

User manual

Patient chair Malin

- *Model - Rock*
- *Model - Swing*
- *Model - Slim*



Rock



Slim



Swing

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1. Patient chair Malin

Thank you for choosing the Rini patient chair Malin

The chair comes in three models; Rock, Swing and Slim. All offer excellent comfort with ergonomic design, enabling high efficiency in daily patient work for medical professionals.

Special focus has been put in the chairs functionality and ergonomic features. The chair is battery operated and easy to raise and lower by intuitive hand control. Accessories include different armrests, driving handles, foot supports, IR control, headrest and electric brake.

Malin Rock is most popular base model, Malin Swing can rotate the seat $\pm 90^\circ$ and Malin Slim has a more narrow front wheel footprint.

All Rinis patient chairs have a robust mechanical design based on a rigid H-stand with four large wheels, accurate electrical height adjustments and brake on back wheels.

Rini is constantly improving existing products and developing new ones. Consequently, we value the professional user's point of view; so don't hesitate to let us know your opinion about any of our product lines.

2. Important - Before use



To ensure patient safety and the lifespan of the product, it is important to observe the following instructions before use. Please read this manual carefully and understand how to use the product before you start.

2.1 Unpacking and installation

Before the product is unpacked make sure that the packaging has not been damaged during transport. If so, document these with a picture and report this to the transport company and your local Rini representative.

In the packages the chair is normally in the following parts:

- Complete chair with wheels and seat mounted
- Backrest and accessories
- Battery charger and user manual



Be careful when lifting the chair off the pallet. The chair is heavy and may cause injury. Do not use sharp tools when removing the packaging material. This may cause damage.

Make sure that the delivery includes all ordered parts. Contact your Rini sales representative if you find any discrepancies.

2.2 Intended areas of use

The patient chairs Malin model Rock, Swing and Slim are developed for different types examination or treatment where the patient needs to be in a stable seated position and the operator need to make fine adjustments during examination.

In addition the chairs are designed to offer mobility and transport of the patient in a flexible and safe way.

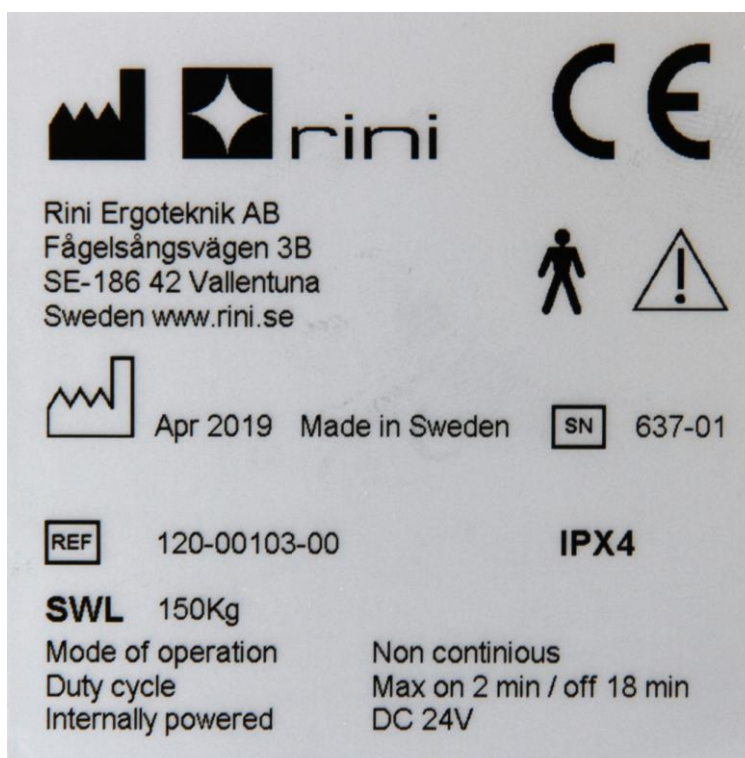
Intended uses include: Eye Examination, Eye treatment, General examination or treatment of sitting patient, Transport of patient in sitting position.



The chair may only be used for the purposes specified in this manual. Any other use may pose a risk to the user. The chair should not be used by patients that weigh more than 150kg.

2.3 Product identification label

The label is placed on the lifting column and shows the product part number and its unique serial number.



3. Basic adjustments of the chair



1. Backrest that can be adjusted in height with a locking clip placed on the backrest bar.
2. Armrests (accessory) either fixed (shown) or collapsible. The height as well as the width between the armrests can be adjusted. The width by using the yellow handles under the seat.
3. Driving handles (accessory) either 450mm long (right chair) or 600mm long (left chair).
4. Seat with one-hand grip adjustment for seat and backrest position located on the right-hand side (Rock and Slim). Malin Swing has a rotating possibility where seat, armrests and backrest can be rotated ± 90 degrees compared to the chair's stand.
5. Brake bar acting on the back wheels (shown). Activated by pushing the brake bar downwards. If the chair is equipped with wheels with directional control (accessory) this is activated by pulling the brake bar upwards. Electrical brake control available as accessory.
6. Battery and control box. Charging is either done with an inlet on the wired hand control or on the side of the chassis in case of the wireless IR hand control.
7. Hand control with wire (shown). Wireless IR hand control available as accessory.
8. Foot support (accessory) either a plastic plate that can be folded (left chair) or a T-shaped foot support in metal.
9. Product identification label

3.1 Tips for comfortable position

To achieve a comfortable ergonomic working position the operators chair should first be adjusted and then the examination equipment (e.g. slit lamp, laser etc.). Thereafter the patient chair Malin is can adjusted to fit the examination equipment.

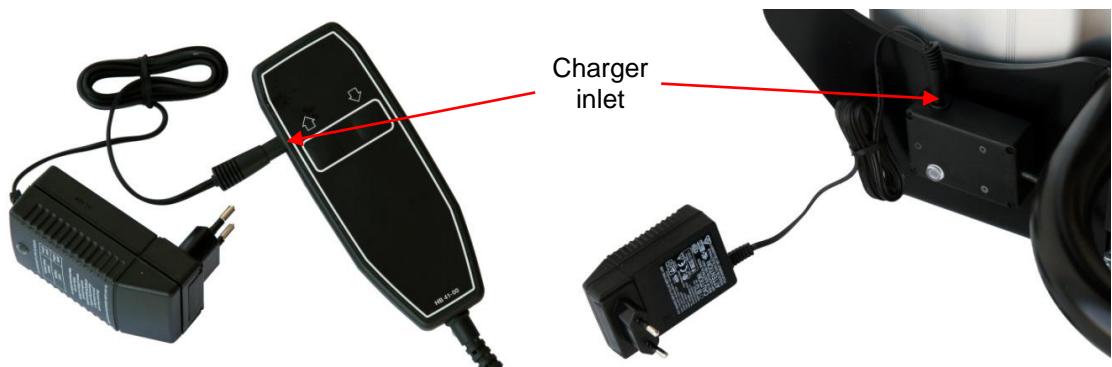


4. Handling of the battery

4.1 Charging

In case of a hand control with wire the charging inlet is located on the side of the hand control. In case of the wireless hand control the charging inlet is located on the side of chassis close to the control/battery box.

A fully charged battery will operate the chair for approximately five days during normal working conditions.



It takes approximately 12 hours to fully charge the battery and charging is automatically switched off to avoid overcharging.



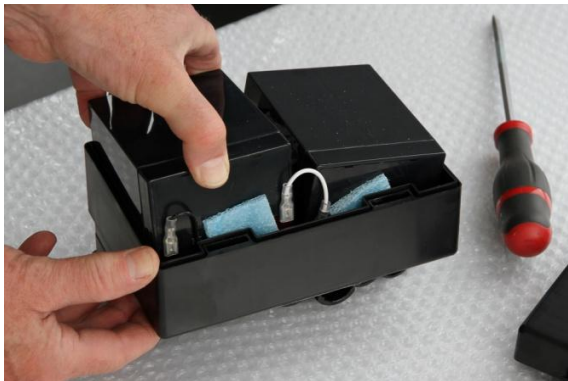
Only the dedicated charger must be used for the chair.

4.2 Replacing the battery modules

The batteries are mounted inside the control box and to replace them first unplug the control box connectors and remove the four screws.



Then use a small screwdriver to open the cover of the control box.



Remove the batteries and unplug the connectors. Insert new batteries and reconnect them accordingly. Re-install the control box and cables.

4.3 Maintenance of the battery

Batteries have a limited lifecycle and have to be replaced after approximately four years of use under normal operating conditions.

For optimum performance the battery should be charged weekly and must be charged at least every third month to avoid damage from self-discharge.

5. Accessories

The Malin chairs are available as standard with blue, green or black cushion kits and can be equipped with a number of accessories to facilitate treatment.

5.1 Armrests - fixed and collapsible

To increase patient comfort and control the chairs can be fitted with fixed armrests (left armrest in the picture below) or collapsible armrests (right armrest below). These can be mixed and matched and are easy to retrofit after delivery.



The armrests should not be loaded with more than 20 kg.

5.2 Armrest for fluorescein injection

A tailored armrest is available for fluorescein injections that also can be used for general purpose. It is easy to retrofit after delivery and can be used as a complement to the other armrests.



The armrests should not be loaded with more than 10 kg.

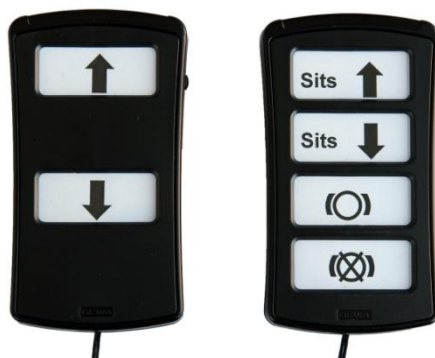
5.3 Driving handles

With driving handles it is easier to move the chair with or without a patient sitting in the chair. There are two driving handles available with different length. The left picture shows the short driving handle 450mm and the right picture the longer driving handle 600mm.



5.4 Wireless control

This is a factory mounted accessory including a special control box and IR receiver and charger inlet. There are two versions of the wireless hand control. One for only controlling the height of the chair and one for controlling both the height of the chair as well as the accessory electrical brake.



The hand control system has several infrared channels and is usually delivered with a default channel setting (ch 16-19). These channels may have to be change if there are more than one chair in the same room as they can interfere with each other.

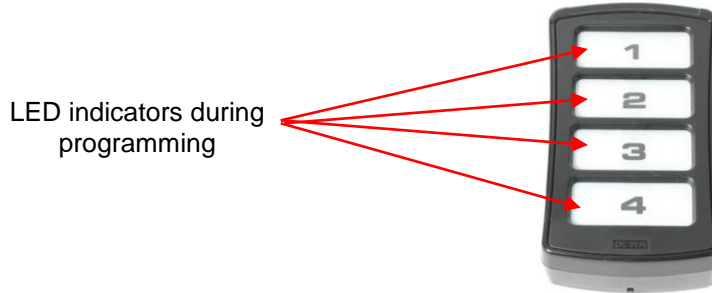
The hand control is battery powered that last approx. 2 years, To replace the batteries, unscrew the back and use 3 x AAA batteries (LR03 1.5V).

The IR-receiver is fed by the battery of the chair and if the chair is not used during a longer amount of time (weeks) the battery will be discharged and loose durability.

Therefore it is recommended to keep the charger connected or disconnect the power supply to the IR receiver from the control box.

How to change IR channel

The hand control has 4 buttons. In case of the hand control with 2 buttons the plastic cover needs to be removed to access all buttons.



The IR channels are changed in groups of 4 channels at the time. Channel group 16-19 is normally used as default channels at delivery.

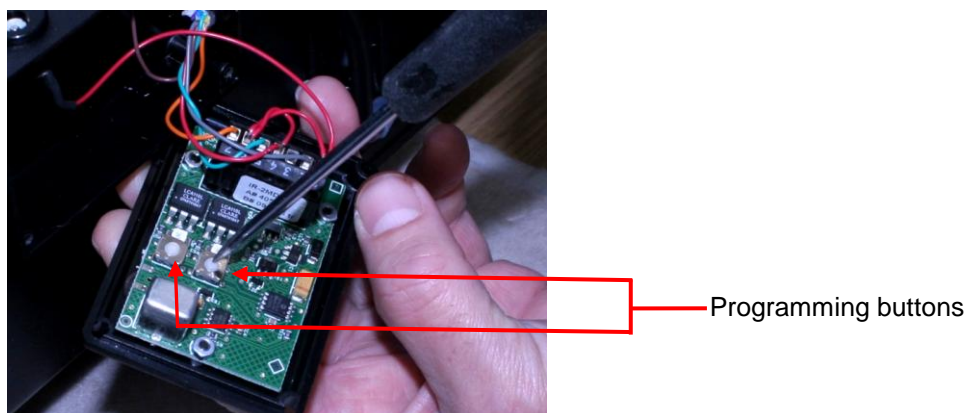
Channel group matrix				
	1	2	3	4
1	00-03	16-19	32-35	48-51
2	04-07	20-23	36-39	52-55
3	08-11	24-27	40-43	56-59
4	12-15	28-31	44-47	-

To change channel group in the hand control unit:

1. Press button **4** and the simultaneously button **2** for two sec. A signal should be heard and the LED at button 2 should blink.
2. Press button **4**
3. Choose channel group by first selecting column and then row according to the matrix above. For example to select channel 24-27 first press **2** and then **3**.
4. If successful 3 peeps will be heard as confirmation. If time out or failure due to other reason a signal with 8 peeps will be heard

To change channel IR receiver located on the chair:

1. To "learn" the IR receiver the new channels first unscrew and remove the cover of the IR receiver. There are two or four micro switches that also function as programming buttons.



2. First press one programming button to identify the function (chair up or down, brake activated or deactivated). Then press the button again and simultaneously press the corresponding button on the hand control and the channel becomes locked. Repeat this for all functions.

5.5 Foot support

There are two types of foot supports available that both easily can be retrofitted. One flat foot support of plastic and one T-shaped of metal. The foot support makes it easier for to move a patient sitting in the chair.



The flat foot support can be adjusted in height and has a folding function.



The T-shaped support can be adjusted in height and depth.

The foot support should not be loaded with more than 25 kg.

5.6 Extended lifting height

This is a factory mounted accessory. Extends the lifting height to 540 - 940mm.

5.7 Electrical brake

This is a factory mounted accessory to activate or deactivate the brake function via the hand control.

5.8 Wheels with directional control

Directional control keeps the chair in a straight line and facilitated if patients are transported longer distances. Can be retrofitted but not available on chairs with electrical brake.

5.9 Headrest

This is a factory mounted accessory when support of the patients head is required. Follows the back support and can be adjusted in height.

6. Disinfection, cleaning and repairs

The product is in contact with the patient but normally in a non sterile examination or treatment environment.

Disinfection

Part	Product	Other information
Upholstery and armrests	Virkon (including most disinfectants without alcohol).	1% concentration. (Disinfectants containing alcohol cannot be used due possible to dehydration)
Chassis and buttons	Noedischer Dekonta CCOTRADE RW	1-3% concentration 0,5% concentration

Cleaning

Part	Product	Other information
Upholstery and armrests	Water and soap	Use damp cloth
Chassis and buttons	Water and soap	Use damp cloth
Battery charger	Water	Use damp cloth

Repairs

The product should only be repaired by Rini or a Rini authorised service centre. Product to be repaired under warranty must be sent to Rini factory or an authorised Rini service centre.



Unauthorized repairs and modifications may result in loss of function and void warranty.

7. Safety

The product should only be used as intended otherwise it can cause injury to persons or product. Read this manual before the product is put into service. Necessary knowledge of the product is required before clinical use and this manual should always be available when using the product. No accessories other than those mentioned in this manual may be used. Please note the warning signs on the product.

Warning signs are used when there is a risk for patients, staff or product.

7.1 CE Declaration of conformance



Patient chair 120-00103-xx follows MDD EU Directive 93/42 EEC for medical products.

Tested according to EN/IEC 60601-1.

8. Technical specification

General	
Weight base unit	41kg / 90lbs
Length (chassis)	580mm
Width (chassis)	530mm
Medical classification	Class 1 Type B
Standard	EN/IEC 60601
Protective class	IPX4
Battery	24V 2,9Ah rechargeable lead acid
Charger	100 - 240V
Cushions	Medical classified material - black, green or blue (standard) or other colours as options
Operator data	
Lifting capacity	150kg / 331lbs (max weight patient)
Height adjustment	480 - 780mm by Hand control (wire or wireless)
Back support	
Type	H 250mm x B 280mm
Inclination and height	Angle -8° till +12° Height 340 - 420mm from seat
Seat	
Type	L 420mm x B 460mm
Inclination	Angle +3° till -12°
Armrest	
Type	Fixed or collapsible
Brake	
Type	Mechanical brake or electrical for back wheels
Operational environment	
Temperature	+5°C to +40°C
Relative humidity	20% to 90% at 30°C
Atmospheric pressure	700 to 1060hPa
Transport and storage	
Temperature	-10°C to +50°C
Relative humidity	20% to 90% at 30°C
Atmospheric pressure	700 to 1060hPa

9. Disposal and recycling

The product is mainly made from environmentally recyclable materials as steel, stainless steel, aluminum and plastics. Rini recommends that the material be sorted and recycled in connection with the destruction of the product.



Electronic parts and cables shall be handled as electronic waste in accordance with local requirements. The battery contains lead and is disposed according to current environmental legislation.

10. Warranty

The warranty is valid one year from the date of purchase. Please contact Rini for further information.

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