic). In the rare event that these automatic circuit breakers should switch off when you switch on your machine, the circuit needs to be fused with 10 A lead fuses or with a different type of tripping characteristic. In case of doubt, ask your electrician.

Before connecting your ERGO-FIT exercise machine to your power supply system, compare the data on the type label (next to power input module) on the allowable voltage and grid frequency with your local data.



Always connect your machine directly to the power outlet. Do not use extension cables or multi-outlet power strips unless they are EN 60601-1 certified.

We recommend DC-isolated cables for the connection of external equipment to a CARDIO LINE 400 MED machine.

### 5.4.2 Cabling

If you have connected more than one ERGO-FIT machine to one main switch, please switch each machine on and off individually.

- ⊗ Install the cable in such a way that no one can step on it or trip over it.
- ⊗ Do not place any objects on the cable as it might become damaged.

## 5.5 Potential compensation



To avoid disturbances, a potential compensation cable may be attached to the machine. This potential equalisation is not standard equipment. If required, ask the service to install this feature. In this case, communicate with the service department or the field staff. As some machines are already prepared for the potential compensation feature, on-site installation is possible.

### 5.5.1 Position of the potential compensation clamp



The potential equalisation clamp is located underneath the front wheel cover. Never connect the potential compensation line to the water or gas supply line or any other kind of pipe. Always use the appropriate potential compensation connection only.

## 5.6 Components (Illustrations similar)

### 5.6.1 CYCLE 400



- 1 Seat
- 2 horizontal seat adjustment
- 3 Seat height adjustment
- 4 Mains cable outlet
- 5 Pedals
- 6 Adjustable feet
- 7 Control panel & display
- 8 Handlebar (equipped with electrodes for hand heart rate)
- 9 Book support

### 5.6.2 CYCLE 407 MED



- 1 Seat
- 2 horizontal seat adjustment
- 3 Seat height adjustment
- 4 Power input module
- 5 Pedals
- 6 Adjustable feet
- 7 Control panel & display
- 8 Handlebar
- 9 Book support

### 5.6.3 CYCLE 450



- 1 Seat
- 2 horizontal seat adjustment
- 3 Seat height adjustment
- 4 Mains cable outlet
- 5 Pedals
- 6 Adjustable feet
- 7 Control panel & display
- 8 Handlebar (equipped with electrodes for hand heart rate)
- 9 Book support

### 5.6.4 CYCLE 457 MED/457 MED SPO<sub>2</sub>



- 1 Seat
- 2 horizontal seat adjustment
- 3 Seat height adjustment
- 4 Power input module
- 5 Pedals
- 6 Adjustable feet
- 7 Control panel & display
- 8 Handlebar
- 9 Book support

Not shown is the SPO<sub>2</sub> module included with version 457 MED SPO<sub>2</sub>.

## Chapter 6 Start-up

6.1	Switch on .....	26
6.2	Switch off .....	26
6.3	The right training technique .....	26
6.4	The control panel .....	27
6.4.1	The buttons .....	30
6.4.2	The display .....	31
6.4.3	Connections .....	31

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 6 Start-up

### 6.1 Switch on

- ⊗ Before switching on your exercise machine (CARDIO LINE 400 MED), make sure the mains plug is connected to the mains socket.



If you have connected more than one machine to one main switch, please switch each machine on and off individually, or technical disturbances may occur if all machines are switched on at the same time.

- ⊗ Now switch on your machine by pushing the switch located on the power input module. Push the switch into the I-position. The machine is turned off when the switch is in the 0-position (only on CARDIO LINE 400 MED). The CARDIO LINE 400 is switched on by pushing the foot actuated switch.
- ⊗ The illumination of the display shows you immediately if the machine is switched on.

### 6.2 Switch off

- ⊗ Switch off your machine by pushing the switch located on the power input module. To do so, push the switch into the 0-position (CARDIO LINE 400 MED) or by pushing the foot actuated switch (CARDIO LINE 400).



Make sure that the switch on/switch off intervals are longer than 30 s. Otherwise disturbances might occur.

### 6.3 The right training technique

Regular training on these devices reduces the risk of cardiovascular diseases and increases personal performance in an optimal way. You should also ensure that you train optimally from a biomechanical point of view. This chapter provides relevant considerations for the use of exercise bike ergometers.



When exercising with your training machine, make sure not to step on its casing. Stand on the designated surfaces only.

1. Gauge the proper seat height first. The height of the seat is essential for your sitting comfort and especially for the radial runout. To gauge the right seat height, sit on the seat and put one heel on a pedal. In the lowest pedal position, you should be able to extend your leg completely.
2. CYCLE 400/407: To adjust the seat, stand next to the exercise machine and turn the knob on the seat tube anticlockwise. Now pull the knob out of the punched matrix located on the seat tube until you can move the seat tube.



To lock the seat at the desired height, let the knob snap into the seat tube again. Lock the seat tube by turning the knob clockwise.

3. CYCLE 450/457/457 SPO<sub>2</sub>: To adjust the seat height, stand next to the exercise machine and pull the adjustment lever located on the seat tube upwards. The integrated pneumatic spring will automatically lift the seat. To lower the seat, loosen the adjustment lever and push the seat downwards into the desired position with the help of your body weight. To lock the seat at the desired height, bring the adjustment lever back to its initial position.
4. To adjust the seat horizontally, loosen the clamp lever underneath the seat by turning it anticlockwise. Now the seat is continuously adjustable. Lock the seat by turning the clamp lever clockwise.
5. During CARDIO training, make sure the number of rotations is higher than 50 rpm (performance > 25 W); otherwise, the strain of the machine becomes too great. Please look at the speed range (the up arrow on CYCLE 450/457/457 SPO<sub>2</sub> or the right arrow on CYCLE 400/407 means you should pedal faster whereas the down arrow on CYCLE 450/457/457 SPO<sub>2</sub> or the left arrow on CYCLE 400/407 asks you to pedal more slowly). The higher the number of rotations, the lower the strain on the joints.
6. Maintain the training position described here for the whole workout.

## 6.4 The control panel

One of ERGO-FIT's main goals is to produce particularly user-friendly exercise machines. For this reason, all the CARDIO LINE 400/400 MED machines are equipped with a user guidance system that is simple and easy to understand. In addition, all control panels in a series are designed homogeneously to provide you with easy use and comfort. Consequently, once you know how to operate one machine, you will know how to operate all the others of the same series.

There are two different types of displays: A small monochrome display (CYCLE 400/407 MED) and a large monochrome display (CYCLE 450/457 MED/457 MED SPO<sub>2</sub>).

The control panel consists of a display and buttons. Before you take a closer look at the control panel, you should note the following aspects:

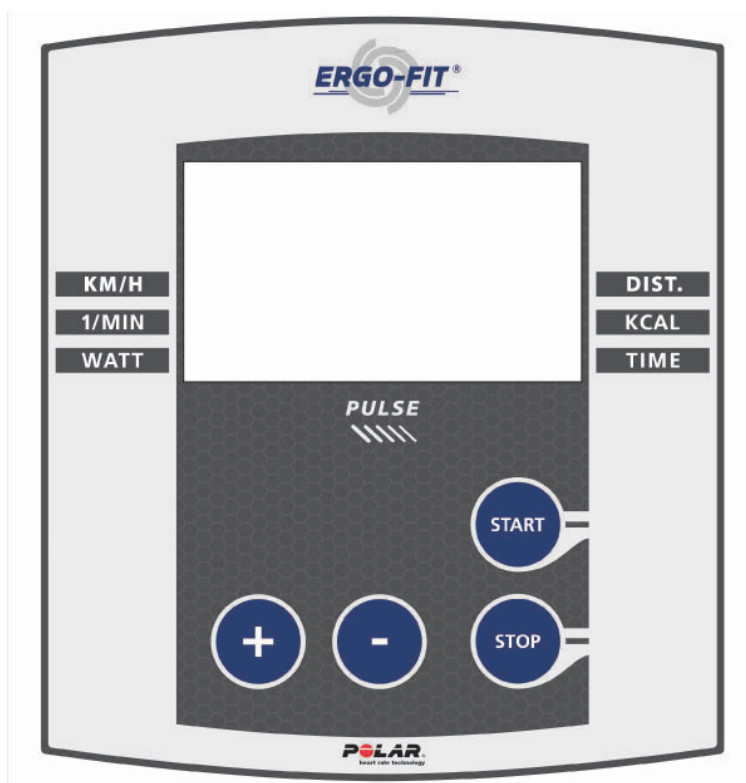
1. Do not prop up your body on the control panel or the display to avoid damage.
2. Do not exert pressure on the display.
3. Only press the buttons lightly. The button press is confirmed by a beep.



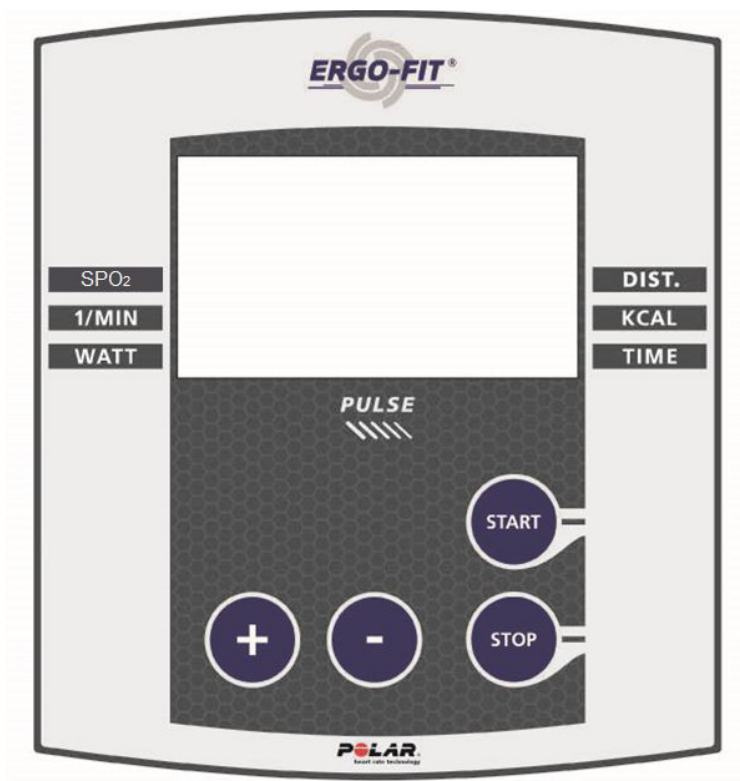
Cockpit CYCLE 400/407 MED (small monochrome display):



Cockpit CYCLE 450-457 MED (large monochrome display):



### Cockpit CYCLE 457 MED SPO<sub>2</sub> (large monochrome display):



#### 6.4.1 The buttons

The following buttons are installed on the control panel:

- ⊗ PLUS-button: Increase the strain or change parameters..
- ⊗ MINUS-button: Decrease the strain or change parameters.
- ⊗ START-button: Change the training mode or confirm set or changed parameters.
- ⊗ STOP-button: Stop functions or the machine.

### 6.4.2 The display

The machines of the CARDIO LINE 400/400 MED are equipped with a large (CYCLE 450/457 MED/457 MED SPO<sub>2</sub>) or a small monochrome display (CYLCE 400/407 MED).

In the section below you will find - depending on the model - information on the displays, measuring units and their meanings.

#### Training parameters

Model	Display	Meaning	Unit
CYCLE	DIST.	Distance covered	m,km
	1/MIN	Number of revolutions per minute	1/min
	KM/H	Speed	km/h*
	WATT	Power produced currently	Watt
	POINTS	ERGO-FIT cardio points	Points
	KCAL	Calories burnt (average)	kcal
	TIME	Training time	00:00 (min:sek)
	PULSE	Current heart rate with POLAR-sender or hand heart rate (only CYCLE 400/450)	1/min
	SPO <sub>2</sub>	Oxygen saturation	%***
	Flashing heart	heart rate signal received**	

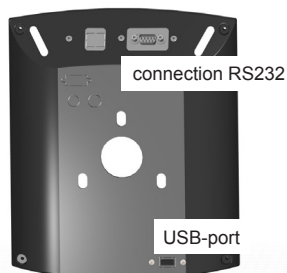
\* Parameter „KM/H“ only CYCLE 450/457 MED

\*\* If an „E“ is displayed instead of the heart rate the heart rate monitor does not function correctly or it does not receive any heart rate values (see chapter 7.4)

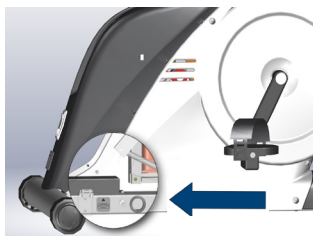
\*\*\*Parameter „SPO<sub>2</sub>“ only CYCLE 457 MED SPO<sub>2</sub>

### 6.4.3 Connections

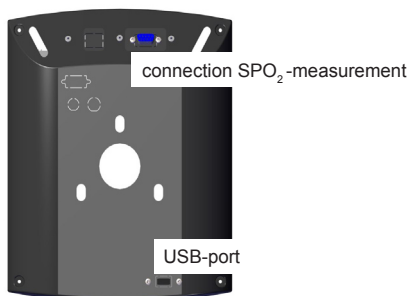
- ⊗ CYCLE 457 MED is provided with a RS232 port (position see following figure) This 9 pin port is located at the back of the cockpit and is used to connect an ECG.



- ⊗ The CYCLE 457 MED SPO<sub>2</sub> is equipped with a RS232 interface (beneath the device, see following figure) and a SPO<sub>2</sub> connection (rear of the cockpit).



**Cockpit CYCLE 457 MED SPO<sub>2</sub> (back):**



**SPO<sub>2</sub>:**

Connect the 9-pin cable to the corresponding connector. To disconnect just pull the plug from the connector.

**Please note:**

For the SPO<sub>2</sub> module only use finger clips that have been accepted by the manufacturer. You can order them at Ergo-Fit.

## Chapter 7      Operation

7.1	Modes of operation .....	34
7.1.1	MANUAL .....	34
7.1.2	PROFILES .....	35
7.1.3	CARDIO .....	39
7.1.4	GEARSHIFT .....	40
7.1.5	WHO-PROFILES .....	40
7.1.6	COUNTDOWN .....	41
7.1.7	TEST .....	43
7.1.8	Default Settings and ECG CHOICE.....	44
7.2	Behavior after operation .....	44
7.3	Function control .....	45
7.4	Heart rate measurement .....	46
7.4.1	Belt and Transmitter .....	46
7.4.2	Contact Heart Rate .....	46
7.4.3	Operating range of the POLAR sender .....	47
7.4.4	Battery of the POLAR sender .....	47
7.4.5	Potential Interferences .....	47
7.4.6	SPO <sub>2</sub> measurement .....	48

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 7 Operation

### 7.1 Modes of operation

When you switch on your training machine, the main menu and the programme selection will always appear first on the display. The choice „MANUAL“ is selected automatically. Push the PLUS and MINUS buttons to change the training mode. Confirm this with START. The following modes can be chosen (depending on the model):

	CYCLE 400	CYCLE 407 MED	CYCLE 450	CYCLE 457 MED / MED SPO <sub>2</sub>
MANUAL	X	X	X	X
PROFILES	X		X	X
CARDIO	X	X	X	X
GEARSHIFT	X		X	
WHO-PROFILES		X		X
COUNTDOWN		X		X
TEST			X	X
ECG-CHOICE				X

To return from the submenu to the main menu, just press the STOP button once or repeatedly.

#### 7.1.1 MANUELL



Danger! If you have a cardiac pace maker, you should exercise in MANUAL mode only!.

1. Push the PLUS/MINUS buttons until the programme MANUAL is selected. Confirm your choice with the START button.
2. You are now entering training mode. You may change the strain intensity in steps of 5 Watts by pushing the PLUS and MINUS buttons. If you want to change the strain intensity substantially, press and hold the PLUS or MINUS button.
3. Stop the training by pressing the STOP button. The training parameters remain on the display. By pushing the STOP-button one more time, you will return to the main menu. The display will also return to the main menu automatically after 1 minute if no action is carried out.



In the MANUAL mode, you can choose any minimum/maximum strain you like. The lower/upper strain limit is the following:

Model	Power Range	Steps	Rotational Speed
CYCLE 400	0-400 W *	5 W	20-120 rpm
CYCLE 407 MED	0-400 W *	5 W	20-120 rpm
CYCLE 450	0-400 W *	5 W	20-120 rpm
CYCLE 457 MED	0-400 W *	5 W	20-120 rpm
CYCLE 457 MED/MED SPO <sub>2</sub>	0-400 W *	5 W	20-120 rpm

\* Default setting is 25 W; the strain can be reduced to a minimum of 0 W by pushing the MINUS button.

CYCLE 407/457 MED: Please note that this model does not comply with the standard DIN VDE 0750-238 when used with a strain level below 25 W!

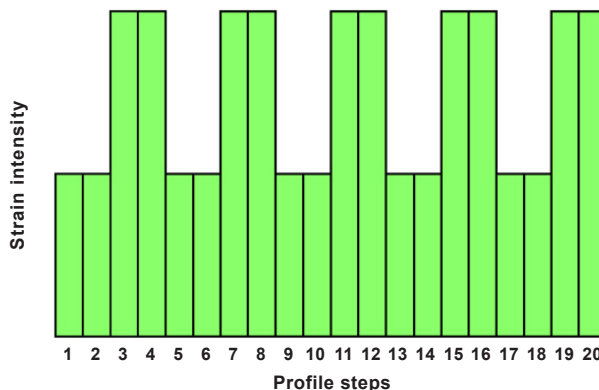
### 7.1.2 PROFILES

You can choose between performance profiles (load profiles, fixed profiles), gradient profiles (gearshift/only on CYCLE 450) and heart rate profiles (heart rate/only on CYCLE 450 and CYCLE 457 MED, CYCLE 457 MED SPO<sub>2</sub>), depending on the model.

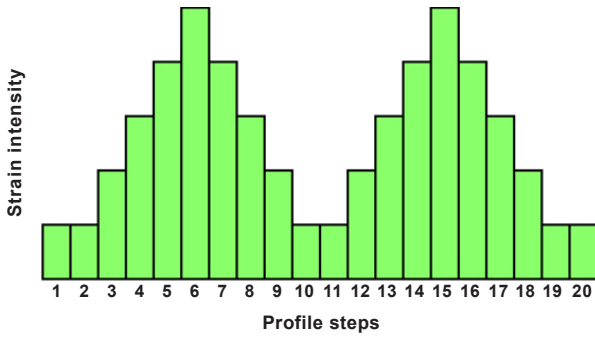
**Performance profiles (CYCLE 400, CYLCE 450, CYCLE 457 MED, CYCLE 457 MED SPO<sub>2</sub>):**  
Choose between five predefined profiles (fixed profiles P1 - P5) and four individual user profiles (load profiles/only on CYCLE 450 and CYCLE 457 MED). The profiles differ in their sequences of alternating strain levels, comparable with a hilly landscape.

The 5 predefined profiles (P1 - P5) are:

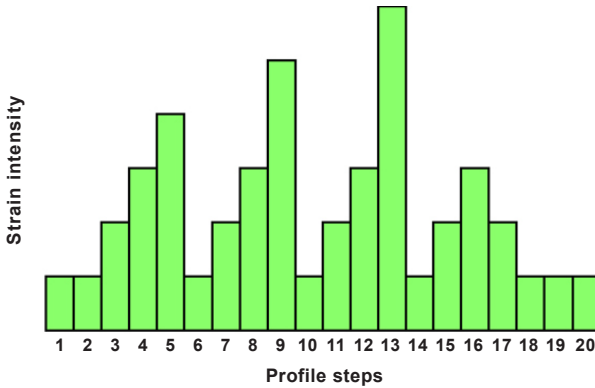
**Profile 1:**



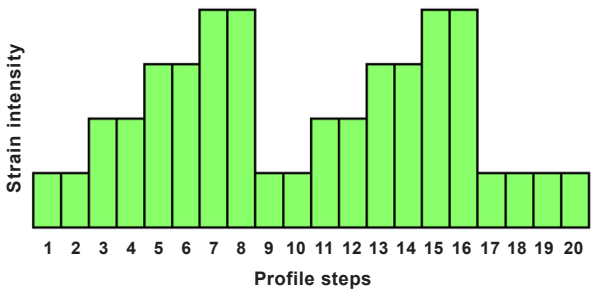
Profile 2:

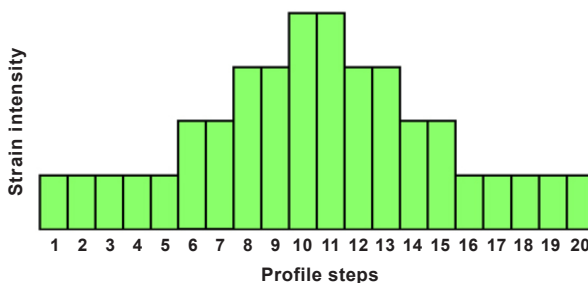


Profile 3:



Profile 4:



**Profile 5:****Gradient profiles (gearshift/CYCLE 450):**

Choose between four individual user profiles.

**Heart rate profiles (CYLCE 450, CYCLE 457 MED, CYCLE 457 MED SPO<sub>2</sub>):**

Choose between four individual user profiles.

**How to choose a predefined user profile (P1 - P5):**

1. Push the PLUS/MINUS buttons until the programme PROFILES is selected. Confirm your choice with the START button.
2. In the submenu „PROFILES“, choose a profile with the PLUS and MINUS buttons. Confirm your choice with the START button. Use PLUS/MINUS buttons on CYCLE 450, CYCLE 457 MED and CYCLE 457 MED SPO<sub>2</sub> to switch between Profile Selection and Profile Editor, confirm with START, then select the appropriate profile type (fixed profiles, load profiles or heart rate) using PLUS/MINUS buttons and again confirm with START.
3. Now you need to determine the maximum strain intensity. Push the PLUS and MINUS buttons to set the strain and confirm with START.
4. Now choose the maximum training time. You can choose different training durations of 10 to 60 minutes by pressing the PLUS and MINUS buttons (default time: 10 minutes). Confirm your choice again with the START button.
5. You are now entering training mode. You can change strain intensity within the limits of the pre-assigned strain intensity range by pushing the PLUS and MINUS buttons at any time.
6. The timing will also be displayed in the profile (in italic letters). The training will stop automatically after the chosen duration has elapsed. You can also stop the training by pressing the STOP button at any moment. On CYCLE 450, CYCLE 457 MED and CYCLE 457 MED SPO<sub>2</sub> the profile distance is repeated until the workout is stopped by pushing the STOP button. In all cases, the training parameters (dist., kcal, km etc.) remain on the display. Pushing the STOP button again will return you to the main menu.

**How to create a new user profile (A-D) (CYCLE 450/CYLCE 457 MED/MED SPO<sub>2</sub> only)**

1. Push the PLUS/MINUS buttons until the programme PROFILES is selected. Confirm your choice with the START button.
2. Select the Profile Editor using PLUS/MINUS buttons, confirm selection with START.
3. Push the PLUS and MINUS buttons to choose the type of profile first (load profile, heart rate, gearshift). Confirm this with START.
4. Now push the PLUS/MINUS buttons until the desired user profile (A-D) is selected. Push the START button to open the changing level.
5. Press START again to change the profile.
6. On the changing level you can set the strain intensity per strain level. Push the PLUS and MINUS buttons to set the strain (default: begin profile step 1). Press the START and STOP buttons for choosing the profile step. Press the STOP button at profile step 1 or press the START button at profile step 20 to enter the main menu. Your changes are saved.
7. From the main menu, select the PROFILE program again using the PLUS or MINUS button, confirm by pressing the START button, then confirm PROFILE SELECTION with START. Select the desired profile with the PLUS or MINUS button and confirm by pressing the START button. The four user profiles will appear (except for „Gearshift“ profile, see Point 10). Make your selection using the PLUS or MINUS button and confirm with START. Procedures that follow are described in Points 8-10.
8. If you selected the „Load profiles“ profile type, you can change the start load using the PLUS/MINUS buttons. Now confirm with the START button and set the maximum exercise time. By pressing the PLUS or MINUS button, you can select different exercise times, from 10 to 60 minutes in duration (default time - 20 minutes). Press the START button to confirm. See Point 11.
9. If you selected the „Heart rate“ profile type, you can set the maximum exercise time here. By pressing the PLUS or MINUS button, you can select different exercise times, from 10 to 60 minutes in duration (default time - 20 minutes). Press the START button to confirm. Now the cardio parameters are displayed. You can also change the start load using the PLUS/MINUS buttons. Press the START button to confirm. See Point 11.
10. If you selected the „Gear change“ profile type (CYCLE 450 only), you can now enter your weight using the PLUS/MINUS buttons. After you confirm with the START button, the four user profiles will appear. Make your selection using the PLUS or MINUS button and confirm with START. You can now set the maximum exercise time. By pressing the PLUS or MINUS button, you can select different exercise times, from 10 to 60 minutes in duration (default time - 20 minutes). Press the START button to confirm. See Point 11.
11. You are now entering training mode. You can change strain intensity within the limits of the pre-assigned strain intensity range by pushing the PLUS and MINUS buttons at any time. The timing will also be displayed in the profile (in italic letters).

12. On CYCLE 400, the training will end automatically when the chosen duration has elapsed. You can also stop the training by pressing the STOP button at any moment. On CYCLE 450, CYCLE 457 MED and CYCLE 457 MED SPO<sub>2</sub>, the profile distance is repeated until the workout is stopped by pushing the STOP button. Pushing the STOP button again will return you to the main menu.

### 7.1.3 CARDIO

Heart rate controlled training (cardio training) controls the optimal intensity of the user's workload. For a CARDIO workout (heart rate controlled training) on the machines of the CARDIO LINE 400 MED, you need a chest band with a POLAR sender. This is the only way to measure your heart rate and control the strain automatically. A simultaneous use of chest strap and SPO<sub>2</sub> module for heart rate monitoring is not possible, because the signal of the chest strap always has priority. We recommend the use of the chest strap for heart rate controlled training because it is designed for this purpose and because the movement of the hands or slipping of the finger clip can cause inaccuracies that make a controlled training impossible. On models of the CARDIO LINE 400 HOME, the heart rate can also be assessed through the hand pulse. The same restrictions apply as for the SPO<sub>2</sub> module. The CARDIO mode allows for strain control according to the actual heart rate so that the set training heart rate will be maintained during a workout sequence.

*Users who have a cardiac pace maker or take heart drugs (e.g. beta-blockers) should not exercise in Cardio mode!*



#### **You need to set the following parameters before training:**

PULSMAX = heart rate upper limit during training  
 PULSMIN = heart rate lower limit during training  
 STARTING STRAIN = initial strain at the beginning of the workout

#### **How to proceed when training:**

1. Push the PLUS/MINUS buttons until the programme CARDIO is selected. Confirm your choice with the START button.
2. You are on Cycle 457 in the „CARDIO SELECTION“ sub-menu. Here you can choose between CARDIO and CARDIO COUNTDOWN. If you select CARDIO COUNTDOWN, see Section 7.1.6; otherwise go to Point 3. All other cycle versions are located directly in the Cardio Program.
3. Now change the age using the PLUS or MINUS button and confirm with START.
4. Set the heart rate upper limit first. Modify the default value (depending on entered age) with the PLUS and MINUS buttons (the heart rate lower limit will change synchronously). After choosing your individual heart rate upper limit, confirm with START.
5. Now you can modify your heart rate lower limit with the PLUS and MINUS buttons (default: difference of ten beats from the heart rate upper limit.). Reconfirm your choice with START.
6. Now set the starting strain for your exercise (Preset 25W). Again, use the PLUS and MINUS buttons and confirm with START for this purpose.
7. The display now shows the CARDIO mode. Your current heart rate is assessed. The training starts with the first strain level.

The load can be changed even during exercise using the PLUS or MINUS button.

8. Stop the exercise by pressing the STOP button. The training parameters (Watt, 1/ min etc.) remain on the display. On the CYCLE 450/457 MED/457 MED SPO<sub>2</sub> model, the gradient of the heart rate will be shown also. The training sequence is marked by two horizontal lines. On CYCLE 457 MED, the average speed is displayed by pressing the START button. Pushing the STOP button again will return you to the main menu.

#### 7.1.4 GEARSHIFT (CYCLE 400 / 450 only)

In this mode, you can exercise for any amount of time. The integrated gearshift allows you to adjust the strain and thus, to simulate realistic cycling.

1. Press the PLUS/MINUS buttons on the main menu until the programme GEARSHIFT is selected. Confirm your choice with the START button.
2. Press the PLUS and MINUS buttons to enter your body weight and press the START button.
3. You are now entering training mode. In this mode, press the PLUS and MINUS buttons to change the gears at any time and thus, to modify the strain. The change will be displayed for 5 seconds. Furthermore, the gradient can be displayed by pressing the START button. You can modify the gradient settings by pressing the PLUS and MINUS buttons. By pushing the START-button one more time, you will return to the gear selection.
4. Stop the training by pressing the STOP button. The training parameters remain on the display. By pushing the STOP-button one more time, you will return to the main menu. The display will also return to the main menu automatically after 1 minute if no action is carried out.



If the operational range of the brake is exceeded, an exclamation mark will be displayed next to the performance display. This indicates that the displayed performance does not correspond to the performance on the crank handle. Please modify the speed or the gear to return to the correct performance.

#### 7.1.5 WHO-PROFILES

The WHO profiles are step profiles defined by the World Health Organization (profiles with stepping strain increase). On CYCLE 407 MED, you can choose between two predefined profiles; on CYCLE 457 MED/457 MED SPO<sub>2</sub>, the user profile can be set individually.

##### Please proceed as follows (CYCLE 407 MED):

1. Push the PLUS/MINUS buttons until the programme WHO-PROFILES is selected. Confirm your choice with the START button
2. Select the desired time in the sub-menu by pressing the PLUS or MINUS button (2 min or 3 min), confirm with the START button. Then select the load level (25 W or 50 W) and press START again. (Use STOP to switch between the lines)
3. You are now in the „WHO PROFILE“ training mode. Press the STOP button to stop the strain phase and to proceed to the recovery phase. By pushing the STOP-button one more time, you will return to the main menu.

**Please proceed as follows (CYCLE 457 MED/MED SPO<sub>2</sub>):**

**You need to set the following parameters before training:**

Initial strain:	Strain of the first strain level [W]
Time:	Duration of each strain step [min]
Strain step:	Intensity of each strain step [W]
Recovery:	Strain in recovery phase [W]

1. Push the PLUS/MINUS buttons on the main menu until the programme WHO-PROFILES is selected. Confirm your choice with the START button.
2. Press the PLUS and MINUS buttons to modify each of the parameters. Press STOP to change to the next parameter. After setting the parameters, confirm this with START. The modified parameters will be saved for other applications.
3. You are now in the training mode. Press the STOP button to stop the strain phase and to proceed to the recovery phase. By pushing the STOP-button one more time, you will return to the main menu.

The automatic strain increase in the WHO profiles can be interrupted during operation by pressing the START button. The displayed information changes from ACTIVE to HOLD. In the HOLD mode, the performance can be modified manually with the PLUS and MINUS buttons. If you want to reactivate the automatic strain increase, press the START button again. The display changes from HOLD to ACTIVE. In both modes, you can change from the strain phase to the recovery phase by pressing the STOP button. The display changes to PASSIVE. This allows the doctor to adjust the strain for his patient more precisely than before.

### **7.1.6 COUNTDOWN (CYCLE 407 MED/CYLCE 457 MED/MED SPO<sub>2</sub> only)**

In this mode you can manually customize the workout and workout time. The timer counts down the set workout time. You can choose Manual-Countdown or Cardio-Countdown:

**Manual-Countdown:**

1. Push the PLUS/MINUS buttons on the main menu until the programme COUNTDOWN (for 400/407 CARDIO COUNTDOWN) is selected. Confirm your choice with the START button.
2. Reduce or increase the time to the desired training duration by pressing the PLUS and MINUS buttons. Confirm this with START.
3. You are now entering training mode. You may change the strain intensity by pushing the PLUS and MINUS buttons at any time.
4. The training will stop automatically after the chosen duration has elapsed. However, you can stop the exercise at any time by pressing the STOP button. The training parameters remain on the display. By pushing the STOP button one more time, you will return to the main menu. The display will also return to the main menu automatically after 1 minute if no action is carried out.

**Cardio-Countdown:**

1. Navigate the main menu by pressing the PLUS/MINUS buttons until the CARDIO program (for 400/407 CARDIO COUNTDOWN) is marked. Press the START button to confirm your selection. For Cycle 400/407, see Point 3.
2. The „Cardio Selection“ sub-menu appears. Use the PLUS/MINUS buttons to select the CARDIO COUNTDOWN program. Press the START button to confirm your selection.
3. Use the PLUS/MINUS buttons to change the age setting and confirm with START.
4. Reduce or increase the time to the desired training duration by pressing the PLUS and MINUS buttons. Confirm this with START.
5. First, set the upper heart rate limit. You can change the default value (depending on the entered age) with the PLUS or MINUS button (the heart rate lower limit changes its value synchronously). If you set your individual heart rate upper limit for the exercise session, confirm your entry with the START button.
6. Now you can change your heart rate lower limit using the PLUS or MINUS button (default setting - 10-stroke difference from the upper heart rate limit). Confirm again with the START button.
7. Now you must set the start load (default 25W) for the exercise session. To do this, press the PLUS or MINUS button and confirm with START.
8. The display changes to the CARDIO mode. Your current heart rate is determined. Exercise session starts with the first load level.
9. Pressing the STOP button stops the exercise session early. The training parameters (Watts, 1/min, etc.) remain for reading. CYCLE 450/457 MED/MED SPO<sub>2</sub> also displays the heart rate curve graphically. The exercise area is indicated by 2 horizontal lines. When the START button is pressed, CYCLE 457 MED displays average speed. You can return to the main menu by pressing the STOP button.
10. The training will stop automatically after the chosen duration has elapsed. The training parameters remain on the display. By pushing the STOP-button one more time, you will return to the main menu. The display will also return to the main menu automatically after 1 minute if no action is carried out.



### 7.1.7 TEST (CYCLE 450 MED, CYCLE 457 MED/MED SPO<sub>2</sub> only)

These tests are step tests. The data resulting from these tests are recommendations only and not suitable for diagnostic purposes!



In order to carry out a test, you need a chest strap with POLAR transmitter or a SPO<sub>2</sub> module to measure your heart rate. Otherwise, the heart rate cannot be assessed. An assessment of the hand pulse may only be carried out for monitoring purposes!



#### **In the training mode TEST, you can choose from three different test programmes:**

Depending on your age, actual fitness or health conditions, you need to choose one of the preset heart rates (130, 150, and 170).

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

PWC 130 = heart rate: upper limit of 130, untrained test person of advanced age

PWC 150 = heart rate upper limit of 150, untrained younger test person

PWC 170 = heart rate upper limit of 170, trained test person

On PWC 130, the initial strain is 25 W; on PWC 150 and PWC 170, the initial strain is 50 W each. The strain increases by 25 W (PWC 130) and by 50 W (PWC 150, PWC 170) every two minutes. An assessment will only be carried out after the set heart rate has been reached and the set strain step has been ended.

The test result will be a Watts/kg value. With this value and the PWC classification table (see Chapter A7 „Test evaluation“), you can assess your actual fitness level.

#### **How to carry out a test:**

1. Push the PLUS/MINUS buttons until the programme TEST is selected. Confirm your choice with the START button.
2. You are now within the „TEST selection“ submenu. Choose the desired test programme with the PLUS and MINUS buttons and confirm this with START.
3. Now enter your body weight. For this purpose, press the PLUS and MINUS buttons. Confirm this with START.
4. Press the PLUS and MINUS buttons to enter your age and press the START button.
5. The display now shows the RESTING PULSE ASSESSMENT mode. Your current resting heart rate will be assessed. This takes about 15-20 seconds. Your resting heart rate is displayed.
6. If the assessment is successful, the test will start after a few seconds. The display changes to operating mode and starts with the first strain step.
7. As soon as your heart rate exceeds the set upper limit (130, 150, 170), the test ends automatically after completion of the strain level.
8. The training parameters remain on the display after the test is completed. By pushing the STOP button one more time, you will return to the main menu.

### 7.1.8 Default Settings and ECG CHOICE

For changing the default settings, you can use the following buttons:

PLUS: You can you can navigate in the menu and increase settings

MINUS: You can you can navigate in the menu and decrease settings

START: You can confirm your selections or settings

STOP: You can cancel a function or leave the menu

#### Language settings:

In the main menu simultaneously press PLUS and MINUS to open the "Service" menu. Select the function "Language". Here you can change the language.

#### Date and Time settings:

In the main menu simultaneously press PLUS and MINUS to open the "Service" menu. Select "Time and Date". Here you can change the settings.

#### External Control of the Training Bike:

An external connection (RS 232, serial interface) is standard equipment on the CYCLE 457 MED/MED SPO<sub>2</sub>. Connect the training bike to an external device (ECG, computer etc.) using an interface cable. (Please note! The interface cable is not included in the delivery!) Then you must select the data protocol.

#### Selecting the Data Protocol:

In the main menu simultaneously press PLUS and MINUS to open the "Service" menu. Select "RS232". Press PLUS/MINUS to select the protocol (00, 01, 02 etc.) and confirm with START. The protocol selection is stored. Press STOP to return to the main menu. When the Initialize icon appears above the interface the training bike automatically changes to external control mode. For further control additional icons are displayed. Unknown commands are listed as " / ".

*Please note! Some ECG devices cannot be connected with the CYCLE 457 MED/MED SPO<sub>2</sub>. Call +49 (6331) 2461-0 for more information.*

## 7.2 Behaviour after operation

No special notices need to be observed at the end of the training on a CYCLE model of the CARDIO LINE 400/400 MED. Just stop the training. There is no further risk due to free rolling.

### 7.3 Function control

Function test: How to proceed:

#### Brake function

- ⊗ Switch on the exercise machine. The illumination of the display shows you immediately if the machine is switched on.
- ⊗ Choose the MANUAL mode and increase the set performance (see Chapter 7.1.1).
- ⊗ Move the crank handle at the lowest speed range (observe the arrows!). The strain increases. Increase the speed range to its maximum. The strain will decrease. If this is the case, it may be assumed that the operation independent from the rotational speed works fine.

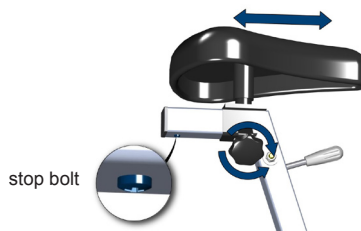
#### Heart rate

- ⊗ Check the function of the heart rate measurement (see chapter 5.2). Remember that you will need a POLAR transmitter set (transmitter, chest strap) or a SPO<sub>2</sub> module (use the POLAR transmitter set and the SPO<sub>2</sub> module as described in chapter 7.4).
- ⊗ Check the function of the heart rate measurement by grasping the hand heart rate electrodes with both hands. The heart rate value is displayed (only on CARDIO LINE 400 HOME). If no heart rate value is displayed, wet your palms and check again.

#### Other functions

- ⊗ Make sure that the seat can be adjusted easily.
- ⊗ Check the horizontal adjustment of the seat:
 

Loosen the star grip counterclockwise, move it to the desired position, fix it by turning the star grip clockwise. It must not be possible to move the seat horizontally after closing the star grip, even with greater effort.
- ⊗ Make sure that the stop bolt is located on the underside of the seat post and firmly screwed in. Loosen the seat by turning the star grip counterclockwise and push it as far back as possible. It must be attached to the stop bolt and must not slip off the seat post. (See also chapter 9.1)



## 7.4 Heart rate measurement

For optimal training results, we recommend controlled training by heart rate measurement. In this regard, the POLAR sender allows for constant displaying and monitoring of the heart rate.

Heart rate monitoring devices are tested at our factory before delivery. The displayed heart rate is compared to the corresponding displays of a Polar heart rate monitor. Only certified heart rate monitors and receivers are used for the test.

### 7.4.1 Belt and transmitter

Wet the electrodes (the two rippled rectangular areas on the bottom side) carefully before use. To provide optimal skin contact, you may use a contact gel as it is used in ECG measurements. Adjust the length of the band to have a close but comfortable fit against the skin underneath the chest muscle. The band should not loosen during exercise. Please also make sure that the belt is fastened with the correct side up - the POLAR logo needs to be readable correctly when looking at it. You should also make sure that the two band electrodes are not buckled



A pulse measurement is only possible if the chest band fits correctly. Otherwise, the display shows an „E“ on the position of the pulse indication (incorrect or no pulse transmission). In this case, please check again the correct fit of the chest band.

The sender (the electrodes in particular) should be cleaned and dried after use with warm water and a mild soap for hygienic reasons. Never brush the electrodes! Do not use alcohol for cleaning!

### 7.4.2 Contact heart rate

CARDIO LINE 400 HOME devices provide contact heart rate measurement.

Heart rate can only be measured and displayed if both hands are on the contact heart rate electrodes. If an „E“ is displayed instead of the heart rate the heart rate monitor does not function correctly or it does not receive any heart rate values. Heart rate measurement is not possible. Moisten the palms of your hand and try again.

Contact heart rate measurement might be difficult if the user has dry or rough hands or if the contact to the electrodes is interrupted, e. g. by moving the hands.

The following points must also be noted:

- ⊗ Disinfect the hand pulse electrodes only with a damp cloth, in no case wet!
- ⊗ Increasing the hand pressure does not lead to any effect, it can cause damaging of the electrodes!

ERGOFIT suggests telemetric heart rate measurement (POLAR belt and transmitter) for exact values.

### 7.4.3 Operating range of the POLAR sender

The operating range of the sender is approx. 80cm. If you have more than one ERGOFIT exercise machine, make sure to keep a distance of at least 100 cm between them to avoid interference of the senders.

*Note: We cannot guarantee for medically correct heart rate values, but the obtained values are a good basis for a safe workout.*

### 7.4.4 Battery of the POLAR sender

If the heart rate transmission only works within a short distance between the sender and the receiver or not at all after a prolonged operation, it is possible that the sender's battery is depleted (the battery usually lasts for approx. 2500 hours). In this case, please send the sender and the depleted battery to the following address.

**POLAR Electro GmbH Deutschland**  
**Am Seegraben 1**  
**D-64572 Büttelborn/Klein-Gerau**

Your sender will be returned to you with a new battery at a charge. Do not try to change the battery yourself!

### 7.4.5 Potential interference

- ⊗ Screens, electric motors
- ⊗ High voltage lines (including tramway contact wires)
- ⊗ Fluorescent tubes in close proximity
- ⊗ Central heating radiators
- ⊗ Other electric devices (e.g. mobile phone)

The problem can usually be addressed by moving the machine a few metres away from the source of interference. In some cases, it is sufficient to change the position of the machine by a few degrees.

If the heart rate is displayed irregularly despite faultless technical conditions, check your heart rate manually. In case of doubt, you should see your doctor.

#### **7.4.6 SPO<sub>2</sub> measurement**

With Cycle 457 MED SPO<sub>2</sub> you can also measure the oxygen saturation (SPO<sub>2</sub>). This is only possible during workout (e.g. manual workout).

The SPO<sub>2</sub> module must be correctly connected to the machine (see chapter 6.4.3. Connections). Attach the finger clip to forefinger, thumb or little finger.



The patient's skin on the finger must be dry and clean. Open the clip and put the finger as far as possible into the opening. Release the clip to lock it. Guide the cable along the arm and fasten it with tape, if necessary. Now you can perform the measurement.

Do not move the hand during the measurement. The measurement will now be performed automatically and permanently. The display shows the measurement values (70% to 100%) as well as the heart rate (20 to 300 BPM in whole beats (1 bpm)). These values will be displayed until you remove the finger clip or disconnect the SPO<sub>2</sub> module.

Please note:

- ⊗ With an oxygen saturation between 70% and 100% the maximum deviation of the measurement values is 2,3%.
- ⊗ The maximum heart rate deviation is +/- 3bpm.

Please review the additional safety and operational instructions in this manual!

## Chapter 8 Training

8.1	The effect of training .....	50
8.2	Cardiovascular training .....	50
8.3	Strain parameters .....	51
8.4	Training routine - aspects to be considered .....	51
8.5	Weight reduction: the benefits .....	51
8.6	Training tips .....	52

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 8 Training

### 8.1 The effect of training

The demands of today's lifestyle in modern societies are not enough to remain in good conditional shape. Cardiovascular diseases are still the most common cause of death.

This fact should make cardiovascular training a top priority.

All training activities during which the heart rate increases for 15 to 20 minutes or longer are called „aerobic“.

### 8.2 Cardiovascular training

To get the most benefit out of your training, you should be familiar with some training principles.

Your fitness depends to a great extent on your body's ability to provide your muscles with oxygen. Oxygen is the key to the energy stored in the muscles.

Let us take a closer look at some of the factors crucial to this process: The heart and its role as a complex pump is responsible for the smooth blood flow in the body.

Regular aerobic training will increase the heart's stroke volume, i.e. it will transport more blood through your body with every beat. Accordingly, the heart works more efficiently not only during training, but also at rest.

When oxygen enters the lungs, it will be mixed with blood in tiny „air sacs“, the so-called alveoli. Regular aerobic training will improve the efficiency of the alveoli and thus, more oxygen will enter the bloodstream and be transported to the muscles.

Haemoglobin is the substance of the blood that absorbs the oxygen. Regular aerobic training will increase the part of the haemoglobin in the blood, which in turn allows your muscles to be better supplied with oxygen.

It is a fact that heart diseases are much less common in people who train regularly.

Overall, it may be said that regular training improves the amount of oxygen supplied to the muscles and the risk of heart disease decreases. For this reason, ERGO-FIT cardio exercise machines are used in both gyms and rehabilitation centres.



### 8.3 Strain parameters

The intensity of your training programme should be suitable for your heart rate. It can only be assessed by a targeted performance evaluation. Our cardio training machines allow you to check your heart rate constantly even during training.

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

### 8.4 Training routine - aspects to be considered

If you exercise for the first time or restart training after a longer break, your training routine should include the following stages (example):

1. **Warm up:** Exercise for five minutes and with little strain to prepare your body optimally for training.
2. **Stretching:** Get off the exercise machine and stretch the muscle groups you are going to target during training.
3. **Main sequence:** Now you are well prepared for the aerobic phase, which should last a minimum of 15 to 20 minutes. Your target is to maintain your heart rate continuously at the correct strain level.

### 8.5 Weight reduction: the benefits

Most beginners primarily wish to reduce body weight, the adipose tissue. Regular training stimulates the metabolism, which leads to a higher burning of calories, both during training and at rest.

Most beginners get the most aerobic benefit from a strain level of 70 % of the maximum heart rate. Increasing fitness requires an adaptation of training intensity. However, the assumption „The harder the training the greater the progress in fitness“ is wrong.

If a certain strain limit is exceeded, the benefits from aerobic training drop dramatically because the body can no longer provide the muscles with oxygen and instead produces large amounts of lactic acid, and this will make us stop training very fast.

A strain level just below the anaerobic threshold enables us to exercise substantially longer. This way, we will burn a lot of fat and simultaneously strengthen our aerobic system optimally.

## 8.6 Training tips

During training on our exercise machines, your heart rate should not exceed a certain upper limit. Training in the aerobic range requires us to train below this limit. It can be set according to a doctor's specifications, tests in performance diagnostics or general rules of thumb.

The heart rate upper limit is calculated using the following rule of thumb:

$$180 - \text{age} = \text{Heart rate upper limit}$$

As an example, a 50-year-old man would have a maximum heart rate of 130 beats per minute and a 30-year-old person of 150 bpm etc.

## Chapter 9 Maintenance

9.1	Care and maintenance .....	52
9.2	Cleaning .....	53

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 9 Maintenance

All exercise machines used for commercial purposes need to undergo regular a safety inspection/maintenance test.

Regular, thorough care and appropriate maintenance in particular contribute to preserve the value and lifetime of your exercise machine. For this reason, we recommend regular preventive maintenance. Once per week, inspect the casing, seat and its guiding, handlebar and pedals for damage. In case of a damage, have it repaired immediately. These regular inspections are essential for compliance in case of guarantee claims. In case of a malfunction, ERGO-FIT's technicians and engineers are pleased to assist you.



Before switching on the machines, always make sure that mains cable, mains plug, mains socket and power connection units are free from defects.

### Immediate maintenance works are to be carried out if:

- ⊗ the machine has undergone extreme mechanical stress (impact, damaged cable, or inappropriate tensile strain),
- ⊗ liquid has entered the machine,
- ⊗ cables, plug-in connectors or casings are damaged,
- ⊗ covers have dropped.

Maintenance of the machine may be carried out by ERGO-FIT's customer service department. A maintenance contract may be concluded also.

### 9.1 Care and maintenance

During manufacturing of its training machines, ERGO-FIT makes every effort to reduce future maintenance.

In the following chapters, some of the maintenance and verifications are described. You should carry out these tasks regularly.



Switch off and unplug the machine before any maintenance is carried out or the machine is opened.

When carrying out maintenance, consider the following:

- ⊗ This machine requires very little maintenance.
- ⊗ Moving parts need no further oiling or greasing.
- ⊗ Once per week, inspect the seat, the handlebar, the pedals, and the casing for damage. If the machine is damaged, have it repaired immediately

### Treadle

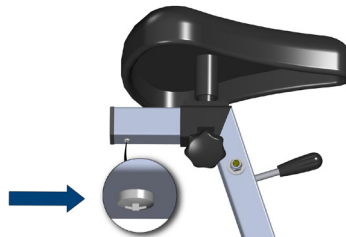
- ⊗ As screws tend to loosen over time, you should check the treadles and pedals after 3 to 5 operational hours for the first time, then every month. Note that the left pedal has a left-handed thread and the right pedal has a right handed thread.
- ⊗ If a treadle loosens, screw it on again tightly immediately. To do this, remove the black cap from the crankshaft and retighten the screw underneath with a 14 mm (1/4 inch) socket wrench. The pedal can be retightened to the crankshaft with a 15 mm open-end wrench.

### SPO<sub>2</sub>-module

- ⊗ This module is almost maintenance-free.

### Seat

- ⊗ Make sure that the stop bolt is underneath the seat post and that it is screwed in tightly. If the stop bolt is damaged or missing, the unit must be taken out of service and repaired by qualified personnel. Otherwise there is a risk of injury.



## 9.2 Cleaning

Sweat, dust particles and dirt will damage your exercise machine. This can be observed after only a few weeks. Metal and aluminium parts of your machine may alter its surfaces in combination with sweat. For this reason, you should clean your machine daily.

To clean your exercise machine we recommend disinfectant „Ecolab P3-steril“ or „Scarabig“. This product is available at:

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

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

### During cleaning, consider the following aspects:

- ⊗ Make sure to disconnect the mains plug before cleaning your machine.
- ⊗ Clean your machine with a damp cloth, mild cleaning agent or soap suds only and dry it with a soft cloth.
- ⊗ Avoid any oiling or greasing of the machine's outside.

### Cleaning the SPO<sub>2</sub> Clip:

Before cleaning the SPO<sub>2</sub> module disconnect the connectors at the control panel.

- ⊗ Clean the sensor with a soft, damp cloth and a mild detergent. The manufacturer recommends Klenzyme by Steris Corporation.
- ⊗ Do not use aggressive disinfectants. Sensors can be damaged. The manufacturer recommends isopropanol (70%) or high level disinfection with CIDEX OPA by Johnson and Johnson Corporation.

## Chapter 10    Troubleshooting

10.1	Identifying the cause of failure .....	58
------	--	----

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## 10 Troubleshooting

Despite the high quality of our ERGO-FIT products, occasional disturbances might occur in rare cases. The target of this chapter is to inform you of the possible causes of these disturbances and to give you the possibility to avoid them. If you assume a technical defect, the machine must no longer be used for safety reasons. If you cleared a defect yourself, it would be very helpful for us if you communicate this defect to us immediately. This allows us to record the failure in the model's documentation file, and this in turn allows for quality improvement.



For safety reasons, unplug the machine before any work is carried out or the machine is opened!

### 10.1 Identifying the cause of failure

Malfunctions often have a simple cause. However, defective components are sometimes at fault. This chapter provides you with guidelines to resolve possible problems. If the recommendations listed are not successful, please contact our service department immediately. Our service team will be pleased to help you.

#### Please proceed as follows in case of failure:

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

- ⊗ The fuse box is located on the machine's power input module. Pull out the fuse box and check if a fuse is defective (CARDIO LINE 400 MED).
- ⊗ Did you use an extension cable or a multi-outlet power strip? Always connect your machine directly to the mains socket.
- ⊗ Check the mains socket. Plug in a different electric device to check the mains socket.
- ⊗ Pull the mains plug out of the mains socket and visually inspect the mains cable.

An error message appears on the display

- ⊗ Write down this message immediately after the appearance of the error message.
- ⊗ Assess the frequency of this error. If yes: when and how often does the error occur?
- ⊗ Check if more electric devices were connected in parallel. If so, which?
- ⊗ Check if a button has been pressed when the error message was displayed.



- ⊗ If you were not present when the error message was displayed, ask the user about the exact progress of events.
- ⊗ If an error message appears on the display, please ask our service team

**Possible malfunction of the SPO<sub>2</sub> module:**

No oxygen measurement

- ⊗ Wrong sensor

SPO<sub>2</sub> measurement returns zero

- ⊗ Operating voltage too high or too low.
- ⊗ Operating temperature too high or too low.
- ⊗ Malfunction because of alternating electric voltage.
- ⊗ Too much ambient light.



## Chapter A      Appendix

A.1	Customer service .....	62
A.2	Spare parts .....	62
A.3	Technical specifications .....	62
A.3.1	CARDIO LINE 400 .....	63
A.3.2	CARDIO LINE 400 MED .....	64
A.4	Electromagnetic interference immunity .....	65
A.5	Safety regulations .....	68
A.5.1	Safety instructions .....	68
A.5.2	Mark of conformity .....	69
A.5.3	Pictographs .....	70
A.6	Error margins .....	71
A.7	Test evaluation .....	72
A.8	Warranty clauses .....	73
A.9	Entry in the registry of medical devices .....	75
	Safety indications.....	79

**Please note:**

This owner's manual contains information on multiple gym machines.  
There may be variations in detail according to the type of machine!

## **A Appendix**

### **A.1 Customer service**

If you cannot correct a malfunction yourself, please get in touch with our customer service.

Service: Phone: +49 (6331) 2461-20 international  
+49 (6331) 2461-45 international  
+49 (6331) 2461-23 national  
+49 (6331) 2461-27 national  
+49 (6331) 2461-29 national  
Fax: +49 (6331) 2461-55  
E-Mail: service@ergo-fit.de

Repairs of ERGO-FIT machines are carried out by highly qualified and competent service technicians. Only original spare parts are used for repairs.

### **A.2 Spare parts**

Spare parts and current exploded views are available from ERGO-FIT's service department:

Service: Phone: +49 (6331) 2461-20 international  
+49 (6331) 2461-45 international  
+49 (6331) 2461-23 national  
+49 (6331) 2461-27 national  
+49 (6331) 2461-29 national  
Fax: +49 (6331) 2461-55  
E-Mail: service@ergo-fit.de

When ordering, please provide the following information:

- ⊗ Model
- ⊗ Serial number
- ⊗ Name of the spare part
- ⊗ Number of the spare part

### **A.3 Technical specifications**

This chapter provides the technical specifications for your cardio exercise machine. The specifications are listed in separate charts for each model of the CARDIO LINE 400 series.

## A.3.1 CARDIO LINE 400

Model	CYCLE 400	CYCLE 450
Supply voltage 48-60 Hz	220 - 240 V ~	220 - 240 V ~
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 inertia	11 +/- 2kg·m <sup>2</sup>	11 +/- 2kg·m <sup>2</sup>
Dimensions in cm (L/B/H)	120/62/140	120/62/140
Weight	approx. 49 kg	approx. 49 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 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, accuracy of ECG	1 channel, accuracy of ECG
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
Interfaces	-	-

**A.3.2 CARDIO LINE 400 MED**

Model	CYCLE 407 MED	CYCLE 457 MED/MED SPO <sub>2</sub>
Supply voltage 48-60 Hz	220 - 240 V ~	220 - 240 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 inertia	11 +/- 2kg·m <sup>2</sup>	11 +/- 2kg·m <sup>2</sup>
Dimensions in cm (L/B/H)	120/60/140	120/60/140
Weight	approx. 49 kg	approx. 49 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, COUNTDOWN	MANUAL, PROFILES, WHO-PROFILES, TEST, CARDIO, COUNTDOWN, ECG SELECT
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, acuracy of ECG	1 channel, acuracy of ECG
Heart rate dependent strain control	with POLAR sender	with POLAR sender
Activation	rpm-independent	rpm-independent
Max. body weight	180 kg	180 kg
Interfaces	-	RS 232  SPO <sub>2</sub> module (only 457 MED SPO <sub>2</sub> )

## A.4 Electromagnetic transmission and interference immunity

### Electromagnetic transmission

Products made by ERGO-FIT are designed for use in the environments listed below. Please make sure to use the product in the appropriate environment.

Measurement of emitted interference	Compliance	Electromagnetic environment
HF emission in compliance with CISPR 11	Group 1	The product uses HF energy for internal function only. For this reason, HF emission is very low and therefore, interference with adjacent electronic devices is unlikely.
HF emission in compliance with CISPR 11	Class B	
Emission of harmonics in compliance with IEC 61000-3-2	not applicable	
Emission of harmonics in compliance with IEC 61000-3-3	not applicable	

### Electromagnetic interference immunity for non-life support devices

Products made by ERGO-FIT are designed for use in the environments listed below. Please make sure to use the product in the appropriate environment.

Interference immunity test	IEC 60601-test level	Compliance level	Electromagnetic environment
Conducted HF disturbance in compliance with IEC 6100-4-6	3 Veff 150 kHz to 80 MHz	3	
Conducted HF disturbance in compliance with IEC 6100-4-3	3 V/m 80 MHz to 2,5 GHz	3	

**Electromagnetic interference immunity CARDIO LINE 400/400 MED**

Products made by ERGO-FIT are designed for use in the environments listed below. Please make sure to use the product in the appropriate environment.

Inference immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment
Discharge of static electricity in compliance with IEC 61000-4-2	+/- 6 kV contact discharge	6 kV	Floors should be made of wood, concrete or laid with ceramic tiles. If the floor is laid with synthetic materials, the relative humidity must be greater than 30 %.
	+/- 8 kV air discharge	8 kV	
Electrical fast transient bursts in compliance with IEC 61000-4-4	+/- 2 kV for mains cable +/- 1 kV for lead in and lead out		The quality of the supply voltage should conform to a typical business or hospital environment.
Surge voltages in compliance with IEC 61000-4-5	+/- 1 kV opposedmode voltage  +/- 2 kV common voltage		The quality of the supply voltage should conform to a typical business or hospital environment.
Voltage dips, shortterm loss and fluctuations of the supply voltage in compliance with IEC 61000-4-11			The quality of the supply voltage should conform to a typical business or hospital environment.
Magnetic field induced by supply frequency (50/60 Hz) in compliance with IEC 61000-4-8			The magnetic fields induced by the supply frequency should conform to typical values as they can be found in a typical business or hospital environment



### Recommended protective distances between portable as well as mobile HF telecommunication devices and the ERGO-FIT product

Products made by ERGO-FIT are designed for operation in an electromagnetic environment where HF disturbances are controlled. To avoid electromagnetic interference, make sure to maintain the minimum distance between portable as well as mobile HF telecommunication devices and the ERGO-FIT product - depending on the output power - as indicated below.

Power output of the sender / W	Protective distance depending on transmission frequency / m		
	150 kHz to 80 MHz $d = 3,5/\sqrt{1}*\sqrt{P}$	80 MHz to 800 MHz $d = 3,5/\sqrt{E1}*\sqrt{P}$	800 MHz to 2,5 GHz $d = 7/\sqrt{E1}*\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,37	0,37	0,74
1	1,17	1,17	2,33
10	3,69	3,69	7,38
100	11,67	11,67	23,33

For senders whose maximum nominal output is not listed in the table shown above, the recommended protective distance  $d$  (in metres) may be calculated by using the equation belonging to the respective column, whereas  $P$  is the maximum nominal output of the sender (in Watts) indicated by the manufacturer of the sender.

Please note:

- ⊗ With 80 MHz and 800 MHz, the higher frequency range is applied.
- ⊗ These guidelines may not be applicable in all cases. The propagation of electromagnetic parameters is influenced by absorption and reflection of buildings, objects and persons.

## A.5 Safety regulations

### A.5.1 Safety instructions

To protect the user, the Verband Deutscher Elektrotechniker e.V. (VDE, German electrical engineering technician association) published special instructions for electromedical devices and rooms used for medical purposes.

According to these instructions, devices connected to the grid must be equipped not only with a reliable insulation of live parts but also with an additional protective measure to protect the user against the transfer of the supply voltage to touchable metal parts. For this purpose, VDE subdivides so-called protection classes.

Of the protection classes allowed for electromedical devices, in most cases protection class I (protective measures with protective earth conductor) as well as protection class II (protective measures without protective earth conductor but double insulation) are used:

In protection class I devices, metal casing parts are connected with the protective earth conductor of the grid through its earthing contact. In case of insulation failure, the upstream circuit breaker will close the circuit.

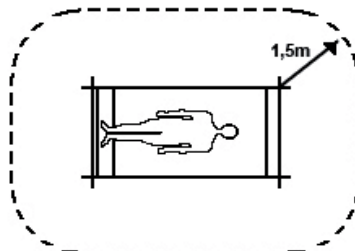
The CYCLE models of the CARDIO LINE 400 are classified as protection class II devices. The CYCLE models of the CARDIO LINE 400 MED are classified as protection class I devices.

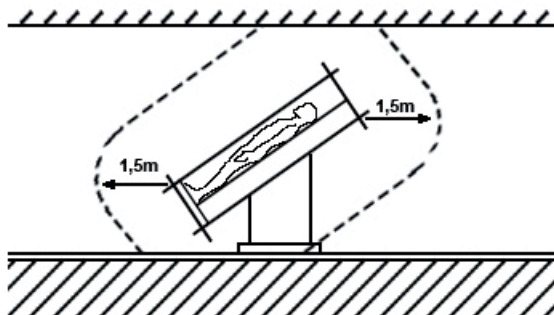
In the user's environment, parts of non-medical electric devices, which are touchable after removing covers, connection devices etc. during routine maintenance, must operate with a tension not exceeding 25 Volts of alternating current or 60 Volts of direct current. In addition, the tension of the power supply must be produced by a separate power source as described in IEC 601-1.

In this case, such a part of the device and the user must not be touched simultaneously.

The use of electromedical devices is restricted to safety-relevant innocuousness taking account of the state of the art, health and safety regulations and accident prevention. Protective measures must be taken to avoid both direct and indirect contact. Covers, coatings, insulation of energized parts in combination with protective measures using protective earth conductors (in compliance with protection class I), melting fuses as well as the observation of distances between devices are all part of this.

The distance to be maintained is 1.5 metres as a practical value. With this distance, two training devices cannot be connected conductively by a person and it is unlikely that users will receive an electric shock while training.





The instructions given in this chapter refer to the safety model as it is recognised in Germany. These instructions may vary in other countries.

### A.5.2 Mark of conformity

ERGO-FIT CARDIO LINE 400 MED devices are manufactured under the strictest safety and quality control measures. They are designed for commercial use. CARDIO LINE 400 HOME devices are approved for home use. Please refer to the declarations of conformity concerning the applied standards and guidelines (please contact the ERGO-FIT team).

The type label on the device contains the information as shown in the drawing below (example taken from CYCLE 407 MED):

<b>MADE IN GERMANY</b>	
 Blocksbergstraße 165 D-66955 Pirmasens +49 6331/2461-0	Typ CYCLE 407 MED Baujahr 2012 Benutzer-gewicht max. 180 kg
	CE0297 230V ~ 48-60Hz 0,4A T 1,6A
	IP 21 Serial No. 1000035789












Contact protection: with finger Foreign matter protection: medium-sized objects (diameter greater than 12.5mm)  
 Water protection: Water dripping vertically  
 Electrical waste  
 Please note user manual

CE mark (for medical devices)  
 Fuse model  
 Type B  
 Mains supply values

### A.5.3 Pictographs

The pictographs used on ERGO-FIT devices comply with the standards IEC 417 and IEC 878.

The following pictographs are used:

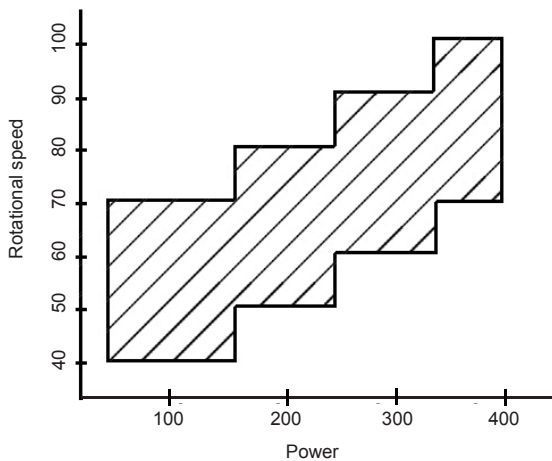
-  Alternating current
-  Earthing terminal
-  Earthing
-  Potential compensation
-  Devices of protection class II
-  Danger! See accompanying documents
- O** OFF (Power supply, connection with the grid)
- I** ON (Power supply, connection with the grid)
-  Device of type B
-  Device of type BF
-  Dangerous electric tension
-  Please note user manual
-  Electrical waste
- IP 21** Contact protection: with finger  
Foreign matter protection: medium-sized objects (diameter greater than 12.5 mm)  
Water protection: Water dripping vertically

### A.6 Error margins

The following error margins are valid for the CYCLE models of the CARDIO LINE 400 MED series in compliance with the standard DIN VDE 750-238:

1. The read-out error of the wattage  $p$  must not exceed  $\pm 5\%$  of the displayed value. However, the read-out error is not required to fall below  $\pm 3W$ .
2. The read-out error of the rotational speed  $n$  is set to a maximum of  $\pm 2 \text{ min}^{-1}$  above  $40 \text{ min}^{-1}$ .
3. The measuring device to assess the output calculated on the base of deceleration torque and the rotational speed of the treadle ergometer must not exceed an error margin of  $1\%$ .

The characteristic curve family of the deceleration torque control's work capacity can be assessed from the following figure:



The work capacity is shown on the display as follows:

As shown right to the rotational speed (CYCLE 450/457/457 SPO <sub>2</sub> ) 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.7 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.

## A.8 Warranty clauses

Warranty of 2 years (see general terms and conditions, point 8.1 guarantee „ERGO-FIT grants 2 years guarantee for its own products. In the first year the travel expenses and occurring working hours within Germany are borne in addition to the spare parts. In the second year only the spare parts. For merchandise the guarantee provisions of the respective manufacturer apply accordingly“)

The seller shall be liable, to the exclusion of other liability, for deficiencies of the delivery, of which the absence of expressly affirmed properties is part, as follows:

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.

Wear parts are excluded from warranty specifications, e.g.:

- ⊗ pedal string
- ⊗ handle bar tube
- ⊗ seat
- ⊗ toothed belt
- ⊗ chains
- ⊗ lever to fasten the handle bar
- ⊗ pedals
- ⊗ seat, tread, handle bars
- ⊗ fuses
- ⊗ freewheel
- ⊗ SPO<sub>2</sub> module

The warranty is voided if maintenance instructions are not observed!



## A.9 Entry in the Registry of medical devices

In compliance with Art. 11 para. 7 and Art. 7 of the regulation on the erection, operation, and use of medical devices („MPBetreibV“) as of June 29, 1998 (BGBt 1. p. 1762), 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.

### Operator:

Company: \_\_\_\_\_

Contact person: \_\_\_\_\_

Street: \_\_\_\_\_

Post code, place: \_\_\_\_\_

### Manufacturer:

ERGO-FIT GmbH & Co. KG, Blocksbergstraße 165, D-66955 Pirmasens

### Device identification

Device designation: \_\_\_\_\_

Model: \_\_\_\_\_

Serial number: \_\_\_\_\_

### Measuring method and evaluation:

- Leitfaden zu messtechnischen Kontrollen (LMK)
- Appendix 15 or appendix 23 of calibration regulations (EQ 15 or EQ 23)
- 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**

\_\_\_\_\_  
Signature

**Measuring method and evaluation:**

- Leitfaden zu messtechnischen Kontrollen (LMK)
- Appendix 15 or appendix 23 of calibration regulations (EQ 15 or EQ 23)
- 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**

\_\_\_\_\_  
Signature**Measuring method and evaluation:**

- Leitfaden zu messtechnischen Kontrollen (LMK)
- Appendix 15 or appendix 23 of calibration regulations (EQ 15 or EQ 23)
- 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**

\_\_\_\_\_  
Signature

### Registration of medical devices add-in card

**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  
Next inspection: \_\_\_\_\_  
by (person's name): \_\_\_\_\_

4. Safety inspection/maintenance test: recommendation every 12 months  
Next inspection: \_\_\_\_\_  
by (person's name): \_\_\_\_\_

5. Date, type and consequence of the defect and repeated identical operating fault:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Reports of incidents to authorities and manufacturer:  
\_\_\_\_\_  
\_\_\_\_\_



## Safety indications CARDIO LINE 400

- ⊗ 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.
- ⊗ 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.
- ⊗ Once per week, check the moving parts and the casing for damage. If the machine is damaged, have it 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.

*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! If 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.*

## Safety indications CARDIO LINE 400 MED

- ⊗ 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.
- ⊗ Once per week, check the moving parts and the casing for damage. If the machine is damaged, have it 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.

*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! 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.*





**ERGO-FIT GmbH & Co. KG**

Blocksbergstraße 165 – D-66955 Pirmasens  
Phone: +49 (6331) 2461-0 – Fax: +49 (6331) 2461-55  
info@ergo-fit.de – www.ergo-fit.de