

Instruction manual

MOTOmed viva1



englisch

- 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.
- D 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.
- F Avant de commencer votre entraînement MOTOMed, veuillez lire le mode d'emploi. Si ce mode d'emploi ne correspond pas à votre langue, n'hésitez pas à nous demander une autre traduction.
- E Utilize 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.
- P 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.
- I 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 Gebruikt alleen maar MOTOMed, nadat u de gebruiksaanwijzing hebt gelezen. Als u deze taalkundige versie niet moet omvatten, een gids in uw nationale taal zal willen vragen
- S Använd MOTOMeden endast, efter du har läst fungerande anvisningen. 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.
- RUS **Используйте MOTOMед только после того, как прочитаете инструкцию по эксплуатации. Если Вам не понятен язык, на котором написана иструкция, запросите, пожалуйста, одну на родном языке.**

Please open 

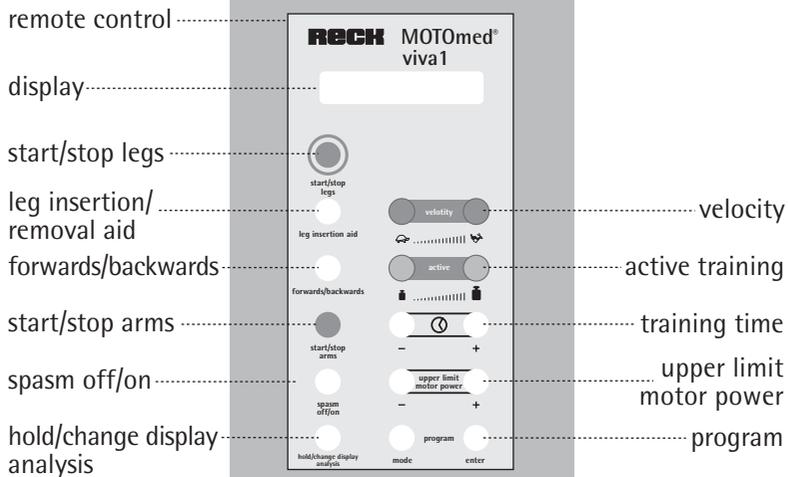


fig. 1

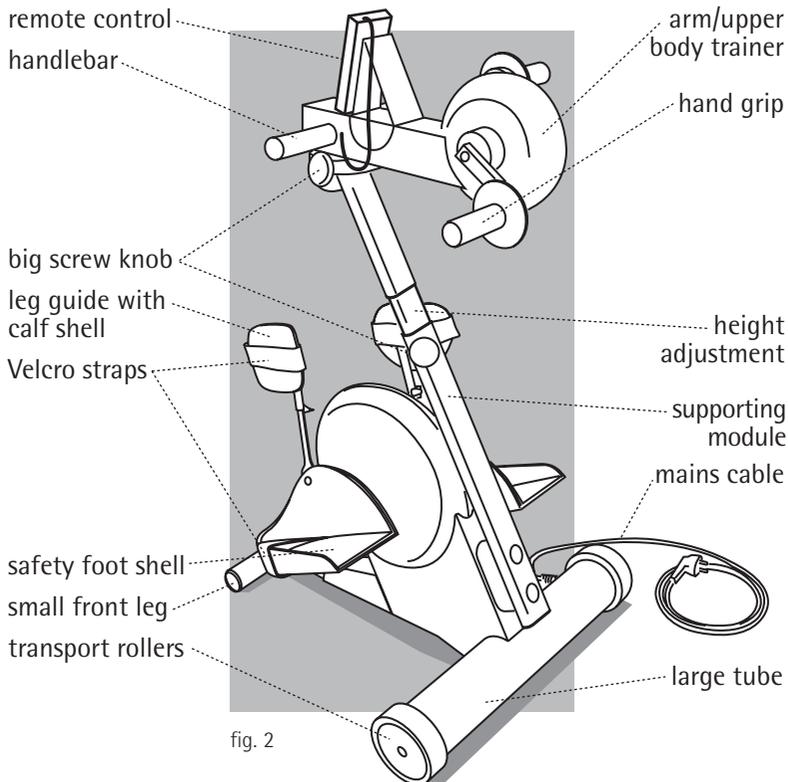


fig. 2

Gentle, Attractive and Intelligent...

Congratulations! You have made an excellent choice by purchasing your MOTOmed viva1. This MovementTherapySystem provides outstanding performance. Supported by the latest computer technology it is an innovative quality product "made in Germany" by RECK.

The MOTOmed viva1 is a motor assisted MovementTherapySystem with intelligent safety features. Enjoy the benefits every day.

This instruction manual will help you to get to know the MOTOmed viva1. It will guide you through the functions and give some suggestions and tips on how to use your new movement therapy system so as to gain optimal benefit from the training. Before starting the training, please follow the safety precautions listed in chapter 11.

see page 69

If you have further questions or comments, please don't hesitate to call your MOTOmed representative or the RECK customer service team. We are pleased to assist you.

see page 67

Enjoy training with your MOTOmed viva1!

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Application

The MOTOmed viva1 is suitable only for the active and passive movement of a person's lower and upper extremities. During the training the MOTOmed viva1 can be operated with a remote control.

Normal Use

During the training the user is seated in front of the device in a safe and sturdy wheelchair or in a stable chair (without castors) with a high back. Make sure to sit straight and that the wheelchair (or chair) is secured sufficiently in order to prevent tipping over.

Some specific power wheelchairs, standing chairs and sport wheelchairs with a large front or which don't have stowable or removable foot rests are not suitable.

On special occasions the MOTOmed viva1 can also be used being in a lying position.

You are only allowed to use the MOTOmed viva1 following the instructions and safety precautions in this manual and if no therapist and doctor states any contraindication. Adjustments and changes can only be carried out with the pedals not moving - except for the operation via the remote control.

Restriction of Liability

The manufacturer doesn't assume liability for consequences of

- abuse and misuse
- neglect of this instruction manual
- wanton damage and reckless usage
- over intensive training
- use with an unsuitable wheelchair or chair
- use without prior consultation of the responsible doctor and therapist
- attachment of unapproved accessories
- repair or other interference by any person non-approved by the manufacturer

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Training Hints

Before using the MOTomed viva1 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.

Regular training with the MOTomed viva1 is important in order to achieve therapy benefits. At the beginning, you should not train for more than 10-15 minutes continuously. It is better to train two to three times per day for approximately 5 to 10 minutes each period. Please start at a slow speed and with a small pedal radius. After about one week you should slowly increase the duration of your training, the speed and - if necessary - the pedal radius, according to your individual response to the MOTomed viva1 training.

How Do I Train Appropriately?

see page 67 Do you have any questions about the training with the MOTomed viva1? Any problem that occurred? Please call your MOTomed representative or the RECK Company, phone +49 (0) 73 74 - 18 85. We are pleased to assist you.

Instructions in Case of Spasms

If you are affected by spasticity, slow and regular movement with the MOTomed viva1 is important. Just like in physiotherapy, it is recommended to train legs or arms in a way that no spasm will occur.

Particularly in the beginning it is recommended to train at a slow speed. You will notice that through this way of training, you will experience less tension.

see page 33, 34 The *MovementProtector* with *SpasmControl* should always be switched on (ex works setting) in case a spasm might occur or in the case of sensitive tendons, joints or ligaments.

If a spasm or a resistance occurs, the motor stops automatically by the *MovementProtector*. After a few moments the pedals start rotating slowly again in the opposite direction.

The *SpasmControl* changes the direction of pedal rotation according to the therapeutic principle looking for the direction in which the spasm can be eased (antagonistic inhibition). Therefore, muscles can relax and tensions are being relieved. This process will be repeated until the spasm is released.

During the training the integrated *MovementProtector* adapts automatically to the condition of your muscles (muscle tone). Therefore, the *MovementProtector* is always optimally sensitive.

see page 42, 43 In order to improve the support of the legs, *safety foot shells (item no. 501)* and *leg guides with calf shells (item no. 502)* are an essential accessory in the case of spasticity. They provide secure and firm

see page 44 support. The *handlebar (item no. 504)* as well gives safety and hold.

see page 51 In case of strong spasticity it is recommended to use a *wheelchair*
see page 52 *stabilizer (item no. 8)* or *chair fixation with stabilizer (item no. 511)*.

see page 40 For special cases (e.g. osteoporosis, very strong spasticity) the maximum motor power can be adjusted during passive training by pressing the button "upper limit motor power".

Low motor power: e.g. for osteoporosis

High motor power: e.g. for strong spasticity

Please consult your doctor and therapist before adjusting the motor power.

In General

Pay attention to your seating position and posture when training - especially when using the arm/upper body trainer. The wheelchair or chair should be straight and in line with the MOTomed viva1. You should be sitting upright, back straight, resting on the back support of the chair or wheelchair.

The degree of movement of the knee joint and hip joint depends on the distance between the MOTomed viva1 and the chair or wheelchair.

Position your chair from the MOTomed viva1 according to the flexibility of your joints. Avoid at all times overstretching or locking of the knee joints and start off sitting reasonably near the MOTomed viva1.

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

see page 43 If you lack support due to the effects of paralysis it is absolutely
see page 50 essential that *leg guides (item no. 502)* and *forearm shells (item no. 556)* are used. Always make sure that arms and legs are properly secured in the forearm shells or foot shells.

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Set Up

Unpack your MOTomed viva1 and put it in an upright position. In case the packaging or the MOTomed viva1 got damaged through transportation, please contact your MOTomed representative.

see page 67



fig. 3

If the remote control is not yet attached to the MOTomed please insert the plug on the end of the spiral cord into the socket on the top side of the remote control.



fig. 4

After training with the basic version of the MOTomed viva1 (without handlebar) you can place the remote control into a safety foot shell or on the floor. If you are not able to pick it up from there you need to fit a *remote control rest (item no. 505)* or a *handlebar (item no. 504)* to the MOTomed viva1.

see page 44, 45

see page 47, 49 If an *arm/upper body trainer (item no. 550 or 518)* is installed, you should extend the front leg 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 front leg of the device you have to tilt the MOTomed backwards carefully, open the two Allen screws at the bottom of the MOTomed viva1 and pull out the front leg of the device. After adjustment, please tighten the Allen screws. You can find an Allen key at the bottom of the device.

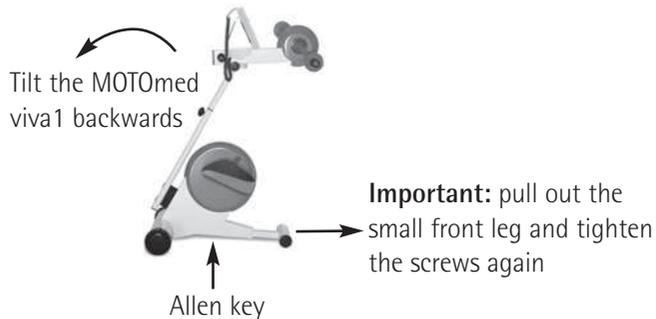


fig. 5

Stand-By Mode

Please plug the mains cable into the MOTomed viva1 and the mains plug into a wall socket.

STAND-BY

The MOTomed viva1 will now start the software and after around 6 seconds go into stand-by mode. This is shown on the display of the remote control. Only when the "start/stop" button is pressed the MOTomed will change into operating mode.

The MOTomed viva1 is laid out for continuous stand-by mode. For repair, cleaning or transportation of the MOTomed, the mains plug has to be pulled.

In order to save energy, the MOTomed viva1 switches into stand-by mode a few minutes after the training. The energy usage in stand-by mode is less than a television in stand-by mode. If the device is used for training 1 hour daily and 23 hours in stand-by mode it will be approximately 10 EUR in annual power costs (based on energy costs in Germany).

Transport

The MOTOfed viva1 is equipped with two large transport rollers so that it can be easily moved within a building.

To move the MOTOfed viva1, please hold the small front leg (basic unit only)/ handlebar/arm/upper body trainer/remote control rest of the MOTOfed viva1 and tilt it backwards until you can easily pull or push the MOTOfed viva1 on its large transport rollers. The mains cable has to be detached completely before transport.

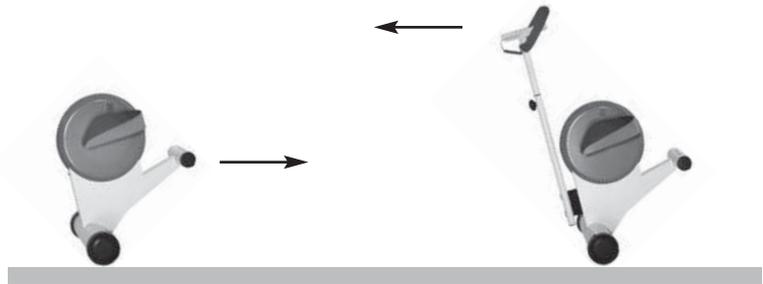


fig. 6

see page 44 If the MOTOfed has to be transported on a regular base, we recommend using a *handlebar (item no. 504)*. It enables comfortable tilting and easy transport of the MOTOfed viva1.

If you have to move the MOTOfed viva1 over any small bumps, make sure that both transport rollers move simultaneously over the bump. Don't use the transport rollers to move the MOTOfed viva1 across uneven ground (e.g. cobblestones). In both cases damage to the casing of the MOTOfed viva1 and the electronics inside could result.

For longer distances on uneven ground you should use a handcart.

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Introduction

The following pages will explain how to operate the MOTomed viva1. First, short instructions will be given for the basic functions of the "leg training" and the "arm/upper body training". Chapter "settings" offers a detailed explanation of the operation, step-by-step.

What is ServoCycling?

see page 31 *ServoCycling* is a special function of the MOTomed viva1 for users with very little residual muscle strength. The MOTomed *ServoCycling* function has an effect similar to a servo-assisted steering system, which could enable you to steer a truck using your little finger. Even with minimal muscle strength, MOTomed *ServoCycling* supports complete and even pedal movements. Active cycling builds up strength, coordination and motor activity.

The MOTomed viva1 recognizes your active impulse and the MOTomed *ServoCycling* reinforces it throughout one whole revolution. The MOTomed viva1 accelerates noticeably. That is why you immediately see and feel the effects of your own activity. As soon as you stop giving active impulses the speed drops gently. This increases the benefit of the therapy. *ServoCycling* is a great experience!

SymmetryTraining

see page 32 During active cycling with your own muscle strength, the *Symmetry-Training* function shows how much each leg "is working" at that moment. Due to this display you can practice to train and put strain on both legs equally and apply your strength more deliberately. The displayed values are not suitable for diagnostic purposes as the MOTomed viva1 is not medical measuring equipment. Due to spasticity and contractures, the displayed values are distorted. We recommend relaxing the muscles by training passively before starting active cycling with one's own strength.

User Guidance

The buttons of the remote control are divided into 5 color groups:

- ① red button: to start and stop leg training
- ④ blue button: to start and stop the arm/upper body training
- ⑦+⑧ green buttons: to adjust the speed
- ⑨+⑩ yellow buttons: to adjust the resistance
- white buttons: to adjust further functions

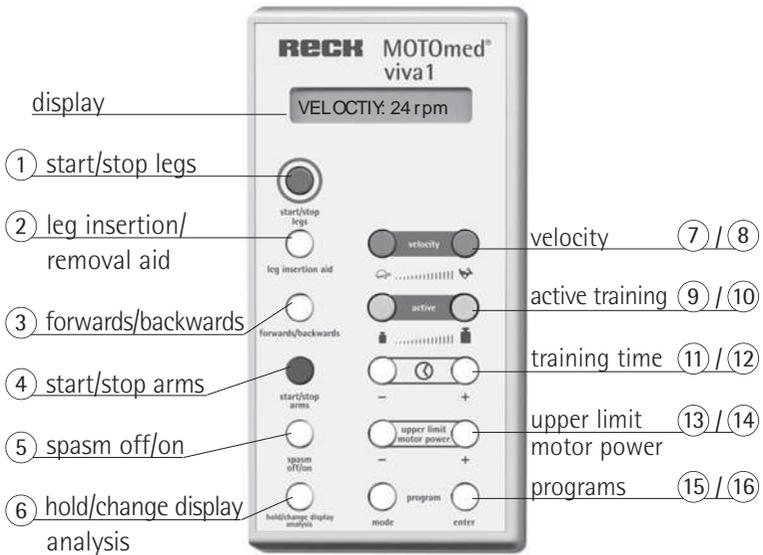


fig. 7

Short Instructions Leg Training

- Set up:** Place the MOTomed viva1 on a non slip surface with the large tube ⑰ against a wall if possible. Sit in a wheelchair or in a stable chair in front of the MOTomed viva1 within a reasonable distance to the trainer - the legs must be able to turn freely but the knee joints

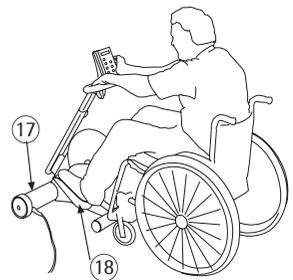


fig. 8

must not be stretched out completely at any time while training.

Important: Make sure the wheelchair or chair is secure so that it will not move or slip.

2. **Leg insertion aid** (if needed): Press and hold down the "foot insertion aid" ② until the foot shells ⑱ are in the best position for you to insert your foot.

see page 45

Hint: If your legs are not equally flexible, we recommend inserting the stiffer one first. Then fix your feet and legs with the Velcro straps or the *self-operating foot holders* (item no. 506) in the foot shells.

3. **Start the training:** Press the red "start/stop" button ①. The foot shells automatically start moving slowly. Have your legs moved "passively" for a short warm-up of a few minutes.
4. **Change speed/direction:** With the two green "velocity" buttons you can increase or decrease the number of revolutions of the foot shells per minute. Upon pressing the button "slow" (turtle) ⑦ you reduce speed, pressing the button "fast" (rabbit) ⑧ you increase it. The button "forwards/backwards" ③ allows you to switch the direction of rotation from forward to backward and vice versa.
5. **Cycling "actively", without motor:** After you've relaxed your muscles enough you can start cycling actively with your own strength, you can simply do that without changing any settings. However it is better to reduce speed to 5 to 10 rpm by pressing the buttons "turtle" ⑦. With the yellow buttons "active cycling" you can adjust the motor resistance according to your muscle strength. Upon pressing the left button (small weight ⑨) you will reduce the resistance, with the right button (big weight ⑩) you will increase it. Please choose the appropriate gear that allows you to cycle without intense strain. It is recommended to cycle in the low gears for some time.

6. **Breaks:** In case you get tired we advise you to finish your active training. The MOTomed viva1 will recognize this and take over automatically, moving your legs passively again. After a while you can try cycling yourself again (but only if you feel able to) - the MOTomed will recognize this input and switch automatically to active mode again.
7. **SymmetryTraining:** The SymmetryTraining function applies only when training actively, i.e. when you are applying force yourself. The purpose of SymmetryTraining is to find out the activity of each leg, to strengthen a weaker leg and ideally to cycle equally with both legs. If both bars appear in the centre of the display ^⑱, it means that both sides of the body are doing equal work. If the bar moves to one side ^⑳, then this leg is applying more force. Try to concentrate on training both sides equally. If however you do not want to train with the SymmetryTraining function, you can switch off the display temporarily by pressing the button "hold/change display, analysis" ^⑥.

⑱

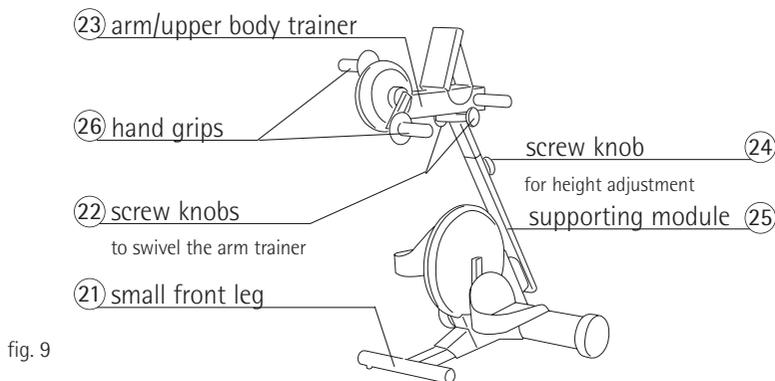


⑳



8. **End of training/analysis:** Before you finish your training you are advised to have your legs moved passively again for a few minutes in order to loosen up your muscles. To stop the training press the red "start/stop legs" button ^①. To call the training analysis, please press the button "hold/change display, analysis" ^⑥.
9. **Removing the feet:** To remove your feet after training press the button "leg insertion aid" ^② (see page 22, paragraph 2).

Short Instructions Arm/Upper Body Training



1. Whenever you attach an *arm/upper body trainer* (23) (item no. 550) to your MOTomed viva1 you have to extend the front leg (21) 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.
2. Open the two screw knobs (22) located underneath the arm/upper body trainer (23) and swivel the arm/upper body trainer (23) clockwise by 180 degrees. After that tighten the screw knobs (22) again.
3. Open the screw knob (24) at the supporting module (25) and adjust it to the desired training height (after consultation of the doctor and therapist).
4. **Start of training:** Press the red "start/stop arms" button (4) (see page 21). The hand grips (26) now begin to move slowly. Let the motor move your arms passively in a short "warm-up" phase first.
5. If the hands are fixed (e.g. in the forearm shells) training may only be done under supervision.
6. Further instructions for arm training are very similar to the leg training (see pages 22 – 23, paragraphs 4 to 6 and 8).

Settings

Leg Insertion Aid (inserting and securing of legs)

Before you start the training, you have to place your feet into the foot shells and fix them with the Velcro straps. The button "leg insertion aid" on the remote control offers the possibility to bring the foot shells into a suitable position to help you insert your legs more comfortably.

LEG INSERTION AID

keep pressed

In order to assist leg insertion and removal, the foot shells can be moved to their lowest position and stopped through the foot insertion/removal aid function.

RIGHT LEG

Before switching on the MOTomed viva1, press the button "leg insertion aid" until the right foot shell stops in convenient position and then release. Now you can comfortably insert your first foot into the foot shell and secure it with Velcro straps or *self-operating foot holders* (item no. 506).

see page 45

LEFT LEG

As soon as the first foot is securely fastened in the foot shell, press the button "leg insertion aid" again and hold the button down until the other foot shell stops at the insertion position. Insert your second foot and secure it.

Hint: If your legs are not equally flexible, step in first with the leg that is less flexible than the other.

With the "leg insertion aid" button, you can also stop the foot shells at any desired position. The pedals stop as soon as you release the button.

Training starts upon pressing button "start/stop legs". You must not train unless both of your legs are inserted and secured.

For some types of wheelchairs it may be necessary to remove the foot plate or to swivel it aside in order to allow sufficient access to the MOTomed viva1.

However, if you decide not to train, the MOTomed viva1 goes into stand-by mode after a few minutes.

Start/Stop Legs

To start or stop the pedal movement of the MOTomed viva1, press the red button "start/stop legs".

Important: Before starting leg training, the arm/upper body trainer must be swiveled backwards 180° so that it is out of the training area.

SELF-TEST = ??

SELF-TEST = OK

The system self-test checks all functions of the MOTomed viva1 every time starting the machine. The Display shows "SELF-TEST". The MOTomed viva1 starts running after the message "OK".

WARM-UP

We recommend starting every session with passive training. The MOTomed viva1 starts gently with a short warm-up phase. Here the velocity increases gradually to the pre-set velocity – safely and softly working you into your session.

The duration of a warm-up phase should be decided on an individual basis - depending on the individual patient, level of spasticity etc. Consult a doctor and therapist for advice.

It depends on the set mode how the MOTomed viva1 continues.

see page 38 With the mode "FOR CLINIC" active, the MOTomed viva1 adapts automatically to the mobility of your legs. After the warm-up phase, speed increases automatically to a level that suits to your flexibility.

SUGGESTION: 20 rpm

see page 38 With the mode *FOR AT HOME* active, the MOTomed viva1 remembers the training parameters from the last session (velocity, upper limit of motor power, set duration, etc.). This way you can start a new session by pressing just one button ("start/stop") and you don't need to key in your individual settings for each training session. However, if you unplug the device from the mains the settings will be lost!

If you would like to change settings during the warm-up phase, simply press the relevant button. In both modes this will end the warm-up phase.

After a few seconds of training, the following training data will start to be presented on the display as a rolling update: training time in minutes (min), velocity in revolutions per minute (rpm), (theoretical) distance covered in kilometers (km) and further values:

During passive training:

DISTANCE: 0.7 km

The distance covered (theoretically) is shown in approx. kilometers (km).

TIME: 7 min

Shows how long you have been training or shows a countdown of time remaining if you set a specified "training time."

TONE: 1.6 Nm

Your basic muscle tone (mobility) will be shown as approx. torque (Nm).

MIN. TONE

Your basic muscle tone is minimal (i.e. high mobility).

VELOCITY: 24 rpm

Velocity in revolutions per minute (rpm).

During active training:

DISTANCE: 0.7 km

The distance covered (theoretically) is shown in approx. kilometers (km).

TIME: 7 min

Shows how long you have been training or shows a countdown of time remaining if you set a specified "training time".

SYMMETRY

You can see the input from left and right legs compared (see page 32).

PERFORMANCE: 10

Display of your active performance/output.

VELOCITY: 32 rpm

Velocity in revolutions per minute (rpm).

see page 33

END OF TRAINING

If you press the red button "start/stop legs" during the training, the MOTomed viva1 will stop the pedal movement. The MOTomed will hold the pedal position for a few minutes so that you can remove your legs comfortably. Then, the MOTomed viva1 switches itself off automatically and goes into stand-by mode.

see page 25 Use the function leg insertion/removal aid to find the convenient foot shell position.

Pressing twice the red button "start/stop legs" at a short interval will activate the emergency stop. The motor of the MOTomed viva1 will stop immediately.

Start/Stop Arms

see page 69 Before switching on the arm/upper body trainer please make sure you have read and observed the safety precautions. While using the arm/upper body trainer the legs must be removed from the safety foot shells. **Important:** Before using the arm/upper body trainer it is important to pull out the front leg about 15 cm (6 inches). Ensure a minimum insertion of 10 cm (4 inches). This improves the stability of the MOTomed viva1 necessary for the arm training.

With the blue button "start/stop arms" you are able to switch the arm/upper body trainer on and off (provided an arm/upper body trainer is fitted).

Pressing twice the blue button "start/stop arms" at a short interval will activate the emergency stop. The motor of the MOTomed viva1 will stop immediately.

The functioning of the arm/upper body trainer and the operation of the remote control are the same as for the leg trainer (apart from the following exceptions: the *leg insertion aid function*, *automatic velocity suggestion* and *SymmetryTraining*).

Velocity

The velocity of the MOTomed viva1 can be adjusted by pressing the button with the turtle symbol to reduce the speed and by pressing the button with the rabbit symbol to increase the speed. The minimum velocity is 0 rpm and maximum velocity is 60 rpm.

VELOCITY: 23 rpm

When the velocity is altered, the new speed will be displayed in revolutions per minute (rpm) on the display for a few seconds.

Active Training

The MOTomed recognizes your impulses as soon as you start cycling actively and switches into the active mode. Without further adjustments, you can change to active movement any time during the training. It may help you however to choose a velocity that allows you to accelerate actively (e.g. 10-15 rpm) and a resistance that you can overcome easily.

RESISTANCE: 6 Nm

By pressing the active buttons (weight graphs) , you are able to adjust the resistance from 1 to 12 Nm. With very weak muscles we suggest selecting a resistance of 1-2 Nm and with strong muscles a resistance of 3-12 Nm.

MAX. RESISTANCE

At maximal resistance, you can do isokinetic training.

The MOTOmed viva1 is however not designed for continual active training at high resistance. It is not suitable for physically well trained people as a sports trainer. The manufacturer doesn't grant warranty for damages occurred due to intensive active cycling in high gears (high resistance).

When you train actively and would like the MOTOmed to move your legs again for a while, then simply stop cycling and the motor will take over moving your legs gently again.

ServoCycling

ServoCycling is a special function of the MOTOmed viva1 for users with very little residual muscle strength. It works in a similar way to power-assisted steering - whereby it is possible to steer a truck with only a single finger. With the MOTOmed it means that even with only very limited residual muscle strength it is still possible to turn the pedals around. This function helps build up strength, coordination and motor functions.

The MOTOmed viva1 recognizes your active input and assists through a whole revolution of the pedals, accelerating noticeably. This enables you to see and feel the result of your activity. As soon as you stop applying force the motor takes over again and the speed drops gently. The effectiveness of the movement therapy can be considerably improved with the help of this feature. *ServoCycling* really is a great experience!

Instruction:

1. Set the velocity between 10 -15 rpm.
2. Press the "active" button on the left until the display shows "resistance 1 Nm".
3. Now try to cycle yourself and to accelerate.

SymmetryTraining

SymmetryTraining is a function which appears only while doing active (or assisted) leg training. It appears automatically on the display in the regular sequence of training data (time, distance, symmetry, ...). The function helps the user to practice and develop a symmetrical application of force while active training by presenting the activity of the two legs on the display. The goal is that both legs apply equal force - which is shown by two bars in the center of the display.



As soon as one leg cycles stronger than the other, only one bar will appear and will move to one side to indicate this (to the left if the left leg is stronger and to the right if the right is stronger).



The displayed values are not suitable for diagnostic purposes. Due to spasticity and contractures, the displayed values are distorted. Distortion also occurs if the user is not pushing the pedals with both legs equally but pulling with one leg while pushing with the other.

Suggestion: We recommend first to relax the muscles by passive training before starting active cycling.

see page 35 "hold/change display, analysis" to do SymmetryTraining.

Training Time

With the clock buttons "-" or "+" you can program the duration of your training period. You can enter a training time up to a maximum of 120 min.

TIME: 10 min.

CONTINUOUS OPERATION

If you wish to cancel a training time that you have set, press the "-" button until the display shows "CONTINUOUS OPERATION".

The MOTomed viva1 is now in continuous operating mode and will run continuously until it is switched off with the "start/stop legs" button.

Forwards/Backwards

CHANGE DIRECTION

You can change the direction of rotation of the foot shells with the button "forwards/backwards."

By pressing this button, the pedal movement stops slowly and, after a short pause, starts up again gently into the opposite direction, gradually accelerating to the previously set velocity. The gentle movements of the motor avoid sudden spasms.

Spasm Off/On

By pressing the button "spasm off/on", you can turn on (or off) the *MovementProtector with automatic direction change* at any time. The factory setting is always "SpasmControl on".

SPASM on

SPASM off

Your current setting is shown on the display.

SPASM DETECTED

MovementProtector with SpasmControl:

During the training, the MOTomed MovementProtector constantly monitors your muscle condition. Due to this, the *MovementProtector* (the motor power) automatically adapts to your muscle condition and is therefore optimally sensitive at any time. This means additional safety, especially if your muscle stiffness changes through the course of the training with the MOTomed viva1.

How it works: If the *SpasmControl* is activated (i.e. on) and a spasm occurs during the training, the MOTomed viva1 recognizes this resistance, then the motor stops gently and pauses and the pedals release.

Important: Working according to therapeutic principle the *SpasmControl* now looks for the direction of movement in which the spasm can be relieved. This process continues until the forward and backward movement has eased the spasm.

If you want to return to your training direction you can either block the pedals (simulation of a spasm) for automatic change of direction or you hit the button "forwards/backwards"

see page 40 With the button "Upper limit motor power" you can limit the automatic sensitivity adjustment of the *MovementProtector* (adjustable to 16 levels). i.e. the automatic sensitivity adjustment cannot exceed this upper limit motor power value. The software sets the motor power automatically based on the muscle tone readings (i.e. continual measurement of low level resistance on the motor) - the *MovementProtector* tracks the condition of the muscles adjusting the *SpasmControl* to the least required level of motor power.

Hold/Change Display, Analysis

see page 28

During the training you can use the button "hold/change display, analysis" to hold the information which is currently shown on the display or request the subsequent training data. The rotation of displayed information stops upon pressing the button "hold/change display, analysis" and resumes on release with the next item. Therefore pressing and releasing the button gives you the next item of data.

After the training you can use the button "hold/change display, analysis" to review your training data again:

After passive training:

DISTANCE: 0.7 km

The distance covered approx. kilometers (km).

TIME: 7 min

The duration of the complete training period is shown.

B- TONE: 5.4 Nm

Your muscle tone (mobility) in the beginning of the training (**B**=Beginning).

M- TONE: 2.3 Nm

Your muscle tone (mobility) after 100 revolutions (**M**=Middle).

E- TONE: 1.5 Nm

Your muscle tone at the end of the training (**E**=End).

A- TONE: 3.1 Nm

Your average muscle tone throughout the whole training (**A**=Average).

After active training:

DISTANCE: 0.7 km

The distance (theoretically) covered in approx. kilometers (km).

TIME: 7 min

The duration of the complete training period is shown.

A- PERFORM.: 10

Your average performance during the whole training. (**A**=Average).

WORK: appr. 1,5 kJ

Your work during the whole training is shown in approx. kilojoule (kJ)
(1 kJ = 0.239 kcal, calories).

You can review your training data after your session by pressing the button "hold/change display, analysis." However, as soon as the next training session is started (by pressing "start/stop legs or arms"), the training data from the previous training is deleted.

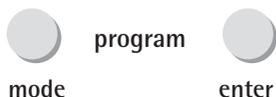
After all training data has been displayed after the session, the MOTomed viva1 switches into stand-by mode.

Hint: In order to compare training data on muscle tone, all parameters which might influence the muscle tone have to be the same while training i.e. velocity, pedal radius (extent of movement) as well as the seating height, the distance between the MOTomed and the wheelchair etc.

Please note, the data shown on the display can vary slightly from true values. It is therefore not suitable for a diagnostic evaluation, but provides a good indication of progress and performance.

Program

Using the mode "program", you can make certain adjustments according to your individual needs: First you have to switch on the MOTomed viva1 pressing button "start/stop legs" or "start/stop arms".



Menu-Structure (menu levels)

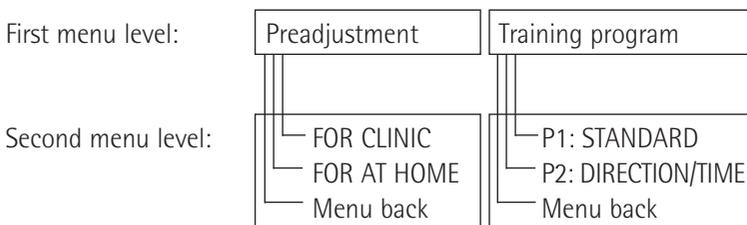


fig. 10

If you press the "mode" button, you arrive at preadjustment on the first menu level. If you press the "mode" button again, you get to Training programs on the same menu level. In order to select one of these two functions, press "enter."

The second level contains the options *FOR CLINIC* and *FOR AT HOME* under preadjustments and *STANDARD* and *DIRECTION/TIME* under training programs. If you would like to select a menu option, press the "enter" button. The selected menu option will then be shown on the display. If you want to change between menu options press the "mode" button.

Hint: As you move through the different menu options, you will be informed after a couple of seconds which option is currently selected and which is available for selection.

It is always possible to stop adjusting the programs simply by pressing any button on the remote control.

Menu-Option: Preadjustment

Using the program **FOR CLINIC** (which is the factory setting), the MOTOmed will start with a short warm-up phase. During this warm-up, the basic muscle tone of the user is monitored and a suitable velocity is set automatically by the MOTOmed. These settings can be altered by the user using the remote control at any time.

see page 27 In order to set the program **FOR CLINIC**, please press the following buttons:

1. "mode"
2. "enter"
3. "enter"

If you select the program **FOR AT HOME** your settings will remain saved after your last session. The next time you train the settings and parameters will stay the same. This way you can start your training session by pressing just one button (the red "start/stop legs" or the blue "start/stop arms" button) without having to set new parameters each time you start a training session. The MOTOmed is able to save parameters for leg and arm training separately.

see page 27 In order to select the program **FOR AT HOME**, press:

1. "mode"
2. "enter"
3. "mode"
4. "enter"

Hint: If you unplug the MOTOmed from the mains (electrical outlet), the saved values will be lost.

By selecting the menu option *menu back* you will get back to the first menu level *preadjustment*.

Menu-Option: Training Programs ("Training Prog")

In the Program *P1: STANDARD* (factory setting) the MOTOMed viva1 runs forwards and can be manually changed to backwards.

All parameters (velocity, direction, resistance, upper limit motor power, training time etc.) can be individually set. The settings apply only to the current training and are not saved.

In order to set the MOTOMed viva1 to *P1: STANDARD*, press:

1. "mode"
2. "mode"
3. "enter"
4. "enter"

The program *P2: DIRECTION/TIME* is the same as program P1: STANDARD - however with this program the direction of rotation changes every three minutes automatically.

In order to set the MOTOMed viva1 to *P2: DIRECTION/TIME*, press:

1. "mode"
2. "mode"
3. "enter"
5. "mode"
6. "enter"

Hint: If you unplug the MOTOMed from the mains (electrical outlet), the saved values will be lost.

By selecting the menu option *menu back* you are able to return to the first menu level *Training program*.

Upper Limit Motor Power

Using the buttons "Upper limit motor power" "+" or "-" you are able to adjust the limit of the motor power (2 - 17 Nm for the leg trainer and 1 - 9 Nm for the arm/upper body trainer.)

MOTOR POWER: 12 Nm

If there is a risk of damaging your bones, tendons, joints and ligaments (e.g. in case of osteoporosis, muscle shortening etc.) from the force of the motor on your legs, you must limit the motor power with the buttons "upper limit motor power" before training (after pressing the "start/stop" button).

If your legs or arms are very stiff (e.g. due to spasticity), a fluent movement might be impossible. In order to avoid the *MovementProtector* constantly reacting to this resistance, it is possible to increase the upper limit of motor power in order to increase the detection level of the *SpasmControl*. However this must first be approved by a doctor and therapist.

see page 34 | With the button "Upper limit motor power" you are able to adjust the detection level and sensibility of the *MovementProtector* and *SpasmControl*.

- 42 **Safety Foot Shells**
- 43 **Leg Guides with Calf Shells**
- 44 **Handlebar**
- 45 **Remote Control Rest**
- 45 **Self-Operating Foot Holders**
- 46 **Pedal Radius Quick Adjustment**
- 47 **Arm/Upper Body Trainer Active/Passive**
- 49 **Arm/Upper Body Trainer Active**
- 50 **Forearm Shells with Arm Cuff**
- 51 **Hand Fixation with Wrist Cuff**
- 51 **Wheelchair Stabilizer**
- 52 **Chair Fixation with Stabilizer**
- 53 **Height Adjustment**
- 54 **Ankle Joint Control with SlidingScale Adjustment**

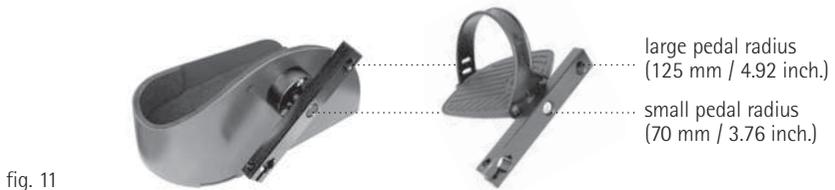
Item no. 501 **Safety Foot Shells**

The safety foot shells (fig. 11) allow secure hold of the feet. This is particularly important with (complete) paralysis and spasticity.

The high safety side panel supports fixing the feet and protects against the rotating pedal crank at the same time. The specific padding allows a comfortable and slip-proof training.

The foot shells come as standard with Velcro straps at the ankle and toe level. If required, additional Velcro straps are also available for the lower foot.

The standard foot shell offers two pedal radius settings which enable the orbit of the foot shell and the range of movement of the ankle and knee joints to be altered. With a special spanner you are able to remove the foot shell (or pedal) from the pedal crank and screw it into the second hole on the pedal crank increasing the pedal setting. You find the required spanner along with your MOTomed viva1.



Please be aware that this is a left-hand thread! Please ensure that you have mounted both the left and the right side foot shell on the same pedal radius. Tighten the pedal bolts and check them regularly.

see page 46 If you wish to change the pedal radius frequently, we recommend our *pedal radius quick adjustment (item no. 507)*.

see page 67 **Important:** Foot shells can be individually adjusted to your needs, e.g. with outward rotation, in height etc. The employees of the RECK Company will be pleased to assist you.

Leg Guides with Calf Shells

The leg guides (fig. 12) at the safety foot shell are movable and spring mounted so that the ankle joint movement is possible. This is important as the calf-muscle pump in the legs can increase the speed of the blood flowing back to the heart. The calf shells are formed in a way that an easier fixation to the shells is possible. Due to their flexible form they can adjust to the lower leg.

Don't adjust the calf shells too high; they must not touch the lower legs. The calf shells need to rest against the calves for an optimal guidance and hold of the legs (fig. 13). Loosen the wing screw and adjust the height accordingly. Make sure that the minimum insertion depth of 3 cm/1.2 inches is maintained. As soon as you have fixed the feet into the foot shells, you need to tighten the Velcro straps around the calves.

Hint: Make sure that the Velcro straps are securely tightened.

see page 69

Pay attention to the safety precaution.

1.

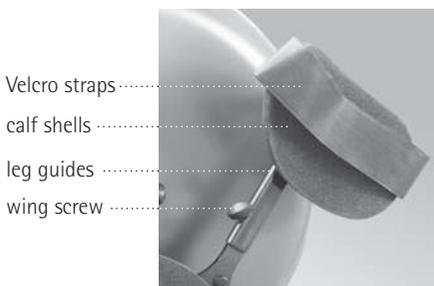


fig. 12

2.



fig. 13

Possible noises can be eliminated by tightening the wing screw for the height adjustment of the calf.

Item no. 504 **Handlebar**

The handlebar supports a secure hold during the training, particularly in case of strong spasticity, balance problems and for *active training*.

Please ensure that you do not place too much weight on one side of the handle i.e. when standing up: do not prop yourself up on one side of the handle since this could cause the MOTomed viva1 to tip over.

For hygiene reasons, the handlebar covering is washable and can also be disinfected with regular disinfectants.



fig. 14

In the centre of the handlebar module is a remote control rest: the remote control can be taken off and placed back as required. The height of the handlebar can be adjusted according to your individual needs by loosening the big screw knob located at the supporting module. Please make sure that the module is inserted 10 cm/4 inches minimum.

After making adjustments to the MOTomed, always ensure that all screws and screw knobs are tightened again before using the trainer. Do not lean on the handle bar when it has been raised as it may be unstable and there is a risk of tipping the MOTomed viva1 forward.

Item no. 505

Remote Control Rest

The remote control rest with supporting module is recommended if you do not require a handlebar or arm/upper body trainer but:

1. have problems picking the remote control up from the floor or from the safety foot shell
2. or you would simply like a comfortable place to view and operate the remote control during training.



fig. 15

If you happen to accidentally drop the remote control on the floor, with the rest you can pick it up again by pulling the cable of the remote control.

Item no. 506

Self-Operating Foot Holders

If you have difficulty positioning your feet with the standard Velcro straps we recommend using the self-operating foot holders, which can only be used in combination with *foot shells (item no. 501)*.

see page 42

The self-operating foot holders help you to fasten and remove your feet easily and independently. This is of special advantage if the desired urge to use the toilet occurs while training with the MOTomed viva1.



fig. 16

Open the foot holders. Insert your feet. After that, lift the foot holder first up and then aside to place the rubber roll properly. Last you fix it with the operating handle (feel a clear pressure).

tem no. 507 **Pedal Radius Quick Adjustment**

see page 42 With the pedal radius quick adjustment (only suitable in combination with *foot shells (item no. 501)*), you are able to adjust the range of motion 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:

1. First stop the pedal movement of the MOTOMed viva1 by pressing the red "start/stop" button twice.
2. Remove feet from the foot shells.
3. Unplug the mains.
- 4a. By pulling up the snap-in knob the foot shell can be slid along the pedal crank and can be set at any one of the 4 positions/levels (primarily loosen the Allen screw). You can find an Allen key at the bottom of the device.
- 4b. Stage-less adjustment: Using the Allen screw the foot shells can be set at any position on the pedal crank.
5. Repeat this process on the pedal crank of the other side.
Please make sure that you set the same pedal radius on both sides.
6. Plug in the MOTOMed at the mains socket (electrical outlet).

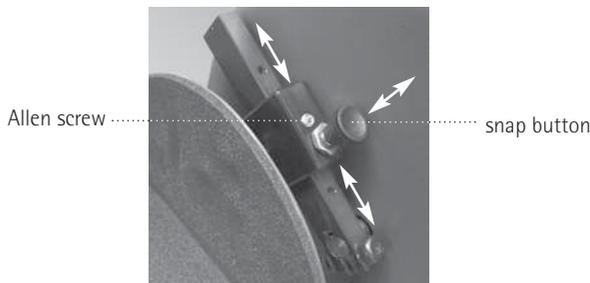


fig. 17

Hint: 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.

Item no. 550 **Arm/Upper Body Trainer Active/Passive**

Before using the arm/upper body trainer it is important to pull out the front leg about 15 cm / 6 inches (ensure a minimum insertion of 10 cm / 4 inches). This improves the stability of the MOTomed viva1 necessary for the arm training.

see page 16

The arm/upper body trainer is equipped with a triangular remote control rest, which is attached to the MOTomed with Velcro. Here the remote control is easy to reach and can be taken off or put back down. Please ensure that you do not place too much weight on one side of the handle i.e. when standing up: do not prop yourself up on one side of the handle since this could cause the MOTomed viva1 to tip over.

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



fig. 18

- 1 leg training 2 stop 3 swivel the arm/upper body trainer 4 start 5 arm/upper body training

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

- see page 24
1. Open the screw knob ②② on the underside of the arm/upper body trainer and turn it clockwise by 180 degrees. Tighten the screw knob securely again.
 2. In order to adjust a suitable height of the arm/upper body trainer, please open the screw knob ②④ at the supporting module, adjust it to the desired height and tighten the screw knob again. Please ensure a minimum insertion of 10 cm/4 inches.

After you've removed your feet from the foot shells you can start the arm/upper body trainer by pressing the "start/stop arms" button.

Important: Please make sure that your arms are not stretched out completely; the elbow joint should always be slightly bent. The arm trainer has to be fixed at 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 in the case of elderly people. Backward arm training encourages a more upright posture. Regular backward arm training is recommended as part of your training program.

Arm/Upper Body Trainer Active

see page 16

Before using the arm/upper body trainer it is important to pull out the front leg about 15 cm / 6 inches. Ensure a minimum insertion of 10 cm (4 inches). This improves the stability of the MOTomed viva1.

The remote control can be placed onto the arm/upper body trainer to have it easily accessible during the training.

Please ensure that you do not place too much weight on one side of the handle i.e. when standing up: do not prop yourself up on one side of the handle since this could cause the MOTomed viva1 to tip over.

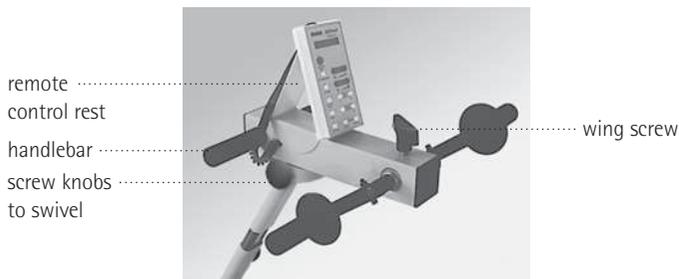


fig. 19

Use the wing screw to adjust the resistance of the arm/upper body trainer active.

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

1. Open the screw knob (22) on the underside of the arm/upper body trainer and turn it clockwise by 180 degrees. Tighten the screw knob again.
2. In order to adjust the arm/upper body trainer to suitable height, please open the screw knob (24) at the supporting module, adjust it to the desired height and tighten the screw knob again. Please see the pictured explanation in chapter *Arm/Upper Body Trainer Active/Passive*.

see page 47

Item no. 556 **Forearm Shells with Arm Cuffs**

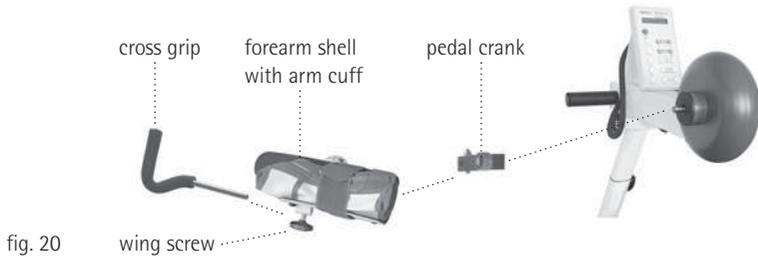


fig. 20

see page 47, 49 The forearm shells can only be used in combination with the *arm/upper body trainer (item no. 550 and 518)*. They are required if the arms need support and guidance due to paralysis. 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/vertical hand grip 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 inch). Tighten the wing screw after the operation (fig. 20).

The grip range for forearm shells consists of three different models: *cross hand grips (item no. 560)*, *ball-shaped hand rests (item no. 558)* and *vertical hand grips (item no. 559)*.



fig. 21

For tetraplegic patients, we offer special handles (*item no. 555, Tetra handles*) which are similar to the handles on a handy bike. Additionally, we can provide a modification for *synchronic movement of the arms (item no. 554)*.

Attention: It is important to make sure that the hands (and fingers) are fixed in a way that they cannot touch the pedal cranks. Training with forearm shells may only be done under supervision. For retrofit of the forearm shells, please open the Allen screw at the ball bearing. You find an appropriate Allen key at the underside of the MOTomed viva1. Don't forget to tighten the Allen screw again after having put on the forearm shells.

Item no. 562 **Hand Fixation with Wrist Cuff**

The hand fixation with wrist cuff enables quick and simple attachment to the arm/upper body trainer for a weak or paralyzed hand. Compatible with the full range of hand grips.

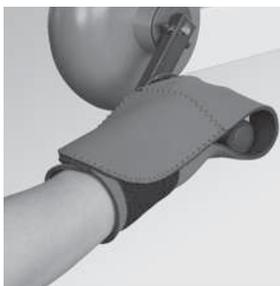


fig. 22

Item no. 8 **Wheelchair Stabilizer**

The wheelchair stabilizer protects the wheelchair from tilting or slipping away during active training or due to an occurring spasm.

When the wheelchair is in the right position, place the stabilizer behind the wheelchair and adjust the height in a way that the upper crossbar of the stabilizer fits right underneath the handles of the wheelchair.

fig. 23



In order to do this, you will need an assisting person. The wheelchair stabilizer is suitable for most conventional wheelchairs.

Item no. 511 **Chair Fixation with Stabilizer**

The chair fixation with stabilizer enables the user to train safely and securely from a normal chair. Especially recommended for users with strong spasticity and for those training actively.



fig. 24

Please make sure that the chair fixation with stabilizer is secured firmly to the MOTomed viva1. Both front legs of the chair must be secured inside the chair fixation and the back legs must be standing on the floor plate.

Height Adjustment

With the height adjustment it is possible to adjust the position of the pedal pivot by 7-15 cm/2.75-5.9 inches meaning the pedals rotate higher and nearer to the user. The height adjustment has been especially developed for people with short legs and for children. Other than that it can make it easier to drive up close to the MOTomed viva1 with sport wheelchairs or wheelchairs with a rigid foot board.

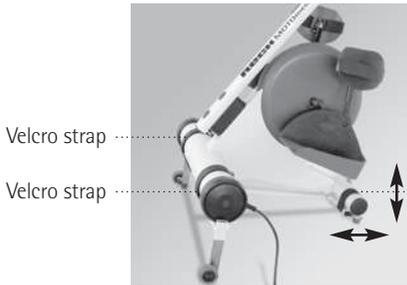


fig. 25

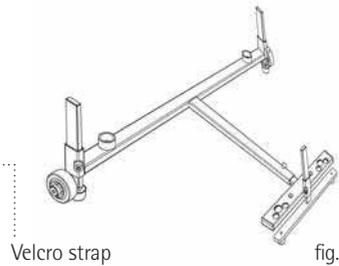


fig. 26

Put the large tube of the MOTomed viva1 on top of the large part of the height adjustment unit, so that both rubber-knobs are inserted in the circular holders of the height adjustment. Now open the Allen screws of the front part of the height adjustment unit with the Allen screwdriver which comes with the MOTomed viva1 and which is located underneath the device. Pull out the front support of the height adjustment unit the rubber-knobs of the front leg of the MOTomed fit into the circular holders of the height adjustment unit. Close the screws tightly and secure the height adjustment to the MOTomed viva1 with the Velcro straps.

To raise the large tube of the MOTomed, open one of the two Allen screws of the large part of the height adjustment unit with the Allen screwdriver. Now you can adjust the height according to your needs. Tighten this Allen screw and open the other one. Now adjust the MOTomed viva1 so that it is in a straight position, then fix the Allen screw again.

To raise the small leg of the MOTomed viva1, open the Allen screw of the small part of the height adjustment unit with the Allen screwdriver.

Now you can adjust the height you need. Tighten this Allen screw. Don't forget to secure the MOTomed viva1 with the 3 Velcro straps to the height adjustment. Put them around the left and right side of the large tube and the height adjustment and one strap around the front leg of the MOTomed and the height adjustment unit.

Item no. 534 **Ankle Joint Control with SlidingScale Adjustment**

The Ankle joint control enables precise, targeted movement of the ankle joint. Targeted ankle joint movement can significantly increase blood circulation throughout the body, especially in the legs. This in turn can stimulate the metabolism, avoid contractures and help to support normal walking movement.

Using the SlidingScale adjustment you can individually adjust the plantar flexion (stretching) and dorsal flexion (bending) of both ankle joints, enabling the therapy to be fine-tuned according to your needs.

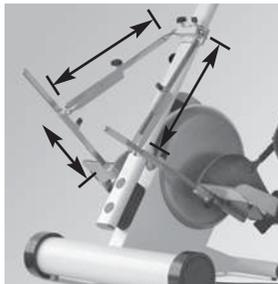


fig. 27

Attention: The degree of ankle joint movement must be carefully set. In general, you should start the training with a limited ankle joint movement and only slowly should this be increased. Consult a doctor and therapist for advice on appropriate usage of the ankle joint control system before starting the training.

General Information:

Additional accessories are described in the current product overview.
Also individual adaptations can be carried out. Please contact your
see page 67 MOTomed representative or the RECK company, see chapter "service".

- 58 **Safety Instructions for Troubleshooting**
- 58 **The MOTomed viva1 Runs Jerky or Makes Noises**
- 59 **The MOTomed viva1 does not Work at All or the Remote Control does not React**
- 59 **Error Messages**
 - 59 New start 4x
 - 59 Radius smaller 50
 - 60 Cool motor

Safety Instructions for Troubleshooting

Only authorized qualified personnel is allowed to carry out repair works on the MOTOmed viva1. For safety reasons it is crucially important that the device is completely disconnected from the power supply.

see page 67 In case of a malfunction that isn't listed below or if you have any questions, please refer to the RECK customer service department.

Upon requirement the RECK Company can provide further technical documentation in order to support the authorized qualified personnel regarding adjustments, repair and maintenance.

The MOTOmed viva1 Runs Jerky or Makes Noises

Please check the following points:

1. Are the wing screws of the leg guides securely tightened?
2. Is the pedal radius set to the same level on both sides?
3. Is the pedal radius set at a level too large for the level of mobility of the user? This leads to an uneven user dependent run.
4. Are all Allen screws of the pedal radius quick adjustment tightened correctly?
5. Please check your sitting position and posture in front of the MOTOmed viva1. You should sit upright and in a straight alignment with the MOTOmed viva1. The distance between you and the MOTOmed should be such that the legs do not over-extend and the knee joints don't lock.
6. For stroke patients, it is possible that the pedal movement is uneven due to the uneven sides of the body (especially when using a low gear).

The MOTomed viva1 does not Work at All or the Remote Control does not React

Please check whether the remote control is mounted correctly and whether the mains cable is plugged into the wall socket and into the MOTomed viva1. Check also the function of your wall socket (by plugging in any other electric device).

Error Messages

NEW START!! (4X)

If the MOTomed viva1 recognizes a malfunction during starting the training, the pedal movement will stop automatically and the error message above will be displayed. You can remove this error message in most cases by pressing the "start/stop legs" button on the remote control twice. If this does not work, please contact your MOTomed representative or the customer service at RECK. Please refer to the chapter "service" for phone numbers.

see page 67

RADIUS SMALLER 50

The MOTomed load monitor has reacted. Check the pedal radius settings and if possible reduce the pedal radius and use the MOTomed in active mode for a few minutes.

COOL MOTOR

The MOTomed overload monitor has reacted. Please wait ten minutes until the device cools down and the buttons on the display react again. If this error message appears twice in succession, stop your training and let the machine cool down completely for two hours before using it again.

Cleaning and Care

Before cleaning the MOTOmed viva1, the device must be unplugged so that the power supply is completely disconnected.

Clean the surface of your MOTOmed viva1 only with a soft and dry cloth. It is absolutely crucial that no water enters the device.

If several users use the MOTOmed viva1, please disinfect the handlebar and the remote control with a suitable disinfectant.

Never use caustic, corroding or solvent cleaning agents. Clean around stickers attached to the MOTOmed viva1 so that they don't get damaged.

Technical Specifications, Symbols

Measurements and Weight (standard units)

Height:	49 cm/19.3 inches
Width:	60 cm/23.6 inches
Depth:	56 cm/22 inches
Weight: leg trainer	20 kg/44 lb
leg and arm trainer	33 kg/72,8 lb

Power Requirement

Europe:	220 - 240 V ~/50 - 60 Hz, 0,56 A
USA, Canada:	110 - 120 V ~/50 - 60 Hz, 1,0 A
Japan:	100 - 110 V ~/50 - 60 Hz, 1,0 A
Other countries:	according to country specifications, consider the marking

Power Consumption

Non-operating:	max. 2.6 Watt
Operating:	max. 140 Watt

Ambience Conditions

Operation:	0° to +40°C/32 to 104°F
Storage:	-20° to +60°C/4 to 140°F
Humidity:	10 % - 80 % relative, not condensing

System of Protection: IPX0

Class of protection: I, Type B

**Class of medical products
according to MPG:** II a

According to IEC 601-1, all poles switch off of the MOTomed viva1 is ensured by pulling the mains plug.

Signs and Symbols



Applied part type B

Applied parts are parts which are in contact with the user during normal use and which are therefore subject to special safety criteria.



Pay attention to the documents



Attention! Follow instruction manual



MEDICAL ELECTRICAL EQUIPMENT
WITH RESPECT TO ELECTRICAL SHOCK
FIRE, AND MECHANICAL HAZARDS ONLY
IN ACCORDANCE WITH UL60601-
1/CAN/CSA C22.2 No. 601.1
40FF



The MOTomed viva1 meets the standards for medical devices 93/42/EWG



Construction year of the MOTomed viva1 (e.g. 2008)



Environment-friendly waste disposal



Serial number

Warranty

The RECK company offers a warranty on material and manufacturing faults of 12 months on the MOTOmed viva1 valid as of day of delivery or invoice date.

During the 12 months warranty period the RECK Technik GmbH & Co. KG grants replacement of defective parts of the MOTOmed viva1 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 parts are not damaged due to normal wear and tear.
2. repairs have only been effected by personnel authorized by the RECK company who have special knowledge, training and the necessary means for a proper implementation.
3. only RECK parts have been fitted to and used with the MOTOmed viva1 - no modifications have been made.
4. the MOTOmed viva1 has been used in accordance with the instructions and safety precautions listed in the instruction manual and has not been used inappropriately.
5. the failure is not due to wanton destruction, abuse, neglect, improper maintenance or unapproved modifications.
6. the warranty claim has been asserted within the fixed period of time and on presentation of a receipt which certifies the purchase of the MOTOmed viva1.

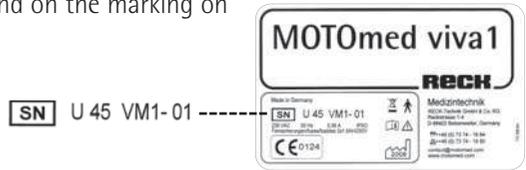
Recycling

The MOTOmed viva1 is a high-quality all-metal construction: it is long lasting, environmentally compatible and recyclable. Most parts can be recycled via scrap-metal recycling. The remaining electronic parts can be disposed of via electronic industrial waste.

Service

Should you have any questions please call us and we will gladly return your call. Please have the serial number of your MOTomed viva1 available, which you can find on the marking on the large tube.

fig. 28



Manufacturer:

Distributor:

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It is important for us to improve our products constantly. In order to do this, we need to hear about your experiences with the MOTomed. We would therefore appreciate your feedback. Please call us, send an email or contact your local MOTomed representative.

If you have friends or family to whom you would like to recommend the MOTomed viva1, we are always happy to send information about our various MOTomed MovementTherapySystems, either to you or directly to your friends - at no cost and with no obligation.

Safety Precautions

The first time use of the MOTOmed viva1 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 and physiotherapist before you start the training. Please pay attention to the preset adjustments of the MOTOmed viva1 when switching it on. The user either has to be conscious or needs to be monitored continuously.

see page 26

Warm-up: If the health condition of a patient doesn't allow MOTOmed training with the maximum speed of 20 rpm and the FOR CLINIC mode is active, the warm-up (with automatic velocity setting) has to be stopped by reducing the velocity manually.

The use of the MOTOmed viva1 is to be adapted to individual health conditions. Training suggestions by the manufacturer or its distributors are given without guarantee. No exact instructions can be given for the use of the MOTOmed viva1 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.

If there is any risk of damaging or causing injury to tendons, joints or bones (for example, users with osteoporosis, muscle shortening) you can adjust the motor power according to your needs after switching on the MOTOmed viva1.

see page 40

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, train your first sessions at low resistance. Avoid overexertion - it is recommended to rather cycle in low gears for longer times and more frequently.

If the following conditions apply, you must not use the MOTomed viva1 without first consulting your doctor and therapist: rupture of the crucial ligament, arthrosis of knee and hip, lately replaced hip and knee joint, stiff knee joint, advanced stage of osteoporosis, extreme deformity of limbs, extreme muscle shortening, pressure sores, risk of hip or shoulder dislocation, acute thrombosis.

Training is not recommended if there is the risk of skin abrasions, pressure marks or other injuries due to the health situation, position of feet or the adjustment of the leg guides with calf shells. You can train however, if you take the right safety measures (insert buffer material, etc.). Special elastic calf shell pads (item no. 521) and Velcro padding (item no. 546) are available as accessory.

You must consult a doctor and 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 or tissue) particularly those body parts that are in contact with the therapy trainer (e.g. legs). The manufacturer does not assume liability for injuries caused by neglecting these instructions.

Under the influence of alcohol, medicine or drugs, the health risks of using the MOTomed viva1 can be increased. Such usage is advised against.

Please ensure that the MOTomed viva1 is placed on an even, non-slip surface for best possible stability (if possible place it against a wall). Place the MOTomed viva1 so that it cannot tilt or fall over and cause injuries to somebody. Don't put weight on only one side of the MOTomed viva1. The mains cable must not be laid under the device.

If tilting backwards or movement of the wheelchair cannot be avoided due to spasms or active training, the use of a wheelchair stabilizer (item no. 8) or a chair fixation (with stabilizer (item no. 511) will be required.

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The MOTOmed viva1 might slip on smooth floors (tiles, laminate, parquet floors etc.). Therefore, anti-slip caps (item no. 591) for the small front leg of the device are available.

Please make sure that the rubber feet of the MOTOmed viva1 do not leave imprints or spots on delicate floor coverings such as carpet or PVC. As accessory to put under the MOTOmed viva1, the anti-slip mat (item no. 589) is available.

Please make sure that you apply the brakes of your wheelchair before starting your training with the MOTOmed viva1. If you are training seated in a power wheelchair it has to be switched off and its brakes must be applied as well.

Only put your feet into the foot shells while seated or in lying position. Never step in while standing upright. Do not put more than 25 kg / 55 lb (at 7 cm / 2.8 inches pedal radius) of weight onto either pedal.

see page 16 Before training with an arm/upper body trainer or with strong loads affecting the MOTOmed, please ensure that the front support is pulled out for stability (however make sure to leave at least 10 cm / 4 inches in the tube) to avoid the MOTOmed viva1 tipping over towards the user. While training the arms, the legs have to be removed from the foot shells.

see page 24

see page 44 Before starting your training, make sure that the screw knob fixing supporting module of the handlebar or arm/upper body trainer is tightened and that your legs or arms are secured properly. Ensure that 10 cm / 4 inches of the handlebar or arm/upper body trainer remain inserted in the supporting module. The height adjustment of the leg guides need to remain inserted 3 cm / 1.2 inches.

see page 47 Before starting leg training, the arm/upper body trainer has to be swiveled back so that you can hold on to the handlebar.

If you have any doubts regarding the proper power connection of the MOTomed viva1 or any other question, please get in contact with our customer service team.
see page 67

Training and insertion/removal of feet or arms should never be done without supervision of a qualified person if it cannot be made sure that the user understands the functions and purpose of the MOTomed viva1 and that he is able to switch off the device through the remote control during the training (particularly during the arm/upper body training with forearm shells). In general, supervision during the training is recommended.

Ensure before every training session that the screws of all adjustable parts of the device (arm/upper body trainer, front leg, handlebar...) are tightened and intact. In case they get loose during the operation you have to stop the training immediately and fix the screws..

Suitable clothing must always be worn. Wide trousers, long towels and scarves that could get caught or tangled in the pedal crank must not be worn. Shoes with shoe laces must not be worn, either.

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

While the pedals/foot shells are turning, neither the user nor any other person should make any mechanical alterations to the MOTomed viva1 (pedal radius, height adjustment of handlebars or arm/upper body trainer etc.). Never try to grab hold of any moving parts!

The MOTOmed viva1 must not be moved while legs or arms are inserted or secured to the device.

Please train only after you've switched on the MOTOmed viva1.

Children should never use the MOTOmed viva1 without supervision.

If the red "start/stop" button fails to stop the MOTOmed viva1, immediately adjust the speed to 0 rpm and end your training right away. You can train again as soon as the malfunction is eliminated.

see page 78 Being an electronic medical device the MOTOmed viva1 has to comply with special safety standards in regard of electromagnetic compatibility. During installation and operation the EMC information has to be followed.

see page 63



Before you plug the MOTOmed viva1 into a mains socket please check that the voltage of the device stated on the marking plate corresponds with the voltage of the power supply. The MOTOmed viva1 is earthed by the ground wire in the mains cable. In order to avoid electric shock, please make sure that the electrical system in your house and the wall socket you connect the MOTOmed viva1 to is also properly earthed. The MOTOmed viva1 must only be used if the power cable is free from grazes, bruises, porous points, kinks or buckles - wires should never be exposed. Before using the MOTOmed viva1 each time check that there is no damage to the power cable and that the power cable cannot interfere with the mechanical operation of the device. Further place the mains cable during training in a way that no mechanical damage can occur. Make also sure that nobody will trip over the mains cable. Only use fuses which match the specifications indicated for the MOTOmed viva1.

Multiple sockets or extension cords that you may use with the MOTOMed have to comply with the standards for medical equipment.

In order to avoid fire hazard or electrical shock the MOTOMed viva1 must never be operated if the casing has been removed. In the same way the MOTOMed viva1 must never be operated in any wet or damp environments. The MOTOMed viva1 must never be opened by any unqualified person and metal objects must never be inserted.



Portable or mobile communication devices, like mobile phones or amateur radio stations, can influence the functioning of the MOTOMed viva1. Such devices carry the symbol illustrated on the left side and thus can be recognized.

see page 59 If the motor is on overload, please follow the instructions overheating. When cycling actively in small gears, the function ServoCycling can be recognized easily. This means that through the support of the motor the speed of the MOTOMed viva1 can be significantly increased by applying only little muscle strength. Thus, the effect of the muscle force applied is enforced by the motor. 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 high gear. In case of an amputated leg a counter weight (item no. 535) is required.

The MOTOMed viva1 is suitable only for therapeutic use. The values displayed are not suitable for diagnostic purposes.

In order to avoid overheating of the casing you must not expose the MOTOMed viva1 to long-term direct solar radiation. You should not work actively against the pre set passive cycle movement that may cause electronic damage.

see page 67 The MOTOmed viva1 must not come into contact with water or steam. If an object or liquid gets into the MOTOmed viva1 you have to have it checked by qualified personnel before you can continue to use it.

Keep animals away from the MOTOmed viva1.

Don't leave the packaging material lying around. Plastic foils/bags, Styrofoam parts etc. can be hazardous toys for children.

Security related controls according of the medicine product operator regulation (Medical Devices Act) have to be carried out at least every second year. The latest version of the regulation has to be followed.

In the event that you pass this MOTOmed viva1 on to another person, please enclose also this instruction manual.

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.

Only original parts can be attached or exchanged. Always make sure to keep the parts away from greasy substances. Follow the norm DIN VDE 0751.

The MOTOmed viva1 must only be opened by qualified personnel. Beforehand the device must always be unplugged from the mains socket.

78	Manufacturer's Declaration – Electromagnetic Emissions
79	Manufacturer's Declaration – Electromagnetic Immunity
81	Recommended Separation Distances

The manufacturer states that the mains cable of the MOTOMed viva1 complies with the requirements of the EN 60601-1-2:2001. If the original mains cable coming with the MOTOMed viva1 is not taken into use the electromagnetic emission of the MOTOMed viva1 may increase and the immunity may decrease.

Manufacturer's Declaration – Electromagnetic Emissions

The MOTOMed viva1 is supposed to be operated in the electromagnetic environment described below. The customer or user of the MOTOMed viva1 has to guarantee the use in the appropriate environment.

Emissions test	compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The MOTOMed viva1 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.
RF emissions CISPR 11	Class B	The MOTOMed viva1 is made for the use in facilities and homes which are connected to the public mains supply which also supplies individual homes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	complied	

Manufacturer's Declaration – Electromagnetic Immunity

The MOTOMed viva1 is to be operated in the electromagnetic environment described below. The customer or user of the MOTOMed viva1 has to guarantee the use in the appropriate environment.

Immunity test	IEC 60601 – test level	Electromagnetic environment – guidance
Electrostatic discharges (ESD) 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 % U_i (> 95 % dip in U_i) for 1/2 cycle 40 % U_i (60 % dip in U_i) for 5 cycles 70 % U_i (30 % dip in U_i) for 25 cycles < 5 % U_i (> 95 % dip in U_i) for 5 s	Mains power quality should be that of a typical commercial and/or hospital environment. If the user of the MOTOMed viva1 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_i is the mains common-mode voltage prior to the application of the test level.		

Immunity test	IEC 60601 – test level	Compliance level	Electromagnetic environment – guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 V_{eff} 150 kHz bis 80 MHz</p> <p>3 V/m 80 MHz bis 2,5 GHz</p>	<p>3 V_{eff} 150 kHz bis 80 MHz</p> <p>3 V/m 80 MHz bis 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>für 80 MHz bis 800 MHz</p> $d = 7,0/10 \sqrt{P} = 0,70 \sqrt{P}$ <p>für 800 MHz bis 2,5 GHz</p> <p><i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the specifications of the manufacturer and <i>d</i> is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey^a should be less than the compliance level in each frequency range.^b</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.</p>			
<p>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 viva1 is used exceeds the applicable RF compliance level above, the MOTomed viva1 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 viva1.</p>			
<p>b. Over the frequency range 150 KHz to 80 MHz field strengths need to be less than [V₁] V/m.</p>			

Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and the MOTomed viva1.

The MOTomed viva1 is supposed to be operated in an electromagnetic environment where the RF interference is controlled. The customer or user of the MOTomed viva1 can help avoid electromagnetic interference by keeping the separation distances between portable and mobile RF communications equipment (transmitters) and the MOTomed viva1 - which depends on the performance of the communication device as described below.

Rated maximum output power 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, the separation distance d in meters (m) can be estimated using the equation in the corresponding column, where P is the maximum output power rating of the transmitter in watts (W) according to the specifications of the manufacturer.			
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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Technical modifications for the purpose of technical improvement are subject to change without notice. Reprint, even in parts, only by approval of the RECK Company.

Instruction manual

MOTOmed viva 1



QUALITY
MANAGEMENT
We are authorized



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