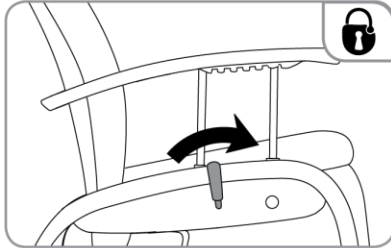
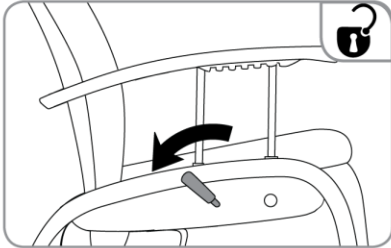
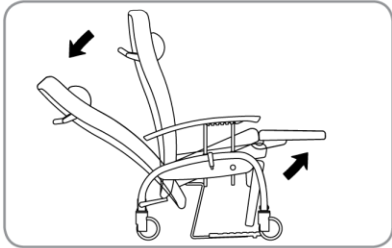


Operating instructions and
technical manual
**Fero relax and
rest chairs**

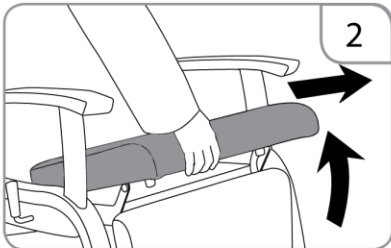
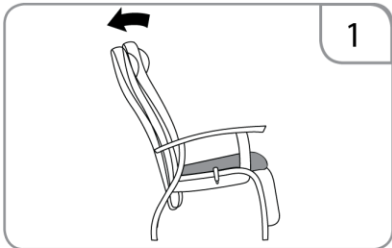


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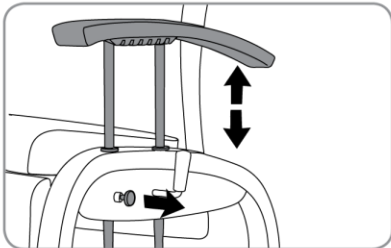
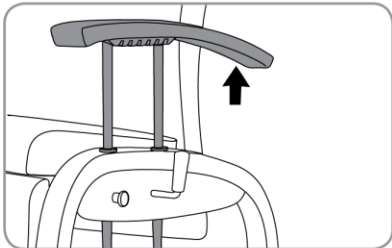
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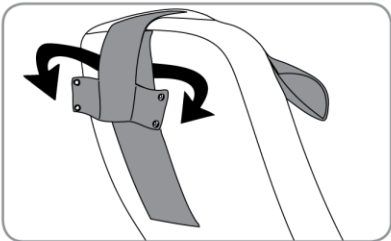
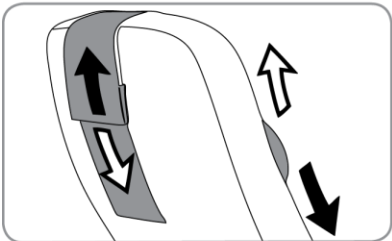
Removable seat cushion

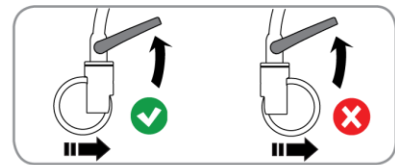


Lowerable armrests

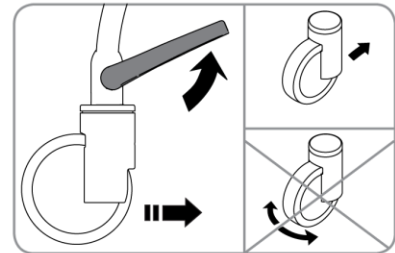
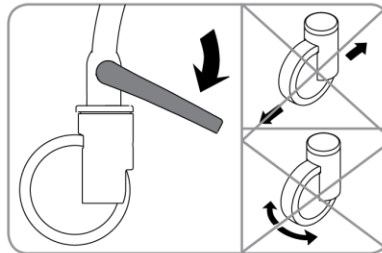
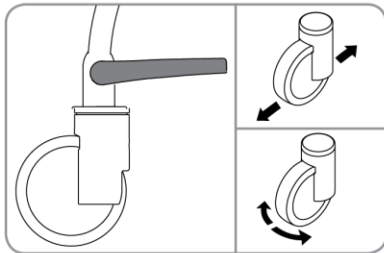


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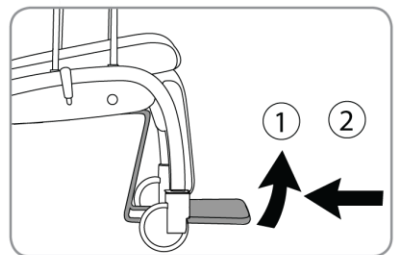
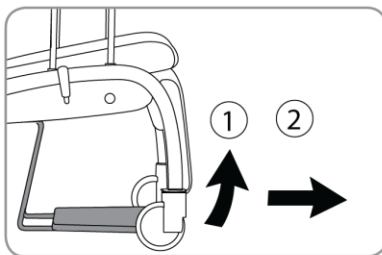
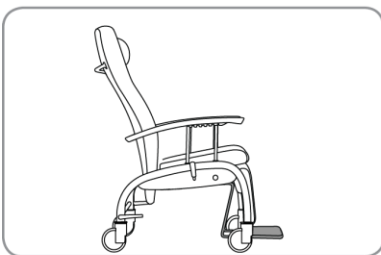




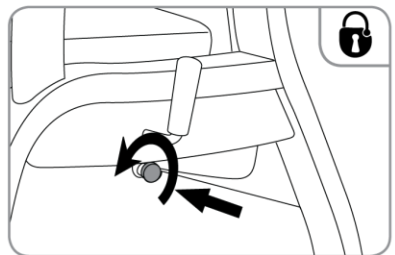
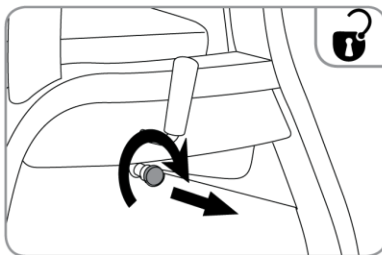
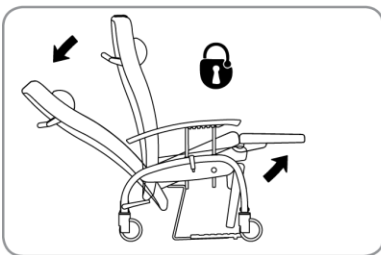
Central braking system



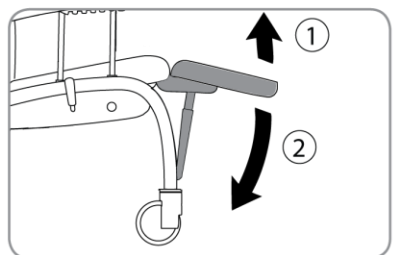
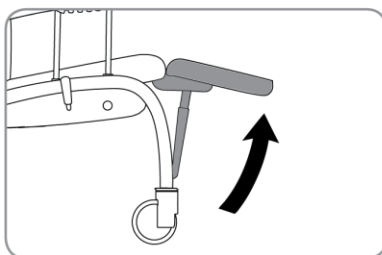
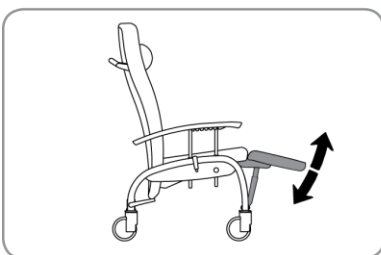
Footrest



Option: securing of activation lever



Option: manually adjustable legrest



The Fero chair is suited for indoor transport on a flat surface. For safety reasons, the armrests have to be put in their highest position during indoor transport. The brake always has to be activated when the chair is not moved.

PREFACE

Dear user,

Haelvoet would like to thank you for the confidence you have put in our company by opting for a Haelvoet product. You have chosen a high-end product resulting from our inexhaustible experience in the development and production of care furniture. Our continuous pursuit of improvement and optimisation aims at increasing our customer satisfaction even more. All our products are fully checked before they leave our company. If you face a problem, however, please do not hesitate to contact us.

This manual has been written to make you familiar with the installation, the electric and mechanical aspects, and the maintenance of this Haelvoet product. Therefore, we strongly advise you to go through this document before using or servicing the product. Please do not hesitate to ask for extra manuals at Haelvoet NV in case this may seem necessary. We kindly request you to make sure that all users and maintenance technicians have the necessary information at their disposal and have access to it at all times.

The purpose of this manual is to offer you a clear and transparent overview of the functional and technological aspects of the Fero chair. Consequently, Haelvoet NV cannot be held liable for any damage or injuries that result from incorrect product usage, incorrect chair interventions or any possible unclear descriptions in this document. Since Haelvoet NV continually aims at making technological progress, Haelvoet reserves the right to modify the product as well as this manual, and all this without prior notice.

Nothing from this edition may be multiplied and/or made public in any form or manner, either mechanically or electronically, without prior written consent of Haelvoet NV.

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I. SAFETY INSTRUCTIONS

1.1 General instructions



We strongly advise you again to read the entire manual, so that the instructions for an optimal use as well as those for a preventive and curative maintenance of the Fero chair are carefully followed. The chair should be installed, maintained and used in accordance with this manual. Please inform all readers about the possible risks that can be run when not reading or following this manual.

The manufacturer, installer, importer or distributor of this product can only be held liable and stand surety for the basic safety, reliability and required qualities of the product if:

- decently trained technicians perform assembly tasks (e.g. assembly of accessories), adjustments, modifications, repairs and/or maintenance work.
- the Fero chair is used and maintained in accordance with the instructions in this manual and in a way that is considered a normal use of a chair.
- the user and technician have become acquainted with this manual and/or have received a good training of a qualified person.

By doing so, the risks for both the staff and the user are reduced considerably, whereas the product life of the Fero chair is increased. Furthermore, all Fero chair functions should be checked annually.

The Fero relax chair is intended and made for the support of an **adult** patient in a sit or relax position.

The Fero relax chair is developed for the anatomy of people greater than 146 cm.

Appropriate precautions have to be taken to treat small or very fragile patients. Furthermore, it is very dangerous for children to operate the relax chair or to use it as a toy.

Before you start using the Fero chair, please make sure that the chair functions properly. That is why you have to check the following elements *before* you use it:

- Remove all packing material and recycle it environment-friendly.
- Please check if the Fero chair and all its parts have been delivered in accordance with the delivery note.
- Please check if the chair has not been damaged during transport and delivery.
- In case huge temperature differences have to be overcome: let the chair adapt itself to the room temperature for 24 hours.
- Activate the brakes of the Fero chair.
- Read the entire manual.
- Clean the Fero chair as described in chapter 4 of this manual.
- Make sure that no obstacles hinder the free movement of the chair.
- Check the chair functionality by means of the checklist. (see appendix)



Only use electric appliances that function perfectly in the vicinity of the chair. Make sure that these appliances are never connected by means of a multi-socket under the chair (risk of electrocution and fire because of the fluids). You should avoid using extension cords and multi-sockets.

Keep in mind that every technical product can be dangerous when it is used incorrectly. You should give priority to the interest and safety of the patient, visitor and/or manipulator at all times. Make sure that all users have access to this manual.

It is the responsibility of the distributor to inform the customer about the chair's functionality, maintenance and disinfection. The customer has to contact the distributor in case of uncertainties or insufficient user information. He also has to address himself to the distributor if he wants additional training.

Persons (playing children in particular) or obstacles may never be under the relax chair. Please make sure that all other equipment is put in safe conditions, before the relax chair is removed. Take also care of the patient's safety during any chair manipulation. No chair function may be activated if there are obstacles of any kind in the vicinity of the relax chair. Sitting on the relax chair is not allowed for people other than the patient.

Load the relax chair and its gas springs only to the extent as described in the technical file. Always contact the technical service when the relax chair makes strange noises or movements.

Activate the brakes when the chair does not have to be moved. Please ascertain yourself of this by trying to move the chair afterwards. By doing so, you minimize the risk of having unwanted accidents when the patient tries to leave the chair. Furthermore, the chair has to be put on a flat, horizontal surface.

Never remove the relax chair when the castor brakes are activated. You should also make sure that certain relax chair accessories (IV rod, broadened armrests,...) do not hinder a safe and fluent passage through doors and the like. Please be careful when moving the relax chair and avoid collisions, especially with other persons.

When you use additional or peripheral equipment, you have to make sure that everything has been installed correctly and that everything functions properly. Please avoid using loose cables or wires and do not use multi-sockets. Contact your supplier or Haelvoet NV if you have any questions about peripheral equipment.

When you think that there is some damage or that the relax chair does not function properly, you have to indicate clearly on the relax chair that it is OUT OF USE. Furthermore, contact the person who is in charge of the relax chairs as soon as possible.

The Fero chair may only be used when the following ambient conditions are present:

- Temperature: between 5°C and 40°C.
- Humidity of 20% to 90% at 30°C without condensation.
- Atmospheric pressure between 700 and 1060 hPa.

1.2 Performance

The maximum safe working load of the Fero relax and reclining chairs is:

- for metal Fero chairs: 150 kg, optionally 200 kg (only for Ergo-line relax mechanism)
- for wooden Fero chairs: 135 kg

1.3 Fero chairs: versions

The Fero relax and rest chairs are available in a metal and a wooden version.

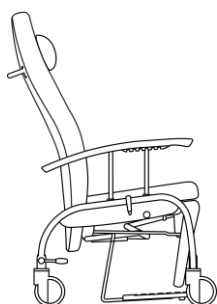
The Fero relax chairs are equipped with a recliner mechanism, especially designed for the healthcare sector. They support all parts of the body while inclined in a “Zero-Gravity” position.

1.3.1 Fero relax chair: Ergo-line versus Classic relax mechanism

The Fero relax chair “Ergo-line” has a handle with a similar function on both the left and right side of the chair. The handle is very easy to use in either a forward or backward direction. It can be put in an on/off position and will remain in that selected position. Whilst in the ON position, a hands-free movement allows an easy reclining positioning. The seat, backrest, and legrest incline simultaneously and continuously until the “Zero-Gravity” position* is obtained.

The Fero relax chair “Classic” can be easily adjusted by a light push backwards, without having to manipulate a handle. With this chair, the legrest moves upwards first, after which the whole seat can be inclined. Exactly like the synchronously driven mechanism, any new position requires hardly any effort. The classic relax mechanism is only applied on wooden Fero relax chairs.

1.3.2 Metal Fero relax chairs



Metal Fero relax chair with
castors and lowerable
armrests

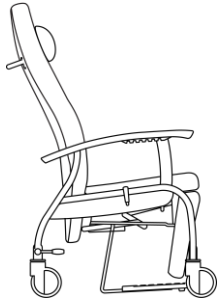
Relax mechanism: Ergo-line
(art.nr.05600)

Relax mechanism: A-Synchronous
(art.nr.15718)



Metal Fero relax chair
without castors and
lowerable armrests
(art.nr.07471)

Relax mechanism: Ergo-line



Metal Fero relax chair with
castors (art.nr. 04749)

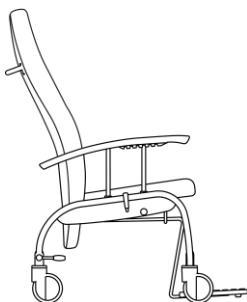
Relax mechanism: Ergo-line



Metal Fero relax chair
(art.nr. 04219)

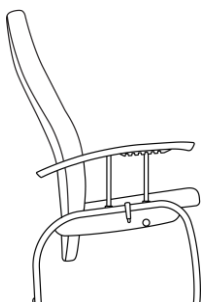
Relax mechanism: Ergo-line

1.3.3 Metal Fero rest chairs



Metal Fero reclining rest chair
with castors and lowerable
armrests (art.nr. 06038)

Relax mechanism: Not
applicable



Metal Fero reclining rest chair
without castors and lowerable
armrests (art.nr. 06036)

Relax mechanism: Not
applicable



Metal Fero reclining rest chair
(art.nr. 05563)

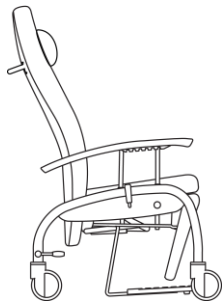
Relax mechanism: Not applicable



Metal Fero rest chair
(art.nr. 07022)

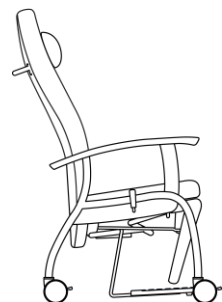
Relax mechanism: Not applicable

1.3.4 Wooden Fero relax chairs



Wooden Fero relax chair with castors and lowerable armrests

Relax mechanism: Ergo-line
(art.nr. 04972)
Relax mechanism: Classic
(art.nr. 07578)



Wooden Fero relax chair with castors

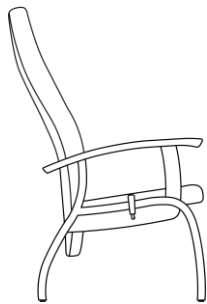
Relax mechanism: Ergo-line
(art.nr. 04208)
Relax mechanism: Classic
(art.nr. 07579)



Wooden Fero relax chair

Relax mechanism: Ergo-line
(art.nr. 03877)
Relax mechanism: Classic
(art.nr. 07580)

1.3.5 Wooden Fero rest chairs



Wooden Fero reclining rest chair (art.nr. 05562)

Relax mechanism: Not applicable



Wooden Fero rest chair (art.nr. 04738)

Relax mechanism: Not applicable

1.4 Restrictive ambient conditions

Make sure that you can't get stuck between or in the moving parts, even if these parts are not activated.

All parts should be able to move freely (do not install the chair near a windowsill or other obstacles). Make sure that the mains cables of peripheral equipment (patient hoist, compressors, reading lamp,...) can never get stuck or damaged during a chair manipulation.

1.5 Warnings



Always activate the brakes when the chair is not moved.



Make sure that the brakes of the chair have been activated, before activating the relax position of the chair.



When the relax position has to be activated, it is recommended to put the hands of the patient on the front side of the armrests. By doing so, the activation of the relax position is not obstructed.



Always put the lowerable armrests in their highest position, before activating the relax position of the chair.



Always pay attention to the position of the patient's hands while lowering the armrests. Make sure the patient's hands are within the seating zone of the Fero chair.



The Fero chair is suited for indoor transport on a flat surface. While transporting the chair (Fero chairs with castors), the lowerable armrests (if this is applied) have to be in their highest position for safety reasons.



When the patient has to leave the chair, the footrest first has to be moved inwards. Users of the chair may not stand on the footrest.



Restrained patients often tend to free themselves by pushing themselves upward. When the patient is restrained, the inclination angle of the relax position therefore should be reduced to prevent the chair from tilting forward.



Relax position: see remarks on page 15.

1.6 Preventive maintenance



The chair may only be repaired by a qualified technician in case of a malfunction or defect. Clearly indicate on the chair that it is "OUT OF USE". Contact the person who is in charge of the furniture as soon as possible. Repairs by unqualified people may cause severe damage or injuries. All functions of the chair should be checked at least annually. For this purpose, we refer to chapter VII of this manual.

1.7 Spare parts and options



Only use spare parts or options that have been approved by Haelvoet NV.

Haelvoet NV cannot be held liable for any damage or injuries resulting from modifications to the Fero chair and/or the use of non-original spare parts or options without the knowledge and written consent of the manufacturer.

II. OPERATING INSTRUCTIONS

2.1 How to activate the relax position



The Fero relax chair has been designed for patients with an average morphology. In case medical surgery (e.g. leg amputation) leads to major changes in the patient's morphology, the seat inclination (relax position) has to be reduced so that the relax chair cannot tilt backward.



The patient may not be left alone in a relax position, when the patient cannot leave this seat position on his own.



Always clearly explain to the patient how the relax position works.



Patients with limited physical or mental capacities may only be put in the relax position under supervision.



The relax chair can be optionally equipped with a lock mechanism to prevent the chair from being put in a relax position unwantedly.

2.1.1 Ergo-line mechanism

The Ergo-line mechanism simultaneously puts the backrest, seat and legrest in a “zero-gravity” position. The angle between the seat and backrest ranges from 97° (in a seating position) to 120° (in the “zero-gravity” position). When the relax mechanism is activated, the seat is inclined to an angle of 24°.

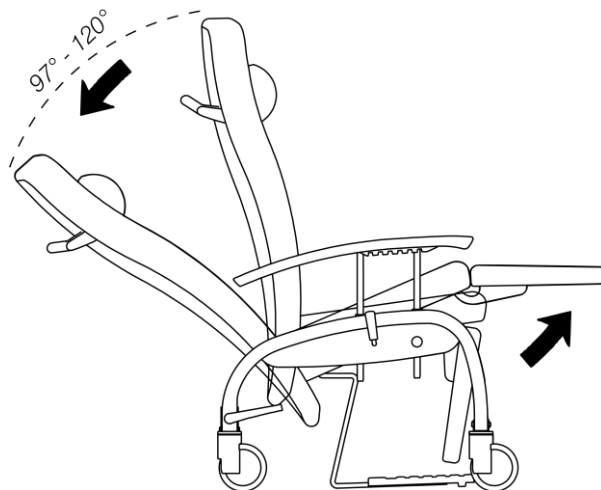


Figure 2.1: Ergo-line mechanism

The Ergo-line mechanism is activated by a lever situated on both sides of the chair. By activating the lever backwards and by pushing you off, the relax mechanism is activated into the desired position. The obtained position can be locked by bringing the lever back into the vertical position.

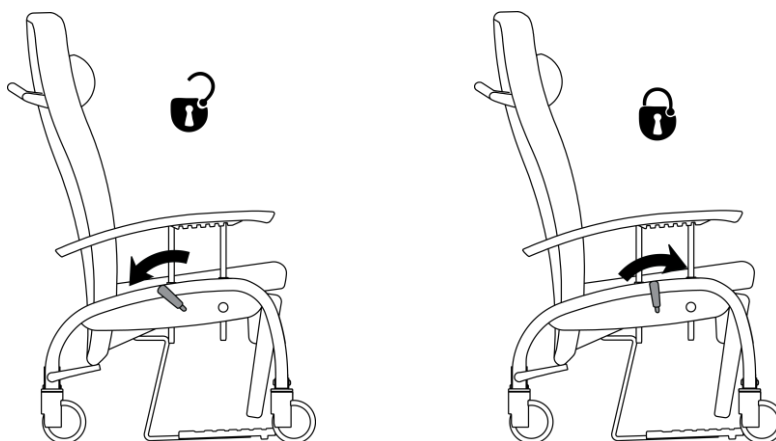


Figure 2.2: How to activate and lock the Ergo-line relax mechanism



The lever may not be used to push yourself off during the inclination of the chair.

Locking the operating lever of the relax mechanism prevents the unwanted use of it. The operating lever of the relax mechanism can be additionally locked by means of a lock button. By pulling the lock button at the underside of the support and turning it a quarter, the operating lever can be inclined backwards to unlock the mechanism. The operating lever can be locked again by turning the button until it automatically goes inwards.

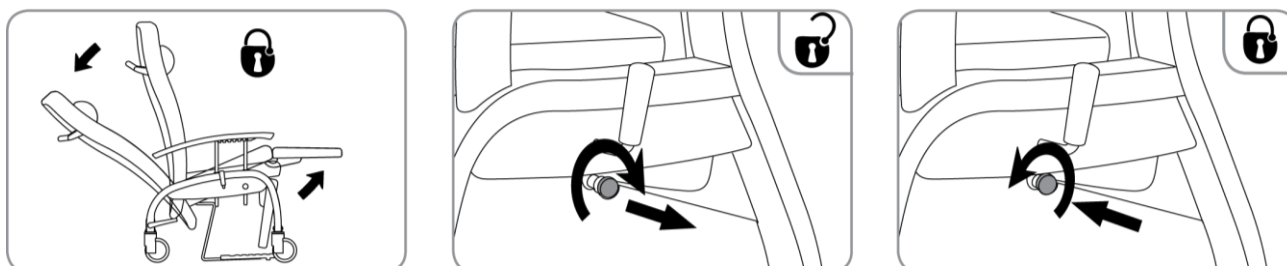


Figure 2.3: How to lock the operating lever

2.1.2 Classic mechanism (only for wooden relax chairs)

The classic mechanism guarantees an easy adjustment of the chair in 3 different positions: seating position, reading position and relax position. These positions can be obtained by pushing yourself a little off, all this without any lever manipulation. The mechanism first bring the legs upwards, after which it is possible to further incline the chair.

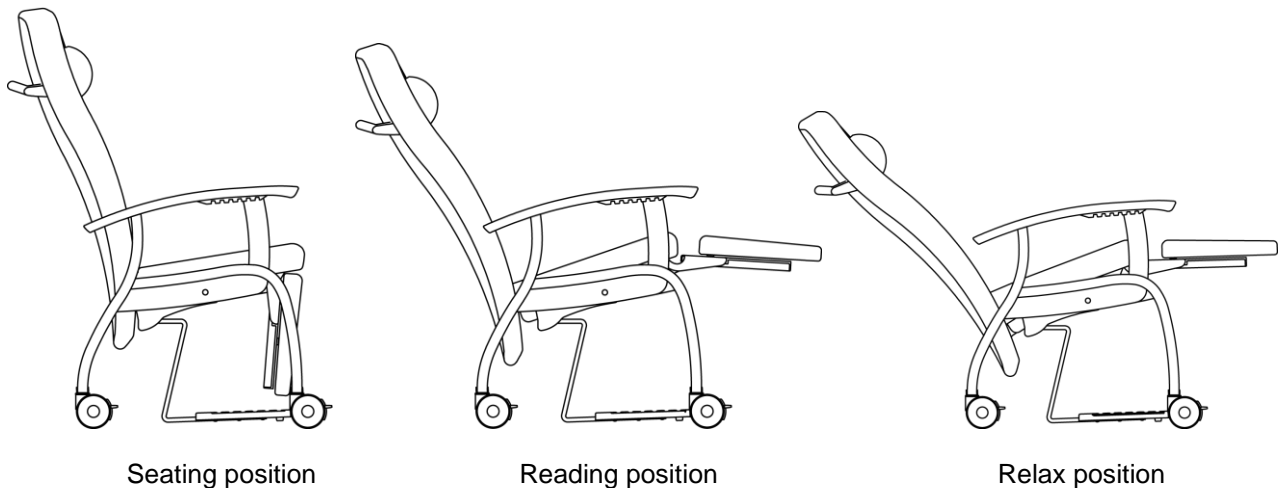


Figure 2.4: Classic relax mechanism: 3 positions

2.1.3 A-synchronous relax mechanism

The A-synchronous relax mechanism makes it possible to adjust both the backrest and legrest separately. Thanks to this, the desired position can be obtained, among which the “zero-gravity” position. The angle between the seat and the backrest ranges from 97° (in a seating position) to 120° in a “zero-gravity” position. When the legrest is activated, the seat is inclined to an angle of 20°.

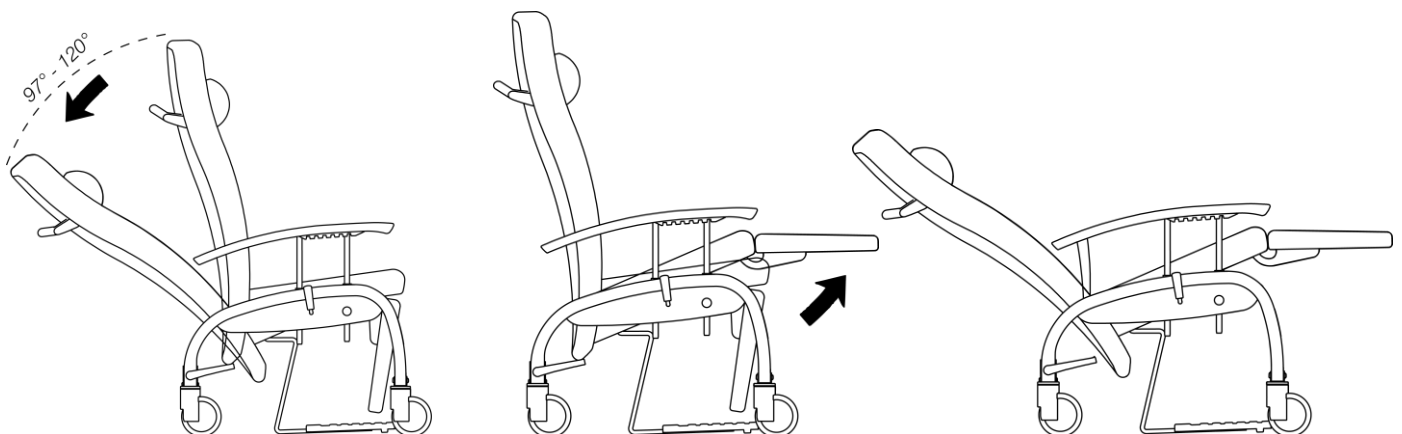


Figure 2.5: A-synchronous relax mechanism

This mechanism is activated by a lever situated on both sides of the chair. By activating the lever backwards and by pushing yourself off, the backrest is put in its desired position. The obtained position of the backrest can be locked by bringing the lever back into the vertical position.

By pushing yourself off with both arms on the armrests, the legrest can be turned upwards, whereas the seat will be inclined.



To obtain a seating position while being in a 'zero gravity' position, it is recommended to activate the backrest first into the seating position. By doing so, the legrest can then be put upwards easier.

2.2 Support

The support is made of either a firmly welded steel construction (metal Fero chairs) or 4 laminated beech legs.



Make sure that the castor brakes always have been activated, before you start using the chair.

2.2.1 Castors with separate brakes (wooden Fero's)

The castors with separate brakes are design twin castors Ø 100 mm on precision ball bearings. By stepping on the brake, as shown in figure 2.5, the castor is braked.

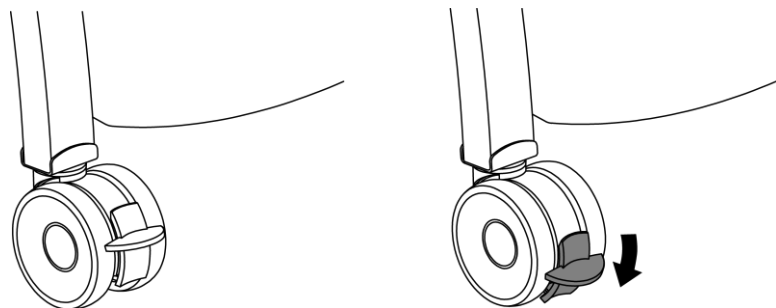


Figure 2.6: Castor not-braked – castor braked

2.2.2 Castors with central brake

Fero chairs with central brake have 2 castors at the back with a directional lock. The castors with central brake are Integral S design castors Ø 125 mm on precision ball bearings. By stepping on the pedal, the central brake mechanism is activated. By lifting the pedal again, the brake function is deactivated.

- The 2 castors at the back, activated with a central brake

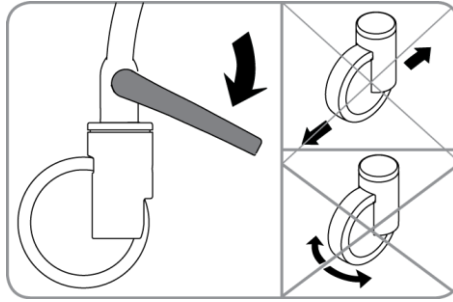


Figure 2.7: The 2 castors at the back, activated with a central brake

- The 2 castors at the back, deactivated brakes: This positions allows you to move the chair in any possible direction.

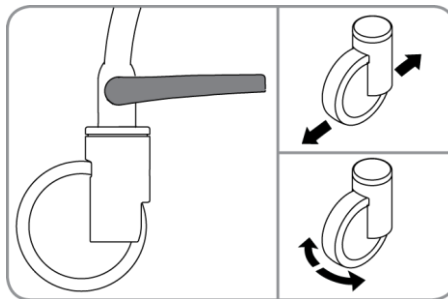


Figure 2.8: The 2 castors at the back, deactivated brakes

- Directional castor: This position makes sure that the castors at the back cannot swerve anymore. This simplifies the transport of the chair in a straight line.

Always make sure that the directional castors have been put in the same position as the other castors. If this not the case, a stable straight-lined transport cannot be guaranteed.

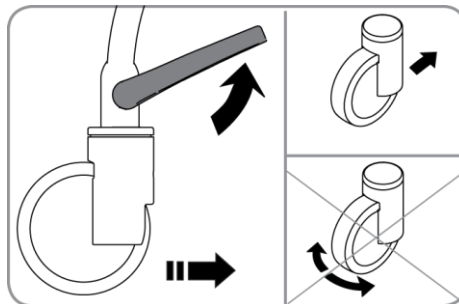


Figure 2.9: Castors at the back with a fixed transport direction



Always make sure that the directional castors have been turned towards the back of the chair, before activating the fixed transport direction.

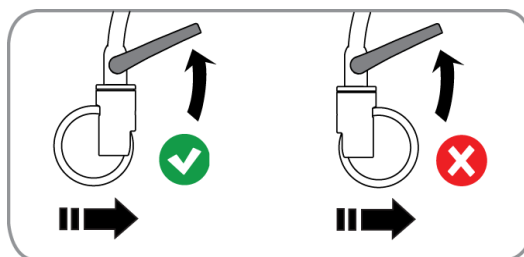


Figure 2.10: Correct position of the directional castors



Never push or pull the side of the chair when the directional castor has been activated.

The castors leave no marks on tiles, carpets, and linoleumed or laminated surfaces. However, please check beforehand if the castors leave marks on parquet floors because of parquet cleaning products.

The castors have been developed to be used indoors on smooth, flat and cleaned surfaces. Damage to the castors is possible when they are used on rough, uneven and dirty surfaces.

2.2.3 Footrest

First lift the front of the footrest a little before pulling it out completely. To put it back again, the front of the footrest has to be lifted before the entire footrest can be pushed backward.

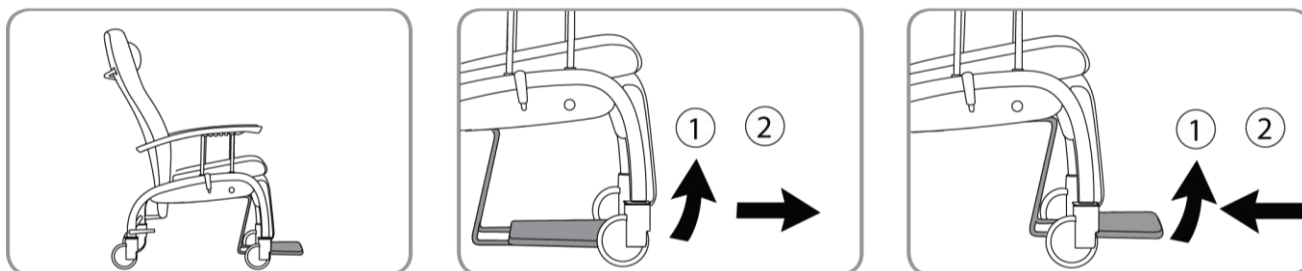


Figure 2.11: Footrest

The nursing staff can also slide the footrest in or out by using one foot.

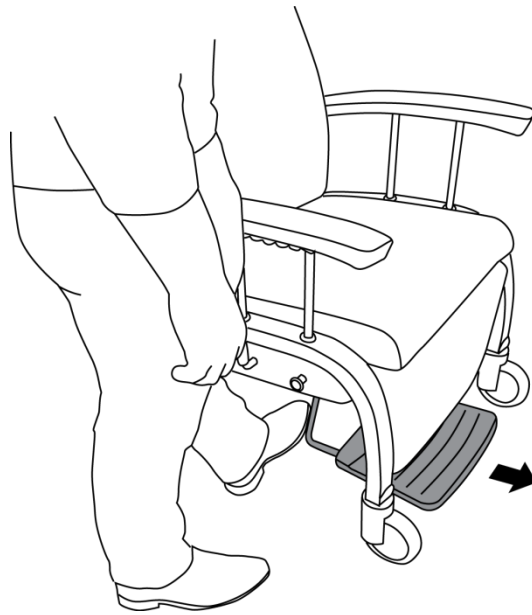


Figure 2.12: Footrest: how to slide out



The patient may only stand on the footrest when he or she is accompanied by someone of the nursing staff (prevention of stumbling or falling).

2.3 Removable seat



Before removing the seat out of the chair, please make sure that the chair brakes have been activated.

The seat can be removed from the chair by first lifting its front and then pulling it a little forward. To put the seat back again, first hook the back of the seat in the chair and then push down its front. It is advised to incline the backrest of the chair a little before removing or putting back the seat.

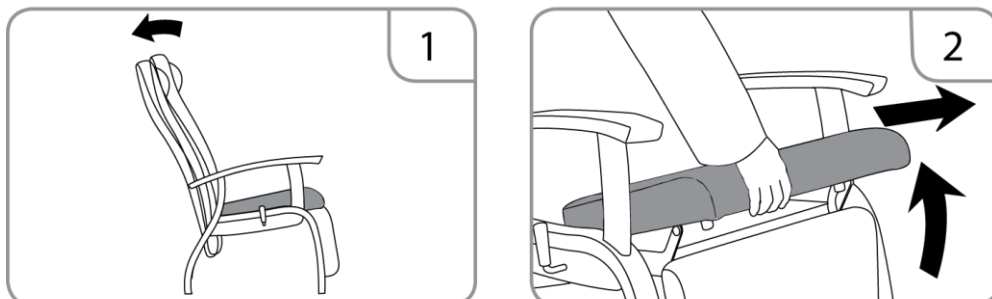


Figure 2.13: Removable seat

2.4 Height-adjustable armrests

To adjust the height of the armrests, the button on the side of the support has to be pulled outwards. A protection mechanism makes sure that the arms cannot fall suddenly. The armrests can be lifted without needing the button. One turn makes sure that the armrests cannot be pulled out of the support.

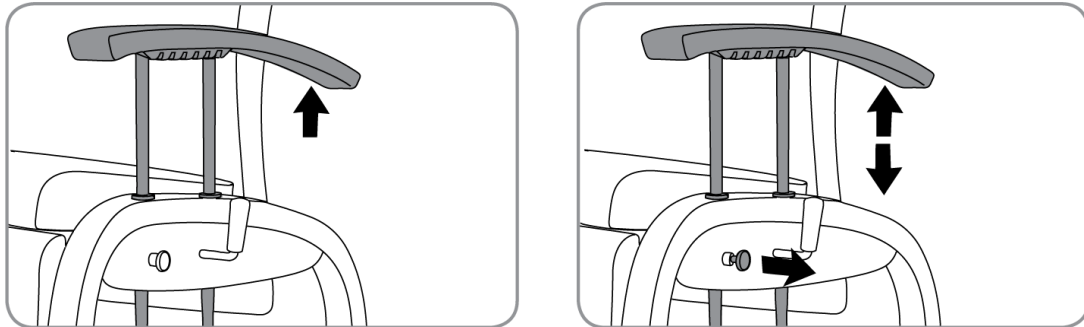


Figure 2.14: Height-adjustable armrests



The height-adjustable armrests may only be manipulated by the nursing staff to help the patient in or out of the chair.



NEVER leave the patient unattended when the armrests are in their lowest position.



During transport within the building, the armrests have to be put in their highest position (safety reasons).



Always pay attention to the position of the patient's hands while lowering the armrests. Make sure that the patient's hands are within the seating zone of the Fero chair.

2.5 Height-adjustable and removable head/neck cushion

The head/neck cushion can be adjusted in height by lowering or lifting the adjustable part at the back of the backrest. To remove the head/neck cushion, the two buttons on the inside of the adjustable part have to be loosened.

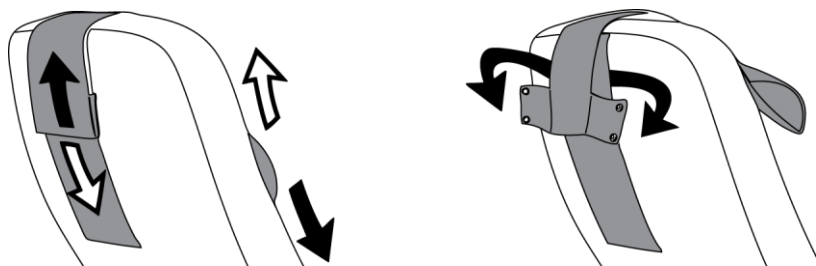


Figure 2.15: Height-adjustable and removable head/neck cushion

III. POSSIBLE OPTIONS

The Fero relax and rest chairs (depending on the chosen model) can be equipped with:

Options

Dinner tray attachment
Lock mechanism of the operating lever
Manually adjustable legrest
Seat cushion with visco-elastic foam and bi-elastic cover
Lateral headrests
Backrest with removable headrest
Double design brake pedal
Adjustable and removable head-neck cushion
Swivelling broadened armrests
Safe working load 200 kg
Closed sides
Integrated castors in the back legs
Design castors Ø 100 mm with separate brakes
Integral S castors Ø 125 mm with central brake mechanism
Separate brake in the front
Restraint bracket
Semi-upholstered armrests
Accessory hooks
Case for IV rod
Dinner tray holder at the back
Tilting safeguard

Accessories

<i>IDnr</i>	<i>Description</i>
05204	Elice dinner tray (only with dinner tray attachment)
05121	Abduction block
05874	Anatomical reduction cushion
05944	IV rod removable
10206 or 12553	IV rod not removable

3.1 Elice dinner tray

3.1.1 Elice dinner tray: use

The Elice dinner tray is made of fire-retardant ABS and has been designed to be used on all Fero chairs from the Haelvoet collection. This option is attached to the chair by means of synthetic dinner tray attachments, situated under the armrests of the chair.

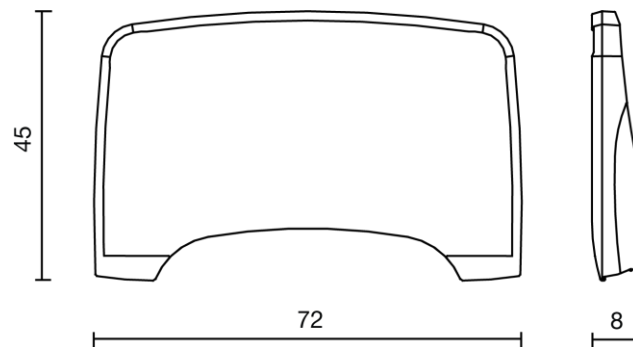


Figure 3.1: Elice dinner tray: dimensions

The dinner tray can be put and removed in 6 different positions by using both hands. By pushing the buttons on both sides, the dinner tray can be put or removed in the position you want.

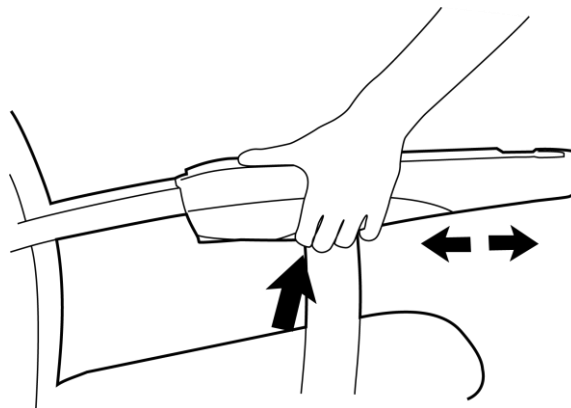


Figure 3.2: Elice dinner tray: use

The dinner tray can also be locked on both sides by means of a turning knob, so that the patient cannot (re)move the dinner tray himself (lock mechanism without key).

To lock the dinner tray, the turning knobs on both sides have to be turned $\frac{1}{4}$, so that they are in the same direction of the armrests.

To unlock the dinner tray, the turning knobs on both sides have to be turned $\frac{1}{4}$, so that they are in the diagonal direction of the armrests.

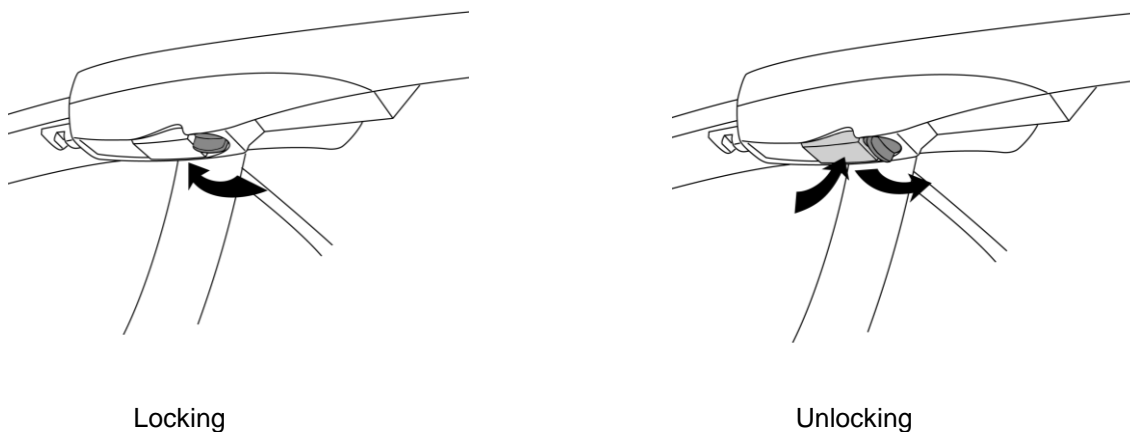


Figure 3.3: Elice dinner tray: locking/unlocking



The Elice dinner tray is not intended to be used as a fixation device used to fix a patient in the chair.



The use of the Elice dinner tray can hinder a fluent manipulation of the relax position.

3.1.2 Dinner tray holder at the back

When the dinner tray is not used, it can be put away quickly and easily in the dinner tray holder at the back of the chair. The dinner tray does not obstruct any patient transport or armrest adjustment. Furthermore, the dinner tray is always situated at a safe distance from the floor, even when the chair is put in a relax position.

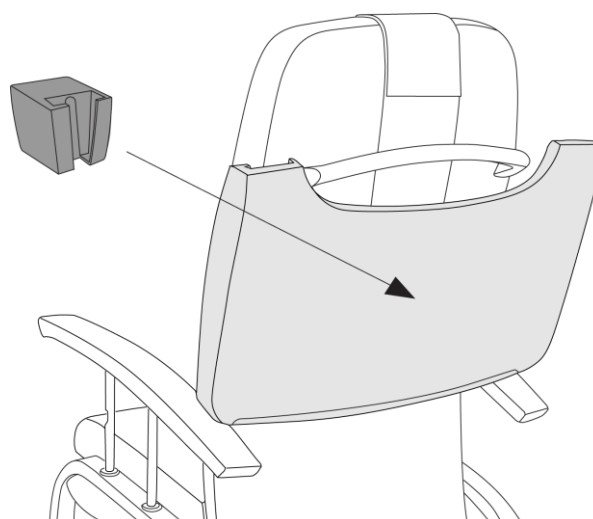


Figure 3.4: Dinner tray holder at the back



When the dinner tray has been put in the holder at the back of the chair, it is no longer possible to use an IV rod.

3.2 Abduction block

A fixing rail for an abduction block has been provided under the Elice dinner tray. By pulling the lock button, the position of the abduction block can be set.

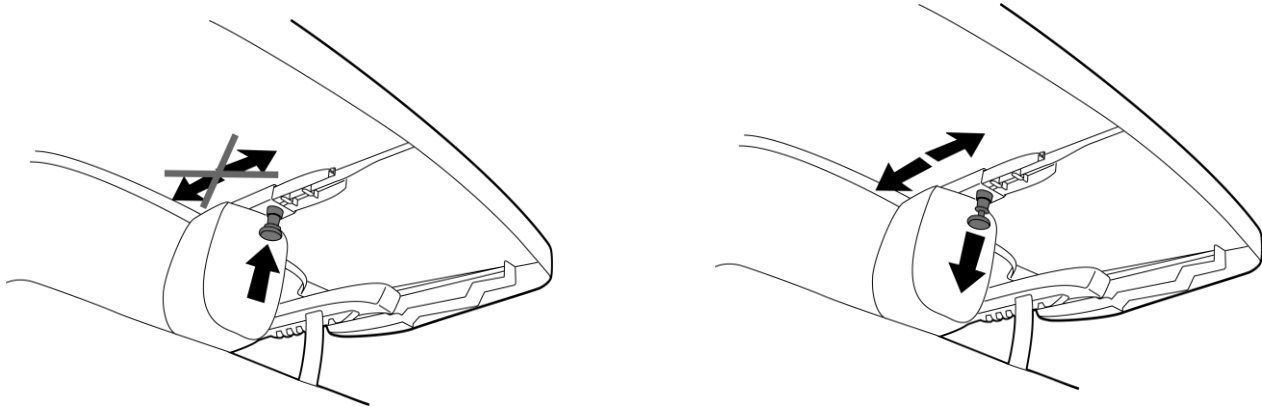


Figure 3.5: Abduction block: locking/unlocking

3.3 Case for IV rod

The support of the Fero chair can be optionally equipped with a case for an IV rod. This case can be installed on both sides of the chair, and is suited for an IV rod (consisting of 1 part) with 2 hooks. Optionally the chair can be equipped with a not removable IV rod.

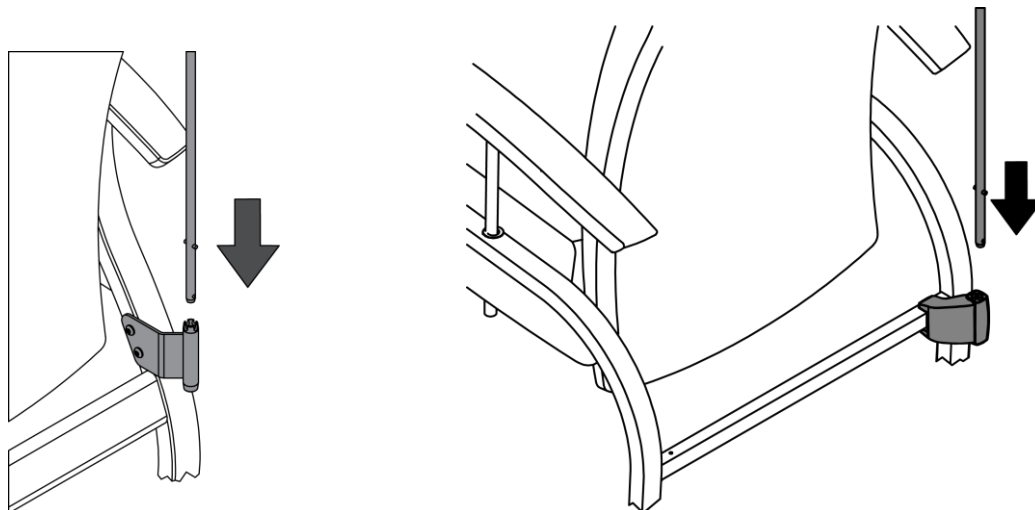


Figure 3.6: Case for IV rod on a Fero chair

Weight of the IV rod: 3 kg

Max hook load: 2 kg

Max IV rod load: 8 kg

3.4 Restraint bracket

Optionally a restraint bracket can be mounted on the backrest, when persons have to be fixed in the seat.

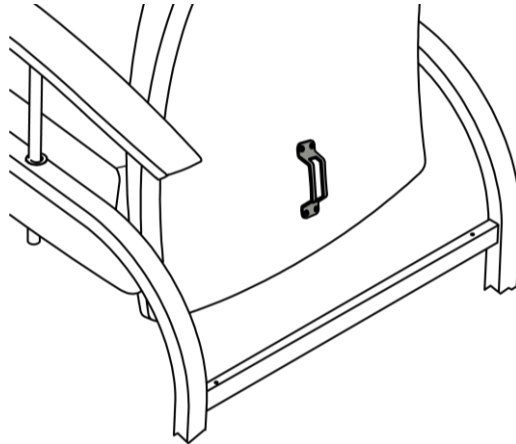


Figure 3.7: Restraint bracket on a Fero chair



Restrained and/or agitated patients often tend to free themselves by pushing themselves upward. That is why the following measures have to be taken to avoid the chair from being tilted:

- **Make the inclination angle of the relax position smaller. Make sure that the middle of the side of the backrest does not get further than the far end of the armrests (see figure 3.8).**
- **Make sure that the rear castors (if applicable) are put in a backward position (instead of forward).**

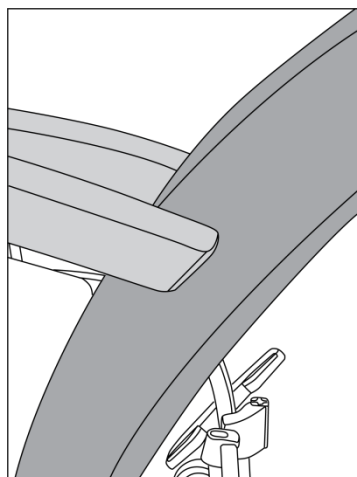


Figure 3.8: Adjusted inclination angle of the relax position

- A support is optionally available. This support prevents the chair from being tilted when unequally loaded. (Only possible on metal Fero with castors and wooden Fero relax chair with castors and adjustable armrests)

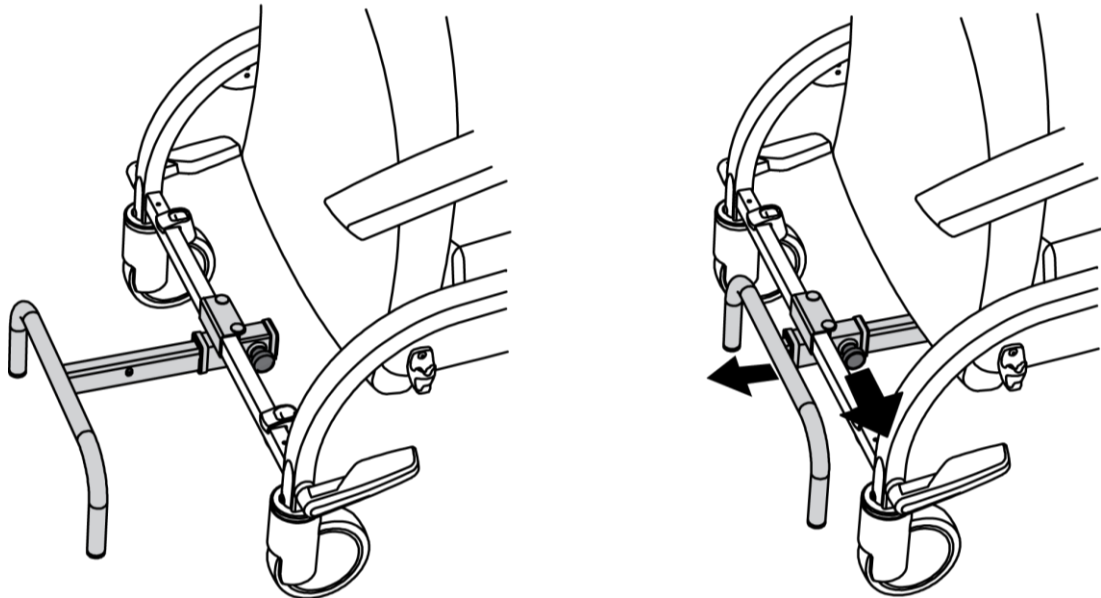


Figure 3.9: Tilting safeguard on a Fero chair

3.5 Backrest with removable headrest

The headrest can be optionally removed from the backrest by taking it out of cases in the backrest. The removed headrest can be put in the provided cases on the support.

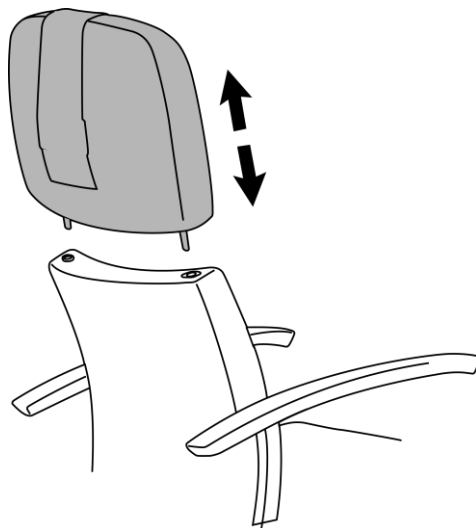


Figure 3.10: Backrest with removable headrest

3.6 Manually adjustable legrest

The legrest can be optionally used, without needing the relax mechanism. The legrest can be brought upwards by pulling its underside forward. The legrest can be put in seven different positions. The legrest can be brought down from every position by lifting it a little.

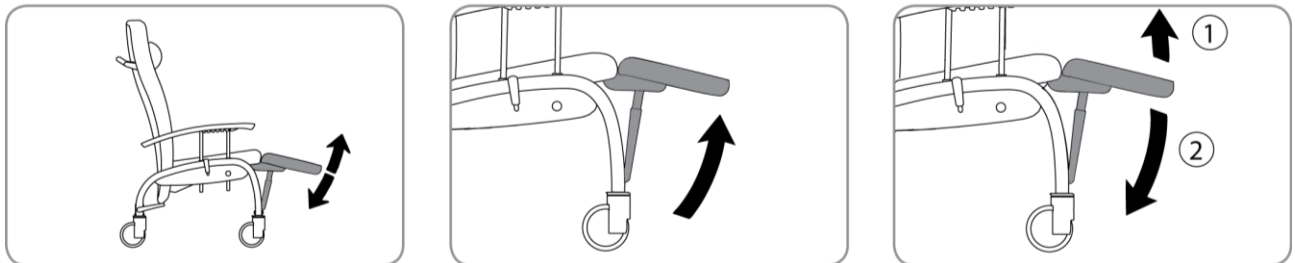


Figure 3.11: Manually adjustable legrest

IV. CLEANING AND DISINFECTION OF THE FERVO CHAIR

4.1 General information

Make sure that the cleaning staff have proper cleaning equipment at their disposal (moisture-proof apron and gloves, good cleaning products,...)

- Activate the brakes of the chair.
- The gas spring has to be retracted completely to avoid that water gets into the spring itself.



Do not sprinkle the chair with huge amounts of water. Do NOT use a high-pressure cleaner.

All metal protective layers have a high abrasive resistance. Nonetheless, a metal component can have scratches that expose the underlying layer. Always repair this damage to avoid corrosion.

After having cleaned and disinfected the Fero chair, it is important to disinfect your hands before going to another area or room.

Haelvoet NV cannot be held liable for any damage, injuries and impairments resulting from improper use of cleaning products or disinfectants.

Use a soft cloth - that has been moistened with cold or tepid water - and a mild cleaning product or an all-purpose cleaner to clean the Fero chair. Clean the chair afterwards with a moist cloth (without cleaning products) and wipe the chair carefully after the entire cleaning process.

Avoid:

- Alcoholic cleaning products
- Corrosion-stimulating or aggressive cleaning products
- Cleaning products containing harmful substances
- Scourers
- The composition of your product may not affect the structure or surface of the wooden or synthetic parts. Moreovern the polyester epoxy coating may also not be affected.

Always read the product information and follow the directions of the cleaning products and disinfectants.

4.2 Disinfection

A good chemical disinfection of the Fero chair can only be obtained by cleaning the chair thoroughly. Always disinfect the chair before a new person starts using it. Take the clinical picture of the user and the potential presence of infected chair parts into account, and adjust the number of disinfections accordingly. Only qualified and trained personnel, familiar with the use of disinfectants, are allowed to disinfect the chair. Always wear appropriate working clothes, since disinfectants may cause irritations. Always follow the directions of the used product.

- Always use cold or tepid water to dilute the product. Do not use warm water, as this causes vapour. Always seal the dilution.
- Do not use alcoholic products to disinfect large surfaces.
- Avoid skin contact and always wear gloves.
- Always check if the correct quantity has been used.
- Always make sure that there is enough ventilation during and/or after the disinfection.
- Always use a cloth or a rag to disinfect. Do not use spray products (risk of inhalation!).

We would like to refer to the website of the Robert-Koch-Institut (www.rki.de) to choose the correct disinfectant. Keep a disinfection journal for each chair and note down when and why the disinfection has taken place. Also write down which disinfectant and which quantity has been used, and do not forget to mention the name and signature of the cleaning person.

TECHNICAL MANUAL

V. GENERAL TECHNICAL DESCRIPTION

5.1 Description

The Fero is available in following categories:

- Fero relax chair with Ergo-line mechanism: metal and wooden version
- Fero relax with Classic mechanism: wooden version
- Fero reclining rest chair: metal and wooden version
- Fero rest chair: metalen and wooden version

The Fero (relax) chair is equipped with a relax mechanism that has been especially designed for the nursing sector. The Ergo-line and Classic mechanism inclines the backrest, seat and legrest simultaneously into a 'zero-gravity' position.

All steel elements are protected by an epoxy coating or a chromium-plated layer, whereas the hinge points have self-lubricating synthetic bearings (= maintenance-free). Rough surfaces, sharp corners and edges which may cause injuries or damage have been avoided or covered.

A well and preventively maintained chair that is used in accordance with the specifications of this manual can be used for 10 to 25 years (or at least 10,000 cycles per chair function) without any problems. An incorrect or very intensive use of the chair affects its lifespan very negatively. The same goes for bad preventive or curative maintenance. While maintaining the chair curatively or preventively, the technician always has to check if the chair still guarantees the basic safety of the patient or user. If this is not the case anymore, the chair has to be put out of use.

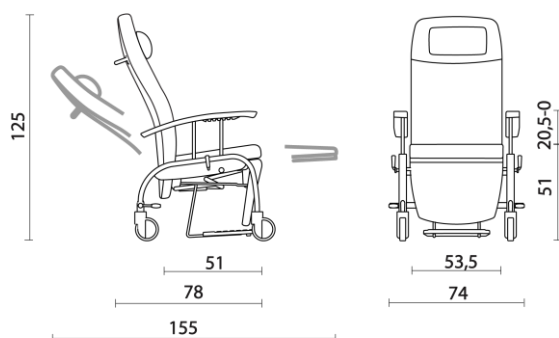
Do not modify the chair without the explicit permission of Haelvoet NV. After a permitted modification, the chair always has to be inspected correctly. Furthermore, the chair has to be submitted to a thorough test to make sure that the chair still functions safely.

The chair consists of 3 main parts:

- Support
- Seat
- Backrest

5.2 Dimensions

5.2.1 Metal Fero chairs



Metal Fero relax chair with castors and lowerable armrests

(art.nr. 05600 and art.nr. 15718)

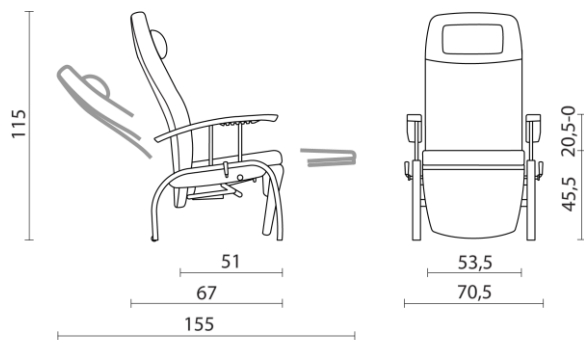
L 74 x D 78-155 x H125 cm

Seat height: 53 cm

Seat depth: 51 cm

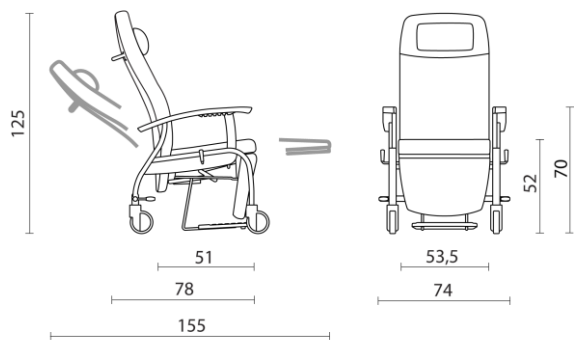
Seat width: 53,5 cm

Height of armrests: 73,5-53 cm



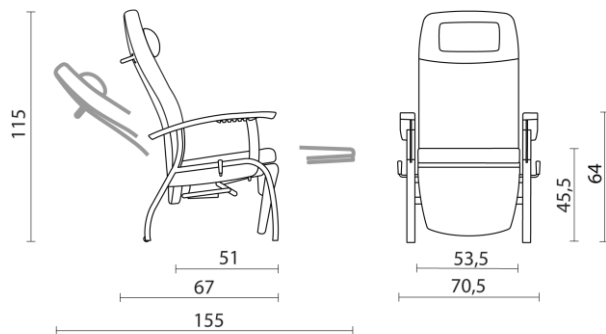
Metal Fero relax chair without castors and lowerable armrests (art.nr. 07471)

L 70,5 x D 67-155 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 66-45,5 cm



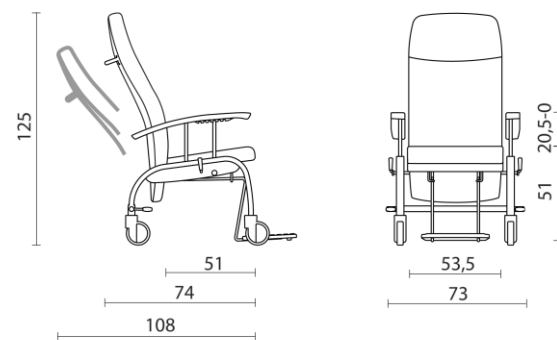
Metal Fero relax chair with castors (art.nr. 04749)

L 74 x D 78-155 x H125 cm
 Seat height: 52 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 70 cm



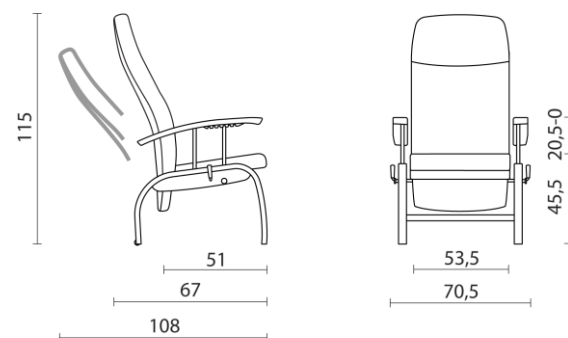
Metal Fero relax chair (art.nr. 04219)

L 70,5 x D 67-155 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 64 cm



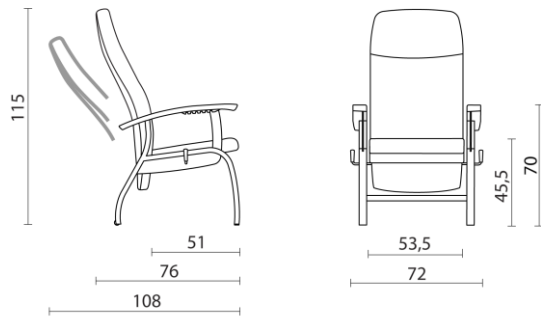
Metal Fero reclining rest chair with castors and lowerable armrests (art.nr. 06038)

L 73 x D 74-105 x H125 cm
 Seat height: 53 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 73,5-53 cm



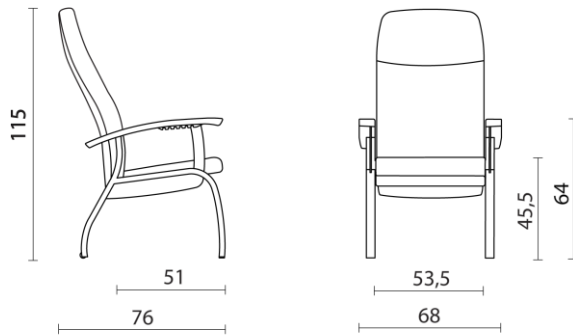
Metal Fero reclining rest chair without castors and lowerable armrests (art.nr. 06036)

L 70,5 x D 67-108 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 76-53 cm



**Metal Fero reclining rest chair
(art.nr. 05563)**

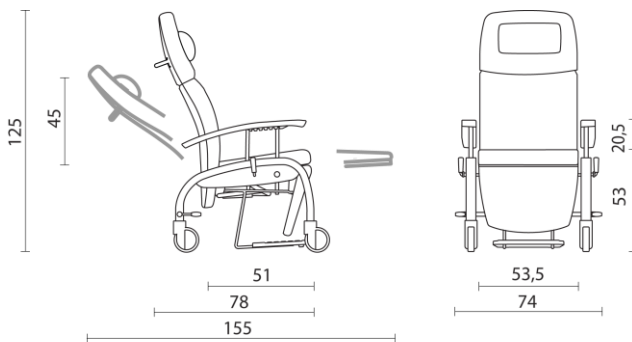
L 72 x D 67-108 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 64 cm



**Metal Fero rest chair
(art.nr. 07022)**

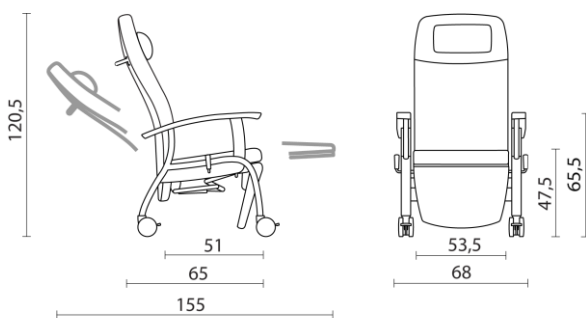
L 68 x D 76 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 64 cm

5.2.2 Wooden Fero chairs



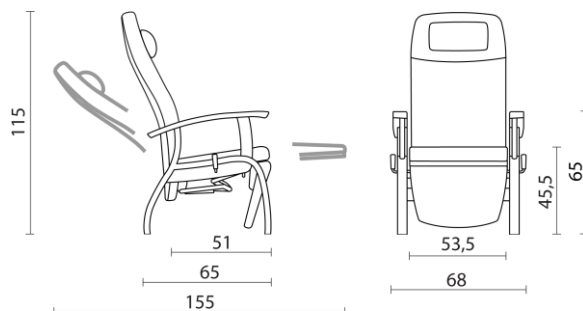
**Wooden Fero relax chair with
castors and lowerable armrests
(art.nr. 04972 and 07578)**

L 74 x D 78-155 x H125 cm
 Seat height: 53 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 73,5-53 cm



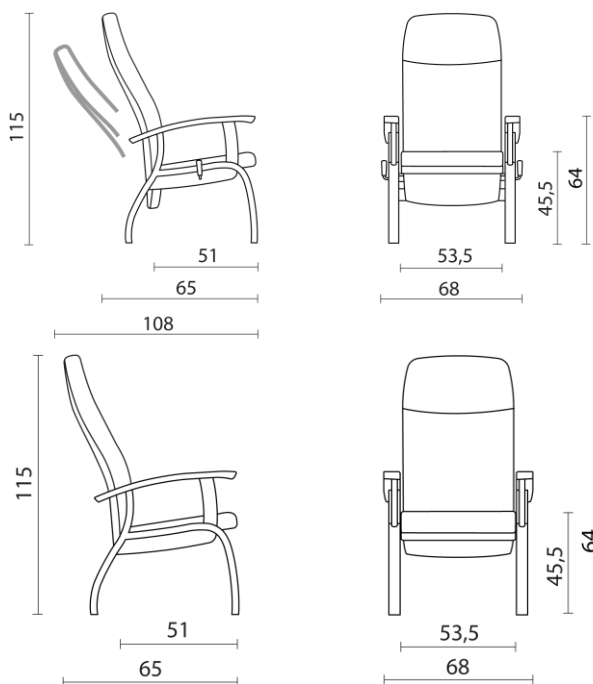
**Wooden Fero relax chair with
castors (art.nr. 04208 and 07579)**

L 68 x D 65-155 x H120,5 cm
 Seat height: 47,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 65,5 cm



**Wooden Fero relax chair
(art.nr. 03877 en 07580)**

L 68 x D 65-155 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 65 cm



**Wooden Fero reclining rest chair
(art.nr. 05562)**

L 68 x D 65 -108 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 64 cm

**Wooden Fero rest chair
(art.nr. 04738)**

L 68 x D 65 x H115 cm
 Seat height: 45,5 cm
 Seat depth: 51 cm
 Seat width: 53,5 cm
 Height of the armrests: 64 cm

5.3 Technical data of the castors

Type	Linea Twin Ø 100 mm (individual brake)	Integral S Ø 125 mm (central brake)
Manufacturer	Tente	Tente
Country of production	Germany	Germany
Castor diameter	100 mm	125 mm
Castor width	73,5 mm	32 mm
Bearing	Precision ball bearings	Precision ball bearings
Dynamic load capacity	100 kg	150 kg
Static load capacity	200 kg	300 kg
Load	1000 N	1350 N
Swivelling resistance	200 N	118 N
Rolling resistance	14 N	14 N
Tread	Polyurethane	Polyurethane
Operating angle of the central brake		35°

VI. STORAGE OF THE FERRO CHAIR

In case the chair is stored for a long time, we recommend you to take the following ambient conditions into account:

- A dry and dust-free storage room. If possible, cover the Ferro chair, so that no water or dust can damage the Ferro chair.
- A relative humidity of 20 to 90% without condensation.
- A temperature that remains relatively constant between -10 and +50 °C.



Before using the Ferro chair again, make sure that all functions are checked beforehand (see checklist in appendix I).

VII. PREVENTIVE AND CURATIVE MAINTENANCE

7.1 Safety responsibility

It is the responsibility of the institute to make sure that the Fero chair guarantees the patient's safety during its entire life span. For this reason, the safety of the Fero chair has to be checked regularly. Moreover, the Fero chair has to be maintained preventively. The Fero chair has been developed in such a way that it can be used safely for many years, on the condition that it is manipulated correctly and checked regularly.

It is the nurses' task to perform a routine check at regular times, especially when a new patient starts using the Fero chair.



The maintenance of the chair may only be carried out by qualified and technically trained personnel. The guarantee is nullified, if the maintenance of the chair has been carried out unprofessionally and causes damage to the chair functions.



Never perform maintenance work or repairs while the patient is still in the chair.



Never drill through a gas spring. Always avoid contact between a gas spring and fire.



In order to optimize the life span of the chair and to avoid accidents, the European regulation obliges an annual preventive and registered maintenance. Use the checklist in appendix during this annual preventive maintenance. If necessary, consult this manual as well.

We strongly recommend you to check the following items regularly:

- Proper functioning of the relax mechanism.
- Attachment of the castors.
- Proper functioning of the castor brake.
- Proper functioning of the lowerable armrests (if applicable)

In case when you think that there is some damage or that the Fero chair does not function properly, you have to stop using it immediately. You also have to indicate clearly on the chair that it is OUT OF USE. Contact the person who is in charge as soon as possible, so that the Fero chair can be repaired quickly.

The checklist in appendix I can serve as a guideline during checks.

7.2 Spare parts

Haelvoet NV can provide all necessary spare parts. All you have to do, is to specify the article number, the sales order number and the serial number of the respective product. This information can be read on the identification label. This label can be found at the inside of the Fero chair.



In order to keep the right to the guarantee, you are only allowed to use original Haelvoet NV spare parts. This instruction also applies to further maintain the safety of the Fero chair. Do not hesitate to contact Haelvoet NV if you have specific questions or if you want to order spare parts:

Haelvoet nv
Leon Bekaertstraat 8
8870 Ingelmunster
Belgium
Tel: +32 (0) 51 48 66 95
Fax: +32 (0) 51 48 73 19
Email: info@haelvoet.com
www.haelvoet.com

7.3 Used fastening methods

- Axle lock ring: This ring is used to fasten, the gas spring and several metal parts. It can be easily removed by just pulling the clip. The axle can be locked again by pushing the lock ring back in the groove.

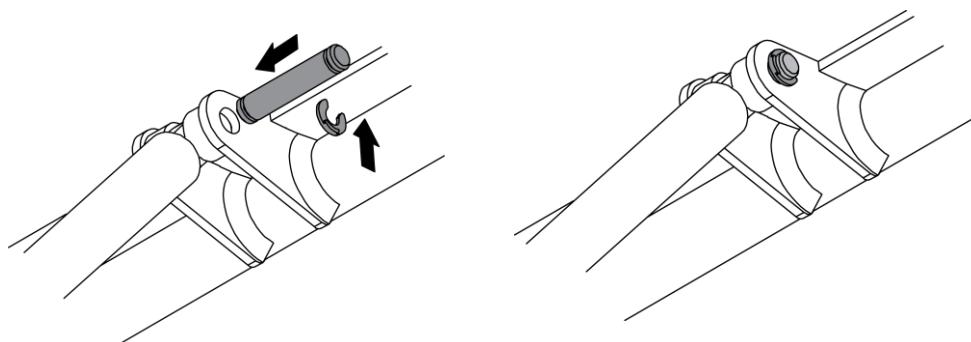


Figure 7.1: Axle and axle lock ring

7.4 How to replace a gas spring

1. For safety reasons, the chair is best placed on its side. First place the chair in braked position before tilting the chair sideways.
2. Then remove the lock ring on both sides of the fastening axles.
3. Before removing the gas spring, you first have to remove the bar that activates the gas spring from the release lever.

The opposite method has to be followed to install a gas spring in the chair.

VIII. GUARANTEE

The contractual guarantee is nullified, if spare parts are used that are not permitted, or if non-authorized interventions or actions are performed, such as:

- Cleaning of the Fero chair in a wash tunnel or cleaning with unauthorized products.
- Incorrect use.
- Activations that conflict with the instructions in this manual.
- Activations that exceed the expectations of a standard chair.

The stipulated guarantee period in the contract is only valid if a “registered” preventive check is performed annually.

Spare parts that are covered by the guarantee will not be invoiced when the faulty parts are returned.

IX. RESIDUAL WASTE AND THE ENVIRONMENT

Please sort the residual waste in accordance with the regulatory environmental requirements. If you decide not to use the Fero chair any longer and to destroy it, then the chair has to be disassembled and recycled in accordance with the environmental legislation.

This product contains recyclable aluminium, steel and synthetic material. In order to recycle optimally at the end of the chair's life span, all parts have to be separated in such a way that the basic materials of this product can be used again.

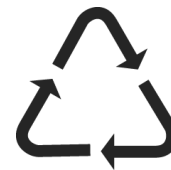
Haelvoet NV is fully aware of the fact that the environment has to be protected for the next generations. That is why we pay extra attention to development, innovation, production and the use of environment-friendly technologies and materials.



This logo wants to point out to the consumer that waste belongs in a dustbin and not in natural areas or on public roads.



This symbol – known as the möbius loop – can mean two things: “Recyclable” product or “This product contains recycled material”. If the latter is the case, then the word ‘recycled’ has to be mentioned.



Recyclable synthetic material. A number refers to the sort of plastic that is used to make the product. For the moment, only plastic types 1, 2 and 3 can be recycled.

Plastic types:

- 1 = PET
- 2 = HDPE
- 3 = PVC
- 4 = LDPE
- 5 = PP
- 6 = PS
- 7 = other types

This product is made of environment-friendly materials! It does not contain any dangerous substances such as cadmium, mercury, asbestos, PCBs or CFCs.

By removing and recycling these components properly, you protect valuable natural resources. You also prevent possible negative effects on public health. Further information can be obtained from the governmental agencies that are officially acknowledged for the protection of the environment, or from the nearest assembly point for the collection of separated waste.



If you don't follow the correct procedures for waste disposal, the national legislation can seriously fine you!

Protect your health and the environment.

Protecting the environment is protecting the future. Thank you.

X. SYMBOLS



Warning

Not following this instruction can lead to accidents with serious injuries.



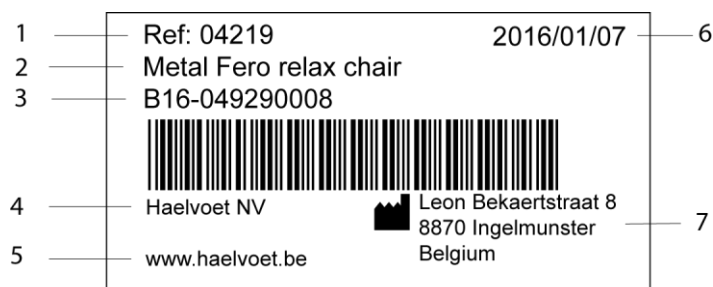
Not following this instruction can lead to material damage to the relax chair and/or surroundings.

XI. CONFORMITY

The Fero chair is produced in accordance with ISO 9001:2015 and ISO 13485:2016. Although there is no harmonized norm available for (relax)chairs, the following norms have been applied:

- EN 16139** Furniture - Strength, durability and safety - Requirements for non-domestic seating.
- EN 1022** Domestic furniture - Seating - Determination of stability.
- EN 1728** Domestic furniture – Seating - Test methods for the determination of strength and durability.
- EN ISO 14971** Application of risk management to medical devices.

11.1 Explanation of the identification label



- | | | | |
|---|----------------------------------|---|-----------------------------|
| 1 | Article number | 5 | Website of the manufacturer |
| 2 | Article name | 6 | Production date |
| 3 | Serial number/sales order number | 7 | Address of the manufacturer |
| 4 | Manufacturer | | |

11.2 Explanation of the symbols



Safe working load.



Consult the manual to use the product.

APPENDIX 1: MAINTENANCE CHECKLIST

Customer:			
Address:			
Performed:	<input type="checkbox"/> check on delivery	<input type="checkbox"/> periodical check	
<input type="checkbox"/> other	<input type="checkbox"/> check after repair or maintenance		
Model			
Model nr.:		Id.nr. :	
Installation:			
Manufacturer:	Haelvoet nv		
Class:			

I. Visual inspection		Good	Not good	Malfunction description
Visual inspection of hydraulic parts				
Stickers and identification plates	Present			
Housing of the gas springs	Correct position, damage			
Fixation of the gas springs	All fastening clips are present			
Visual inspection of mechanical parts				
Stickers and identification plates	Present			
Support	Damage, deformation			
Castors	Damage			
Welded joints	Broken joint			
Wear-sensitive parts, such as hinge points	Wear, breakage			
All nuts/bolts				

III. Performance check		Good	Not good	Malfunction description
Performance check of the mechanical parts				
Complete seat functionality				
Gas springs				
Hinges and virtual pivot points	Smooth, fluent movement Lubrication with vaseline			
Castors	Brakes, unlocking			
Gas spring	Locking/unlocking			
Lever (option)	Locking/unlocking			
Operating lever of the gas spring	Lubrication with vaseline			
Height-adjustable armrests	Smooth, fluent movement			
Spring button height-adjustable armrests	Function			

Check results		
All check results within the permitted limits	<input type="checkbox"/> yes <input type="checkbox"/> no	Next date of inspection:
Successful check	<input type="checkbox"/> yes <input type="checkbox"/> no	
Unsuccessful check	<input type="checkbox"/> Malfunction, do not use the chair! ⇒ repair	
	<input type="checkbox"/> Malfunction, do not use the chair! ⇒ put the chair OUT OF USE	
	<input type="checkbox"/> Chair does not comply with the safety norm	
Test sticker is present	<input type="checkbox"/> yes <input type="checkbox"/> no	
Remarks		
Comments		
Date of inspection:	Inspector:	Signature:

APPENDIX 2: TRAINING CERTIFICATE

Training Certificate

Customer & instructor specifications

Customer:	Company + Contact information.....	Training followed by.....

Instructor:	Company + Contact information.....	Training given by.....

Product specifications

Product name + description	Article number:
.....	Serial number:
.....	Sales order number:
.....	Delivery date:

Certificate of training

I hereby confirm that the user has received a training to become familiar with the use of this product.		
Remarks:		
.....		
.....		
.....		
.....		
Date:	Name + customer signature + stamp	Name + instructor signature + stamp
.....



HAEЛVOET NV | L. BEKAERTSTRAAT 8, 8770 INGELMUNSTER, BELGIUM | T +32 (0) 51 48 66 95 | F +32 (0) 51 48 73 19 | INFO@HAEЛVOET.BE | WWW.HAEЛVOET.BE

Written by:

Haelvoet NV
Leon Bekaertstraat 8
8770 Ingelmunster
Belgium

Tel. +32 51 48 66 95
Fax. +32 51 48 73 19

info@haelvoet.com
www.haelvoet.com

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