



## **MONORUDDER** **MonoClack locking system**

Re.12052017 English



*Read this manual  
carefully and keep it  
for future reference*

## Ferno Technical Support

Customer Service and Technical Support are important aspects of every Ferno product. Before contacting us, note the serial number of the product and specify it in all written communications. For all queries concerning technical support, contact Ferno Washington Italia s.r.l.:

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## Ferno Customer Service

For assistance and further information, contact Ferno Washington Italia s.r.l.'s Customer Services:

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**USER AND MAINTENANCE MANUAL**  
To request additional free copies of the instruction manual, please contact Ferno Washington Italia's Customer Service.

## Limitation of liability

This manual contains general instructions on the use and maintenance of the product. The instructions do not cover all possible applications and operations. The user is solely responsible for proper and safe use of the product. The safety information is provided as a service to the user and ensures only the minimum required level of safety to prevent injury to operators and patients. Any other safety measure implemented by the user must comply with applicable regulations. Before using the product, it is strongly recommended that staff be trained in its correct usage. Retain this manual for future reference. In case of change of ownership, ensure that the manual remains with the product. Additional free copies can be obtained from Ferno Washington Italia's Customer Service.

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The device serial number is shown on the main label affixed to the motor housing.

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## Limited warranty

Ferno products are covered by a 24-month warranty against manufacturing defects. For the full terms and conditions of warranty and liability, see Chapter 10 *Warranty*, page 39.

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# 1 - SAFETY INFORMATION

## 1.1 Warning

The danger symbols draw attention to potentially dangerous situations that, if disregarded, may result in accidents, damage and/or injury.



### WARNING

Untrained users may injure themselves, cause damage and/or physical harm. Allow only trained and qualified staff to use the device.

Improper use of the device may cause damage and / or injury. Use the device as described in this manual.

The use of the device with track support that is not properly locked may cause damage and / or injury. Ensure you have properly locked the track support before moving the patient.

Occasional assistants may cause damage and/or physical harm, or injure themselves. Always keep the device under control, activate the controls, and coordinate the assistants.

Lubricating the track support can cause damage and / or injury to the patient and / or operators. Never lubricate the track support.

An unassisted patient is at risk of injury. Never leave the patient alone, and always assist the patient when using the device.

Failure to use the restraints can cause the patient to fall and endanger their safety. Always use restraints to secure the patient to the device.

Incorrect charging of the device may cause damage and / or injury. Use only batteries approved and authorised by Ferno, and recharge only with chargers approved and authorised by Ferno.

Improper maintenance may cause serious accidents, injuries and/or damage. Perform maintenance as instructed in this user manual.

The use of improper and/or unauthorised devices may cause accidents, damage, and/or injury. Use only devices that have been approved and authorised by Ferno Washington Italia.

Unauthorised modifications can cause injury and / or damage. Use the device only as approved by Ferno.

Unauthorised repairs, and repairs carried out by people not approved by Ferno Washington Italia, will render all warranties null and void and may compromise the safety of the device.

Non-original spare parts and inadequate repairs may cause damage and/or injury. Use only original Ferno parts and refer exclusively to Ferno Washington Italia Customer Support.



### WARNING

Do not leave the MONORUDDER device unattended on surfaces with a gradient over 10°. There is a risk of tipping.

Take extra care when using the MONORUDDER device on carpeted stairs, as there may be a risk of pulling the carpet from the steps and causing harm to operators and / or the patient. Ensure the carpet is secure. Allow use of the device only by trained and qualified personnel.

In case of stairs with steps with rounded profiles, take extreme care when using the device. Allow use of the device only by trained and qualified personnel.

When ascending or descending a spiral staircase, take extreme care and allow use of the device only by trained and qualified personnel.

Never switch off the brake button. The brake function ensures safe transportation for both the patient and for the operators. Pay the utmost attention and ensure you have full control of the device while ascending or descending stairs, regardless of whether the brake function is active or has been disabled by the operator.



## 1.2 Important

Boxes labelled "Important" contain important information on use and/or maintenance of the device.

**Important**

## WEEE DIRECTIVE (EU)

Directive 2002/96/EC of the European Parliament and Council on waste electrical and electronic equipment (WEEE) restricts electrical and electronic equipment waste. For proper disposal, contact the appropriate authority.

## 1.3 Blood-borne diseases

To reduce the risk of exposure to infectious diseases that may be transmitted by blood, such as HIV-1 or Hepatitis, follow the instructions on disinfection and cleaning in this manual carefully.

## 1.4 Load capacity

Observe the load capacity of the MONORUDDER device. Refer to section 3.5 *General specifications*, page 11.

## 1.5 Compatibility with locking systems

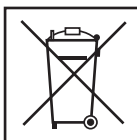
The MONORUDDER device is designed to be used with the Monoclack wall locking system for storage.

The Monoclack is the only certified locking system for the MONORUDDER device.

## 1.6 Disposal

### CORRECT DISPOSAL OF THE BATTERIES

The batteries should be disposed of properly at the end of their life-cycle. Do not dispose of the batteries with household waste. For proper disposal, contact the appropriate authority.



**Li-ion**

The device uses a main rechargeable lithium ion battery to power the motorised system, and two non-rechargeable "AA" batteries for the control unit.

## 1.7 Glossary of symbols

The symbols used in this manual and/or on the device's labels are defined below. The CE mark is present on the device and in this manual.



Danger: Risk of injury



Danger: Risk of electric shock



Danger: Mechanical risk



Read the user manual carefully



The device requires at least two qualified operators for correct use.



Load capacity (in pounds, kilos and stone)



Type B applied part



ON



OFF



ASCENT



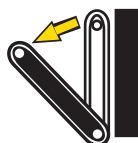
DESCENT



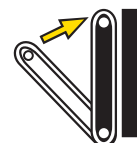
Unlocked



Locked



Open the track support



Close the track support



Battery charge is low (Replace the control unit batteries)



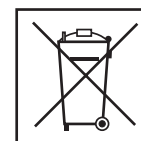
Do not lubricate



Lubricate



Do not wash with high pressure jets



WEEE Directive: Dispose of batteries properly



PRESS the red buttons on the main battery to extract it



QR Code



This product meets European Union Standards

## 1.8 Information and safety labels

The information and safety labels contain important information that the user needs to know.

Read and follow the label instructions. Replace worn and/or damaged labels immediately. To obtain replacement labels, contact Ferno Washington Italia's Customer Service (page 2). The labels shown below are attached to the device.



Main Label



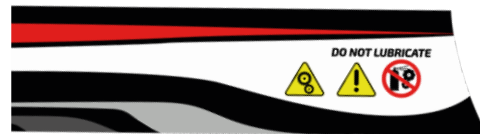
Instructions for closing the track support



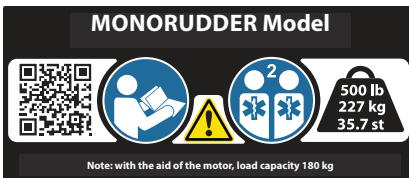
Label with instructions for correctly removing the main battery. The PRESS symbol is present on both the red buttons on the main battery



Instructions for opening the track support



Do NOT LUBRICATE label



Basic safety information and load capacity label



Restraint Application Label

## 2- OPERATOR TRAINING AND SKILLS

### 2.1 Skills

Operators who use the device must:

- have specific experience in patient handling and transport procedures;
- possess the appropriate skills to assist the patient;
- log the training sessions. An example of a form for logging the training sessions can be found on page 41.

### 2.2 Training

Operators are required to:

- read and understand all information in this manual.
- attend a suitable training course on the use of the device (recommended).
- practice with the device before using it in real situations with patients.



#### WARNING

**Untrained users may injure themselves, cause damage and/or physical harm. Allow only trained and qualified staff to use the device.**



#### WARNING

**Improper use of the device may cause damage and / or injury. Use the device as described in this manual.**

## 3 - THE DEVICE

### 3.1 Description

The Ferno MONORUDDER evacuation device is a device for transporting a seated patient up and down stairs and over flat surfaces.

The device is equipped with a motorised system that allows operators to go up and down stairs. This system is powered by a rechargeable 28 VDC battery (*supplied as standard*). The operator can control the device by means of an easily accessible and identifiable control unit. The control unit is mounted on the extendible carrying handle.

The device should be used only by trained and qualified staff. The device is for professional use by at least 2 qualified operators. A third operator may be required depending on local regulations. Additional assistance may be required to handle heavy patients and/or when the situation demands it, and should always be provided according to local healthcare regulations.

### 3.2 CE Compliance

#### MEDICAL DEVICES DIRECTIVE



Ferno's products meet the requirements of European Directive 93/42/EEC concerning medical devices.

For more information: [www.ferno.it](http://www.ferno.it)

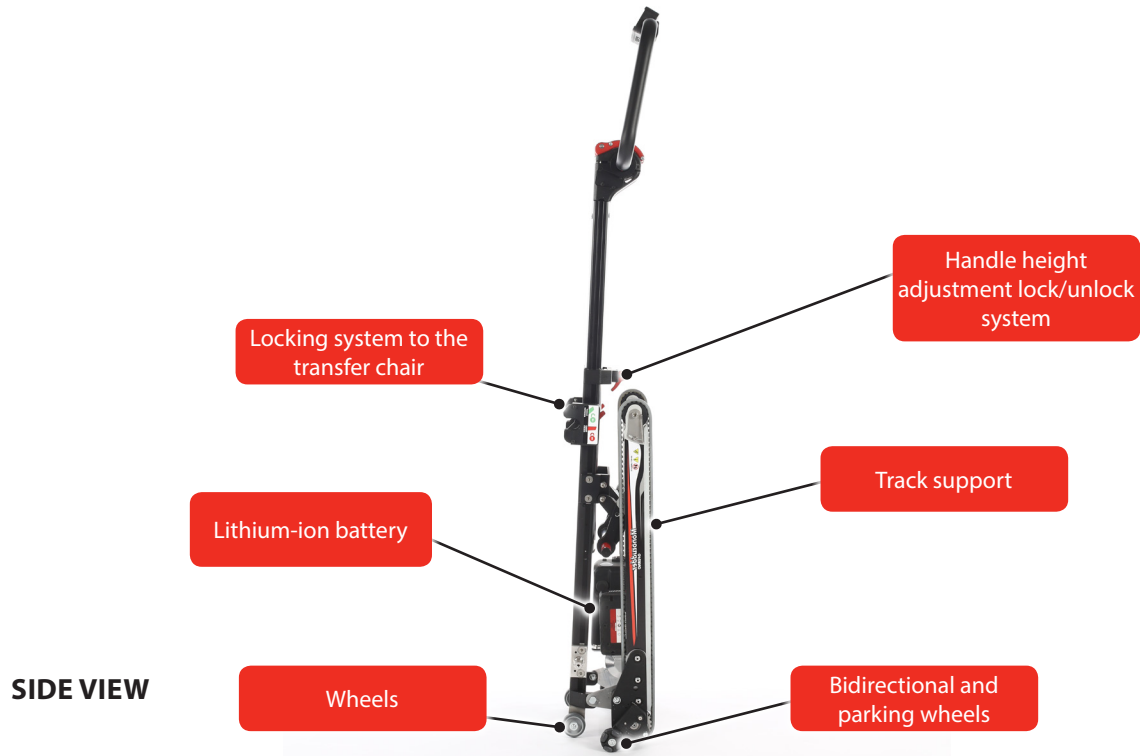
#### COMPONENTS SUPPLIED WITH THE DEVICE

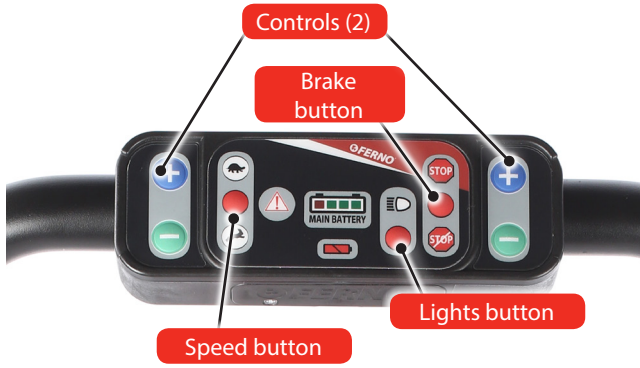
- Motorised system for ascending and descending stairs
- Tracks (2)
- Lithium-ion removable, rechargeable 28 V battery
- Monorudder: frame and sliding handle (see page 20)
- Battery charger (220V)
- Motor control unit on handle
- Connection spiral cable
- User's manual

### 3.3 Supplied accessories

- Rechargeable 28V lithium-ion battery (1)
- 1.5V AA alkaline batteries (2)
- Battery charger (1)
  - 220-240 VAC, 50/60 Hz (Europe); CE certificate
- Auxiliary connection cable
- User's manual

### 3.4 Components (Monorudder)

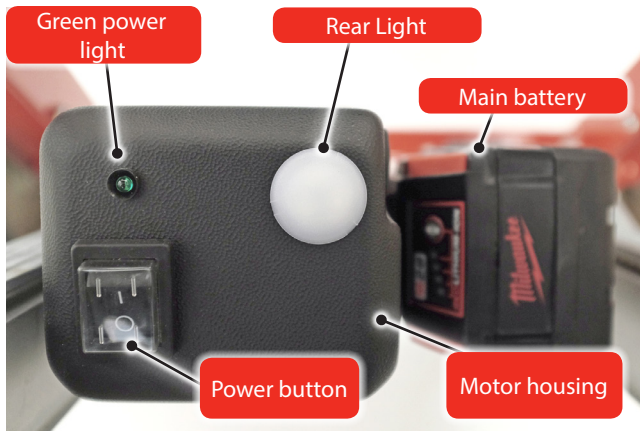




Control unit (Page 13)



Main battery (Pages 16-17)



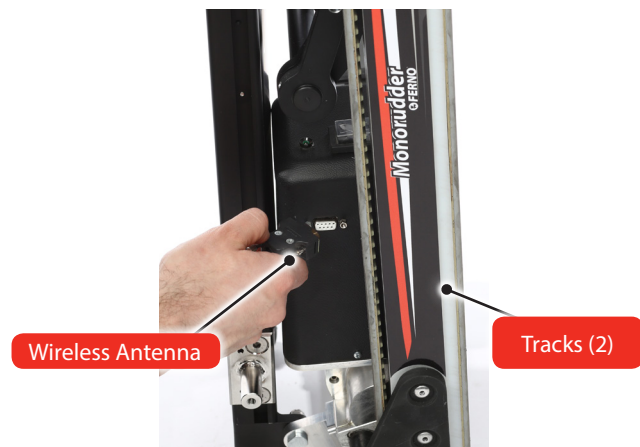
Front and Rear lighting system



Battery charger (Page 18)



Auxiliary connection cable (Page 32)



Motorised system components (Page 12)

	<b>⚠ WARNING</b>
	<p style="text-align: center;"><b>DO NOT OPEN THE MOTOR HOUSING.</b></p> <p><b>There are no user serviceable parts inside. Contact Ferno Washington Italia for Technical Assistance.</b></p>



### 3.5 General specifications


Ferno reserves the right to change the specifications without notice. For further details, please contact Ferno's Customer Service (page 2).

Specifications		
<b>Load capacity</b>	507 lbs	230 kg
<b>Weight*</b>	48.50 lbs full accessories	22 kg complete
<b>Height</b>		
Maximum	64.56 in	1640 mm
Minimum	42.12 in	1070 mm
<b>Width</b>		
Total	16.53 in	420 mm
<b>Depth</b>		
Tracks closed	7.87 in	200 mm
Tracks open	15.35 in	390 mm
<b>Power supply</b>		
Main battery	Li-Ion 28V 3.0 Ah	
Recharge time	about 1 hour	
Battery charger consumption	138 W	
Usage time	approx. 15 minutes of continuous operation: 15 floors with 2 flights of 10 steps each, 100 kg load.	
<b>Control unit power supply</b>		
Batteries	2 x 1.5V "AA" alkaline	
<b>Materials</b>		
Structure	aluminium	
<b>Protection rating</b>		
International Protection	IP56	

\* Weight includes battery, Isos system, and ABS panels

**Load capacity**

Never exceed the load capacity of the Power WI device. Inspect the device if the load capacity has been exceeded (see section 7.5 *Inspection*, page 29).



SWR- Strength to Weight Ratio = 8

Static safety factor = 2

## 4 - CONFIGURATION OF THE DEVICE

### 4.1 Initial setup

Before using the MONORUDDER device:

- Inspect the device (see section 7.4 *Inspection*, page 29).
- Use the charger supplied as standard to recharge the main battery (page 18). Refer to section 5.9.1 *Inserting and removing the battery*, page 17.
- Insert two "AA" batteries in the control unit (see section 7.5 *Control unit batteries*, page 30). The "AA" batteries (*supplied as standard*) are contained in a handy bag along with the auxiliary connection cable (see section 3.3 *Standard accessories* page 8).
- Ensure the tracks are working properly. If necessary, adjust the tension. Refer to section 7.7 *Adjusting the tension of the tracks*, page 31.
- If the batteries are fully charged but the UP / DOWN controls do not work, it is possible that the wireless connection is not working properly. Refer to section 7.8 *Auxiliary connection cable*, page 32.



## 5 - COMPONENTS OF THE DEVICE

### 5.1 Motorised system

The motorised system includes the motor, the battery, and the track drive system. Do not open the motor housing. Only Ferno certified personnel can open and work on the motor housing.

- **CONTROL UNIT:** The control unit is mounted on the extendible carrying handle. It allows the operator to control the speed and movement of the tracks, to monitor the battery charge level and other functions of the device. (fig. 5)
- **CONTROLS:** The controls are positioned on the unit and are easily accessible and identifiable using the corresponding symbols to enable correct usage by the operator. The pressure with which buttons are pressed determines the speed of the device, allowing the operator to control the speed of the device during ascent or descent of the stairs.
- **POWER BUTTON:** The power button is located on the motor housing and allows the device to be switched on and off (see section 5.3 *Power button*, page 14).
- **LIGHTS BUTTON:** The Lights Button is found on the control unit and it allows the lights to be switched on and off (see section 5.5, page 15).
- **BRAKE FUNCTION:** The brake function is automatically activated when the device is switched on. It blocks track movement when the up and down controls are not pressed. Refer to section 5.5 *Brake button*, page 15.
- **SPEED LIMITER:** The device is fitted with an internal speed limiter. If the system loses power, the battery is completely flat or an electrical malfunction is present, this system reduces the speed of the device when descending the stairs. Refer to section 5.6 *SSL Limiter*, page 15.
- **MAIN BATTERY:** Rechargeable 28V lithium-ion battery, mounted on the motor housing. The battery can be easily removed using the appropriate buttons, and re-inserted into its compartment. Refer to section 5.8 *Battery*, page 16.
- **MOTOR:** The motor is located at the rear of the device (Figure 6) and it controls tracks movement. The motor receives inputs from the control unit to adjust the speed and movement (direction) of tracks.
- **TRACKS:** The tracks allow the device to ascend and descend stairs. They are driven by the motor. The operator controls the speed and movement (direction) of the tracks using the controls. (fig. 7)
- **ANTENNA:** Mounted on the motor housing. It maintains the wireless connection between the motor and the control unit.

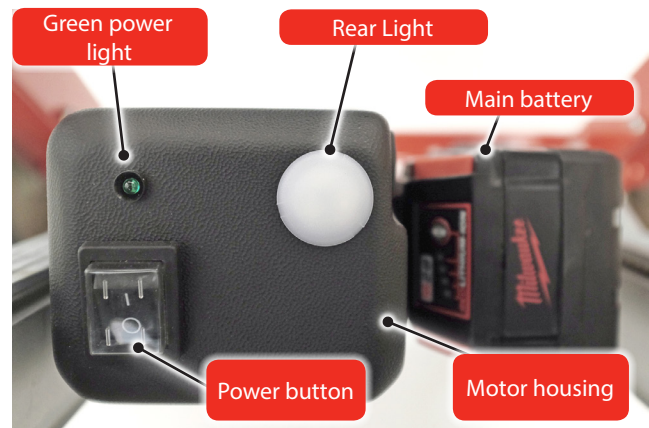
**⚠ WARNING**

**DO NOT OPEN THE ELECTRICAL HOUSINGS OR REMOVE SAFETY COMPONENTS.**

**There are no user serviceable parts inside. Contact Ferno Washington Italia for Technical Assistance.**



**Figure 5 - Control unit**



**Figure 6 - Motorised system**



**Figure 7 - Track support**

## 5.2 Control Unit

The device is fitted with a control unit, positioned on the extendible transport handle (Figure 8). The controls are easily accessible and identifiable thanks to the up and down symbols affixed to the unit, enabling correct usage by the operator.


The control unit has the following controls:



- **Ascent and descent controls** - to control the tracks movement for ascending or descending stairs, and are indicated by the "+" and "-" symbol. Specifically, use the "+" symbol to ascend the stairs and the "-" symbol to descend. The buttons on the right side of the controller can be adjusted depending on the amount of pressure exerted by the user. The controls on the left side have no speed control function so when the button is pressed the chair reaches maximum speed, which depends on whether "hare" or "tortoise" mode is selected (Figure 8.)
- **Brake Button** - to enable or disable the brake function. The brake function is always enabled by default.
- **Lights Button** - to turn the lights on and off.
- **Ascent and descent controls** - to control the track movement for ascending or descending stairs.
- **Speed selection button** - to select the speed required.
- **Main battery indicator** - shows the charge status of the 28V battery housed in the motor unit.
- **Controller battery indicator** - shows the charge status of the controller batteries. If the indicator light switches on, fit two new 1.5V AA batteries.
- **Connection problems indicator** - lights up when no connection has been established between the controller and the motor unit.




Figure 8 - Control Unit

### 5.3 Power button


The power button, located on the motor housing (Figure 9), is used to switch on the device. Always keep the button in  (OFF) position when the device is not in use.

The button is protected against entrance of liquids and dirt by means of a plastic cover. Do not remove the plastic cover. Press  (ON) to turn on the device. (Press the power off button  to preserve the battery charge level and avoid accidental operation of the movement system when the device is not in use).

#### SWITCHING ON

1. Press the ON button .
2. Move one of the two up / down, "+" or "-", controls to establish the connection between the control unit and the motor.
3. It may take a few seconds to establish the wireless connection. When the link is active, the control unit emits an audible beep and the green indicator lights on the motor housing and control unit switch on in steady mode. The device is ready for use.

#### SWITCHING OFF

4. Press the  (OFF) button to switch off the device.
5. Before any operation with the device, check the battery charge status. This is possible via the corresponding indicator light on the control unit and the one on the battery itself (see section 5.9 *Battery*, page 20).

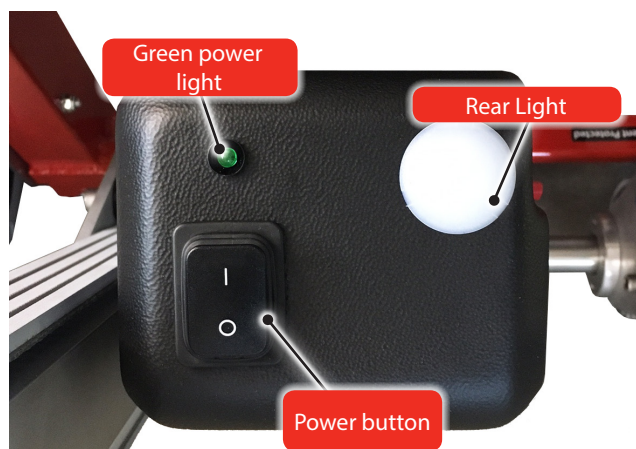


Figure 9 - Power button

### Important

For longer battery life, always switch off the device when it is not in use.

Lithium-ion batteries have no memory effect. It is not necessary to fully discharge the battery before recharging.

### 5.4 Ascent and descent controls

The ascent and descent controls are identified by labels with the symbols “+” and “-”. The controls are located on the control unit mounted on the extendible carrying handle so they are always within easy reach of the operators (Figure 10).

The pressure with which the buttons on the right-hand side of the controller are pressed determines the speed of the tracks, allowing the operator to control the speed of the device with greater precision. Conversely, the controls on the left-hand side of the controller bring the chair to the maximum speed with a preset acceleration ramp.

To start the track movement, press the controls. Place your hands on the extendible carrying handle, so that at least one button is accessible to the thumb.

- **TO GO UP STAIRS:** Press the “+” symbol button. (fig.11)
- **TO GO DOWN STAIRS:** Press the “-” symbol button. (fig.11)



Figure 10 - Ascent and descent controls

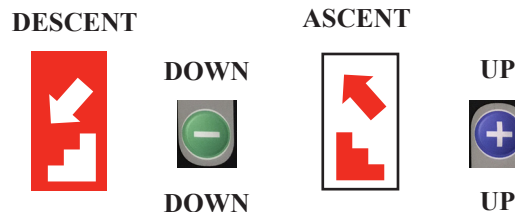




Figure 11- Ascent and descent control symbols

## 5.5 Brake Button

The brake function prevents track movement when the controls are not pressed. By default, the brake function is always active, as shown by illumination of the stop symbol on the control panel.

This safety feature can be enabled or disabled by the operator using the appropriate button on the control unit (●) (Figure 11).

- **BRAKE FUNCTION ENABLED:** STOP icon  lights up on controller.
- **BRAKE FUNCTION DISABLED:** icon  lights up on controller.

During the ascent and / or descent of the stairs, when the operator releases one of the ascent or descent controls, the brake function helps to hold the device in position, greatly reducing the effort needed by the operators to stop the device moving.

It is recommended to leave the brake function always activated in order to ensure safe transport of the patient.

Pay close attention and control the device descent if the motor is not running or the brake function is disabled.

## Lights button

The Lights Button switches the lights mounted on the motor on and off; the lights improve safety, illuminating the surroundings in which the device is being used.

Press the button to switch on the lights; press again to switch them off.

## 5.6 Speed Limiter SSL

The SSL (“Safety Speed Limiter”) trips automatically when the device exceeds a predetermined safe speed limit while descending the stairs. This ensures safely controlled descent during patient transport.

It also guarantees safe operation of the device even when the battery is low or damaged, or the electronic board is not working properly. In the last two cases mentioned above, contact Ferno Technical Support Service immediately (page 2). In case of a low battery, recharge the battery immediately.



Figure 11 - Brake Function



Figure 12 - Lights Function

## 5.7 Selecting movement speed

The device has two speeds for ascending and descending stairs.

To select the desired speed, proceed as follows:

1. Ensure the device is switched on.
2. Press the speed selection button (Figure 13).
3. Select the desired speed: either HARE or TORTOISE, by means of the specific button. When the speed has been selected, the related icon will light up.



Figure 13 - Speed selection button



## 5.8 Battery

The device is equipped with a Milwaukee® 28 VDC Lithium-ion battery (Figure 14). The design adopted means the battery is protected from dirt, body fluids, rain, etc.

Use only Milwaukee® batteries and chargers approved by Ferno. To request additional batteries and chargers, see Chapter 8 *Accessories*, page 33.

### BATTERY

- Lithium-ion batteries have no memory effect. It is not necessary to fully discharge the battery before recharging.
- Charging time approx. 1 hour. The charging time varies according to the charging frequency, the discharge level, and age of the battery. If the battery is fully discharged, the charging time will be longer.
- The range of operating temperatures recommended by the Manufacturer for the battery is between -10°C and +49°C. Battery capacity may be affected if it is stored for a long period at temperatures below -17°C or above 66°C.
- Dispose of the battery when it reaches the end of its working life. Do not dispose of the battery with household waste.

### BATTERY USAGE

- The slots on the battery (Figure 14) are compatible with those of the charger, and with those on the device. See Sections 5.8.1 *Inserting and removing the battery*, page 17, and 5.10 *Battery charger*, page 18.
- Press the two red buttons (Figure 14) to remove the battery from the device or the battery charger.
- To check the battery charge status, press the appropriate button on the battery. Consult subsection *Battery charge indicators*, page 17.
- ONLY store the battery in a cool, dry environment. DO NOT store in an environment where the temperature exceeds 50°C.
- If you have two batteries, always keep the spare battery charged and ready for use.

### WARNING

**Incorrect charging of the device may cause damage and / or injury. Use only batteries approved and authorised by Ferno, and recharge only with chargers approved and authorised by Ferno.**

### Important

The battery capacity may be affected by the storage conditions if the chair is to be stored for an extended period at temperatures below -17°C or above 66°C.

### Important

For longer battery life, always switch off the device when it is not in use.

Lithium-ion batteries have no memory effect. It is not necessary to fully discharge the battery before recharging.



**Figure 14 - Battery**

### BATTERY CHARGE INDICATORS

The battery is fitted with four indicator lights (Figure 15), which show the charge status of the battery when pressing the appropriate button (approx. 25% intervals).

On pressing the button (Figure 15) the lights showing the level of battery charge will light briefly. If the battery is fully charged, all 4 LED indicators will light up simultaneously. If the battery has a charge level below 10%, pressing the button will cause the first LED to blink four times.

### BATTERY SWITCH-OFF

The battery will switch off if it overheats. Pressing the button on the battery will cause the LEDs to light alternately. Wait for the battery to cool down before use. When the battery is ready for use, press the Battery button to check the charge level.

## 5.8.1 Fitting and removing the battery

**Fitting the battery:** Align the battery slots with the appropriate supports in the device (Figure 16A). Insert the battery in the support until you hear an audible click, conforming that it is correctly attached (Figure 16B). Ensure the battery is properly locked before using the device.

**Removing the battery:** Fully press both red buttons marked PRESS (both left and right buttons), and extract the battery.

### Important

In case of overheating, the battery switches off for protection purposes. Wait for the battery to cool before reusing use.

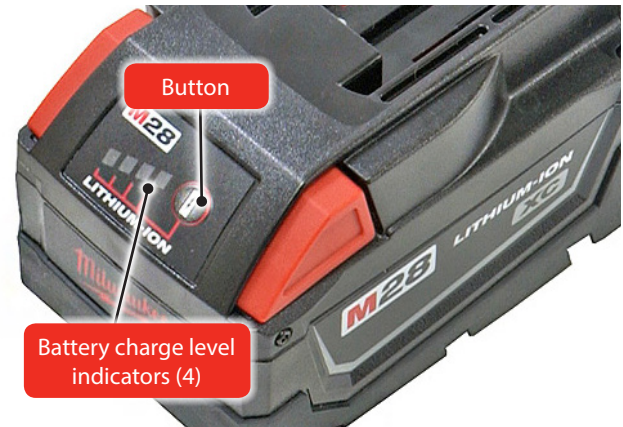


Figure 15 - charge level indicators

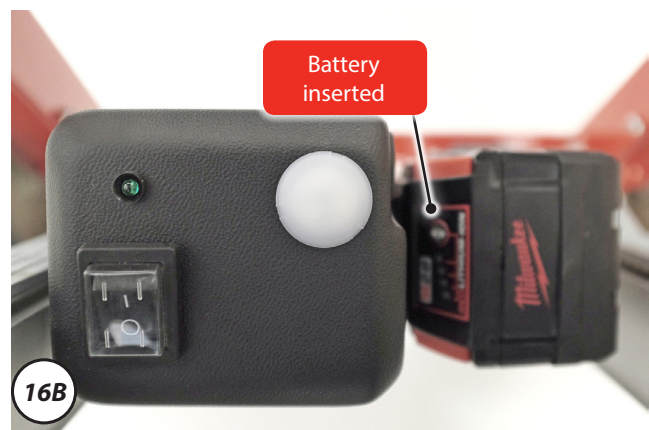
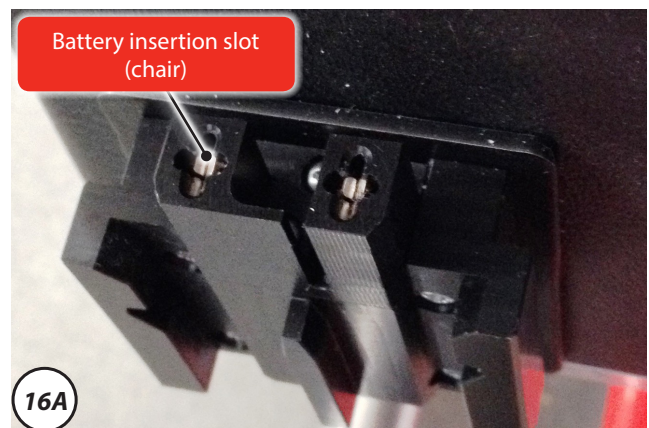


Figure 16 - A: Slot for battery insertion on device  
Figure 16 - B: Battery fitted correctly

## 5.9 Battery warnings

### MAIN BATTERY

The main battery charge can be checked in two ways:


- mode 1 = press the button on the battery (Fig. 15) and check the charge level.
- mode 2 = check the battery charge level on the controller by means of the specific indicator (see section “CONTROL UNIT”)

LEDs 2-3-4 Green Light = Battery good

LED 1 Red Light. = Battery  $\leq$  25%

LED 1 Red Flashing. = Replace low battery urgently

### CONTROL UNIT BATTERIES

The control unit is powered by two 1.5V AA batteries. If the  icon at the bottom centre of the control panel lights, this means the batteries must be replaced.

If the control unit's indicators do not light up, and the controls do not work, you may need to replace the batteries.

For battery replacement, refer to section 7.5 *Control unit batteries*, page 30.



Figure 17 - Display main battery messages

### Important

The battery capacity can be affected by the conditions in which it is stored, such as storage for long periods in environments with temperatures below -17°C or above 66°C.

## 5.10 Battery charger

The Milwaukee battery and charger instructions replace those provided in this manual. For additional information, refer to the manuals of these components.

The device comes complete with battery charger (Figure 18).

- 220-240 VAC, 50/60 Hz (Europe)

Charging Time: approx. 1 hour. If the battery is completely discharged, the charging time may be longer. The charging time can vary based on the frequency of charging, the charge level of the battery and the battery's age.

Store the charger ONLY in a cool, dry environment. DO NOT store in environments with temperatures above 50°C.

### INDICATOR LIGHTS

The charger has two lights (red and green), indicating:

- **RED (steady):** the battery is connected and charging.
- **GREEN (steady):** charging completed.
- **RED (flashing):** Overheating. Recharge the battery only when the temperature range is between 0°C and 65°C.
- **RED/GREEN (alternating flashing):** the battery is damaged or not functioning correctly. Replace the battery immediately.

### CHARGING THE BATTERY

**Fitting and charging the battery:** Align the battery slots (Figure 18) with the supports on the charger. Insert the battery into the support until you hear an audible click. Make sure the battery is securely attached and that the indicator light on the charger turns on.

**Removing the battery:** Fully press both red buttons marked PRESS (both left and right buttons), and extract the battery.



Figure 18 - Battery Charger



## 5.11 Tracks

The track support allows the device to ascend or descend the stairs without having to lift it.

### GENERAL GUIDELINES

- The use of the device on stairs requires a minimum of two trained operators. Ferno recommends using a third person as a supervisor (see Sections 6.5 *Going down stairs*, page 23 and 6.7 *Going up stairs*, page 25).
- Make sure the track support is fully opened and locked into position before use.
- Never lubricate the tracks. Lubricating the tracks can cause unpredictable device behaviour, causing damage and / or injury to the patient and / or operators.
- Moisture, water, snow, ice, or debris on the track support and inside the support can cause erratic operation and a sudden change in the weight to be supported by the operators. Ensure that the track support and the tracks are clean and dry before using the device on stairs.
- Moisture, water, snow, ice, or debris on the stairs may affect the balance of the operators. To prevent possible damage and / or injury, clean the stairs or choose an alternative route.

### OPENING THE TRACK SUPPORT

1. Grasp the release bar (red) positioned at the upper end of the track support (Figure 21) and pull up firmly to lock the track support into the fully open position.
2. Ensure that the locking bar is engaged into place by trying to close the track support. If the locking bar is inserted correctly, it should not move.

### CLOSING THE TRACK SUPPORT

Press the red locking handle (Figure 22) until the closure of the track support is completed correctly.

### WARNING

The use of the device with track support not properly locked may cause damage and / or injury. Ensure the track support is properly locked before transporting the patient.

### WARNING

Lubricating the tracks can cause damage and / or injury to the patient and / or operators. Never lubricate the track support or the tracks.



Figure 21 - Open the Track Support



Figure 22 - Close the Track Support

## 5.12 Extendible carrying handle

The operator, positioned behind the device backrest, may use the extendible carrying handle (Figure 23) to guide and move the device over flat surfaces and while going up or down stairs.

The carrying handle includes the control unit, ensuring the control of the device movement by the operator (see Section 5.4 *Ascent and descent controls*, page 14).

The handle can be adjusted to 4 different heights. (Adjust the height according to the operator's needs and to the operations to be performed).

### HANDLE HEIGHT ADJUSTMENT

1. Press the red lever to release the handle (Figure 24) and raise or lower the handle to the desired height.
2. When the handle is at the required height, release the lever. Lift or lower the handle until it locks in the desired position.
3. Ensure the handle is fully locked by trying to raise it or lower it without pressing the lever. If the handle is locked correctly, it should not move.

## 5.13 Handle angle adjustment

The device features a handle that can be adjusted in several angle positions (Figure 25), which can be selected based on the operator's needs and on the operations to be carried out.

1. Lift the red levers (step 1 Figure 25) by pushing them towards the backrest.
2. During up rotation (step 2 Figure 25), you can feel the several locking positions of the handle. Once the desired position has been found, close levers by pressing them down
3. Move handle to check that it is correctly locked in place (step 3 Figure 25). If the handle is locked correctly, it should not move.
4. Two main use positions have been identified to help the operator. These positions can be identified thanks to two red marks at the bottom of the handle (step 4 Figure 25). To adjust, simply align the two marks and then lock the handle. As a default, the open position (step 3 Figure 25) and the fully closed positions are identified.



Figure 23 - Carrying handle adjustment



Figure 24 - Release device



Figure 25 - Telescopic front handle

## 5.14 Safety lock

Track features a safety lock (Figure 26) avoiding any accidental opening during transport.

**To lock the track support:** turn the black lever by 180° until the pin comes out and engages inside its seat (Figure 26).

**To unlock the track support:** Repeat the above procedure in reverse order.



Figure 26 - Safety lock

## 6 - USING THE DEVICE

### 6.1 Before placing the device into service

Staff using the device must have carefully read and understood the information contained in this manual.

Before any operation with the device, ensure that:

- all the components are present; that the device does not show any signs of damage or wear, and that it is fully operational. Refer to section 7.4 *Inspection*, page 29.
- follow the instructions in Chapter 4 *Configuration of the device*, page 11.



Read the user manual carefully



Use with a minimum of two qualified operators

### 6.2 Instructions for Use

- This manual does not provide any medical instructions.
- It is the responsibility of the operators to follow correct procedures and ensure the safety of both the patient and themselves.
- This manual explains the use of the device under ideal conditions and is purely indicative.
- The device should be used by at least two trained and qualified operators.
- The trained operators must work together and maintain control of the device during all operations.
- Follow procedures while complying with standard regulations for moving the patient in an emergency.
- Ferno recommends the presence of a third person trained as a supervisor during the use of the device on the stairs.
- Lift only the weight that you can safely support. Obtain additional assistance for heavy loads (patient and equipment). Refer to section 6.9 *Additional help*, page 27.
- Always observe healthcare instructions and regulations.
- If the battery is stored separately from the device, install it before using the device.
- Remove water, ice, snow or any debris from the stairs before using the device, as well as the track support.
- The device can still be used for manual descent of stairs even without the help of the motor. Refer to section 6.8 *Use without the aid of the motor*, page 26.

#### **WARNING**

**Improper use of the device may cause damage and / or injury. Use the device as described in this manual.**

#### **WARNING**

**An unassisted patient is at risk of injury. Never leave the patient alone, and always assist the patient when using the device.**

#### **WARNING**

**Ensure the tracks are closed when seating the patient in the MONORUDDER. If they are open, close them before seating the patient.**

#### **Important**

Store the battery and the charger either indoors, or in an ambulance. Do not store in environments where the temperature is below -17°C or above 66°C.

### 6.3 How to hook the Monorudder to the transfer chair

Follow the procedure described in the pictures below.



**Figure 30 - Lift the device by bringing it close to the transfer chair**



**Figure 31 - Engage the pin inside the special grooves**



**Figure 32 - Press the device towards the chair backrest**



**Figure 33 - Hooking steps to the transfer chair**



**Figure 34 - Make sure that the two hooks are correctly locked**



## 6.4 Preparing the device for use

- Open the track support as described in section 5.11.



- Turn the handle as described in section 5.13.



- Lock the handle in position as described in section 5.13.



- Lift the red lever to release the handle and extend the handle to the desired height, as described in section 5.12.

## 6.5 Going down stairs

### GENERAL GUIDELINES

- Use of the device on stairs must be managed by a minimum of two trained and qualified operators. If necessary, seek additional help to control the device (see section 6.9 *Additional help*, page 27).
- Ferno recommends that the two operators take opposite sides, with one facing the other, when manoeuvring the device up and down stairs, and that a third trained operator assist the one at the foot end. Follow local regulations concerning the use of chairs.
- Remove water, ice, snow or other obstacles from the stairs before using the device.
- Remove water, ice, snow or other obstacles from the tracks and track support before using the device on the stairs.
- Ensure that the track support is opened and locked properly before using the device on the stairs.
- If the operator is tired or needs to assist the patient, you can stop on the stairs during transport (see section 6.6 *How to stop on the stairs*, page 24).



Figure 32- Going down stairs

### WARNING

The use of the device with track support not properly open and locked may cause damage and / or injury. Ensure the track support is properly locked before transporting the patient.

### GOING DOWN STAIRS

1. **Operator at head end:** Carry the device close to the stairs and make sure that the brake control is active, refer to section 5.5.
  - Open the track support and lock it in open position. Ensure the track support is locked correctly.
  - Set the extendible carrying handle to the desired height and ensure that it is locked correctly.
2. **Operator at foot end:** Extend the front telescopic handles to the desired length (Figure 32). Ensure that both handles are locked properly.
3. **Supervisor (third operator):** Position yourself at the foot end, keeping one hand on the operator's back, and guide his or her descent of the stairs (see section 6.9 *Additional help*).
4. **Both operators:** Bring the device over the edge of the first step and tilt the device, so that the tracks are pressed on the step.
5. **Both operators:** Slowly move the device down until the track support is resting on the first two or three steps. This serves to establish the angle of descent.
6. **Operator at head end:** Press the descent control on the control unit so as to activate tracks.
7. **Both operators:** To maintain the correct angle while descending the stairs, proceed as follows:
  - **Operator at head end:** apply gentle pressure downward on the carrying handle.
  - **Operator at foot end:** apply gentle pressure upward on the foot end telescopic handles.
8. **Both operators:** When the device reaches the bottom of the stairs and the rear wheels rest on the floor, accompany the device movement by tilting it forward so that the four wheels rest on the floor. The foot end operator closes the telescopic handles (Figure 33).
9. **Operator at head end:** Adjust the carrying handle to the desired height, close the track support and move the device.

## 6.6 How to stop on the stairs

To stop during ascent and / or descent of stairs, follow these steps:

1. **Operator at head end:** Release the controls. The tracks will stop automatically.

**Note:** *the tracks will stop automatically when the ascent and descent controls are released and the Brake function is active.*

2. **Both operators:** Tilt the device forward so that the rear wheels are supported on the step while both operators keep the device in position.

To restart:

1. **Both operators:** Tilt the device back and make sure that the tracks are gripping the steps.
2. **Operator at head end:** Press the correct control to restore the ascent or descent movement.
3. **Both operators:** Continue with the ascent or the descent of the stairs.



Figure 33 - Bottom of the stairs



### WARNING

Never leave the patient alone at any time.

## 6.7 Going up stairs

### GENERAL GUIDELINES

- The use of the device for going up stairs requires a minimum of two trained operators working together. If necessary, seek the help of additional staff to control the device (see section 6.9 *Additional help*, page 27).
- Ferno recommends that the two operators take opposite sides, with one facing the other, when transporting the patient up and down stairs, and that a third trained operator assist the one at the head of the patient. Follow local regulations concerning the use of chairs.
- Remove water, ice, snow or other obstacles from the stairs before using the device.
- Ensure that the track support is opened and locked properly before using the device on the stairs.
- If the operator is tired or needs to assist the patient, you can stop on the stairs during transport (see section 6.6 *How to stop on the stairs*, page 24).
- The brake function is always active by default. When the operator does not press the controls, the tracks stop (and lock). The brake function is described in detail in section 5.5 *Brake button*.

### GOING UP STAIRS

1. **Operator at head end:** Bring the device to the stairs and set the rear wheel brakes.
  - Open the track support by pulling the opening bar towards you until it is locked in the open position. Ensure that the track support is open and locked properly.
  - Adjust the extendible carrying handle to the desired height and ensure it is locked correctly (Figure 35).
2. **Operator at foot end:** Extend the telescopic front handles to the desired length. Ensure that both handles are locked properly.
3. **Third supervising operator:** Stand behind the head end operator, keeping one hand on the operator's back, and guiding them on the way up the stairs.
4. **Both operators:** Tilt the device back so that the tracks are pressed on the first step.
5. **Both operators:** Slowly move the device so that the tracks are pressed against two or three steps. This allows you to find the correct angle.
6. **Operator at head end:** Press the UP control to proceed with ascending the stairs.
7. **Both operators:** To maintain the correct angle while ascending the stairs, proceed as follows:
  - **Operator at head end:** apply gentle pressure downward on the carrying handle.
  - **Operator at foot end:** apply gentle pressure upward on the telescopic handles.
8. **Both operators:** At the end of the ascent, the head end operator lowers the rear wheels to the ground and releases the movement controls.
9. **Both operators:** Move the device away from the steps by tilting it forward so that the four wheels rest on the floor.
10. **Operator at foot end:** Close the telescopic front handles.



Figure 35 - Going up stairs

11. **Operator at head end:** Close the tracks, adjust the carrying handle to the desired height and proceed with the movement of the device.



**WARNING**

**Lubricating the track support and tracks can cause damage and / or injury to the patient and / or operators. Never lubricate the track support and the tracks.**

## 6.8 Use without the motor

### GOING DOWN STAIRS

If the system loses power, the tracks turn freely, and the speed limitation device is activated automatically when the device exceeds the safe speed limit on the way down the stairs. Pay close attention and be sure to retain control of the device while descending the stairs without the motor.

### GOING UP STAIRS

If problems occur on the way up the stairs, operators should lift the device with the patient seated, and transport them up the stairs.


- Before lifting the device, check that the patient is properly secured by the restraints. Use additional restraints and assistance if necessary.
  - Ferno recommends that the two operators take opposite sides, with one facing the other, when carrying the device up and down stairs, and that a third trained operator assists the one at the head end. Follow local regulations for the transport of the chairs. Seek additional help if necessary (see section 6.9 *Additional help*, page 24).
1. **Both operators:** If partway up or down the stairs, stop (see section 6.6 *How to stop on the stairs*, page 24). Engage the rear wheel brakes.
  2. **Operator at foot end:** Extend the telescopic front handles to the desired length. Ensure that the handles are properly locked and retain your grip.
  3. **Operator at head end:** Open the rear handles. CLOSE the tracks so they do not interfere with the transport of the device on the stairs.
  4. **Operators and Supervisor:** The operators work together to lift and carry the device up the stairs. The supervisor places one hand on the foot end operator's back and provides verbal directions.
  5. **Both operators:** At the end of the ascent, place the device on the ground.
  6. **Operator at foot end:** Close the telescopic front and rear handles.

## 6.9 Additional help

The device must be used by a minimum of two trained and qualified operators. Ferno recommends that the operators and assistants stand at opposite ends, with one facing the other, when carrying the device up and down stairs, and that a third trained operator assists the first operator. Follow applicable chair transport regulations.

The duly trained operators must maintain control of the device, operate the controls and coordinate properly. The illustrations below show the positioning of operators and helpers.

**Load capacity**



Never exceed the load capacity of the MONORUDDER device. Inspect the device if the load capacity has been exceeded (see section 7.5 *Inspection*, page 35).

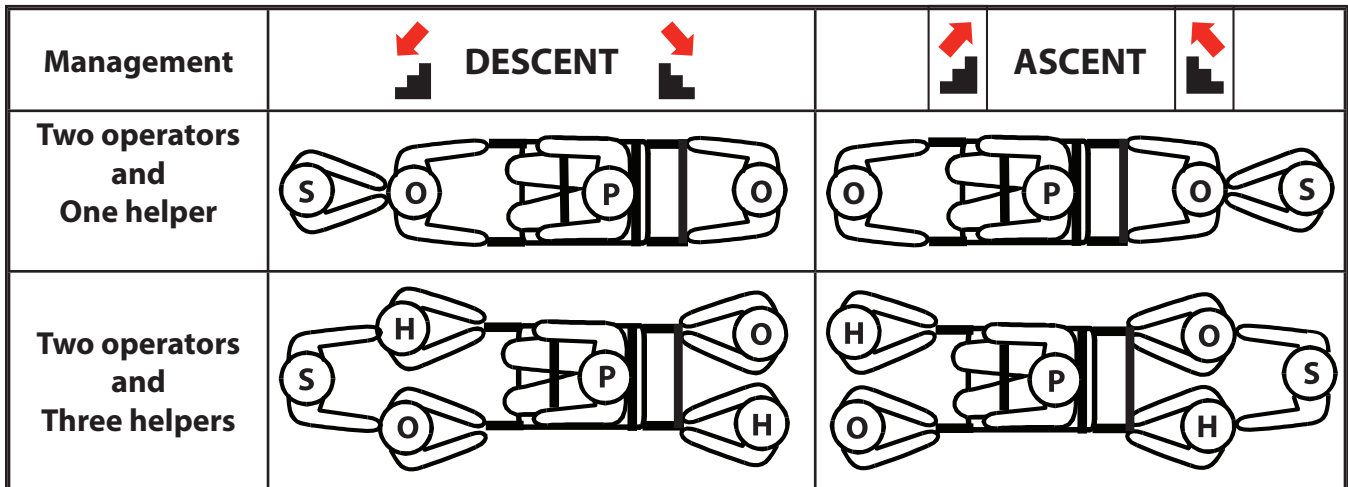
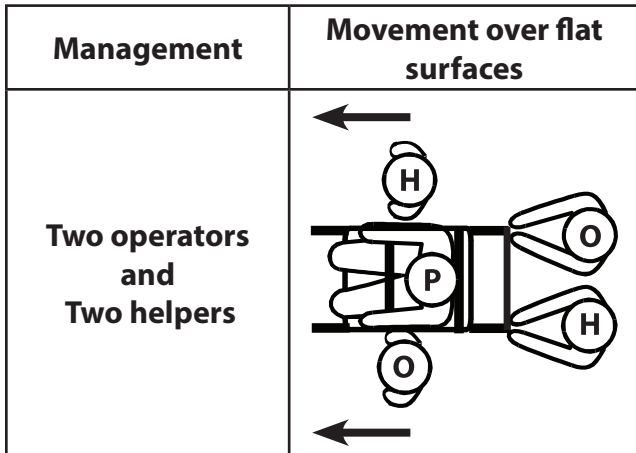
SWR- Strength to Weight Ratio = 8  
Static safety factor = 2

**⚠ WARNING**

If the load capacity of the device has been exceeded, it must be taken out of use and serviced.

**⚠ WARNING**

Occasional assistants may cause damage and/or physical harm, or injure themselves. Always keep the device under control, activate the controls, and coordinate the assistants.



**Legend: O = Operator H = Helper S = Supervisor P = Patient**

## 7 - MAINTENANCE

### 7.1 Routine and preventive maintenance

Monorudder is a medical device requiring regular maintenance, hence you are recommended to comply with the following schedule:

1. ROUTINE maintenance: Monorudder has to be subjected to a routine maintenance intervention once a year by Ferno skilled technicians.
2. PREVENTIVE maintenance: preventive maintenance operations are to be carried out by the user, as specified in the table on the right.

If the device undergoes particularly heavy use, maintenance should preferably be carried out on a more frequent basis. If there are signs of wear and damage, discontinue use of the device and immediately contact Ferno's Technical Support Service.

Ferno directly carries out repair/maintenance operations, without the need of dealers, mechanics or external service centres. You are thus invited to be wary of those who present themselves as Ferno's authorised technician. We suggest you to directly contact our SOS service using the reference contacts specified on page 2.

### 7.2 Disinfecting the device

1. After each use, clean the surfaces of the device and the panels with a non-abrasive cloth and surface disinfectant.
2. Do not immerse the device directly in disinfectant.
3. During disinfection, ensure there are no signs of wear and/or damage.
4. Dry with a cloth. Ensure all the components of the device are completely dry before reusing them.

It is advisable to wear suitable gloves (e.g. household or disposable gloves) during disinfection.

#### Important

The use of products containing chlorine, phenols and iodine may harm the device. Do not use products containing these agents for cleaning/disinfection.

Minimum preventive maintenance intervals	After each use	Whenever necessary	Every month
<b>Disinfection</b> (page 28)	•	•	
<b>Cleaning</b> (page 28)		•	•
<b>Inspection</b> (page 29)	•	•	•
<b>Lubrication</b> (page 30)		•	
<b>Tension adjustment</b> (page 31)		•	

### 7.3 Cleaning the device

1. Clean the surfaces of the device with a cloth, warm water and a non-abrasive mild detergent.
2. If necessary, remove stains with a stiff bristle brush (not metal), or a light solvent, paying attention to the labels.
3. Dry with a cloth.

Do not wash with high pressure water or with water jets.

It is advisable to wear suitable gloves (e.g. household or disposable gloves) during cleaning.

After cleaning, be sure to replace the restraints, panels, and all the other accessories needed for use.

#### Important

When not in use, store the device in an indoor environment that is dry and protected from direct sunlight.

#### Important

Before disinfection / cleaning, ensure the device is switched off.

After disinfection / cleaning, ensure that the device and its components are completely dry before use.

#### Important

##### DO NOT WASH WITH HIGH PRESSURE WATER



Do not use high pressure water to clean the device.

## 7.4 Inspection

To ensure optimal use of the device, it is important to keep all the components in good condition and to remove all traces of dust, debris and body fluids. The device must be cleaned before and after each use. The tracks and track support must be inspected after each use. When not in use, the device must be stored in a dry, indoor environment and inspected at least once a month.

The device should be inspected regularly by internal trained maintenance personnel. Perform the various checks shown on this page.

If any signs of wear or damage are found during inspection, discontinue use of the device and immediately contact Ferno's Technical Support Service to request repairs or maintenance. See Chapter 9 *Technical Support*, page 38.

### CHECK-LIST FOR INSPECTION OF THE DEVICE

- Are all the components present?
- Does the device show signs of wear?
- Are all screws, bolts, and pins in place and securely mounted?
- Do all the moving parts work properly?
- Do all the locking devices work properly?
- Does the device move smoothly?
- Do the installed accessories work properly without interfering with the operation of the device?
- Is the power button working properly?
- Do the up and down controls work correctly?
- Are the tracks and track support working properly without excessive noise?
- Are there visible signs of damage on the motor housing, the control unit, the batteries, or the battery charger?
- Is the battery easily inserted into the holder on the motor housing?
- Do the lights on the battery and control unit work properly?
- Does the battery charger cable show signs of wear, cuts or fraying?

### CHECK-LIST FOR INSPECTION OF THE TRACK SUPPORT

- Is there any lubricant, dirt, or debris on the tracks or track support?
- Are the tracks and track support visibly damaged?
- Are the bolts and nuts securely fastened?
- Are the tracks and track support working properly?




### WARNING

**Improper maintenance may cause serious accidents, injuries and/or damage. Perform maintenance as instructed in this user manual.**

## 7.5 Control unit batteries

The device is fitted with a control unit powered by two "AA" type batteries. If the controls do not respond and the display does not turn on, replace the batteries.

If the "low charge" indicator light (  ) switches on, the batteries must be replaced. Access to the batteries is achieved by opening the compartment below the control unit (Figure 30).

The auxiliary cable connection port is positioned next to the battery slot (Figure 30). Refer to section 7.8 *Auxiliary connection cable*, page 32.

### To replace the two AA batteries:

- Use a cross head screwdriver to undo the battery compartment screws. Lift the battery compartment cover (Figure 38).
- Remove the batteries.
- Replace the batteries taking care to respect the polarity indicated ON THE ELECTRONIC BOARD.
- Close the battery compartment making sure to have correctly re-positioned the rubber seal, and tighten the two screws.



Figure 37 - Battery compartment



Figure 38 - Opening the battery compartment



Figure 39 - Changing the batteries

## 7.6 Lubricating the device

Disinfect and clean the device before applying the lubricant.

There are two identified lubrication areas on the device.

Lubricate each lubrication point with **one** drop of oil SAE 30. Remove any excess lubricant with a neutral detergent.

### 7.6.1 Do not lubricate the track support

Never lubricate the tracks, the track support, or any other part of the system. Lubricating the tracks or the track support can make the device operate unpredictably, with the possibility of injury to the patient and / or operators.

There is a label (Figure 40) on each side of the track support that warns the user **not to lubricate** the track support. If these labels are damaged or worn, replace them immediately (see section *Technical Support*).



Figure 40- DO NOT LUBRICATE Warning Label

 <b>WARNING</b>
<b>Lubricating the tracks or track support can cause injury to the patient and / or operators. Never lubricate the track support and the tracks.</b>

<b>Important</b>
Do not lubricate parts unnecessarily as this can cause dirt and particles to build up on the lubricated parts and cause damage. Lubricate <b>only</b> the points indicated.

## 7.7 Adjusting track tension

### TOOLS REQUIRED

1	Hex socket wrench (13 mm or 1/2")
1	6 mm Allen wrench
1	2.5 mm Allen wrench

Over time, the tracks can become loose due to wear, or you may find that the tensioning of the two tracks is not equal.

**Track tension adjustment requires the intervention of two operators.**

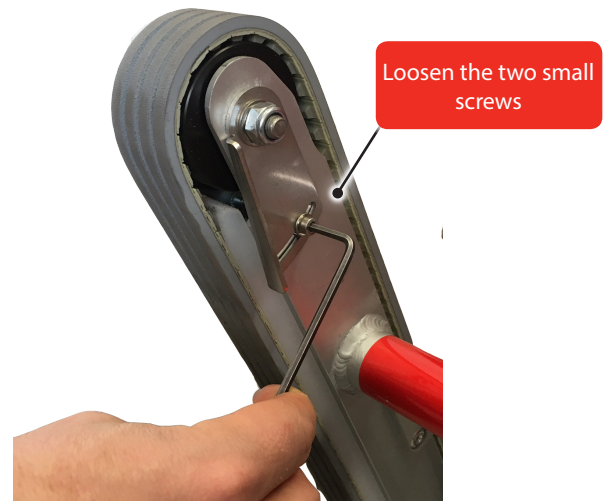
1. Open the track support and apply both the rear wheel brakes.
2. Using a 6 mm Allen wrench and a 13 mm hex socket wrench, loosen the main screw (Figure 42).
3. Using a 2.5 mm Allen wrench, remove the two small screws (Figure 43).
4. While one operator turns the tabs of the track tensioner in the opposite direction to one another, the other operator gently tightens the two small screws using a 2.5 mm Allen wrench (Figure 44). Take the utmost care not to over-tighten the screws.
5. While one operator keeps the two tabs of the track tensioner in position, the other operator tightens the main screw using a 6 mm Allen wrench and a 13 mm hex socket wrench.
6. Repeat steps 2 to 5 for the second track.
7. Check the track tension:
  - o The tension must be the same on both tracks.
  - o Check the tension by pulling the tracks from the centre and not from the upper or lower end. Taking a measurement from the frame to the edge of the track, the track should be spaced no more than 6.4 to 9.5 mm from the frame.

**Note:** It is recommended to assign re-tensioning of the tracks to technical staff.

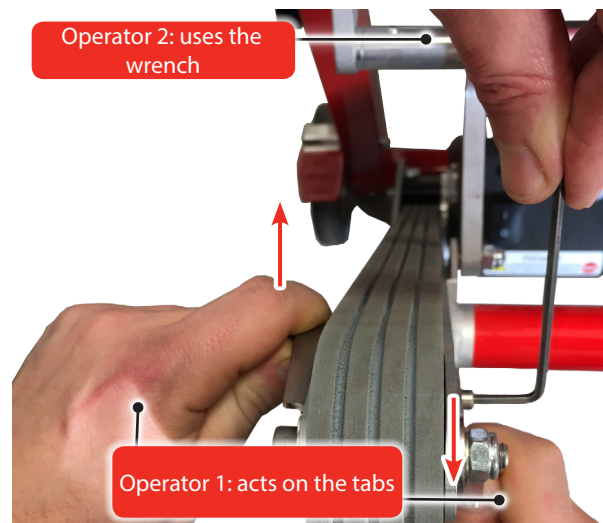
**Note:** If you cannot get the correct tension in the tracks, the tracks should be replaced. Contact the Ferno Technical Support Service (page 2).



**Figure 42 - Loosen the main screw**



**Figure 43 - Loosen the two small screws**



**Figure 44- Track tension adjustment**



## 7.8 Auxiliary connection cable

The device is supplied as standard with an auxiliary cable. It can be connected, for the desired time, to the control unit and the motor, bypassing the wireless connection. If permanently connected, position the cable so that it is not crushed when using the device.

The auxiliary cable allows you to re-establish the connection between the control unit and the motor. The wireless control unit and the motor are connected during the assembly procedure and should not disconnect during normal use.

If the connection is lost, perform the following reconnection procedures:

1. Open the control unit connector compartment with the aid of a coin. (Figures 48-49-50)
2. Insert the auxiliary cable connector into the port located in the compartment (Figure 51).
3. Remove the door protection on the motor housing.
4. Connect the cable's serial plug to the port on the motor housing (Figure 53).
5. Press the power button of the device and wait for the wireless interface and the motor to be synchronized, a double beep will confirm that connection has been successfully completed (Figure 54).
6. Disconnect the cable from the controller by prying it with the tip of the plug closing the connector port (Figure 55).
7. Remove the serial cable from the motor housing and stow it in the bag provided.



**Figure 49 - Opening the connector compartment**



**Figure 50 - Port on the motor housing**



**Figure 51 - Insert the connector**



**Figure 48 - Use a coin to open the connector compartment**



**Figure 52 - Connecting the cable to the motor housing**



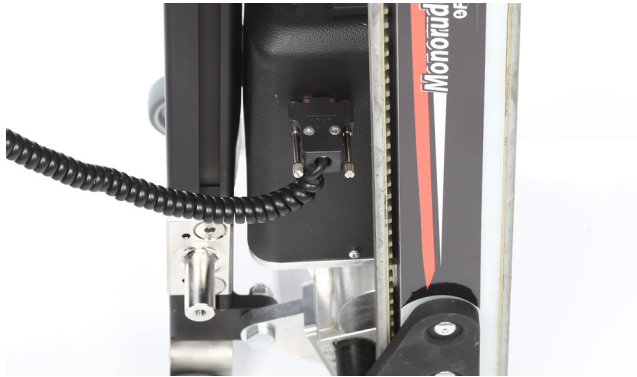


Figure 53 - Connecting the cable to the motor housing



Figure 54 - Connecting the cable to the motor housing

Use the plug to disconnect cable from the connector compartment.



Figure 55 - Unplugging the connector

## 8 - ACCESSORIES

Ferno offers various approved accessories for use with the MONORUDDER device. Always follow the directions in this instruction manual.

For more product information, contact Ferno Customer Service (page 2).

### WARNING

The use of improper and/or unauthorised devices may cause accidents, damage, and/or injury. Use only devices that have been approved and authorised by Ferno Washington Italia.

### 8.1 Accessories for MONORUDDER chair

Description	Code
Milwaukee M28 Battery	MWK-BATTERYM28
MonoClack locking system	65-0430-001

# MonoClack locking system

## Warning

The danger symbols draw attention to potentially dangerous situations that, if disregarded, may result in accidents, damage and/or injury.

### WARNING

**Untrained users may injure themselves, cause damage and/or physical harm. Only allow trained personnel to operate the MonoClack locking system.**

**Improper use of the MonoClack may cause damage and / or injury. Use the MonoClack locking system as described in this manual.**

**Unauthorised modification of the MonoClack could cause serious damage, injury and / or unforeseeable problems. Do not modify or alter the Monoclack in any way.**

**Any damage to the components of the MonoClack locking system and / or the entire system may affect its performance and safety. Inspect the MonoClack frequently, especially before and after each use. Place the device out of service if it shows signs of wear or damage.**

**MonoClack is not designed to lock the device with the patient seated in it. We recommend closing the device before hooking the MONORUDDER to the MonoClack.**

### WARNING

**Occasional and untrained helpers may damage the MonoClack locking system. Take extreme care when using the MonoClack.**

**Do not allow occasional untrained helpers to carry out preparatory manoeuvres with any device in the EZ-Glide series or the MonoClack locking system, or conduct operations without the supervision of trained professionals.**

**Using the MonoClack with devices / instruments not approved or authorised by Ferno Washington Italia s.r.l. may result in damage, accidents, and / or injury to personnel.**

**Unauthorised repairs carried out by technicians or workshops not authorised by Ferno Washington Italia will void all warranties and may make any type of operation with MonoClack dangerous.**

## OPERATOR TRAINING AND SKILLS

### Operators' skills

Operators trained and authorised to use the MonoClack locking system must:

- understand the procedures described in this manual;
- learn about the Monorudder.

#### For proper training you must:

- follow a training program certified by Ferno Washington Italia s.r.l. to learn how to operate the MonoClack locking system.
- read this manual carefully (for additional copies contact Ferno Washington Italia s.r.l.).
- train operators according to the Ferno Washington Italia s.r.l. educational programme.
- scrupulously record the training sessions performed with the MonoClack system on the form attached to this manual (see Chapter "Training record").

### Responsibilities of operators

Operators must be able to ensure the safety of both themselves and their patients while using the product. The operators must be able to correctly and safely use the device and all the components of the system

### Technical specifications

Length .....770 mm  
Width.....300 mm  
Weight .....7 kg  
Depth.....130 mm  
Maximum safe load.....30 kg

#### Important

Ferno Washington Italia s.r.l. is not liable for damages caused to users and / or third parties arising from improper use of the device, or if the locking system is used with a device for which MonoClack is not approved by Ferno Washington Italia s.r.l.

#### WARNING

**MonoClack has been tested with the following product:  
-MONORUDDER  
Any other configuration unauthorised by Ferno Washington Italia s.r.l. could cause damage and / or serious injury.  
If used in a different configuration, contact the Technical Service team at Ferno Washington Italia s.r.l. directly. (see page 2).**

## DESCRIPTION OF THE LOCKING SYSTEM

### Operational description

MonoClack is a system that allows locking the MONORUDDER device to a wall or suitably equipped vehicle interior. MonoClack consists of a shaped metal sheet designed to engage and lock the device safely in place.



Figure 1: MonoClack - Wall locking



Figure 2:  
Lifting the Monorudder.



Figure 3  
Inserting the Monorudder in the MonoClack.

## INSTRUCTIONS FOR USE

### Securing the device in the Locking hook

- Correctly close and lock the device (figure 2) making sure that also the safety locks are closed (see Section 5.14).
- Grasp the handle and lift the device so as to position pins inside the special seats of the wall support (figure 2 and 3).
- Push the device towards the locking bar, and make sure to hook it correctly (figure 4 and 5).



Figure 4  
Locking the Monorudder to the MonoClack.





Figure 5:

Locking the Monorudder to the Monoclack.



Figure 6:

Monorudder correct locking position.

### Unlocking the device

- To remove the Monorudder from the wall locking system, press the two red levers at the same time, as shown in Figure 7.
- Move the device towards you and lift it so as to remove pins from chair



Figure 7: Unlocking the upper locking system.

### Monorudder parking position

For device vertical parking, follow the steps shown in the pictures.

- Tilt the Monorudder towards you so as to bend the bidirectional wheels, and press the device towards the ground.
- Move the weight to the transport wheels.



## INSTALLING THE LOCKING SYSTEM

### Wall mounting

Installing MonoClack on board a vehicle must be carried out by specialist technical personnel.

The installation is made with 8 M6x16 button head socket cap screws and RPIM 6x12 washers. Screw lengths may vary based on the thickness of the surface on which the device is installed.



## 9 - TECHNICAL SUPPORT

### 9.1 Technical Support Service

For technical support concerning our products, contact the Ferno Washington Italia Technical Support Service.

Telephone (toll-free in Italy)	800.501.711
Phone	+39 0516860028
Fax	+39 0516861508
E-mail	info@ferno.it
Website	www.ferno.it

For information on using the MONORUDDER device, and to schedule training courses on the correct use of the device, contact the Ferno Washington Italia Customer Service team.

#### **WARNING**

**Non-original spare parts and inadequate repairs may cause damage and/or injury. Use only original Ferno parts and refer exclusively to Ferno Washington Italia Customer Support.**

#### **WARNING**

**Unauthorised modification of device could cause serious damage, injury and / or unforeseeable operating problems. Do not modify or alter the device in any way.**

## 10 - WARRANTY

### Warranty Terms and Conditions

Ferno's products are guaranteed against manufacturing defects for a period of 24 months from the date on the Ferno Washington Italia s.r.l. shipping document.

The company guarantees its spare parts for a period of 12 months.

During the warranty period, Ferno will repair and/or replace any parts found to have manufacturing defects free of charge, excluding the costs of labour, travel, transport, and packaging.

The warranty does not cover consumables or parts subject to wear and tear due to normal use of the product, all parts typically subjected to sliding or rolling friction (bearings, brushes, lubricants, shoes, tracks, etc.), parts potentially exposed to oxidation or corrosion (copper or metal alloy contacts, electrical, electronic and mechanical equipment), and batteries.

The surface finishes (gelcoat/resin, paint, powder paint, decals, tape, inscriptions, etc.) are guaranteed for 90 days.

Repairs are performed by trained technical staff at the Washington Ferno Italia s.r.l. site in Via Zallone 26- 40066 Pieve di Cento (BO), or at the Customer's premises if suitable arrangements with Ferno Washington Italia's Customer Service have been made.

Technical support at the Customer's premises must be arranged beforehand and involves a refund of costs incurred and documented on request. For information on the costs of technical support, please contact the service department at Ferno Washington Italia s.r.l.

Repairs are guaranteed for 6 months from the date of repair. This warranty applies only when the product is used according to the instructions in the user manual provided. Misuse and negligence invalidate this warranty.

The warranty is valid from the day the product is shipped from Ferno Washington Italia s.r.l., and the shipping costs are not covered by this warranty. Ferno Washington Italia s.r.l. is not liable for damages sustained during shipment or due to misuse of the product.

Products sold by Ferno Washington Italia s.r.l. that do not bear the Ferno trademark are covered by the warranty of the original manufacturer. Ferno Washington Italia s.r.l. does not extend the periods of warranties of other manufacturers; Ferno Washington Italia s.r.l. assumes no responsibility for products manufactured by others.

The warranty is rendered null and void in the case of:

- failure to observe the operating instructions,
- misuse,
- inappropriate use or handling,
- repairs by non-authorized persons,
- damage during transport due to improper packaging of items returned by the user,
- inadequate maintenance,
- failure to use original spare parts.

In cases not covered by the warranty, Ferno Washington Italia will not cover the transport costs for sending or returning the product.

## Limitation of liability

If a product is found to be defective, Ferno Washington Italia s.r.l. will repair and replace it, or, at its own discretion, refund the purchase price. Under no circumstances can Ferno Washington Italia s.r.l. be held liable for more than the selling price of the product. The buyer accepts these conditions for all types of damage. Ferno Washington Italia s.r.l. does not offer other warranties, either express or implied, or any implied warranties of saleability or fitness for a particular purpose for its own products, or those manufactured by others. In case of infringement of the limited warranty, any legal actions must be filed within one year from the date on which the infringement was, or should have been, discovered. Ferno Washington Italia s.r.l. reserves the right to terminate the warranty of the products sold:

- if the labels or plates bearing the Manufacturer's logo and/or the serial or registration number are rendered illegible or removed;
- if the product has undergone unauthorised modifications, repairs or treatment or by not authorised personnel;
- if the product is not used in compliance with the instructions, or for purposes other than those for which it was designed.
- further to the conditions indicated in section 10.1, "Warranty Terms and Conditions" page 39.

Ferno Washington Italia s.r.l. cannot, in any event, be held liable for direct or indirect damage due to usage that is non-compliant with the instructions in the user manual or the intended purpose of the product.

## Warranty claims

Contact Ferno's Customer Service immediately if you receive a product that is suspected to be defective. A representative will assist the customer through the complaints procedure. Before returning a product to Ferno Washington Italia s.r.l., contact Ferno's Customer Service to request authorisation.

## Claims

Any claims must be communicated to the reseller, or to Ferno Washington Italia s.r.l.'s Customer Service, within 5 days of receipt of the product or of discovery of the alleged defect.

Claims or disputes regarding a single product shall not release the buyer from the obligation to collect and pay for other products in the order, unless otherwise agreed with the seller.

## Return authorisation

No product will be accepted without the prior approval of Ferno Washington Italia s.r.l.

Products returned for business reasons, or for reasons not relating to nonconformity of the product, will be accepted only after verification of their condition by Ferno Washington Italia s.r.l. qualified personnel.



<b>TRAINING RECORD</b>		
<b>Date</b>	<b>Instructor Name</b>	<b>Training Type</b>

<b>MAINTENANCE RECORD</b>		
<b>Date</b>	<b>Type of Maintenance</b>	<b>Maintenance Technician</b>

*Product User and Maintenance Manual, required to operate the product safely, maintain its efficiency and reliability, and comply with the terms of the warranty.*

**Re.12052017**  
**English (UK)**

**Ferno Washington Italia s.r.l.**

Via Benedetto Zallone 26

40066 - Pieve di Cento (BO) - ITALY

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