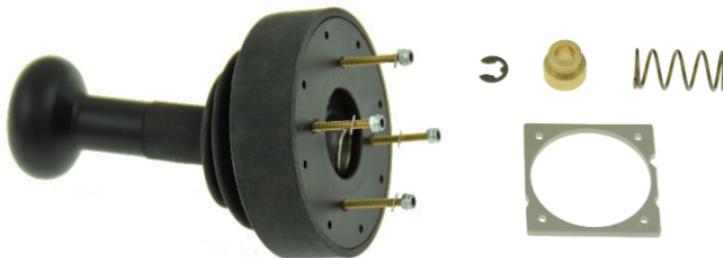


## Heavy duty kit for R-net Standard Joystick

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Mounting kit for Standard R-net joystick (remote)



Heavy Duty Kit for R-net Standard Joystick (M002-24)

## Contact & Product

### mo-Vis bvba



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## Heavy Duty Kit for R-net Standard Joystick User & Installation manual

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## Important information about this Manual

Congratulations for choosing a mo-Vis product! If you would like to learn more about mo-Vis and its products, we invite you to visit our website: [www.mo-vis.com](http://www.mo-vis.com).

Before you install or begin using this product, it is important that you read and understand the content of these installation and operating instructions, the safety instructions in particular.

The installation instructions will guide you as an installer through the options and possibilities with the mo-Vis product. The additional connection manual is considered as a comprehensive part of this manual. The mo-Vis product should be adjusted with the mo-Vis Configurator software.

The operating instructions are primarily intended to acquaint you with the functions and characteristics of the mo-Vis product and how you can use it in the best manner possible. They also contain important safety and maintenance information, as well as describe possible problems that can arise during use.

Always keep the operating instructions handy in connection with your wheelchair, since the need for important information can arise concerning its use, safety and maintenance.

All information, pictures, illustrations and specifications are based on the product information that was available at the time of printing. Pictures and illustrations shown in these instructions are

representative examples and are not intended to be exact depictions of the various parts of the product.

We reserve the right to make changes to the product without prior notice.

### ***Referenced products***

This manual is valid for the Heavy Duty Kit for R-net Standard Joystick.

### ***Ordering documentation***

You can download additional copies of this User & Installation manual on the mo-Vis website: [www.mo-vis.com](http://www.mo-vis.com).

## Support, scrapping and spare parts

### *Technical support*

In case of technical problems, we advise you to contact your dealer. If the dealer is not available, or unknown, please contact mo-Vis bvba by email [support@mo-vis.com](mailto:support@mo-vis.com) or by phone +32 9 335 28 60. Always state the device serial number when contacting mo-Vis. This ensures you are provided with the correct information.

### *Spare parts and accessories*

Spare parts and accessories must be ordered by the dealer at mo-Vis bvba.

### *Scrapping & recycling*

For scrapping, adhere to your local waste legislation. Dispose of obsolete electronic parts responsibly in accordance with local recycling regulations.

# Warranty

mo-Vis bvba warrants the Heavy Duty Kit for R-net Standard Joystick to be free from defects in material and workmanship for a period of 2 years under proper use, care & service. All warranties only cover parts and do not extend beyond the initial purchaser from an authorised mo-Vis dealer.

## *Start of the warranty period*

Each warranty shall begin on the date the product is first delivered to the customer.

## *Repair and replacement*

For warranty service, we advise you to contact the dealer from whom the product was purchased. In the event of a defect in material or workmanship, the dealer must obtain a return authorisation (RA) number from mo-Vis and the product must be shipped to a service centre designated by mo-Vis. mo-Vis will repair or, at mo-Vis' option, replace any product covered by the warranty.

## *Disclaimer and Limitations of Remedies*

The express warranties set forth in this agreement are in lieu of all other warranties of merchantability or fitness of purpose. In no event shall mo-Vis be liable for any direct, indirect, incidental or consequential damages resulting from any defect in this product.

Warranty of parts subject to “normal wear and tear” (e.g. pads, joystick balls, batteries ...) are not covered in the warranty except as it applies to defects in material or construction.

### ***Amendments***

No person is authorised to alter, extend or waive the warranties of mo-Vis.

### ***Voiding of warranties***

The foregoing warranties are contingent upon the proper installation, use, maintenance and care of the product. The warranty will be void if the product has been installed or used improperly, or if it has been repaired or any part replaced by persons other than mo-Vis or an authorised dealer. The parts of the product are considered as non-serviceable.

The addition of equipment or features that are not manufactured or recommended by mo-Vis could affect the intended function of the mo-Vis product and may invalidate the warranty.

### ***Understanding usage***

The health care professional (authorised installer) is responsible for understanding the intended use of the mo-Vis equipment, the specifications and its programming parameters. mo-Vis cannot be held responsible for damage caused by incorrect installation or incorrect use of the product. Misuse, mishandling or storage is not covered by this warranty.

# Safety precautions

## *General*

The Heavy Duty kit for R-net Standard Joystick is intended to be fitted on an R-net joystick with sensor D51422.

Incorrect use or installation may lead to risk of injury to the user and damage to the wheelchair or other property.

In order to reduce these risks, you should carefully read this instruction manual, paying particular attention to the safety instructions and warning texts.

Any unauthorised use of the product may lead to increased risk of accident. Carefully follow the recommendations in this manual in order to prevent accidents from use.

In case of doubt for alterations and adjustments, always contact a qualified service engineer.

## *Warning labels*

This manual contains the following warning labels, which are intended to draw attention to situations that could lead to unwanted problems, e.g. personal injury or damage to the wheelchair.



### **CAUTION!**

*Please use caution where the symbol appears.*

**WARNING!**

*Please use extreme caution where the symbol appears. Failure to observe warnings can lead to personal injury or property damage.*

**CAUTION!****Limited liability**

*mo-Vis accepts no liability for personal injury or damage to property that may arise from the failure of the user or other persons to follow the recommendations, warnings and instructions in this manual.*

**WARNING!****Assembly**

*The Heavy Duty kit for R-net Standard Joystick should only be installed or adjusted by a qualified service engineer or someone with adequate knowledge to perform the adjustment in an expert manner.*

### **Maintenance and service**

*Carry out only the service and maintenance activities specified in this manual, as long as you comply with the demands stated in this manual for a specific action. All other service, alterations to and interventions on the Heavy Duty Kit for R-net Standard Joystick must be carried out by a qualified service engineer or someone with adequate knowledge to perform the adjustment in an expert manner. In case of doubt, contact a qualified service engineer or mo-Vis.*

*Use only spare parts or accessories approved or recommended by mo-Vis. All other use could lead to changes which might impair the function and safety of the product. It could also lead to the warranty becoming void.*



### **CAUTION!**

#### **Testing**

*The Heavy Duty kit for R-net Standard Joystick should always be tested without any person sitting in the wheelchair after every alteration of the physical installation or adjustment of the joystick parameters.*



### *Heavy Duty kit package*

An Heavy Duty kit for R-net Standard Joystick package consists of the following parts:

	Product description	Product code
	Upper part Heavy Duty kit for R-net Standard Joystick, screws included	/
	Slide washer HDJS	6003202
	Heavy Duty spring d1.3 Dm12.8	PMSPR00002

	Product description	Product code
	Circlip D5 Din 6799	PM CIR00010
	Syringe grease, 1ml Super Lube	M002-29
	3mm drill bit	TMHAT00055
	Heavy Duty kit R-net Standard Joystick manual	D-M002-24-70-00

### ***Ordering spare parts***

Spare parts and accessories must be ordered by the dealer at mo-Vis bvba.

Always mention Product code & Product description of items to be ordered.

# Installation instructions

## Preparations

### ***Qualified service engineer***

Only a qualified service engineer may install the joystick.



#### ***WARNING!***

*An incorrect installation may cause damage to the devices, or injury to the user.*

### ***Joystick sensor type***

The Heavy Duty Kit for R-net Standard Joystick is designed for a Joystick sensor, type D51422. This type is used by PGDT since 2013.

For older devices, check before installation.

### ***Component handling***

- Always use gloves to handle the components
- Only work on a clean table with enough protection for the components to avoid damage and scratches to the components.
- Do not over torque the screws.
- Lubricate well where indicated.

## Calibration

After installation, calibrate the Joystick to ensure a proper working.



### **WARNING!**

*Not recalibrating may cause damage to the devices, or injury to the user.*

## Tools

The kit contains all necessary components for a successful installation. Tools are not provided. You will need the following tools:

- set of screwdrivers
- drill bit of 3.00mm
- handheld drilling machine (battery powered preferred)



### **CAUTION!**

*Use the proper tools to install and adjust the joystick. The use of improper tools may cause damage to the device.*



### **CAUTION!**

*Do not tighten screws with an excessive force.*

## Serial number sticker

The additional serial number sticker which can be found in the package should be adhered to the back of this manual.

## Changing joystick tip

If required, the Joystick tip may be replaced by a custom tip (e.g. a 'T')

- To remove the default joystick tip, open the rubber cover below the joystick from the bottom towards the top and use an M12x1.5 wrench to unscrew the tip.
- Replacing the joystick tip is done at own risk.
- Contact your dealer or mo-Vis for more information. Custom tips may be available.

## Heavy Duty Kit for R-net Standard Joystick installation

The installation of the Heavy Duty Kit is done in a number of phases. Each phase is described below:

1. Disassemble the R-net Joystick
2. Modify the Joystick sensor
3. Assemble the Joystick
4. Calibrate the joystick



### **CAUTION!**

*The installation is described for two different joystick versions: R-net CJSM and R-net CJSM2. Depending on the joystick version follow the according instructions, as the installation is different.*

## 1. Disassemble the R-net Joystick

Version: CJSM

Step	Action	Illustration
1	Remove the screws at the back of the joystick.	
2	Release the top half of the housing. If present, carefully release the locking system of the connector.	
3	Remove the Joystick sensor.	

## Version: CJSM2

Step	Action	Illustration
1	Remove the screws at the back of the joystick.	
2	Release the top half of the housing. If present, carefully release the locking system of the connector.	
3	Remove the Joystick sensor.	

## 2. *Modify the joystick sensor*

Step	Action	Illustration
1	Remove the original spring of the joystick. If necessary, cut away the plastic retainer.	 A top-down view of a joystick sensor assembly. It consists of a black plastic base with a silver metal shaft protruding from the center. A white plastic bush is mounted on the shaft, and a blue plastic retainer is visible at the bottom of the shaft where it meets the base. The original spring has been removed.
2	Place the new spring, slide washer bush and circlips.	 A top-down view of the same joystick sensor assembly as in step 1. The blue plastic retainer has been removed. A new brass-colored spring is now installed on the shaft, with a brass-colored slide washer bush and a brass-colored circlip (retainer) placed over it. The white plastic bush remains in place.

### 3. Assemble the joystick

Version: CJSM

Step	Action	Illustration
1	Locate the 4 mounting tubes at the back of the Joystick sensor top cover	
2	Use a drill of 3 mm to open the mounting tubes in the top cover.	
3	Gently remove the reinforcement plate, screws and washers of the Upper Part of the Heavy Duty Joystick kit.	

Step	Action	Illustration
4	<p>Assemble the Joystick sensor, washer and screws.</p> <p>Apply ample grease to the sliding bush, spring and top of the Joystick axle.</p>	 A close-up photograph of the joystick assembly. A brass-colored metal axle is inserted into a black plastic housing. The axle has a sliding bush and a spring. The housing has several screws around the joystick opening. To the right, there are some buttons and a 'STOP' label.
5	<p>Screw the parts together. Make sure all screws are evenly tightened.</p> <p>To tighten the screws: use a star-pattern sequence.</p>	 A photograph of the joystick assembly with the top cover removed. The assembly is mounted on a black plastic base. There are four screws visible around the joystick opening. The base has a star-pattern sequence of screws.
6	<p>Check the joystick movements.</p> <p>If the joystick is blocked or gets stuck, the 4 screws may be tightened too much. Release the screws a little and recheck.</p>	 A photograph of the complete joystick assembly. The joystick is black and has a small LCD screen on the left side. The joystick is mounted on a black plastic base. The base has several buttons and a 'STOP' label.

Step	Action	Illustration
	<p>Mount the back cover.</p> <p>Check visually if the assembly is done correctly. (e.g. are the gaskets located correctly?).</p>	

#### Version: CJSM2

Step	Action	Illustration
1	<p>Locate the 4 mounting tubes at the back of the Joystick sensor top cover</p>	

Step	Action	Illustration
2	Use a drill of 3 mm to open the mounting tubes in the top cover.	
3	Gently remove the reinforcement plate, screws and washers of the upper part of the Heavy Duty Joystick kit.	
4	<p>Assemble the Joystick sensor, washer and screws.</p> <p>Apply ample grease to the sliding bush, spring and top of the Joystick axle.</p>	

Step	Action	Illustration
5	<p>Screw the parts together. Make sure all screws are evenly tightened.</p> <p>To tighten the screws: use a star-pattern sequence.</p>	
6	<p>Check the joystick movements.</p> <p>If the joystick is blocked or gets stuck, the 4 screws may be tightened too much. Release the screws a little and recheck.</p>	
	<p>Mount the back cover.</p> <p>Check visually if the assembly is done correctly. (e.g. are the gaskets located correctly?).</p>	

#### **4. Calibrate the joystick**

During installation, throw and center point of the joystick may change slightly. Therefore it is necessary to test the joystick after installation and execute a recalibration if necessary.

To calibrate, follow the instructions below.

For more information, consult the PG Drives Technology (PGDT) manual.

- 1.** Connect the Joystick to the R-net system
- 2.** Depending on the manufacturers' settings, connect a PGDT program dongle to the system or go to OBP mode using the mode button.
  - See PGDT manual page 8/9 for more information
  - If the OBP mode is not accessible, check the R-net program with the PC programmer  
(Controls > Global: OBP keycode entry = Yes)
- 3.** Calibrate the joystick
  - See PGDT manual page 23
  - In OBP, go to System > Joystick calibration and follow the instructions on the display

- The limit values are normal if they are close to:  
Neutral: smaller or equal to 16  
Deflection: larger or equal to 230

If the calibration fails (values cannot be reached):

- check the mechanics of the Heavy Duty and check symmetry.
- If the mechanical system is mounted out of centre it is possible the deflection values stay too low in a certain direction.

## Testing

After installation of the Heavy Duty Kit R-net for Standard Joystick, execute the following tests before the wheelchair is delivered to the user or put into service, in according order:

1. Check the joystick for intactness
2. Operational test
3. Test drive
4. Stop test

### *Check the joystick for intactness*

Check whether:

- The joystick is not bent or damaged
- Housing, cabling and all connectors are not damaged

- The joystick returns to its default position when moving and releasing the joystick forward, backward, left and right.

## **Operational test**



### **WARNING!**

*Execute this test only on a level surface, with at least one meter of free space around the wheelchair.*

1. Activate the wheelchair operating system.
2. Move the joystick slowly forward until you hear the parking breaks switch off.



### **CAUTION!**

*The wheelchair may start moving.*

3. Immediately release the joystick. You should hear the parking break react within a few seconds.
4. Repeat steps 3 and 4 three times, while slowly moving the joystick towards you, to the left and to the right.
5. Check whether the power on/off and mode Switch function properly.

## **Test drive**

Make a test drive with the wheelchair.

- Check whether the wheelchair and all its functionalities function fully correctly in all positions the user may use the joystick and switches.

- Check no cabling or parts may get damaged or hindered in any possible position of the wheelchair.

### ***Stop test***

Drive full speed ahead and shut down the wheelchair with the power on/off switch.

The wheelchair may not suddenly stop, but must slow down to a gradual stop.

### *Dealer assistance*

During first time use by the user it is advised that the dealer or service engineer assists and explains the different possibilities to the customer (the user and/or his attendant).

If needed, the dealer can make final adjustments.

### *User testing*

It is important that the customer is fully aware of the installation, how to use it and what can be adjusted to optimise his experience.

As a dealer, proceed as follows:

1. Explain and show the customer how you have executed the installation, and explain the function of every (new) button.
2. Have the user test all positions of the joystick:
  - Are the joystick and switches within easy reach?
  - Can the user safely operate the wheelchair with the least effort?
  - Is the placement of the joystick and buttons in all available positions optimal for the user?
3. If needed, adjust the joystick.
4. Explain to the customer possible problems and how to address them.

# Using the Heavy Duty Kit R-net

## Conditions of use

The Heavy Duty kit R-net for Standard Joystick is intended for use as installed by the dealer, in accordance to the installation instructions in this manual.

The foreseen conditions of use are communicated by the dealer or service engineer to the user and/or attendant during the first time use.

If the conditions of use change significantly, please contact your dealer or a qualified service engineer to avoid excessive wear and tear or unintended damage.

# Maintenance

## *Cleaning*

Clean the Joystick on a regular basis (monthly), or whenever needed.

- Gently remove dust and dirt with a damp cloth
- Use only non-aggressive disinfectant cleaning agents



### ***WARNING!***

*Do not immerse in water or use excessive amounts of liquid.*

## *Monthly check*

Monthly, or whenever needed, check whether:

- All bolts and screws are still firmly tightened
- There is no excessive wear to any of the parts

## *Yearly check*

We advise to have at least yearly a full check of the wheelchair and its operating systems by a qualified service engineer.

Contact your local dealer or mo-Vis for more information.

## Technical data

### *Product description & Code*

- Heavy Duty kit R-net Standard Joystick (M002-24)
- to be fitted on an R-net joystick with sensor D51422.

### *Dimensions*

- to be integrated in the R-net joystick sensor

### *Required Force*

- ca. 650 gr (22.93 oz)

Installation date: . . / . . / . . . . .



Dealer: . . . . .

***Dealer stamp:***

A large, empty rectangular box with a thin green border, intended for a dealer stamp.

***Serial number sticker***

A large, empty rectangular box with a thin green border, intended for a serial number sticker.