THERA-Trainer lyra overview

1. Plate binding
2. Light barrier
3. Screen
4. Screen power button
5. Left wing
6. Sliding doors to step length settings (left and right)
7. Handrail
8. Bar
9. Cable
10. Handwheel
11. Crank
12. Display
13. Main switch
14. Release button
15. Wheelchair button
16. Emergency stop button (left and right)
17. Stop button (left and right)
Dear THERA-Trainer lyra user,

This user manual provides all the important information to ensure that the equipment is operated safely. Regardless of your level of experience with gait rehabilitation, we ask you to read this manual carefully before operating the THERA-Trainer lyra.

The THERA-Trainer lyra is intended exclusively for gait rehabilitation, offering body weight support for patients with limited mobility, caused by cerebral, spinal or neurogenic disorders. Further information about the intended use of the THERA-Trainer lyra can be found in chapter 13 of this user manual.

Carefully reading this user manual and taking part in the product training given by our expert suppliers are conditions for starting up the Thera-Trainer lyra. The training session will be given on site after the equipment has been installed. Please refer to this user manual as an initial source of information if you have any questions about or problems with operating the THERA-Trainer lyra. Should you require further assistance, do not hesitate to contact us (contact details listed on the back of this user manual or at www.thera-trainer.de).

Your THERA-Trainer team
About this user manual

To ensure safe and optimum use of the THERA-Trainer lyra, this user manual refers to the following symbols:

A **warning** is an important safety measure that you must follow. Ignoring warnings may cause significant damage to health.

A **note** is a useful piece of information or recommendation for getting the most out of your THERA-Trainer lyra.
Please note: Your THERA-Trainer lyra may look slightly different from the illustrations in this user manual.

Please note: All therapeutic details are included as visual examples and are not to be taken as therapy guidelines. The personal needs of patients must be clarified in advance with the relevant medical professional, who also assumes all responsibility for the patient’s use of the THERA-Trainer lyra. The therapy parameters must be established by the medical professional.

Please note: Use of the masculine form when referring to therapists and patients includes both sexes.
# Contents

THERA-Trainer lyra overview ................................................................. 3  
Foreword............................................................................................. 4  
About this user manual ..................................................................... 5  
Contents.............................................................................................. 7  
1. Important operating instructions .................................................. 9  
2. Safety and dangers ...................................................................... 10  
3. Overview of the training process ................................................ 14  
4. Switching on the THERA-Trainer lyra ......................................... 15  
5. Settings.......................................................................................... 17  
   5.1 Step length .............................................................................. 17  
   5.2 Handrall ................................................................................ 18  
   5.3 Body weight support ............................................................. 19  
       5.3.1 Amount of body weight support ....................................... 19  
       5.3.2 Type of body weight support .......................................... 20  
   5.4 Foot binding .......................................................................... 21  
6. Harness system ........................................................................... 24  
7. Transferring the patient to the THERA-Trainer lyra ....................... 26  
   7.1 Mobile patients ..................................................................... 26  
   7.2 Wheelchair-dependent patients ............................................. 28  
8. Operating the software .................................................................. 33  
   8.1 General .................................................................................. 33  
   8.2 Settings ................................................................................ 33  
       8.2.1 Checking the step length ................................................. 34  
       8.2.2 Position of the plate bindings ......................................... 34  
       8.2.3 Speed ........................................................................... 35  
       8.2.4 Duration ........................................................................ 35  
   8.3 Therapy session ..................................................................... 36  
       8.3.1 Training session control .................................................. 36  
       8.3.2 Distance and time display ............................................... 37  
       8.3.3 Adjusting speed .............................................................. 38  
   8.4 Session summary .................................................................... 39  
9. Structure of therapy sessions ........................................................ 40  
   9.1 Starting the session ............................................................... 40  
   9.2 Ending the session .................................................................. 42  
   9.3 Changing the training parameters during a break ..................... 42  
   9.4 Ending the therapy session .................................................... 42  
   9.5 Emergency stop ..................................................................... 43  
10. Transferring the patient from the THERA-Trainer lyra ................. 44  
   10.1 Mobile patients ................................................................... 44  
   10.2 Wheelchair-dependent patients .......................................... 44  
11. Switching off the THERA-Trainer lyra ......................................... 47  
12. Troubleshooting ....................................................................... 48
13. Intended use........................................................................................................51
   13.1 Purpose ........................................................................................................51
   13.2 Medical indications .......................................................................................51
   13.3 User qualifications and responsibilities ..................................................51
14. Foreseeable misuse ..........................................................................................52
   14.1 Contraindications .........................................................................................52
   14.2 Misuse ............................................................................................................52
15. Instructions for using the harness system .......................................................53
   15.1 General ..........................................................................................................53
   15.2 Human Care Multi Sling 25105 ................................................................53
   15.3 Other harness systems ..................................................................................54
16. Maintaining the THERA-Trainer lyra .............................................................55
   16.1 Checks and cleaning .......................................................................................55
   16.2 Functional testing ..........................................................................................56
   16.3 Maintenance and repairs .............................................................................57
   16.4 Safety checks ................................................................................................58
   16.5 Electromagnetic compatibility .....................................................................59
   16.6 Economic life of the THERA-Trainer lyra ..................................................59
   16.7 Disposal of the THERA-Trainer lyra ...........................................................59
Appendix A: Technical data ......................................................................................60
Appendix B: Symbols ...............................................................................................68
Appendix C: Warranty ...............................................................................................71
Appendix D: List of accessories .............................................................................72
Glossary ....................................................................................................................73
1. Important operating instructions

The THERA-Trainer lyra was developed and tested for operational safety in accordance with the latest state of the art practices. This user manual is an essential part of the THERA-Trainer lyra. The information contained here is required to ensure correct use of the equipment. Failure to use this equipment correctly may cause personal injury and/or material damage.

**Warning:** Carefully read this user manual in full before starting up the THERA-Trainer lyra and carefully note the warnings included inside. Please make this user manual available to all individuals who will be operating the trainer.

The manufacturer assumes no liability for personal injury and/or material damage resulting from improper use, improper repairs, any changes or alterations made without the express written consent of the manufacturer, improper use of the equipment or a disregard of warning signs.

**Warning:** The THERA-Trainer lyra must be installed only by qualified service personnel. The use of multiple sockets is not permitted. An extension cable of a maximum length of five metres may be used.

**Warning:** To reduce the risk of electric shocks, water must never come into contact with any of the electrical components, including the motor, power cable and power switch.
2. Safety and dangers

1. Carefully read this user manual in full before starting up the THERA-Trainer lyra and carefully note the warnings included inside.
2. Make this user manual available to all individuals who will be operating the THERA-Trainer lyra.
3. Only qualified service personnel are allowed to install the THERA-Trainer lyra.
4. The use of multiple sockets is not permitted.
5. An extension cable of a maximum length of five metres may be used.
6. To reduce the risk of electric shocks, water must never come into contact with any of the electrical components, including the motor, power cable and power switch.
7. When you press the release button, the plate bindings start moving. Ensure that no one is standing on or next to the plate bindings, otherwise there is a risk of injury.
8. When using the body weight support feature, always ensure that the weight of the patient is evenly distributed across both bar hooks by using an approved harness system (see chapter 6).
9. Do not lift or lower any load that is not evenly distributed.
10. Set the bar to the correct height (see chapter 5.3.2).
11. Never use the body weight support with just one hook.
12. The harness system is a safety device to prevent the patient from falling. Even if the patient does not need any body weight support, it must be worn at all times and attached to the bar. In these cases, set a minimal body weight support weight and turn the crank until the cable is under slight tension.
13. The rope must be pulled out up to the red marking maximum. If you pull out the rope more there is a risk of wrong winding the rope. The brake action will be lost.
14. If the patient cannot be secured correctly on the plate bindings, e.g. if their shoes are too large or too small for the bindings, the training session cannot be carried out.
15. Ensure that the foot bindings are firmly fastened for the entire duration of the therapy session.
16. Ensure that there are no loose shoelaces, foot-binding and clothing ties or straps for the entire duration of the therapy session, as these may get caught in the plate bindings or in the plate binding openings in the casing.
17. The selection and use of a specific harness system is the sole responsibility of the medical professional.
18. Carefully read the operating manual for your chosen harness system and follow the instructions given there.
19. Switch to the “Therapy session” screen if the patient is ready to begin training on the Thera-Trainer lyra. This prevents the THERA-Trainer lyra from starting accidentally while transferring the patient.
20. Make sure that the patient’s head does not collide with the bar.
21. Training can only start once you have fully closed the left wing of the THERA-Trainer lyra and pressed the release button.
22. Carefully check the following points before starting the therapy session:
   • The patient is properly secured with the harness system.
   • The harness system is correctly attached to the bar.
   • The foot bindings are properly closed.
   • Neither the patient nor you are wearing clothing (shoe laces, trousers etc.) which is too long or too loose and that could get caught in the plate bindings or in the plate binding opening in the casing.
   • The THERA-Trainer lyra training parameters and settings are set correctly for the patient.
   • Nobody is immediately in front of or behind the plate bindings.
23. You have free access to the patient from all sides during the therapy session. In order to avoid injuries, constantly monitor the plate bindings whilst keeping a safe distance.
24. Always remain present during an active therapy session.
25. The instructions described in table 2 of chapter 12 are the only methods you may use to rectify an error. If the instructions do not rectify the error, contact a trained supplier.
26. Only harness systems carrying the CE approval mark in accordance with the Directive 93/42/EEC may be used.
27. The entry of liquids into the THERA-Trainer lyra is not permitted.
28. If the harness system or THERA-Trainer lyra components exhibit signs of wear and tear, the device must not be used for training.
29. If the THERA-Trainer lyra does not pass one of the criteria listed in table 4 in chapter 16, it must not be used for training.
30. Ensure that maintenance and repairs are only carried out by qualified service personnel.
31. Damaged or defective THERA-Trainer lyra components may only be replaced with original replacement parts from the manufacturer.

32. Maintenance or repair work that is not performed by qualified service personnel will result in the loss of rights in the event of warranty claims.

33. No changes or modifications to the THERA-Trainer lyra are permitted unless expressly approved in writing by the manufacturer.

34. The THERA-Trainer lyra must not be set up in the immediate vicinity of or stacked with other appliances. If it is necessary to operate the THERA-Trainer lyra in the vicinity of or stacked with other appliances, monitor it to ensure correct operation, depending on how the devices have been arranged.

35. Only use the THERA-Trainer lyra when it is in an undamaged and fully functional state.

36. Before initial start-up, a trained supplier must instruct you on how to use the product.

37. If the THERA-Trainer lyra is damaged, breaks down, etc., a trained supplier must be informed.

38. Smoking is forbidden during a training session.

39. If any symptoms of illness occur during or after the training session, consult a doctor immediately.

40. When routing cables, make sure that
   • the patient’s movements are not impeded.
   • movement of THERA-Trainer lyra is not restricted.
   • the cables do not cause an obstruction or trip hazard.

41. Position the THERA-Trainer lyra so that the power plug is easily accessible and can be pulled out of the socket quickly in case of emergency.

42. Only use original parts from the manufacturer.

43. Only use the THERA-Trainer lyra with undamaged and fully functional cables.

44. Ensure that fingers are not trapped whilst setting up the THERA-Trainer lyra.

45. Only operate the THERA-Trainer lyra at the correct supply voltage.

46. Only use the THERA-Trainer lyra for training when it is ready for operation.

47. Animals and children at play must be kept away from the THERA-Trainer lyra.

48. Ensure that the safety equipment is working correctly before every training session.
49. Only start the training session when both feet are placed correctly in the plate bindings and are secured.

50. Only start the training session if the harness system is correctly attached and secured.

51. Only use cleaning agents and disinfectants that have been approved by the manufacturer.

52. Select the range of motion according to the fitness level of the patient.
3. Overview of the training process

The diagram below illustrates a sequence of interactions with the THERA-Trainer lyra before, during and after a therapy session.

Table 1 gives you an overview of the setting adjustments that can be made to a THERA-Trainer lyra that is switched on, and those that can be made when it is switched off.

<table>
<thead>
<tr>
<th>Table 1: Changing the settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running THERA-Trainer lyra:</td>
</tr>
<tr>
<td>Body weight support</td>
</tr>
<tr>
<td>Bar height</td>
</tr>
<tr>
<td>Speed</td>
</tr>
<tr>
<td>Stopped THERA-Trainer lyra:</td>
</tr>
<tr>
<td>Step length</td>
</tr>
<tr>
<td>Handrail</td>
</tr>
<tr>
<td>Foot binding</td>
</tr>
</tbody>
</table>
4. Switching on the THERA-Trainer lyra

This chapter outlines how to switch on the THERA-Trainer lyra.

1. Ensure that the THERA-Trainer lyra is connected to a 230 V ~ power supply.
2. Press the main switch on the THERA-Trainer lyra.
3. Press the power button on the screen to start up the software.
4. Select your preferred language and confirm your selection.

5. Follow the on-screen instructions in the correct order:
   - Ensure that no one is standing in the direct vicinity of the plate bindings.
   - Press the release button. The THERA-Trainer lyra will now initialise.

Please note: If you have not explicitly chosen a language within 30 seconds, the last language used is selected automatically. The language setting can only be changed at this time. If you want to change the language setting at a later time, you must start the software again (see chapter 8.1).

Please note: As soon as additional language options are available for the software, these are also shown.

Warning: After pressing the release button, the plate bindings start moving. Ensure that no one is standing on or next to the plate bindings, otherwise there is a risk of injury.
6. Wait until the system has initialised and the removable plate bindings have stopped moving. You can then access the **Settings** screen display (see chapter 8.2).

**Please note:** The THERA-Trainer lyra has an automatic monitoring system, which checks the state of operational readiness after switching on.
5. **Settings**

This chapter outlines the various settings on the THERA-Trainer lyra.

### 5.1 Step length

Step length is the distance between the furthest forwards and backwards position of the heel in one step curve. The step length to be selected depends on the height, gait speed and functional impairment of the patient. You can select step lengths between 39 and 67 cm, in seven stages of 4 cm each.

1. Ensure that the plate bindings are not moving.
2. Open the sliding door of the step length setting on the side.
3. Pull the handle out and move the slides vertically to the desired position.
4. Let go of the handle and ensure that the mechanism has locked into place firmly.
5. Close the sliding door.
6. Repeat steps 1 to 5 on the other side.
7. Press the release button.

Please note: If necessary, you can set differing step lengths for the patient’s left and right legs.
5.2 Handrail

During transfers and therapy sessions, patients can hold on to and lean against the handrails. The height of the handrails depends on the height and functional impairment of the patient. There are seven height options.

1. Hold on tightly to the handrail.
2. Pull the bolt out and slide the handrail vertically to the required position.
3. Let go of the bolt and ensure that the mechanism has locked into place firmly.
4. Repeat steps 1 to 3 on the other side of the THERA-Trainer lyra.

Please note: The therapy session can only be started when both sliding doors are fully closed and you have pressed the release button (see chapter 12).

Please note: The step lengths set on the THERA-Trainer lyra are automatically added to the software settings.
5.3 Body weight support
The body weight support feature enables training for patients who cannot (yet) carry their own body weight. The body weight support feature can be set to be either dynamic or static. For the dynamic body weight support feature, the supported weight swings with the vertical shift of the body as the patient walks, giving him constant support set to the required weight in all gait phases. In the static option, the supported body weight does not swing along with the movements. Depending on the gait phase, the patient is either given support equal to the required weight or more (up to his or her full body weight).

Please note: If the patient’s entire body weight is supported, the patient’s feet may lose contact with the plate bindings and hang in the harness system.

Warning: When using the body weight support, always ensure that the weight of the patient is distributed evenly on both bar hooks by means of an approved harness system (see chapter 6). Do not lift or lower any load that is not evenly distributed. Never use the body weight support with just one hook.

The amount of body weight support depends on the weight and functional impairment of the patient. Weight support can be set to 10 to 60 kg. The light spot on the display indicates the amount and type (dynamic/static) of body weight support selected.

5.3.1 Amount of body weight support
1. Set the amount of weight support by turning the handwheel.

Please note: A clockwise turn increases the body weight support, whereas an anti-clockwise turn reduces it.

2. The light spot on the display indicates the amount of weight support selected; it can be moved along the weight scale with the handwheel. Set the amount of weight support for the patient. If, for example, the light spot is under the 55 mark, the patient will be given weight support of 55 kg.
5.3.2 Type of body weight support
The type of body weight support is set by adjusting the height of the bar. To set the bar to the correct height, the patient must wear the harness system, stand upright on the plate bindings and attach the harness system to the bracket.

1. Set the height of the bar by turning the crank. The light spot on the display indicates the vertical height adjustment of the bar.

   Please note: A clockwise turn raises the bar, whereas an anti-clockwise turn lowers it.

   Warning: When using the body weight support, always ensure that the weight of the patient is distributed evenly on both bar hooks by means of an approved harness system (see chapter 6). Do not lift or lower any load that is not evenly distributed. Never use the body weight support with just one hook.

2. To select the dynamic weight support feature, turn the crank until the light spot is in the central area of the display, i.e. on the weight scale. To select the static weight support feature, turn the crank until the light spot is in the upper area of the display.
5.4 Foot binding

In order to give patients more support and safety, the plate bindings come with fixed foot bindings. Patients must wear closed shoes to ensure firm support.

**Warning:** If the patient cannot be secured correctly on the plate bindings, e.g. if their shoes are too large or too small for the bindings, the training session cannot be carried out.

---

Please note: Make sure that the bar height is set correctly for the entire therapy session.

**Warning:** The harness system is a safety device to prevent the patient from falling. Even if the patient does not need any body weight support, it must be worn at all times and attached to the bar. In these cases, set a minimal body weight support weight and turn the crank until the cable is under slight tension.

---

**Static**

**Dynamic**

**No support**
Securing the foot bindings:
The patient is properly secured when his shoe is at the front of the binding and securely fastened.

1. Help the patient climb into the foot bindings.
2. Put the heel strap around the heel and pull the end backwards until the shoe has moved to the front of the binding and the heel strap is securely fastened to the heel.

   **Please note:** The buckle on the heel strap is fastened automatically.

3. Attach the end of the heel strap to the clamp.
4. Place the loop in the middle above the foot.
5. Pull the two side straps away from each other to securely fasten the foot binding.
6. Join the two ends of the side straps by clicking the press stud.
7. Repeat steps 1 to 6 to secure the other foot binding.

   **Please note:** Ensure that the foot bindings are firmly fastened for the entire duration of the therapy session.
Warning: Ensure that there are no loose shoelaces, foot-binding and clothing ties or straps for the entire duration of the therapy session, as these may get caught in the plate bindings or in the plate binding openings in the casing.

Opening the foot bindings:

1. Release the heel strap from the clamp.
2. Pull the end of the heel strap forwards to open the buckle and loosen the heel strap.
3. Pull the middle loop upwards to open the foot binding.
4. Lift the loop and remove the foot from the binding.
5. Repeat steps 1 to 4 to release the other foot binding.
6. Harness system

This chapter outlines the harness system that provides body weight support and added safety for patients. The harness system is a compulsory accessory for training on the THERA-Trainer lyra.

**Warning:** Even if the patient does not need any body weight support, it must be worn at all times and attached to the bar. It is a safety device to prevent the patient from falling. In these cases, set a minimal body weight support and turn the crank until the cable is under slight tension (see chapter 5.3).

The following harness system has successfully passed the compatibility test for the THERA-Trainer lyra and the manufacturer recommends using it as an accessory for training:

- Multi Sling 25105 (Human Care, Stockholm, Sweden)

**Warning:** The selection and use of a specific harness system is the sole responsibility of the medical professional.

**Warning:** Carefully read the operating manual for your chosen harness system and follow the instructions given there.

**Please note:** Also observe the use notes on the wearing of harness systems on the THERA-Trainer lyra, as listed in chapter 15.
To guarantee maximum comfort, ensure that:

- The harness system is positioned at the correct height and symmetrically on the upper body.
- The harness system is securely fastened in the pelvic area, reducing pressure in the leg harnesses and making the weight support feature more pleasant.
- The harness system on the chest area does not restrict breathing.
- If possible, the harness system is secured while the patient is standing and that its position on the upper body is checked and adjusted after the training session has begun.
7. Transferring the patient to the THERA-Trainer lyra

This chapter outlines two methods for safely transferring patients to the THERA-Trainer lyra. The first method is suitable for patients who can take a few steps on their own (see chapter 7.1), while the other is for wheelchair users (see chapter 7.2). Depending on the condition of the patient, the help of an additional therapist may be required.

7.1 Mobile patients

1. Make sure that you are on the Settings screen.

   **Warning:** Switch to the Therapy session screen if the patient is ready to begin training on the THERA-Trainer lyra. This prevents the THERA-Trainer lyra from starting accidentally while transferring the patient.

2. Fit the harness system to the patient (see chapter 6).
3. Guide the patient right up to the plate bindings. The patient can use the handrails for additional support.
4. Secure the harness system to the bar.
5. Help the patient place his or her first foot into the foot binding and secure it in place (see chapter 5.4).

6. The patient must get off the ground to place his or her second foot in the foot binding. If necessary, support the patient’s upward movement by lifting him or her with the crank. Turn the crank with one hand and hold on to the patient on the harness system with your other hand in order to lift him in a controlled manner.

7. Fasten the second foot binding.

8. Set the bar to the correct height (see chapter 5.3.1).

9. Check that the settings for step length (see chapter 5.1), handrail height (chapter 5.2) and body weight support (chapter 5.3) are suitable for the patient.
7.2 Wheelchair-dependent patients
There is also an option to transfer patients directly from a wheelchair to the plate bindings. To make this transfer more comfortable, you can change the position of the plate bindings from parallel to angled (see chapter 8.2.2) and swing open the left wing of the THERA-Trainer lyra.

1. Make sure that you are on the Settings screen.

**Warning:** Switch to the Therapy session screen if the patient is ready to begin training on the THERA-Trainer lyra. This prevents an accidental start while transferring the patient.

2. Fit the harness system to the patient (see chapter 6).
3. If appropriate, press  to shift the left plate binding and wait until it has stopped moving.

**Please note:** Press  before opening the wing. When one of the wings is open, this triggers an error message on the screen (see chapter 12). The option for adjusting the plate binding is therefore inactive.

4. Press the wheelchair button and open the left wing to the desired required position.

**Please note:** As soon as you release the wheelchair button, the wing engages in the corresponding position.
Please note: Only open the wing as far as necessary to allow the wheelchair to enter. For increased safety, the left handrail should still be within the patient’s reach.
5. Wheel the patient right up to the plate bindings and apply the breaks on the wheelchair.
6. Secure the harness system to the bar.

Please note: Make sure that the patient’s head does not collide with the bar.
7. Place the patient’s feet in the foot bindings and fasten them (see chapter 5.4).

Please note: Do not fully tighten the left foot binding, as the left plate binding is turned away slightly due to the open wing.
8. Pull the patient up into a secure standing position by turning the crank. Turn the crank with one hand and hold on to the patient on the harness system with your other hand in order to lift him in a controlled manner.

**Warning:** When using the body weight support, always ensure that the weight of the patient is distributed evenly on both bar hooks by means of an approved harness system (see chapter 6). Do not lift or lower any load that is not evenly distributed. Never use the body weight support with just one hook.

9. Set the bar to the correct height (see chapter 5.3.1).
10. Release the brakes on the wheelchair and remove it from the THERA-Trainer lyra.
11. Press the wheelchair button and close the left wing.
12. Press the release button.
13. Now secure the left foot binding.
14. Check that the settings for step length (see chapter 5.1), handrail height (chapter 5.2) and body weight support (chapter 5.3) are suitable for the patient.

**Please note:** Training can only start once you have fully closed the left wing of the THERA-Trainer lyra and pressed the release button (see chapter 12).
8. Operating the software

This chapter explains how to operate the software and outlines the settings you can make.

8.1 General
The power button on the screen starts up the system. The system is operated via a touchscreen.

There are three screens: Settings, Therapy session and Session summary.

You can shut the system down by pressing on the left side of the navigation bar in Settings.

You can access the help function by pressing on the right of the title bar, where you can also find information about the serial number and software version of your THERA-Trainer lyra.

8.2 Settings
The Settings screen allows you to establish and save training parameters as regards speed and duration. You can also change the position of the plate bindings when the left wing is open to ensure a more comfortable transfer (see chapter 8.2.2).
8.2.1 Checking the step length
The step lengths set on the THERA-Trainer lyra (see chapter 5.1) are automatically added to the software settings and displayed on the left side of the screen.

Please note: The step length display is solely for the purpose of checking. Step lengths cannot be set using the software.

8.2.2 Position of the plate bindings
To make transfers more comfortable when the left wing is open, you can choose between two different positions for the plate bindings: parallel or angled.

Please note: In the offset position, the left-hand plate binding is pushed forwards slightly so that the plate bindings are at the same height when the left wing is swung open.

The position of the plate bindings is displayed in the top-right corner of the screen. The starting position automatically set to the THERA-Trainer lyra is the parallel position.

1. Press \( \text{ } \) to switch the plate bindings to an angled position for the transfer of a patient.

Please note: The symbol then changes to \( \text{ } \). By pressing \( \text{ } \), the left plate binding slides back into the parallel position.
8.2.3 Speed
Use this slider to set the speed. You can choose between two units: steps/min. or km/h.

1. Select the required unit. Press \( \text{(steps/min.)} \) for steps/min. or \( \text{km/h} \) for km/h.
2. Move the slider to set the required speed. The maximum speed is 100 steps/min. or 4 km/h.

Please note: If you choose the unit km/h, the maximum speed is dependent on the step length that has been set (see appendix A, table A.1). If you choose the unit steps/min, the maximum speed is always 100 steps/min, regardless of the step length.

8.2.4 Duration
Use this slider to set the duration of the therapy session. You can choose between three units: No. of steps, distance in km or time in min.

1. Select the required unit. Press \( \text{steps} \) for steps, \( \text{km} \) for kilometres or \( \text{min} \) for minutes.
2. Move the slider to set the required duration. The maximum duration is 60 minutes, 6,000 steps or 4 kilometres.
8.3 Therapy session
The Therapy session screen displays the most important information required during the session.

8.3.1 Training session control
You can control the training session by pressing the two buttons in the bottom-right corner of the screen.

1. Press 🔄 to start training.
2. Press 🔄 to stop the current training session.

Please note: You can set the duration to unlimited by moving the slider right up to the top. Unlimited duration is represented by the ∞ symbol.

Please note: If you choose the unit steps or distance in kilometres, the maximum duration (except unlimited) depends on the step length that has been set.
8.3.2 Distance and time display

Distance:
The distance is given in metres and number of steps taken. Distance can be displayed in one of two ways: as distance covered or as distance remaining. The system is initially set to display the distance covered.

Time:
Time is shown in minutes and seconds. Time can be displayed in one of two ways: time passed or time remaining. The system is initially set to display the amount of time that has passed.

1. Press to the right of the time display to switch from distance covered and time passed to remaining distance and time.
8.3.3 Adjusting speed

1. Press \( \uparrow \) or \( \downarrow \) to adjust speed during the therapy session.

Speed adjustments affect the original training parameters. The display of remaining distance and time will change accordingly.

**Example A:**
The “Minutes” unit has been selected for the duration of the session:
Changing the speed does not affect the amount of time remaining, but the remaining distance is adjusted (metres and steps). If the speed is increased, it becomes longer; if the speed is decreased, it becomes shorter.

**Example B:**
The “Kilometres” or “Steps” units have been selected for the duration of the session:
Changing the speed does not affect the amount of distance remaining. But the remaining time is adjusted. If the speed is increased, it becomes shorter; if the speed is decreased, it becomes longer.
8.4 Session summary

The Session summary screen displays a rundown of the completed therapy session.
9. Structure of therapy sessions

In this chapter you can find out how a therapy session is structured, what settings you can change during the session, and what situations can lead to an emergency stop during the session.

9.1 Starting the session

**Warning:** Carefully check the following points before starting the therapy session:

- The patient is properly secured with the harness system.
- The harness system is correctly attached to the bar.
- The foot bindings are properly closed.
- Neither the patient nor you are wearing clothing (shoe laces, trousers etc.) which is too long or too loose and that could get caught in the plate bindings or in the plate binding opening in the casing.
- The THERA-Trainer lyra training parameters and settings have been set correctly for the patient.
- Nobody is immediately in front of or behind the plate bindings.

**Please note:** Inform the patient that he can stop the training session at any time by pressing the stop buttons on the handrails.

1. Press \( \) to go from **Settings** to **Therapy session**.
2. Press \( \) to start the training session.
Table 1 gives you an overview of the setting adjustments that can be made when the THERA-Trainer lyra is switched on, and those that can be made only when it is switched off.

<table>
<thead>
<tr>
<th>Table 1: Changing the settings</th>
</tr>
</thead>
</table>
| **Running THERA-Trainer lyra:** | Body weight support
|                                  | Bar height
|                                  | Speed
| **Stopped THERA-Trainer lyra:** | Step length
|                                  | Handrail
|                                  | Foot binding

**Warning:** You have free access to the patient from all sides during the therapy session. In order to avoid injuries, constantly monitor the plate bindings whilst keeping a safe distance.

**Warning:** Always remain present during an active therapy session.

**Warning:** When using the body weight support, always ensure that the weight of the patient is distributed evenly on both bar hooks by means of an approved harness system (see chapter 6). Do not lift or lower any load that is not evenly distributed. Never use the body weight support with just one hook.
9.2 Ending the session

The THERA Trainer lyra automatically stops once the session has come the end of its duration. The plate bindings return to their start position. But you can also stop the training session at any time:

1. To have a break, press or one of the stop buttons on the handrails.

   Please note: The plate bindings return to their start position.

2. Press to resume the session.

9.3 Changing the training parameters during a break

1. To change the training parameters, press or one of the stop buttons on the handrails.
2. Make the relevant changes in accordance with Table 1 (see chapter 9.1).
3. Press to resume the session.

   Please note: The remaining distance or remaining time is changed according to the changes made to the training parameters. The distance covered or the time that has elapsed are retained when the training parameters are changed.

9.4 Ending the therapy session

1. Press or one of the stop buttons on the handrails.
2. Press to the right in the navigation bar.
3. A summary of the completed therapy session is displayed. Press to the right in the navigation bar to return to settings.
9.5  Emergency stop

Both pillars of the THERA-Trainer lyra are fitted with emergency stop buttons to bring the machine to an immediate stop in case of emergency. Unlike the standard stop function via \( \) or one of the stop buttons on the handrails, this brings the trainer to a stop as quickly as possible. The plate bindings do not return to their start position and cannot be moved.

The following situations can also lead to an emergency stop during a training session:

- An object obstructs the light barrier in front of the plate bindings.
- One of the sliding doors to the step length settings is opened.
- The left wing of the THERA-Trainer lyra is opened.
- Communication between the software and THERA-Trainer lyra is interrupted.
- Internal software fault.
- Internal electrical fault.

Please note: An error message with the corresponding cause and remedy appear on the screen. Detailed information on how to rectify the error and continue using the therapy unit can be found in chapter 12.
10. Transferring the patient from the THERA-Trainer lyra

This chapter outlines two methods for safely transferring patients from the THERA-Trainer lyra. The first method is suitable for patients who can take a few steps on their own (see chapter 10.1), while the other is for wheelchair-dependent patients (see chapter 10.2). Depending on the condition of the patient, the help of an additional therapist may be required.

10.1 Mobile patients

1. Ensure that the plate bindings are not moving.
2. Open the foot bindings.
3. Turn the crank to lower the bar, enabling the patient to step out of the plate bindings.
4. Once the patient is standing with both feet firmly on the ground, you can release the harness system from the bar.
5. Guide the patient out of the THERA-Trainer lyra. The patient can use the handrails for additional support.
6. Remove the harness system from the patient.

**Please note:** Ensure that the cable is not too loose when getting out in order to prevent the patient bumping his head.

**Warning:** When using the body weight support, always ensure that the weight of the patient is distributed evenly on both bar hooks by means of an approved harness system (see chapter 6). Do not lift or lower any load that is not evenly distributed. Never use the body weight support with just one hook.

4. Once the patient is standing with both feet firmly on the ground, you can release the harness system from the bar.
5. Guide the patient out of the THERA-Trainer lyra. The patient can use the handrails for additional support.
6. Remove the harness system from the patient.

10.2 Wheelchair-dependent patients

There is also an option to transfer patients directly from the plate bindings to a wheelchair. To make this transfer more comfortable, you can change the position of the plate bindings from parallel to angled (see chapter 8.2.2) and swing open the left wing of the THERA-Trainer lyra.

1. Ensure that the removable plate bindings are not moving.
2. If appropriate, press 🔖 to shift the left plate binding and wait until it has stopped moving.
3. Press the wheelchair button and open the left wing to the required position.

Please note: Press before opening the wing. When one of the wings is open, this triggers an error message on the screen (see chapter 12). The option for adjusting the plate binding is therefore inactive.

Please note: As soon as you release the wheelchair button, the wing engages in the corresponding position.

Please note: Only open the wing as far as necessary to allow the wheelchair to enter. For increased safety, the left handrail should still be within the patient’s reach.

4. Place the wheelchair in front of the plate bindings and apply the brakes on the wheelchair.
5. Open the foot bindings.
6. Turn the crank to lower the patient directly into the wheelchair. Turn the crank with one hand and hold on to the patient on the harness system with your other hand in order to lower him into the wheelchair in a controlled manner.
7. Detach the harness system from the bar.
8. Lift the patient’s feet out of the foot bindings.
9. Ensure that the patient is sitting in the wheelchair in accordance with the specifications of the wheelchair manufacturer. Release the brakes and reverse the wheelchair out of the THERA Trainer lyra.
10. Remove the harness system from the patient.
11. Press the wheelchair button and close the left wing.
12. Press the release button.

**Warning:** When using the body weight support, always ensure that the weight of the patient is distributed evenly on both bar hooks by means of an approved harness system (see chapter 6). Do not lift or lower any load that is not evenly distributed. Never use the body weight support with just one hook.
11. Switching off the THERA-Trainer lyra

1. To shut the system down, press \( \text{\textbullet}\text{\textbullet}\text{\textbullet}\text{\textbullet}\) on the left side of the navigation bar in *Settings* and press *Yes* to confirm.
2. Press the main switch on the THERA-Trainer lyra. This step is normally carried out in the evening, after the last therapy session.
12. Troubleshooting

This chapter outlines all possible error messages and how to deal with them.

If an error occurs, the safety of the training session cannot be guaranteed. Therefore new training sessions cannot be started and sessions that are already underway are stopped with an emergency stop.

The relevant error message will appear on the screen. An error message includes the cause of the error, the relevant identification number and instructions on rectifying the error.

Carefully follow these instructions in the correct order. Table 2 contains a list of possible error messages.

**Warning:** The instructions stated in table 2 are the only methods you may use to rectify errors. If the instructions do not rectify the error, contact a trained supplier.
Table 2: Error messages

<table>
<thead>
<tr>
<th>Cause of error</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| **Error no. 1:** The left-hand emergency stop button is pressed. | 1. Release the left-hand emergency stop button by turning in a clockwise direction  
2. Press ➡️ on the right in the navigation bar. |
| **Error no. 2:** The right-hand emergency stop button is pressed. | 1. Release the right-hand emergency stop button by turning in a clockwise direction  
2. Press ➡️ on the right in the navigation bar. |
| **Error no. 3:** The left-hand sliding door is open. | 1. Close the left-hand sliding door.  
2. Press ➡️ on the right in the navigation bar. |
| **Error no. 4:** The right-hand sliding door is open. | 1. Close the right-hand sliding door.  
2. Press ➡️ on the right in the navigation bar. |
| **Error no. 5:** The left wing is open. | 1. Close the left wing.  
2. Press ➡️ on the right in the navigation bar. |
| **Error no. 6:** There is an object in the light barrier. | 1. Remove the object from the light barrier.  
2. Press ➡️ on the right in the navigation bar. |
| **Error no. 7:** Communication between the software and THERA-Trainer lyra is interrupted. | 1. Switch off the THERA-Trainer lyra at the main switch.  
2. **Transfer the patient out of the THERA-Trainer lyra.**  
3. Shut down the software using ⏭️ on the left in the navigation bar.  
4. Switch the THERA-Trainer lyra on again as usual.  
5. If the error persists, contact the trained supplier. |
| **Error no. 8:** Internal software fault. |                                                                 |
| **Error no. 9:** Internal electronics fault. |                                                                 |

**For error messages 1 to 6:**
The ➡️ arrow button will only appear on the screen once you have corrected the error. There could be several errors at any one time. If this is the case, the instructions for rectifying all errors will be displayed one after the other on the screen. The ➡️ arrow button will only appear on the screen once you have corrected all the errors.

After clicking ➡️, you will be asked to press the release button on the THERA-Trainer lyra.
This confirms that the error has been resolved and brings you back to the previous screen display.

**Please note:** If the fault resulted in an emergency stop during a therapy session, the set training parameters and distance/time information are retained.

**Please note:** It is not necessary to remove the patient from the THERA-Trainer lyra while rectifying errors 1 – 6. If the error resulted in an emergency stop during a therapy session, the plate bindings return to the original position after the release button has been pressed and you can continue with the therapy session.
13. Intended use

13.1 Purpose
The THERA-Trainer lyra is intended for gait rehabilitation, offering body weight support for patients with limited mobility, caused by cerebral, spinal or neurogenic disorders.

13.2 Medical indications
The THERA-Trainer lyra can be used by patients with neurological conditions, including:
- Strokes
- Multiple sclerosis
- Cerebral palsy
- Parkinson’s disease
- Spinal cord injuries
- Traumatic brain injury

It is also suitable for patients with mechanical conditions involving the lower extremities, such as:
- Endoprostheses (e.g. total hip endoprostheses)
- Degenerative joint diseases (e.g. osteoarthritis of the knee)
- Spinal muscular atrophy
- Muscle weakness caused by lack of movement

The relevant medical professional is responsible for the indication of gait rehabilitation with the THERA-Trainer lyra. He is also responsible for accurately determining the duration and intensity of the treatment based on the patient’s state of health.

13.3 User qualifications and responsibilities

Users come under one of two groups:

Therapist: Therapists are experts in patient rehabilitation (e.g. physiotherapists). Their task is to make appropriate decisions as regards the training parameters and settings on the THERA-Trainer lyra, based on the training needs of the patient and the recommendations of the medical professional. They transfer patients into the THERA-Trainer lyra, supervise the training session and transfer the patients out of the trainer at the end of the therapy session. Therapists also take life-saving measures in case of emergency and intervene, if necessary, at the patient’s request.

Patient: Patients with limited mobility caused by the conditions outlined in chapter 13.2 can train on the THERA-Trainer lyra. The trainer is suitable for patients who measure 100 to 195 cm in height and up to 150 kg in weight. It is suitable for the following age groups:
- Children 5 to 12 years
- Young people 13 to 17 years
- Adults 18 years and over
14. Foreseeable misuse

The THERA-Trainer lyra is not suitable for:
- Diagnosis
- Measurements
- Monitoring
- Competitive sports

14.1 Contraindications
The following contraindications must be taken in account:
- Body weight > 150 kg
- Height < 100 cm or > 195 cm
- Bone instability (non-consolidated fractures, unstable spinal column, severe osteoporosis)
- Highly pronounced fixed contractures
- Open skin lesions on the torso
- Unstable vital functions (e.g. cardiovascular and lung function)
- Cardiac contraindications
- Highly pronounced cognitive impairment
- Patients with ventilators
- Highly pronounced vascular disorders in the lower extremities
- Patients who have been prescribed bed rest, immobilisation or isolation (e.g. as a result of osteomyelitis or other inflammatory/infectious diseases)
- Hip, knee and ankle arthrodesis
- Patients with unusually disproportionate growth of the legs and/or spinal column (e.g. bone or cartilage dysplasias)

This is not an exhaustive list. The medical professional is responsible for assessing the patient’s ability to use the equipment. This includes assessing the potential risks and side effects against the benefits of training for each patient. The patient’s willingness to cooperate is also essential.

14.2 Misuse
The THERA-Trainer lyra must not be used:
- In combination with other products that emit ionising radiation (e.g. radiation therapy, nuclear medicine, etc.)
- In rooms with explosive substances or oxygenated air
- In the presence of flammable anaesthetic agents or volatile solvents
- Outside or in outdoor facilities
- In environmental conditions that do not comply with product requirements
- For unsupervised training
15. Instructions for using the harness system

15.1 General
The general safety regulations below must be followed to ensure the safe use of harness systems in the THERA-Trainer lyra:

- Carefully read the harness system’s user manual. Do not use the harness system for any purpose other than that described in the user manual.
- The harness system must be used only under the supervision of trained therapists (see chapter 13.3).
- The trained therapists must have the expert knowledge required for selecting the correct harness size for the patient.
- Never leave the patient unattended in the harness system.
- The harness system can cause crushing. Particular attention must therefore be given to patients with impaired sensitivity. The harness system may be used only with the express approval of the medical professional.
- In the event of pain or discomfort, stop the therapy session and immediately remove or readjust the harness system.
- Repair and maintenance work on the harness system must be carried out by qualified service personnel.

15.2 Human Care Multi Sling 25105
In addition to the general conditions set out in chapter 15.1, the recommendations below apply for optimal use of the Multi Sling 25105 by Human Care:

- The harness system has four lifting straps, which must all be attached to the bar in such a way that the weight of the patient is evenly distributed across both hooks of the bar so that it can be raised and lowered only in a horizontal position.
- To attach the harness system to the bar, choose one of the lifting straps with loops of varying sizes depending on the height of the patient. The largest loop creates the greatest distance between the patient’s head and the bar.
- Besides the harness system, Human Care also provides an additional hip harness to better stabilise patients with severe functional impairments. It is not recommended that patients use the hip harness during the therapy session as it restricts hip and leg mobility.
15.3 Other harness systems
It is possible to use harness systems other than the Multi Sling 25105. Please ensure that your chosen harness system has been tested for gait rehabilitation purposes with body weight support for patients with limited mobility. The harness system must be approved for a maximum weight of 150 kg, it must also fit the patient’s height, and it must be securely fastened to the bar of the THERA-Trainer lyra.

⚠️ **Warning:** The selection and use of a specific harness system is the sole responsibility of the medical professional. Only harness systems carrying the CE approval mark in accordance with the Directive 93/42/EEC may be used.
16. Maintaining the THERA-Trainer lyra

A proper maintenance procedure for the THERA-Trainer lyra includes regular checking, cleaning and functional testing by you, and an annual maintenance and safety inspection by qualified service personnel.

16.1 Checks and cleaning
The THERA-Trainer lyra needs to be checked and cleaned regularly. Regular checks ensure that any wear and tear and safety defects are detected early on. Regular cleaning guarantees user comfort as regards cleanliness and hygiene requirements. You can easily carry out the checks and cleaning yourself.

The THERA-Trainer lyra must be cleaned only with a damp cloth. Use ordinary soapy water or, if necessary, an alcohol-based disinfectant such as Meliseptol® rapid, Manusept® basic or Bacillol® AF. A cleaning cloth soaked in one of the disinfectants listed above is a particularly effective. Avoid using sharp or abrasive cleaning utensils or aggressive cleaning products as they could damage the paint work and plastic surfaces. Liquids are to be used sparingly and carefully when cleaning.

**Warning:** The entry of liquids into the THERA-Trainer lyra is not permitted. This could damage the electronics or the mechanism.

**Please note:** Every time before cleaning, make sure that the THERA-Trainer lyra is disconnected from the mains electricity supply.
Table 3 provides guidance for regular checks and cleaning. You may have to reduce the cleaning intervals outlined below if the THERA-Trainer lyra undergoes intensive use.

### Table 3: Checks and cleaning

| Daily: | ⊕ Disinfect the handrails and control elements (e.g. screen).  
|  | ⊕ Check the whole THERA-Trainer lyra for cleanliness. |
| Weekly: | ⊕ Clean the whole THERA-Trainer lyra (casing, plate bindings, foot bindings, all of the buttons, screen) with a damp cloth.  
|  | ⊕ Check the rope (up to the red marking), the bar, the plate binding and the foot fixing on wear and tear. |

**Please note:** When cleaning and inspecting the harness system, please follow the relevant operating instructions.

**Warning:** The rope must be pulled out up to the red marking maximum. If you pull out the rope more there is a risk of wrong winding the rope. The brake action will be lost.

**Warning:** If the harness system or THERA-Trainer lyra components show signs of wear and tear, the equipment must not be used for training. Consult a trained supplier.

### 16.2 Functional testing

A functional test must be carried out approximately once a month depending on how frequently the THERA-Trainer lyra is used. You can easily carry out the functional tests yourself. The individual stages of a functional test are outlined in Table 4.
16.3 Maintenance and repairs
A proper maintenance of the THERA-Trainer lyra must be carried out once a year. Maintenance work and any repairs must be carried out by qualified service personnel.

The following checks must be carried out as part of annual maintenance (extract):

- Functional and safety checks
- Wear and tear checks
- ...
16.4 Safety checks

The THERA-Trainer lyra is a Protection Class II device with Type B application parts (handrails, plate bindings with foot bindings). Safety-related checks must be carried out annually by qualified service personnel in accordance with the provisions of the manufacturer.

**Please note:** The individual components of the safety check are described in the service handbook. Qualified service personnel can obtain the service handbook from the manufacturer upon request. These are part of the obligatory test report, which is signed and handed over at the end of the safety check.
CHAPTER 16

16.5 Electromagnetic compatibility
The THERA-Trainer lyra complies with the requirements of standard EN 60601-1-2: 2001 (Group 1, Class A according to CISPR 11).
Please note that portable and mobile HF communication systems and other devices whose interference is outside permitted values can affect the electronics of the THERA-Trainer lyra and may lead to malfunctions.

Please note: The electromagnetic compatibility of the THERA-Trainer lyra requires special care. The THERA-Trainer lyra must be installed and commissioned in accordance with the information in appendix A.

16.6 Economic life of the THERA-Trainer lyra
The THERA-Trainer lyra is designed to have an economic life of 10 years. The economic life of the THERA-Trainer lyra is dependent on the correct use of the equipment and proper maintenance procedures. Certain components are subject to wear and tear. Wear and tear is dependent on environmental conditions and intensity of use. These components must be checked and, if necessary, replaced as part of annual maintenance.

Please note: Follow the operating instructions regarding the economic life-time of the harness system.

16.7 Disposal of the THERA-Trainer lyra
The THERA-Trainer lyra must be disposed of in accordance with applicable national provisions. Please dispose of it accordingly at the end of its service life. In particular, electrical and electronic components must be disposed of separately from standard household waste. The THERA-Trainer lyra is therefore marked with the symbol for electric and electronic appliances.

Please note: Follow the operating instructions regarding the disposal of the harness system.
Appendix A: Technical data

Gait rehabilitation with body weight support for patients with limited mobility is the significant feature of the THERA-Trainer lyra. The relevant kinetic energy for gait rehabilitation is transferred to the sole of the patient’s feet by the plate bindings. The plate bindings exert the locomotion pattern of a healthy person. The harness system is intended as a fall protection system and to reduce weight on the feet.

The THERA-Trainer lyra is a protection class II electrical device as regards the safety measures for prevention of an electric shock. The insulation of the internal shielding and all of the internal wiring connected to the wires and parts which can be touched, feature two protection measures. The third conductor in the mains connector cable is an earth connection.

Please note: A detailed technical description of the THERA-Trainer lyra can be requested by qualified service personnel. Contact the manufacturer.

Please note: Participating in a service training course and authorisation by trained suppliers to perform any service work on a THERA-Trainer lyra is a pre-requisite for qualification as service personnel.

Warning: No changes or modifications to the THERA-Trainer lyra are permitted unless expressly approved in writing by the manufacturer.
**Warning:** The THERA-Trainer lyra must not be set up in the immediate vicinity of or stacked with other devices. If it is necessary to operate the THERA-Trainer lyra in the vicinity of or stacked with other devices, monitor the THERA-Trainer lyra to ensure it operates correctly according to how the devices have been arranged.

**Please note:** To fully disconnect the THERA-Trainer lyra from the mains electricity supply, turn off the main switch and disconnect the power supply by removing the plug from the mains electricity supply.

### Table A.1: General technical data

<table>
<thead>
<tr>
<th>Product information</th>
<th>Product name: THERA-Trainer lyra</th>
</tr>
</thead>
</table>
| **Operating conditions** | Temperature: + 10 – + 40 degrees Celsius  
Relative humidity: 30 % – 75 % (non-condensing)  
Barometric pressure: 70.0 kPa – 106.0 kPa |
| **Transportation and storage conditions** | Temperature: + 10 – + 70 degrees Celsius  
Relative humidity: 15 % – 85 % (non-condensing) |
| **Classification** | Protection class II, type B application parts  
Protection category IP20  
The gait trainer is designed for continuous operation. |
| **Overall dimensions** | Length: 250 cm  
Width: 190 to 240 cm (wing opened)  
Height: 260 cm |
| **Minimum ceiling height** | 270 cm |
| **Weight** | approx. 570 kg |
| **Step length** | 39 cm – 67 cm adjustable in increments of 4 cm  
Accuracy +/- 1 cm |
| **Suspension** | Single point suspension |
| **Body weight support** | 10 kg – 60 kg  
10 kg (+/- 30 %), 35 kg (+/- 20 %), 60 kg (+/- 10 %) |
### APPENDIX A

**Handrail height (from the plate bindings in the start position)**  
82 cm – 106 cm (+/- 2 cm)

**Drive motor**  
2 servo motors

**Power consumption**  
230 V ~, 50 – 60 Hz, 3.15 A

**Fuse**  
T 3.15A L 250 VAC

**Power cable**  
Mains power cable with IEC connector in accordance with IEC 60320 C13

**Maximum speed dependent on step length**

<table>
<thead>
<tr>
<th>Step length (cm)</th>
<th>Maximum speed (km/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>2.3</td>
</tr>
<tr>
<td>43</td>
<td>2.6</td>
</tr>
<tr>
<td>47</td>
<td>2.8</td>
</tr>
<tr>
<td>51</td>
<td>3.0</td>
</tr>
<tr>
<td>55</td>
<td>3.3</td>
</tr>
<tr>
<td>59</td>
<td>3.5</td>
</tr>
<tr>
<td>63</td>
<td>3.8</td>
</tr>
<tr>
<td>67</td>
<td>4.0</td>
</tr>
</tbody>
</table>

The maximum speed in steps/min is always 100 steps/min, regardless of the step length.

**Speed tolerance**  
+/- 20%
Table A.2: Directives and manufacturer’s declaration – Electromagnetic emissions

The THERA-Trainer lyra is designed for operation in an electromagnetic environment as described below. The customer or operator of the THERA-Trainer lyra should make sure that it is operated in such an environment.

<table>
<thead>
<tr>
<th>Interference emission measurement</th>
<th>Compliance</th>
<th>Electromagnetic environment - guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF emissions in accordance with CISPR 11</td>
<td>Group 1</td>
<td>The THERA-Trainer lyra uses HF energy exclusively for internal functions. This incurs very low HF emissions so it is unlikely to interfere with any nearby electronic devices.</td>
</tr>
<tr>
<td>HF emissions in accordance with CISPR 11</td>
<td>Class A</td>
<td>The THERA-Trainer lyra is suitable for use in facilities other than residential properties and those that are connected to a public supply grid, which also supplies buildings used for residential purposes.</td>
</tr>
<tr>
<td>Emission of harmonics in accordance with IEC 61000-3-2</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Emission of voltage fluctuations/flicker in accordance with IEC 61000-3-3</td>
<td>not applicable</td>
<td></td>
</tr>
</tbody>
</table>
Table A.3: Directives and manufacturer’s declaration – Electromagnetic immunity

The THERA-Trainer lyra is designed for operation in an electromagnetic environment as described below. The customer or operator of the THERA-Trainer lyra should make sure that it is operated in such an environment.

<table>
<thead>
<tr>
<th>Emission immunity tests</th>
<th>IEC 60601 test level</th>
<th>Level of conformity</th>
<th>Electromagnetic environment - guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electro-static discharge (ESD) in accordance with IEC 61000-4-2</td>
<td>± 6 kV contact discharge ± 8 kV air discharge</td>
<td>± 6 kV contact discharge ± 8 kV air discharge</td>
<td>Floors must be wood, concrete or ceramic tiles. The humidity should not be below 30%.</td>
</tr>
<tr>
<td>Fast transient electrical disturbances/bursts in accordance with IEC 61000-4-4</td>
<td>± 2 kV for mains supply lines ± 1 kV for input and output lines</td>
<td>± 2 kV for mains supply lines ± 1 kV for input and output lines</td>
<td>The quality of the supply voltage should correspond to that of a typical business or hospital environment.</td>
</tr>
<tr>
<td>Surges in accordance with IEC 61000-4-5</td>
<td>± 1 kV differential mode voltage ± 2 kV common mode voltage</td>
<td>± 1 kV differential mode voltage ± 2 kV common mode voltage</td>
<td>The quality of the supply voltage should correspond to that of a typical business or hospital environment.</td>
</tr>
<tr>
<td>Voltage dips, short interruptions and fluctuations of the supply voltage in accordance with IEC 61000-4-11</td>
<td>&lt; 5 % $U_T$ (&gt; 95 % dip of $U_T$) for 0.5 periods 40 % $U_T$ (60 % dip of $U_T$) for 5 periods 70 % $U_T$ (30 % dip of $U_T$) for 25 periods</td>
<td>&lt; 5 % $U_T$ (&gt; 95 % dip of $U_T$) for 0.5 periods 40 % $U_T$ (60 % dip of $U_T$) for 5 periods 70 % $U_T$ (30 % dip of $U_T$) for 25 periods</td>
<td>The quality of the supply voltage should correspond to that of a typical business or hospital environment. We recommend the user to employ a non-interruptible power system or a battery if the THERA-Trainer lyra must continue to function in cases of power supply failure/interruptions.</td>
</tr>
</tbody>
</table>
### Table A.3: Directives and manufacturer’s declaration – Electromagnetic immunity

<table>
<thead>
<tr>
<th>Emission immunity tests</th>
<th>IEC 60601 test level</th>
<th>Level of conformity</th>
<th>Electromagnetic environment - guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic field at supply frequency (50/60 Hz) in accordance with IEC 61000-4-8</td>
<td>3 A/m</td>
<td>30 A/m</td>
<td>Magnetic fields at mains frequency should correspond to the typical values for business and hospital environments.</td>
</tr>
</tbody>
</table>

**NOTE:** $U_t$ is the alternating current supply voltage before the test level is applied.
Table A.4: Directives and manufacturer’s declaration – Electromagnetic immunity

The THERA-Trainer lyra is designed for operation in an electromagnetic environment as described below. The customer or operator of the THERA-Trainer lyra should make sure that it is operated in such an environment.

<table>
<thead>
<tr>
<th>Emission immunity tests</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic Environment - guide</th>
</tr>
</thead>
</table>
| Conducted HF emissions in accordance with IEC 61000-4-6 | 3 V rms 150 kHz – 80 MHz | 3 V rms | Portable and mobile radio equipment should not be used close to the THERA-Trainer lyra (including the cables) than the recommended protective distance, which has been calculated for the corresponding transmission frequency. **Recommended protective distance:**
| | | | $d = 1.2\sqrt{P}$
| | | | $d = 1.2\sqrt{P}$ for 80 MHz – 800 MHz
| | | | $d = 2.3\sqrt{P}$ for 800 MHz – 2.5 GHz
| Radiated HF emissions in accordance with IEC 61000-4-3 | 3 V/m 80 MHz – 2.5 GHz | 3 V/m | with $P$ as the transmitter’s power rating in watts (W) in accordance with the data provided by the transmitter manufacturer and $d$ as the recommended protective distance in metres (m).
| | | | An on-site test should show that the field intensity of stationary radio transmitters is below the compliance level at all frequencies. Interference is possible in the vicinity of equipment labelled as follows.

**Note 1:** For 80 MHz and 800 MHz, the higher frequency range applies.

**Note 2:** These guidelines may not be applicable in every case. Buildings, objects and persons influence the propagation of electromagnetic waves by absorption and reflection.

---

a An exact technical estimate of the field intensity of stationary transmitters such as base stations of mobile phones and land mobile radio devices, amateur radio stations, AM and FM radio broadcast and television stations is not possible. In order to determine the electromagnetic environment with regard to stationary transmitters a survey of the location should be considered. If the field intensity measured at the site where the THERA-Trainer lyra will be used exceeds the conformity levels listed above, it should be observed in order to check that it is working as intended. If any irregular performance characteristics are exhibited, it may be necessary to take additional measures such as changing the position or location of the THERA-Trainer lyra.

b In the frequency range between 150 kHz and 80 MHz, the field intensity should be below 3 V/m.
APPENDIX A

Table A.5: The recommended protective distances between portable and mobile HF telecommunication devices and the THERA-Trainer lyra

The THERA-Trainer lyra is designed for operation in an electromagnetic environment with controlled HF emissions. The customer or the user of the THERA-Trainer lyra can help to prevent electromagnetic interference by maintaining the minimum distance between portable and mobile HF telecommunication devices (transmitters) and the THERA-Trainer lyra, as indicated below, depending on the output power of the telecommunication device.

<table>
<thead>
<tr>
<th>Nominal power of the transmitter $W$</th>
<th>Protective distance depending on transmission frequency (in metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>150 kHz – 80 MHz $d = 1.2\sqrt{P}$</td>
</tr>
<tr>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>0.1</td>
<td>0.38</td>
</tr>
<tr>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

For transmitters where the maximum nominal power is not stated in the above table, the recommended protective distance $d$ in metres (m) can be determined using the equation given in the respective column, whereby $P$ is the transmitter’s maximum nominal power in watts (W) in accordance with the information stated by the manufacturer of the transmitter.

**Note 1:** For 80 MHz and 800 MHz, the higher frequency range applies.

**Note 2:** These guidelines may not be applicable in every case. Buildings, objects and persons influence the propagation of electromagnetic waves by absorption and reflection.
### Appendix B: Symbols

<table>
<thead>
<tr>
<th>Table B.1: Symbols in the user manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Warning Symbol]</td>
</tr>
<tr>
<td>![Info Symbol]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table B.2: Screen symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Arrow]</td>
</tr>
<tr>
<td>![Power]</td>
</tr>
<tr>
<td>![Left Foot]</td>
</tr>
<tr>
<td>![Right Foot]</td>
</tr>
<tr>
<td>![Parallel]</td>
</tr>
<tr>
<td>![Offset]</td>
</tr>
<tr>
<td>![Slider]</td>
</tr>
<tr>
<td>![Speed Steps/Min]</td>
</tr>
<tr>
<td>![Speed Km/h]</td>
</tr>
<tr>
<td>![Duration Steps]</td>
</tr>
<tr>
<td>![Duration Km]</td>
</tr>
<tr>
<td>![Duration Min]</td>
</tr>
<tr>
<td>![Profiles]</td>
</tr>
<tr>
<td>![Store]</td>
</tr>
<tr>
<td>![Start]</td>
</tr>
</tbody>
</table>
### Table B.2: Screen symbols

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Stop symbol" /></td>
<td>Stop or end training session</td>
</tr>
<tr>
<td><img src="image" alt="Distance symbol" /></td>
<td>Displays the distance covered or elapsed time</td>
</tr>
<tr>
<td><img src="image" alt="Remaining symbol" /></td>
<td>Displays the remaining distance or remaining time</td>
</tr>
<tr>
<td><img src="image" alt="Increase symbol" /></td>
<td>Increase speed</td>
</tr>
<tr>
<td><img src="image" alt="Decrease symbol" /></td>
<td>Decrease speed</td>
</tr>
<tr>
<td><img src="image" alt="Therapy session" /></td>
<td>Go to <em>Therapy session</em> screen</td>
</tr>
<tr>
<td><img src="image" alt="Session summary" /></td>
<td>Go to <em>Session summary</em> screen</td>
</tr>
<tr>
<td><img src="image" alt="Settings" /></td>
<td>Go to <em>Settings</em> screen</td>
</tr>
</tbody>
</table>
### APPENDIX B

#### THERA-Trainer lyra – User manual

**Table B.3: Symbols that do not belong to the THERA-Trainer lyra**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN</td>
<td>Serial number</td>
</tr>
<tr>
<td>~</td>
<td>Alternating current</td>
</tr>
</tbody>
</table>
| IP20   | **IP Protection class**  
Protection against the entry of solid objects at > 12.5 mm in diameter, no protection against water (in accordance with IEC 60529). |
| ⚠️     | Electrical device with type B application parts. Electric shock protection in accordance with IEC 60601-1. |
| 🔐     | **Protection class II**  
Protection from electric shock is guaranteed by protective insulation. All live components have both operational insulation and a secondary insulation. |
| 🛠️     | Manufacturer |
| 🇪🇺 0297 | CE approval mark of the appliance (with number of the certifier) |
| ⚠️     | Warning of injury to hands |
| ⚠️     | Warning of injury to feet |
| 👶      | Follow the user manual |
| 🍏      | Fuse |
| ⚠️      | Emergency stop |

#### Table B.4: THERA-Trainer lyra symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🚫</td>
<td>Do not dispose of in household waste</td>
</tr>
<tr>
<td>⚠️</td>
<td>Warning of dangerous electrical voltages</td>
</tr>
</tbody>
</table>
Appendix C: Warranty

The manufacturer issues a manufacturer’s warranty for THERA-Trainer lyra, on the assumption that the appliance is handled with due care and in accordance with statutory provisions. Based upon the date of delivery. Within this period of time, the manufacturer will replace any faulty parts on the THERA-Trainer lyra or repair it free of charge.

The following is excluded from the manufacturer’s warranty:
- Wear parts.
- Devices which have been tampered with.
- Third-party installations and attachments.
- Devices repaired by persons other than trained suppliers.
- Any damage due to incorrect use.
- Any damage caused by insufficient packaging.
Appendix D: List of accessories

### Harness system

- Other harness systems

**Warning:** If another harness system is used other than the Multi Sling 25105, the requirements stated in chapter 15 must be adhered to. The selection and use of a specific harness system is the sole responsibility of the medical professional.
Glossary

**Bar**
The harness-system lifting straps are attached to the bar.

**Body weight support**
The body weight support feature enables training for patients who cannot yet support their own body weight. The amount of body weight support to be used depends on the body weight and functional impairment of the patient. The body-weight support can be set in a range from 10 – 60 kg. *For the dynamic* body weight support feature, the supported weight swings with the vertical shift of the body as the patient walks, giving him constant support set to the required weight in all gait phases. *In the static range*, the supported weight swings the supporting weight with the vertical shift of the body as the patient walks. Depending on the gait phase, the patient is either given support equal to the required weight or more (up to his or her full body weight).

**Crank**
The crank is positioned on the right-hand column and is used for setting the height of the bar. The bar height is used to set the type (dynamic/static) of body weight support. A clockwise turn raises the bar, whereas an anti-clockwise turn lowers it.

**Display**
The light spot on the display indicates the amount and type (dynamic/static) of body weight support selected.

**Emergency stop button**
The red emergency stop buttons are located on the left and right columns, facing in opposite directions. Pressing the emergency stop buttons stop the plate as soon as possible and they cannot be moved.

**Error**
If an error occurs, it cannot be guaranteed that a training session can be carried out safely. Therefore new training sessions cannot be started and sessions that are already underway are stopped with an emergency stop. The relevant error message will appear on the screen.

**Error message**
An error message is shown on the screen if a fault has occurred. An error message includes the cause of the error, the relevant identification number and instructions on rectifying the error.

**Handrail**
Patients can hold on to and lean against the handrails whilst being transferred and during therapy sessions. The height of the handrail can be adjusted to suit the patient.

**Handwheel**
The handwheel is positioned on the right-hand column and is intended for setting the amount of body weight support. A clockwise turn increases the body weight support, whereas an anti-clockwise turn reduces it.
<table>
<thead>
<tr>
<th>Glossary Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harness system</strong></td>
<td>The harness system is a compulsory accessory for training on the THERA-Trainer lyra. It facilitates training with body weight support and is intended to prevent the patient from falling.</td>
</tr>
<tr>
<td><strong>Left wing</strong></td>
<td>The left wing can be opened so that the patient can be wheeled directly to the plate bindings in his wheelchair. It is opened by pressing the wheelchair button. The left wing must be fully closed in order to start the therapy session.</td>
</tr>
<tr>
<td><strong>Light barrier</strong></td>
<td>The light barrier is located immediately in front of the plate bindings and is for the safety of the therapist. If the light barrier is interrupted by an object, the therapy session is stopped automatically by the emergency stop function.</td>
</tr>
<tr>
<td><strong>Main switch</strong></td>
<td>The main switch is located in front of the plate bindings. The green light indicates that the main switch is switched on.</td>
</tr>
<tr>
<td><strong>Plate binding</strong></td>
<td>The plate bindings are intended to secure the patient and are equipped with foot bindings. The foot bindings can be adjusted to suit the patient.</td>
</tr>
<tr>
<td><strong>Position of the plate bindings</strong></td>
<td>The plate binding position can be set to offset or parallel using the software. In the offset position, the left plate binding is pushed forwards slightly so that the plate binding is at the same height when the left wing is open.</td>
</tr>
<tr>
<td><strong>Release button</strong></td>
<td>The release button is positioned underneath the screen on the right-hand column. The motor drive is unlocked using the release button.</td>
</tr>
<tr>
<td><strong>Screen</strong></td>
<td>The software is operated using the screen. The screen functions as a touch screen. There are three different screen views: <em>Settings, Therapy session</em> and <em>Session summary</em>.</td>
</tr>
<tr>
<td><strong>Screen On switch</strong></td>
<td>The screen On switch is located in the top corner of the screen on the left. The software is started using the On switch.</td>
</tr>
<tr>
<td><strong>Sliding doors for setting the step length</strong></td>
<td>The sliding doors for accessing the step length adjustment are located on the left-hand and right-hand side of the THERA-Trainer lyra. The sliding doors must be fully closed in order to start the therapy session.</td>
</tr>
</tbody>
</table>
**Step length**
Step length is the distance between the furthest forwards and backwards position of the heel in one step curve. The step length to be selected depends on the height, gait speed and functional impairment of the patient. You can set the step lengths between 39 – 67 cm.

**Stop button**
The blue stop buttons are located at the front of the left-hand and right-hand handrail. By pressing the stop buttons, the removable plate bindings are stopped in a normal manner and then return to their starting position.

**Wheelchair button**
The wheelchair button is located on the left flank. Pressing the wheelchair button opens left wing. The wing engages as soon as the wheelchair button is released.