

# Instruction manual

Instructions for the optimal usage of MOTOmed models  
viva2, viva2 light, viva2 Parkinson, viva2 stativ, gracile12,  
letto2 and letto2 leg/arm



viva2



viva2 light



viva2 Parkinson



viva2 stativ



gracile12



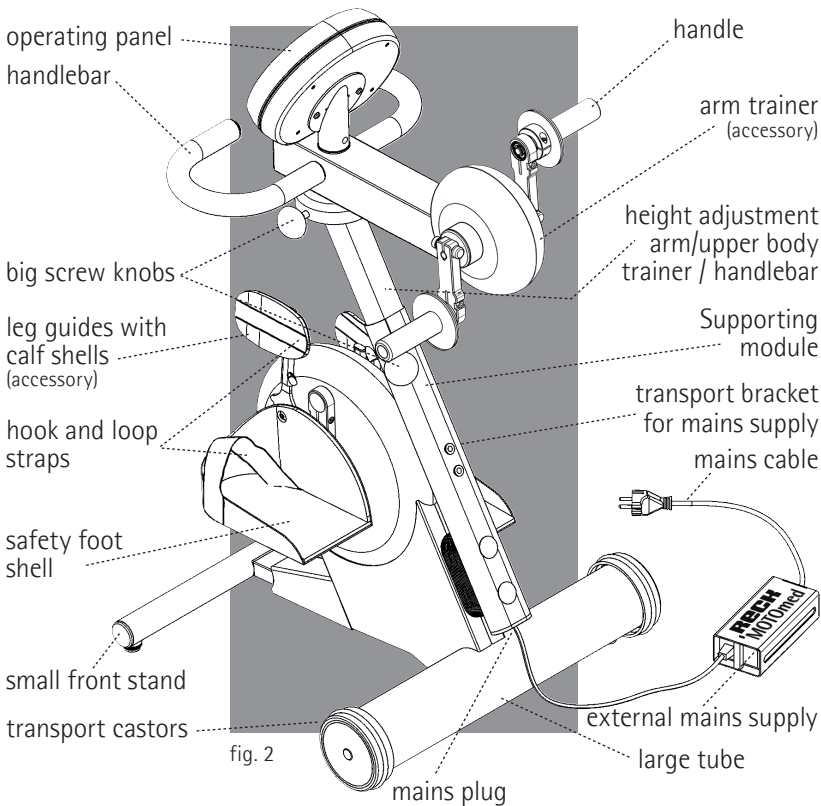
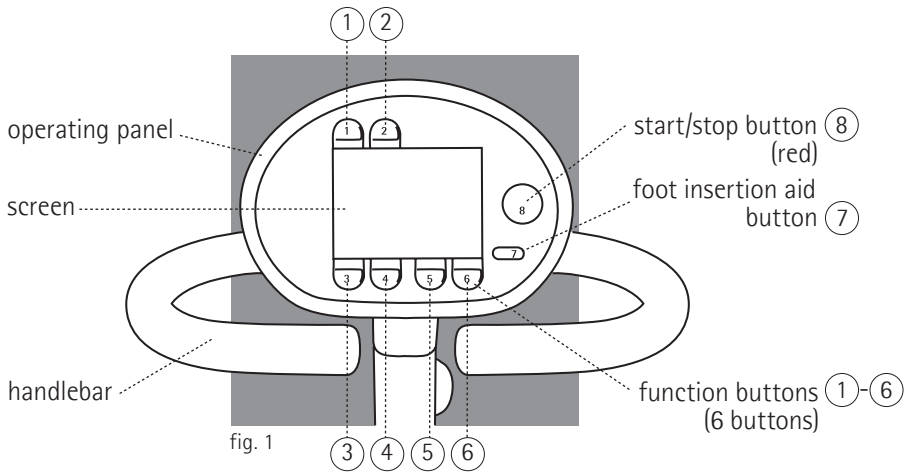
letto2



letto2 leg/arm

- GB Please use the MOTOMed only after you have read the instruction manual. If you should not understand the language of the present version, please request the instruction manual in your national language.
- DE Benutzen Sie das MOTOMed erst, nachdem Sie die Gebrauchsanweisung gelesen haben. Sollten Sie die vorliegende Sprachversion nicht verstehen, fordern Sie bitte eine Anleitung in Ihrer Landessprache an.
- FR Avant de commencer votre entraînement MOTOMed, veuillez lire les instructions d'utilisation. Si ce mode d'emploi ne correspond pas à votre langue, n'hésitez pas à nous demander une autre traduction.
- ES Utilice el MOTOMed sólo después de haber leído las instrucciones de uso. Si no entiende el idioma de la presente versión, por favor exija un manual en su lengua nacional.
- PT Use o MOTOMed somente, depois de ter lido as instruções de operação. Em caso que você não compreenda a língua desta instrução, peça por favor uma orientação em sua língua nacional.
- IT Per un ottimo funzionamento del MOTOMed leggere le istruzioni per l'uso. Se riscontrate qualche difficoltà riguardo la vostra lingua madre consultate il vostro servizio assistenza.
- NL Neem uw MOTOMed pas in gebruik nadat u de gebruiksaanwijzing hebt gelezen. Indien de gebruiksaanwijzing niet overeenstemt met uw moedertaal, aarzel dan niet ons te contacteren en een andere taalversie aan te vragen.
- SV Använd MOTOMeden endast, efter du har läst fungerande anvisningar. Om dig bör inte förstå den tillgängliga språkversionen, förfrågan var god a vägledning i ditt nationella språk.
- DK MOTOMed må først anvendes, når brugsanvisningen er gennemlæst. Forstår du ikke vedlagte brugsanvisning, rekvirer en dansk vejledning hos ProTerapi.
- PL Przed skorzystaniem z urządzenia MOTOMed prosimy zapoznać się z instrukcją obsługi. Jeśli instrukcja obsługi jest napisana w języku obcym ządajcie Państwo instrukcji w języku przez Państwa znanym.
- RU **Используйте MOTOMед только после того, как прочитаете инструкцию по эксплуатации. Если Вам не понятен язык, на котором написана инструкция, запросите, пожалуйста, на родном языке.**

# Model MOTomed viva2/viva2 light/viva2 Parkinson (models only differ in software and motor drive)



# MOTOmed viva2 stativ

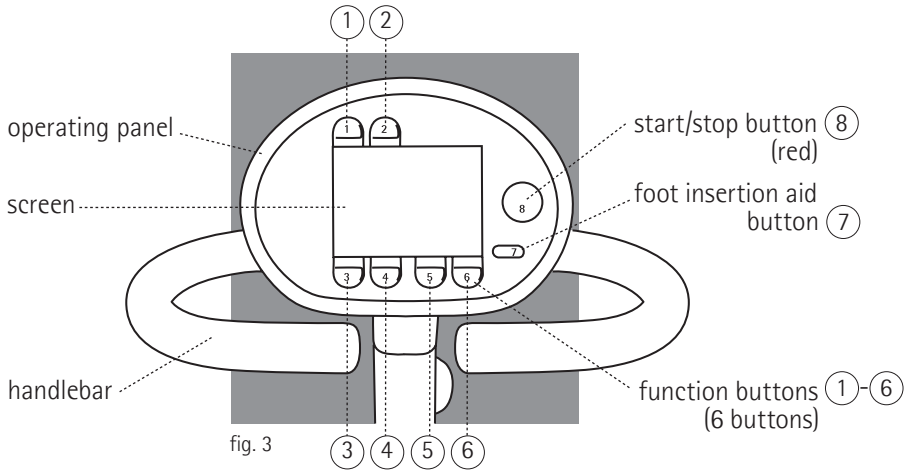


fig. 3

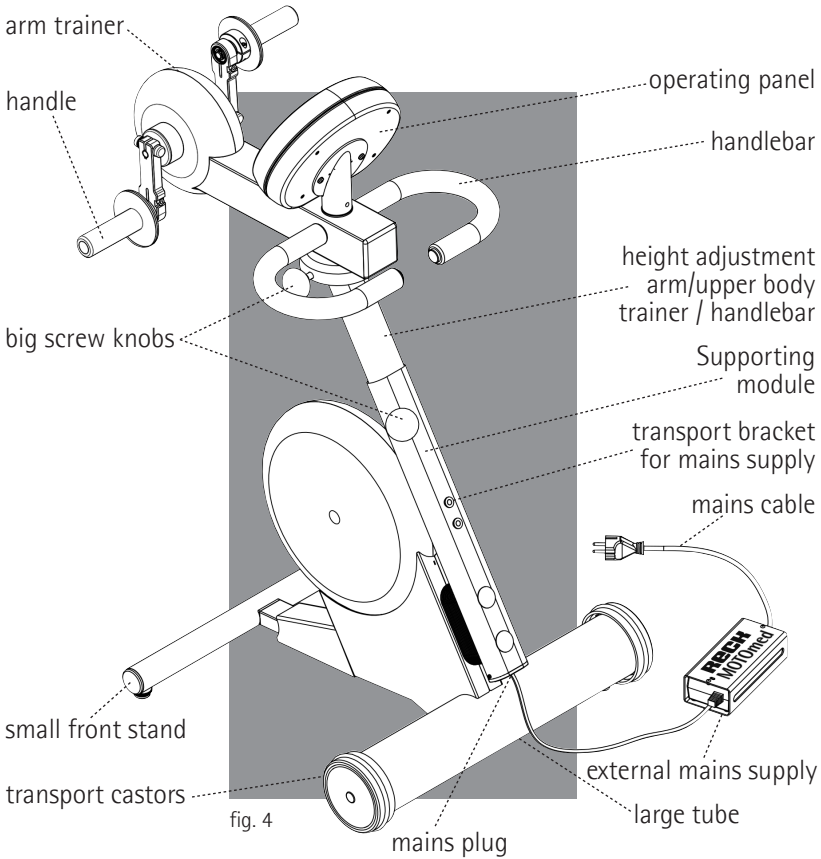
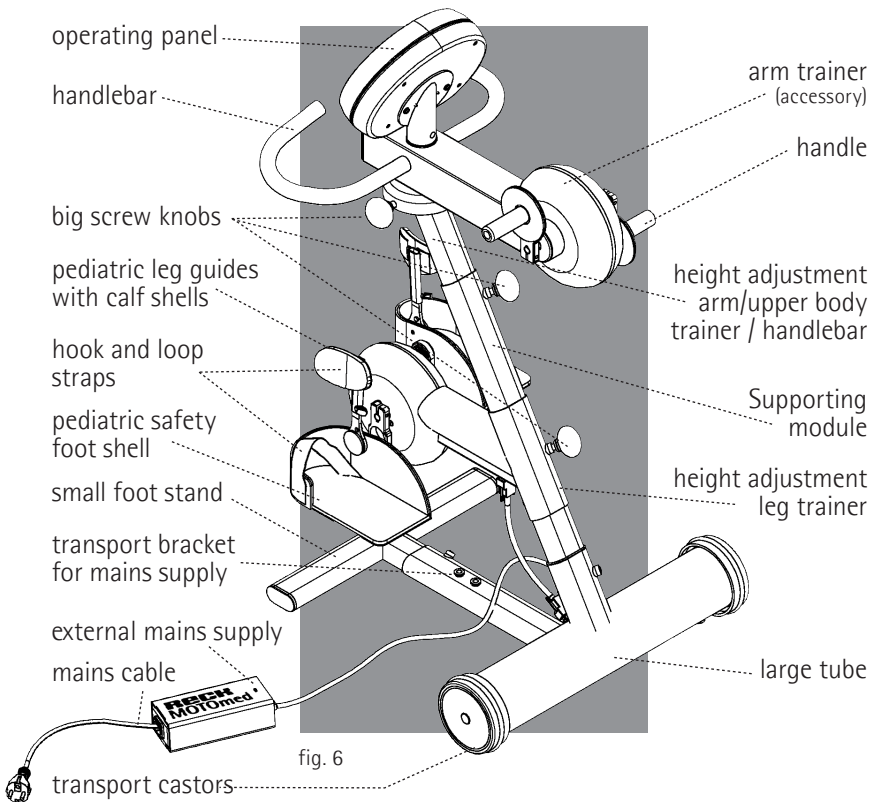
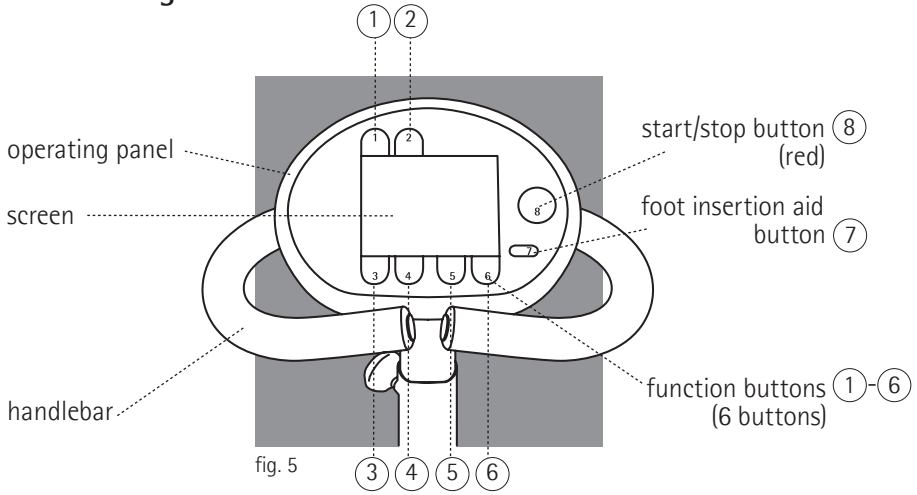
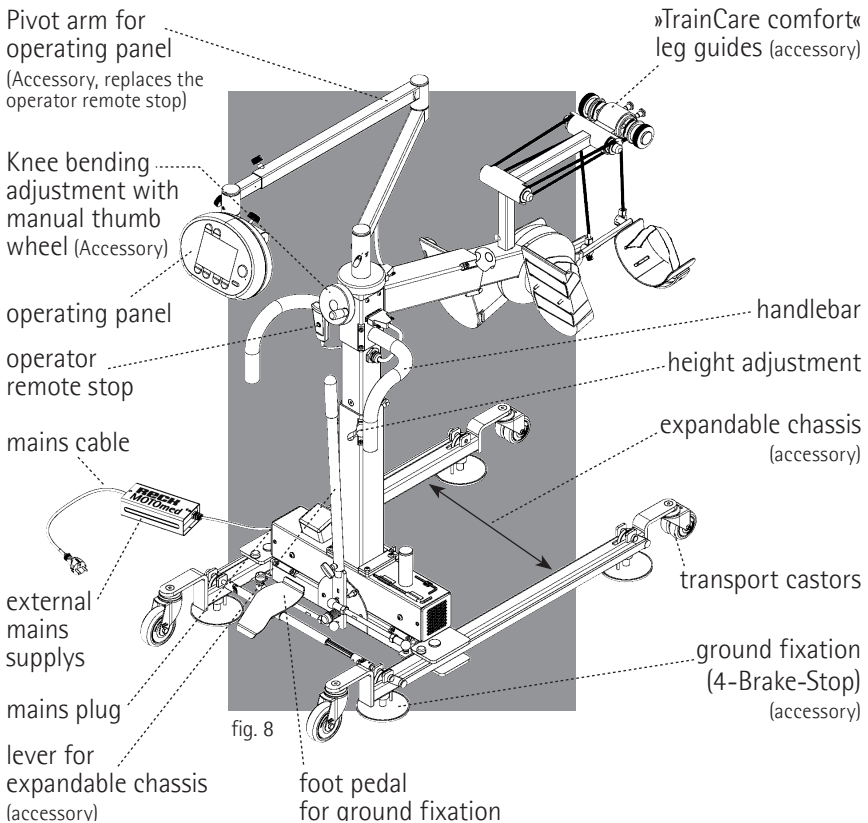
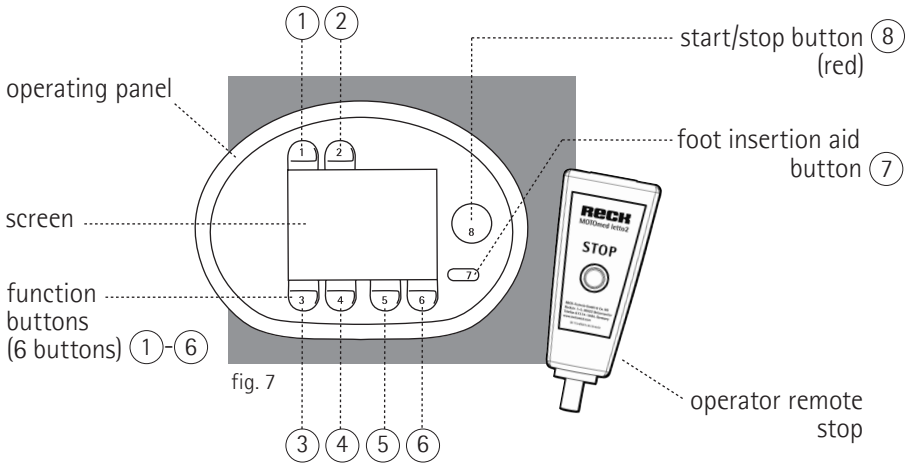


fig. 4

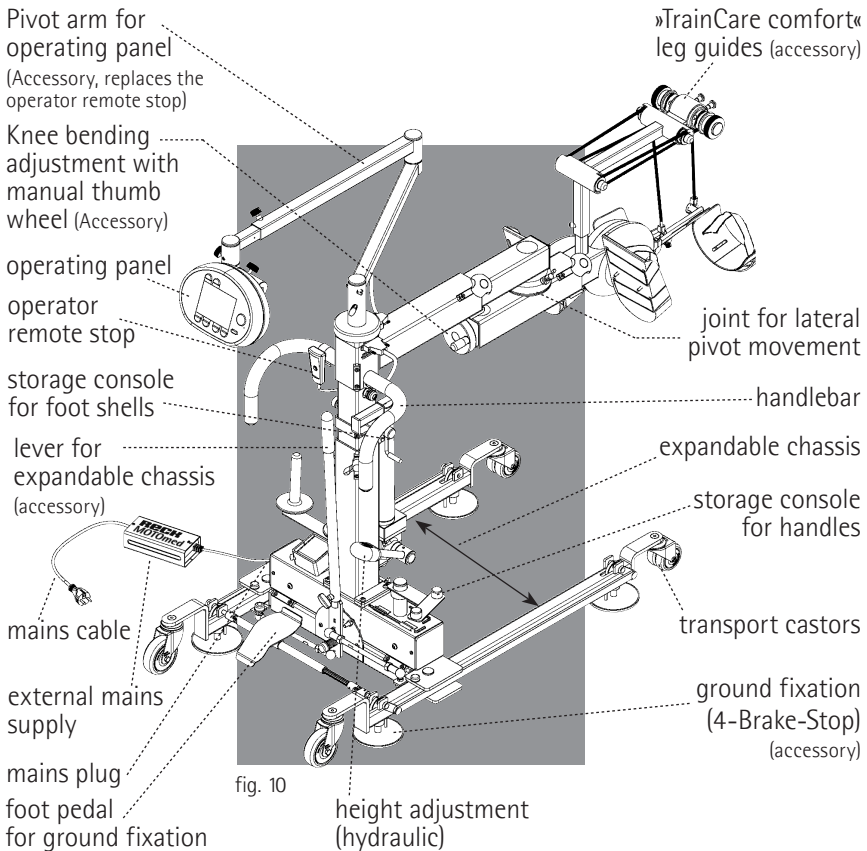
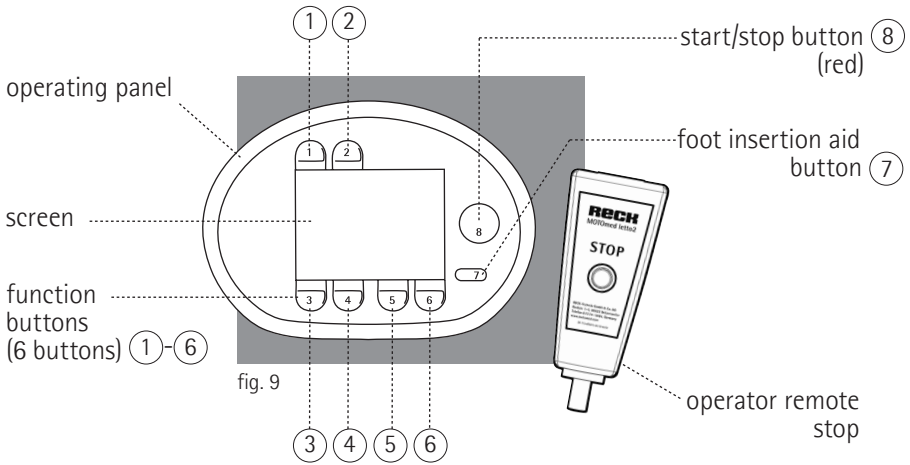
# MOTOmed gracile12



# MOTOmed letto2



# Modell MOTomed letto2 leg/arm





# Gentle, modern and sophisticated ...

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Congratulations! You have made an excellent choice by purchasing your MOTOmed. This movement therapy device provides out-standing performance. An innovative quality product »Made in Germany« by RECK Company, supported by the latest computer technology.

The MOTOmed is an intelligent, motor-assisted movement therapy device. Enjoy the benefits every day.

This instruction manual will help you to get to know the MOTOmed. It guides you through the functions and gives suggestions and hints on how to use your new movement therapy system to gain optimal benefit from the training. Before starting the training, please follow  
page 79 the *safety precautions* listed in chapter 11.

page 78 If you have further questions or comments, please do not hesitate to call your MOTOmed representative or the RECK customer service team. We are happy to assist you.

Enjoy the training with your MOTOmed.



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## Information about this instruction manual

You will find references to important or helpful information on the left margin of certain pages. The following symbols are used:



**Attention!** Important instructions that must be followed to ensure a correct and safe operation of the MOTOMed!



**Information!** Important information about the operation of the MOTOMed models as well as about accessories and software.

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Reference to further information or figures elsewhere (here for example on page 77).

## Application

### **MOTOMed viva2 / viva2 light / viva2 Parkinson / viva2 stativ / gracile12**

The MOTOMed is suitable only for the active, motor-assisted and passive movement of lower and upper extremities while seated or in supine position. The MOTOMed viva2 Parkinson also enables the therapy method »Forced Exercise« with motor-assisted speed up to 90 rpm. During training the MOTOMed can be operated with an operating panel. The MOTOMed is mobile and can be used at various locations.

The optionally available pulse and resistance level control (Cardio16) with ear clip or chest belt offers the possibility to display the current heart rate and the pulse-related resistance level control.

The pulse and resistance level control (Cardio16) does not apply for diagnostic purposes or patients at risk.

## Conventional use

### **MOTOMed viva2 / viva2 light / viva2 Parkinson / viva2 stativ / gracile12**

During the training the user is seated in front of the device in a safe wheelchair or in a stable chair (without castors), with a sufficiently high back support.

Make sure to sit up straight and that the wheelchair (or chair) is secured properly in order to prevent tilting over. It is not allowed to use the MOTOMed in a standing position. The MOTOMed must be placed on a firm, non-slippery surface. The position of the MOTOMed must not be changed during the training.

Not applicable are some specific power wheelchairs, standing chairs and sport wheelchairs with a large stem or with foot rests that cannot be folded or removed.

Under special circumstances the MOTOMed viva2 / viva2 light / viva2 Parkinson / gracile12 can be used in supine position.

### **MOTOMed letto2 / letto2 leg/arm**

Training in supine position from a bed unit using the MOTOMed letto2 / letto2 legs/arms. Please make sure the MOTOMed letto2 is secured by using its *ground fixation* and that the legs of the user are fastened securely inside the foot shells. Brakes have to be applied to the bed and it has to be fixed.

Once the MOTOMed letto2 is positioned to the bed, no additional adjustments shall be made to the bed (height, position,...).

Special bed units (treatment chairs) that are not accessible with the MOTOMed are unsuitable or require the addition of special accessories. Please use the MOTOMed letto2 leg/arm on beds that are only accessible sideways.

### **In general**

MOTOMed use is only permitted in accordance to measures and safety precautions indicated in this instruction manual, with the consent of a physician / therapist, and with no contraindications found.

Settings and changes besides the regular operation with the operating panel may only be done if the arm and leg trainer pedals are not moving and the arms and legs, respectively, are not fixed to the MOTOMed.

### **Disclaimer of warranty**

The manufacturer does not assume liability for consequences of

- inappropriate, wrong and unforeseen handling
- neglect of instruction manual
- willful damage and reckless use
- over intensive training
- use of unsuitable wheelchairs, chairs, or bed units
- use without prior consultation of a responsible physician and therapist
- attachment of unauthorized accessories
- repair or other interference by any person not authorized by the manufacturer

### **Therapy goals**

Prevention, reduction, and improvement of the consequences of loss or lack of movement, mainly in the following medical conditions:

## Indications (diseases)

- (spastic) paralysis or neuromuscular conditions with primary loss of function in the leg(arm)-mobility (e.g. due to stroke, multiple sclerosis, paraplegia post-polio-syndrome, Parkinson's disease, traumatic brain injury, infantile cerebral palsy, spina bifida)
- restrictions of orthopedic nature such as rheumatism, osteoarthritis, knee / hip replacement, condition after a joint injury
- cardiovascular and metabolic illnesses (e.g.. arteriosclerosis, diabetes mellitus type2, hypertension, pAVK, osteoporosis)
- additions to therapy measures e.g. with dialysis patients, chronically obstructive bronchitis and patients with minimal overall physical performance
- circulatory disorders in the legs and organs
- other medical conditions resulting in limitations in movement and becoming confined to bed

## Contraindications

Subject exclusion from intervention due to contraindications was not reported in any of the correlating medical studies.

Risk analysis and long term experience in the field of movement therapy show that patients with the following indications are required to consult their doctor and therapist before starting the training:  
Acute joint injuries, newly replenished joint replacement/  
prosthetics, new ligament ruptures, acute knee and hip arthrosis, joint stiffness, extreme shortened muscles, tendency to hip and shoulder luxation (e.g. subluxation of shoulder), acute thrombosis, decubitus and strong osteoporosis.

The therapeutic benefits versus the possible risk for a patient must be determined by the patient and by the treating doctor or therapist. Therefore, the MOTomed therapy shall only be started after consulting the treating doctor or therapist.

## Negative side effects

Negative side effects from training with the MOTOmed Movement Therapy devices have not been reported and are not known. No negative side effects caused by MOTOmed Movement Therapy were reported in any study. There have been studies where patients aborted the therapy (for organizational, health or other reasons...), still there was no study that reported either an association between the abortion and the intervention, or negative effects on the user caused by the intervention.

### **Residual risk:**

The principle of the MOTOmed movement therapy device is based on the function of electric motors that drive leg and arm trainer pedals with defined forces. The electrical and functional safety is guaranteed by the manufacturer by means of comprehensive measures, therefore the residual risk is minimal if all safety measures are followed. However, it must be considered that in case of careless use, ignoring the safety measures or general misuse the rotating pedals can cause injuries. If a user is not able to follow the safety measures or cannot recognize and prevent hazardous situations, we strongly recommend to allow use only under supervision.



**When using the MOTOmed please follow the prevailing safety precautions in chapter 11.**

- 20 **Overall user instructions and training advices**
- 21 **How do I train appropriately?**
- 22 **Instructions in case of cramps (spasticity)**

## Overall user instructions and training suggestions

Before using the MOTOmed please consult your doctor and therapist in order to adjust your training program and the duration of your training sessions to your individual state of health.

In order to achieve full therapy benefits, regular training with the MOTOmed is essential. In the beginning, you should not engage in sessions lasting longer than 10–15 minutes. It is better to train 2–3 times per day for approximately 5–10 minutes. After about one week you can gradually increase the duration of training, the resistance level, and speed according to individual condition and well-being.

Always start your training with passive motion (legs or arms are moved by the motor) to warm-up. If you are able to train actively, do your first sessions at a low resistance level. Avoid overstraining. When training actively it is recommended to train with a low resistance level for a longer time rather than training shorter with a high resistance level.

Pay attention to a correct sitting/lying position during your training. The wheelchair/chair or the bed should be positioned in line or in a 90 degree angle (MOTOmed letto2 leg/arm) to the MOTOmed device. You should be sitting upright, back straight, while leaning on the back support of the chair or wheelchair. In case of a slippery ground you can use the *belt stabilizer comfort (item no. 308.000)* or the *anti-slip mat (item no. 589.000)* to prevent the chair from moving backwards. The head board of the bed/couch should have a slightly upright position (MOTOmed letto2 / Motomed letto2 leg/arm).

The range of motion (more flexion or more extension) of the knee and hip joints depends on the distance between crank and user. The movement dimension (size of the movement) depends on the pedal radius. The chair should be positioned according to the flexibility of your joints. Try to prevent over stretching or blocking of the knee joints by starting the training in small intervals.

When using the arm/upper body trainer make sure that the elbow joints are never fully stretched during the course of the training. Adjust the position of the arm/upper body trainer to your body height.

If you lack hold due to the effects of paralysis it is absolutely essential to use *leg guides (item no. 302.000 respectively 545.000)* or *leg guides »TrainCare comfort« (item no. 168.000)* for the letto models and if applicable *forearm shells (item no. 556.006 respectively 556.024)*

## How do I train appropriately?


Do you have any questions about the MOTOMed training?  
Are there any difficulties?

page 78 Please call your MOTOMed representative or the RECK Company.

## Instructions in case of cramps (spasticity)

If you are affected by cramps (spasticity), slow and regular movement with the MOTOMed is important.

Particularly in the beginning it is recommended to train at a slow speed. This setting is especially useful to loosen up the muscles. You will notice that this way of training helps to reduce spasticity.

If you are inhibited by spasticity or you have sensitive tendons, joints or ligaments the *MovementProtector with SpasmControl* should always be turned on (a green flash symbol  is shown on the display). In case of a cramp (spasticity) or another form of resistance, the *MovementProtector* stops the motor automatically.

The pedals move in the reverse direction and the *SpasmControl* reacts according to the therapeutic principle (antagonistic inhibition) – it detects the movement direction where the spasm can be eased. That way muscles are relaxed and tensions are relieved. This back and forth motion continues until the spasm has been eased.

During the training the integrated *MovementProtector* automatically adapts to the stiffness of your muscles (muscle tone) in your legs/arms. Therefore, the *MovementProtector* is always optimally sensitive.

For better leg support in case of spasticity, the *leg guides with calf shells* or the *»TrainCare comfort«* leg guides are a required additional component. Those secure the legs safe and tight, support the lower legs safely and enable a physiological position of the legs during movement.

For MOTOMed viva2 / viva2 light / viva2 Parkinson / viva2 stativ / gracile12 and in case of intense cramps (spasticity) a *wheelchair stabilizer (item no. 100.000 respectively 100.020)* or a *belt stabilizer comfort (item no. 308.000)* is recommended.

Under special circumstances, during passive training (e.g. osteoporosis or very strong spasticity) the maximum motor power for legs and arms can be set from the start menu by pushing the buttons »setup« and then »device settings«.

In MOTomed viva2 light, these settings can be found in the training menu.

low motor power: e.g. osteoporosis

high motor power: e.g. increased stiffness due to spasticity or rigor (Parkinson's)

We recommend to consult your physician and therapist before adjusting the motor power.



- 26 **Setup**
- 26 External mains supply
- 27 MOTomed viva2 / viva2 light / viva2 Parkinson /  
viva2 stativ / gracile12 with arm/upper body trainer
- 28 MOTomed letto2 / letto2 leg/arm with leg guides  
»TrainCare comfort«
  
- 29 **Operating panel**
  
- 30 **Stand-by**
  
- 31 **Transport**
- 31 MOTomed viva2 / viva2 light / viva2 Parkinson /  
viva2 stativ / gracile12
- 32 MOTomed letto2 / MOTomed letto2 leg/arm

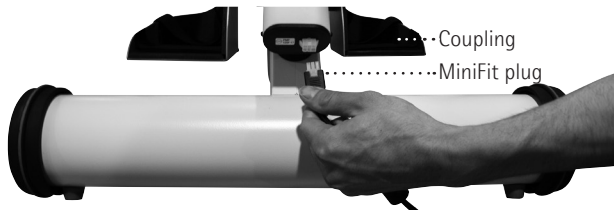
## Setup

page 78 Please contact your MOTOMed representative in cases of transportation damage to the package or the MOTOMed device.

Unpack the MOTOMed and place it on the carriage or the stand.

### External mains supply

Take the external mains supply (PMP120F-17) out of the package and connect the MiniFit plug to the coupling of the lower end of the supporting module (viva2 / viva2 light / viva2 Parkinson / via2 stativ) or to the big stand (gracile12) or to the center cross (letto2 / letto2 leg/arm).



MOTOMed viva2 / viva2 light / viva2 Parkinson / viva2 stativ

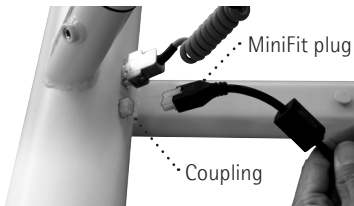
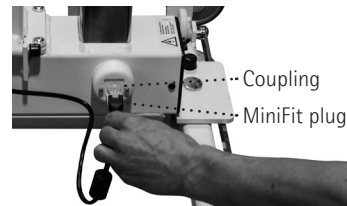


fig. 11 MOTOMed gracile12



MOTOMed letto2 / letto2 leg/arm

Afterwards connect the mains cable with the mains supply and plug it into the wall socket. The MOTOMed must be positioned in a reasonable distance to the socket so that it can be plugged in and out easily.

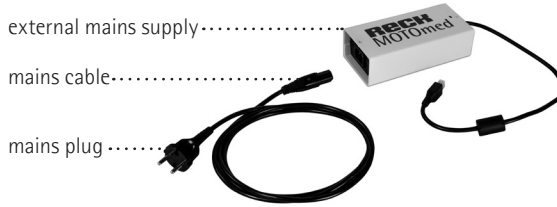


fig. 12



For safety reasons the external mains supply must not be attached to the transportation bracket during training but must be placed on the floor beside the MOTOMed.

### MOTOMed viva2 / viva2 light / viva2 Parkinson/ viva2 stativ / gracile12 with arm/upper body trainer

If an *arm/upper body trainer (item no. 251.000 or 599.000)* is installed, please pull out the small foot stand by approx. 15 cm / 6 inches. However, please keep a minimum insertion of the front leg of 10 cm / 4 inches for optimal stability of the MOTOMed. In order to adjust the small foot stand unplug the MiniFit-plug from the coupling and tilt the MOTOMed carefully backwards. Open the two Allen screws at the bottom of the device and pull out the front stand of the device. After the adjustment, re-tighten the Allen screws. You find the Allen key at the bottom of MOTOMed viva2 / viva2 light / viva2 Parkinson / viva2 stativ or in the package of the device (MOTOMed gracile12).

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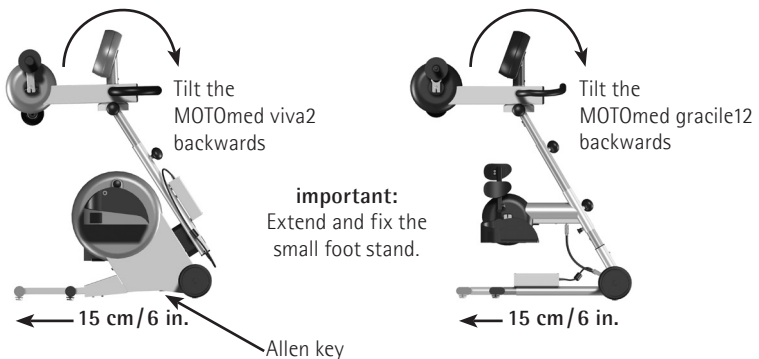


fig. 13/14

Even those MOTomed viva2/ viva2 light / viva2 Parkinson / gracile12 devices that include a handlebar, the front stand can be pulled out as described above, in order to ensure a high safety.

### **MOTomed letto2 / letto2 leg/arm with leg guides »TrainCare comfort«**

Unpack the operating panel. Place it onto the bracket so that the connectors interlock. Fix the operating panel with the two screws enclosed. Check and tighten all Allen screws and locking levers with the enclosed Allen key.

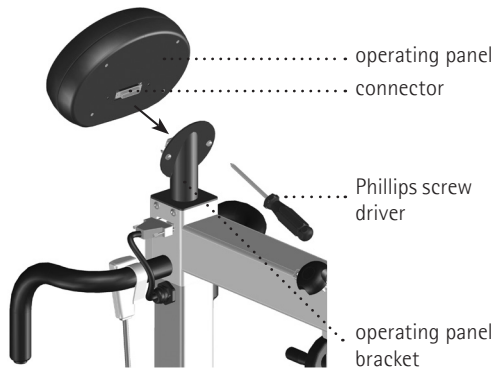


fig. 15 MOTomed letto2 /  
letto2 leg/arm

Prior to the first usage the accessory leg guides »TrainCare comfort« needs to be taken off with the Allen key or the wing nut and be re-mounted to the device in a 180 degree rotation. Afterwards the leg guides »TrainCare comfort« can be hooked to the expander (fig. 16).

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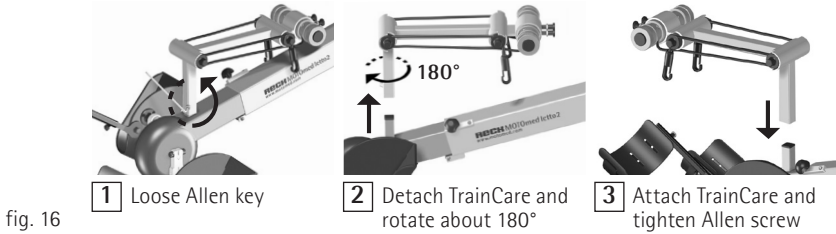


fig. 16



Prior to every training, a visual inspection needs to be performed on the MOTomed in order to avoid accidents. If the user is not in the condition to conduct the inspection, it is the care giver's responsibility to do so.

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Additional instructions for the visual inspection can be found in chapter 12.

## Operating panel

### Connection points of the operating panel

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The following connectors can be found in the operating panel:

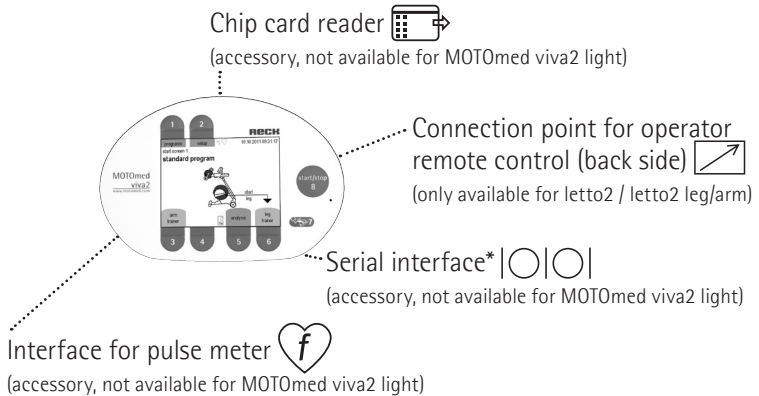


fig. 17

\* The serial interface can be used for the following purposes only:

- With FES devices of the Hasomed company, which are designed to be combined with the MOTomed.
- As connection point for the MOTomed interface for games.



Functions and setting options of the operating panel can be found in the instruction manual that comes with the device.

Instruction manual MOTomed viva2 / viva2 Parkinson / viva2 stativ / gracile12 / letto2 / letto2 leg/arm  
document no.: 713/W2558

Instruction manual MOTomed viva2 light  
document no.: 713.3/W517

## Stand-by

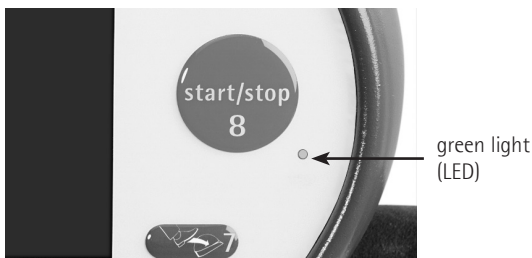


fig. 18

The green light (LED) next to the »start/stop« button (8) on the operating panel will start flashing after plugging the device into the socket. The screen turns on and the message »device initialization, please wait« appears.

Please do not touch the pedals or the foot shells during this process; otherwise the safety test will fail. After that the start screen appears and the green flashing disappears.

The MOTomed is designed for continuous stand-by mode. The mains cable is to be pulled when repairing, cleaning or transporting the MOTomed.

In order to save energy, the MOTomed switches into stand-by mode (black screen, green light is on) 15 minutes after the end of the training or when the start screen does not receive another entry.

## Transport

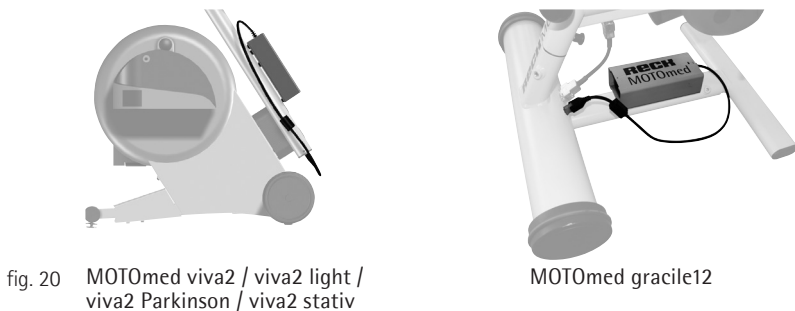
page 3-7 The MOTomed viva2 / viva2 light / viva2 Parkinson / viva2 stativ / gracile12 / letto2 / letto2 leg/arm is equipped with two or four large transport castors which enable easy transportation within the building.

### MOTomed viva2 / viva2 light / viva2 Parkinson / viva2 stativ / gracile12

To move the MOTomed viva2 / gracile12 (fig. 19), hold the handlebar or the arm trainer and tilt it backwards until you can easily pull or push the MOTomed on its large castors.



In order to prevent damages during transport, the power cable is to be completely removed. The external power supply can be fixed to the transport holder.



For longer distances on uneven ground you should use a trolley (or any other pushcart) in order to protect the MOTomed.

## MOTOmed letto2 / letto2 leg/arm

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To transport the MOTOmed letto2 / letto2 leg/arm loosen the foot pedal of the ground fixation and keep hold of the handlebar. Make sure all adjustable or swiveling parts are in transport position. To avoid damage during transport unplug the power cable from the socket and from the external mains supply and coil it up to the provided mount. Fix the external power supply to the transportation holder. Now you can easily move the MOTOmed letto2 / letto2 leg/arm.

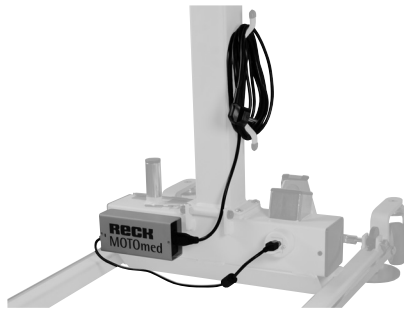


fig. 21

MOTOmed letto2

If you have to pull (never push) the MOTOmed over any small bumps, make sure that both castors move simultaneously (parallel) over the bump. Do not move the MOTOmed castors across uneven ground (e.g. cobblestones). In both cases, damage to the casing of the MOTOmed and the inside electronic components could result.

page 57

If the MOTOmed letto2 leg/arm is equipped with an *Expandable chassis (accessory, item no. 160.000)* transportation is permitted only when the chassis rails are in alignment in order to avoid tipping or colliding of the MOTOmed letto2 / letto2 leg/arm.

34 **MOTOmed viva2 / viva2 light / viva2 Parkinson / gracile12 leg trainer**

- 34 Preparation
- 34 Foot insertion and securing aid
- 34 Height adjustment MOTOmed gracile12
- 35 Pedal radius adjustment (2 levels)\*

37 **MOTOmed viva2 / viva2 light / viva2 Parkinson / viva2 stativ / gracile12 arm/upper body trainer**

- 37 Extension of the small foot stand
- 37 Swiveling arm/upper body trainer
- 38 Seating position

38 **MOTOmed letto2**

- 38 Attaching to the bed unit
- 38 Adjustment of the track gauge
- 39 Positioning of the MOTOmed letto2
- 39 High stability through ground fixation
- 39 Adjustment of the training height
- 39 Knee bending adjustment
- 40 Positioning of the feet into the safety foot shells
- 40 Pivotal operating panel incl. operator remote stop

41 **MOTOmed letto2 leg/arm**

- 41 Preparation leg training
- 41 Attaching the foot shells
- 42 Adjustment of the rotary arm with pedals
- 42 Attaching to the bed unit
- 42 Adjustment of the track gauge
- 43 Proper positioning of the MOTOmed letto2 leg/arm
- 43 High stability through ground fixation
- 43 Adjustment of the training height
- 43 Positioning of the feet into the safety foot shells
- 44 Knee bending adjustment
- 44 Pivotal operating panel incl. operator remote stop
- 44 Preparation arm/upper body training

## MOTomed viva2 / viva2 light / viva2 Parkinson / gracile12 leg trainer

### Preparation

If possible, place the MOTomed with the large tube facing a wall **1**.

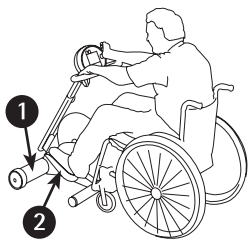



fig. 22

Sit in a wheelchair or in a stable chair in front of the MOTomed within a suitable distance to the device – the legs need to move freely but the knee joints must not be stretched out completely at any time **2** while training.



Make sure the wheelchair or chair is secured to avoid tilting or slipping.

### Foot insertion and securing aid (if needed)

page 30 Press the long button **7** »insertion aid« () when the MOTomed is in stand-by mode (black screen and constant green light).

By »pushing and holding« the buttons **6** »pedals forward« or **5** »pedals backward« you can move the foot shells **2** (fig. 22) to the lower position for convenient leg insertion, one after the other.

Now fasten your feet and legs with the hook and loop straps or the *self-operating foot holders (item no. 506.000 bzw. 598.000)*.

### Height adjustment MOTomed gracile12

Adjust the height of the motor shaft for smaller children or in order to

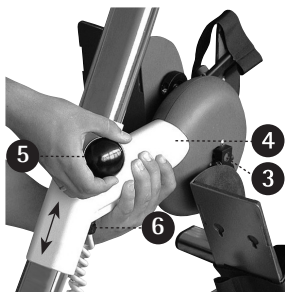


fig. 23

change the movement range of your hip joint (hip angle) **3**. Hold the horizontal arm **4** and loosen the thumb screw **5**. Pull the snap button **6** and adjust the MOTomed gracile12 to the suitable height **3**. Retighten the thumb screw **5**.

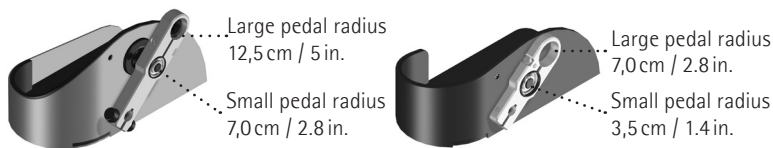
### Pedal radius adjustment (2 levels)\*

The pedal radius can be decreased (3.5 cm / 1.4 in.) and increased (7 cm / 2.8 in.) with an Allen key within seconds.

The following adjustments are available:

MOTOmed models	Leg trainer only	Arm-/upper body trainer
viva2, viva2 light, viva2 Parkinson	7 cm / 12,5 cm 2.8 in. / 5 in.	10 cm 4 in.
gracile12	3,5 cm / 7 cm 1.4 in. / 2.8 in.	3,5 cm / 7 cm 1.4 in. / 2.8 in.
letto2	7 cm 8 in.	- -
MOTOmed letto2 leg/arm	7 cm 2.8 in.	7 cm 2.8 in.
viva2 stativ	- -	10 cm 4 in.

fig. 24



MOTOmed viva2 / viva2 light /  
viva2 Parkinson

MOTOmed gracile12

fig. 25/26

### Adjustment of the pedal radius

(Only with leg trainer viva2, viva2 light, viva2 Parkinson and leg and arm/upper body trainer gracile12)



**The MOTOmed must be switched off and the feet must not be inserted when changing the pedal radius.**

1. Open the Allen screw at the ball bearing.
2. Remove the (pediatric) safety foot shell from the current hole in the pedal crank and the black plastic cover above the free hole.
3. Set the pediatric foot shell into the open hole of the pedal crank.

4. Tighten the Allen screw at the ball bearing.  
Repeat this procedure on the other side. Please make sure that the same pedal radius is adjusted on both sides.
5. Make sure the Allen screws on both sides are tightened firmly and the isolation is free of any damage.

**Please note for pedal radius adjustment:**

1. Tighten the Allen screw on the ball bearing ring firmly so that the foot shell sits firmly in the ball bearing.
2. Make sure to tighten the Allen screw only as firmly as it allows continuous rotation of the foot shells.

**Procedure:** Hold the foot shell in horizontal position and let it spin. If the foot shell swings approximately 1–2 times and then stops, the Allen screw is tightened correctly. If the Allen screw is tightened too firmly, the ball bearing tension ring can press too tight against the ball bearing of the foot shell so that it can hardly be moved and rotated, or not at all.

3. Alternatively you may use a torque wrench to tighten the screws with 9 Nm.
4. Insufficiently tightened Allen screws of the ball bearing ring are not subject to warranty coverage by RECK-Technik GmbH & Co. KG.



If you wish to change the pedal radius frequently, we recommend the accessory *pedal radius quick adjustment (item no. 507.100)*.

## MOTomed viva2 / viva2 light / viva2 Parkinson viva2 stativ / MOTomed gracile12 arm/upper body trainer

### Extension of the small foot stand

page 27

Before using the arm/upper body trainer it is important to pull out the small foot stand about approximately 15 cm / 6 in. (minimal insertion 10 cm / 4 in.) This improves the stability of the MOTomed which is essential for the arm/upper body training. Please ensure that you do not place too much strain on one side of the handle, i.e. when standing up: do not lean yourself onto the handlebar, since this could cause the MOTomed to tip over.

4

### Swiveling of arm/upper body trainer

You can do both, active and passive training, with the arm/upper body trainer.

The integrated handlebar of the arm trainer can be used to hold on during leg training. To do arm/upper body training, please take the feet off the foot shells and swivel the arm/upper body trainer clockwise by 180 degrees. Please follow these steps:

page 21

1. Open the two screw knobs underneath the arm/upper body trainer and swivel the arm/upper trainer clockwise by 180 degrees. After that, tighten the screw knobs again.
2. In order to adjust a suitable height of the arm/upper body trainer, please open the screw knob on the supporting module, adjust it to the desired height and tighten the screw knob again. Pay attention to the indicated scale!



fig. 27

**1** Leg training

**2** Swiveling of arm/  
upper body trainer

**3** Arm/upper body training

## Seating position

Please make sure that your seating distance to the MOTomed viva2 / gracile12 will not lead to a full stretch of the arms; the elbow joints should always be slightly bent. The arm trainer has to be set on chest level or slightly below. For your optimal seating position please consult your therapist and doctor.

Hint: The body has the tendency to slump over, especially with elderly people. Due to a backward direction rotation a better posture of the upper body is assured. Regular backward arm training is recommended as part of your training program.

## MOTomed letto2

Attaching to the bed unit: Position the MOTomed letto2 in front of the bed unit.

Loosen the fixing screw of the height adjustment **1** and slide the crank **2** to the tip.

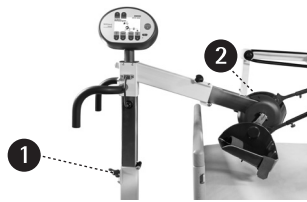


fig. 28

Adjustment of the track gauge: If the track gauge of the MOTomed chassis is too tight to be fastened to the bed you can adjust the width with the Allen key **3** or **4** up to 30 cm.

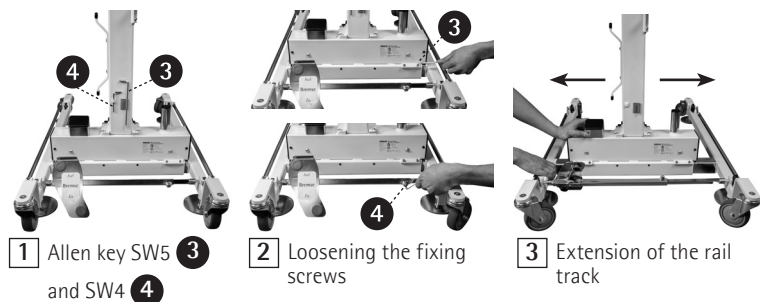


fig. 29

Re-tighten the fixing screw (see step 2).



**Do not pull out each side more than 15 cm / 5.9 in. No pullout stop provided!**

With the accessory *expandable chassis (item no.160.000)* you can do this adjustment without tools.

**Positioning of the MOTomed letto2:** The MOTomed letto2 should be positioned in such a distance to the bed that the foot shells are above the shin bones of the user. The motor drum should be positioned centric to bed and user.

**High stability through ground fixation:** The ground fixation can be locked by pushing the red part of the foot pedal **5**. This ensures high stability, even during active training. In order to loosen the ground fixation please push the green part of the foot pedal **6**.

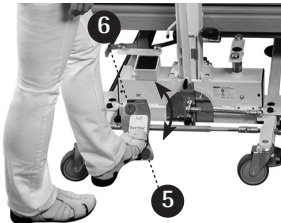


fig. 30

**Adjustment of the training height:** The height of the foot shells should be adjusted in a way that in the lowest possible position these do not touch the mattress. Then refasten the fixation screw of the height adjustment **1**.

page 38



During training, you mustn't use the hydraulic or manual height adjustment of the bed unit.

**Knee bending adjustment:** Before inserting the legs **7** loosen both wing screws of the longitudinal adjustment and move the crank **2** toward the user or away from him **7**. After that, retighten the wing screws.

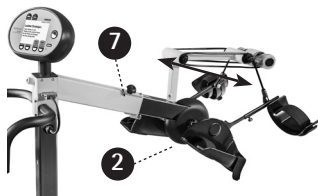


fig. 31

page 58 The accessory *Knee bending adjustment with manual thumb wheel (item no. 162.000)* enables a readjustment of the knee inflection even during the training. Please ensure the knee joints of the user are slightly bent at all times during the training (when in the farthest foot shell position).

Positioning of the feet into the safety foot shells: Put the feet into the safety foot shells **8** and if available into the calf shells of the leg guides »TrainCare comfort« **10** (accessory order no. 168.000). Fasten the feet/legs with the hook and loop straps **9** or **11**.

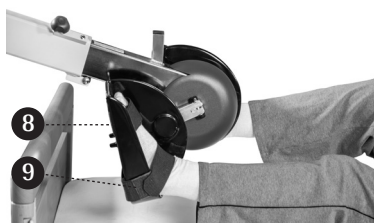
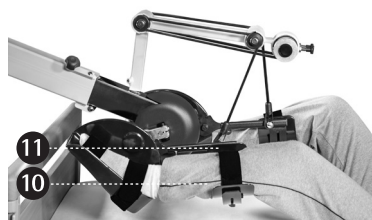


fig. 32/33 Basic model



Leg guides »TrainCare comfort«

Pivotable operating panel incl. operator remote stop: Rotate the operating panel **12** towards the user and give him the operator remote stop **13**. Pay attention that the cable does not come in the training area of the foot shells. The user can also regulate the training independently with the accessory *pivot arm for the operating panel (accessory, item no. 166.000)*



fig. 34  
page 58

## MOTomed letto2 leg/arm

Due to its construction the MOTomed letto2 leg/arm can be used as both leg and arm/upper body trainer.

The bed unit can be fastened to the foot part of the bed, to the right or left side, depending on the space available and the type of bed being used.



fig. 35 **1** left side  
(for legs or arms)

**2** right side  
(for legs or arms)

**3** front side  
(for legs or arms)

### Preparation leg training

**Attaching the foot shells:** In case the hand grips are attached to the MOTomed, please remove those and attach the foot shells instead **1**. The quick release option requires no tools for exchange. Open the red safety clip **2** in order to loosen the fixation. Remove the hand grips and attach the foot shells **1**. Lock the red safety clip to fix them into position again **2**.

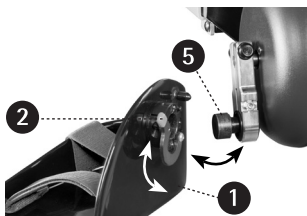


fig. 36



If the foot shells are to loose, the clamp ring can be adjusted **4** with the fixation screw **3**. Therefore please use the Allen key that comes with the device. The clamp ring is adjusted correctly when the foot shells have minimum clearance and when they can be mounted to and removed from the crank arm bolt easily **5**.

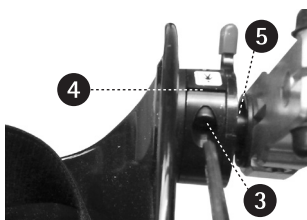


fig. 37

**Adjustment of rotary arm with pedals:** Before positioning the unit to the bed you need to adjust the rotary arm with pedals **3**. When training takes place from the foot part of the bed, the rotary arm needs to be pivoted into the cycling direction.

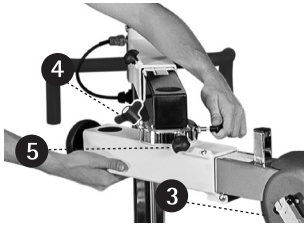


fig. 38

Depending on right or left side application, the rotary arm needs to be adjusted to the right or left side, adapting to the user's position. To adjust the rotary arm to a required position, unscrew the thumb screw **4** and pull the bolt **5**. Now you can adjust the rotary arm **3** to the desired position. The bolt **5** will snap back in automatically and the rotary arm **3** will be in place. Retighten the thumb screw **4**. Set the knee bending adjustment into start position using the manual thumb wheel **6** (fig. 40).

**Attaching to the bed unit:** Positioning the MOTomed letto2 in front of the bed unit. Unfasten the fixation screw of the height adjustment **7** and pump up the rotary arm using the foot pedal of the hydraulic height adjustment **8**.

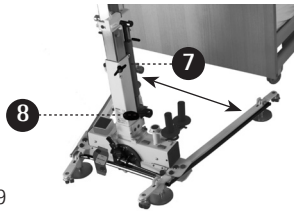


fig. 39

**Adjustment of the track gauge:** If the track gauge of the MOTomed chassis is too tight to ride under the bed you can adjust the width with the Allen key or up to 30 cm.

page 57

With the accessory *Expandable Chassis (item no. 160.000)* you can do adjustments without tools.



For security reasons, constricting the track width inward on the MOTomed letto2 leg/arm model is not possible.

**Proper positioning of the MOTomed letto2 leg/arm:** The rotary arm **3** should be positioned centrally to the bed (width). If used from a bed side, the MOTomed can be adapted to the bed width by means of the star knob. For this purpose loosen the star knob **9**, extend the arm length accordingly and tighten the star knob **9** again.

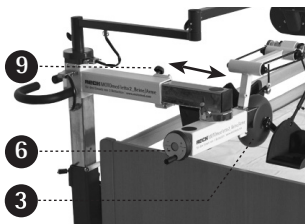


fig. 40

page 39

**High stability by ground fixation:** The ground fixation can be locked by pushing the red part of the foot pedal **5** (fig. 30). This ensures high stability, even during active training. To release the ground fixation push the green part of the foot pedal **6** (fig. 30).

**Adjustment of the training height:** At the minimum height please ensure that the foot shells **1** (fig. 40) do not abrade the mattress when in its lowest position. Slightly lift the pedal **8** (fig. 3) in order to lower the rotary arm. Securely tighten the screw knob after the adjustment **7** (fig. 39).



During height adjustment you must not touch or come close to the hydraulic cylinder. During the training, you shouldn't use the electrical or manual height adjustment of the bed unit.

**Positioning of the feet into the safety foot shells:** Put the feet into the safety foot shells **1** and if available into the calf shells **10** of the leg guides »TrainCare comfort« **11** (accessory, item no. 168.000) and fix these with the hook and loop straps **12**.

page 55

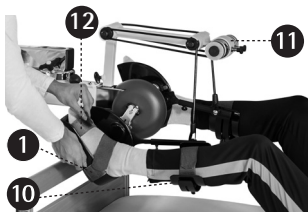


fig. 41

Knee bending adjustment: With the knee bending adjustment using the thumb wheel **6** you can readjust the knee inflection even while training. Please ensure the knee joints of the user are slightly bent at all times during the training (when in the farthest foot shell position).

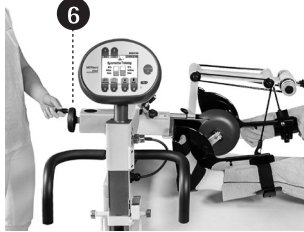


fig. 42

Pivoted operating panel incl. mit remote stop for patients: Rotate the operating panel **13** towards the user and give him the operator remote stop **14**. Pay attention that the cable does not come near the foot shells. The user can also regulate the training independently with the accessory *pivot arm for the operating panel*



fig. 43  
page 58

(accessory, item no. 166.000).

Preparation arm/upper body training: For arm/upper body training, the MOTomed letto2 leg/arm should be positioned to the side of the bed. Remove the foot shells and attach the hand grips. The following operations with the arm/upper body trainer are identical to the leg training. After preparation of the arm/upper body trainer (attaching



fig. 44

the handles, proper positioning and fixation of the MOTomed) induce the hands to the handles and fasten them in accordance to applicable accessories (e.g. *wrist cuffs (item no. 562.000)*, *hook grip (item no. 556.206)*, etc.). Once set up is complete, make sure the user elbows are always slightly bend (test the position in the farthest pedal position).

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46 **Accessories MOTomed viva2 / viva2 light / viva2 Parkinson / viva2 stativ**

- 46 Safety foot shells\*,\*\*
- 46 Leg guides with calf shells\*\*
- 47 Self-operating foot holders\*\*
- 48 Pedal radius quick adjustment\*\*
- 49 Ankle joint control with fix bar scale\*\*
- 50 Arm/upper body trainer active/passive\*\*\*
- 50 Forearm shells with arm cuffs
- 51 Hand fixation with wrist cuff
- 52 Pedal radius quick adjustment (arm training)

52 **Accessories MOTomed gracile 12**

- 52 Pediatric safety foot shells\*
- 53 Pediatric leg guides with calf shells\*
- 53 Self-operating foot holders for pediatric safety foot shells
- 53 Pedal radius quick adjustment for pediatric foot shells
- 54 Arm/upper body trainer active/passive
- 54 Pediatric forearm shells with wrist cuffs
- 54 Pediatric wrist cuff

55 **Accessories MOTomed letto2 / letto2 leg/arm**

- 55 »TrainCare comfort« leg guides with calf shells
- 57 Expandable chassis
- 58 Knee bending adjustment with manual thumb wheel\*\*\*\*
- 58 Extended pivot arm for operating panel
- 59 Hydraulic height adjustment\*\*\*\*
- 60 Forearm shells with arm cuffs and quick release system
- 60 Hand fixation with wrist cuff

61 **Further Accessories MOTomed**

- 61 Pulse and resistance level controle (Cardio 16)\*\*\*\*\*
- 61 General information

- \* basic equipment
- \*\* not available for MOTomed viva2 stativ
- \*\*\* basic equipment of MOTomed viva2 stativ
- \*\*\*\* basic equipment of MOTomed letto2 leg/arm
- \*\*\*\*\* not available for MOTomed viva2 light

## Accessories MOTomed viva2 / viva2 light / viva2 Parkinson / viva2 stativ

### Safety foot shells\*, \*\*

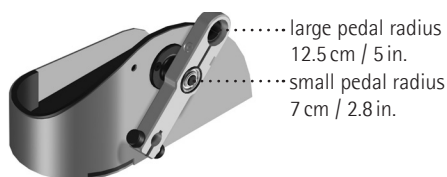


fig. 45 MOTomed viva2 / viva2 light / viva2 Parkinson

The safety foot shells (inside measurement: 12,5 cm / 5 in. width x 24,3 cm / 9 in. length) have a soft padding and a large safety side panel for a high foot and ankle protection. The safety foot shells are equipped with hook and loop straps at the ankles for a safe and easy fixation of the feet.

The foot shells can be equipped with an additional hook and loop strap for the forefoot or alternatively with the accessory *Self-operating foot holders (item no 506.000)* in case a stronger fixation is needed.

page 47



The foot shells can be adjusted to the user's needs, e.g. with outward rotation, adjustable height, adjustable width ...

page 78 The MOTomed team is happy to be of service to you.



In areas with high hygienic demands we recommend to use the *plastic coated safety foot shells (accessory, item no. 152.000)*.

### Leg guides with calf shells\*\*

The leg guides with calf shells are formed in order to enable an easy fixation. Due to their flexible shape they can easily be adjusted to the lower leg.

The calf shells need to rest against the calves (fig. 45/46) for an optimal guidance and hold of the legs. Loosen the wing screw and adjust the height according to the user's physique.



Make sure that the minimum insertion of 3 cm / 1.2 in. is maintained. As soon as you have fixed the feet into the foot shells, you need to wrap the hook and loop straps around the calf.

Make sure the hook and loop straps are securely wrapped around the calves (fig. 46).

hook and loop.....  
calf shells.....  
leg guides.....  
wing screw.....

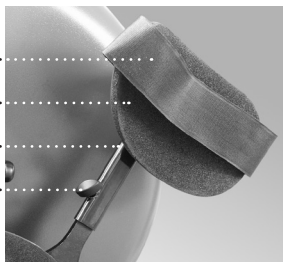


fig. 46/47

If the wing screws become loose, noise will occur. Please tighten the wing screws.

## Self-operating foot holders\*\*

The self-operating foot holders help you to fix and loosen your feet easily and independently.

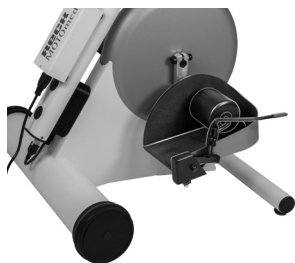


fig. 48

Open the foot holders and insert your feet. After that lift the foot holders up and then aside, make sure the foam rolls are positioned properly.

Lastly, lock it with the operating lever (feel a slight pressure).

### Adjusting the spring pressure of the foam roll

The pressure of the foam roll can be adjusted by tightening (counter-clockwise) or loosening (clockwise) the set screw at the bottom of the foot holder.

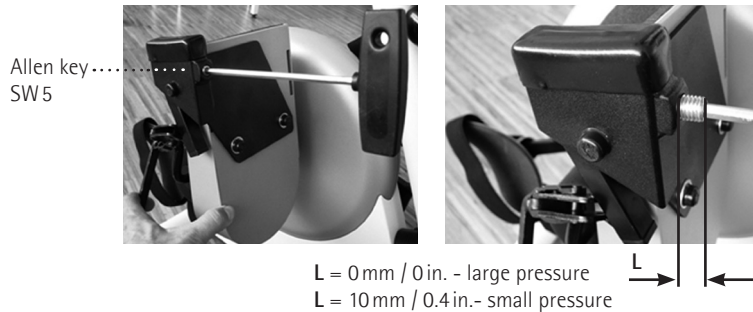


fig. 49/50

The position of the set screw must not exceed 10 mm / 0.4 in.!

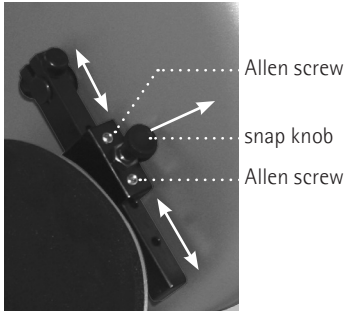
### Pedal radius quick adjustment\*\*

With the pedal radius quick adjustment, you are able to adjust the range of movement/pedal radius of the foot shells. The pedal radius is adjustable on both sides in four levels and can also be set between those levels if required.

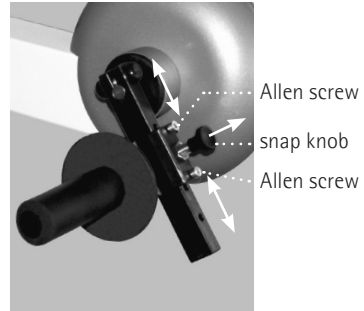
Please follow these steps when changing the pedal radius:

- page 26/27
1. Pull the mains cable to prevent unwanted power-on during the pedal radius adjustment.
  2. Loosen both Allen screws with the Allen key SW 4.
  - 3a. After loosening the Allen screws you can pull the snap knob to set the foot shells at any one of the 4 positions / levels.

- 3b. Stageless adjustment: Using the Allen screw, the foot shells / the handles can be set at any position on the pedal crank.
4. Adjust the other foot shell / the other handle accordingly.
5. Please make sure the pedal radius is matching on both sides.
6. Plug in the MOTomed.



Pedal radius quick adjustment  
(arm training)



Pedal radius quick adjustment  
arm/upper body trainer



Loose Allen screws may cause noise. After tightening the Allen screw the noise should cease. We recommend tightening the Allen screws on a regular basis.

## Ankle joint control with fix bar scale\*\*



fig. 52

The fix bar scale enables an exact and repetitive adjustment of the ankle joint movement. The left and right side can be adjusted independently from each other. Please carefully adjust the range of motion.

In general you should adjust the ankle joint control to a low motion range when beginning your training and increase it only slowly. Please avoid overstraining. Consult your doctor and therapist before using the ankle joint control in order to find an optimal range of motion. Some measurement data may show an unclear reading on the display due to the use of the ankle joint control.

### Arm/upper body trainer active/passive\*\*\*



fig. 53

A detailed description of the arm/upper body trainer is in chapter 4 on page 37.

### Forearm shells with arm cuffs

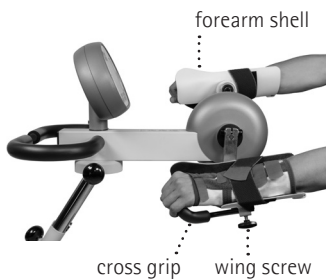


fig. 54

The forearm shells can only be used in combination with the *arm/upper body trainer (item no. 250.000 and 251.000)*. In order to allow some lateral mobility for the forearms, the shells have a pivot for horizontal movement.

The position of the cross grip/hand rest of the forearm shell can be adjusted in all directions by loosening the wing screw (please ensure a minimum insertion of 2.5 cm / 1 in.). Securely retighten the wing screw. The grip range for forearm shells consists of three different models: *Cross hand grips (item no. 560.000)*, *ball shaped hand rests (item no. 558.000)* and *vertical hand grips (item no. 559.000)*.

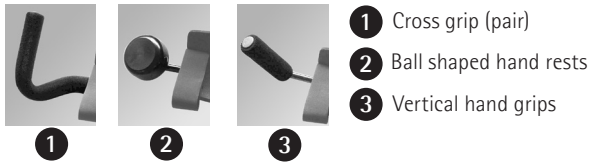


fig. 55



It is important to make sure that the hands (and fingers) are fixed in a way that they are not touching the pedal cranks. Training with forearm shells **may only be done under supervision**. In order to retrofit the forearm shells, please open the Allen screw at the ball bearing. You can find an Allen key at the bottom of the device. Do not forget to tighten the Allen screw again after attaching the forearm shells.

page 27

## Hand fixation with wrist cuff

The hand fixation with wrist cuff enables quick and simple attachment of weak or paralyzed hands to the arm/upper body trainer, the handlebar, or any other handle.

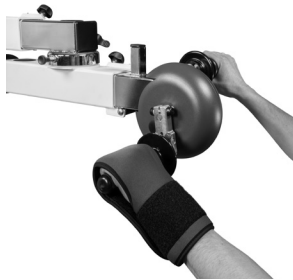


fig. 56

The wrist cuff is available in three different sizes:

- Adults (item no. 562)
- Young adults (item no. 562J)
- Children (item no. 562K)

## Pedal radius quick adjustment (arm training)

You can find a detailed description of the pedal radius quick adjustment on page 48.

## Accessories MOTomed gracile12

### Pediatric safety foot shells\*

The pediatric foot shells (inside measurement: width: 10.1 cm / 4.2 in., length: 21.7 cm / 8.7 in.) are softly padded and have a large side panel for foot and ankle protection.

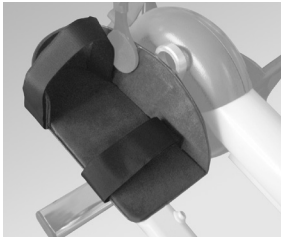


fig. 57

The pediatric safety foot shells come with hook and loop straps at the ankle and toe level. This way the feet have a safe and steady position in the foot shells. This is particularly important for people with (complete) paralysis and for people with spasticity.

The high side panel supports fixing the feet and protects against the rotating pedal crank at the same time.

The specific padding allows for a comfortable and slip-proof training.



**The foot shells can be individually adjusted to the user's needs, e.g. with outward rotation, height adjustment, etc.**

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## Pediatric leg guides with calf shells\*

calf shells.....  
hook and loop .....  
leg guides .....  
wing screw.....

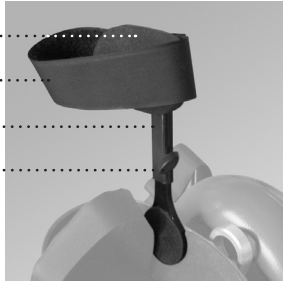


fig. 58/59

You can find an extensive description of the leg trainer on page 46.

## Self-operating foot holders for pediatric safety foot shells

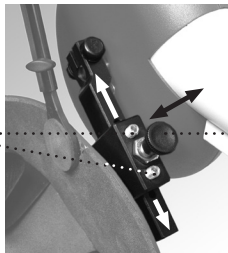


fig. 60

You can find a detailed description of the self-operating foot holders on page 47.

## Pedal radius quick adjustment for pediatric foot shells

Allen screws.....



.....snap knob

fig. 61

The pedal radius can be adjusted infinitely or into three different stages (5,5/8,0/10,5 cm | 2.1/3.1/4.1 in.). You can find a detailed description of the pedal radius quick adjustment on page 48.



If the pedal radius quick adjustment is attached to the device the distance between the foot shells grows from 12 cm / 4.7 in. to 15,5 cm / 6.1 in.

## Arm/upper body trainer active/passive



fig. 62

You can find a detailed description of the arm/upper body trainer in chapter 4 on page 37.

## Pediatric forearm shells with wrist cuffs

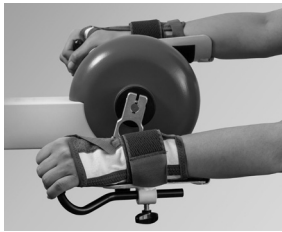


fig. 63

You can find a detailed description of the forearm shells on page 50.

## Pediatric wrist cuff



fig. 64

The wrist cuff is available in three different sizes:

- Adults (item no. 562)
- Young adults (item no. 562J)
- Children (item no. 562K)

You can find an extensive description of the leg trainer on page 47.

## Accessories MOTomed letto2 / letto2 leg/arm

### »TrainCare comfort« leg guides with calf shells

The leg guides »TrainCare comfort« (fig. 65) support the lower legs and prevent them from unintentional moving to the side, as they also prevent the knee joints from overstretching and blocking.



For paralyzed or comatose patients it is absolutely vital to use the »TrainCare comfort« leg guides.

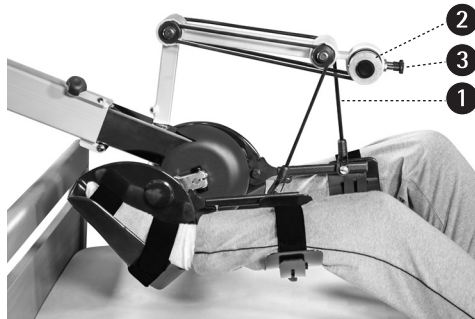


fig. 65

The support strength level of the leg guides »TrainCare comfort« can be individually adjusted on each leg guide separately, thus differing from one side to the other. Stronger weight support is necessary, depending on the position of the user or the weight of the legs. To increase the support, please wind up the expander ① by turning the expander coil ② until the expander is fastened strong enough to prevent an overstretching of the knees.

Pulling the snap-knob ③ decreases the tension of the expander again. Please hold firmly the corresponding expander coil ② and pull slowly the snap-in knob.

With no expanders, the leg guides (incl. inserted legs) are at risk of dropping down abruptly.



Depreciation caused by frequent use may cause the expanders **1** of the leg guides »TrainCare comfort« to break, if so, this may lead to injuries. Therefore, please inspect the expanders regularly and replace them if required.



Please make sure that the expander cords run through the plastic coils as indicated (fig. 66). Expander cords that do not run through the plastic coils will wear-out very quickly and pose a safety risk.

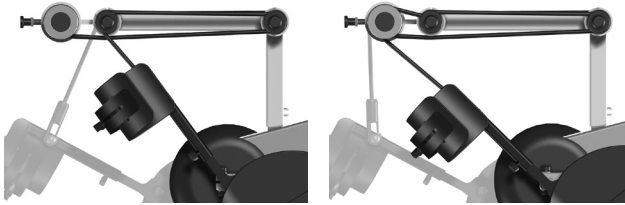


fig. 66 correct

wrong



The manufacturer and its distributors do not assume liability for damages caused by negligence of maintenance.

The calf shell rotary adjustment (fig. 67) is individually settable on the right or the left side.

The rotary adjustment can be set to offer best possible hold to the patient's legs while training with the MOTomed letto2. This prevents lateral sliding of the legs.

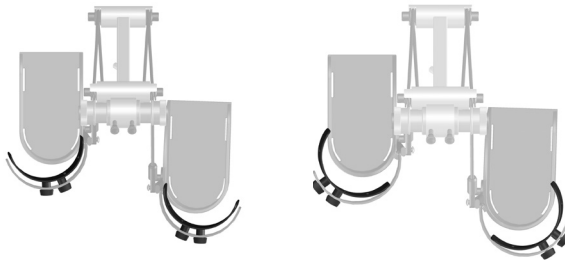


fig. 67

To set the rotary adjustment stop the movement of the MOTomed letto2. Open the two fixing screws on the backside of the radial adjustment (fig. 67). Set the angle of the rotary adjustment on both sides and retighten the fixing screws.

Before restarting the MOTomed letto2, make sure the set angles offer sufficient leg hold. Lateral sliding of the legs is to be avoided.

## Expandable chassis

For an ideal positioning ① use the lever of the expandable chassis to adjust its width to fit all common bed models ② or therapy chairs.



fig. 68

When the ground fixation is open, slightly pull ① the lever in your direction and shift it to the left side to expand the width ② of the track, or to the right side to reduce it. Snap the lever into a desired position and bring the device to the ③ bed unit in a desired training position.



For security reasons, constricting the track width inward on the MOTomed letto2 leg/arm model is not possible.

## Knee bending adjustment with manual thumb wheel\*\*\*\*

The distance between **1** the rotary arm and the user can be adjusted by thumb wheel. That allows for adjustment of the knee bending during the training.

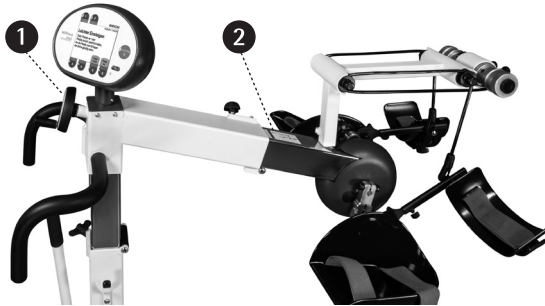


fig. 69

Rotating **1** to the right side leads to more bending while rotation to the left side leads to more flexion. You can find a scale on the horizontal arm **2** that shows the different levels of knee bending. At first, please set the rotary arm on the start position.

## Extended pivot arm for operating panel

Those users capable of training independently can profit from the interactive trainings feedback on the MOTomed display (biofeedback).

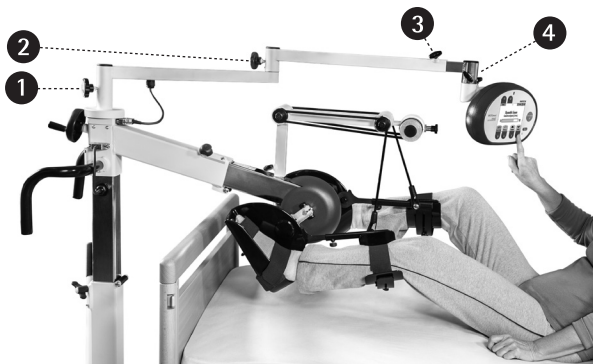


fig. 70

Loosen the fixing screws ①/②. Position the operating panel into the right position and tighten the fixing screws again. If the pivot arm is too short, loosen the fixing screws ③ and pull-out the pivot arm to extend it for up to an additional 30 cm / 11 in. Loosening the fixing screws ④ allows for tilting up the operating panel.



The use of an operator remote stop is mandatory if the device is not equipped with a pivot arm for operating panel, and if the training is unsupervised. The user needs to be able to independently interrupt or discontinue the training session.

### Hydraulic height adjustment\*\*\*\*

For a comfortable and effortless height adjustment by foot pedal ① (standard equipment on the MOTomed letto2 leg/arm model).

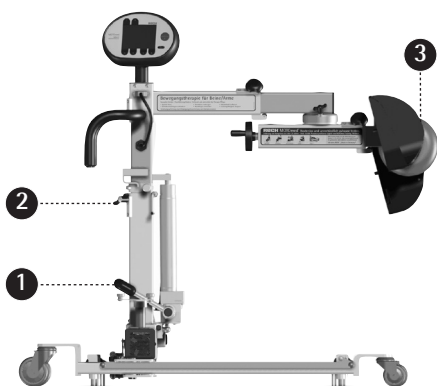


fig. 71

Loosen the fixing screw at ② the vertical base arm. The rotary arm is hydraulically pumped up to a desired position by repeatedly activating the ③ foot pedal ①. To lower the rotary arm please lift the foot pedal ① a little. Then retighten the fixing screw ② at the vertical base arm.

## Forearm shells with wrist cuff (pair) incl. quick release clip system for forearm shells, no tools required

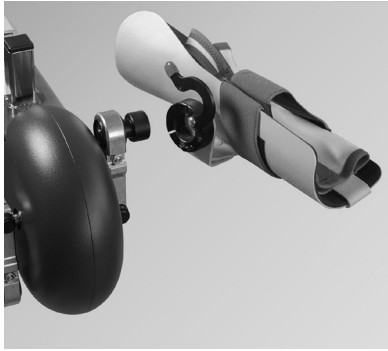


fig. 72

You can find an extensive description of the forearm shells on page 47.

## Hand fixation with wrist cuff



fig. 73

You can find an extensive description of the hand fixation with wrist cuffs on page 47.

## Further Accessories MOTomed

### Pulse and resistance level control (Cardio 16)\*\*\*\*\*

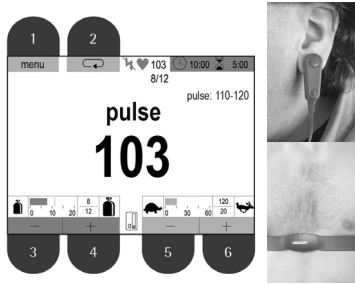


fig. 74

Pulse control **with ear clip or POLAR chest belt** monitoring heart rate with current pulse of 60–180 beats per minute. Resistance level control is given. Not suited for diagnostic purposes.

### General information



page 78

Only the use of original parts of the RECK Company is permitted. Additional accessories are shown in the current product overview. Individual product adjustments are available upon request. Contact the MOTomed service team if you are interested in special product customization.

If the user is cognitively or physically limited, and unable to determine the need for additional parts, a care giver is to make the adaption prior to starting the training.



- 64 **Safety instructions for troubleshooting**
- 64 **The MOTOMed runs unevenly**
- 65 **The MOTOMed makes noises**
- 65 **The MOTOMed does not work at all or operating panel does not react**
- 65 **The MOTOMed stops during a training and gives an error message**
  - 65 Simple error
  - 65 Electronic error
  - 66 Overview of most important error messages

## Safety instructions for troubleshooting

Only authorized qualified personal is allowed to carry out repair works on the MOTOMed. For security reasons, please pull the mains cable from the outlet before starting the maintenance.

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In cases of unlisted malfunctions, or if you have any questions, please refer to the RECK customer service department or to an authorized MOTOMed representative.

## The MOTOMed runs unevenly

Please check the following points:

1. Is the pedal radius set on the same level on both sides?
2. Is the pedal radius set too wide for the level of mobility of the operator? This leads to an uneven user-specific run.
3. Please check the seating position and posture of the user. You should sit upright and in a straight alignment with the MOTOMed. When training from the bedside, the head part of the bed should be situated a little upward and the user should lay in straight alignment to the MOTOMed. The distance between you and the MOTOMed should be such that the legs are not stretched completely at any time.
4. With hemiplegic patients, pedal movement may be uneven due to the unevenly affected body sides (especially when using a low gear).
5. In case of uneven run without feet inserted, authorized qualified personnel is to examine the drive belt.
6. A range of motion of the ankle joint that is set too far can cause an uneven run – please reduce the range of motion.
7. An uneven run can possibly be corrected by certain software adjustments. You can ask the MOTOMed service team for these instructions.

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## The MOTomed is making noises

Please check the following points:

- page 46, 53, 55  
page 48, 52, 53
1. Are the wing screws of the leg guides securely tightened?
  2. Are all Allen screws of the pedal radius quick adjustment tightened correctly?

## The MOTomed is not working at all or the operating panel does not react

Please check the connection of the operating panel. The mains plug needs to be properly connected to the socket by the external power supply. Please also verify that the power supply connection by the external power supply to the MOTomed device is correct. Please also check the functionality of your wall socket (by plugging in another electronic device).

## The MOTomed stops and generates an error message

### Simple error

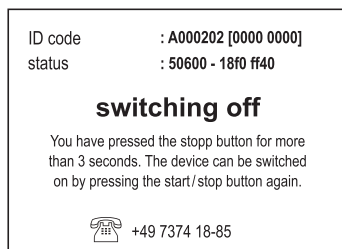


fig. 75

example of display of a simple error

In most cases a simple error, can be cleared by pushing the »start/stop«-button (8) and restarting the device.

The individual device settings will not be lost. If the restart did not solve the problem, please disconnect the MOTomed from the power supply (disconnect the mains) for a short while and start the MOTomed again.

### Electronic error

Any electronic error requires disconnection of the power supply (plug out the MOTomed). The individual device settings will not be lost.

page 78 Please use the generated error code to detect and follow the instructions to fault resolution within the following overview of error descriptions. If the error occurs repeatedly, please contact the technical support at the RECK Company or an authorized local partner.

### Overview of most important error messages

The most important error codes are listed below. Using the displayed error codes from the display of the device, you will find information and solutions for the problem in this chart.

page 78 If the displayed error code is not listed and a restart or a short disconnection from the mains does not solve the problem, please contact the technical support department at the RECK Company or an authorized MOTOMed representative.

Error code	MOTOMed reaction	Possible cause	Hints for troubleshooting
A000140 »overheating«	Error message appears during the training.	Overheating of device due to: - Blocking of pedal crank. - Continuous training at a high muscle tone. - Defect temperature sensor.	Disconnect the mains cable and allow for a device cool down of at least 15 minutes. Thereafter reconnect the device.
A000150 »Motor blocking«	Error message appears during the training.	- With activated SpasmControl feature more than 15 spasms are detected subsequently and consecutively. - If the motor is blocking for longer than 60 seconds with turned off SpasmControl.	Check if the pedals are moving freely. Restart the device by pushing the red start/stop button again. In case of high muscle tone, you can try increasing the motor power.
A000202 »Security stop«	Error appears after pushing the start / stop button.	The stop button was pushed for 3 seconds or more.	Restart the device by pushing the red start/stop button again. Alternatively, you can disconnect and reconnect by pulling the mains cable.

# Cleaning, Maintenance, Recycling

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## Cleaning



**Before cleaning the MOTomed, the device must be unplugged from the mains (electric outlet) so that the power supply is completely disconnected.**

The MOTomed is suitable for moist wipe disinfection with common disinfectant cloths.



**Never use spray disinfection or disinfection showers as this could damage the sensible electronic parts as well as the unsealed flexible parts!**

There is no general cleaning protocol.

Cleaning must be made according to necessity and hygiene requirements.

If several persons use the MOTomed, parts that may get in touch with sensible body areas (e.g. open wounds, risk of decubitus) must be cleaned regularly and disinfected with a common disinfectant.

Never use caustic, corroding or solvent cleansing agents or such that contain chlorine. Pay attention to not damaging the stickers on the MOTomed.



**For cleaning the acrylic glass of the operating panel, please make sure to use acrylic glass suitable detergents only!**

It is recommended to use a soft, moist cloth to clean the acrylic glass of the operating panel.



Please contact your MOTomed representative customer service team if you need a detailed cleaning and disinfection manual with recommended cleaning detergents and disinfectants.

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## Maintenance

There is no regular maintenance service required for the MOTOMed. Technical safety checks that comply with the medical product operator regulation (Medical Devices Act) must be carried out at least every two years. Please pay attention to follow the most recent version of this regulation DIN EN 62353 VDE 0751,-1:2008.

page 87 If the MOTOMed is used for different patients within the provision system of the health insurance, the visual inspection according to chapter 12 has to be carried out. Worn parts (i.e. foot shell foam, handles, expanders) should be replaced.

## Recycling

The MOTOMed has a high quality all-metal construction: it is long lasting, environmentally compatible and recyclable. Users are required to dispose of such used electrical and electronic devices in accordance to EC regulations 2002/96/EG-WEEE (Waster Electrical and Electronic Equipment).

page 78 Please contact your MOTOMed representative for any questions.

# Technical Specifications, Symbols

## Dimensions and Weight (basic model)

MOTOmed models	measurements (outer dimensions in cm and in. min./max.)			weight (in kg/lbs.)
	length	width	height	
viva2	60/66cm 23.6/25.9in.	59cm 23.2in.	96/106cm 37.8/41.7in.	31kg 68.2lbs
viva2 with arm/upper body trainer	61/87cm 24/34.3in.	59cm 23.2in.	105/117cm 41.3/46.1in.	41kg 90.2lbs
viva2 light	60/66cm 23.6/25.9in.	59cm 23.2in.	96/106cm 37.8/41.7in.	31kg 68.2lbs
viva2 light with arm/upper body trainer	61/87cm 24/34.3in.	59cm 23.2in.	105/117cm 41.3/46.1in.	41kg 90.2lbs
viva2 Parkinson	60/66cm 23.6/25.9in.	59cm 23.2in.	96/106cm 37.8/41.7in.	31kg 68.2lbs
viva2 Parkinson with arm/upper body trainer	61/87cm 24/34.3in.	59cm 23.2in.	105/117cm 41.3/46.1in.	41kg 90.2lbs
viva2 stativ	61/87cm 24/34.3in.	59cm 23.2in.	105/117cm 41.3/46.1in.	33kg 72.6lbs
gracile12	68/85cm 26.8/33.5in.	55cm 21,7in.	76/106cm 29.9/41.7in.	25kg 55lbs
gracile12 with arm/upper body trainer	60/88cm 23.6/25.9in.	55cm 21,7in.	99/114cm 38.9/44.9in.	33kg 72.6lbs
letto2	118/129cm 55.5in.	70/100cm 27.6/39.4in.	124/155cm 49.2/61in.	65kg 143lbs
letto2 leg/arm	118/141cm 55.5in.	70/100cm 27.6/39.4in.	125/155cm 49.2/61in.	84kg 184.8lbs

8

## Pedal radius

MOTOmed models	Pedal radius [cm and in.]	
	Leg trainer only	Arm/upper body trainer
viva2, viva2 light, viva2 Parkinson	7/12,5cm   2.8/5in.	10cm   3.9in.
viva2 stativ	—	10cm   3.9in.
gracile12	3,5/7cm   1.4/2.8in.	3,5/7cm   1.4/2.8in.
letto2	7cm   2.8in.	—
letto2 leg/arm	7cm   2.8in.	7cm   2.8in.

## Speed range

MOTOmed models	Speed range [rpm] passive/aktive	
	Leg trainer only	Arm/upper body trainer
viva2, viva2 light, gracile12, letto2 leg/arm	0-60 / 5-120	0-60 / 5-120
viva2 stativ	–	0-60 / 5-120
letto2	0-60 / 5-120	–
viva2 Parkinson	0-90 / 5-120	0-90 / 5-120

## Adjustable torque

MOTOmed models	max. torque [Nm]	
	Leg trainer only	Arm/upper body trainer
viva2, viva2 light, viva2 stativ	1-13	1-6
viva2 Parkinson	1-10	1-6
gracile12	0,5-6	0,25-4
letto2, letto2 leg/arm	1-6	1-4

## Power requirements (mains voltage, mains frequency)

external power supply	100-240 V~/max. 120 VA
PMP120F-17	47-63 Hz
type of battery*	CR1220

## Power consumption

in stand-by	max. 7 VA or 22 VA
-------------	--------------------

## Ambient conditions for use

temperature	+5 to +40° C/41 to 104° F
humidity	15% to -93%, relative humidity, non condensing
air pressure	700 hPa - 1060 hPa
operation height	< 2000m/6 600 ft. above sea level

## Ambient conditions for storage and transport

temperature/	-25° C without humidity control
humidity	relative humidity; +70° C at relative humidity of up to 93%, without condensation
air pressure	not applicable

## Pulse values

Min/max	60-180 beats per minute
Exactness of the measurements	± 10%
	Not qualified for diagnostic purposes!

**System of protection** IP21

**Classification** Protection class II, Type BF

**According to MPG** II a  
**According to MDR** II  
**(SOR/98-282)**

**NBOG Code** 1108 active rehabilitation devices  
**FDA product code** BXB - exerciser powered

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**Max. tolerable user weight** 135 kg / 297.6 lbs  
for gracile12: 90 kg / 198 lbs

\* battery only available if the optional chip card reader is installed.  
Battery exchange may only be carried out by authorized persons!

The handles are PVC coated (depending on the model). Pulling the mains plug guarantees an all-phase power switch off.

## Symbol description - in general



Device protection class II



Type BF application parts

Applied parts which are in contact with the user during standard use and which are therefore subject to special safety criteria. The following accessories (type BF) may be attached to the MOTomed and must be maintained on a regular basis:

- operating panel
- handlebar
- handles
- foot shells
- leg guides with calf shells
- operator remote stop  
(only for MOTOmed letto2 / letto2 leg/arm)

IP21

The MOTOmed complies with the safety class IP21, against the ingress of solids or liquids.



Follow the instruction manual.



The MOTOmed meets the medical device 93/42/EWG standards.



Year of manufacture of the MOTOmed (e.g. 2014)



Pay attention to proper disposal directions  
WEEE-reg.-no. DE 53019630.



Serial number of the device



Do not push, lean on, or pull the MOTOmed sideways.



Do not step inside the MOTOmed and do not train in a standing position.



Do not allow any liquids on the MOTOmed:  
Use the device only in a dry state.



MEDICAL - GENERAL MEDICAL EQUIPMENT  
AS A ELECTRICAL SHOCK, FIRE AND  
MECHANICAL HAZARDS ONLY IN  
ACCORDANCE WITH ANSI/AAMI  
ES60601-1 (2005) and CAN/CSA-C22.2  
No. 601601-1 (2008)  
4RN9

The MOTOMed viva2/gracile12 is approved by the UL test institution according to the current medical standard 60601-1 3rd edition.

## page 29 Symbol description – connectors of the operating panel



insert identification card



serial interface



remote control



heart rate



maximum user weight for the gracile12:  
90 kg/198 lbs

## Expected durability

There is no general durability as this depends on operation surrounding, frequency of use and type of use. Therefore the expected durability is considered as the period of time ever since the initial operation. This service life is set to 10 years, provided the technical specifications of the MOTOMed models and accessories do not say otherwise.



# Warranty

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In accordance with legal regulations, the RECK Company will provide warranty coverage on metal and manufacturer malfunctions.

## I. Warranty contents

During the warranty period, the company RECK-Technik GmbH & Co. KG, medical division, grants replacement of defective parts of the MOTOMed at no cost or repair of the device at the company premises or by an authorized MOTOMed representative/technician at no cost, provided that:

1. The claim is not about wearing parts (e.g. Velcro straps).
2. Previous maintenance (servicing, inspection, repair) was conducted only by a RECK service agent or the RECK Company in a proper manner.
3. No modifications have been made on the MOTOMed.
4. The MOTOMed has been used in accordance with the instructions and safety instructions listed in the instruction manual and has not been used inappropriately.
5. The failure is not due to wanton destruction.
6. The warranty claim is within effective time frame with proof of purchase.
7. The MOTOMed was delivered and obtained by the RECK Company or an authorized representative.

## II. Warranty Limitations

Warranty claims are only valid through the representative / distributor from which the MOTOMed was purchased.

In service cases please contact your representative / distributor.

If the device was purchased through a third person (e.g. private individual), this claim expires.

### III. Other

By request of the RECK Company, defective components replaced due to manufacturer or material defects are to be returned to the RECK Company after the repair.

Replaced parts become property of RECK-Technik GmbH & Co. KG.

In case of part delivery on warranty, an extension of warranty period does not come into effect.

# Service

page 78 Should you have any questions we will be happy to assist you. Please call us - your questions and suggestions are always welcome. We will gladly return your call. Please have the serial number (SN) of your MOTOmed right at hand. You can find it on the label on the large front tube of your MOTOmed.



fig. 76

You can find additional information about your MOTOmed in the setup menu, point 5 »information«. This information may be useful to your MOTOmed representative.

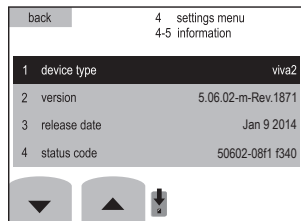


fig. 77

device type: preset device type (viva2, viva2 light, viva2 Parkinson, viva2 stativ, gracile12, letto2, letto2 leg/arm)  
 version: software version of control panel  
 release date: software release date  
 status code: current settings and device state, this code is required for error designation

### **Your service contact for Germany**

phone 07374 18-28  
fax 07374 18-80  
e-mail [service@MOTOmed.de](mailto:service@MOTOmed.de)

or give us a call, free of charge from Germany

### **Your international service contact**

phone +49 7374 18-502  
phone +49 7374 18-531  
fax +49 7374 18-480  
E-Mail [service@MOTOmed.de](mailto:service@MOTOmed.de)

The RECK company places high value on constant optimization of its products. That is why we want to hear about your experiences with the MOTOmed.

We would appreciate your feedback. Please contact us at the telephone numbers above, or by writing an e-mail or fax, either to us directly, or your local MOTOmed representative.

### **Recommend the MOTOmed!**

If you have friends or family to whom you would like to recommend the MOTOmed, we are always happy to send out information about our various MOTOmed Movement Therapy Devices - at no cost and non-binding.

# Safety Precautions

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## **Overall suggestions**

The first operation of the MOTOMed must always be supervised by a qualified person giving instructions. Assessment of MOTOMed training in regard to your health situation as well as the time, duration and intensity of the training periods have to be discussed with your doctor or physiotherapist before you start the training. Please pay attention to the preset adjustments of the selected MOTOMed training program when powering on.

Doing the training or inserting/ removing the feet/arms, should never be conducted without supervision by qualified persons if you cannot determine whether the user comprehends the functions and operations of the MOTOMed, and is individually incapable to reach, operate, and turn off the MOTOMed (particularly the arm/upper body training with forearm shells). Supervision during the training is recommended at all times.

During the training, it needs to be guaranteed that no unauthorized persons (visitors, assistants, etc.) make changes to the bed unit, wheelchair, chair, or the MOTOMed device.

If the health condition of a patient does not allow MOTOMed training at the maximum speed of 20 rpm, speed must be reduced after starting the training and be saved in starting parameter.

The MOTOMed training has to be adapted to the individual health condition of the patient.

Training suggestions by the manufacturer or its distributors are given without guarantee and are non-binding. No exact instructions can be given for the use of the MOTOMed in different health situations. This applies as well to details of the training functions as their settings have to be adjusted to age, height, individual situations, post-surgical health conditions and the general fitness of the user.

In case of risking injuries to your cords, ligaments, joints, bones etc. you can reduce the motor power according to your needs (see operation manual that comes with the device).



You can see the pre-adjusted motor power value in the start screen of your MOTOmed (does not account for MOTOmed viva2 light).

Depending on the medical condition, the leg position and the setting of the *leg guides* training is not recommended in the occurrence of skin irritation, pressure marks or other injuries. However, training may resume with a doctor's or therapist's consent, and by meeting the necessary safety precautions (insertion of buffer material etc.).

You must consult your doctor or therapist, or assume the responsibility if you train on your own and have open wounds or are at risk to get pressure sores (e. g. due to sensitive skin tissue), particularly those body parts touching the therapy trainer (e. g. legs). The manufacturer does not assume liability for injuries caused by neglect of instructions.

There is an increased health risk if operating the device under the influence of alcohol, medication, or drugs. We advise against such use.

If experiencing any pain, nausea, circulatory weakness, the training should be discontinued right away and a doctor should be consulted. The manufacturer and its distributors do not assume responsibility for improper or over intensive use.



Users with body weight of 135–250 kg / 297–551 lbs., please contact the manufacturer for stronger foot shells in order to prevent damage to the MOTOmed. With MOTOmed gracile12 from 90 kg / 198,4 lbs (up to max. 150 kg / 330,7 lbs). Due to the higher strain some functions might not work correctly (even run, active/passive detection, symmetry training, ...).

Only put your feet into the foot shells while seated (or laying down). Never step in with full force while standing upright. Do not put more than 25 kg / 55 lbs (viva2) or 15 kg / 33 lbs (gracile12) (at a 7 cm / 2.8 in. pedal radius) of weight onto either pedal.

One-sided training, either with only one leg/arm or with big differences in weight of the limbs should be done only under supervision of a person in charge and only in a higher gear.

If you use a *magnet switch (item no. 215,000)* to switch off the MOTOMed, pay attention the neck band does not get tangled in the pedal crank, as this may lead to injuries.

Before starting the training with a device equipped with an *acoustic switch (item no. 216.000)* please ensure that the acoustic switch is not the only possible method to stop the MOTOMed.

### **Arm/upper body training**

During arm/upper body training the feet have to be taken out of the foot shells.



When loosening the fixing screw, the arm/upper body trainer might tilt down a bit due to its own weight. Therefore open the fixing screw slowly and hold the arm/upper body trainer firmly in its position. When adjusting the arm trainer to its position, the arms must not be fixed to the cranks.

While height adjusting the arm trainer, pay attention to sufficient legroom. When using the leg trainer, the legs must not collide with the arm trainer.

Safety precautions in terms of upper extremity ergometry:  
Especially with young children the bone stability is pretty low which easily can lead to fractures or so called bead fractures (incomplete fractures). In order to reduce the risk of such injuries, make sure the hand joints are properly supported during upper extremity ergometry. Make sure always to use the hand, hand joint and arm accessories recommended by your facility. Also make sure the child always is sitting upright viewing the movement trainer and avoid rotating movements of the forearm and hand joints.

### **MOTOmed letto2 / MOTOmed letto2 leg/arm**

page 57 If the MOTOmed letto2 is equipped with an *expandable chassis (accessory, item no. 160,000)* transport is only permitted if rails are in alignment, in order to prevent the MOTOmed letto2 from tilting over.

Before starting the training, safely position the legs of the user. Once the MOTOmed letto2 has been positioned to the bed unit, do not operate the electrical or the manual height adjustment at any point after that.

Position the legs into the safety foot shells only when the user is laying on the back.

Do not use the MOTOmed from a standing position.

Do not reach for the pedals, change the pedal radius, or do any other adjustments while the device is in running mode.

When training on the MOTOmed please make sure a distance is kept between the operator and the MOTOmed so that at maximum range of motion both knee joints are never fully stretched.

If the knee joints get into an overstretched position they may block the rotation of the pedals. Overstretching the knee and hip joints may also cause spasticity (cramps).

page 39/43 The horizontal arm should be moved closer towards the user if the knee joint of the user is fully stretched.

page 55 For paralyzed or comatose patients, the inclusion of the accessory *»TrainCare leg guides comfort« (item no. 168.000)* is required. These leg guides prevent the overstretching of the knee joints, or shifting sideways of the legs.

page 78 If you have any doubts regarding the proper power connection of the MOTomed or any other inquiries, please get in contact with our MOTomed service team.

### **Safety and technical suggestions**

Never place full weight on one side of the MOTomed. The handle bar is only for holding onto the MOTomed with the hands during operation. Supporting your whole body to the MOTomed or even pulling up while holding to the handlebar or the arm trainer with the whole body weight or even partly should be strictly avoided. This could make the device tilt to the front or to the side and could cause injuries.

The MOTomed must not be moved while legs or arms are inserted or secured to the device.

While the pedals/foot shells are moving, neither the user nor any other person should make any mechanical changes to the MOTomed (pedal radius, height adjustment of handlebars or arm/upper body trainer etc.). Always make sure to pay attention to the rotating pedals when operating the buttons of the operating panel.

Never try to grab hold of any moving parts!

Please train only after you have switched on the MOTomed.

If the red »start/stop« button ⑧ fails to stop the MOTomed, immediately adjust the speed to 1 rpm and finish your training right away, or unplug the mains from the outlet. You can train again as soon as the malfunction is been eliminated.

In case of changes to the pedal length, please note that the rate of force on the cranks may change.

- page 31/32 During transport the wire cable must be detached from the power supply or must be wound up to the cable reel (letto2 / letto2 leg/arm).
- page 3-7 During transport, the external power supply can be fixed to the transport holder.

Children must not use the MOTomed without supervision.

Keep animals away from the MOTomed.

Do not leave the packaging material laying around. Plastic foils/ -bags, foam parts etc. can be hazardous toys for children.

- page 95 Being an electronic medical device the MOTomed complies with special EMC safety standards in regard of electromagnetic compatibility. During installation and operation the EMC instructions must be followed.

- page 27/83 Please use the device only with mains supply PMP120F-17 (fig. 78).



fig. 78



For safety reasons the external mains supply must not be attached to the transportation mounting during training but must be placed on the floor beside the MOTOMed.

In order to avoid fire hazard or electrical shock the MOTOMed must never be operated if the casing has been removed. The MOTOMed must never be operated in a wet or humid environment. The MOTOMed must never be operated by any unqualified person and metal objects must never be inserted.



Portable and mobile communication devices, like mobile phones or amateur radio stations can influence the functionality of the MOTOMed. Such devices carry the symbol illustrated on the left side and can thus be recognized.

The MOTOMed is a highly specialized movement therapy system for therapeutic use. Thus, it is not suitable for high-performance sports or designing of diagnosis concepts. In this case we recommend approved and calibrated medical ergometers or treadmills. Please note that due to inexactness of measured values, the *pulse control Cardio16 (item no. 275,000/276,000)* should not be used for automatic resistance level control with sensible cardiac patients.

In order to avoid overheating of the casing you must not expose the MOTOMed to long-term direct solar radiation. Further you must not block actively against the passive motion as this could damage the motor and the electronics.

Due to the thermal output, the surface temperature of the operating panel may be up to 11° C higher than the surrounding temperature. Even at the maximum surrounding temperature (40° C / 104° F) and without direct radiation this may cause the buttons to heat up to a temperature of 51° C / 124° F. User who are at risk for injuries at this temperature should protect themselves accordingly.

The MOTOMed must not come into contact with water or steam. If an object or liquid get into the MOTOMed you must have it checked by qualified personnel before you can continue to use it.

Be sure to keep oil away from the drive mechanisms at any time.

In commercial facilities, the safety requirements of the Association of Commercial trade for electrical installations and equipment must be observed.

Repairs may be affected only by or under direction and supervision of individuals (qualified personnel) whose qualified training, knowledge and experience enable them to evaluate the repair and to recognize the potential effects and hazards that might result out of the repair.

The MOTOMed must only be opened by qualified and trained persons. The device must always be unplugged from the mains socket.

Only original parts can be attached or exchanged.  
Making changes to the MOTOMed without manufacturer consent is not permitted.

In the event that you pass this MOTOMed on to another person, please also enclose this instruction manual.

Security related controls according to the medicine product operator regulation (Medical Devices Act) have to be carried out at least every second year. Please pay attention to follow the most recent version of this regulation DIN EN 62353 VDE 0751,-1:2008.

# Visual Inspection

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## Guidance for visual inspection of MOTOmed before the start of training

Your MOTOmed is a high-quality medical device and thus has been developed by by specific high safety and quality standards, in accordance to guidelines governing the production of medical devices. In compliance to legal regulations the manufacturer of a medical product is expected to provide the user with multiple safety instructions that can be found on the following pages.

Please note, the number of instructions does not suggest that the use of the MOTOmed causes a higher risk, compared to the other daily electronic devices. More so the most instructions are a result of compliance to the particularly strict medical product regulations, to ensure user safety. In the interest of our clients we gladly and consciously comply to these regulations.

Even if some instructions seem self-explanatory and unnecessary, regardlessly we would like to ask you to carefully read the following instructional pages, in order to maintain a long-lasting and high standard MOTOmed device.

Please do the visual inspection **before** the training to ensure orderly condition of the device. The following inspections are completed in a few moments.

Test step	Necessary measures in case of fault detection during visual inspection	Explanation
<b>1. Inspection of power supply and mains cable</b>		
<p>The feeder (the mains cable) is to be free from damage, e.g. abrasions, pressure points, porous and cracked spots.</p>	<p>In case of apparent damage, the feeder needs to be replaced.</p> <p>Repairing the damaged mains cable is not permitted. Therefore, you are advised to replace it with an original, tested and authorized part of the RECK Company. Therefore, please contact your RECK service partner. Therefore, please contact your RECK service partner.</p>	<p>A damaged mains cable may raise the risk of an electric shock, either through direct exposure to the damaged spot, or by connection to the MOTOMed casing.</p> <p>Therefore damaged mains cables must not be used at any time!</p>
<p>Is the feeder positioned so that:</p> <ul style="list-style-type: none"> <li>a) it is not in contact to the device?</li> <li>b) it cannot be squeezed or rolled over with other objects/devices?</li> <li>c) it cannot be tangled in the cranks?</li> <li>d) it cannot be mechanically damaged in any other way?</li> <li>e) no person can stumble over it?</li> </ul>	<p>Never use a mains cable with open wires or damaged isolations!</p> <p>The mains cable needs to be positioned so that no person can stumble over it, and any mechanical damage can be prevented.</p>	<p>A damaged mains cable may raise the risk of an electric shock, either through direct exposure to the damaged spot, or by connection to the MOTOMed casing.</p>
<p>Is the external mains supply free of visible damage?</p>	<p>If there are any visible damages to the casing of the power supply (noticeable deformations of protective casing or tears in power supply casing), please promptly disconnect the mains cable from the outlet. Do not touch the power supply casing during this process. Do not use the mains cable under such circumstances and conditions. Do not engage in any repairs. Contact your MOTOMed service partner instead.</p>	<p>If the power supply casing is damaged, the casing loses its isolation purpose and the risk of an electric shock arises. The mains cable should therefore not be reconnected to the power supply and should be replaced promptly.</p>
<p>Is the external mains supply disconnected from the transport bracket or the MOTOMed?</p>	<p>Position the mains supply so that it does not touch the MOTOMed.</p>	<p>Disconnecting and removing the mains supply of the device counts for additional safety precaution.</p>

Test step	Necessary measures in case of fault detection during visual inspection	Explanation
Is the mains plug and the mains supply freely accessible so that disconnecting from and reconnecting to the power socket can be done free of dangers?	Position the MOTOMed so that reaching and plugging out the mains plug is possible at all times.	It is repeatedly instructed in the user manual in the user manual to disconnect the mains plug prior to making any adjustments. Precondition for this is free access to the electrical socket or the mains supply.
Is the mains supply positioned so that the circulating air can cool it?	Position the MOTOMed so that the heat caused by operation is freely released into the surroundings.	During operation, the MOTOMed mains supply will warm up. To prevent heat accumulation that may cause damages to the mains supply, please do not cover the device with any objects or place it by a heater.
<b>2. Inspection of device condition</b>		
Are the used accessories free from visible damage?	Check if faulty parts can be reconditioned or if they need to be replaced.	If parts of the device are damaged, safe functionality cannot be guaranteed. Are there any visible defects at the remote control (cracks, holes in the cover), if yes, the remote control must be replaced.
Are the covers of the handles (if applicable) free of damage?	Suggested handlebar replacement by manufacturer service.	The plastic coating of the handlebar offer additional protection to the user against electrical tension.
Is the device free from debris?	Remove debris prior to operation of device and according to cleaning instructions.	The removal of debris prevents the spreading of infectious diseases.
Are the accessories fitted and suitable for the user?	Should the optionally available arm cuffs be too small or too big, please replace those with matching accessories. Accessory parts need to be chosen and used with no disadvantages occurring, e.g. no rubbing on the skin.	Improperly chosen accessories can result in an increased risk of injury and a failure to perform the intended purpose. Please do this assessment prior to starting the training. If the user is unable to independently do the assessment, the caregiver in charge must do the evaluation instead.
If the device is equipped with a arm-/upper body trainer, or if the handlebar is heavily used: Is the small front stand pulled out sufficiently?	Pull out the small foot stand sufficiently. Pay attention to keeping a minimal insertion of 10cm/4in.	Pulling out the small front stand prevents tilting forward of the device.

Test step	Necessary measures in case of fault detection during visual inspection	Explanation
Are all the adjustable components (motor console, arm-/upper body trainer, foot stand, handlebar,...) fastened properly with a clamp screw or an Allen key. Are the screws tightened?	To ensure strong hold by retightening the clamping screws and the Allen screws.	Loose screw connections can cause detachment of parts during the course of training.  Should any of the components become loose the training must be stopped immediately by pushing the stop button. Subsequently, the loose part is to be secured into proper position.
<b>3. Review of optimal training conditions</b>		
Is the MOTomed positioned on even floor and is it not shaking or tilting over?	In order to prevent shaking or tilting over select a suitable training spot. Possibly, adjust the rubber stoppers on the front stand.	The device must not shake or tilt over since this may increase the risk of injury to the user/patient.
Is the floor providing enough grip so that no shifting occurs?	By choosing a slip proof floor you can ensure a safe seating and device position. For the small foot stand, suction caps are available as accessory order. An anti-slip mat that goes below the MOTomed is available as accessory.	The MOTomed might slip on straight floors (tiles, laminate, parquet floors etc.).
Is the chair or wheelchair positioned so that the device does not tilt over or move?	If your wheelchair tends to tilt or shift due to spasticity, or during active training, the use of a wheelchair stabilizer or wheelchair stabilizeris recommended. Only stable and firm chairs may be used, if possible with an arm rest. The use of chairs with castors while operating the MOTomed is not permitted.	In case of strong spasticity in he lower extremities the drive force of the pedals may cause shifting or tilting of the seat. This is to be prevented with appropriate measures in order to isolate injuries.  Wheelchairs can shift during the training.
If training from a wheelchair: Are the brakes on your wheelchair locked before starting the training?	Pull the brakes and check if the wheel chair is in a steady position.	The wheelchair must not move out of position during training.
If using a power wheelchair is used for seating purposes during training: Is the wheelchair powered off and are the brakes locked?	Power off the wheelchair and pull the brakes. Afterwards check if the wheelchair is in a steady position.	The wheelchair must not move out of position during training.

Test step	Necessary measures in case of fault detection during visual inspection	Explanation
Is the arm/upper body trainer swiveled backwards and secured so that the handlebar can be used to hold on to during leg training?	Swivel the arm/upper body trainer backward before starting the leg trainer.	The handlebar offers better hold and legroom during the course of leg training.
Is suitable clothing used for the training?	<p>Wide pants, long towels, and scarves that could get tangled in the pedal crank must not be worn (especially during arm training).</p> <p>Shoes with shoe laces must not be worn either.</p> <p>Long hair is to be pulled up into a pony tail or is to be covered up prior to doing arm/upper body training.</p>	<p>Inappropriate clothing can tangle around the pedal cranks and thus result in injuries.</p> <p>Should garments or hair get caught in between the pedal cranks, push the start-/stop button immediately in order to stop the crank movement and to release the captured parts without any further damages.</p>
<p>Is the device positioned and set up so that the intended movements can be executed without hitting other objects / casing parts?</p> <p>During leg training, is the user positioned properly to avoid the legs from colliding with the handlebar or the arm/upper body trainer?</p>	<p>Make sure to have enough legroom when adjusting the height of the arm trainer: During training, the legs must not collide with the handlebar or the arm/upper body trainer.</p> <p>Make sure to maintain a minimal insertion of 10 cm / 4 in. when adjusting the height of the handlebar or the arm/upper body trainer.</p>	To prevent injuries, the MOTOMed needs to be positioned and set up so that the user does not collide with any surrounding objects.
Are the pedal cranks moving freely? Has the danger been excluded of capturing and tangling objects during successive training sessions?	Please remove all objects from the crank area, particularly those that may get tangled in the cranks during the pedal movement. Pay particular attention that no hair, scarfs, or jewelry pieces get caught in the pedal cranks.	Please pay attention that nothing gets caught into the motor-driven rotating components. Herewith, same precautionary measures apply as with e.g. kitchen devices or drilling machines.
Is the pedal radius the same on both sides?	Please adjust equal pedal radius on both sides if the crank length is set differently. The adjustment procedures for the crank length area described on page 44/52.	Uneven pedal crank lengths will cause an uneven cycle motion due to the different force effects. Please adjust equal crank length on both sides.

Test step	Necessary measures in case of fault detection during visual inspection	Explanation
Are the legs or arms fastened properly during leg or arm/-upper body training?	Execute the fastening of the legs/arms as indicated in the last preceding pages.	During the course of training, legs and arms should not move unwontedly out of the foot shells or the forearm shells.
Are any other electrical devices, unauthorized as medical products, in the patient's reach?	Please remove all other electronic devices, not authorized as medical products, from user's (patient's) reach.	Should the patient come in contact with a »low quality« mains-supplied device during the course of training, the user protection from an electric shock is no longer guaranteed by the high standard isolation of the MOTomed device but is determined by the properties of the »low quality device«. In order to effectively provide full medical product safety standard of the MOTomed, all other unauthorized mains-powered medical devices are to be removed from the user's reach.

- 94 **Manufacturer's Declaration – electromagnetic emissions**
- 95 **Manufacturer's Declaration – electromagnetic immunity**
- 97 **Recommended separation distance**

The manufacturer states that the mains cable of the MOTOMed complies with the requirements of the EN 60601-1-2:2007-12. If the original cable that was included with the MOTOMed is not used, the electromagnetic emission increases and the immunity of the device decreases.

## Manufacturer's Declaration – electromagnetic emissions


The MOTOMed is supposed to be operated in the electromagnetic environment described below. The customer or user of the MOTOMed has to guarantee the use in the appropriate environment.

Emissions test	Compliance	Electromagnetic environment – guidance
HF emissions according to CISRP 11	Group 1	The MOTOMed viva2 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
HF emissions according to CISRP 11	Class B	The MOTOMed viva2 is made for the use in facilities and homes which are connected to the public mains supply which also supplies individual homes.
Harmonic emissions according to IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	complied	

## Manufacturer's Declaration – electromagnetic immunity

The MOTOMed is supposed to be operated in the electromagnetic environment described below. The customer or user of the MOTOMed has to guarantee the use in the appropriate environment.

Immunity test	IEC 60601 – test level	Electromagnetic environment – guidance
Electrostatic discharges (ESD) according to IEC 61000-4-2	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for entry and exit lines	Mains power quality should be that of a typical commercial and/or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial and/or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % UT (> 95 % dip in $U_1$ ) for 1/2 period  40 % UT (> 60 % dip in $U_1$ ) for 5 periods  70 % UT (> 30 % dip in $U_1$ ) for 25 periods  < 5 % UT (> 95 % dip in $U_1$ ) for 5 s	Mains power quality should be that of a typical commercial and/or hospital environment. If the user of the MOTOMed requires continued operation during power mains interruptions, it is recommended to power it from an uninterruptible power supply like a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	The magnetic fields at the supply frequency should be of typical business or hospital values.
Remark: $U_1$ is the mains common-mode voltage prior to the application of the test level.		

Immunity tests	IEC 60601 – test level	Compliance level	Electromagnetic environment – guidelines
<p>Conducted HF disturbance according to IEC 61000-4-6</p> <p>Radiated HF disturbance according to IEC 61000-4-3</p>	<p>3 V<sub>eff</sub> 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p>	<p>3 V<sub>eff</sub> 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the MOTomed viva2 including cables, than the recommended separation distance calculated from the equation appropriate for the frequency of the transmitter:</p> <p>Recommended separation distance:</p> $d = 3,5/3 \sqrt{P} = 1,17 \sqrt{P}$ $d = 3,5/10 \sqrt{P} = 0,35 \sqrt{P}$ <p>for 80 MHz to 800 MHz</p> $d = 7,0/10 \sqrt{P} = 0,70 \sqrt{P}$ <p>for 800 MHz to 2.5 GHz</p> <p>with Pas value for the maximum output power rating of the transmitter in watts (W) according to the specifications of the manufacturer and das the recommended separation distance in meters (m).</p> <p>Field strengths for fixed RF transmitters, as determined by an electromagnetic site survey<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol.</p> 
<p>Note 1: At 80 MHz and 800 MHz the higher frequency range applies.  Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			
<p>a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast, and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the MOTomed is used exceeds the applicable RF compliance level above, the MOTomed should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the MOTomed.</p> <p>b) Over the frequency range 150 kHz to 80 MHz field strength need to be less than 3 V/m.</p>			

## Recommended separation distances between portable and mobile RF communications equipment and the MOTomed

The MOTomed is supposed to be operated in an electromagnetic environment where the RF interference is controlled. The customer or user of the MOTomed can help avoid electromagnetic interference by keeping the separation distances between portable and mobile RF communications equipment (transmitters) and the MOTomed – which depends on the performance of the communication device as described below.

Nominal output of transmitter W	Separation distance in relation to the frequency of transmitter m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 1,17 \sqrt{P}$	$d = 0,35 \sqrt{P}$	$d = 0,70 \sqrt{P}$
0.01	0.12	0.04	0.07
0.1	0.37	0.11	0.22
1	1.17	0.35	0.70
10	3.70	1.11	2.21
100	11.70	3.50	7.00
For transmitters rated at a maximum output power not listed above, <i>the separation distance d n meters (m)</i> can be estimated using the corresponding column , where P is the maximum output power rating of the transmitter in watts.			
Note 1: At 80 MHz and 800 MHz the higher frequency range applies. Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			



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## Your opinion is important to us!

We would like to thank you very much for the acquisition of the MOTOmed therapy trainer and the trust that you put in us. We are certain that the MOTOmed will be a useful »trainings partner« for you.

If MOTOmed and our service embrace your needs or if despite our efforts we will not meet your expectations in some points, please feel free to give us notice.

We have prepared a reply card for you here. Please cut it out and send the completed card back to us.

You can request brochures and information material on the backside of the reply card.

### Customer Satisfaction



*great!*



*good*



*not good*



*bad*

with the MOTOmed





with delivery and instruction





With the counseling provided through employees of the RECK company





Will you recommend the MOTOmed?

Yes

No



Will you recommend your local reseller?

Yes

No



Other:

---



---

Please cut here and post.



## Recommend the MOTomed!

Please send me free information material for a friend or acquaintance.

last name

first name

street/no.

postal code/city

phone

mail

By completing and posting the reply card I give the permission to the MOTomed company to use and save my information for MOTomed marketing exclusively. You can abrogate this agreement at any time in written form to the RECK-Technik GmbH & Co. KG, Reckstr. 1-5, 88422 Betzenweiler. If you do not want the company/RECK to use your personal data, please clearly cross out the respective passage.

The postage  
will be paid  
by the RECK  
company.

reply

**RECK** Technik GmbH & Co. KG  
Reckstraße 1-5  
88422 Betzenweiler

GERMANY



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