

Treadmill Ergometer Continuum



Translation of the original German Operating Manual

Edition: 02/2021-v1.4en



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2 Introduction

2.1 Operating Instructions Information

This manual provides information on the safe operation of the WOODWAY CONTINUUM treadmill.

One condition for safe operation is compliance with all safety and operating instructions.

A CAUTION

Improper operation can cause accidents!

Not using the CONTINUUM treadmill as intended according to the manufacturer's instructions can cause accidents and equipment damage.

- ► These operating instructions must be completely read and understood before using the treadmill.
- ► Keep these instructions close at hand for all users of the device.

Read and observe the operating instructions!



Read these instructions carefully before beginning any work on the treadmill! It is a part of the device and must be kept accessible at all times and in the immediate vicinity of the treadmill for operating and maintenance personnel.

Observe the instructions!

WOODWAY GmbH accepts no liability for accidents, equipment damage and consequences of equipment failure that are a result of failure to follow the operating instructions. In addition, the local accident prevention regulations and general safety conditions for intended use of the treadmill apply.

The manufacturer reserves the right to make technical changes in the context of improving the performance properties and further development without prior notice. Illustrations are for basic understanding and may differ from the actual design of the device.

Accessories from other suppliers have further safety regulations and guidelines. These must also be observed.

2.2 Limitation of Liability

All information and instructions in this manual have been compiled in accordance with applicable standards and regulations, the current state of technology and our knowledge and experience.

WOODWAY GmbH accepts no responsibility for damages resulting from:

- disregarding the operating instructions
- improper use
- use by non-authorized persons
- use of replacement parts which were not approved by WOODWAY GmbH.
- unauthorized modifications to the device or accessories.

The WOODWAY GmbH general terms and conditions and delivery conditions apply, as well as the legal regulations valid at the time of contract conclusion.



2.3 Copyright

The release of the operating instructions to third parties without the written permission of **WOODWAY GmbH** is prohibited.

NOTE

All contents, text, drawings, images or other illustrations are copyright protected and are subject to intellectual property rights.

Any misuse is punishable by law!

Duplication in any manner and form - including excerpts - as well as use and/or communication of the content are not permitted without written permission from **WOODWAY GmbH.**

2.4 Replacement Parts

WOODWAY GmbH recommends the use original replacement parts. Original replacement parts have particular qualities and ensure reliable and safe operation;

- development for specific use with the device,
- manufacture in high quality and excellence,
- ensuring the legal warranty period (excluding wear parts) or other reached agreements.

NOTE

The use of NON-original replacement parts may change the characteristics of the device and interfere with the safe use!

WOODWAY GmbH does not accept liability for damages resulting from this.

Disposal! Wear parts are considered hazardous waste!

After being replaced wear parts must be disposed of according to country-specific waste laws.

For further information on disposal, see section 12 page 81.



2.5 Customer Service

For service questions, please contact as follows:

WOODWAY GmbH

Steinackerstr. 20 79576 Weil am Rhein GERMANY

Contact: Tel. +49 (0) 7621 - 940 999 - 14

Fax. +49 (0) 7621 - 940 999 - 40 Email: service@woodway.de

For faster processing of your request please have the following data and information available:

- Information on the nameplate (specific model/serial number)
- An accurate description of the circumstances
- What action has already been taken

Servicing:

When servicing on site the device must be disconnected from the power supply by a qualified electrician so that the device cannot switch on accidentally.

The address of your local service center can be obtained from the manufacturer. After repair or re-commissioning, the actions listed under "Installation" and "Commissioning" are to be performed as during commissioning.

2.6 **EC Declaration of Conformity**



EC Declaration of Conformity EG Konformitätserklärung

Manufacturer: European Representative: Europäischer Repräsentant: Hersteller:

WOODWAY USA Inc. WOODWAY GmbH W234 N700 Busse Rd. Steinackerstr. 20 Waukesha, Wisconsin 53188 79576 Weil am Rhein

Germany Phone: +49 (0) 7621-940999-0 Phone: +1 262-548-6235 E-Mail: info@woodway.com E-Mail: info@woodway.de Web: http://www.woodway.com Web: http://www.woodway.de

Notified Body: Polish Centre for Testing and Certification

Benannte Stelle: 23A Klobucka Street 02-699 Warsaw Poland

Hereby the manufacturer declares in sole responsibility that the product in the form as delivered and described below is

in conformity with the following European Directives:
Hiermit erklärt der Hersteller in eigener Verantwortung die Übereinstimmung der nachfolgend aufgeführten Produkte in der gelieferten Ausführung mit den anwendbaren EG-Richtlinienanforderungen:

Directive 93/42/EEC / 2007/47/EC (Medical Devices) Richtlinie 93/42/EWG / 2007/47/EG (Medizinprodukte)

Directive 2006/42/EC (Machinery) Directive 2011/65/EU (RoHS) Richtlinie 2006/42/EC (Maschinenrichtlinie) Richtlinie 2011/65/EU (RoHS) Directive 2014/30/EU (EMC) Richtlinie 2014/30/EU (EMC)

Product designation: WOODWAY PPS SERIES Treadmill-Ergometer Produktbezeichnung: WOODWAY PPS SERIE Laufbandergometer

Product type: PPS 43 / PPS 55 / PPS 70 / Continuum Typenbezeichnung:

Models:

Ortho / Med / Plus Ausführungen:

Classification: IIa (per Annex IX Directive 93/42/EEC)

Klassifizierung: IIa (gemäß Anhang IX der Richtlinie 93/42/EWG)

Annex II of Directive 93/42/EEC **Conformity Assessment Process:** Konformitätsbewertungsprozess: Anhang II der Richtlinie 93/42/EWG

The C E 1434 mark gets affixed to the product.

Das € 1434 Kennzeichen wird auf den Produkten angebracht.

IEC 60601-1:2005 + Cor. :2006 + Cor. :2007 + A1:2012 Used standards:

Angewandte Normen: IEC 60601-1-2:2014 EN ISO 10993-1: 2009

EN 957-6:2010+A1:2014 (Class A, S) EN ISO 13485: 2016 EN ISO 14971:2012 EN 60601-1-6: 2010 EN 62366-1:2015 EN ISO 20957-1:2013

The declaration of conformity is valid for all the models listed above, which were produced on after 29 August 2019 by WOODWAY USA Inc. The validity of this declaration of conformity ends with the publication of a new declaration of conformity if this becomes necessary due to technical modifications or changes in the standards.

Die Konformitätserklärung gilt für alle oben gelisteten Modelle, die ab dem 29 August 2019 durch WOODWAY USA Inc. hergestellt worden sind. Die Gültigkeit dieser Konformitätserklärung endet mit der Veröffentlichung einer Konformitätserklärung neueren Datums, falls dies durch technische Änderungen oder durch gesetzliche Änderungen der Normen und Standards erfolgen muss.

Waukesha, USA August 29th 2019

Douglas/Bayerlein President WOODWAY USA, Inc.

Fig. 1 CE Declaration of Conformity



3.1 General

CONTINUUM treadmill has been reliably designed, manufactured and tested according to the latest state of technology and are in a safe and technically perfect condition. Nevertheless, the device can cause risk to persons and property if it is operated improperly.

For this reason the operating instructions should be read completely and safety instructions must be observed.

Warnings attached directly to the device must be observed and kept in a legible condition.

Inappropriate use will result in the rejection of any liability or guarantee by WOODWAY GmbH.

3.2 Description of Warning Notices

Warning notices indicate potential hazards or safety risks. They are indicated in this manual by a color-coded signal word panel (symbol with the appropriate signal word).

All warning notices have the same design and the same standardized content design.

Sample of a Warning Notice:

A SIGNAL WORD

Warning Text, Type and Source of Danger

Description of the consequences of ignoring the danger.

▶ Measures, instructions and forbidden actions to avoid the hazard.

Classification:

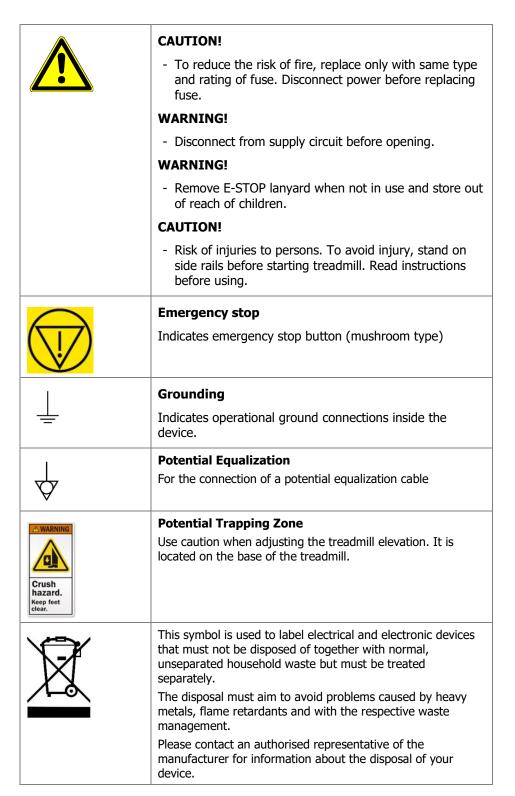
NOTE	NOTE or WARNING (no danger symbol) No risk of injury, pertinent information and warning against material damage.
A CAUTION	CAUTION (with danger symbol) Slight possibility of injury.
A WARNING	WARNING (with danger symbol) In a dangerous situation a serious accident is possible with the possibility of injury or death.
▲ DANGER	DANGER (with danger symbol) In the event of an accident immediate danger of death or serious injury.



3.3 Markings on Device

Safety relevant information is identified on the device using the following symbols:

	Refer to instruction manual
C E ₁₄₃₄	CE label according to Directive 93/42/EEC of the Council for Medical Products
	Manufacturer WOODWAY USA, Inc.
EC REP	European Representative WOODWAY GmbH
	Year of construction
SN	Serial number
†	Used part of type B
ОΙ	Mains switch (OFF/ON)
	Protective Ground Wire Connection CONTINUUM treadmills are electrical devices with protection class I.
4	Danger Due to Electric Voltage This symbol warns the user of dangerous voltage inside the device.
	Danger of Being Crushed This symbol warns the user of potentially being crushed.





3.4 Personnel Qualifications and Responsibilities

A WARNING

Danger Due to Improper Use!

Improper handling of the device can lead to serious personal injury and property damage.

- ► The device may only be operated by persons who have received instructions from qualified service personnel.
- ► WOODWAY GmbH recommends the use of a training record (see appendix) for proof of instructions.

Representative:

The representative is the person or company that is responsible for setting up, use and maintenance of the device.

The representative of the treadmill is responsible for the regular maintenance and testing as required by law. They are also obligated to provide adequate training/instruction to the operating personnel. WOODWAY GmbH recommends the training be carried out by trained and authorized WOODWAY dealer or service partner.

Operator:

Operators of treadmills for medical applications are persons who use the device and have the "power of control" over the device. This can be e.g. therapists, sports physicians or any other supervisor. The operator of a medical device is any person who - regardless of their qualifications - independently uses a medical product in the commercial sector.

The operator is personally responsible for the safety of the user (e.g. patient, test subject, athlete). Due to the high degree of responsibility these persons have a special obligation to provide information on all aspects of safety of the device and its intended use is required.

3.5 Intended Use

A WARNING

Danger from Improper Use!

Any improper use and/or other use of the device can lead to dangerous situations with significant personal injury and/or property damage.

- ▶ Only use treadmill for its intended use.
- ▶ Read and strictly adhere to all information in the operating instructions.

CONTINNUM treadmill for use in medicine is approved for the following applications:

- Endurance Training
- Diagnostics and Performance Testing of Patients in the Laboratory (e.g. Ergospirometry)
- Performance Diagnostics of Endurance
- Stress Testing (e.g. Exercise ECG)
- Gait Training and Gait Analysis
- Exercise Therapy/Rehabilitation Training in Rehabilitation (Locomotion Therapy)





In all fields of use the treatment of patients with a variety of physical and/or mental limitations is carried out (for example, gait impairments, limited reflexes, etc.).

Special User Groups!

Special attention must apply to these user groups. Compared to treadmill exercise with healthy people the risk of injury is considerably higher with these users. Strict adherence to and compliance with all safety instructions and operating information is the highest priority.

The patient may only use the treadmill under the supervision of a physician and/or therapist! The training program must be medically prescribed and monitored.

Body Weight Support!

For patients with an increased risk of falling, partial or complete body weight support through a weight support system is to be considered.

A WARNING

Risk of Injury Through Increased Risk of Falling!

Because of their illness or their physical/mental condition, certain people have of an increased risk of falling.

- ► Use of a fall protection system, support belt, body weight support system (partial or complete).
- ► The manufacturer is not liable for personal injury and/or property damage, which could have been prevented through the use of a fall protection system, support belt or body weight support system.

Locomotion Therapy:

In rehabilitation, exercise therapy must be medically prescribed. The attending physician and/or physiotherapist must have a sufficient knowledge of the indications and contraindications.

The indications for treadmill therapy are to be reevaluated prior to each use. The physician/physical therapist responsible for the patient must always perform a benefit/risk assessment, thus ensuring that the chosen form of treatment is medically appropriate and reasonable considering the possible risks.

Contraindications!

There are a number of contraindications in the context of the relevant fields of the treadmill use. In rehabilitation only the medical staff can determine the form and extent of therapy. Medications can have an influence on the rehabilitation (e.g. neuroleptics, benzodiazepines, barbiturates, antiepileptics, etc.).

For applications in "endurance training", "diagnostics and performance testing of patients", "performance diagnostics" and "stress tests" the same contraindications apply (among others) as with all physical stress. If there is doubt, it is important that a physician be consulted before using the treadmill.

Possible contraindications are: acute myocardial infarction or unstable angina pectoris (stress test), cardiovascular diseases such as severe high blood pressure at rest, carditis, congestive heart failure, severe valvular heart disease, dangerous heart arrhythmias at rest or aortic aneurysm

Acute illnesses, febrile conditions and newly occurring pain represent an absolute contraindication for physical stress. The feasibility of a training program for patients with chronic illnesses cannot be decided a priori and requires an accurate assessment of the risks and potential benefits.

In some situations (especially in patients with coronary heart disease or lung disease) overstraining can lead to an acute intensification of the patient's symptoms, so that an exercise ECG is essential and training is only possible under medical supervision.

In the following cases treadmill training may only be carried out after consultation with a doctor:

- Pregnancy
- acute thrombosis
- fresh wounds (e.g. after surgery)
- artificial joints or prosthetics
- bone fractures
- spinal disc damage
- traumatic injury to the spine
- diabetes
- epilepsy
- inflammation
- acute migraine headache
- cancer

The use of the automated operation (pulse automatic, preset programs, external control via computer or other device) is prohibited, unless the strain was authorized by a physician in accordance with the patient's capacity/health.

NOTE

Claims to the manufacturer of any kind due to damage from improper use are excluded.

The representative alone is liable for all damages resulting from improper use!

3.6 Unauthorized Modes of Operation

CONTINUUM treadmill may only be used for the aforementioned purpose. Any additional uses may result in serious personal injury and/or property damage.

The following restrictions and prohibitions must be strictly adhered to:

- The treadmill may not be used without prior instruction by qualified personnel.
- Animals and children may not use or be in the vicinity of the device (exception: see "Application Options for Children").
- The use of the treadmill under the influence of alcohol or drugs and/or narcotics is prohibited.
- The transportation of objects on the treadmill is not allowed.
- The walking surface is not suited for the use of running shoes with spikes or stude
- It is forbidden to use the treadmill without its side rails or with walking poles.
- The operation of WOODWAY CONTINUUM treadmill outside of the named ambient conditions in the section "Commissioning" (temperature, humidity, air pressure) as well as outdoors, i.e. outside of closed rooms is not allowed.
- For people with health limitations or contraindications (see previous section) the use of a treadmill without prior consultation by a health care professional is prohibited.
- When stepping onto the treadmill, during walking exercises and when stepping off of the treadmill the safety instructions in this manual must be observed. Here, the following restrictions apply:
 - Never jump on the moving belt!
 - Never jump off while the device is moving!
 - Never jump off of the front!
 - Never stop walking when the belt is moving!
 - Never turn around when the belt is moving!
 - Never walk sideways or backwards (even if authorized by a physician)!

- Never set the stress level (speed) too high!



3.7 Electromagnetic Compatibility (EMC)

It is expressly noted that ELECTRICAL MEDICAL EQUIPMENT is subject to special precautions regarding electromagnetic compatibility (EMC). They must be installed and operated accordingly.

The CONTINUUM treadmill meets the requirements of EN 60601-1-2 (Group 1, CISPR 11 Class A), EN 61000-3-2 and EN 61000-3-3.

It should be noted that portable and mobile RF communications equipment and other devices with interference beyond the permissible values can affect the electronics of the treadmill. This can influence the measurement functions and the displays cause treadmill malfunctions.

ATTENTION

The device is intended solely for use by medical professionals. The treadmill is a Class A device according to CISPR 11.

When located in living areas, the device can cause radio interference or disrupt the operation of equipment in the vicinity. It may be necessary to take appropriate remedial measures, such as changing the direction, realigning or shielding the treadmill or filtering the connection to the location.

Detailed information and proof relating to electromagnetic compatibility can be viewed at the manufacturer on request.



4 Technical Data

4.1 Name Plate

The nameplate contains the device's main technical details.

Keep handy for questions!

For service questions, the technical information on the nameplate must be kept handy.

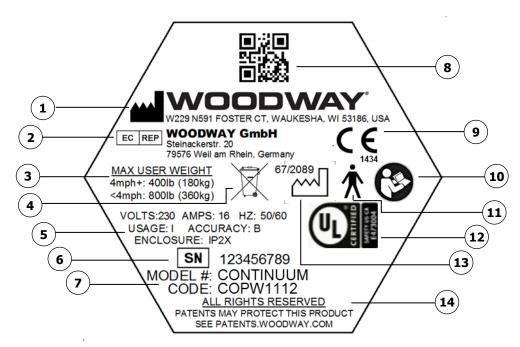


Fig. 2 Nameplate, sample

- 1. Manufacturer name and address
- 2. European Representative
- 3. Indication of the maximum person weight load
- 4. This symbol is used to label electrical and electronic devices that must not be disposed of together with normal, unseparated household waste.
- 5. Information on the electrical connection
- 6. Treadmill serial number; for WOODWAY Customer Service inquiries keep the device serial number handy
- 7. Model no. and product code
- 8. Quick Response (QR) code
- 9. CE marking of the device (with number of the named position)
- 10. Note to read and observe the operating instructions!
- 11. Electric device with type B application part, degree of protection against electric shock
- 12. UL Safety Mark
- 13. Year manufactured
- 14. Patent protection note



4.2 Technical Specifications

Parameters	Description
Walking surface (L x W):	132 x 55 cm
Usable walking surface (L x W):	127 x 55 cm
Walking surface / Technology: Walking surface hardness / Lateral play:	47 slats (replaceable) / Rubber on aluminum T-sections 38-43 Shore A / +/- 2 mm
Drive System	80 ball bearings, 8 roller guides
Overall dimensions (L x W x H):	183 x 99 x 155 cm
Weight *:	270 kg
Max. user weight (at max. 5 km/h):	180 kg (360 kg)
Walking surface above floor:	21cm
Ambient conditions for storage and transport:	Temperature: -30°C to +70°C Relative humidity: 20 - 95% (not condensed) Air pressure: 700 - 1060hPa
Ambient conditions for operation:	Temperature: +10°C to +40°C Relative humidity: 15 - 85% (not condensed) Air pressure: 700 - 1060hPa
Color	White
Interface cable:	Shielded null modem cable, maximum length 5m
Pulse measurement:	1-channel ECG accurate, chest strap Polar® T34 included in scope of delivery
PC-Software:	WOODWAY treadmill control software Vers. 3.0 in scope of delivery
Modifications for pit/platform installation:	on request
Power connection:	Earthed plug in accordance with CEE 7/7 ("Schuko plug" Type E + F) with earth (PE conductor), rated voltage 230 V AC, Rated current 16 A, 50/60 Hz Cord length: 2m
Fuse:	Supply: 16A type C ("slow"), Device: T10A, 250V~, 20 x 5 mm, type C ("slow")
Classification***:	Safety class I device, type B application part Degree of protection against ingress of water: IP2X
Mode of operation:	This device is designed for continuous operation.
Product life:	7 years
Drive motor:	2 hp Continuous (5 hp peak) brushless Servo
Lift motor:	AC motor
Power consumption****:	1.1kVA
Speed: Accuracy/ Resolution:	0+ 16 km/h (standard) +/- 0.1 km/h
Tolerance:	less than +/- 1%
Lift: Accuracy/ Resolution:	0 20 % +/- 0.4 % / +/- 0.1 %

^{*} The total equipment weight can increase by adding more options (e.g. fall protection, railing variations depending on model etc.).

** For performance tests, intense intervals or sprint training the runner's additional safety measures must be provided. In this case

WOODWAY strongly recommends the use of the all protection option with chest strap and emergency stop function to minimize the risk

of injury.

^{***} Classification according to EN 60601-1.

^{****} The maximum power consumption of the treadmill when running at maximum speed is 10 A at 240 VAC. The unit must therefore be connected to a correctly grounded and fused mains socket. Use a dedicated socket that is not used by any other electrical appliance. If an extension lead must be used, it must possess the following properties: 14 AWG minimum, grounded, maximum length 3 m.

4.3 Dimensions

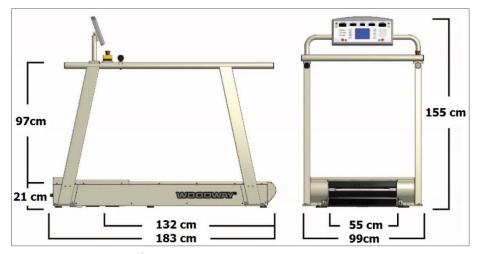


Fig. 3 CONTINUUM dimensions

4.4 Electrical Connection

A DANGER

Danger of Death by Electric Shock!

Improper handling of electrical equipment by unqualified persons can cause fatal electrical shock.

- ► If necessary, allow only qualified personnel to perform electrical installation.
- ► The power cord must not come into contact with hot surfaces or sharp edges.
- ► Electrical parts such as motor, power cord and power switch must not come in contact with water.

The WOODWAY CONTINUUM treadmills come standard with a grounded plug in accordance with CEE 7/7 (grounded "Schuko" plug). An appropriate "Schuko" socket is to be used on site.



Fig. 4 Power connection

- 1. Safety plug in accordance with CEE 7/7
- 2. "Schuko" socket on site



A 16 amp safeguard (circuit breaker) with tripping characteristic C (slow) is to be installed on site. No other devices may be connected to this supply line. Each treadmill must be operated on its own circuit breaker. The treadmill must be grounded.

Before connecting the treadmill to the power supply, the information on mains voltage and frequency on the nameplate are to be compared with the on-site connection values. Only connect the device if the values coincide! Power surges or voltage drops can cause malfunctions or defects in the device!

WARNING

Danger of Injury by Falling when Switching the Device Off!

A complete shutdown of the unit caused by power surges or voltage dips can cause abrupt deceleration of the running surface belt.

► In order to avoid malfunctions, all data on the nameplate must correspond with the actual terminal values!

Ungrounded outlets may NOT be used! The use of power strips is not permitted!

A WARNING

Danger of Injury by Tripping Over Wires!

Improperly installed wires represent a tripping hazard and danger of injury.

- ▶ Safe laying of power cords, interface cable, etc. outside of walking areas.
- ► The use of wiring channels.



Transportation and Storage

5 Transportation and Storage

5.1 Safety Notices for Transportation

Check the treadmill for damage upon arrival. Also check and compare supplied accessories with the corresponding delivery note.

The manufacturer is not liable for damages and missing parts if this information was not recorded in writing on the delivery note upon delivery of the unit. Damage or defects must be reported to the carrier and to the responsible WOODWAY dealer immediately.

WARNING

Risk of Injury by Machine Falling Over!

Improper transportation of the device may lead to it falling over and causing injury or equipment damage.

- Only transport in compliance with the safety regulations.
- ► Carry the device with at least four persons.
- ► Ensure stable center of gravity and steadiness in all described modes of transportation.

WOODWAY Service:

If necessary, treadmill transport or relocation can be carried out by authorized WOODWAY service partners.

For further information please contact WOODWAY customer service.

5.2 Flat Transportation

The treadmill can be easily transported on a flat surface using of **four** flat transport dollies (commercial transport dollies with 4 steerable wheels). In this situation the device weight must be considered.

It is important to ensure that the device frame near the treadmill feet rests on the dollies. Otherwise there is a risk of damage to the walking surface or the lifting system.

5.3 Upright Transportation

For narrow transport routes it is possible to transport the treadmill vertically (for example, narrow door width or for climbing stairs).

For this handrails and side panels must be removed beforehand. If a transport dolly is used, the device must not rest on the electronics side! The electronics are located in the right side when facing in the walking direction!

When transporting in an upright position, the device must be additionally secured against accidental tipping or rolling since the center gravity is not in the middle of the device.



Transportation and Storage

5.4 Transportation with Carrying Poles

Four carrying poles (square steel pipes) are included as treadmill accessories. The carrying poles can be inserted into the front and back openings provided in the treadmill frame (Fig. 5 and Fig. 6).

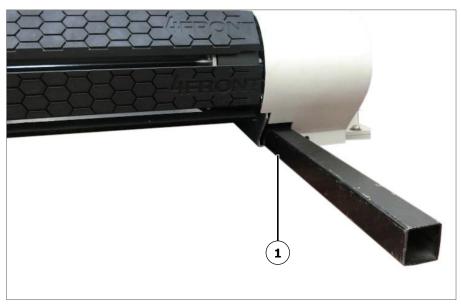


Fig. 5 Carrying poles

1. Use of carrying poles, CONTINUUM back openings
The treadmill may only are lifted at the indicated points.

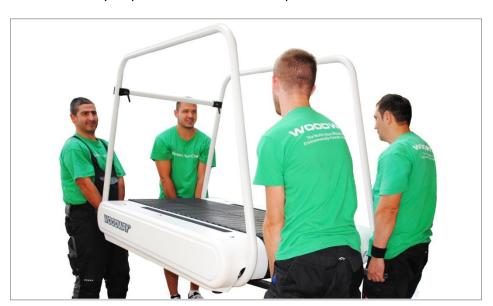


Fig. 6 Treadmill transportation with carrying poles



Transportation and Storage

5.5 Storing

The device may only be stored in closed, dry rooms. Direct contact with moisture (rain, fog, etc.) can cause serious damage to the electronics of the treadmill and must be strictly avoided.

The following environmental conditions are prescribed for transportation and storage:

• Temperature: -30°C to +70°C

• Relative humidity: 20 - 95% (not condensed)

• Air pressure: 700 - 1060hPa

6 Product Description

Experience a lower RPE (rated perceived exertion), less impact, and less muscle fatigue with the CONTINUUM. With a low profile 21 cm step height and an absolute zero start speed, patients will appreciate the safety and usability that the most comfortable and accessible rehabilitation platform has to offer.

Fully equipped with durable medical grade parallel handrails and a convenient console with pre-loaded ACSM Tests, the Continuum provides your patients and you with the confidence you need for infinite therapy possibilities.



Fig. 7 CONTINUUM treadmill



6.1 Main Components

The main components are shown below:



Fig. 8 Device components

- 1. Parallel rails
- 2. Remote control (keypad with magnetic mount)
- 3. Walking surface belt
- 4. Display
- 5. Emergency stop button with magnetic mount
- 6. Emergency stop magnet, pull-cord (lanyard) and clip
- 7. Power console

6.2 Description of Components

Walking surface belt:

The patented walking surface consists of 47 slats which are mounted on a set of endless combination wedged-toothed belts. These are connected with the drive via a gear wheel. The teeth prevent slippage and allow for exact reproduction of the distance.

The individual slats consist of two components. The base is a solid aluminum profile and the tread rubber comprises a rubber compound. The combination provides for an exceptionally pleasant feel when walking.

The rubber surface significantly reduces the impact energy. Thus WOODWAY treadmills are much easier on the joints than conventional treadmills.

Support system

The support system consists of two supporting rails (secondary carrier), which are equipped with high-performance bearings. Six V-belt guides on each carrier ensure lateral stability.

The system which consists of a total of 80 ball bearings supports the running surface and distributes the load evenly over the entire treadmill. The running surface belt (slats and steel wire reinforced toothed V-belt) is guided by a form-fitted drive pulley on the front and back. The combination of running surface / secondary carrier / drive pulleys makes this slat system unique:



- Low friction (energy saving) and low wear (approx. 240,000 km functional service life)
- 100% power transfer through the form-fitted toothed V-belt system (Reproducible measurements)
- High service life (one running surface belt for one treadmill life)

Lifting system: (incline)

The CONTINUUM treadmills have lifting scissors with casters. This makes a maximum incline of 20% possible. The lifting system is driven by a linear AC motor, which changes the angle of the scissors. This changes the incline of the running belt.

The incline system is characterized by a very quiet operation. The system accuracy is 0.1% and \pm 0.4 degrees.

The end switches limit the distance covered by the lifting system and are constantly in use.

Power console:

The main power switch, the fuses and the terminals for optional controls are located on the power console.



Fig. 9 Power console

- 1. Power cord
- 2. Power switch
- 3. 2 x fuses, change see section 10.5 Page 77

6.3 Control and Display Elements

Standard Medical Display

The keys on the display panels are membrane-type switches, with which complete control of the device is possible. The emergency switch is a magnetic sensor which detects the presence of a magnet and switches the treadmill off immediately when the magnet is removed.

There are 5 indicators, each with 7 segments with which program statistics are displayed. The 4-digit displays are programmed to display the time in the 00:00 format.



Fig. 10 Standard Medical Display

Personal Trainer Medical Display

The keys in the display fields allow the user to type in command parameters to control treadmill operation. The user can also monitor training progress. The emergency switch is a magnetic sensor which detects the presence of a magnet and switches the treadmill off immediately when the magnet is removed.

There are 5 indicators each with 7 segments with which program statistics are displayed. The 4-digit displays are programmed to display the time in the 00:00 format.

The numeric keypad is used for CSAFE compatibility and has no other function.

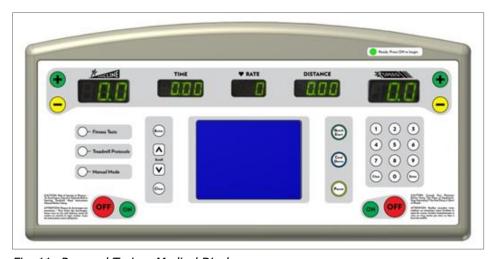


Fig. 11 Personal Trainer Medical Display

In the LCD display with a resolution of 320×240 pixels, the user's program selection profile and the progress during training are shown. With the program profiles, the speed and incline curves are shown in charts.

The heart rate is measured using an ANT+ and POLAR® compatible receiver.



NOTE

The measurement of the heart rate via grips is not as exact as EKG and is only considered an approximation.

Keypad

The keypad can be attached to a suitable point on the handrail so that the controls are easily accessible to the runner.

The magnetic mount makes it possible to remove the keypad from the railing. In this way the runner's supervisor can use the keypad as a remote control.

The hand keyboard enables use of the treadmill's elementary functions:

- speed (+ / -)
- incline (↑ or ↓)
- stop the treadmill
- pause the treadmill



Fig. 12 WOODWAY keypad

6.4 Safety Equipment

The CONTINUUM treadmills are equipped with different safety equipment depending on model and design. When needed, they serve to prevent dangerous situations and to reduce the risk of injury to a minimum. The following safety equipment is available:

- Emergency stop button(s) on the railing, or emergency stop button on display
- Emergency stop pull-cord with magnetic switch (emergency stop rip cord with magnetic switch) on the display or on the emergency stop button on the railing
- Non-slip coating on the side panels (allows emergency dismount by "straddling")

WARNING

Dangerous Situations During Operation Which Can Cause Injury!

Conditions during use of the device that do not correspond to the normal function and require an immediate stop. Each actuation of the Emergency stop switch causes a power disconnection to the drive system which in turn causes the running surface to emergency stop, which presents an additional risk of falling!

- ► Immediate stopping of the device/drive caused by an installed safety device.
- Switching off the device (Power button) and the pulling the power cord from the socket.
- Clarification and elimination of causes of the dangerous situations only by the WOODWAY Customer Service.
- ▶ Only restart the device after approval by WOODWAY customer service.

Emergency stop switch

The emergency stop button (mushroom type) is mounted on the right hand railing of the CONTINUUM treadmills. Activating the emergency stop system causes immediate power disconnection to the drive system. The running surface is stopped so that it comes to a stop in a reasonably short time, but without causing further danger to the runner by braking too suddenly (emergency stop). It is recommended that one familiarize themselves with the treadmill's braking performance (emergency stop) at various speeds.

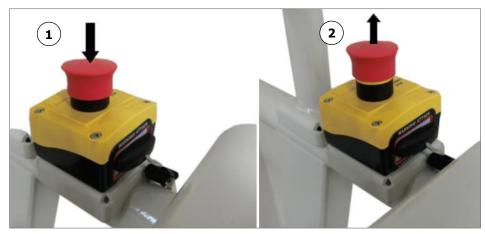


Fig. 13 Emergency stop button, functions

- 1. Triggering the emergency stop function by **pressing down** the red mushroom
- 2. Releasing by **firmly pulling** the red mushroom **up**

On treadmills with a reverse direction function, the emergency stop button has a magnetic mount and can be freely positioned on the railing. Before starting a



workout ensure that the emergency stop button can always be reached by the runner or the treadmill operator.

Device users must always be positioned so that they can reach the emergency stop switch in any situation.

Releasing

After pressing the emergency stop button it initially remains locked. For further use of the treadmill the button or mushroom must be released again. For this, pull the red mushroom sharply upwards until the release can be heard and felt.

NOTE

Emergency stop release functions!

After releasing the emergency stop, the electronics are locked and the treadmill cannot be used for 10 to 15 seconds.

It is only possible to restart after this time.

Pull cord with Emergency stop

The emergency stop switch is a magnetic contact switch (open), which is attached in the running direction on the emergency stop button. The circuit is closed through a magnet. As soon as the magnet tears off the contact-free surface, an interruption of the 230 VAC supply will initiate an emergency stop.

A WARNING

Danger of Injury due to Improperly Installed Pull Cord!

If the pull cord is not installed properly before a workout, the emergency stop magnetic switch will not be triggered and there is a risk of injury in the event of a dangerous situation.

- ► The use of the pull cord is mandatory!
- Securely attached clip to tight clothing before starting the workout.
- Adjust the length of the pull cord with rope stopper to the shortest possible setting, so that movement is still unrestricted.

It is attached by a magnet, and triggers at the release of the magnet. The magnet is secured to the runner's clothing by a clip on a "rip line" or "pull cord". It should be fixed to a piece of clothing with as little play as possible (e.g. waistband).

The safety magnet can also be used to immobilize the treadmill and prevent a third party from using the device. To prevent the use of the treadmill, for example when not supervised, the safety magnet with pull-cord can be stored in a safe place and the treadmill cannot be put into operation.





Fig. 14 Emergency stop magnetic switch on emergency stop button on railing

- 1. Magnet
- 2. Pull cord, adjustable length

WARNING

Danger of Injury due to Incorrectly Placed Emergency Stop Button!

The position of the emergency stop button should always be in running direction. Otherwise the magnet cannot release correctly and the function of the safety device is only limited.

► Always position the emergency stop button in the patient's running direction.

The pull cord is no fall protection and cannot prevent a person from falling on the treadmill. It only serves as an emergency stop in dangerous situations. When the magnet is released, the drive system is disconnection from the power and an emergency stop is initiated.

Belt drive current limiting

The CONTINUUM treadmills are equipped with a current limit control function which reduces power consumption and increases safety. The main safety feature is the current limiter after time overflow.

If the running belt is blocked for more than 10 seconds, the motor current will be reduced to 6A. This is always recommended in case something gets caught in the belt, as it stops the belt automatically. Once the current limit control has been triggered, the motor torque is reduced to a minimum to prevent damage to the motor and electric system.

Dismounting in emergency situations

The CONTINUUM treadmills have slip-resistant surface alongside the running surface. This offers additional grip when dismounting and prevents the feet from slipping off of the side panels.

The slip resistant surface should be checked periodically for wear or lack of grip and replaced if necessary.

In emergencies dismount the treadmill as follows:

- jump and straddle the onto the side panels,
- now the running surface can run between the legs,
- then stop the treadmill using the normal stop button or the emergency stop button.



When a safety waist strap/chest harness is worn, the user can also drop in an emergency, if it is not possible to straddle the running surface.

An alternative is to stand on the side panel with both feet on one side of the running surface, right or left and to hold on to the railing. This will trigger the emergency stop mechanism via the pull cord and the running surface will come to a controlled stop.

A WARNING

Components Must Not Interfere With Use of Device!

Adjustment and safety components (e.g. emergency stop pull-cord, video railing, connected devices) must be secured properly so as not to interfere with the proper use and movement of the treadmill and user.



7 Commissioning

7.1 General

Commissioning is the initial intended use of the device, see sec. 3.5 Page 12. Ensure that the conditions applicable to basic safety and health requirements are met.

Read these operating instructions completely before commissioning.

Before commissioning the device, operating and functional safety is to be tested. This includes correct installation, electrical connection, and operator training.

In most cases, your WOODWAY treadmill will be delivered completely assembled. Check immediately upon delivery for any signs of transportation damage and immediately report any damages to the transport company and WOODWAY.

Position the treadmill to ensure that the power cord can easily be accessed and disconnected when needed. Make sure it is not bent or angled such that it could disconnect.

ATTENTION

Commissioning after Storage or Transport

The formation of condensation on the cooled electronic parts may cause the treadmill to malfunction and damage the electronics.

▶ Before commissioning after storage or transport the treadmill must stand at room temperature for approx. 3 hours to become acclimatized.

7.2 Grounding Information

This treadmill must be properly grounded. If it should malfunction or break down, grounding provides a path of least resistance for electrical current to reduce the risk of electric shock. The product is equipped with a grounded power cord.

A WARNING

Connect Treadmill to Properly Grounded Outlet Only!

The treadmill plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local and national codes and ordinances.

- ► The supplied plug should not be manipulated in any way.
- ► If necessary, a qualified electrician may fit a suitable mains socket.
- ▶ Adapters may not be used because of the risk of electric shock.

7.3 Installation

It is recommended that transport, installation and assembly of the treadmill to be carried out by WOODWAY or by an authorized dealer or service provider. Otherwise shipping damage or improper installation and assembly of the treadmill could cause a hazard when using the device.

ATTENTION

Prepare a Stable Surface

Before the device is installed the surface must be prepared. The total weight of the device with all the accessories and options is to be considered.

- Prepare a stable and sturdy surface.
- ▶ Only install the device on a level, stable and sufficiently sturdy surface.
- If necessary install a stable surface / floor plate under the adjustable feet.

The following further instructions for installation are to be observed:

- When installed on upper floors, the device must be placed as far as possible in a corner of the room so that sufficient stability is guaranteed, even at max. speed. The structure of the building must be checked in advance.
- The treadmill should not be installed close to a radiator or other heat source.
 This could cause technical defects.
- Due to the moving parts on the underside, the device must not be placed directly on thick carpeting. A mat must be placed under the device. This will prevent lint from entering into the treadmill and at the same time reduce carpet wear. A floor protection mat can be obtained from your WOODWAY dealer (see "Options and accessories)
- With larger devices, particular attention must be paid to the ceiling/floor load capacity at the installation site. This must be higher than the total weight (weight of the device plus the dynamic weight of a running person) and approved by an authorized authority with the treadmill representative. The total weight is calculated as follows:
 - Overall dimensions 183 x 99 cm = 1.812 m^2 floor space. Treadmill net weight: 208 kg, weight of runner (static): 180 kg, weight of runner when running (dynamic): 720 kg (up to four times the body weight) Total weight on the floor space: 9280 kg. The required capacity of the floor space in this case is 512.14 kilograms (approx. 515 kg) per m^2 .

Planning the safe fall area:

When using the treadmill, especially fast movements (fast running, etc.) there is an increased risk of falling. For this reason an area behind the treadmill, a "safe fall area" of at least $2.00 \times 1.00 \text{ m}$ must be kept free, see Fig. 15 Page 34.

No obstacles may be located in this area! Objects, such as Furniture, plants, training materials, ladders or other objects may not be placed in this area.

Pay attention to the full room height in the safety area, sloping ceilings may not extend into the safety area.

For treadmills with the direction reverse, the safety area must also be provided in front of the treadmill!

Failure to follow this basic safety rule may result in serious accidents!



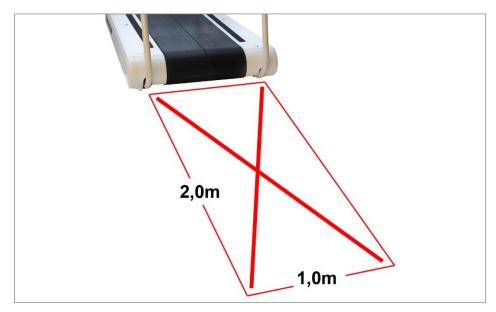


Fig. 15 Safety area (safe fall area) behind the treadmill

Adjust leveling feet:

After positioning the device at the installation site, adjust the horizontal height using a level. The height of the four leveling feet can be adjusted.

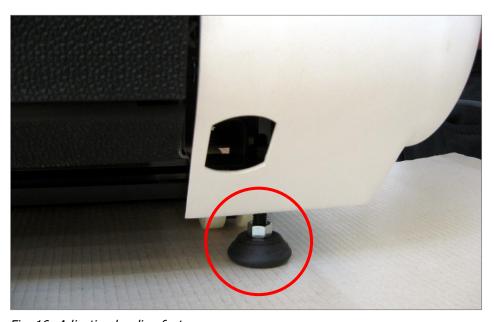


Fig. 16 Adjusting leveling feet

- Loosen the counter nut with a 19 mm open-end wrench
- Turn the foot up or down until the desired height has been reached
- Retighten the counter nut

When making these adjustments it is important to ensure that the frame of the treadmill does not twist. Lift frame of the treadmill to check for approximate equal weight load.

The treadmill frame can deform slightly during transportation. This can be seen on an even and level surface when the treadmill rocks slightly, or when one of the leveling feet does not touch the floor completely. In this case the treadmill can be realigned by applying the proper pressure on the railing.



7.4 Completion of Commissioning

Prior to starting operation, commissioning is to be completed with a trial run. During the trial run all device functions are to be carried out and checked.

ATTENTION

Check Device!

After the trial run has been carried out, all bolted connections, couplings and other connections are to be checked for tightness

Checklist for before starting operation:

- Check the sturdiness of the device,
- Check electrical connections,
- Protect all live components against touch,
- Safety equipment is intact and functional,
- Check emergency stop switch function,
- Check all control functions,
- Trial run without malfunctions
- Instructed operators.



Operation

8 Operation

A WARNING

Danger Through Uncontrolled Running Surface Movement!

By stepping on the rear most part of the running surface where it is rounded, the force of gravity can set the running surface in motion. There is a danger of falling!

► The user must not step on the rounded part of the running surface when mounting and dismounting!

8.1 Area of Application for Endurance Training

CONTINUUM treadmills allow speeds of up to 16 km/h.

For these and similar applications the risk of injury is very high without the use of fall protection. The treadmill is used at one's own risk. The manufacturer is not liable for personal injury and/or property damage, which could have been prevented through the use of a fall protection system.

The following points must be observed before starting a training program:

Consult a doctor!

Approval from a medical professional is required before starting an intensive training program. This applies especially if heart disease or overweight exists or the user has not been active for some time. Excessive exercise and overload are to be avoided!

Warm-up and cooldown

Warm up sufficiently before each training session to avoid injury. Carry out stretching exercises for the legs as necessary before and after exercise. Personal injury or soreness can be prevented through moderate stretching after training.

Determine heart rate

For selecting the individual training intensity, it is important to determine one's own heart or pulse rate. For this the use of a heart rate monitor is recommended. The pulse can also be determined by placing the middle and index fingers together on one side of the neck (a few centimeters outward from the larynx). Count the number of beats within a 15 second period and multiply by four to determine the beats per Minute (BPM).

Maximum heart rate

The maximum heart rate depends on internal and external factors. The rate can be determined mathematically. To determine your maximum heart rate subtract your age from the number 220.

[Approximate value, formula from the American Heart Association (AHA) and the American College of Sports Medicine (ACSM)]

The actual maximum heart rate is exactly determined by medical personnel carrying out stress test.

During training it is recommended not to exceed a value of 85% of maximum heart rate. The preinstalled training programs are designed so that the heart rate remains within a desired range. The target heart rate should be between 60 and 75% of maximum heart rate.



8.2 Application Possibilities for Children

Due to their design and operation, CONTINUUM treadmills are only for limited use by children.

A WARNING

Special Hazards Associated with Treadmill use by Children!

There is an increased risk of accidents through the use of treadmills by children. The following special instructions apply for children:

- ► Children may only be near the treadmill under supervision.
- ► Children should only mount and dismount the treadmill under supervision. The tread may not be running then.
- Children are forbidden from operating the treadmill! Adults are responsible for supervising children!
- ► The running workout must be conducted under the supervision of a physician or a qualified therapist.

An exception can be made using special accessories and in compliance with strict safety regulations, especially within the scope of "movement therapy in rehabilitation."

8.3 Before Each Use

Before the unit is put into operation, the following checks are to be done:

- Visual inspection of the running surface belt, check for dirt and damage to slats
- Visual inspection and check of the mechanical function of the bar railing, clamping screw must be hand tight.
- Visually inspect of the emergency stop magnet with pull cord and clip attachment for damage
- Visual inspection of fall protection equipment (ropes, carabiners, waist belt, etc., as applicable) for wear and functionality

A WARNING

Danger of Being Pulled into Moving Parts!

In the event of a fall, people with long hair, loose clothing or jewelry can be pulled into running surface entry points.

- ▶ Remove jewelry before using the device.
- Tie up long hair.

8.4 Switching Device On/Off

NOTE

Ensure that NO emergency stop button or emergency stop mushroom is engaged. The emergency stop magnet with pull cord must be attached to the field marked for this purpose.

The device cannot be operated without releasing the emergency stop function and attaching the magnet to the magnetic switch!

A WARNING

Danger of Device Moving Down when Switched On!

If the treadmill was in the inclined position prior to being switched off during previous use, the device will automatically move back to the neutral position (incline = 0%). There is a danger of injury!

- ▶ No one may be located in the area in front of the treadmill.
- No objects may be located under the treadmill.
- ► Check the position of the treadmill before switching it on!

1

To turn the device on, switch the power switch on the right side of device frame from position "0" to "I". The treadmill is now in STAND-BY mode.

0

When training is finished, switch the treadmill off again via the switch on the display. The device is in STAND-BY mode again.

A WARNING

Danger Through Speeding Up of the Running Surface!

If the drive motor is stopped when set at an incline, the weight of the user (gravity) may cause the running surface to accelerate (e.g. by pressing the stop button, emergency stop, or by power failure)!

- ► Use special caution when stopping the drive motor when set at an incline!
- Users must be made aware of dangers before use!

ATTENTION

Do not move the running surface belt during th4e initialization phase (approx. 3-4 seconds)! The movement can be interpreted as a device malfunction by the control electronics and switch off the device.

- ▶ Never step on the running surface during the initialization phase!
- ▶ Do not leave the running surface until it switches back into stand-by mode.
- ► Never leave the treadmill unattended while it is switched on!
- ➤ Switch the device off via the main switch on the power supply console when it will not be used for a long time.

8.5 Using the Keypad

The keypad can be attached to a suitable point on the handrail so that the controls are easily accessible to the runner.

The magnetic mount makes it possible to remove the keypad from the railing. In this way the runner's supervisor can use the keypad as a remote control.



Fig. 17 Keypad with magnetic mount

Switch device on as Page 38 as described in sec. Make sure that the emergency stop magnet is mounted on the magnetic switch with its pull cord, the clip is fixed to the runner's clothes and that all emergency stop buttons are released.

Button functions:

The buttons on the keypad are used for setting the speed and incline. The corresponding speed or incline indicators are used for control. When the desired speed or incline has been reached, release the button.

[+] and [-] BUTTONS:

With these buttons the user can raise or lower the running surface speed. The running speed increases or decreases continually as long as the button is pressed. Watch the speed indicator on the display during the adjustment. Release the button at the desired speed.

 $[\uparrow]$ and $[\downarrow]$ BUTTON:

With these buttons the user can adjust the incline of the device. The incline increases or decreases continually as long as the button is pressed. Watch the incline indicator on the display. Release the button at the desired incline.

"OFF" BUTTON:

The treadmill can be stopped with the stop button. The delay in breaking the running surface speed is comfortable, so the user still travels a few meters before the unit stops depending on the previous speed. If the running surface belt is stopped, the treadmill goes to the stop mode (indicated by the second mode LED from the top). The set incline is maintained.

Pressing the stop button a second time causes the treadmill - should it still be at an incline - to move back to its starting position (0% incline). The treadmill remains in stop mode.

"Pause" BUTTON:

When the user presses the PAUSE key the treadmill stops. To begin training again the user can press the PAUSE key again. The speed is increased to the former value and the time display starts counting the time.



8.6 Standard Medical Display

The keys on the display panels are membrane-type switches, with which complete control of the device is possible. The emergency switch is a magnetic sensor which detects the presence of a magnet and switches the treadmill off immediately when the magnet is removed.

There are 5 indicators, each with 7 segments with which program statistics are displayed. The 4-digit displays are programmed to display the time in the 00:00 format.



Fig. 18 Standard Medical Display

8.6.1 Display Parameters and Operating Functions

- Manual SPEED and INCLINE control.
- Statistics display: DISTANCE, CALORIES, TIME, PACE, HEART RATE, METS.
- Treadmill SPEED and INCLINE display.
- Controlled increase/decrease of speed, safety checks and automatic shut-off in case of errors.

8.6.2 Description of Display Elements

TIME: The time is displayed in 00:00 format. Time is always counted.

SPEED: The speed is displayed in 00.0 format. The SPEED shows the user's current sped in kilometers per hour (km/h). Valid speeds are: from 0.0 to the maximum speed

(max. speeds vary depending on the model and applicable options).

DISTANCE: The distance is displayed in 00.00 format. DISTANCE shows the accumulated user's

distance in kilometers.

CALORIES: The calories are displayed in 0000 format. CALORIES shows the user's accumulated burnt calories. They are calculated based on the ACSM formula. If no weight is

entered, the calories are calculated based on a standard weight of 70 kg.

PACE: The time/km or time/mile is displayed in 00:00 format. PACE represents the time

required to run one kilometer at the current speed.

METS: METs is displayed in 00.0 format and represents the conversion of 3.5 milliliters of

oxygen per kilogram of body weight per minute.

HEART RATE: The heart rate is displayed in 000 format. HEART RATE represents the user's actual

heart rate (pulse).

INCLINE: The incline display is used to show the user's current incline or to set the incline.



Valid incline values start at 0 and increase in steps of 0.1% to the maximum level of incline, which varies depending on the model and the associated options.

8.6.3 Starting the Help Program

First, check that the emergency stop magnet is in place. To switch the display on, press the ON key. A "0" is displayed in the speed and incline indicators. If the display is not lit, ensure that the treadmill is connected to the power supply and that the power switch is turned on.

8.6.4 Training Parameters

Training Start

Press the SPEED+ key to start training. The speed increases from "0". The time LED is lit and the time is displayed in the TIME display in the 00:00 format and counted. The DISTANCE and HEART RATE LEDs are lit and the corresponding values are displayed.

Active Control Element

During training the user can change the incline using the incline keys UP and DOWN, and the speed using the SPEED keys + and - . The user can interrupt the training at any time using the PAUSE key.

Quick Control Element

During training, the user can use the INSTAT SPEED and INSATANT INCLINE control keys to more quickly change the speed or incline to the desired level. To set the speed or incline to a value between those available using quickset keys, select the nearest quickset value key and then use the manual controls as described above to adjust to the desired value.

Training Interruptions

When the user presses the PAUSE key the treadmill stops. The TIME display indicates "PAUSE" and the other seven-part displays maintain the values from the time that the PAUSE key was pressed. To begin training again the user can press the PAUSE key again. The speed is increased to the former value and the time display starts counting the time.

Displayed Statistics

During training, the user can press the PACE, CALORIES, or METS keys to change between the values for the distance, time and heart rate. The distance is replaced by calories, the time is replaced by time/km, and the heart rate is replaced by METs. When the PACE, CALORIES, METS key is pressed again, the displays show the original values again. The LEDs for the respective statistics are lit.

End Training

The user can press the OFF key at any time to end the training session. Speed and incline are reset to zero. The training statistics are displayed for 10 seconds. The time display shows the total time and the DISTANCE/CALORIES display shows the total distance and total calories burned alternately.

NOTE

The STOP key on the side switches corresponds to the OFF key on the screen.



8.7 Personal Trainer Medical Display

The keys in the display fields allow the user to type in command parameters to control treadmill operation. The user can also monitor training progress. The emergency switch is a magnetic sensor which detects the presence of a magnet and switches the treadmill off immediately when the magnet is removed. There are 5 indicators each with 7 segments with which program statistics are displayed. The 4-digit displays are programmed to display the time in the 00:00 format.

The numeric keypad is used for CSAFE compatibility and has no other function.



Fig. 19 Personal Trainer Medical Display

In the LCD display with a resolution of 320×240 pixels, the user's program selection profile and the progress during training are shown. With the program profiles, the speed and incline curves are shown in charts.

The heart rate is measured using an ANT+ and POLAR® compatible receiver.

NOTE

The measurement of the heart rate via grips is not as exact as EKG and is only considered an approximation.

8.7.1 Display Parameters and Operating Functions

The user can control and display the following functions using the operator keypad:

- Manual SPEED and INCLINE control.
- Statistics display: DISTANCE, CALORIES, SPEED, INCLINE, TIME, PACE, METS, HEART RATE.
- 10 integrated programs including manual operation.
- 100 user modifiable programs plus 4 fitness logs.
- Automatic SPEED and INCLINE adjustment in programs.
- Controlled increase/decrease of speed, safety checks and automatic shut-off in case of errors.



8.7.2 Description of Display Elements

TIME: The time is displayed in 00:00 format. Time is always counted.

SPEED: The speed is displayed in 00.0 format. The SPEED shows the user's current sped in

kilometers per hour (km/h). Valid speeds are: from 0.0 to the maximum speed

(max. speeds vary depending on the model and applicable options).

DISTANCE: The distance is displayed in 00.00 format. DISTANCE shows the accumulated user's

distance in kilometers.

CALORIES: The calories are displayed in 0000 format. CALORIES shows the user's accumulated

burnt calories. They are calculated based on the ACSM formula. If no weight is entered, the calories are calculated based on a standard weight of 70 kg.

PACE: The time/km or time/mile is displayed in 00:00 format. PACE represents the time

required to run one kilometer at the current speed.

METS: METs is displayed in 00.0 format and represents the conversion of 3.5 milliliters of

oxygen per kilogram of body weight per minute.

HEART RATE: The heart rate is displayed in 000 format. HEART RATE represents the user's actual

heart rate (pulse).

INCLINE: The incline display is used to show the user's current incline or to set the incline.

Valid incline values start at 0 and increase in steps of 0.1% to the maximum level of incline, which varies depending on the model and the associated options.

8.7.3 Quick Start (User Defined Operation)

- 1. First, ensure that the treadmill is plugged into the power supply and that the power switch (cutout in the side cover bottom right) is switched on.
- 2. Check that the EMERGENCY STOP MAGNET is in place.
- 3. To turn the display press and hold the ON key until the LED and LCD displays are lit. All functions can now be operated using the mentioned surrounding keys:
 - Quick Start.
 - Manual Mode (with weight entry).
 - Fitness Programs.
 - Fitness Tests.

NOTE

All specified options are located far left on the display and can be selected there directly.

8.7.4 Quick Start Display Parameter

The time is counted from zero, the speed starts at 0.1 km/h and the distance traveled and calories are accumulated. An oval 400-meter track is displayed the LCD display. A blinking point which represents the user's position moves around the track (counter-clockwise). In the middle of the track "Lap = 0" is displayed. Each lap around the track represents 400 meters. The lap counter counts each completed lap.

The number keys, CLEAR key and ENTER key are deactivated during this time.

During training in user defined mode, the user can change the incline using the incline keys UP and DOWN, and the speed using the speed keys FAST and SLOW. The user can interrupt the training at any time by pressing the PAUSE key.

The user course is laid out as shown in the following figure:



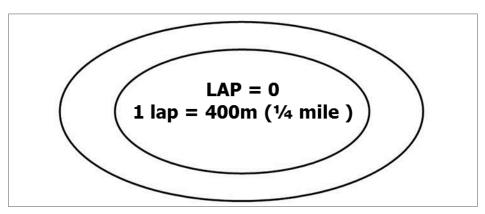


Fig. 20 User Defined Track

Training Interruptions

When the user presses the PAUSE key the treadmill stops and seeks minimum incline. The following information is shown on the LCD display: "Treadmill Paused. Press PAUSE to resume"

The statistics are stopped with the pressing of the PAUSE key. When the user presses the PAUSE key again, the training continues. The CLEAR key is activated during the interruption. When the CLEAR key is pressed, the entire treadmill statistic is reset.

The statistics are displayed in the bottom of the screen throughout the training. It displays the information PACE, CALORIES, CAL / HOUR, VERTICAL and METs.



8.7.5 Starting Training Program

NOTE

Before starting a training program, it is advisable to consult a certified training professional or your family doctor.

Selecting Program

The program setup is started by pressing the FITNESS PROGRAMS button on the left side of the screen (or by selecting this option in the main START menu). Then use the SCROLL keys to highlight the desired program and press ENTER to select.

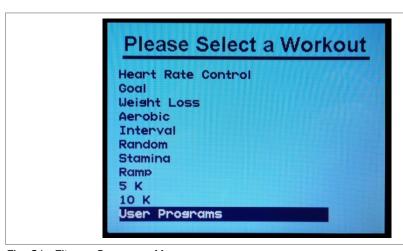


Fig. 21 Fitness Programs Menu

NOTE

Fitness Program Menu is available in various languages.

Once you are in a program, you must use the number keys or the FAST-/SLOW key to set all required values. Scroll to change fields.

Changing Program During Training

Entering the Difficulty Level Simply press the FITNESS PROGRAMS key (or any other button in the menu) left on the screen to bring up the main menu and make another selection.

The program profile and the program title are displayed in the LCD display. The standard difficulty level 1 is displayed. The program profile is initially displayed at a higher level in order to better recognize the process. The desired difficulty level can be entered using the number keys. When selecting a difficulty level, the user should consider their current level of fitness and training goals. The current training level can be deleted using the CLEAR key. When the user has finished entering the desired training level, they can press the scroll key to confirm the entry and enter to the next value.

Entering Program Time

Next the program time must be entered. The standard 20:00 time is displayed. The user can enter their desired training duration using the number keys. The current time can be deleted using the CLEAR key. When the user has finished entering the desired training duration, they can press the scroll key to confirm the entry and enter to the next value.

Entering the Weight

Next the user's weight must be entered. For a quick start, the user can bypass the weight menu by simply pressing the FAST key and accepting the standard weight of 70 kg. They can then start the user defined training or enter a weight using the keypad. Valid weight values are 22 - 227 kg. The current weight can be deleted us-



ing the CLEAR key. When the user has finished entering the weight, they can press

the enter key to confirm the entry and begin the training.

The time is counted down to zero, the speed is set to the lowest possible speed, **Program Start**

and the incline is set to the lowest possible level. Distance and calories are accumulated. The program profile is shown on the LCD display. The number keys,

CLEAR key and ENTER key are then deactivated.

Usable Variables While the program is running the user can change the incline using the incline keys

UP and DOWN, and the speed using the speed keys FAST and SLOW. The user can interrupt the training at any time by pressing the PAUSE key. The status of the program you are in lights up to show your progress. The signals sounds 3 seconds be-

fore the speed and / or incline changes.

Pausing During When the PAUSE key is pressed the treadmill stops. The following information is **Training**

shown on the LCD display: "Treadmill Paused. Press PAUSE to resume". The statistics are stopped with the pressing of the PAUSE key. When the user presses the PAUSE key again, the training continues. The CLEAR key is activated during the interruption. When the CLEAR key is pressed the entire treadmill statistics reset and the initial screen is displayed again (the LCD display shows the message "###Press

'FAST' for Quick Start or select a program###").

The statistics are displayed at the bottom of the screen throughout training. Here Displaying the **Statistics** information such as PACE, CALORIES, CALORIES / HR, VERTICAL FEET and METs

can be found.

Program End When the program is completed, "###Program Complete###" appears on LCD 3

for a few seconds. Speed and incline are then reset to zero.

When the OFF key is pressed, speed and incline reset to zero, "PACE = 00:00, CALORIES = 0000, METs =0.00" will be displayed on the LCD for 5 seconds. Then

the display will switch off.



8.7.6 Fitness Programs

Heart Rate Control Program

Follow the instructions below to begin the Heart Rate Control fitness program.

NOTE

The automatic heart rate programs can only work effectively if you wear a chest strap for heart rate measurement!

- 1. When the automatic pulse program has been selected the user is prompted to enter their age, target heart rate, maximum speed, maximum time and weight on the initial screen. The user can enter the age using the number keys. (Valid age entries are 15–100.) The current age can be deleted using the CLEAR key. When the user has entered their age, the scroll-down key is used to move to the next value. When the age is changed, the target heart rate changes automatically. When the displayed value is correct, proceed to the next value.
- 2. The target heart rate can also be entered using the number keys. After the correct value has been entered, press the scroll down key to proceed to the next value. The user must select the control type they want to use using the FAST/SLOW key (only speed, only incline or both).
- 3. If the automatic pulse is selected with speed control or both criteria, the user must next select the maximum speed using the number keys. Use the scroll-down key to complete the entry by entering a maximum time and the user's weight (or just press ENTER to use the current values).
- 4. When the training begins, the automatic pulse profile is displayed on the LCD display. Above the profile illustration a title will be displayed which indicates what kind of automatic pulse is being used.

NOTE

The value 0.1 km/h can be seen in the speed display. To actually start the workout you must manually select the speed of the device according to your feeling. The automatic pulse takes over the control of the speed after a few seconds!

5. While using the program the user can change the incline using the incline keys UP and DOWN, and the speed using the speed keys FAST and SLOW. The target heart rate can be changed at any time while the automatic heart rate control program is being executed. The user can enter a new target heart rate using the number keys. Press the CLEAR key to delete the newly entered target heart rate. Press the ENTER key to confirm it.

Only one of the automatic heart rate control types can be used during training. The user selects his desired algorithm during program setup.

Incline Only – Heart Rate Control

This automatic heart rate program only controls the incline. The user selects the speed.

The program functions as follows:

- If the actual heart rate is 80 beats per minute (BPM) below the target, the incline is not adjusted. As a result proper warm-up phase is possible.
- If the actual heart rate is 26-80 BPM below the target, the incline will increase 1% after 15 seconds.
- If the actual heart rate is 6-25 BPM below the target, the incline will increase 1% after 30 seconds.



- If the actual heart rate is 3-25 BPM below the target, the incline will increase 0.5% after 30 seconds.
- If the actual heart rate is at least 3 BPM above the target, the incline will decrease 1% after 15 seconds.
- There is no adjustment when the actual heart rate deviates from the target by a maximum of 2 BPM.

Speed Only – Heart Rate Control

This automatic heart rate program only controls the speed. The user selects the incline.

The program functions as follows:

- If the actual heart rate is 80 beats per minute (BPM) below the target, the speed is not adjusted. As a result proper warm-up phase is possible.
- If the actual heart rate is 26-80 BPM below the target, the speed will increase 0.64 km/h after 8 seconds.
- If the actual heart rate is 6-25 BPM below the target, the speed will increase 0.32 km/h after 15 seconds.
- If the actual heart rate is 3-5 BPM below the target, the speed will increase 0.16 km/h after 15 seconds.
- If the actual heart rate is at least 3 BPM above the target, the speed will decrease 0.32 km/h after 15 seconds.
- There is no adjustment when the actual heart rate deviates from the target by a maximum of 2 BPM.

Both – Heart Rate Control

This automatic pulse program controls the incline as well as the speed.

The program functions as follows:

- The speed is increased in increments until 80% of the user's maximum speed is reached (calculation based on user training level input).
- The incline is increased in increments until 10% of the maximum treadmill incline is reached.
- The speed is increased in increments until the user's maximum speed is reached.
- The incline is increased until the maximum treadmill incline is reached.
- The speed and incline adjustments follow the above algorithms.

Goal Program

This is a conditioning program that requires peak performance in the middle of training. These programs build strength and endurance.

Phase Nr.

											SPEE	D DAT	Α								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5
	2	0.9	1.0	1.1	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.4	2.2	2.0	1.8	1.6	1.4	1.2	1.1	1.0	0.9
	3	1.4	1.5	1.7	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.6	3.3	3.0	2.7	2.4	2.1	1.8	1.7	1.5	1.4
-	4	1.8	2.0	2.2	2.4	2.8	3.2	3.6	4.0	4.4	4.8	4.8	4.4	4.0	3.6	3.2	2.8	2.4	2.2	2.0	1.8
Level	5	2.3	2.5	2.8	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.8	2.5	2.3
-1	6	2.7	3.0	3.3	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.2	6.6	6.0	5.4	4.8	4.2	3.6	3.3	3.0	2.7
	7	3.2	3.5	3.9	4.2	4.9	5.6	6.3	7.0	7.7	8.4	8.4	7.7	7.0	6.3	5.6	4.9	4.2	3.9	3.5	3.2
	8	3.6	4.0	4.4	4.8	5.6	6.4	7.2	8.0	8.8	9.6	9.6	8.8	8.0	7.2	6.4	5.6	4.8	4.4	4.0	3.6
	9	4.1	4.5	5.0	5.4	6.3	7.2	8.1	9.0	9.9	10.8	10.8	9.9	9.0	8.1	7.2	6.3	5.4	5.0	4.5	4.1
	10	4.5	5.0	5.5	6.0	7.0	8.0	9.0	10.0	11.0	12.0	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.5	5.0	4.5
	STG	5.0	5.0	6.0	6.0	6.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	6.0	6.0	6.0	5.0	5.0

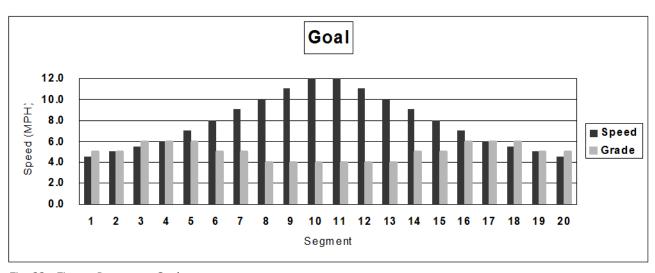


Fig. 22 Fitness Program – Goal



Weight LossProgram
This is a program with a constant load, gradual warm-up and cool-down phases. This program is designed to provide exercise at a constant level.

Phase Nr.

						SPEE	D DAT	A													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.7	0.9	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0	0.9	0.7	0.5
	2	0.9	1.4	1.7	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.0	1.7	1.4	0.9
	3	1.4	2.1	2.6	3.0	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.0	2.6	2.1	1.4
	4	1.8	2.8	3.4	4.0	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.0	3.4	2.8	1.8
Level	5	2.3	3.5	4.3	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	4.3	3.5	2.3
	6	2.7	4.2	5.1	6.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.0	5.1	4.2	2.7
	7	3.2	4.9	6.0	7.0	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	7.0	6.0	4.9	3.2
	8	3.6	5.6	6.8	8.0	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	8.0	6.8	5.6	3.6
	9	4.1	6.3	7.7	9.0	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	9.0	7.7	6.3	4.1
	10	4.5	7.0	8.5	10.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	10.0	8.5	7.0	4.5
	STG	0.0	0.0	1.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	1.0	0.0	0.0

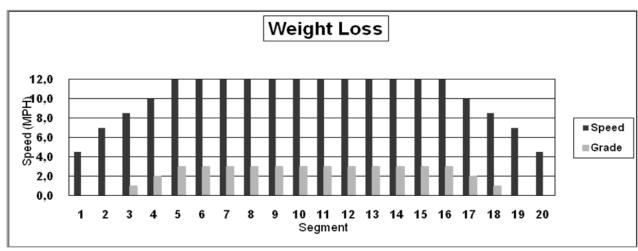


Fig. 23 Fitness Program – Weight Loss



Aerobic Program

This is a program that uses high level training with three very intense phases. This program is designed to improve the aerobic condition.

Phase Nr.

						SPEE	D DAT	Α													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.6	0.8	1.0	1.2	1.0	0.8	0.6	0.8	1.0	1.2	0.8	0.6	0.8	1.0	1.2	1.0	0.8	0.6	0.5
	2	0.9	1.2	1.6	2.0	2.4	2.0	1.6	1.1	1.6	2.0	2.4	1.6	1.1	1.6	2.0	2.4	2.0	1.6	1.2	0.9
	3	1.4	1.8	2.4	3.0	3.6	3.0	2.4	1.7	2.4	3.0	3.6	2.4	1.7	2.4	3.0	3.6	3.0	2.4	1.8	1.4
	4	1.8	2.4	3.2	4.0	4.8	4.0	3.2	2.2	3.2	4.0	4.8	3.2	2.2	3.2	4.0	4.8	4.0	3.2	2.4	1.8
Level	5	2.3	3.0	4.0	5.0	6.0	5.0	4.0	2.8	4.0	5.0	6.0	4.0	2.8	4.0	5.0	6.0	5.0	4.0	3.0	2.3
	6	2.7	3.6	4.8	6.0	7.2	6.0	4.8	3.3	4.8	6.0	7.2	4.8	3.3	4.8	6.0	7.2	6.0	4.8	3.6	2.7
	7	3.2	4.2	5.6	7.0	8.4	7.0	5.6	3.9	5.6	7.0	8.4	5.6	3.9	5.6	7.0	8.4	7.0	5.6	4.2	3.2
	8	3.6	4.8	6.4	8.0	9.6	8.0	6.4	4.4	6.4	8.0	9.6	6.4	4.4	6.4	8.0	9.6	8.0	6.4	4.8	3.6
	9	4.1	5.4	7.2	9.0	10.8	9.0	7.2	5.0	7.2	9.0	10.8	7.2	5.0	7.2	9.0	10.8	9.0	7.2	5.4	4.1
	10	4.5	6.0	8.0	10.0	12.0	10.0	8.0	5.5	8.0	10.0	12.0	8.0	5.5	8.0	10.0	12.0	10.0	8.0	6.0	4.5
	STG	0.0	0.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	0.0	0.0

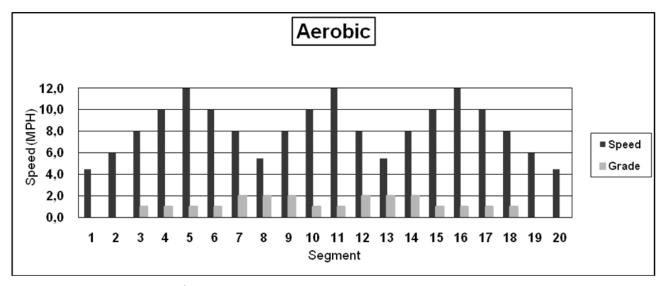


Fig. 24 Fitness Program – Aerobic



Interval Program

This interval program consists of interval 1 and interval 2. Speed and incline must be entered in each interval (using the number keys or the FAST/SLOW key). Use the scroll key to change fields. Time and weight must also be entered. Press ENTER to start the program.

When the program has started three diagrams will be shown. The incline is shown in red in the top part of the screen; the speed is shown in green in the middle, and the heart rate in yellow at the bottom of the screen. The UP/DOWN key can be used throughout the training to alternate between the used intervals.

Random Program

This program selects varying speed and incline changes at random intervals.

Phase Nr.

						SPEE	D DAT	Α													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.4	0.5	0.8	0.8	0.6	0.9	1.1	0.6	0.8	0.6	1.0	0.7	1.2	0.8	0.6	0.6	0.8	1.1	0.6	0.5
	2	8.0	1.0	1.6	1.5	1.2	1.7	2.1	1.1	1.6	1.1	2.0	1.4	2.4	1.6	1.2	1.1	1.6	2.1	1.2	0.9
	3	1.2	1.5	2.4	2.3	1.8	2.6	3.2	1.7	2.4	1.7	3.0	2.1	3.6	2.4	1.8	1.7	2.4	3.2	1.8	1.4
	4	1.6	2.0	3.2	3.0	2.4	3.4	4.2	2.2	3.2	2.2	4.0	2.8	4.8	3.2	2.4	2.2	3.2	4.2	2.4	1.8
Level	5	2.0	2.5	4.0	3.8	3.0	4.3	5.3	2.8	4.0	2.8	5.0	3.5	6.0	4.0	3.0	2.8	4.0	5.3	3.0	2.3
	6	2.4	3.0	4.8	4.5	3.6	5.1	6.3	3.3	4.8	3.3	6.0	4.2	7.2	4.8	3.6	3.3	4.8	6.3	3.6	2.7
	7	2.8	3.5	5.6	5.3	4.2	6.0	7.4	3.9	5.6	3.9	7.0	4.9	8.4	5.6	4.2	3.9	5.6	7.4	4.2	3.2
	8	3.2	4.0	6.4	6.0	4.8	6.8	8.4	4.4	6.4	4.4	8.0	5.6	9.6	6.4	4.8	4.4	6.4	8.4	4.8	3.6
	9	3.6	4.5	7.2	6.8	5.4	7.7	9.5	5.0	7.2	5.0	9.0	6.3	10.8	7.2	5.4	5.0	7.2	9.5	5.4	4.1
	10	4.0	5.0	8.0	7.5	6.0	8.5	10.5	5.5	8.0	5.5	10.0	7.0	12.0	8.0	6.0	5.5	8.0	10.5	6.0	4.5
	STG	0.0	1.0	1.0	2.0	2.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	1.0	2.0	2.0	1.0	1.0	0.0	0.0

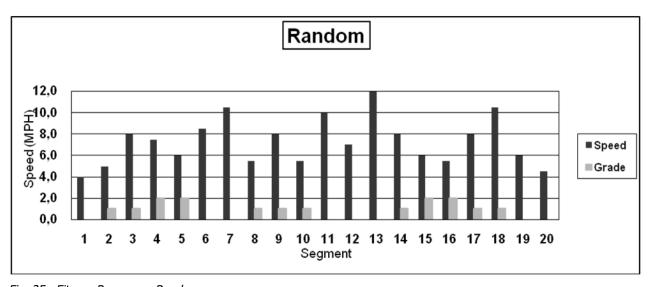


Fig. 25 Fitness Program - Random



Stamina Program

A program with increasing load and two different phases, each with a peak load. This program is designed to improve the aerobic condition.

Phase Nr.

						SPEE	D DAT	Ά													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	0.5	0.5
	2	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	0.9	0.9
	3	1.4	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	1.4	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	1.4	1.4
	4	1.8	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	1.8	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	1.8	1.8
Level	5	2.3	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	2.3	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	2.3	2.3
	6	2.7	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	2.7	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	2.7	2.7
	7	3.2	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	3.2	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	3.2	3.2
	8	3.6	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	3.6	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	3.6	3.6
	9	4.1	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	4.1	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	4.1	4.1
	10	4.5	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	4.5	4.5
	STG	0.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	0.0

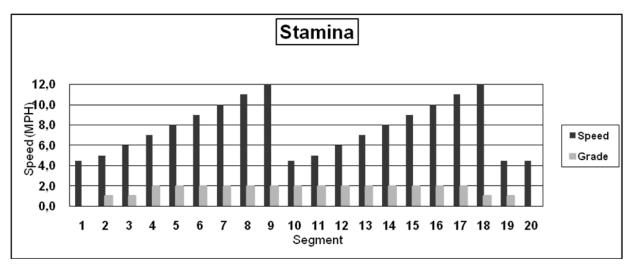


Fig. 26 Fitness Program – Stamina



Ramp Program This program has a slowly increasing load. Here you will gradually increase to the top speed for the selected intensity level. Then a cool-down phase begins.

			_			SPEE	D DAT	Δ					_								_
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	0.5	0.5	0.5
	2	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	0.9	0.9	0.9
	3	1.4	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	1.4	1.4	1.4
	4	1.8	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	1.8	1.8	1.8
Level	5	2.3	2.3	2.5	2.8	3.0	3.3	3.5	3.8	4.0	4.3	4.5	4.8	5.0	5.3	6.5	5.8	6.0	2.3	2.3	2.3
	6	2.7	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	2.7	2.7	2.7
	7	3.2	3.2	3.5	3.9	4.2	4.6	4.9	5.3	5.6	6.0	6.3	6.7	7.0	7.4	7.7	8.1	8.4	3.2	3.2	3.2
	8	3.6	3.6	4.0	4.4	4.8	5.2	6.6	6.0	6.4	6.8	7.2	7.6	8.0	8.4	8.8	9.2	9.6	3.6	3.6	3.6
	У	4.1	4.1	4.5	0.0	5.4	0.9	6.3	6.8	1.Z	1.1	8.1	8.6	9.0	9.0	9.9	10.4	10.8	4.1	4.1	4.1
	10	4.6	4.5	6.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	4.5	4.5	4.5
	GRD	0.0	1.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0

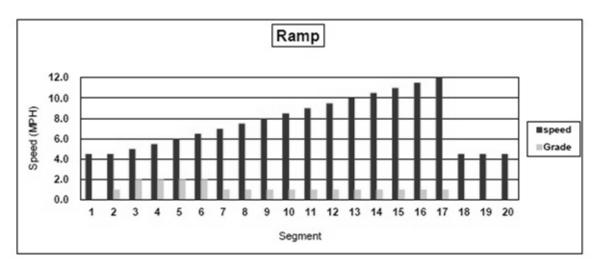


Fig. 27 Fitness Program – Ramp



5 km Program

This program is a distance-based program with a simulated 5 km (3.1 mile) race track. The user determines the running speed by selecting an intensity level.

Phase Nr.

						SPEE	D DAT	Α													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.5
	2	0.9	0.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.9	0.9
	3	1.4	1.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.4	1.4
	4	1.8	1.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.8	1.8
Level	5	2.3	2.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.3	2.3
	6	2.7	2.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	2.7	2.7
	7	3.2	3.2	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	3.2	3.2
	8	3.6	3.6	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	3.6	3.6
	9	4.1	4.1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	4.1	4.1
	10	4.5	4.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.5	4.5
	STG	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0

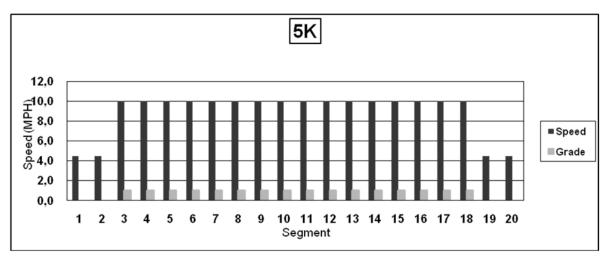


Fig. 28 Fitness Program – 5K



10 km Program

This program is a distance-based program with which a 10 km (6.2 mile) run can be simulated. These programs build endurance.

Phase Nr.

						SPEE	D DAT	A													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1	0.5	0.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.5	0.5
	2	0.9	0.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0.9	0.9
	3	1.4	1.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.4	1.4
	4	1.8	1.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	1.8	1.8
Level	5	2.3	2.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	2.3	2.3
	6	2.7	2.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	2.7	2.7
	7	3.2	3.2	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	3.2	3.2
	8	3.6	3.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	3.6	3.6
	9	4.1	4.1	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	4.1	4.1
	10	4.5	4.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	4.5	4.5
	STG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

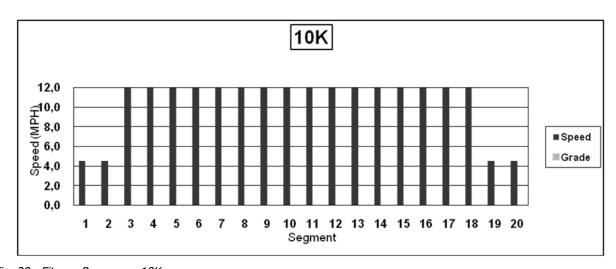


Fig. 29 Fitness Program – 10K

8.7.7 User Programs

Personal Trainer Medical Displays come with the feature that allows the user to customize a personal workout and have it remain on that particular treadmill for future workouts.

Edit Program Name

To help in distinguishing between programs, all program names can be changed (up to 24 characters) directly on the screen. To activate text editing of the workout you plan to customize, proceed as follows:

- 1. Press PAUSE button for about five seconds.
- 2. Use the UP/DOWN incline buttons to scroll from left to right to change text.
- 3. Use the FAST/SLOW speed buttons to scroll through the alphabet.
- 4. Once the program name has been edited, press ENTER to run the program.

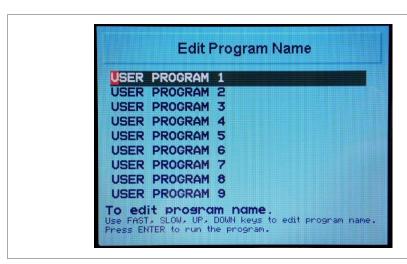


Fig. 30 Edit Program Name Screen

Edit Program

99 user program profiles are available. Each profile consists of 40 parts, each of which has programmable time, speed and incline settings.

Existing programs can be modified and personalized programs can be written, reset, or erased. To edit one of the 99 user programs, proceed as follows:

- 1. Select a user program and press CLEAR button for about five seconds.
- 2. Afterword a beep tone will sound and the screen for editing user programs will be displayed.
- 3. The values can be changed using the number keys or the FAST/SLOW key.
- 4. Scroll to change fields.
- 5. Press ENTER to save the new value and to change to the data for the next part.
- 6. Repeat this process for all 40 existing segments.
- 7. When programming each segment, program in sequential order (do not skip time between segments).
- 8. If the program is less than 40 segments, leave the remainder blank.
- 9. Press PAUSE to reset/erase the current program and write a new program.
- 10. After programming is complete press the OFF button to exit the user program edit screen and to turn off the treadmill.



Fig. 31 Edit Program Screen

NOTE

On this screen you must press and hold CLEAR and PAUSE for five seconds.

Run Customized Programs

Once the fitness program has been edited and saved, the user can start training on the customized program.

- 1. Enter user weight and press ENTER to begin program.
- If a number key is pressed while the user is being prompted to make an entry, the program setup begins. The user program associated to this number key is displayed on the LCD display. Then the user can set up the program and begin training. The user does not enter duration for user programs. The training duration is calculated by adding the values stored for the respective part (for this profile).

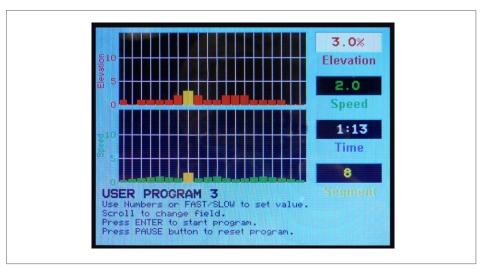


Fig. 32 Example of a Customized Program Screen

8.7.8 Fitness Tests

Balke Fitness Test

This test is designed to determine the user's current fitness level. Using the Balke protocol this program evaluates the functional aerobic capacity (VO2max), with which the cardiorespiratory fitness of the user is determined. Under an increasing load, the oxygen consumption (VO2) eventually reaches a plateau. This is the desired maximum VO2 value.

Set the values for your age and sex using the number keys or the FAST/SLOW key. Scroll to change fields. Press ENTER to start the program.

A chest strap is required for the test. Changing the speed or incline will make the test invalid. The test is terminated when the user's heart rate stabilizes at 130 BPM or at 80% of the user's maximum heart rate (whichever value is lower). Press the FAST key to begin.

The time is automatically set to 20 minutes since the program has 20 program parts. In reality the test is terminated earlier. With this protocol the speed remains constant at 5.5 km/h. The incline in the first minute is 0% and in the second minute 2%. With each following minute the incline increases by 1%.

A fitness value is displayed along with one of the following tables, so that the user can evaluate their level of fitness (fitness value - VO2max value).

Men

	10-19	20-29	30-39	40-49	50-59	60-69	70-79
High	56+	53+	49+	45+	43+	41+	39+
Good	46-55	43-52	39-48	36-44	34-42	31-40	29-38
Average	36-45	34-42	31-38	27-35	25-33	23-30	21-28
Adequate	27-35	25-33	23-30	20-26	18-24	16-22	14-20
Low	27	25	23	20	18	16	14

Women

	10-19	20-29	30-39	40-49	50-59	60-69	70-79
High	53+	49+	45+	42+	38+	35+	33+
Good	41-52	38-48	34-44	31-41	28-37	24-34	22-32
Average	33-40	31-37	28-33	24-30	21-27	18-23	15-21
Adequate	27-32	24-30	20-27	17-23	15-20	13-17	11-14
Low	27	24	20	17	15	13	11



Gerkin Fitness Test

With the Gerkin protocol there is a tiered VO2 test with submaximal values. It is used by the International Association of Fire Fighters to determine fitness for service with the fire department.

Set the values for your age and gender using the number keys or the FAST/SLOW key. Scroll to change fields. Press ENTER to start the program. STOP THE TEST if you do not feel well. This test calculates the fitness, when the heart rate stabilizes at _____ BPM. Then a cool-down phase begins. Do not change the speed or incline. Press the FAST key to begin.

FITTNESS TEST PROTOCOL WORKSHEET:

Name:			Date:		
Resting heart rate:	I.		II.	III.	
Resting blood pressure:	I.		II.	III.	
Weight:		kg	Training target heart rate (85% of the MHF):		

A CAUTION

Risk of Injury due to Overexertion!

If the person at any time during a test experiences chest pain, dizziness, ataxia, confusion, nausea or cold sweat, the test must be ended immediately.

- Place the heart rate device on the person and give them a towel.
- The heart rate of uniformed personnel is measured continuously throughout the test and in the cool-down phase. The heart rate is retrieved and recorded during the last 15 seconds of each phase.
- If the heart rate of the person exceeds the target training heart rate, continue the test in the phase in which the target training heart rate was exceeded for an additional 15 seconds.
- The test is completed and the final testing phase is given if the heart rate does not return to the target training heart rate (or a lower value) or when the person reaches phase 11.4.
- The VO2max is determined using the retrieved final test phase and the conversion table.
- Record the heart rate after a one minute cool-down.



PHASE	MINUTE	Speed (mph)	INCLINE (%)	Heart rate (last 15 seconds of the phase)
Warm-up	3 minutes	3.0	0	
1	1	4.5	0%	
2	2	4.5	2%	
3	3	5.0	2%	
4	4	5.0	4%	
5	5	5.5	4%	
6	6	5.5	6%	
7	7	6.0	6%	
8	8	6.0	8%	
9	9	6.5	8%	
10	10	6.5	10%	
11	11	7.0	10%	
Cool-down	1 minute	3.0	0	

PHASE	TIME	CALCULATED VO _{2max}
1	1:00	31:15
2.1	1:15	32:55
2.2	1:30	33:6
2.3	1:45	34:65
2.3	2:00	35:35
3.1	2:15	37:45
3.2	2:30	39:55
3.3	2:45	41:30
3.4	3:00	43:4
4.1	3:15	44:1
4.2	3:30	45:15
4.3	3:45	46:2
4.4	4:00	46:5
5.1	4:15	48:6
5.2	4:30	50
5.3	4:45	51:4
5.4	5:00	52:8
6.1	5:15	53:9
6.2	5:30	54:9
6.3	5:45	56
6.4	6:00	57
7.1	6:15	57:7
7.2	6:30	58:8
7.3	6:45	60:2
7.4	7:00	61:2
8.1	7:15	62:3
8.2	7:30	63:3
8.3	7:45	64
8.4	8:00	65
9.1	8:15	66:5
9.2	8:30	68:2
9.3	8:45	69
9.4	9:00	70:7
10.1	9:15	72:1
10.2	9:30	73:1
10.3	9:45	73:8
10.4	10:00	74:9
11.1	10:15	76:3
11.2	10:30	77:7
11.3	10:45	79:1
11.4	10:00	80



Cooper Fitness Test

Set the values for your age and gender using the number keys or the FAST/SLOW key. Scroll to change fields. Press ENTER to start the program. Run as far as you can in 12 minutes. TO ACHIEVE AN OPTIMAL RESULT THE SPEED MUST BE ADAPTED DURING THIS TEST: Leave the incline at 0%. Press the FAST key to begin.

The test is to find out in how far an athlete can run/walk in twelve minutes. The assistant should round the results off 100 meters.

Standard data for the Cooper test:

Age	Outstanding	Above Average	Average	Below Average	Weak
Male 13-14	> 2700 m	2400–2700 m	2200-2399 m	2100-2199 m	< 2100 m
Female 13-14	> 2000 m	1900-2000 m	1600-1899 m	1500-1599 m	< 1500 m
Male 15-16	> 2800 m	2500-2800 m	2300-2499 m	2200-2299 m	< 2200 m
Female 15-16	> 2100 m	2000-2100 m	1700-1999 m	1600-1699 m	< 1600 m
Male 17-20	> 3000 m	2700-3000 m	2500-2699 m	2300-2499 m	< 2300 m
Female 17-20	> 2300 m	2100-2300 m	1800-2099 m	1700-1799 m	< 1700 m

The following table shows performance evaluations for older athletes:

Age	Outstanding	Above Average	Average	Below Average	Weak
Male 20-29	> 2800 m	2400-2800 m	2200-2399 m	1600-2199 m	< 1600 m
Female 20-29	> 2700 m	2200–2700 m	1800-2199 m	1500-1799 m	< 1500 m
Male 30-39	> 2700 m	2300–2700 m	1900-2299 m	1500-1999 m	< 1500 m
Female 30-39	> 2500 m	2000-2500 m	1700-1999 m	1400-1699 m	< 1400 m
Male 40-49	> 2500 m	2100-2500 m	1700-2099 m	1400-1699 m	< 1400 m
Female 40-49	> 2300 m	1900-2300 m	1500-1899 m	1200-1499 m	< 1200 m
Male > 50	> 2400 m	2000-2400 m	1600-1999 m	1300-1599 m	< 1300 m
Female > 50	> 2200 m	1700-2200 m	1400-1699 m	1100-1399 m	< 1100 m



Rockport Fitness Test

Set the values for your age and gender using the number keys or the FAST/SLOW key. Scroll to change fields. Press ENTER to start the program. Walk 1609 meters (1 mile) as fast as you can. TO ACHIEVE AN OPTIMAL RESULT THE SPEED MUST BE ADAPTED DURING THIS TEST: Leave the incline at 0%. You must wear a chest strap or hold on the grips. Press the FAST key to begin.

Conduct Test:

- · Record your weight.
- Walk 1609m as fast as possible.
- Record the time for the 1609m walk.
- Record your heart rate after finishing the walk (beats per minute).
- Determine your V="max value using the formula below.

Analysis:

The analysis of the results is to compare the results with the results of previous tests. It can be expected that with appropriate training improvement will be seen between the tests in the analysis.

The formula for the calculation of VO2max value is as follows:

• 132.853 - (0.0769 \times Weight) - (0.3877 \times Age) + (6.315 \times Sex) - (3.2649 \times Time) - (0.1565 \times Heart rate).

The following applies:

- Weight in pounds (lbs.).
- Sex: male = 1 and female = 0.
- The time is given in minutes and hundredths of minutes.
- The heart rate is given in beats/minute.
- The age is given in years.

Female			Male				
Age	High	Average	Low	Age	High	Average	Low
18-21	> 45.3	42.7-41.0	> 39.4	18-21	> 56.1	52.4-54.1	< 49.8
20-29	> 40.9	36.7-33.8	> 30.6	20-29	> 48.2	44.2-41.0	< 37.1
30-39	> 38.6	34.6-32.3	> 28.7	30-39	> 46.8	42.4-38.9	< 35.4
40-49	> 36.3	32.3-29.5	> 26.5	40-49	> 44.1	39.9-36.7	< 33.0
50-59	> 32.3	29.4-26.9	> 24.3	50-59	> 41.0	36.7-33.5	< 30.2
60+	> 31.2	27.2-24.5	> 22.8	60+	> 38.1	33.6-30.2	< 26.5



Military Fitness Test

The Military Test programs provide workouts of a preset distance, as required by the Army, Navy, USMC, and USAF. They are used to assess muscular endurance and cardio-respiratory fitness. As the names imply, the object of each test is to complete the run distance as quickly as possible. At the completion of the test, a time-based score (defined by the respective branch of the Military) is returned to the user. Each test begins with a treadmill incline of 1% (best simulates outdoor running).

Army

Using the number keys or FAST/SLOW keys, set your age and gender values. Scroll to change between fields. Press ENTER to start the program.

- Set incline to 0%.
- Press FAST to start.
- Run as fast as possible for 3.2 km (2 miles).
- Adjust the speed during the test to ensure the best score.
- The scoring standards can be found online:
 - o http://army.com/info/apft/twomileruntable

Air Force & Navy

Using the number keys or FAST/SLOW keys, set your age and gender values. Scroll to change between fields. Press ENTER to start the program.

- Set incline to 1%.
- Press FAST to start.
- Run as fast as possible for 2.4 km (1.5 miles).
- Adjust the speed during the test to ensure the best score.
- The scoring standards can be found online:
 - http://www.afpc.af.mil/shared/media/document/AFD-110804-054.pdf (USAF)
 - http://www.uscg.mil/sapr/docs/pdf/Fitness%20Assessment%203-28-.pdf (USCG)
 - http://www.public.navy.mil/bupersnpc/support/21st Century Sailor/physical/Documents/Guide%205-Physical%20Readiness%20Test.pdf (USN)

Air Force Program, Coast Guard Program, and Navy Program differ only in the way the results are given; Air Force results are given in a point system.

Marines

Using the number keys or FAST/SLOW keys, set your age and gender values. Scroll to change between fields. Press ENTER to start the program.

- Set incline to 0%.
- Press FAST to start.
- Run as fast as possible for 4.8 km (3 miles).
- Adjust the speed during the test to ensure the best score.
- The scoring standards can be found online:
 - http://www.marines.mil/Portals/59/Publications/MCO%206100.13%20W CH%201.pdf



Options and Accessories

9 Options and Accessories

9.1 Order Numbers

The following accessories and options can be obtained from a WOODWAY dealer or WOODWAY service center.

Will the accessories

Depending on year and equipment, it should be checked in advance whether the particular unit is suitable for the selected accessories/options. For this contact the WOODWAY dealer or WOODWAY service center before ordering.

Description	Order no.	
Mounting Aid	4026	
Simplifies the mounting of WOODWAY slat-belt treadmills.		
POLAR® Chest Strap	11500320/321	
For heart rate measurement (consisting of Polar® T34 chest strap + transmitter)		
Emergency Stop Magnet with Pull-Cord	please enquire	
Additional Brake	please enquire	
Recommended for use / treatment of obese patients.		



Options and Accessories

9.2 Mounting Aid

To ensure safe mounting on the treadmill, patients with physical limitations may have to depend on expert personnel for support. Mounting the device may be further facilitated using a commercial climbing aid.



Fig. 33 Mounting aid

WARNING

Danger of Injury from Using Mounting Aid!

When mounting aids are not removed from the device before training, it can lead to serious injury.

- ▶ After mounting remove mounting aid from the device!
- ► Store mounting aid in a safe place.

Following further safety measures must be considered:

- 1. Before using the treadmill, the mounting aid must be removed from behind the treadmill, so that the requirements on the safety area (clear "fall area") of at least $2.00 \times 1.00 \text{ m}$ (length x width) behind the treadmill are met.
- 2. To prevent damage to the treadmill and the mounting aid, this must never come in contact with the running surface. Observe the mounting aid manufacturer's instructions!
- 3. The climbing aid may only be used when the treadmill is not running.
- 4. In order to prevent patients from falling when mounting the treadmill, the supervising person (physician, therapist, and qualified supervisor) must provide help during mounting in the application areas of "movement therapy / rehabilitation training in rehabilitation." The supervisor must be capable of stopping of the patient from possibly falling when mounting the treadmill.



Options and Accessories

9.3 POLAR® Heart Rate Measurement

WOODWAY treadmills are equipped with a Polar® heart rate measurement system. This can be used with numerous POLAR® transmitters.



Fig. 34 Chest strap with POLAR® transmitter

The transfer of data transmission between transmitter and receiver is always "uncoded" (a coded transmission is not supported). If the supplied POLAR® heart rate chest strap used, the pulse rate is displayed in beats per minute (bpm). The chest strap is only active when it is applied directly to the body (see figure). The strap length can be adjusted via the flexible band on the chest strap. Adjust the belt length so that it fits snugly but does not constrict. If the chest strap becomes loose during training, a reliable heart rate can no longer be measured.

Positioning:

The transmitter should be positioned so that it is below the pectoralis (chest muscle) at the height of the sternum (breastbone), logo to the outside. Moisten the contact surface of the transmitter in order to transmit the best signal possible from the body to the measuring device.

Cleaning:

The chest strap can be washed. Remove belt from the transmitter, the electrodes must not be bent. Wash the strap and the electrodes with warm water and mild soap. Do not machine wash the electrodes and do not use alcohol.

Transmission signal:

The transmitter has a reach of about 80 cm. Depending on the model the receiver is located in the display of the device or below the emergency-off switch on the railing. When positioning several treadmills next to each other ensure that a minimum distance between the devices is kept in order to avoid the interference of the transmission signals between the runners.

ATTENTION

The treadmill-pulse measurement is not intended for diagnosis or medical purposes, it is only used as an orientation value!

WARNING

Danger of Electrical Disturbance!

Using the transmitter from the heart rate monitor in conjunction with an electric pacemaker may cause electrical interference and influence the functionality. This could cause a health hazard.

▶ **Never** use the heart rate monitor together with an electric pacemaker

10 Maintenance and Cleaning

A WARNING

Danger of Injury due to Lack of Qualifications!

If maintenance or repairs are not carried out by professionally qualified personnel, this may cause material damage and serious injury.

- ► Maintenance and repair work may only be performed by qualified personnel!
- It is the sole responsibility of the representative to assign qualified personnel for maintenance and repair work.
- In case of doubt or questions, always contact the WOODWAY customer service or dealer!
- ► The manufacturer is not liable for personal injury and material damage caused by a lack of qualifications!

For maintenance (servicing, inspection, repairs) of medical products only to persons, companies or entities who have the expertise prerequisites and the resources necessary for proper execution of this task may be assigned by the representative.

The requirements for persons, firms or entities are considered fulfilled if because of their training and practical work on the required area, in the maintenance of medical devices and the installation areas necessary, including their characteristics, size, equipment and facilities and the required equipment other working assets and are capable to carrying the work out properly and comprehensibly.

After maintenance or repair of medical devices structural and functional features that are essential for the safety and functionality must be checked, insofar as they may have been affected by the maintenance measures.

10.1 Cleaning

A DANGER

Danger of Death by Electric Shock!

The use of water and liquid detergents as part of cleaning work can cause serious or fatal electrical shock.

- ► No liquids may come in contact with electrical parts such as motor, power cord and power switch, control monitors.
- ▶ Do not spray the device with a water jet.
- ▶ Pull power plug before cleaning, equipment must not be connected to power! Ensure the device cannot be switched back on.

The slat-belt treadmill should be thoroughly cleaned at regular intervals, depending on the intensity of use.



Cleaning agent

For cleaning and disinfection of parts that are touched (handrail, display, controls, etc.) a formaldehyde-free rapid disinfectant such as "Bacillol plus" or "Descosept" is recommended. For cleaning, never use sharp brushes or abrasive cleaning agents, paint and plastic surfaces can be damaged.

10.2 Maintenance Intervals

A DANGER

Danger of Death by Electric Shock!

Maintenance and inspection work on the unit may cause serious or fatal electrical shock.

- ► Pull the power plug prior to any maintenance and inspection work on the equipment. The device must not be connected to the power!
- Ensure the device cannot be switched back on.

Weekly maintenance

- Clean handrails, display and side panels with a damp cloth.
- Disinfect railings and controls
- Clean the running surface with a damp, lint-free cloth
- Visual check the power cord for damage
- Check the wires to the controls.
- Inspection of the treadmill for mechanical damage (incline scissor rollers, feet, side panels, display, control elements)
- Checking mounting of all controls (display, emergency stop mushroom, keypad with magnetic mount, side panels)
- Clean the area under the treadmill (vacuum and mop). For this the treadmill
 can be lifted to the maximum incline.

ATTENTION

Worn or damaged components must be replaced immediately. If the observed deficiency can cause danger to the user or operator of the treadmill, it needs to be taken out of service until repaired.



Maintenance every 2-4 weeks

A complete function test the treadmill must be carried out every 2-4 weeks depending on the duration and intensity of use.

The function test includes the following:

1.	Using the treadmill for a short time at speeds between 6 and 10 km/h. Do unusual noises occur?
2.	Stand next to the treadmill and turn it up to maximum speed for a short time. Does the treadmill reach the specified maximum speed? Do unusual noises occur?
3.	Does the display show the traveled distance at top speed correctly?
4.	Stop the treadmill and move it to maximum incline. Does the treadmill reach the desired incline?
5.	Do unusual noises occur while the treadmill is running at maximum incline?
6.	Check the emergency stop magnetic switch function. Is an emergency stop is initiated?
7.	Check the function of the emergency stop mushroom (or the button on the external display).
8.	Set the treadmill in the "standby" mode. The running surface must be very difficult to move. (However, slight movement of the belt in "standby" mode is normal). Is the sunning surface stopped correctly?

ATTENTION

If there are deficiencies or deviations in the control function, notify the WOODWAY customer service immediately.

The device must be taken out of service and disabled until repaired. Repairs may only be carried out by trained and authorized personnel.

Maintenance every 6-10 months

Before starting any maintenance, the side panels are to be removed (NOT the electronics covers).

Preventive maintenance consists of the following measures:

- Clean the inside of the treadmill with a vacuum cleaner. Do not touch the electrical components (cables, transformers, connectors, etc.).
- Check the drive unit toothed belt (drive belt) for cracks and other wear and missing or broken teeth (visual inspection).
- Check the aluminum profiles of the slats with a flashlight for damage (visual inspection).
- Check all mechanical components for damage (lifting mechanism, welded frame, side panels, treadmill feet, rollers on the lifting scissors, railings, display, emergency stop mushroom emergency stop magnetic switch) (visual inspection).
- In rare cases there may be bearing damage. Under certain circumstances this can be detected through excessive grease leakage from the bearing housing.
- Have the time limits prescribed by the manufacturer for the maintenance and safety checks been complied with?



A repair must take place:

- if liquid has gotten into the device,
- with damaged power cord (cable, plug)
- if the drive system toothed belt of the shows deficiencies
- in case of suspected bearing damage,
- if a defect on the device is suspected or has already been established,
- in case of bucking, sudden stopping or accelerating of the running surface,
- if buttons fail to function,
- in case of burning smell, smoke, or unusual noises,
- in case of malfunction (failure) of the emergency stop button,
- in case of malfunction (failure) of the emergency stop magnet,
- in case of damage to the running surface belt and
- for all other defects which may affect the safety of the device.

Annual inspection

The proper maintenance of the treadmill must take place annually in conjunction with the technical safety checks (TSC).

In exceptional cases the maintenance interval may be adapted to the extended inspection intervals in accordance with "Technical safety checks (TSC)" Maintenance and repairs may only be carried out by trained and authorized personnel.

NOTE

It is recommended to enter maintenance and repairs in the maintenance and repair log, see Appendix.

Significant measures for inspection of the treadmill:

- Inspection of the treadmill installation
- Inspection of the running surface belt
- Inspection of the drive unit and the lifting system
- Inspection of nuts and bolts
- Inspection of secondary carrier and guide rollers
- Inspection of electronics
- Technical safety checks (TSC)

For further information on maintenance procedures, refer to separate the service manual.



10.3 Technical Safety Checks (TSC)

CONTINUUM treadmills are devices in protection class I and have an application part in type B (railing). The power cord is normally not removable.

Permanent connection

CONTINUUM treadmills are usually not intended for permanent connection. The installation of a permanent connection must be performed by suitably trained personnel. For the safety checks on permanently connected equipment, the applicable regulations in the country of use are to be observed.

Checks and measurements

Tests and measurements shall be carried out in a properly functional device. Any repairs must be performed by qualified personnel before the technical safety inspection.

Country-specific requirements

When carrying out the prescribed measurements and checks, country-specific regulations, instructions and test steps are to be observed.

Manufacturer's recommendations

Prior to the tests, manufacturer's recommendations for the maintenance of the treadmill are to be considered in accordance with EN 62353. For this reason these instructions are to be read completely and carefully. If accessories are used, the manufacturer of the product's recommendations is to be observed accordingly. Measurement technology checks are not intended for CONTINUUM treadmills.

Multiple devices

If the treadmill is used along with other medical electrical equipment (e.g. for the ergospirometry or with PC control software), the requirements set out on the Medical Electrical System ("ME-System") in accordance with EN 62353 apply.

Data lines and functional grounds are to be separated (potential equalization) for the duration of the measurements, along with other connections to other devices.

ATTENTION

For safety reasons, the use of power strips and the simultaneous operation of other equipment on the same supply line are prohibited.

An exception can be made for the use of spirometry systems. In this case, the requirements for technical safety inspection of ME systems according to EN 62353 need to be considered.

Inspection intervals

Technical Safety Check (TSC) must be performed annually by qualified personnel (electricians). These are "repeated safety checks" in accordance with EN 62353.

If the treadmill rarely used, under certain conditions, the test interval of 18 months may be increased to a maximum of 24 months (see EN 62353). These conditions are:

- 1. The device may not be older than 10 years,
- 2. the representative must confirm the estimated average weekly use of the treadmill in writing,
- the representative must be informed in writing that the inspection interval for the next TSC must be re-evaluated when the intensity of use of the treadmill increases, and
- 4. The qualified inspector must consider the environmental conditions and the frequency of device malfunctions in the past.



Visual inspection

According to the standard EN 62353, an inspection is carried out visually prior to the measurements. The following points must be checked on CONTINUUM treadmills:

1.	Treadmill operating manual. Is the operating manual for the device immediately available for the user and it is valid for the tested treadmill model?
2.	Accessory operating manuals . Are the operating manuals for accessories and options available?
3.	Labels and nameplate . Are all labels on the device legible and complete (nameplate, fuse identification, interfaces labels, labels on the operating and display elements)?
4.	Fuses . Do the rated values and meltdown characteristics of the inserted fuses match with the following values: Fuse, operational voltage 250VAC, size 5x20mm (diameter x length), 10A, time-lag (10 AT)?
5.	Visual condition of the treadmill : Is the device undamaged and properly cleaned? Are slats possibly broken / cracked? Visual inspection of mechanism according to the section "Treadmill maintenance".
6.	Use of the emergency stop magnetic switch : Is the emergency stop magnet available with pull cord and clip, and is this always is used every time the treadmill is used in accordance with the manufacturer (Determined by asking the operating personnel)?
7.	Condition of pull cord, clip and cord stopper : Are the ripcord ("pull cord") of the emergency stop magnet, the fixing clip and the cord stopper for adjusting the length of the cord undamaged and fully functional?
8.	Safe fall area : Is the safety area of 2.00 x 1.00 meters behind the treadmill provided?
9.	Power strips : Are power strips used? For safety reasons the use of power strips is forbidden.
10.	Room circuit breaker : Is a line circuit breaker with the following properties used to protection the line: Rated voltage 250V, rated current 16A and tripping characteristic "C" (slow)?
11.	Power supply : Are other devices on the same supply line? For safety reasons the treadmill must be used on a room connection with a separate line circuit breaker.

Measurements i.a. EN 62353

The values determined in these tests are to be documented together with the measurement method and evaluated (as basis for comparison for future standards). Measurements are to be carried out in the standard. The protective conductor resistance and the device leakage current are to be measured. A measurement of the leakage current from the applied part according to the standard is not necessary. For the measurement of the device leakage current, the direct measurement methods or the difference current measurement can be used.

The replacement measuring method may not be used for measuring the device leakage current.

For the measurement of protective conductor resistance, the side panels of the treadmill must be removed. During the measurement the power cable must be moved over the entire length. If changes in resistance are observed during movement, it must be assumed that the ground wire is damaged or has a bad connection.



If the measured values are between 90% and 100% of the allowable limit, the previously measured values (reference values) for the evaluation of the electrical safety of the appliance shall be considered. Note that the measured values of the factory test may differ slightly from the measured values at each treadmill location due to different test conditions.

The measured values must not exceed the permissible limits specified in the following table:

Measurement	Limit value
Protective conductor resistance - non-removable power cord Resistance between the protective conductor of the power cord and the protective conductor connected, exposed conductive parts of the unit (treadmill frame + railing):	300 mΩ
Protective conductor resistance - removable power cord Resistance between the protective conductor of the power cord and the protective conductor connected, exposed conductive parts of the unit (treadmill frame + railing):	200 mΩ
Resistance between the protective conductor contacts at each end of the detachable power cord itself:	100 mΩ
Device leakage current - direct measurement or differential current measurement Measuring procedure defined in the standard EN 62353:	0.5 mA

Function test

After the examination (inspection and measurement) a functional test must be performed in accordance with paragraph "Function test"; this is to ensure that the treadmill has been restored to its necessary Condition for "Intended use", i.e. that it is operational and safe.

Test report

The results report (test report) must meet the requirements the standard EN 62353.

A final safety evaluation of the appliance must be carried out and the deadline for the next TSC set. In accordance with the standard this review can only be carried out by one or more qualified electricians, who have adequate training on the inspected device.

The tested treadmill must be marked with the test date (inspection sticker).

The examiner and the person responsible for maintenance of the treadmill (usually the representative or a person appointed by the representative) sign the test report. This document is prepared in three versions, wherein a copy remains with the representative of the treadmill and one for the tester's records. The third copy should be sent to WOODWAY customer service (WOODWAY maintains a file on each treadmill). In this way, they can provide efficient and reliable support.

If technical safety inspections are required by the manufacturer, the operator must carry these out or have these carried out according to the generally recognized rules of technology and within the time specified by the manufacturer.

The reason for the safety checks is to determine if a medical device is operational at the time of the audit, if it is in good condition and it is also expected to correspond to safety inspection requirements until the next safety inspection.

For other medical devices, accessories, software and other items used for the aforementioned medical devices, connected by the representative, the safety checks apply accordingly.

Technical safety checks (after repeat tests or testing after maintenance and repair) may only be performed by, one who has the responsibility for the proper implementation of safety controls due to their training, knowledge and experience gained by practical activities, is not subject to instructions with reference to the inspection activities (i.e. is not subject to directives with his professional judgment during the



implementation and evaluation of the tests) and has the appropriate measuring and testing equipment.

Personnel requirements

The operator may only appoint persons that meet the above conditions for the implementation of safety-related controls. The fulfillment of the prerequisites must be presented at the request of the competent authority.

A report must be filled about the entire safety inspection, which is kept at least until the next TSC. The following information should be contained therein:

- Date the technical safety checks were carried out
- Results of the technical safety checks
- Indication of the measured values
- Measuring procedure
- other test results

The representative shall keep the report at least until the next safety inspection.

10.4 Disabling the Treadmill

Disabling is required if the safety of the treadmill is not guaranteed, or if is suggested that this could be the case.

A device must be disabled if e.g. the following symptoms occur: unusual noises, appearance of smoke, uncontrolled stopping or accelerating of the treadmill, rocking of the running surface belt, damage to slats or other mechanical damage, spilling of liquid on the treadmill, etc.

Disabling can also be to the WOODWAY Customer Service by telephone. In this case, the treadmill representative is obliged to carry out the disabling and to confirm with WOODWAY customer service in writing.

Exceeding the test periods by several months (see previous chapter) also makes temporary disabling of the treadmill necessary.

ATTENTION

The representative is responsible for property damage or personal damages caused by incorrectly disabling or not disabling the treadmill!

The disabling of the treadmill must be such that (i) an unintentional and/or unauthorized restart can be ruled out and (ii) that the name of person who is authorized to put the treadmill back into operation can be seen.



The removal of the power plug from the outlet alone is not sufficient for the disabling of the treadmill, since third persons who have not been informed about the disabling can plug the treadmill back into the power supply and use it.

The following measures must therefore be taken to disable a CONTINUUM treadmill:

- 1. The unit must be turned off and the power plug must be unplugged from the wall socket (disconnection).
- The treadmill must be marked "disabled" in a clear manner such as: "CAUTION DANGER OF INJURY" the notice must be clearly displayed. In addition, the date of disabling, reason for disabling and name of the person/organization that disabled must be specified.
- 3. It must be determined which (authorized) person the treadmill possibly after maintenance and repairs may start up the treadmill again.
- 4. The fuses must be removed from the power supply box and kept in a safe place. Attach the label below to the treadmill power supply box so that the fuse box is covered.
- 5. Apply the safety label below to the plug of the power cord.

Sample Label for Disabling a Treadmill:



The representative is to disable medical treadmills when:

- reasonable suspicion of danger to the health and safety of patients, employees or third parties,
- defects that could endanger patients, employees or third parties exist.



10.5 Device Fuses

The fuses must comply with the published technical specifications, see sec. 4.2 Page 17. Bridging the fuses is prohibited (risk of electric shock, fire risk).

When replacing a fuse, turn off the power using the main power switch and unplug the power cord from the outlet. Using a screwdriver, unscrew the fuse holder out of the power junction box. Change the fuse and screw the fuse holder into terminal box.



Fig. 35 Device fuses



Troubleshooting

11 Troubleshooting

ATTENTION

With the exception of the maintenance work described in this chapter, the treadmill can only be checked and repaired by qualified personnel.

If necessary the WOODWAY dealer or service center is to be contacted!

For inquiries have the following information handy:

- Device designation, model and serial number of the relevant treadmill
- What happened just before the defect?
- Did the fault occur at once or gradually?
- For unusual noises where do the noises come from?
- Was someone training on the treadmill at the time of the defect?
- Describe any other relevant symptoms
- Have any accidents occurred on the treadmill?
- Was anyone injured?

11.1 Unusual Noises

Visual inspection

Perform a visual inspection of the running surface belt and verify that the running surface is not obstructed by an object under/in front of/near the device. Remove any obstacles that could obstruct or damage the running surface.

Check whether the running surface inadvertently brushes against the side panel and leads to excessive wear. In this case correct the gaps between running surface and side panel.

Toothed V-belt running surface belt

The teeth on the bottom of the tread belt are sufficiently lubricated in the factory to minimize the noise. In certain cases it may occur that the combination toothed V-belt (also see "running surface belt") rubs against the pulley guides, thus producing whistling sounds. In this case, the use of a small amount of lubricant (Molykote or similar product) applied to the edges of the endless belt can contribute to noise reduction. Do not use too much grease, as this only leads to unnecessary accumulation of dust and dirt.

Toothed belt drive system

As with the running surface belt, the use of a small amount of lubricant on the edge of the belt is only necessary to reduce a "whistling" of the belt. Lubricant should always be used sparingly.

Bearings

When noises come from the bearings, bearing damage is to be expected In this case the bearing must be replaced by a trained and authorized technician.



Troubleshooting

11.2 No Display

If the display is not lit when you turn the treadmill, check the following points:

- Is the emergency stop mushroom released (or emergency stop button on the external display)?
- Is the treadmill connected to the power source?
- If the main switch on the power connector box switched on?
- Fuse (s) blown? (Replace fuse)
- Can the fan is to cool the servo controller (on the right) be heard?
- Does the socket to which the treadmill is connected supply power (e.g. could the circuit breaker for the supply line have been triggered)?
- Has one of the device fuses melted?
- Is the emergency stop magnet placed on the magnetic switch?

11.3 Belt does not move

If the display and/or lifting mechanism works but the treadmill does not accelerate when the [+] button is pressed, do the following:

- Ensure the emergency stop magnet is in place. Try to reposition the magnet.
- Turn off the power at the main switch and unplug the power cord.
- Check if the running surface belt is be blocked by an object and if so, remove.

Wait about 60 seconds and put the unit back into operation.

11.4 Free Moving Running Surface Belt

It is always possible to rotate the running surface belt slowly when the drive is not engaged. The more energy you expend to move the running surface, the greater the motor's braking effect ("short circuit brake"). This behavior is normal.

When the drive is not engaged ("Stand-by" mode) the running surface belt is slowed down by short circuit of the three motor phases. A totally free moving running surface belt in this case, however, might be defective short circuit relay or a broken wire.

If the treadmill is turned on with the switch on the display and the indicator in the display is active, this is a sign that the motor is defective or it is a failure of the servo controller.

In both cases the treadmill must be disabled immediately according to the instructions in this manual.

11.5 Incline Does Not Function

- Check whether incline motor makes noises (brake stuck/motor has stopped).
- Check whether the incline limit switch has been tripped.
- Check whether the chain is broken or has slipped from the sprocket.
- Check whether the potentiometer is set properly.

11.6 Faulty or Flashing Display

Probable causes:

- Power supply too low.
- Too much load on same line.
- Defective display power supply on interface board.
- Possible static problem (to correct, spray with staticide).

Check whether the potentiometer is set properly



Troubleshooting

An excessive load or excessive consumption on the same line may be causing problems. Connect the device to a specially fused power supply line or remove the other power consuming devices from the mains.

11.7 Electrostatic Discharge

By running on the device the runner can become electrostatically charged. If they touch a metal part of the device in this state, it can cause an electrostatic discharge from the user. Under certain circumstances an electrostatic discharge may cause a malfunction of the device. However, such discharges are normally harmless for the user and the device. The most common cause of static electricity lies in the choice of clothing, the condition of the shoe soles and very dry air.

Try other clothing and other footwear and moisten the room with commercial humidifier if you measured very dry air.

11.8 Sources of Electromagnetic Interference

Close proximity to, for example, X-ray equipment, powerful motors or isolating transformers must be avoided because of possible electromagnetic interference.

Electromagnetic interference can affect the operation of your treadmill.

11.9 Interference of the POLAR® Heart Rate Monitor

During the transfer of data from the transmitter to the receiver the POLAR® heart rate monitoring may receive interference, which is triggered by other devices in the proximity of the treadmill. The most common causes for this are:

- PC screens, computers, radio systems of all kinds
- High tension power lines
- Intense light exposure
- Strong magnetic fields

Disposal

12 Disposal

The disposal of the equipment must be in accordance with the respective national regulations.

Electrical and electronic devices must be disposed of separately from normal household waste.

An appropriate waste disposal company should be contacted. Properly dispose of the device at the end of its service life

(e.g. the local collection point for waste separation):

- The device packaging is disposed of through resource recycling.
- The metal parts of the machine go to scrap metal disposal.
- Plastic parts are given to plastic recycling.
- Electric components and printed circuit boards are disposed of as electronic scrap.
- Rubber parts are disposed of as hazardous waste.



This symbol indicates electrical and electronic equipment that cannot be disposed of with as standard waste, but must be handled separately.

Disposal must be carried out to prevent problems with heavy metals and flame retardants in accordance with relevant waste management.

Please contact the manufacturer's authorized representative in order to obtain information concerning disposal of your equipment.



The disposal of the equipment must be in accordance with the respective national regulations.

Wear parts are considered hazardous waste! After being replaced wear parts must be disposed of according to country-specific waste laws.



Instruction Record

13 Instruction Record

Once the introduction, installation and functional check of the slat belt treadmill has been completed, the competent WOODWAY employee or the authorized WOODWAY dealer carries out the instruction for the device. All persons who will be working with the unit in the future (user) must receive the instructions. After successful commissioning and instructions the instruction record is signed by the instructor all persons trained and a copy must be sent to WOODWAY GmbH.

_		
Step	Description	Conducted
1	Transfer of operating and maintenance instructions. Important notice:	
	The manual is always to be kept within easy reach of users! The availability of the manual is required and will be checked at each inspection.	
2	Reference to the general hazard statements and safety requirements according to the manual. Thereby indication of specific treadmill hazard statements according to area of application (benefit/risk assessment by the therapist, etc.). Assistance in mounting the treadmill for frail/disabled persons.	
3	Special note on the prescribed clear area/safety distance to objects and walls of at least 200 cm x 100 cm (L x W). Note on using the safety strap with harness and fall protection in case of increased risk.	
4	Switching the unit on and off with the power switch. Explanation of the different functional states of the device (off, standby, ready).	
5	Important safety notices: After turning on the treadmill the device goes through an initialization phase, which lasts about 3-4 seconds. The user / patient should not get on the treadmill during initialization!	
6	Explanation and demonstration of the various safety devices on the machine (emergency stop magnet with rip cord, emergency stop mushroom). Note on using of safety devices to stop the machine in an emergency. Correct attachment of the safety clip on the waistband.	
7	Explanation of the Keys on the keypad on the railing. Notice on function for short button push and long pressing for speed or incline setting. Notice on double pressing the stop button to return the treadmill to the zero position after use.	
8	Demonstrate operation of the treadmill in manual mode.	
9	Explanation of the indicators in the display.	
10	Operation of the treadmill via customized programs possible	
11	Operation of the treadmill with pulse control.	
12	Instructions for correct heart rate measurement and limitations: Correct wearing of the chest strap, behavior in case of problems, malfunctions, possible causes and sources (computers, quartz watches, monitors, power lines, etc.).	
13	Notice of accompanying user guide.	



Instruction Record

Step	Description	Conducted
14	Instructions on cleaning the treadmill with reference to the manual. Important notices:	
	 When cleaning the unit always pull the power plug before the start. Maintenance and repair of medical devices and electrical equipment only by authorized personnel (WOODWAY service technicians, authorized WOODWAY service partner or medical technician). 	
15	Notice on regular and recurring maintenance intervals with regard to safety checks (TSC).	
	Maintenance contract offer.	
16	Final photographs of the device from two different perspectives. (Documentation WOODWAY GmbH)	
17	Explanation of possible malfunctions that must lead to a disabling of the treadmill:	
	 Bucking, sudden stopping or sudden acceleration of the treadmill Failure of buttons 	
	Burning smell, smoke, or unusual noises,	
	 Damage / loss of the emergency stop magnet with pull cord Malfunction (defect) of the emergency stop magnet, 	
	Damage to the running surface belt	



Instruction Record

Confirmation of commissioning and training record

With the signing of the instruction record, the instructor and the customer confirm the carrying out of qualified instruction and commissioning. Disregarding of warnings, safety requirements, intended and the prohibited use, as well as unauthorized or improper maintenance and/or repair and/or technical safety inspection can cause injury or even death, and/or may damage the device and/or lead to loss of all material defect liability claims and any other liability claims. Please fill out the instruction protocol completely and return it to WOODWAY.

WOODWAY CONTINUUM treadmill	Serial no.:		
	Model:		
The above treadmill was properly set up / installed on:	(Date)		
Technical instruction was completed on:	(Date)		
Place of transfer / instruction:			
The following persons received instructions:			
(Name and function)	(Signature)		
(Name and function)	(Signature)		
(Name and function)	(Signature)		
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Remarks:			
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(Location, Date)	Name (printed capital letters) and signature Instructor (Medical device consultant)		



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