

*For The Long Run<sup>®</sup>*

# WOODWAY<sup>®</sup>

## Continuum

User Manual: 9/2019, UM-CO-EN-01



**User's Manual**

9/2019 UM-CO-EN-01

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**MY WOODWAY:** \_\_\_\_\_ **ARRIVED:** \_\_\_\_\_  
**Model Name** **Date**

## **WOODWAY History**

WOODWAY's history begins in Germany in 1974. Willi Schoenberger, a technical director in charge of planning a fitness center, noticed that the most important piece of equipment, the treadmill, didn't meet the most important requirements: a mechanically sound machine that is designed to meet human needs.

He envisioned a comfortable walking surface that didn't interfere with the natural biomechanics of running or walking. Also, he wanted a transportation system which eliminated the friction associated with conventional conveyor-belt treadmills. After intensive research, and trial and error (and in cooperation with the Deutsche Sporthochschule in Cologne, Germany), Willi developed and patented a very unique and revolutionary treadmill design.

In 1975, WOODWAY GmbH was founded in Weil am Rhein, Germany. The name "WOODWAY" is derived from the German "Waldweg" ("Wald" = wood and "Weg" = way), the feel of running on a soft pine needle covered path in the forest.

In 1983, a manufacturing license was awarded to Sakai Medical, for the use of WOODWAY technology in the Japanese marketplace.

In 1988, a U.S. license was granted to a small, well-established manufacturing company in Waukesha, Wisconsin. WOODWAY USA was formed when the U.S. incarnation of the WOODWAY was developed and completed in 1990. WOODWAY USA is proud to be the primary manufacturer of WOODWAY Treadmills worldwide, exporting treadmills for international distribution, in addition to serving our domestic customers and clients.

Today, WOODWAY's design and manufacturing facilities in the United States, Germany, and Japan make WOODWAY the largest specialized treadmill manufacturer in the world. Constant enhancements in quality, design, and function are shared and implemented by all three WOODWAY manufacturers.

As WOODWAY moves forward, attention to product quality, innovation, and customer service are at the forefront of our efforts. Along with our treadmills, other products, services, and strategic relationships are being developed so as to keep WOODWAY on the leading edge as we meet fitness training, testing, and rehabilitation needs.

# 1 Safety

## 1.1 Important Safety Information

CONTINUUM treadmills have 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 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. Replace the stickers if they become damaged or illegible.

A safety sign has been included with your treadmill. It is the responsibility of the owner to post this sign in a visible area near the machine.

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

**Read all instructions before using the treadmill.**

**DANGER-** To reduce the risk of electrical shock:

- Do not modify the plug provided with the treadmill. It is equipped with a grounded power cord. If it will not fit in the outlet, have a proper outlet installed by a qualified electrician.
- The power cord should not come in contact with any heating surfaces or sharp edges.
- Never operate this appliance if has a damaged cord or plug, if it is not working properly, or if it has been damaged. Contact WOODWAY or authorized service agent for servicing or assistance.
- Do not use any adapters, especially those without grounding provisions. Doing so could potentially result in electrical shock.
- Do not operate motorized treadmills in damp or wet locations.
- Do not operate the heart rate monitor transmitter in conjunction with an electrical heart pacemaker. The transmitter may cause electrical disturbances.
- Always unplug the treadmill immediately after using and before cleaning or servicing.
- Do not soak the treadmill surfaces with any liquid; use a sprayer or damp cloth.
- Keep all electric components (e.g. motor, power cord, power switch) away from water.
- Do not place any open liquid containers on any part of the treadmill. The use of sport bottles with closeable tops is acceptable.
- Do not attempt to service your treadmill yourself without first contacting WOODWAY Service.
- Always keep the running surface clean and clear of obstructions.

**CAUTION:**

- Consult your physician before beginning any exercise program, especially if any of the following pertain to you: history of heart disease, high blood pressure, diabetes, chronic respiratory disease, elevated cholesterol, smoker, or experiencing any other chronic disease or physical impairments.
- Pregnant women should consult a physician before beginning an exercise program.



- If you experience dizziness, chest pain, nausea, or any other abnormal symptoms while using the treadmill, stop training immediately. Consult a physician before continuing.
- A qualified mechanic should perform any service or repair work. It is preferable that mechanics have successfully completed WOODWAY factory-authorized service school or equivalent.
- Fuses may only be replaced by fuses of the same time and rated output to provide permanent fire protection.

**WARNING-** To reduce the risk of injury to you and others:

- Set up and operate the treadmill on a solid, level surface.
- Use this device only for its intended purpose as described in the manual. Do not use attachments not specified by the manufacturer.
- The treadmill should never be left unattended when plugged in and/or running. Unplug the treadmill from the outlet when not in use and before cleaning or servicing.
- Do not operate the treadmill outside.
- To disconnect the treadmill, turn all controls to OFF position then remove the plug from the outlet.
- Connect the treadmill to a properly grounded outlet only. See Grounding Instructions.
- Keep all loose clothing and towels away from the running surface. It is also important that shoe laces do not extend beyond the bottom of the shoe.
- Keep the area behind the treadmill clear and at least 6.5 ft. (2 m) from walls or furniture. If the treadmill has reverse functionality, the safe fall area must be in front of the treadmill, as well.
- Keep hands away from all moving parts.
- Never leave children or physically/mentally disabled patients unsupervised while on or near the treadmill.
- Inspect the treadmill for worn or loose components prior to use. Tighten or replace any worn or loose components if necessary.
- Read, understand, and test all emergency stop procedures.
- Always use the emergency stop pull-cord supplied with the treadmill. It can be clipped to an article of clothing while training. This is for the user's safety in case of an emergency.
- WOODWAY treadmills are built to handle runners weighing up to 800 lbs. (360 kg) at speeds between 0-4 MPH (0-6.5 km/h) and 400 lbs. (180 kg) at speeds up to 18 MPH (29 km/h).
- The treadmill running belt might not stop immediately if an object becomes caught in the belt or rollers.
- Care should be taken when mounting and dismounting the treadmill. Never mount or dismount the treadmill while the running belt is moving. Use the handrails and handlebar whenever practical or necessary.
- Wear proper athletic shoes with rubber or high-traction soles. Do not use shoes with heels or leather soles. Ensure no stones are embedded in the soles.
- Allow several minutes to bring your heart rate into the training zone depicted in the manual. Walk slowly after your workout to allow your body sufficient time to cool down and your heart rate to decrease.

- The safety and integrity designed for the machine can only be maintained when the treadmill is regularly examined for damage and/or wear, paying special attention to areas susceptible to wear, and repaired if necessary. It is the sole responsibility of the user/owner or facility operator to ensure that regular maintenance is performed.
- Worn or damaged components should be replaced immediately or the treadmill should be removed from service until the repair is made. Only manufacturer-supplied or approved components should be used to maintain and repair the treadmill.
- Do not mount the treadmill during the initialization process (i.e. the display is not fully initialized)
- Handicapped users (e.g. fragile, mentally handicapped, etc.) should never mount the treadmill without the help of the therapist. The therapist and attending physician must weigh the risks and benefits of using the treadmill.
- To ensure safety and maximize benefits, WOODWAY recommends all users maintain proper running form and not shuffle their feet.

**SAVE THESE INSTRUCTIONS**

## 1.2 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.

### 1.2.1 Sample of a Warning Notice

|  <b>SIGNAL WORD</b>                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Warning Text, Type, and Source of Danger</b></p> <p>Description of the consequences of ignoring the danger</p> <ul style="list-style-type: none"> <li>▶ Measures, instructions, and forbidden actions to avoid the hazard</li> <li>▶ Further measures...</li> </ul> |

### 1.2.2 Classification

|                                                                                                    |                                                                                                                           |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>NOTE</b>                                                                                        | NOTE (no danger symbol), No risk of injury, pertinent information and warning against material damage                     |
|  <b>CAUTION</b>   | CAUTION (with danger symbol), Slight possibility of injury                                                                |
|  <b>WARNING</b> | WARNING (with danger symbol), In a dangerous situation, serious accident possible with the possibility of injury or death |
|  <b>DANGER</b>  | DANGER (with danger symbol), In the event of an accident, immediate danger or death or serious injury                     |

## 1.3 Safety Notices on Device

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



### Protective Ground Wire Connection

CONTINUUM devices are electrical devices with protection class I (EN 60601-1:2007). This symbol indicates operational ground connections inside the device. It is located inside the base of the treadmill.

*Note: Grounding reliability can only be achieved when this equipment is connected to an earth-grounded receptacle marked "HOSPITAL GRADE".*



### Danger Due to Electric Voltage

This symbol warns the user of dangerous voltage inside the device. It is located inside the base of the treadmill.



### CAUTION!

- To reduce the risk of fire, replace only with same type and rating of fuse. Disconnect power before replacing fuse (located by fuse inside base of treadmill).

### WARNING!

- Disconnect from supply circuit before opening (located on power cord and AC bracket on base of treadmill).

### WARNING!

- Remove emergency stop lanyard when not in use and store out of reach of children (located on emergency stop lanyard)

### CAUTION!

- There is risk of injuries to persons. To avoid injury, stand on side rails before starting treadmill. Read instructions before using (sticker located on display).



### Emergency Stop

This indicates an emergency stop. It is located on the emergency stop button.



### Potential Equalization

This indicates the connection of a potential equalization cable. It is located inside the base of the treadmill.



### Potential Trapping Zone

Use caution when adjusting the treadmill elevation. It is located on the base of the treadmill.

## 1.4 Personnel Qualifications and Responsibilities

### **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 recommends the use of a training record (see Section 13 Page 91) for proof of instruction.

### 1.4.1 Representative

The representative is the person or company that is responsible for setting up, using, and maintaining 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 recommends the training be carried out by a trained and authorized WOODWAY dealer or service partner.

### 1.4.2 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 a therapist, sports physician, or any other supervisor. The operator of a medical device is any person who - regardless of 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.

## 1.5 Intended Use

The Continuum treadmill is intended to provide functional movement therapy, (sports-medical) performance test, sports-scientific training and competition analysis, exercise, and fitness.

### **WARNING**

#### **Danger due to 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.

Under the supervision of qualified medical professionals, the CONTINUUM treadmill may be used in the following areas of medicine:

- 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 (locomotion therapy)

### **1.5.1 Special 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.

### 1.5.2 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.

#### **WARNING**

##### **Risk of Injury Through Increased Risk of Falling!**

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

- ▶ Use a fall protection system, support belt, or 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.

### 1.5.3 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.

## 1.6 Unauthorized Modes of Operation

CONTINUUM treadmills 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 the device or be left near the device unattended (Exception: see "Application Options for Children" Section 7.1 Page 38).
- The use of the treadmill under the influence of alcohol, 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 studs.
- It is forbidden to use the treadmill without its side rails or with walking poles.
- The operation of WOODWAY slat belt treadmills outside of the named ambient conditions in the section "Setup and Installation" (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 following 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.
  - Never set the stress level (speed) too high.



## 1.7 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, anti-epileptics, etc.).

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
- Chronic illnesses
- Cancer
- Acute myocardial infarction or unstable angina pectoris (determined by a stress test)
- Cardiovascular diseases e.g. severe high blood pressure at rest, carditis, congestive heart failure, severe valvular heart disease, dangerous heart arrhythmias at rest, or aortic aneurysm

If the patient is experiencing acute illness, febrile condition (i.e. fever), or newly occurring pain, this represent an absolute contraindication for physical stress. In such situations, it is necessary to postpone training until the patient's health has improved sufficiently.

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. In such situations, an exercise ECG is essential and training is only possible under medical supervision.

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.

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.

## 1.8 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 treadmills meet the requirements of EN 60601-1-2:2014 (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, causing treadmill malfunctions.

### **ATTENTION**

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

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.

## 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.

#### **CAUTION**

##### **Improper Operation Can Cause Accidents!**

Not using the slat belt 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.

##### **2.1.1 Observe Instructions**

WOODWAY 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 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
- Unauthorized modifications to the device or accessories

WOODWAY 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 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.

## 2.4 Replacement Parts

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

- Developed for specific use with the device
- Manufactured for high quality and excellence
- Ensure 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 does not accept liability for damages resulting from this.

## 2.5 Disposal

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.

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.



## **2.6 Customer Service**

For service questions contact the following:

WOODWAY USA, Inc.  
W234 N700 Busse Road  
Waukesha, WI 53186  
USA

Tel: 1 800 WOODWAY option 3

Fax: 1 (262) 522-6235

Email: [service@woodway.com](mailto:service@woodway.com)

Web: [www.woodway.com](http://www.woodway.com)

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

- Information on the name plate (specific model/serial number)
- An accurate description of the circumstances
- Customer number (if available)
- What action has already been taken?

### **2.6.1 Servicing**

The address of your local Service Center can be obtained from the manufacturer. After repair or re-installation, the actions listed under Section 6 on page 33 are to be performed as during installation.

## 2.7 EC Declaration of Conformity



### EC Declaration of Conformity EG Konformitätserklärung

**Hersteller:**  
**Manufacturer:**  
WOODWAY USA Inc.  
W234 N700 Busse Rd.  
Waukesha, Wisconsin 53188  
USA  
Phone: +1 262-548-6235  
E-Mail: info@woodway.com  
Web: http://www.woodway.com

**Europäischer Repräsentant:**  
**European Representative:**  
WOODWAY GmbH  
Steinackerstr. 20  
79576 Weil am Rhein  
Germany  
Phone: +49 (0) 7621-940999-0  
E-Mail: info@woodway.de  
Web: http://www.woodway.de

**Notified Body:**  
**Benannte Stelle:**

**Polish Centre for Testing and Certification**  
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)  
Directive 2006/42/EC (Machinery)  
Directive 2011/65/EU (RoHS)  
Directive 2014/30/EU (EMC)

Richtlinie 93/42/EWG / 2007/47/EG (Medizinprodukte)  
Richtlinie 2006/42/EC (Maschinenrichtlinie)  
Richtlinie 2011/65/EU (RoHS)  
Richtlinie 2014/30/EU (EMC)

**Product designation:**

*Produktbezeichnung:*

Treadmill-Ergometer

**Product families:**

*Produktname:*

Laufbandergometer

Continuum Treadmill

**Classification:**

*Klassifizierung:*

Ila (per Annex IX Directive 93/42/EEC)

Ila (gemäß Anhang IX der Richtlinie 93/42/EWG)

**Conformit Assessment Process:**

*Konformitätsbewertungsprozess:*

Annex II of Directive 93/42/EEC

Anhang II der Richtlinie 93/42/EWG

The  1434 mark gets affixed to the product.

Das  1434 Kennzeichen wird auf den Produkten angebracht.

**Used standards:**

*Angewandte Normen:*

EN 60601-1:2007

EN ISO 14971:2012

EN 957-1:2005

EN 957-6:2001 (Class A, S)

ISO 13485:2016

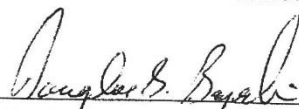
EN 62366-1:2015

EN 60601-1-2:2014

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**  
Präsident / President WOODWAY USA, Inc.

## 3 Technical Data

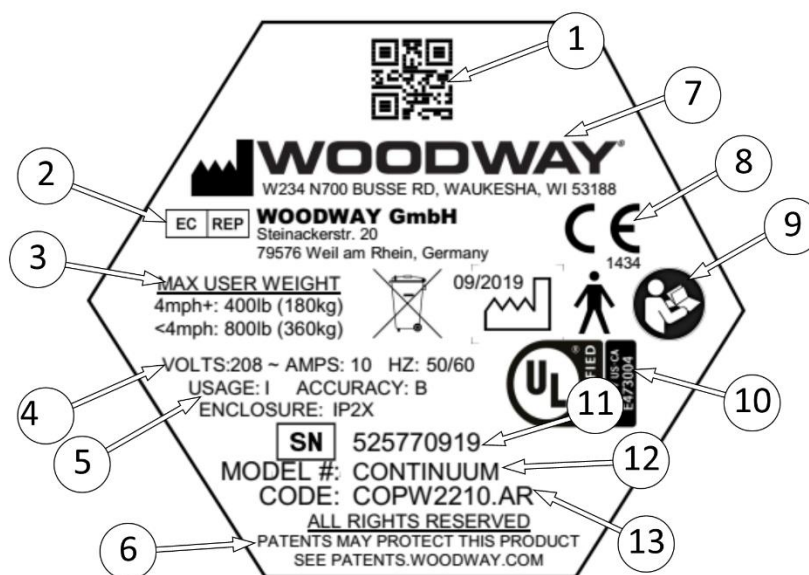
### 3.1 Turning the Treadmill ON/OFF

- The main power switch with the universal power symbol (⏻) is located at the base of the treadmill near the treadmill's power cord.
- "I" position: Treadmill is turned on and the belt is held tight. Turn the display on to operate the treadmill.
- "O" position: Treadmill is turned off and the belt is free moving.

### 3.2 Name Plate

The nameplate contains the device's main technical details.

For service questions, the technical information on the name plate must be kept handy



- |                                                      |                                                                                                                                                                    |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Quick Response (QR) code                          | 9. Disposal notice, date of manufacture, indicates product as a type B applied part complying with IEC 60601-1 and note to read and observe operating instructions |
| 2. European Representative                           | 10. UL Safety Mark                                                                                                                                                 |
| 3. Maximum user weight load                          | 11. Serial Number                                                                                                                                                  |
| 4. Electrical connection information                 | 12. Model Number                                                                                                                                                   |
| 5. Usage class, Accuracy class, and enclosure rating | 13. Product Code                                                                                                                                                   |
| 6. Patent protection note                            |                                                                                                                                                                    |
| 7. Manufacturer name                                 |                                                                                                                                                                    |
| 8. CE mark and Notified Body Number                  |                                                                                                                                                                    |

CONTINUUM treadmills are Medical Devices in accordance with European Directive 93/42/EEC, European Standard EN 60601-1:2007, and ISO 13485:2003.

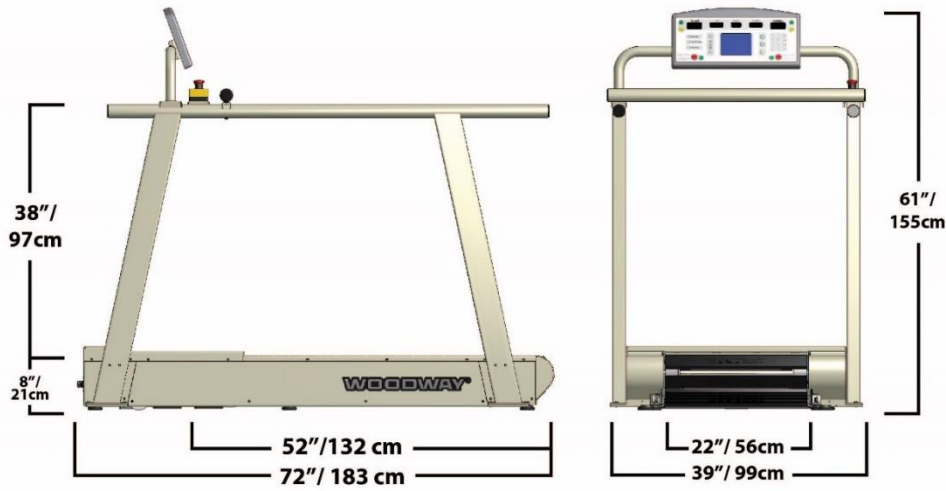


### 3.3 Technical Specifications

| Parameters                     | Description                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Overall Dimensions             | 39" W x 72" L x 61" H (99 cm x 183 cm x 155 cm)                                                                         |
| Walking Surface                | 22" W x 54" L (55 cm x 137 cm)                                                                                          |
| Weight *                       | 460 lbs. (208 kg)                                                                                                       |
| Color                          | White                                                                                                                   |
| Technology                     | 47 slats (replaceable), rubber on aluminum T-sections                                                                   |
| Hardness / Lateral Play        | 38-43 Shore A / 2 mm lateral tolerance                                                                                  |
| Drive System                   | 80 ball bearings, 8 roller guides                                                                                       |
| Max. User Weight               | Running: 400 lbs. (180 kg) Walking: 800 lbs. (360 kg)                                                                   |
| Ambient Conditions (operation) | Temperature: 50°F to 104°F (10°C to 40°C)<br>Relative humidity: 20 - 95% (not condensed)<br>Air pressure: 700 - 1060hPa |
| Interface Cable                | Shielded null modem cable, max. length 16.5 ft. (5 m)                                                                   |
| Pulse Measurement              | 1-channel ECG accurate, chest strap POLAR® T34                                                                          |
| PC-Software                    | WOODWAY treadmill control software Vers. 3.0 (in scope of delivery)                                                     |
| Classification                 | Safety class I device, type B application part according to EN-60601<br>Enclosure rating: IP2X                          |
| Drive Motor                    | 2 hp Continuous (5 hp peak) brushless Servo                                                                             |
| Lift Motor                     | AC motor                                                                                                                |
| Power Consumption †            | 1.1kVA                                                                                                                  |
| Speed                          | 0 - 10 MPH (16 km/h) standard                                                                                           |
| Accuracy / Resolution          | +/- 0.05 MPH (+/- 0.1 km/h)                                                                                             |
| Tolerance                      | Less than +/- 1%                                                                                                        |
| Incline                        | 0 - 25% (Germany: 0 – 20%)                                                                                              |
| Accuracy/Resolution            | +/- 0.4% / +/- 0.1%                                                                                                     |

- \* The total equipment weight can increase by adding more options (e.g. fall protection, railing variations depending on model etc.).
- † 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 10 ft. (3 m).

### 3.4 Dimensions



### 3.5 Electrical Connection

**IMPORTANT-** The power cord must be properly protected at all times, both when in use and storage.

Below are the standard electrical requirements by region. There are different options depending on which model you own. If you have a different electrical configuration, please contact WOODWAY.

Ungrounded outlets or power-strips may NOT be used.

**DO NOT BEND OR REMOVE PRONGS.** The plugs are polarized, meaning the prongs are different sizes and the plug can only fit in the outlet one way; if the plug does not fit, reverse the plug. If other power cord plugs are required, please contact WOODWAY.

Before connecting the treadmill to the power supply, the information on main voltage and frequency (found on the name plate) is to be compared with the on-site connection values. Only connect the device if the values match. Power surges or voltage drops can cause malfunctions or defects in the device.

No other treadmills or devices may be operated on the same supply line. Each treadmill must be operated with its own circuit breaker. The treadmill must be grounded.

#### **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 (eg. motor, power cord, and power switch) must not come in contact with water.

## ⚠ 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.

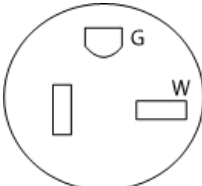
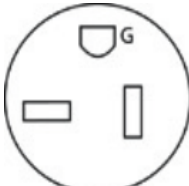
- In order to avoid malfunctions, all data on the name plate must correspond with the actual terminal values.

## ⚠ WARNING

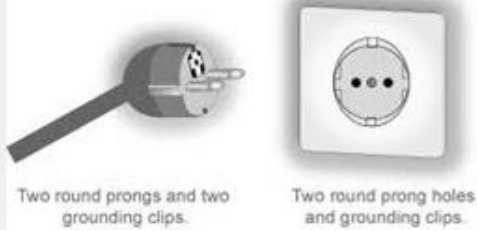
### **Danger of Injury by Tripping Over Wires!**

Improperly installed wires present a tripping hazard and danger of injury. Safely lay power cords, interface cable, etc. outside of walking areas.

## 3.5.1 North America

| Description                       | Parameters                                                                                                                              |                                                                                                                                           |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | 115 VAC                                                                                                                                 | 208/230 VAC                                                                                                                               |
| <b>Voltage</b>                    | Requires at least 115 V from wall outlet.<br>If voltage falls 10% below 115 V, treadmill will shut off and reset.                       | Requires at least 208/230 V from wall outlet.<br>If voltage falls 10% below 208/230 V, treadmill will shut off and reset.                 |
| <b>Wall Outlet Requirements</b>   |  <p>NEMA 5-20 R<br/>(dedicated circuit required)</p> |  <p>NEMA 6-20 R<br/>(dedicated circuit required)</p> |
| <b>Outlet Compatibility</b>       | Standard 3-prong, hospital grade plug (NEMA 5-20 P)<br><br>Will only fit a NEMA 5-20 R outlet                                           | 3-prong plug (NEMA 6-20 P)<br><br>Will only fit a NEMA 6-20 R outlet                                                                      |
| <b>Fuse</b>                       | 20 A control fuses                                                                                                                      | 10 A slow-acting fuses                                                                                                                    |
| <b>Hospital-Grade Low Leakage</b> | For grounding reliability, only connect to proper receptacle marked "Hospital Grade" when using for medical use.                        |                                                                                                                                           |
| <b>Frequency</b>                  | 50/60 Hz                                                                                                                                |                                                                                                                                           |
| <b>Current</b>                    | 20 Amp<br>Dedicated line required (cannot share neutral line)                                                                           |                                                                                                                                           |

### 3.5.2 Germany

| Description                     | Parameters                                                                                                                                                                                                                                                                                                   |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | <b>230 VAC</b>                                                                                                                                                                                                                                                                                               |
| <b>Voltage</b>                  | Requires at least 230 V from wall outlet.<br>If voltage falls 10% below 230 V, treadmill will shut off and reset.                                                                                                                                                                                            |
| <b>Frequency</b>                | 50 Hz                                                                                                                                                                                                                                                                                                        |
| <b>Current</b>                  | 16 Amp<br><i>Dedicated line required (cannot share neutral line)</i>                                                                                                                                                                                                                                         |
| <b>Wall Outlet Requirements</b> | <p><b>Type F</b><br/> Germany, Austria, the Netherlands, Sweden, Norway, Finland, Portugal, Spain and Eastern Europe</p>  <p>Two round prongs and two grounding clips.      Two round prong holes and grounding clips.</p> |
| <b>Outlet Compatibility</b>     | F / "Schuko" plug                                                                                                                                                                                                                                                                                            |
| <b>Fuse</b>                     | Supply: 16A type C ("slow")<br>Device: 10A, 250V~, 20 x 5 mm, type C ("slow")<br>Lift fuse: 5A, 20 x 5 mm, type C ("slow")                                                                                                                                                                                   |

### 3.5.1 UK

| Description                     | Parameters                                                                                                        |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------|
|                                 | <b>230 VAC</b>                                                                                                    |
| <b>Voltage</b>                  | Requires at least 230 V from wall outlet.<br>If voltage falls 10% below 230 V, treadmill will shut off and reset. |
| <b>Frequency</b>                | 50 Hz                                                                                                             |
| <b>Current</b>                  | 13 Amp<br><i>Dedicated line required (cannot share neutral line)</i>                                              |
| <b>Wall Outlet Requirements</b> |                               |
| <b>Outlet Compatibility</b>     | G/BS 1363 plug                                                                                                    |
| <b>Fuse</b>                     | CEE 7/7 230 VAC                                                                                                   |

## 4 Transportation and Storage

### 4.1 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. The treadmill is heavy and can cause injury if lifted incorrectly.

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

#### 4.1.1 WOODWAY Service

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

For further information please contact WOODWAY Customer Service.

### 4.2 Flat Transportation

The treadmill can be easily transported on a flat surface using four flat transport dollies (commercial transport dollies with 4 steerable wheels). In this situation the high 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 incline system.

### 4.3 Upright Transportation

For narrow transport routes it is possible to transport the treadmill vertically (e.g. narrow door width or for climbing stairs). For this handrails and side panels must be removed beforehand.

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

#### ATTENTION

The treadmill must not rest on the electronics side.

### 4.4 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 in the treadmill frame. The side panels and railings can be removed to facilitate transport.



The treadmill may only be lifted at the indicated points.

### 4.5 Storage

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: 0°F to 120°F (-18°C to +49°C)
- Relative humidity: 15 - 85% (not condensed)
- Air pressure: 700 - 1060hPa

## 5 Product Description

Experience a lower RPE (rated perceived exertion), less impact, and less muscle fatigue with the Continuum. With a low profile 8" 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 many therapeutic possibilities.



## 5.1 Main Components

The main components are shown below:



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



## **5.2 Description of Components**

### **5.2.1 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 the gear wheel. The teeth prevent slipping 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 is comprised of a high-traction rubber compound. The combination makes it “the softest treadmill in the world”.

The approx. ½” (1.2 cm) thick rubber surface significantly reduces the impact energy, thus making WOODWAY treadmills much easier on the joints than conventional treadmills.

### **5.2.2 Transport System**

The support system consists of 2 supporting/secondary rails, which are equipped with high-performance bearings. V-belt guides (6) on each rail ensure lateral stability. The rollers transfer the load to and from the motor and prevent the running belt from slipping through.

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 form-fitted drive pulleys on the front and back. The device can even be used without external drive, simply by pushing the treadmill to start the belt moving. The combination of running surface, secondary bearing rails, and drive pulleys gives this slat system unique characteristics:

- Low friction (energy saving)
- Low wear (approx. 150,000 mile [240,000 km] functional service life)
- 100% power transfer through the form-fitted, toothed V-belt system
- High service life (one running surface belt for one treadmill life)

### **5.2.3 Incline System**

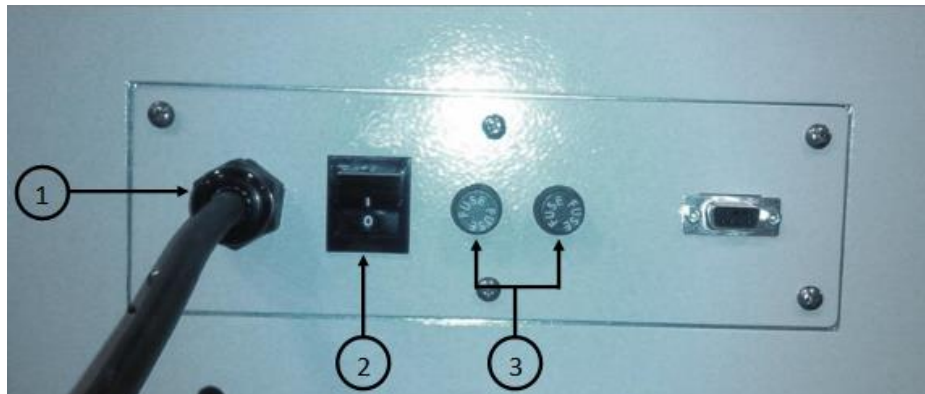
The CONTINUUM treadmills have lifting scissors with casters. This makes a maximum incline of 25% possible. The lifting system is driven by an AC motor which changes the angle of the scissors, thus changes the incline of the running belt and absorbs a large proportion of the weight of the treadmill and the body weight of the user during an incline run.

The incline system is characterized by a very quiet operation. The system accuracy is 0.1% and +/- 0.4 degrees.

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

### 5.2.4 Power Console

The main power switch, the fuses, and the terminals for optional controls (manual keyboard and display) are located on the power console.



1. Power cord
2. Power switch
3. 2 x fuses (to change, see Section 9.7 Page 85)

### 5.2.5 Remote Keypad

The remote control is attached to the parallel bar. It enables use of the treadmill's elementary functions:

- Speed [+] [-]
- Incline [↑] [↓]
- Stop the treadmill

## 5.3 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 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 on the display or on the emergency stop button on the railing
- Non-slip coating on side panels (allows emergency dismount by straddling)

### **WARNING**

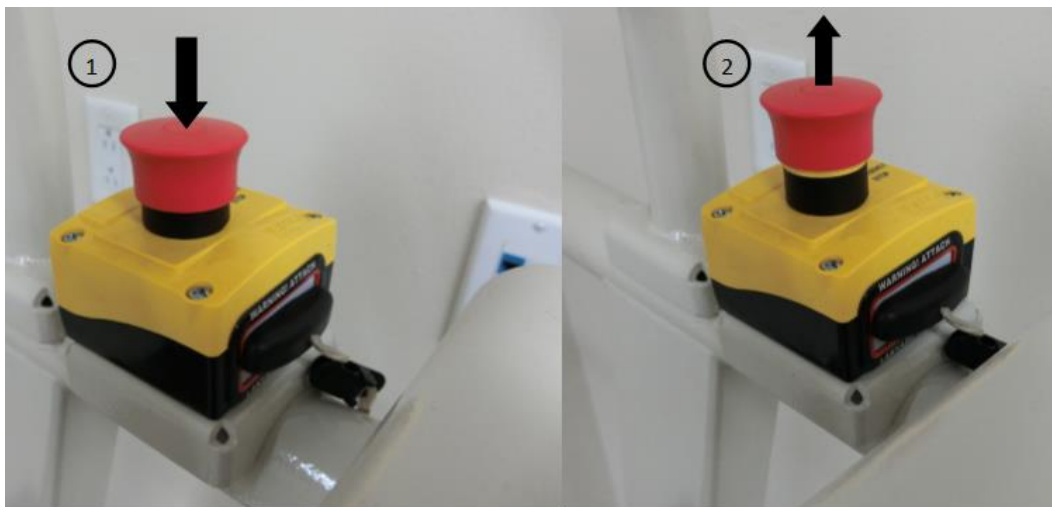
#### **Dangerous Situations During Operation Can Cause Injury!**

Conditions during use of the device that do not correspond to the normal function and require an immediate stop can cause injury. 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 emergency stopping of the device/drive
- ▶ Switching off the device (power button) and pulling the power cord from the socket
- ▶ Clarification and elimination of causes of dangerous situations only by the WOODWAY Customer Service
- ▶ Only restart the device after approval by WOODWAY Customer Service

### 5.3.1 Emergency Stop Button

The emergency stop button (mushroom type) is mounted on the right-hand railing (as seen from walking direction) of all CONTINUUM devices. Activating the emergency stop system causes immediate power disconnection to the drive system. The running surface comes to a stop in a reasonably short time, without causing further danger to the runner by braking too suddenly. It is recommended that one familiarize oneself with the treadmill's braking performance (emergency stop) at various speeds.



1. Trigger the emergency stop function by pressing down the red button
2. Release by firmly pulling the red button up

#### **WARNING**

##### **Danger of Injury due to Incorrectly Placed Emergency Stop Button!**

For treadmills with reversible direction, the position of the emergency stop button should always be on the runner's right side. Otherwise, the magnet cannot release correctly, limiting the function of the safety device.

- ▶ Always position the emergency stop button in the patient's running direction.
- ▶ If the running direction is reversed, the emergency stop button must be repositioned (in front of the patient).

After pressing the emergency stop button, it initially remains locked and the treadmill cannot be used for 10 to 15 seconds. 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.

### 5.3.2 Emergency Stop Pull Cord

The emergency stop switch is a magnetic contact switch, which is attached in the running direction on the display. 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.

The magnet is secured to the runner's clothing by a clip on a lanyard/pull-cord. It should be fixed to a tight piece of clothing (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.

#### **! 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 attach clip to tight clothing before starting the workout.
- ▶ Adjust the length of the pull-cord with rope stopper to the shortest possible setting, while ensuring that movement is still unrestricted.



The pull-cord is not 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 disconnected from the power and an emergency stop is initiated.

There is an increased risk of falling (e.g. during performance diagnostics, intense sprinting, and long runs). There is an increased risk of injury from falling, especially in rehabilitation where patients with various physical limitations use the treadmill.

### 5.3.3 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.

### 5.3.4 Dismounting in Emergency Situations

WOODWAY treadmills have a 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 onto and straddle the side panels.
- The running surface can run between the legs.
- Then stop the treadmill using the normal STOP button or the emergency stop button.

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.

#### **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.

## 6 Setup and Installation

### 6.1 General

Installation is the initial intended use of the device (see Section 1.5 Page 7). Ensure that the conditions applicable to basic safety and health requirements are met.

Read these operating instructions completely before installing.

Before installing the device, operational and functional safety are 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

##### Installing after Storage or Transport

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

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

### 6.2 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.

#### ⚠ 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.

## 6.3 Installation

It is recommended that transport, installation, and assembly of the treadmill are 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 an additional base plate/floorboard.

The following further instructions for installation are to be observed:

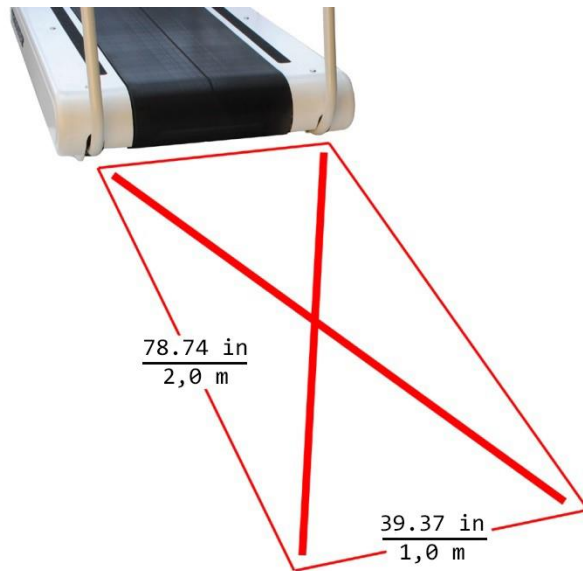
- When installed on upper floors, the device must be placed as far as possible in a corner of the room so that sufficient stability is guaranteed, even at max. speed. The structure of the building must be checked in advance.
- The treadmill should not be installed close to a radiator or other heat source.
- Due to the moving parts on the underside, the device must not be placed directly on thick or high-pile carpeting. In this case, a mat should be placed under the device. This will prevent lint from entering into the treadmill and at the same time reduce carpet wear. WOODWAY has appropriate mats available. For more information, call WOODWAY Customer Service.
- 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.



### 6.3.1 Safe Fall Area

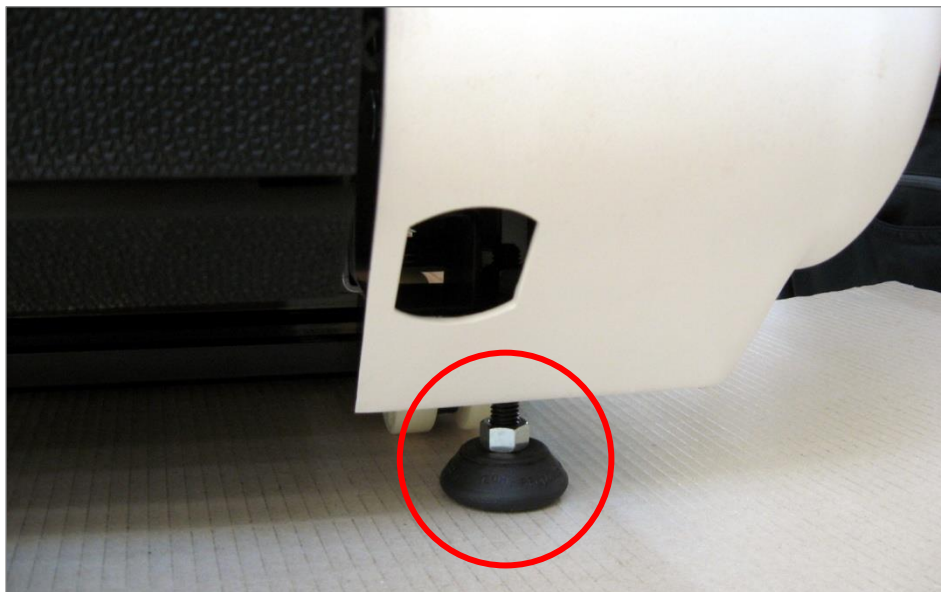
When using the treadmill, especially fast movements (fast running, etc.) increase the risk of falling. For this reason, a safe fall area of at least 3 ft. x 6.5 ft. (1 x 2 m) must be maintained behind the treadmill (see **Error! Reference source not found.**).

No obstacles may be located in this safe fall area. Objects (e.g. furniture, plants, training materials, ladders, etc.) may not be placed in this area, and sloping ceilings may not extend into the safety area. For treadmills with the reverse option, the safety area must also be provided in front of the treadmill.



### 6.3.2 Adjust Leveling Feet

After positioning the device at the installation site, adjust the horizontal height using a level. The height of the 4 leveling feet can be adjusted.



- Loosen the counter nut with a  $\frac{3}{4}$ " (19 mm) open-end wrench.
- Turn the foot up or down until the desired height has been reached
- Retighten the counter nut

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

The treadmill frame can deform slightly during transportation. This can be seen on an even and level surface if 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.

## 6.4 Completion of Installation

Prior to starting operation, installation 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.

### 6.4.1 Checklist for Before Starting Operation

- Check sturdiness of the device
- Check electrical connections
- Protect all live components against touch
- Ensure that safety equipment is intact and functional
- Check emergency stop switch and all control functions
- Perform a malfunction-free trial run
- Ensure all operators have received complete and proper instruction

## 6.5 Replacing Parts

For detailed descriptions of and instructions on replacing CONTINUUM parts, please contact the WOODWAY Service Department.

### NOTE

The use of NON-original replacement parts may change the characteristics of the device and interfere with the safe use.  
WOODWAY does not accept liability for damages resulting from this.

### DANGER

#### Danger of Death by Electric Shock!

Fatal electrical shock may occur if the unit is not disconnected from the power supply before assembly or disassembly.

- ▶ The device must be stopped, switched off, and unplugged before being worked on.
- ▶ Ensure the device cannot be switched back on.
- ▶ After the power is disconnected wait 10 minutes to ensure that live electrical components (e.g. capacitors) have discharged.

## 7 Operation

### **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.

- ▶ Ensure that the user does not step on the rounded part of the running surface when mounting and dismounting.

### 7.1 Application Options for Children

Due to their design and operation, CONTINUUM treadmills are only for limited use by children. An exception can be made using special accessories and in compliance with strict safety regulations, especially within the scope of movement therapy in rehabilitation.

### **WARNING**

#### **Special Hazards Associated with Treadmill Use by Children!**

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

- ▶ Children may only be near the treadmill under supervision.
- ▶ The treadmill must be equipped with the child railing.
- ▶ 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 treadmill should only be used with an appropriate fall protection system (chest strap or waist belt) or an appropriate body weight support system.
- ▶ The running workout must be conducted under the supervision of a physician or a qualified sports therapist.

## 7.2 Before Each Use

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

- Running surface belt (dirt and damage to slats)
- Mechanical function of the bar railing (clamping screw must be hand-tight)
- Emergency stop magnet with pull-cord and clip attachment (damage and position)
- Fall protection equipment e.g. ropes, carabiners, waist belt, etc. (wear and functionality)

### **WARNING**

#### **Danger of Being Pulled into Moving Parts!**

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

- ▶ Remove jewelry and tie up long hair before using the device.
- ▶ Ensure shoe laces do not extend beyond soles of running shoes.

## 7.3 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.

### ⚠ 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 (0% incline). 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.

I

O

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

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

### ⚠ WARNING

#### **Danger Through Speeding-Up of the Running Surface!**

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

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

Switch the device off via the main switch on the power supply console when it will not be used for a long time.

## ATTENTION

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

- ▶ Never step on the running surface during the initialization phase.
- ▶ Do not leave the device until it switches back into STAND-BY mode.
- ▶ Never leave the treadmill unattended while it is switched on.

## 7.4 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.

Switch device on as described in Section 7.3. 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.



### 7.4.1 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.

### 7.4.2 [+] [-] Buttons

With these buttons, the user can increase or decrease the 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 and release the button at the desired speed.

### 7.4.3 [↑] [↓] Buttons

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.

### 7.4.4 STOP Button

The treadmill can be stopped with the STOP button. The gradual braking of the running surface speed is comfortable, so the user still travels a few meters before the unit stops (depends on the

previous speed). If the running surface belt is stopped, the treadmill goes to the STOP mode. The 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.

## 7.5 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.

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



### 7.5.1 Display Parameters

- Manual speed and incline control
- Statistics display: distance, calories, time, pace, heart rate, and METs
- Treadmill SPEED and INCLINE display
- Controlled increase/decrease of speed, safety checks, and automatic shut-off in case of errors

### 7.5.2 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.



### 7.5.3 Training Parameters

#### Training Start

Press the FAST key to start training. The speed increases from "0". The time LED is lit and the time is displayed and counted in the TIME display in the 00:00 format. 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 UP/DOWN incline keys, and the speed using the FAST/SLOW speed keys. The user can interrupt the training at any time using the PAUSE key.

#### Training Interruptions

When the user presses the PAUSE key, the treadmill stops. The TIME display indicates "PAUSE" and the other 7-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.

The person operating the machine can select between various display modes by pressing the MPH-m/s-km/h button. This does not influence the TIME display.

#### Displayed Statistics

During training, the user can press the PACE/CAL/METS key to change between the values for the distance, time, and heart rate. The distance is replaced by calories, the time is replaced by pace, and the heart rate is replaced by METS. When the PACE/CAL/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.

### 7.5.4 Description of Display Elements

The indicators in the display indicate the following data:

#### TIME

The time is displayed in 00:00 format. Time is always counted up. The time and distance can be reset to zero by pressing the RESET button.

#### SPEED

The speed is displayed in 00.0 format. The SPEED shows the user's current speed in miles per hour (MPH) or kilometers per hour (km/h). Valid 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 miles or kilometers.

**CALORIES**

The calories are displayed in 0000 format. CALORIES shows the user's accumulated burnt calories. They are calculated using the ACSM formula,

$([\text{Workout METs}] * 3.5 * [\text{User's weight in kg.}] / 200)$ , based on a standard weight of 150 lbs. (70 kg).

**PACE**

The time/mile is displayed in 00:00 format. PACE represents the time required to run one mile at the current speed.

**METS**

METs are displayed in 00.0 format and are calculated using the ACSM formula,

$(\text{VO}_2 \text{ Max} / 3.5)$ , where the walking  $\text{VO}_2 \text{ Max}$  is  $(3.5 + [2.68 * \text{speed in MPH}] + [0.48 * \text{speed in MPH}] * [\% \text{ grade}])$  and the running  $\text{VO}_2 \text{ Max}$  is  $(3.5 + [5.36 * \text{speed in MPH}] + [0.24 * \text{speed in MPH}] * [\% \text{ grade}])$ .

**HEART RATE**

The heart rate is displayed in 000 format. It represents the user's actual heart rate.

**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 max. incline (varies depending on the model and the associated options).

## 7.6 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.



In the LCD display with a resolution of 320 x 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.

### 7.6.1 Operating Functions

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

- Manual speed and incline control
- Statistics display of speed, incline, time, calories, METs, pace, distance, and heart rate
- 10 integrated programs including manual operation
- 100 user modifiable programs
- Automatic speed and incline adjustment in programs
- User prompts and warnings
- Controlled increase/decrease of speed, safety checks, and automatic shut-off in case of errors

### 7.6.2 Displayed Information

The following values appear in the personal trainer display to allow the user to monitor his progress:

- Speed profile
- Incline profile
- Time/ height
- METs
- Calories/distance
- Speed/Pace
- Heart rate
- Calories per hour

### 7.6.3 Description of Display Elements

#### **TIME**

The time is displayed in 00:00 format. In the user-defined mode, the time is counted up from zero. In the program modes, the time is counted down.

#### **SPEED**

The speed is displayed in 00.0 format. SPEED represents the user's current speed in miles per hour (MPH), or it may be used to set the user's target speed. Valid speeds range from 0.0 to the max. speed (varies depending on the model and options).

#### **DISTANCE**

The distance is displayed in 00.00 format. DISTANCE shows the accumulated user's distance in miles. The distance is accumulated until the program is terminated or the user presses the PAUSE button.

#### **CALORIES**

The calories are displayed in 0000 format. CALORIES shows the user's accumulated burnt calories and will accumulate until the program ends or the user presses the PAUSE button. They are calculated using the ACSM formula, If no weight is entered, it is calculated based on a standard weight of 150 lbs. (70 kg).

#### **PACE**

The pace is displayed in 00:00 format. TIME represents the time required to run one mile at the current speed.

#### **METS**

METs are displayed in 00.0 format and are calculated using the ACSM formula,

#### **HEART RATE**

The heart rate is displayed in 000 format. It represents the user's actual heart rate.

#### **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 max. level of incline (varies depending on the model and the associated options).

### 7.6.4 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 on the far left of the display and can be selected there directly.*

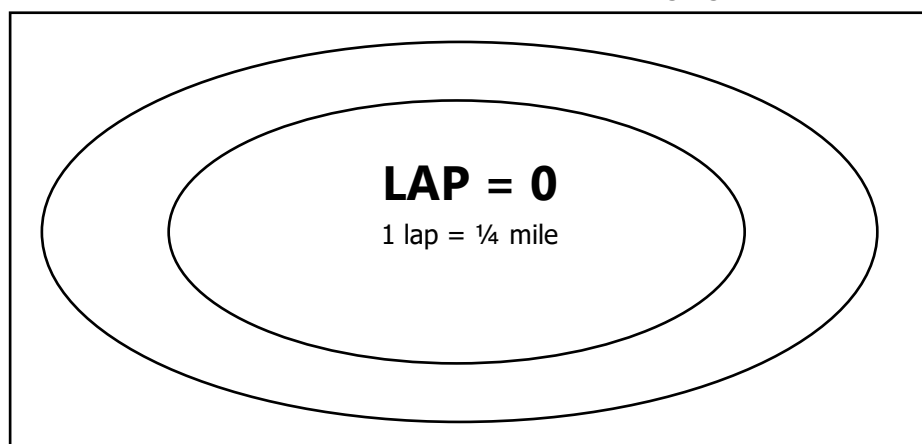
### 7.6.5 Quick Start Display Parameter

The time is counted up from zero, the speed starts at 0.1 MPH and the distance traveled and calories are accumulated. An oval  $\frac{1}{4}$  mile (400-meter) track is displayed on 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  $\frac{1}{4}$  mile (400 m). 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 UP/DOWN incline keys, and the speed using the FAST/SLOW speed keys. 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:



### Pausing Workout

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 paused when the PAUSE key is pressed. When the user presses the PAUSE key again, the workout resumes. The CLEAR key is activated during the pause. Pressing the CLEAR key will reset all of the treadmill statistics.

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

### **7.6.6 Starting a Training Program**

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

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

#### **Entering the Difficulty Level**

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 his 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, press the scroll key to confirm the entry and enter to the next value.

#### **Entering Program Time**

The program time must be entered. The default time of 20:00 is displayed. The user can enter the 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, press the scroll key to confirm the entry and enter to the next value.

#### **Entering 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 150 lbs. (70 kg). He can then start the user-defined training or enter a weight using the keypad. Valid weight values are 50-500 lbs. (22-227 kg). The current weight can be deleted using the CLEAR key. When the user has finished entering the weight, he can press the ENTER key to confirm the entry and begin training.

#### **Program Start**

The time is counted down to zero, then speed and incline will be set to the first segment values. Distance and calories are accumulated. The program profile is shown on the LCD display. The number keys, CLEAR key, and ENTER key are now deactivated.

#### **Usable Variables**

While the program is running the user can change the incline using the UP/DOWN incline keys, and the speed using the FAST/SLOW speed keys. The user can interrupt the training at any time by pressing the PAUSE key. The status of the selected program lights up to show progress. The signal sounds 3 seconds before the speed and/or incline changes.

### **Pausing During Training**

When the PAUSE key is pressed, the treadmill stops. The following information is shown on the LCD display: "Treadmill Paused. Press PAUSE to resume." The statistics are paused when the PAUSE key is pressed. When the user presses the PAUSE key again, the workout resumes. The CLEAR key is activated during the pause. Pressing the CLEAR key will reset all the treadmill statistics and return the user to the opening screen (the LCD display shows the message "Press 'FAST' for Quick Start or select a program").

### **Displaying the Statistics**

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

### **Program End**

When the program is completed, the LCD will read "Program Complete" for 3 seconds. Speed and incline are then reset to zero.

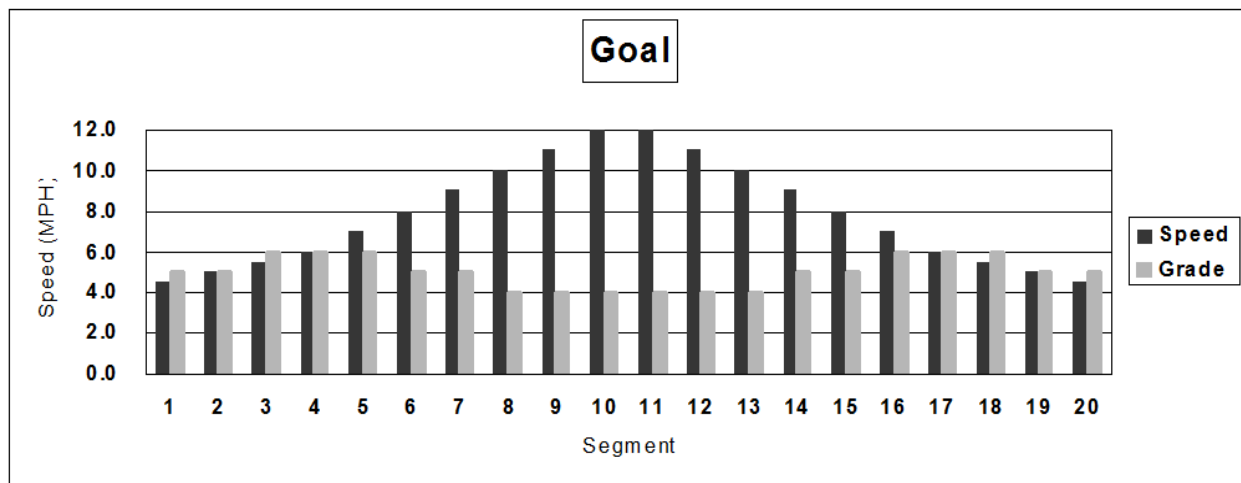
When the OFF key is pressed, speed and incline reset to zero. "TOTALS: PACE= 00:00, CALORIES = 0000, METs =0.00" will be displayed on the LCD for 5 seconds. Then the display will then switch off.

## 7.6.7 Fitness Programs

### Goal Program

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

|       |    | Stage      |     |     |     |     |     |     |      |      |      |      |      |      |     |     |     |     |     |     |     |
|-------|----|------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|
|       |    | SPEED DATA |     |     |     |     |     |     |      |      |      |      |      |      |     |     |     |     |     |     |     |
| Level |    | 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 |
|       | 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 |
|       | 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 |



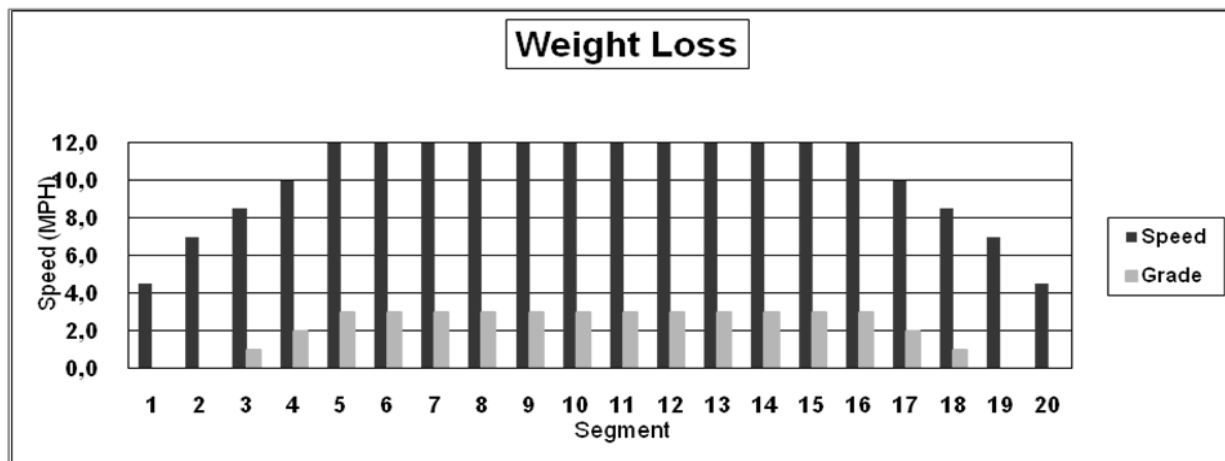


## Weight Loss Program

Designed to provide exercise at a constant level, this program utilizes a constant load and gradual warm-up and cool-down phases.

### Stage

|       | SPEED DATA |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |
|-------|------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
|       | 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  | 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  | 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  | 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  | 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 | 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 | 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 |

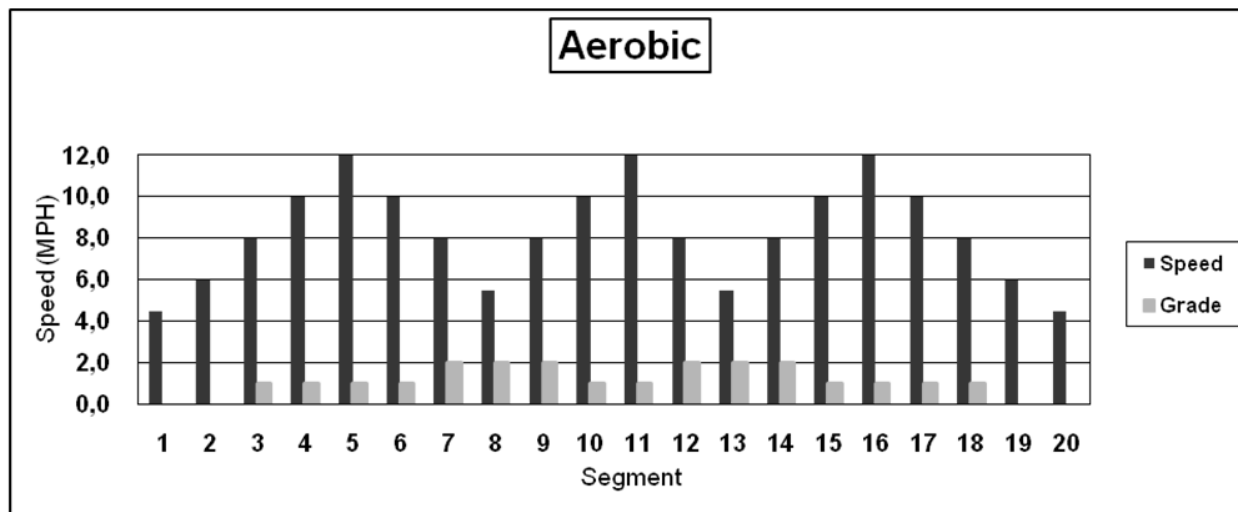


## Aerobic Program

This program is designed to improve the aerobic condition using high-level training with 3 very intense phases.

### Stage

|  |  | SPEED DATA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | </ |
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|--|--|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|



## 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 speed keys. Use the scroll key to change fields. Time and weight must also be entered. Press ENTER to start the program.

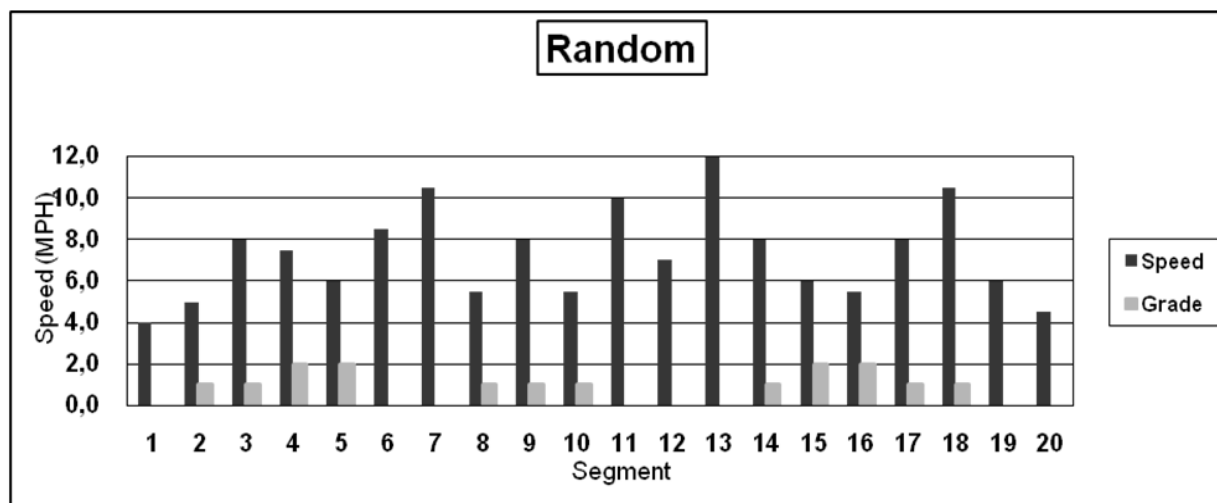
When the program has started, 3 diagrams will be shown. The incline is shown in red in the top part of the screen, the speed is shown in green in the middle, and the heart rate is shown in yellow at the bottom. The UP/DOWN incline keys can be used throughout the training to alternate between the used intervals.

## Random Program

This is an interesting and challenging training program that selects varying speed and incline changes at random intervals.

### Stage

|       |    | SPEED DATA |     |     |     |     |     |      |     |     |     |      |     |      |     |     |     |     |      |     |     |
|-------|----|------------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|------|-----|-----|-----|-----|------|-----|-----|
|       |    | 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  | 0.8        | 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 |

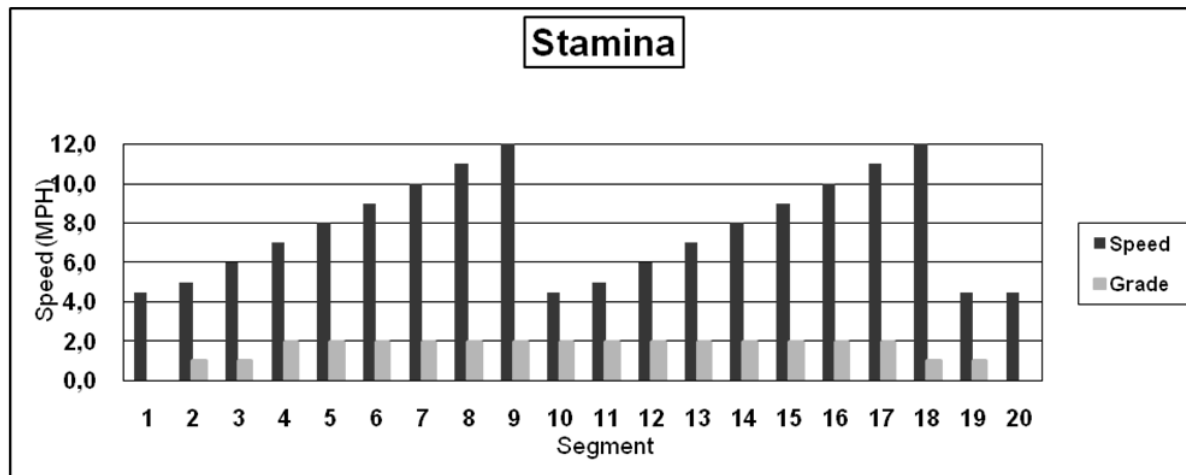


## Stamina Program

A program with increasing load and two different phases, each with a peak load, this program builds endurance.

### Stage

|              |    | SPEED DATA |     |     |     |     |     |      |      |      |     |     |     |     |     |     |      |      |      |     |     |
|--------------|----|------------|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|
|              |    | 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 |
| <b>Level</b> | 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 |

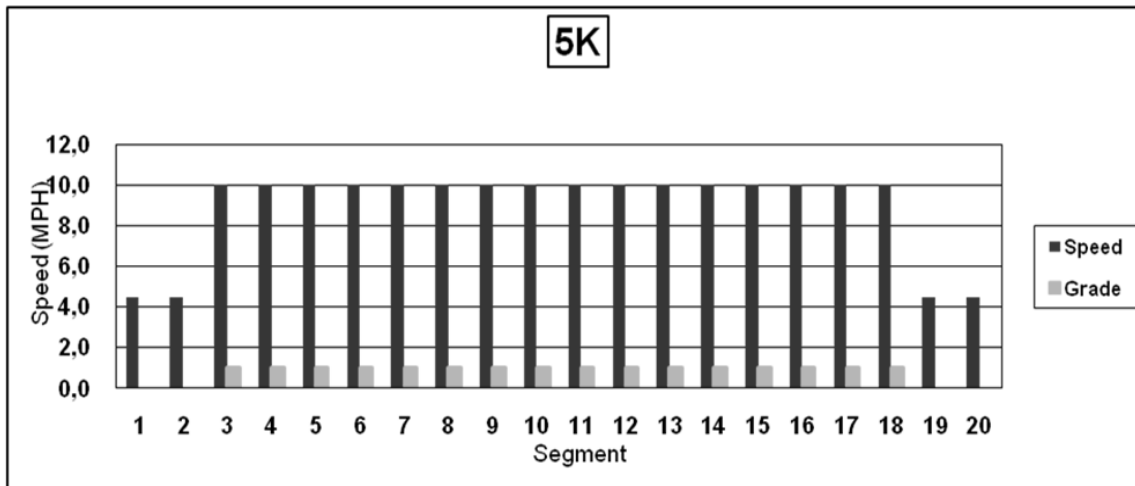


## 5K Program

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

### Stage

|       | SPEED DATA |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
|-------|------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
|       | 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  | 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  | 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  | 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  | 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  | 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 | 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 |

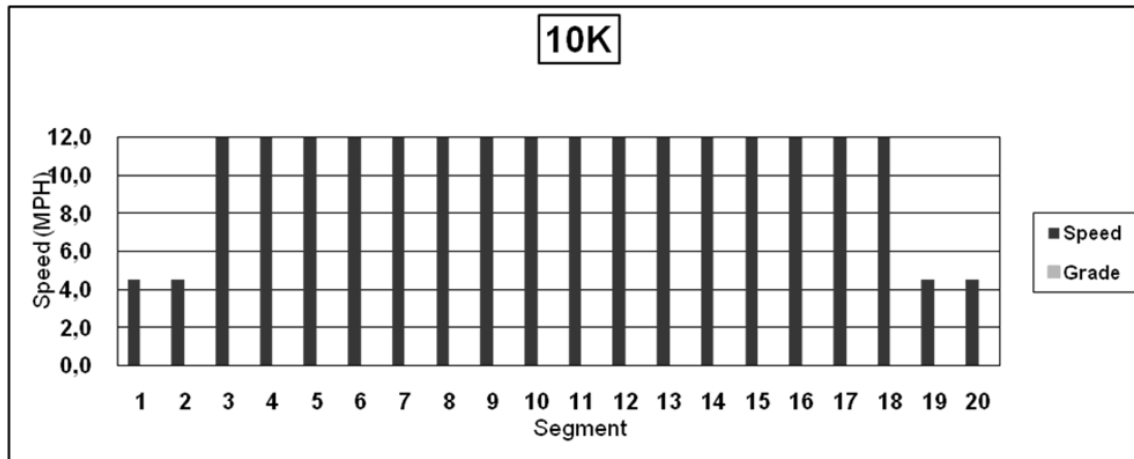


## 10K Program

This program is a distance-based program with which a 10-kilometer (6.2 mile) run can be simulated, allowing the user to build endurance.

### Stage

|              |     | SPEED DATA |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
|--------------|-----|------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
|              |     | 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 |
| <b>Level</b> | 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 |

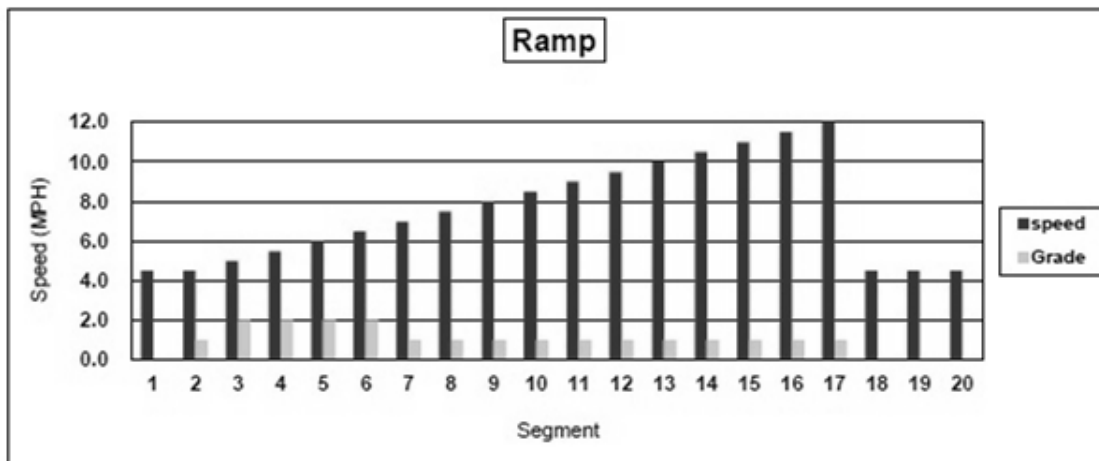


## Ramp Program

The program has a slowly increasing load. Here you will gradually increase to the top speed for the selected intensity level before a final cool-down phase.

### Stage

|       |    | SPEED DATA |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |     |     |
|-------|----|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|
| Level |    | 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 | 1.5 | 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 |
|       | 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  | 5.5  | 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 | 5.6 | 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 |
|       | 9  | 4.1        | 4.1 | 4.5 | 5.0 | 5.4 | 5.9 | 6.3 | 6.8 | 7.2 | 7.7 | 8.1 | 8.6 | 9.0  | 9.5  | 9.9  | 10.4 | 10.8 | 4.1 | 4.1 | 4.1 |
|       | 10 | 4.6        | 4.6 | 5.0 | 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 | 4.6 | 4.6 | 4.6 |
| 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 |



## 7.6.8 Further Programs

### Balke Program

This program is designed to determine the user's current fitness level. Using the Balke protocol, this program evaluates the functional aerobic capacity (VO<sub>2</sub>max), with which the cardiorespiratory fitness of the user is determined. Under an increasing load, the oxygen consumption (VO<sub>2</sub>) eventually reaches a plateau. This is the desired maximum VO<sub>2</sub> value.

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

A chest strap is required for the test. Manually 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 speed 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 3.4 MPH (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 the following tables, so that the user can track and evaluate his level of fitness (fitness value - VO<sub>2</sub>max value). The following tables are organized by gender and age group (10-79 years old).

#### Men

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

#### Women

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

*Above charts from the American College of Sports Medicine (ACSM)*



### Gerkin Program

With the Gerkin protocol there is a tiered VO<sub>2</sub> 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 keys. Scroll to change fields. Press ENTER to start the program. During the test, do not manually change the speed or incline, as this will make the test invalid. This test calculates the user's fitness when the heart rate stabilizes at \_\_\_\_ BPM and the program terminates. Press FAST to start.

#### **CAUTION**

IF AT ANY TIME DURING A TEST THE USER EXPERIENCES CHEST PAIN, DIZZINESS, ATAXIA, CONFUSION, NAUSEA, OR COLD SWEAT, END THE TEST IMMEDIATELY!

- Place the heart rate device on the user.
- The user's heart rate is to be 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 VO<sub>2</sub>max is determined using the heart rate retrieved during the final test phase and the conversion table.
- Record the heart rate after a one minute cool-down.

**Fitness Protocol Worksheet****Name:** \_\_\_\_\_**Resting Heart Rate:**

Trial I: \_\_\_\_\_

Trial II: \_\_\_\_\_

Trial III: \_\_\_\_\_

**Blood Pressure:**

Trial I: \_\_\_\_\_

Trial II: \_\_\_\_\_

Trial III: \_\_\_\_\_

**Weight:** \_\_\_\_\_ kg.**Training target heart rate (85% of HRmax):** \_\_\_\_\_

| Phase     | Minute    | Speed [MPH] | Incline [%] | Heart Rate (last 15 seconds of the phase) |
|-----------|-----------|-------------|-------------|-------------------------------------------|
| Warm-Up   | 3 minutes | 3           | 0           |                                           |
| 1         | 1         | 4.5         | 0           |                                           |
| 2         | 2         | 4.5         | 2           |                                           |
| 3         | 3         | 5           | 2           |                                           |
| 4         | 4         | 5           | 4           |                                           |
| 5         | 5         | 5.5         | 4           |                                           |
| 6         | 6         | 5.5         | 6           |                                           |
| 7         | 7         | 6           | 6           |                                           |
| 8         | 8         | 6           | 8           |                                           |
| 9         | 9         | 6.5         | 8           |                                           |
| 10        | 10        | 6.5         | 10          |                                           |
| 11        | 11        | 7           | 10          |                                           |
| Cool-down | 1 minute  | 3           | 0           |                                           |

## Conversion Table

| PHASE | TIME  | CALCULATED VO2max |
|-------|-------|-------------------|
| 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 Program**

Set the values for your age and gender using the number keys or the FAST/SLOW keys. 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%.

The test is to find out in how far an athlete can run/walk in 12 minutes. The assistant should round the results off to the nearest 100 meters.

The following tables show 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 |
| 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 Program Rockport Program

Set the values for your age and gender using the number keys or the FAST/SLOW keys. Scroll to change fields. Press ENTER to start the program. Walk 1 mile (1609 m) 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.

### Conduct Test:

- Record your weight.
- Walk 1 mile (1609 m) as fast as possible.
- Record your time to complete the 1 mile (1609 m).
- Record your heart rate after finishing the walk (BPM).
- Determine your VO2max value using the formula below.

### Analyze Results:

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

The following apply:

- Weight: Record in pounds (lbs.)
- Gender: Female records "0" and male records "1"
- Time: Minutes and hundredths of minutes
- Heart rate: Beats per minute (BPM)
- Age: Years

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

$$VO2MAX = 132.853 - (0.0769 \times WEIGHT) - (0.3877 \times AGE) + (6.315 \times GENDER) - (3.2649 \times TIME) - (.1565 \times HEART RATE)$$

| 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 |

## 7.6.9 Military Test Programs

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 Program

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.

Run as fast as you can for 2 miles (3.2 km). For the best score, you must adjust your speed during the test. Leave incline at 0%. Press FAST to start. You can find the scoring standards online:

<http://army.com/info/apft/twomileruntable>

### Air Force, Coast Guard and Navy Programs

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.

Run as fast as you can for 1.5 miles (2.4 km). For the best score, you must adjust your speed during the test. Leave incline at 0%. Press FAST to start. You can find the scoring standards 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), and

[http://www.public.navy.mil/bupers-npc/support/21st\\_Century\\_Sailor/physical/Documents/Guide%205-Physical%20Readiness%20Test.pdf](http://www.public.navy.mil/bupers-npc/support/21st_Century_Sailor/physical/Documents/Guide%205-Physical%20Readiness%20Test.pdf) (USN)

*(Note: 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 Program

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.

Run as fast as you can for 3 miles (4.8 km). For the best score, you must adjust your speed during the test. Leave incline at 0%. Press FAST to start. You can find the scoring standards online:

[http://www.marines.mil/Portals/59/Publications/MCO%206100.13%20W\\_CH%201.pdf](http://www.marines.mil/Portals/59/Publications/MCO%206100.13%20W_CH%201.pdf)

## 7.6.10 Heart Rate Based Programs

### Basics

#### NOTE

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

When the automatic heart rate program has been selected, the user is prompted to enter his 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 his 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.

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 he wants to have by using the FAST/SLOW key (i.e. only control speed, only control incline, or control both).

If the automatic heart rate program 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 the user's weight and maximum time (or just press ENTER to use the current values).

When training begins, the automatic heart rate profile is displayed on the LCD display. Above the profile illustration a title will be displayed which indicates what kind of heart rate program is being used.

#### NOTE

The value 0.1 MPH can be seen in the speed display. To actually start the workout you must manually select the speed of the device. The heart rate program will take over control of the speed after a few seconds.

While using the program the user can change the incline and speed. The target heart rate can be changed at any time while the heart rate 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.

## **Heart Rate Control**

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

### **Heart Rate Control Only Incline**

This program only controls the incline. The user selects the speed.

The heart rate control (only incline) 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.

### **Heart Rate Control Only Speed**

This program only controls the speed. The user selects the incline.

The heart rate control (only speed) 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 0.4 MPH (0.64 km/h) after 8 seconds.
- If the actual heart rate is 6-25 BPM below the target, the speed will increase 0.2 MPH (0.32 km/h) after 15 seconds.
- If the actual heart rate is 3-5 BPM below the target, the speed will increase 0.1 MPH (0.16 km/h) after 15 seconds.
- If the actual heart rate is at least 3 BPM above the target, the speed will decrease 0.2 MPH (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.



### **Heart Rate Control Incline and Speed**

This program controls the incline as well as the speed.

The heart rate control (incline and speed) program functions as follows, following the above algorithms:

- 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.

### **7.6.11 Program Options**

#### **Changing Programs During a Workout**

- Simply press the FITNESS PROGRAMS key (or any other button in the menu) on the left of the screen to bring up the MAIN MENU and make another selection.

#### **Programing User Programs**

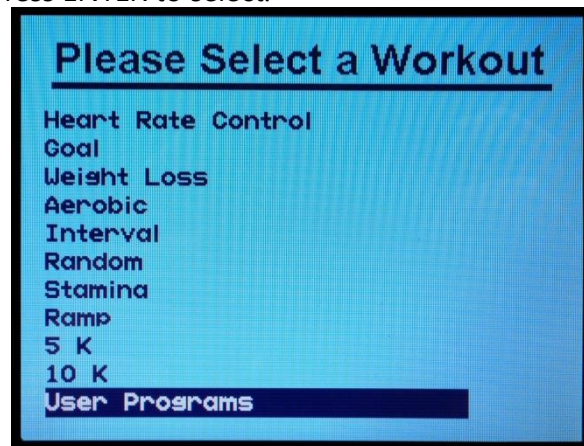
- 100 user program profiles are available. Each profile consists of 40 parts, each of which has programmable time, speed, and incline settings.
- If a number key is pressed while the user is being prompted to make an entry, the program setup begins. The user program associated to this number key is displayed on the LCD display. The user can then set up the program and begin training. The user does not enter duration for user programs. Training duration is calculated by adding the values stored for the respective part (for this profile).

### 7.6.12 Editing User Programs

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

To customize a user program:

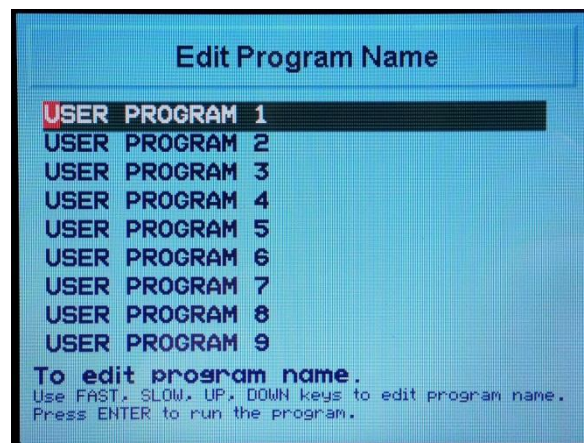
1. Turn on the treadmill with the ON button.
2. Select FITNESS PROGRAMS button.
3. Scroll down through the list of workouts using the up/down scroll buttons to find "USER PROGRAMS". Press ENTER to select.



#### Edit Program Name

All programs can be renamed directly on the screen (up to 24 characters) to help differentiate between customized programs.

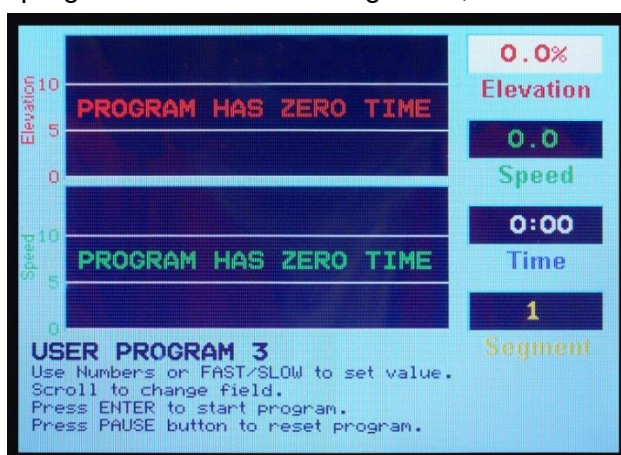
1. Press and hold PAUSE button for 5 seconds to activate text editing of the workout you plan to customize
  - Use the UP/DOWN incline buttons to scroll from left to right to change text.
  - Use the FAST/SLOW speed buttons to scroll through the alphabet.
2. Once the program name has been edited, press ENTER to run the program.



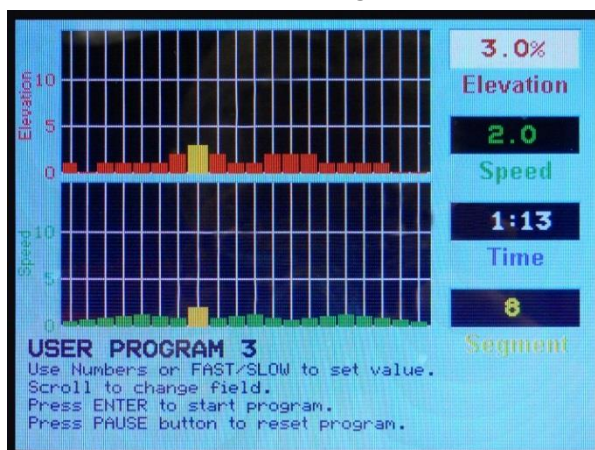
## Edit Program

Existing programs can be modified and personalized programs can be written, reset, or erased.

1. Press and hold CLEAR button for 5 seconds until you hear a beep and the User Program screen appears.
2. If modifying an existing program, use the scroll buttons to change fields (incline, speed, time, and segments).
  - Values for each field can be changed using the numeric keys or the FAST/SLOW speed buttons.
  - Each program has a max. of 40 segments.
  - When programming each segment, program in sequential order (i.e. do not skip time between segments).
  - If the program is less than 40 segments, leave the remainder blank.



3. Press ENTER once program details are inserted to save program.
4. Press PAUSE to reset/erase the current program and write a new program.



### **Run Customized Program**

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

Enter user weight and press ENTER to begin program.

When workout is complete, press the OFF button to exit the Edit User Programs screen and turn the treadmill off.

## **7.7 Body Weight Support Systems**

Depending on the patient's illness or physical/mental limitations, it may be necessary to use a body weight support system for the treadmill therapy in motor rehabilitation.

For more information, see the separate operating manual for the LokoStation Body Weight Support System.

For information on the use of body weight support systems please contact your local WOODWAY dealer or Service Center.

### **ATTENTION**

When using the body weight support system, CONTINUUM treadmills must be equipped with an additional brake (retrofitting possible).

It should be noted that the braking behavior changes due to the additional brake, i.e. the braking performance is slightly "harder". One must become accustomed to the changed braking behavior.

## 8 Options and Accessories

### 8.1 Suitable Accessories

The following accessories and options can be obtained from a WOODWAY dealer or WOODWAY Service Center.

Depending on the year and equipment, it should be determined in advance whether the particular unit is suitable for the selected accessories/options. For this, contact an authorized WOODWAY dealer or WOODWAY Service Center before ordering.

| Description                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gas Spring Bar Railing</b><br>Height and width adjustable                                                                        |
| <b>Special Design</b><br>(e.g. child design)                                                                                        |
| <b>POLAR® Chest Strap</b><br>For heart rate measurement (consisting of POLAR® T34 chest strap, transmitter)                         |
| <b>Emergency Stop Magnet with Pull-Cord</b>                                                                                         |
| <b>Additional Brake</b><br>Recommended for use / treatment of obese patients, required in connection with LokoStation and LokoBasic |
| <b>Mounting Aid</b><br>Simplifies the mounting of WOODWAY slat belt treadmills                                                      |

## 8.2 Mounting Aid

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

The following further safety measures must be considered:

- Before using the treadmill, the mounting aid must be removed from behind the treadmill, so that the safety area behind the treadmill is met (i.e. clear fall area of at least 3 ft. W x 6.5 ft. L [1 x 2 m]).
- To prevent damage to the treadmill and the mounting aid, the mounting aid must never come in contact with the running surface. Observe the mounting aid manufacturer's instructions.
- The mounting aid may only be used when the treadmill is not running.
- In order to prevent patients from falling when mounting the treadmill, the supervising person (e.g. physician, therapist, qualified supervisor) must provide help during mounting in the application areas of movement therapy / rehabilitation training. The supervisor must be capable of stopping of the patient from possibly falling when mounting the treadmill.

## 8.3 Heart Rate Monitors

WOODWAY treadmills are equipped with a heart rate measurement system. This can be used with numerous compatible heart rate transmitters, i.e. POLAR® measuring device (GymLink compatible). In order to display the user's heart rate accurately, the built-in receiver must receive a stable heart rate signal from the transmitter.

Heart rate measuring systems consists of three main elements:

- Sensor/transmitter
- Chest strap/belt or sport watch
- Measuring device/console

The receiver for the wireless system is installed in the console display. When in operation the display shows the heart's activity in beats per minute (BPM).

### **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.

## 9 Cleaning and Maintenance

### **WARNING**

#### **Danger of Injury due to Lack of Qualifications!**

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

- ▶ 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 WOODWAY Customer Service or dealer.
- ▶ The manufacturer is not liable for personal injury and material damage caused by a lack of qualifications.

### 9.1 Cleaning

Periodic cleaning and inspection of your WOODWAY treadmill will help lengthen its life while keeping it looking like new. With this preventative maintenance it will be easier to identify possible issues that might otherwise be overlooked.

Below is a guideline of recommended cleaning and maintenance intervals.

### **DANGER**

#### **Danger of Death by Electric Shock!**

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

- ▶ No liquids may come in contact with electrical parts such as motor, power cord, power switch, and 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 treadmill should be thoroughly cleaned at regular intervals, depending on the intensity of use. Remove light dirt and dust with a soft cloth. Dirt can be removed with damp cloth and mild soapy water. After cleaning, dry with a dry cloth.



### 9.1.1 Cleaning Notes

- Do not use abrasive brushes or abrasive cleaners, as the paint and plastic surfaces can be scratched.
- Do not use sharp tools (e.g. knife, metal scraper) or aggressive cleaning solvents for cleaning.
- Clean all surfaces with a mild, non-abrasive detergent (eg. *409* or *Fantastic*, diluted with water to 50/50).
- To avoid damage to component surfaces, observe the instructions for detergent use.
- 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.

## 9.2 Maintenance Intervals

### **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.

### 9.2.1 Weekly Maintenance

- Clean handrails, display, and side covers with a damp cloth.
- Disinfect railings and controls.
- Clean the running surface with a damp, lint-free cloth.
- Visually check the power cord for damage.
- Check the treadmill for mechanical damage.
- Check mounting of all controls (display, emergency stop mushroom, keypad with magnetic mount, side panels)
- Clean the area under the treadmill (vacuum and mop).

### **CAUTION**

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.

## 9.2.2 Monthly Maintenance

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

The function test includes the following:

|           |                                                                                                                                                                     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1.</b> | Use the treadmill for a short time at speed of 3.5 - 6 MPH (6 - 10 km/h). Do unusual noises occur?                                                                  |
| <b>2.</b> | Turn up treadmill to max. speed for a short time. Does the treadmill reach the specified max. speed? Do unusual noises occur?                                       |
| <b>3.</b> | Does the display correctly show the distance traveled at top speed?                                                                                                 |
| <b>4.</b> | Stop the treadmill and move it to max. incline. Does the treadmill reach the desired incline?                                                                       |
| <b>5.</b> | Do unusual noises occur while the treadmill is running at max. incline?                                                                                             |
| <b>6.</b> | Check the emergency stop magnetic switch function. Is an emergency stop initiated?                                                                                  |
| <b>7.</b> | Check the function of the emergency stop mushroom and/or button.                                                                                                    |
| <b>8.</b> | Set the treadmill to STAND-BY mode. Though slight movement is normal, the running surface must be very difficult to move. Is the running surface stopped correctly? |

### ATTENTION

If there are defects or deviations in the control function, notify 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.

Before starting any maintenance, remove the side panels (NOT electronics covers).

Preventative 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.).
- Visually check the drive unit toothed belt (drive belt) for cracks and other wear and missing or broken teeth.
- Inspect the aluminum profiles of the slats for damage.
- Visually inspect 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).
- 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 in the following situations:

- Liquid has gotten into the device
- Damaged power cord (cable, plug)
- Defective drive system toothed belt
- Suspected bearing damage
- Suspected/established device defect
- Bucking, sudden stopping, or accelerating of the running surface
- Buttons fail to function
- Burning smell, smoke, or unusual noises
- Malfunction (failure) of the emergency stop button
- Malfunction (failure) of the emergency stop magnet
- Damage to the running surface belt
- All other defects which may affect the safety of the device

### **9.2.3 Semi-Annual Maintenance**

- Vacuum inside the treadmill (unplug device and remove side covers).
- Inspect all nuts and bolts. Tighten if necessary.
- Clean running surface and spray with anti-static spray.
- Check drive belt (replace if shredding or if teeth are missing).

### **9.2.4 Annual Maintenance**

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

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 Report (see Section 12 Page 90).

Significant measures for inspection of the treadmill:

- Treadmill installation
- Running surface belt
- Drive unit and the lifting system
- Nuts and bolts
- Secondary bearing and guide rollers
- Electronics

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

## **9.3 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.

### **9.3.1 Permanent Connection**

CONTINUUM devices 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 country-specific regulations are to be observed.

### **9.3.2 Checks and Measurements**

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

### **9.3.3 Manufacturer's Recommendations**

Prior to the tests, the 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 product manufacturer's recommendations are to be observed accordingly. Measurement technology checks are not intended for CONTINUUM treadmills.

### **9.3.4 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 Section 3:22 of standard EN 62353:2008 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.

### 9.3.5 Inspection Intervals

A Technical Safety Check (TSC) must be performed annually by qualified personnel (electricians). These are "repeated safety checks" in accordance with Section 4.3 of EN 62353:2008.

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

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.
3. The representative must be informed in writing that the TSC inspection intervals must be re-evaluated when the frequency/intensity of treadmill use increases.
4. The qualified inspector must consider the environmental conditions and the frequency of past device malfunctions.

### 9.3.6 Visual Inspection

According to Section 5.2 of the standard EN 62353, a visual inspection is to be carried out prior to the measurements. The following points must be checked on CONTINUUM devices:

|     |                                                                                                                                                                                                                                                         |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | <b>Treadmill Operating Manual:</b> Is the operating manual for the device immediately available for users and it is valid for the tested treadmill model?                                                                                               |
| 2.  | <b>Accessory Operating Manuals:</b> Are the operating manuals for accessories and options available?                                                                                                                                                    |
| 3.  | <b>Labels and Name Plate:</b> Are all labels on the device legible and complete (name plate, fuse identification, interface labels, labels on the operating and display elements)?                                                                      |
| 4.  | <b>Fuses:</b> Do the rated values and meltdown characteristics of the inserted fuses match with the following values: Fuse, operational voltage 230VAC, size 5x20mm (diameter x length), 10A, time-lag (10 AT)?                                         |
| 5.  | <b>Visual Condition of the Treadmill:</b> Is the device undamaged and properly cleaned? Are slats possibly broken/cracked? Was a visual inspection of mechanism (see Section 9.2 Page 75) properly performed?                                           |
| 6.  | <b>Use of the Emergency Stop Magnetic Switch:</b> Is the emergency stop magnet available with pull-cord and clip, and is this used every time the treadmill is used in accordance with the manufacturer (determined by asking the operating personnel)? |
| 7.  | <b>Condition of Pull-Cord, Clip and Cord Stopper:</b> Are the 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.  | <b>Safe Fall Area:</b> Is the safety area of 3 ft. W x 6.5 ft. L (1 x 2 m) behind the treadmill provided?                                                                                                                                               |
| 9.  | <b>Power Strips:</b> Are power strips used? For safety reasons the use of power strips is forbidden.                                                                                                                                                    |
| 10. | <b>Room Circuit Breaker:</b> Is a line circuit breaker with the following properties used to protect the line: Rated voltage 230V, rated current 16A and tripping characteristic C ("slow")?                                                            |
| 11. | <b>Power Supply:</b> 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.                                                                                |

### 9.3.7 Measurements i.a. EN 62353:2008

The values determined in these tests are to be documented together with the measurement method and evaluated as the basis for comparison for future standards. Measurements are to be carried out in accordance with Section 5.3 of the standard. The protective conductor resistance (Section 5.3.2), and device leakage current (Section 5.3.3) are to be measured. A measurement of the leakage current from the applied part according to Section 5.3.3.3 of the standard is not necessary. For the measurement of the device leakage current, the direct measurement methods or the difference in 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.

A measurement of the insulation resistance in accordance with Section 5.3.4 of the standard may NOT be performed.

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<br>Resistance between the protective conductor of the power cord and the protective conductor connected, exposed conductive parts of the unit (treadmill frame and railing) | 300 mΩ      |
| Protective conductor resistance - removable power cord<br>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                                                                                                                                          | 100 mΩ      |
| Device leakage current - direct measurement or differential current measurement<br>Measuring procedure defined in Section 5.3.3 of EN 62353                                                                                            | 0.5 mA      |

### 9.3.8 Function Test

After the examination (inspection and measurement) a functional test must be performed in accordance with the Function Test found in Section 9.2 of this manual; 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.

### **9.3.9 Test Report**

The results report (test report) must meet the requirements the standard EN 62353 (see Section 6.1 and Appendix G.1 of the standard).

A final safety evaluation of the appliance must be carried out and the deadline for the next TSC set. In accordance with Section 6.2 of the standard this review can only be carried out by one or more qualified electricians (as defined in IEC 61140), 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) must 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, the representative can provide efficient and reliable support.

If technical safety inspections are required by the manufacturer, the operator must carry these out or have them 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 and if it is in good condition. 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 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.

### **9.3.10 Personal 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 out about the entire safety inspection. 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.

## **9.4 Lubrication**

### **9.4.1 Bearings**

Almost all of the bearings used in the treadmill are pre-lubricated and do not need to be greased initially. On a yearly basis, lubricate the 4 bearings (front and rear shaft).

### **9.4.2 Running Belt**

The teeth on the bottom of the running belt are pre-lubricated to aid in reducing noise. There is no need to lubricate the teeth. If the belt is rubbing against the side of the drive pulleys, a small amount of grease (i.e. Molykote or equal) on the edges of the belt slats will help reduce noise.

### **9.4.3 Drive Belt**

As in the case of the running belt, the application of grease on the edge of the drive belt is only needed to reduce belt squeak and should be used sparingly.

### **9.4.4 Incline System**

The incline systems on WOODWAY treadmills are greased at the factory. If utilized for many hours or in a very dusty environment, the system will need to be checked. If necessary, apply a small amount of grease on the chains and incline drive racks.

*Note: Use a minimal amount of lubricant to prevent excess dirt and debris from sticking to the machine after cleaning.*

## **9.5 Adjustments and Calibration**

### **9.5.1 Incline System**

WOODWAY uses a swing arm incline system on the CONTINUUM. It extends to an inclination of 25%.

### **9.5.2 Running Belt**

The running belt should not require adjustment. However, if the running belt or associated parts have been changed, then belt tension should be checked and set to:

6 3/8" (16.2 cm)

### **9.5.3 Mounting Feet**

Tools needed: 2 ft. level, 3/4" wrench (2 cm)

If the treadmill wobbles or seems unstable, mounting feet must be checked. Using the level, check both ends of the treadmill. Loosen the tensioning nut and turn the foot until it is at the correct level. Tighten the tensioning nut.

*Note: When moving the treadmill, the frame may flex. If the treadmill wobbles, push the handrail to one side or the other. This may straighten the frame without needing to adjust the mounting feet.*



## 9.6 Disabling the Treadmill

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

A device must be disabled if 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
- Other symptoms/situations which could cause danger to the user/operator

Disabling can also be requested of 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.

### 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 an unintentional and/or unauthorized restart can be ruled out and that the name of person who is authorized to put the treadmill back into operation can be seen.

The representative is to disable medical treadmills in the following situations:

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

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 could 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 (disconnected).
2. The treadmill must be marked "disabled" in a clear manner such as: "CAUTION DANGER OF INJURY" and 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 - 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 one of the following safety labels to the treadmill power supply fuse box.
5. Apply the second safety label to the plug of the power cord.

### 9.6.1 Labels for Disabling a Treadmill

✂

○



**CAUTION  
DANGER OF INJURY!**

This device has been disabled due to safety defects.  
**THE USE OF THIS DEVICE IS STRICTLY FORBIDDEN!**

Device was disabled on (date) : \_\_\_\_\_

By (name): \_\_\_\_\_

Only the following person may put this device back  
into operation: \_\_\_\_\_

✂

○



**CAUTION  
DANGER OF INJURY!**

This device has been disabled due to safety defects.  
**THE USE OF THIS DEVICE IS STRICTLY FORBIDDEN!**

Device was disabled on (date) : \_\_\_\_\_

By (name): \_\_\_\_\_

Only the following person may put this device back  
into operation: \_\_\_\_\_

## 9.7 Device Fuses

The fuses must comply with the published technical specifications (see Section 3.4 Page 20).

Bridging the fuses is prohibited, due to the risk of electric shock and fire.

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 from the power junction box. Change the fuse and screw the fuse holder into the terminal box.

*Note: The figure below is of a WOODWAY PPS Medical Treadmill, however the process for removing and replacing the fuse is identical to that of the CONTINUUM.*



## 10 Warranty Info

|             | Frame    | Drive, Belt,<br>Motor | Remaining<br>Parts | Labor  |
|-------------|----------|-----------------------|--------------------|--------|
| Medical Use | 10 years | 5 years               | 4 years            | 1 year |

WOODWAY warrants that all products and accessories will be free from manufacturing defects according to the applications/terms listed above. The warranty period commences on the original date of purchase (with the exception of the running belt component, which is warranted for a period of four [4] years from the original date of purchase). This warranty is given only to the original purchaser. This warranty does not cover damage or equipment failure resulting from misuse, abuse, or failure to comply with electrical codes. Further, this warranty shall not apply if there is any modification to the products or accessories or if there is a failure to provide maintenance as outlined in the Owner's Manual.

**WOODWAY GIVES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. THE WARRANTY OF FITNESS FOR A PARTICULAR USE IS HEREBY DISCLAIMED.**

The buyer's remedy for breach of the expressed warranties contained herein shall be limited to the return of the product and accessories and repayment of the original purchase price. However, provided at WOODWAY selection, it may repair and replace the non-conforming goods or parts. WOODWAY shall not be liable for any incidental or consequential damages.

### 10.1 Our Guarantee

WOODWAY guarantees the repurchase of WOODWAY treadmill products for a period of up to four (4) years after original installation. A direct payment, or credit toward the purchase of a new WOODWAY, of 20% of the purchase price of the treadmill will be made to the original owner of a WOODWAY treadmill. This guarantee is limited to the original owner. Contact WOODWAY for further details.

## 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, contact an authorized WOODWAY dealer or WOODWAY Service Center.

If you have problems with your treadmill, please consider the answers to the following questions before calling WOODWAY Customer Service:

- What are the make, model, and serial number?
- What happened before the problem occurred?
- Did the problem occur suddenly or slowly over time?
- Was the treadmill in use when the problem occurred?
- Was the running surface ENGAGED or was it in DYNAMIC MODE?
- Explain all the other information that you consider relevant.

### 11.1 Unusual Noises

#### 11.1.1 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, or 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. If this is the case, correct the gaps between the running surface and side panel.

#### 11.1.2 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 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 leads to an unnecessary accumulation of dust and dirt.

#### 11.1.3 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.

#### 11.1.4 Bearings

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

## 11.2 No Display

If the display is not lit when you turn on 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?
- Is the main switch on the power connector box switched on?
- Did the device blow/melt a fuse(s)?
- Can the fan that is used to cool the servo controller (on the runner's 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)?
- Is the emergency stop magnet placed on the magnetic switch? Try to reposition.

## 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 blocked by an object and if so, remove.

Wait at least 60 seconds and put the device 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 used 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 (i.e. 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 might be a defective short circuit relay or a broken wire.

If the treadmill is turned on by 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 Work

Possible causes:

- Sticking brake or stalled motor (noise coming from incline motor)
- Tripped incline limit switch
- Broken chain or chain jumped off a sprocket
- Incorrectly-adjusted potentiometer

## **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)

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 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.

## **11.8 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

## 12 Maintenance Report

[illegible]



## 13 Record of Instruction

Once the treadmill is delivered, installed, and a function test takes place, instruction is to be carried out by a competent WOODWAY employee or authorized WOODWAY dealer. All persons who will work with the device in the future must participate in the instruction. As soon as the installation and training have taken place, the instruction record must be signed by the instructor and all participants, and a copy must be sent back to WOODWAY.

| Step | Description                                                                                                                                                                                                                                                                                                              | Done                     |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1    | Transfer of operating and maintenance instructions<br>Manual is always to be kept within easy reach of users.<br>Availability of the manual is required and will be checked at each inspection.                                                                                                                          | <input type="checkbox"/> |
| 2    | Reference to the general hazard statements and safety requirements according to the manual<br>Indicate specific flat belt hazard statements according to area of application (benefit/risk assessment by the therapist, etc.).<br>Assist frail/disabled persons when using the LokoStation and/or a CONTINUUM treadmill. | <input type="checkbox"/> |
| 3    | Special note on the prescribed "safe fall area" (area clear of objects and walls)<br>Note use of the safety strap with harness fall protection.                                                                                                                                                                          | <input type="checkbox"/> |
| 4    | Switching the unit ON/OFF with the power switch<br>Explain the different functional states of the device (OFF, STAND-BY, READY).                                                                                                                                                                                         | <input type="checkbox"/> |
| 5    | Instruction on initialization phase<br>After turning on the treadmill the device goes through an initialization phase (3-4 seconds).<br>User/patient should not get on the treadmill during initialization.                                                                                                              | <input type="checkbox"/> |
| 6    | Explanation and demonstration of the various safety devices on the machine (emergency stop magnet with pull-cord, emergency stop mushroom)<br>Note use of safety devices to stop the machine in an emergency.<br>Instruct user on correct attachment of the safety clip to the waistband.                                | <input type="checkbox"/> |
| 7    | Explanation of the keys on the keypad (railing)<br>Explain difference in functionality between short button push and long pressing/holding for setting speed or incline.<br>Note double pressing the STOP button to return the treadmill to 0% after use.                                                                | <input type="checkbox"/> |

| Step | Description                                                                                                                                                                                                                                                                                                                                                                      | Done                     |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 8    | Demonstration of treadmill in MANUAL mode<br>Specially note operation for devices with reverse functionality.                                                                                                                                                                                                                                                                    | <input type="checkbox"/> |
| 9    | Explanation of the indicators in the display                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> |
| 10   | Operation of the treadmill via customized programs                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> |
| 11   | Operation of the treadmill with pulse control                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> |
| 12   | Instructions for correct heart rate measurement and limitations<br>Demonstrate correct wearing of the chest strap.<br>Instruct proper behavior in case of problems/malfunctions, possible causes/sources (e.g. computers, quartz watches, monitors, power lines, etc.).                                                                                                          | <input type="checkbox"/> |
| 13   | Notice to the CD-ROM with Treadmill Control Software, as well as the accompanying user guide                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> |
| 14   | Instructions on cleaning the treadmill with reference to the manual<br>When cleaning the unit always pull the power plug before the start.<br>Maintenance and repair of medical devices and electrical equipment may only be performed by authorized personnel (WOODWAY service technicians, authorized WOODWAY service partner, or medical technician).                         | <input type="checkbox"/> |
| 15   | Notice on regular/recurring maintenance intervals with regard to safety checks (TSC)<br>Offer maintenance contract.                                                                                                                                                                                                                                                              | <input type="checkbox"/> |
| 16   | Final photographs of the device from two different perspectives (include with the instruction record)                                                                                                                                                                                                                                                                            | <input type="checkbox"/> |
| 17   | Explanation of possible malfunctions that must lead to a disabling of the treadmill:<br>Bucking, sudden stopping, or sudden acceleration of the treadmill<br>Failure of buttons<br>Burning smell, smoke, or unusual noises<br>Damage/loss of the emergency stop magnet with pull-cord<br>Malfunctioning (defective) emergency stop magnet<br>Damage to treadmill running surface | <input type="checkbox"/> |

## 13.1 Confirmation of Installation and Training Record

With the signing of the instruction record, the instructor and the customer confirm the carrying out of qualified instruction and installation. 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:

|                          |                      |
|--------------------------|----------------------|
| _____<br>(Name and role) | _____<br>(Signature) |
| _____<br>(Name and role) | _____<br>(Signature) |
| _____<br>(Name and role) | _____<br>(Signature) |
| _____<br>(Name and role) | _____<br>(Signature) |

Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Location, Date)

\_\_\_\_\_  
Name (printed capital letters) and signature of Instructor (Medical device consultant)

## 14 Declaration of Conformity with Technical Regulations

WOODWAY hereby confirms that the medical device “**WOODWAY CONTINUUM Medical Slat Belt Treadmill**” complies with the applicable generally accepted rules of technology and the requirements of occupational safety and is designed and manufactured so that users, patients, and third parties are protected against all kinds of hazards to health and safety.

1. A complete Declaration of Conformity document is available per request. Please contact Woodway USA.
2. The intended use is described in Section 1.5 Page 7, “Intended Use”.
3. An instruction manual in the language of the country of use is included.
4. Control elements and indicators are identified in the user language.
5. Circuit diagrams and the service manual may be issued only upon request to individuals and institutions that can demonstrate appropriate qualifications.
6. Technical specifications and special instructions (installation, safety equipment, safety notices, maintenance, etc.) are detailed in the manual.
7. The operating manual contains the necessary information regarding cleaning and inspection. These activities may be performed by the user.
8. Technical safety checks (TSC) and maintenance are to be carried out in 12 - 18 month intervals (see Sections 9.2 and 9.3). These tasks may only be performed by trained and qualified personnel (e.g. WOODWAY contract partners).