

EN

**TRAKS MOBILE STAIRWAY CLIMBER  
LG2004**

CE



**SPARE PARTS THAT CAN BE EASILY OBTAINED ON THE MARKET AND ARE  
AVAILABLE FOR 10 YEARS**

The manufacturer:

**ANTANO GROUP SRL**

Via Todi, 15 Zona Industriale Torre Matigge - 06039 TREVİ (PG)

declares and guarantees under its sole responsibility that the mobile stair climber with tracks to transport persons with impairments on wheelchair, code:

**LG 2004 – mobile stairclimber**

(Cod.Iso 18.30.12.003)

medical device of class I as from classification established by the European Directive 93/42/EEC Annex IX, is in conformity with the European Directive 93/42/EEC "Medical Devices" and following modifications 2007/47 ECC;

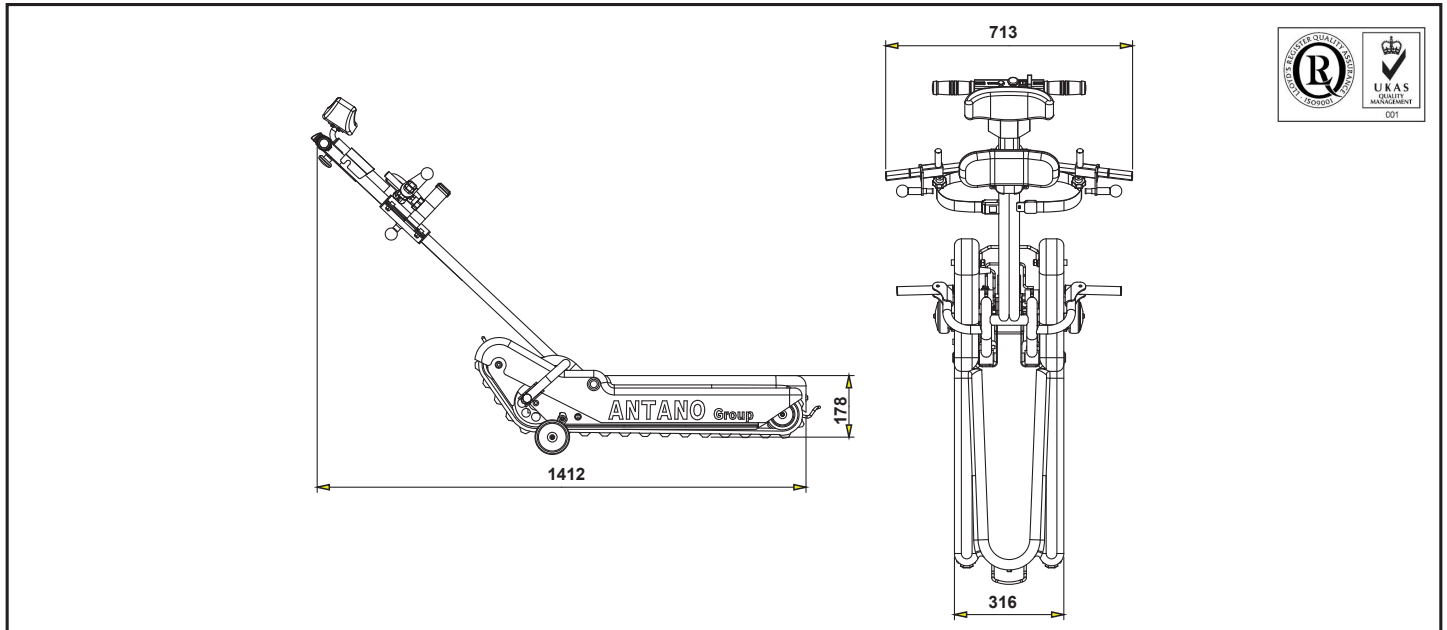
is also in conformity with the European Directive 89/336/EEC "Electromagnetic compatibility" and following modifications (EC 92/31), with EN60601-1-2 and, according to electrical safety, is in conformity with CLASS I or CLASS II requirements of EN 60335-1 and/or complies with the requirements about Electrical Safety of CLASS I and CLASS II and internal supply devices established by EN 60601-1 – 1:1987.

Il Legale Rappresentante

  
**Antano Group srl**  
Gianluca Antano

# 1 TECHNICAL CHARACTERISTICS

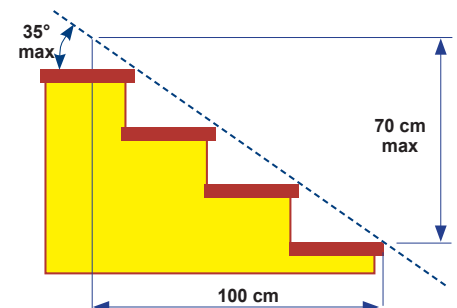
## Dimensions



**Technical data table**

		<b>LG 2004 + A 008</b>
Total weight of the device	58 kg	84
- Weight of the base equipment	46 kg	72
- Weight of the seat	12 kg	38
Max load	130 kg (150 kg optionale)	130
Motor Power	300 W	300 W
Maximum dimensions	137 x 65 x 95 cm	140 x 77 x 75 cm
Minimum stair width	75 cm	80 cm
Minimum dimension of the landing stairs ("L" shape)	98 x 98 cm	120 x 100 cm
Minimum dimension of the landing stairs ("U" shape)	98 x 170 cm	120 x 240 cm
Maximum sloping of the stairs	70% = 35°	70% = 35°
Maximum speed (stairs/min) (with charged battery)	15	15
Power battery	12V. 27 A/h	12V. 27 A/h
Battery-charger supply voltage	230 V / 50-60 Hz	230 V / 50-60 Hz
Average duration of battery charge (floors) (ref. person weighing 80kg)	60	20
in ascent	30	10
in descent	30	10
Autonomy with charge indicator in reserve (floors)	4	1
Battery charging time (hours)	8	
Storage temperature with packaging (°C) (in dry environment)	-10 ÷ 50 °C	-10 ÷ 50 °C
Temperature range in place of use (°C)	0 ÷ 40 °C	0 ÷ 40 °C
Packaging dimensions	116 x 50 x 43 cm	116 x 70 x 43 cm
Total weight with packaging	74 kg	100 kg
A-weighted sound pressure level	< 70 dB	< 70 dB
VIBRATIONS:		
at the hand-arm system	<2,5 m/s <sup>2</sup>	<2,5 m/s <sup>2</sup>
at the wholly body	<0,5 m/s <sup>2</sup>	<0,5 m/s <sup>2</sup>

**Characteristics of staircase**

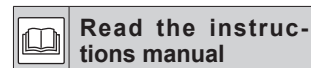


The manufacturer reserves the right to changes to the product and its instructions manual without prior notice or updating of previous productions.

The manufacturer is not liable for damage resulting from improper use of the wheelchair by untrained or unauthorised personnel, unauthorised modifications and interventions, the use of unauthorised parts, exceptional events, or total or partial failure to comply with the instructions in this manual.

## 2 FIELD OF USE, INTENDED USE

The aid was designed to transport people with mobility impairments or for disabled people with the purpose of overcoming the most difficult architectural barriers such as narrow staircases, irregular staircases, spiral staircases, staircases with landings with trapezoidal steps.



The LG 2004 stair lift is a mobile unit that does not need any wall-fixed structure.

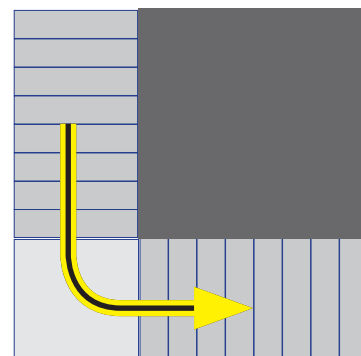
The patient fastening operations and relative ascent / descent operations are entrusted to a properly trained attendant and are carried out in complete safety when compliant with the instructions supplied by the manufacturer (and taught during training lessons).

The movement is provided by electric traction, with a motor powered by an internal battery, recharged by a standard external battery-charger.

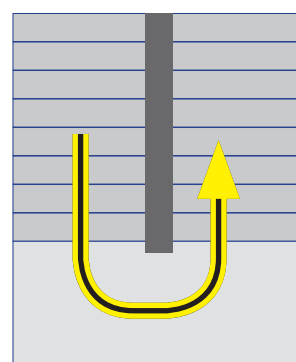
The stair lift has dimensions that allow:

- usability
- manoeuvrability
- limited physical stress and, in any case, limited to the use of the machine when ascending or descending stairs.

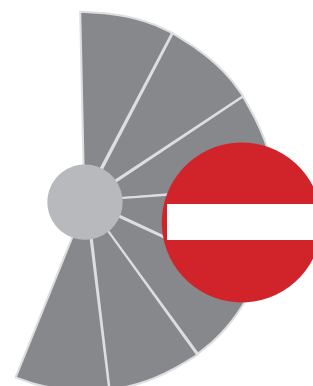
Staircase with landing



Staircase with turn



Spiral staircase



## 3 SYSTEM DESCRIPTION

The LG2004 Stair Lift is able to carry a disabled passenger on a level surface as well as on stairs, thanks to a special electromechanical system that is able to get over steps found in buildings.

The movement is continuous and is carried out, by the operator, with control buttons positioned on the handlebar.

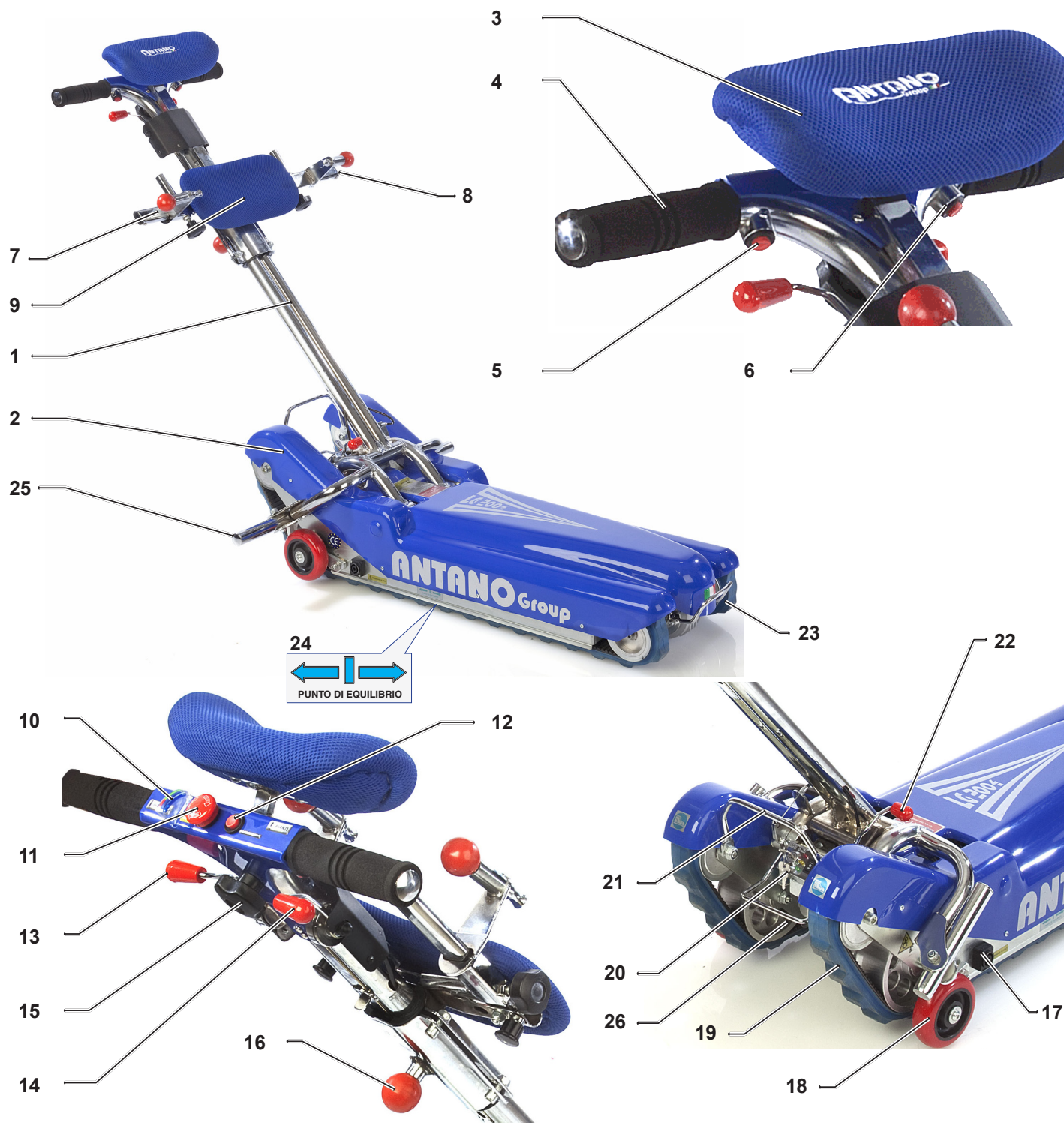
The stair lift is equipped with a central body with wheels fixed to the base, and a removable handlebar that can be raised and lowered.

Once the passenger is settled into the seat and fastened with the appropriate safety belt, the stair lift, manoeuvred by a trained attendant, is ready to go into action.

The contour of the machine body is conceived as to, in itself, represent an element of safety by preventing access of limbs and clothing to moving parts



### 3.1 Device components



- 1 Handlebar
- 2 Motorized base
- 3 Headrest
- 4 Impugnatura manubrio
- 5 DESCENT button
- 6 ASCENT button
- 7 Right wheelchair hook
- 8 Left wheelchair hook
- 9 Backrest
- 10 Slope indicator
- 11 Emergency button
- 12 LIFTING push button
- 13 Handlebar release
- 14 Upper handlebar hook safety

- 15 Headrest control knob
- 16 Backrest control knob and hooks
- 17 Battery-charger connector
- 18 Manoeuvring wheel
- 19 Rubber tracks
- 20 Control panel with key
- 21 Rear handle
- 22 Lower handlebar hook safety
- 23 Front handle
- 24 Balance point indication of masses
- 25 Wheelchair support
- 26 Lower handlebar release

(\*) The device cannot perform the stair climbing functions without the key or with the key in the 0 (OFF) position



## 3.2 Technical description

The LG2004 stair lift is a class 1 medical device that conforms with Directive 93/42/CEE modified by directive 2007/47CE and made in conformity with the following technical standards and directives:

- Direct. EU 2006/42CE  
New machinery directive (replaces Dir.98/37/EC)
- Direct. EU 2006/95CE Low Voltage Directive
- Direct. EU 2007/47/CEE  
(harmonised in Italy with Legislative Decree 25 January 2010 n.37) (Medical Devices)
- EN 12182  
(Technical aids for disabled persons - general requirements and test methods)
- EN 60601-1-2  
Electromagnetic compatibility
- EN 980  
Graphic symbols used for labelling medical devices
- EN ISO 14971  
Application of risk management to medical devices
- ISO 7176-28  
Stair lift requisites and testing methods
- CND 18.30.99
- ISO 18.30.12.006

The device is internally tested by Antano Group, in conformity with standard ISO 7176-23 and is accompanied by internal report.

The stair lift is equipped with self-declaration of CE conformity, aid requisite sheet, technical data sheet and use manual.

Registered at the Medical Devices Inventory of the Ministry of Health with number 109572/R.

The device is patented (ITMC 2008 A 00043).

The stair lift is composed of 2 well connected bodies:

- the handlebar (1) that houses the electrical panel and the controls.
- the machine body (2)

On the handlebar are positioned:

- a button to the right 5 (forward movement - DESCENT)
- a button to the left 6 (backwards movement - CLIMB) so as to avoid mistakes when driving the device.

The controls are placed on the handlebar: the movement buttons are "dead man's switches", placed below the bar of the handlebar, to the side of the plastic cover (called "tie"), one to the right that drives the forward movement (therefore in this case the descent) and one to the left that drives the backward movement (therefore the descent) in order to avoid movement interpretation errors by the attendant.

On the handlebar is housed a further lifting button that drives the electric lifting of the direction wheels on landings or on floors in general.

The stair lift is equipped with spring return buttons (that is, non-release hold buttons for ascending or descending) protected by a special ring nut to prevent the accidental activation of controls.

When the button is released movement stops, preventing accidental, involuntary activation.

On the upper part of the handlebar is also found an emergency button that stops the vehicle in case of necessity,

and an

inclinometer that verifies the safe level of the gradient of the stairs. The handlebar is equipped with grips in non-slip material.

The accidental release of the handlebar is practically impossible, because the safety system is composed of a rotating ring nut that, upon closing, creates a closed ring. Furthermore, the same ring nut bears, on its external circumference, a cradle which is where, in the closing rotation, the microswitch lever, that closes the circuit and gives the consent for stair lift use, is positioned.

The handlebar is also equipped with a headrest, adjustable in height, in breathable, certified, "Airmesh" fabric.

Below is the traction unit composed of a robust metal frame inside which are housed:

- the direct current electric motor and the reducer (mounted with the motor, maintenance free) that drives the tracks
- the direct current electric motor and the reducer (mounted with the motor, maintenance free) that drives the the electric lift of the direction wheels,
- maintenance free lead battery

The external battery-charger is supplied.

The choice of the battery-charger being external is tied to safety. The toothed tracks in non-slip and stain resistant rubber compound guarantee maximum adhesion and grip.

The electric motor transmits motion to an orthogonal axis reducer that, with the toothed pulleys, transmits the motion to the tracks.

The transmission system is non-reversible (when not manually activated), therefore the stair lift does not need to be equipped with any braking system.

The reducer is also equipped with an indirect transmission pin driven by a supplied crank which, when the battery is depleted or for other types of problems, can be operated in order to safely lower the machine in manual mode.

When the main battery becomes depleted or there is an electric failure during movement of the direction wheels (lowered), a mechanical device equipped with crank to be inserted in the hole placed in the rear of the machine raises them back up.

To continue with the progressions and descend the stairs, use the same crank that is to be inserted into the hole placed on the front side of the machine.

The stair lift can be disassembled into 2 parts, effortlessly, with simple manoeuvres, so that they can be transported in the trunk of an average car

## TECHNICAL REPORT

In drawing up the project, much attention was paid to simplicity during the building of the single components and of the entire machine.

This can be seen primarily during the maintenance interventions of the stair lift, where, in fact, all the parts can be easily viewed and/or replaced.

The LG 2004 stair lift does not need maintenance because the parts that need to be lubricated are treated in the assembly phase.

The is sufficient for the entire machine lifespan.

The traction gearmotor is single block and sealed, therefore it does not need lubrication or maintenance. All movements are made with pins and shafts that rotate on bronze bushings.

The frame in particular is composed of parts in sheet, 2.5 mm thick, laser cut and press bent.

The supporting beams are connected with pins and sheet plates so as to obtain a body with great torsional rigidity.

The galvanising treatment renders it impervious to rust.

It has all been designed so as to be supremely reliable over time.

The handlebar is composed of welded  $\varnothing$  30 mm diameter steel pipes.

The main features of the element are to not have play in its coupling with the traction unit and the ability, with the adjusting screws, to remove any play that is generated over time. The safety system is composed of a rotating ring nut. Turning the ring nut forms a ring that closes the electric circuit (with a microswitch) and the movement of the stair lift and, at the same time, prevents the mechanical release of the handlebar.

The electrical apparatus of the LG 2004 stair lift is composed of oversized electromechanical units (traction remote switch 80 Ah) that are greatly reliable.

Both traction and driven pulleys are made of aluminium.

The external battery-charger is a choice made in complete safety. This solution was, in fact, adopted so that there be low tension on the machine, that being 12 V instead of 220 V.

The battery charger is also equipped with a charge support system.

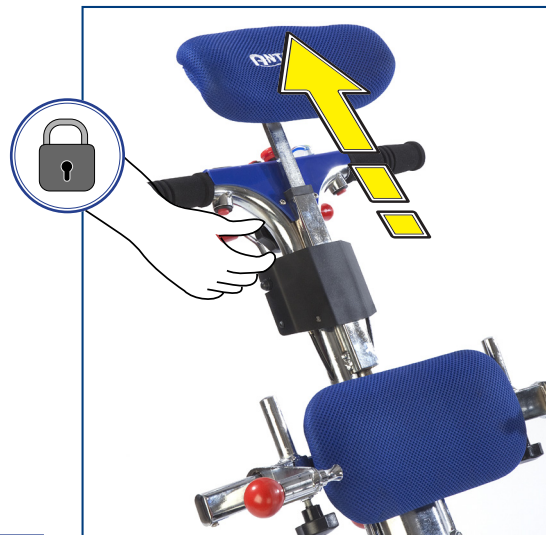
Let us again highlight the concept of quality and reliability by

noting that the lowering system of the direction wheels oversees an electromechanical system composed of a high quality and reliable gearmotor unit that allows the operator to perform all the operations effortlessly.

In fact, the lifting button drives the lowering system of the direction wheels, that automatically retract as soon as the movement commands are activated.

## 4 ADJUSTMENTS

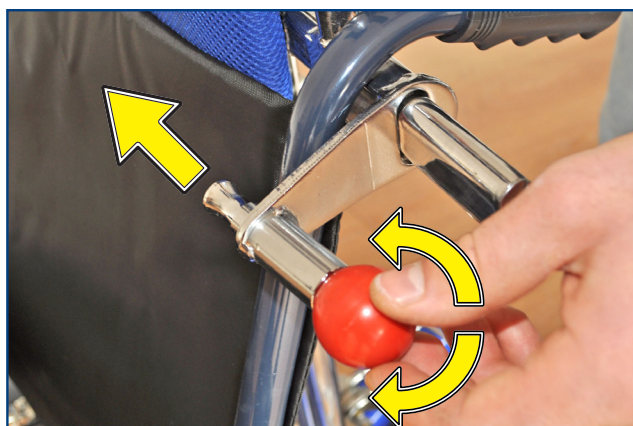
### 4.1 Adjusting the headrest



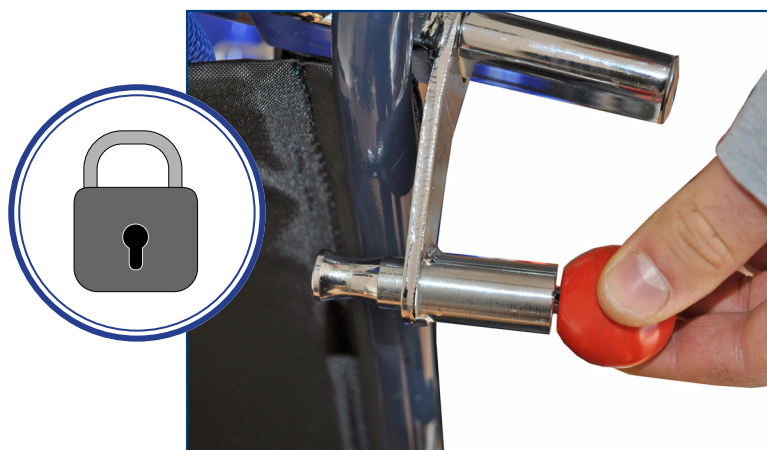
### 4.2 Hooking the wheelchair



normal block




absolute block





## 5 OPERATION

### Handling on stairs

 The person who operates this device on stairs, both going up and down, must possess a certificate of qualification issued by the manufacturer or an authorised representative, only after having received direct theoretical and practical training and only after demonstrating the ability to safely perform all the operations described in this manual.

The operator and the passenger must be careful not to wear long scarves or loose clothing; these may get caught in the device and cause dangerous situations.

Never approach a staircase if the passenger is not in a fully upright position, (position of movement see USE chapter). Use the special seat belts to secure the passenger to the backrest.

- Before and during movement, check the correct position of the person being transported.

Before ascending or descending the staircase, verify the characteristics of the stairs:

- perfect wheelchair anchoring and their fasteners are well locked (K knobs firmly tightened)
- stair slope
- dimensions of the steps as described in Chapter 6.
- they must not be covered by rugs or fitted carpeting
- they must not be unstable or unfinished, but compact
- they must not have irregular, broken or collapsed edges
- they must not be wet or slippery.

### Handle the stair chairs on landing

- Press the L "LIFTING" button. The stair chairs lift to allow manoeuvring. The stair chairs automatically lower when pressing one of the UP or DOWN buttons. Pay attention to the position of your feet during movement.

### Temporary stop of stair chairs

- In case of temporary stop of the stair chairs, it is advisable that a great number of steps are covered, this way the maximum stability is ensured.

### Emergency stop

- By pressing this button the traction motor stops directly. In the event of a malfunction concerning the failure to stop the aid when the motion buttons are released, press this button to stop the vehicle.

### Restarting after an emergency stop

- After eliminating the cause that led the operator to press the emergency button, release the button by turning the head in the direction indicated by the arrows printed on the same button.

### Failure to the main motor system

In case of a failure that makes the stair chairs inactive when used on stairs it is necessary:

- Never unhook the wheel
- Try to ensure the maximum system stability
- Keep calm and ensure that the person being transported does not get anxious.
- Do not try to unhook the wheelchair
- Take the handle from the equipment and insert it in the point indicated; this way, though slowly, you will allow the stair chair to go up and down until it reaches the landing.

### Failure to the lifting motor system

Because of this failure, the stair chairs cannot rotate and position easily on the landing; in such a case you should:

- Insert the handle at the rear and rotate up to lift the tracks from the ground, just enough to position it.



Read the instruction manual



Only wear closed shoes



Risk of crushing fingers in the mechanical transmission



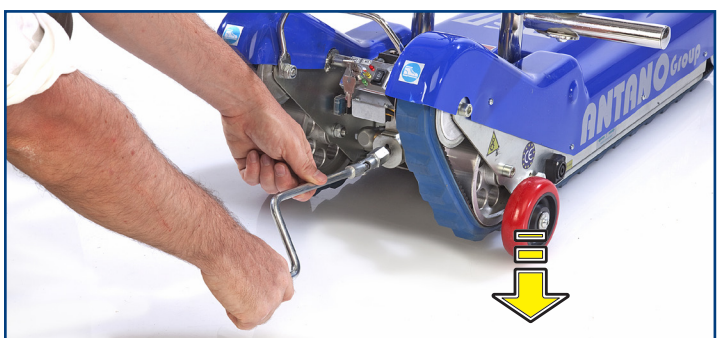
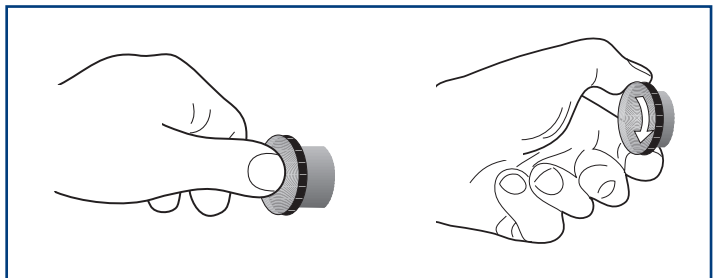
Make sure that the dimensions of the steps are compatible with the specifications provided (see Chapter 7)  
If the steps are not compatible DO NOT attempt to go up/down them; request information directly from the manufacturer or an authorised representative.



Make sure the battery has sufficient charge to be able to perform the job required.



Compulsory use of the seat belts





## Approach

- Move the tracks closer to the first step; both the tracks must touch the step.
- Make sure that the safety belts are securely fastened and there are not objects, clothes, shoes and parts of hanging clothes which may affect the stair chairs movement.

## To go up stairs

- Check that the emergency button is released, following the RESET instructions printed on the button itself.
- Ensure that the passenger has the seat belt fastened.
- Check that the passenger is seated correctly.
- Do not transport objects of any kind.
- Place two steps above the tracks and during movement always keep an empty step between your shoes and tracks.
- hold the handlebar firmly to press the climb "INDIETRO" button ↓: the stair chairs will climb towards you linearly and firmly.

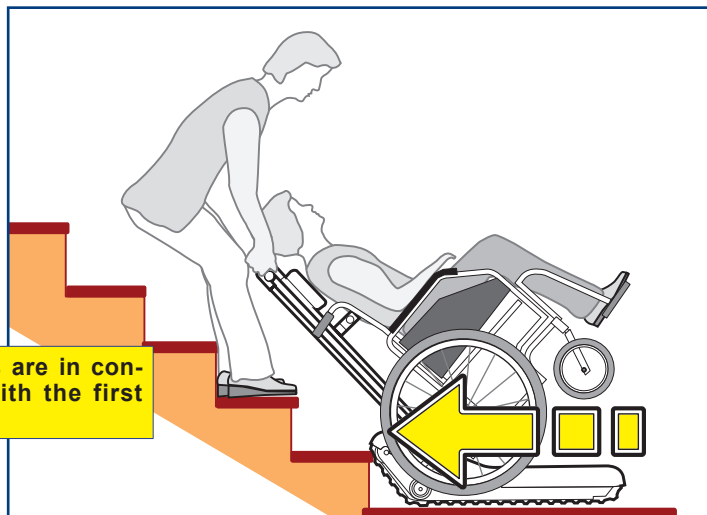
By releasing the button the stair chairs stop at any time.

- Continue to climb until you reach the landing.

## ASCENDING CYCLE (S1.....S5)

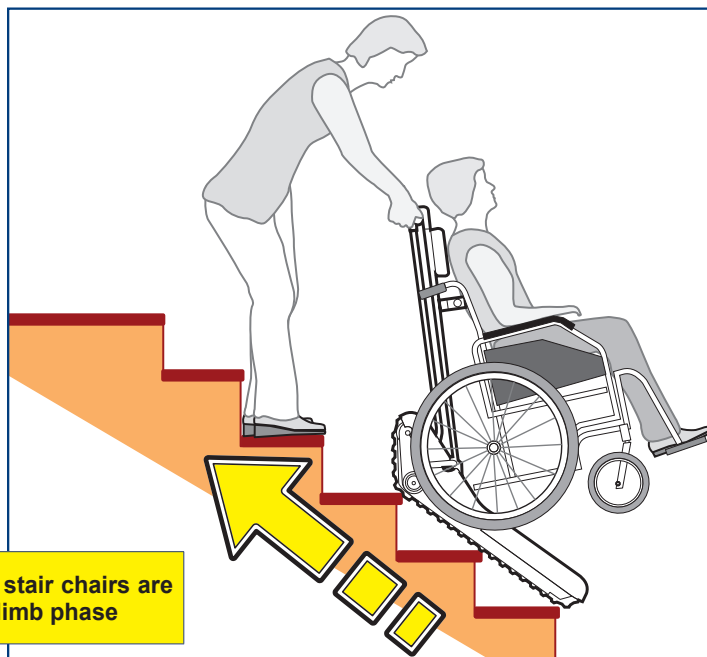
**S1**

Tracks are in contact with the first step



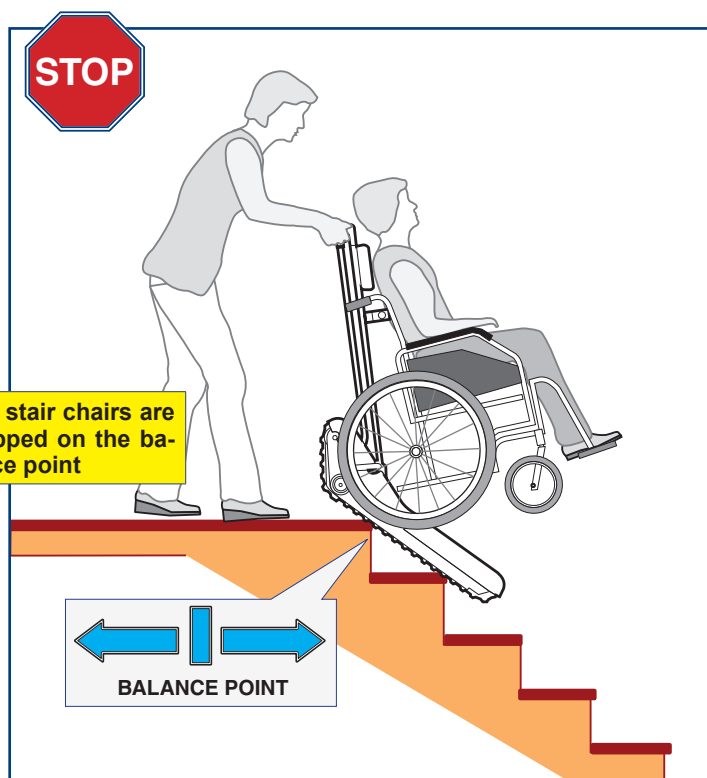
**S2**

The stair chairs are in climb phase




**S3**

The stair chairs are stopped on the balance point



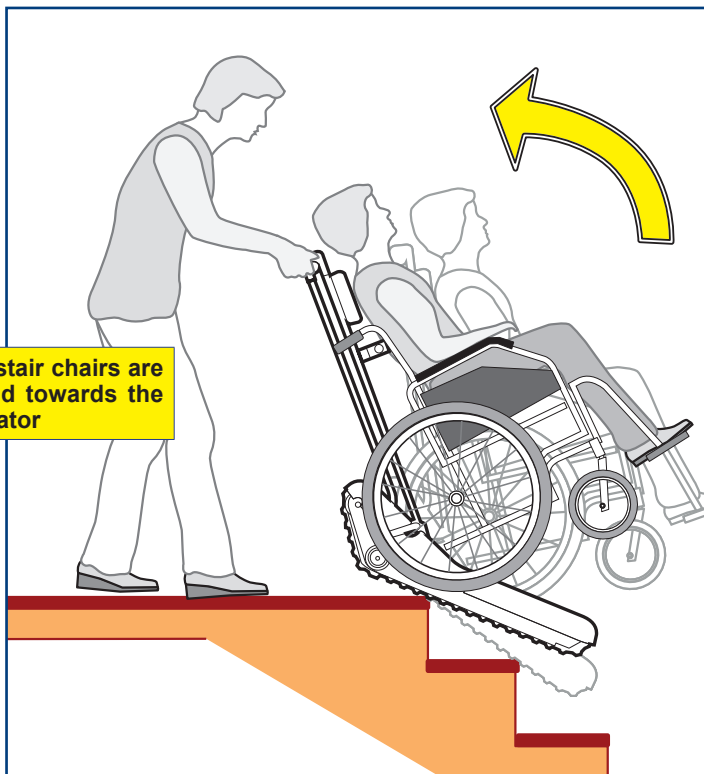
**BALANCE POINT**  
It refers to the point where masses are balanced.



- Continue to press the “INDIETRO” button  and pull towards you until the outline of the aid lies on the ground.

**S4**

The stair chairs are pulled towards the operator

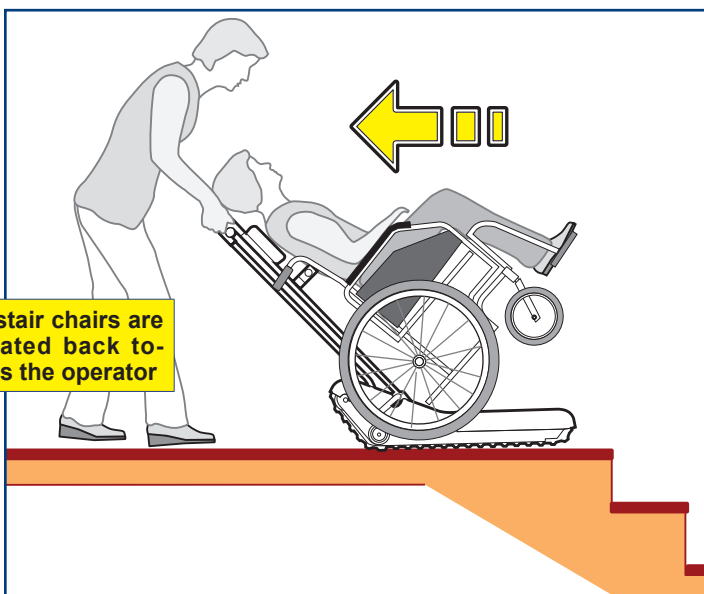


The stairs have ended



**S5**


The stair chairs are operated back towards the operator



- Turn the key of the panel to O (OFF) and remove it to ensure that no one other than the qualified operator can use the device.
- Now the wheelchair can be released.

## To go down stairs

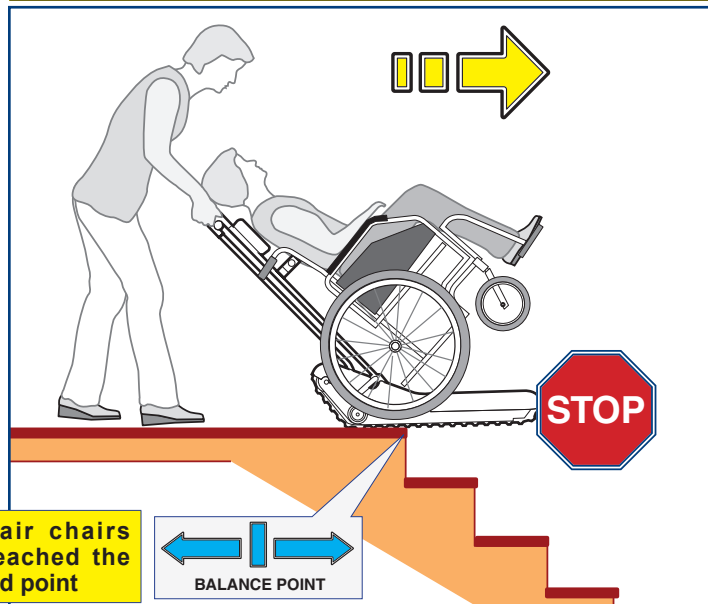
### Approach

- Check that the emergency button is released, following the RESET instructions printed on the button itself.
- Ensure that the passenger has the seat belt fastened
- Check that the passenger is seated correctly.
- Do not transport objects of any kind.
- Make sure that the safety belts are securely fastened and there are not objects, clothes, shoes and parts of hanging clothes which may affect the stair chairs movement.
- Press the “AVANTI” button  and straightly, take the stair chairs to the staircase and gradually put the aid out until the “Balance point” indicated on the base is nearly on the step edge.
- Stop the stair chairs on the balance point
- Firmly hold the handlebar and release the stair chairs which will rotate towards the staircase: you are ready for descent.

### DESCENDING CYCLE (D1.....D6)

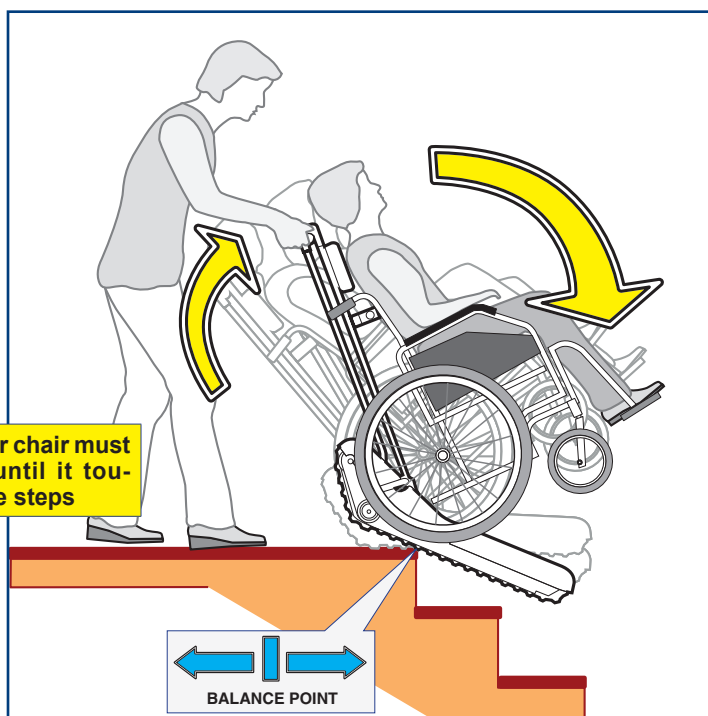
**D1**

The stair chairs have reached the balanced point



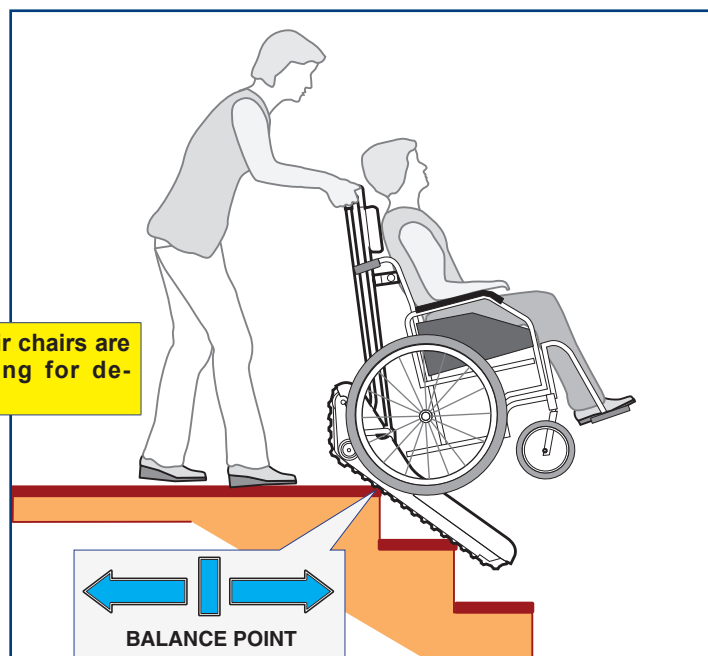
**D2**

The stair chair must rotate until it touches the steps




**D3**

The stair chairs are preparing for descent

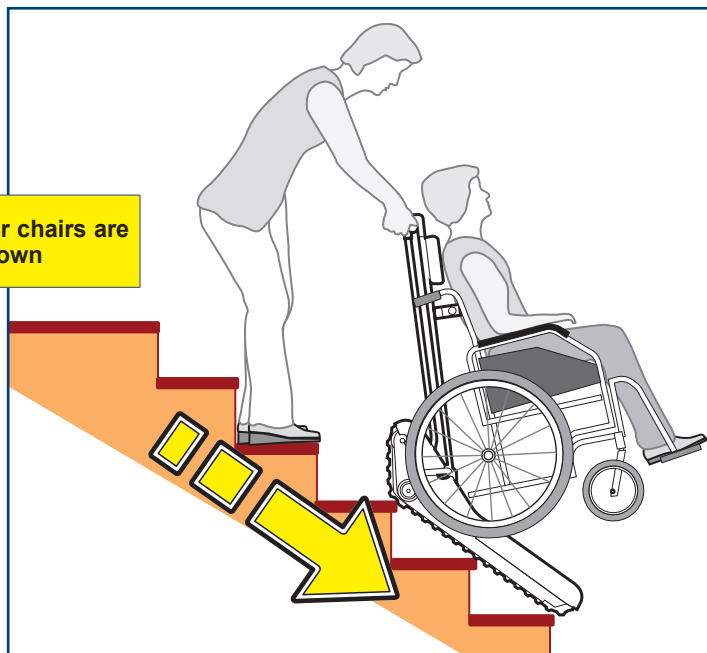


## Descent

- Press the “AVANTI” button  : the stair chairs will go down in front of you clearly and steadily.  
By releasing the button the stair chairs stop at any time.
- Continue to go down until you reach the landing.

**D4**

The stair chairs are going down



**D5**

The stair chairs are in contact with the landing

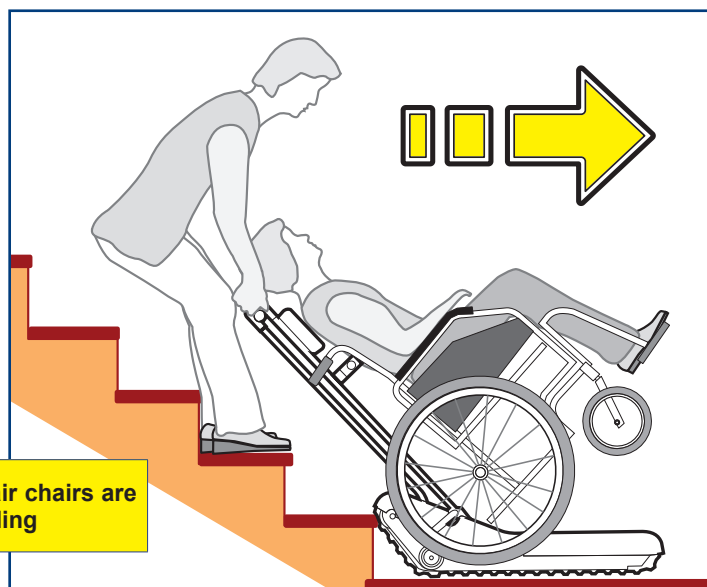


The stairs have ended

- Turn the key of the panel to O (OFF) and remove it to ensure that no one other than the qualified operator can use the device.
- Now the wheelchair can be released.

**D6**

The stair chairs are on landing








## Transport of stair chairs

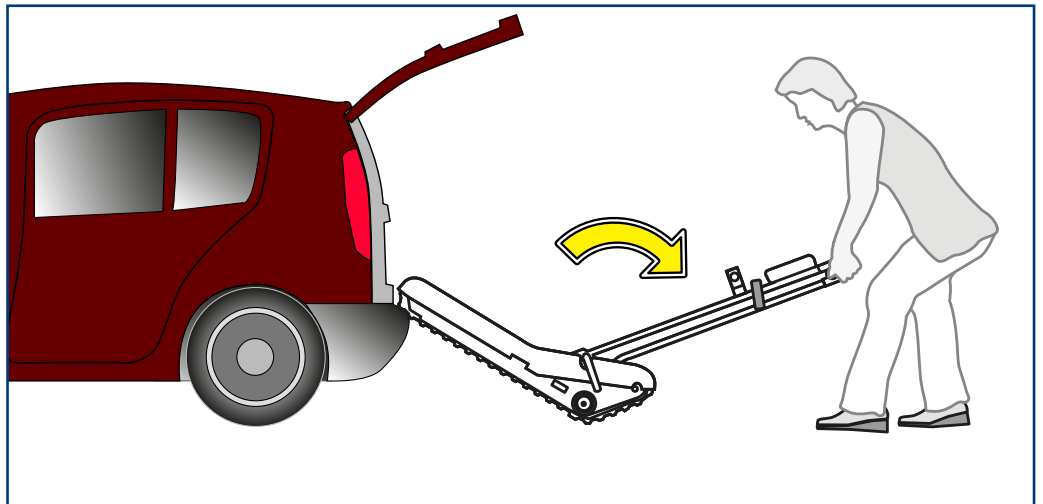
The stair chairs can be transported by means of a vehicle having a sufficient loading surface: car, van, truck, in compliance with the following instructions.

The vehicle shall be braked and placed so as to allow for an easy and safe loading manoeuvre.

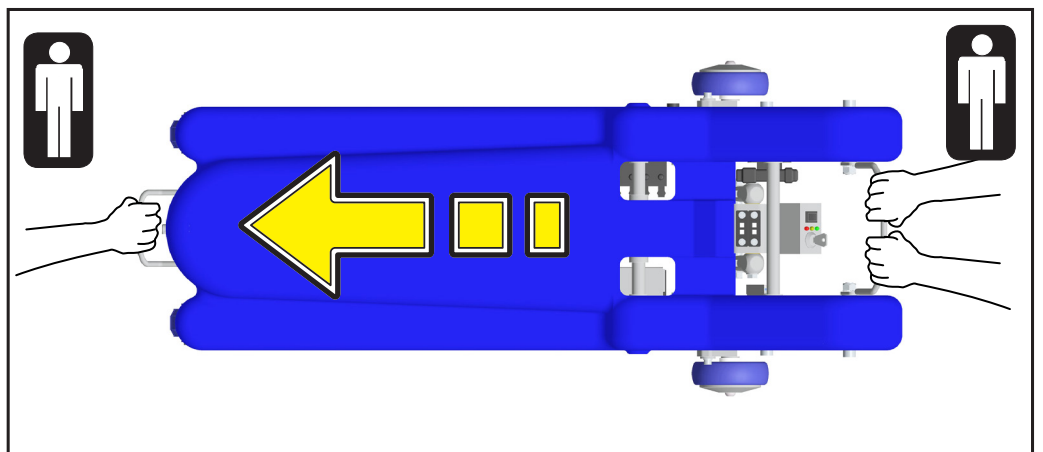
	Operations to be carried out by two people
	Risk of crushing fingers in the mechanical transmission
	Use of protective gloves

### Load the stair chairs by hand

- Move the stair chairs closer to the loading surface.
- Press the handlebar to lift the front up to the loading surface.
- When the front rests firmly on the loading surface, unhook the handlebar.



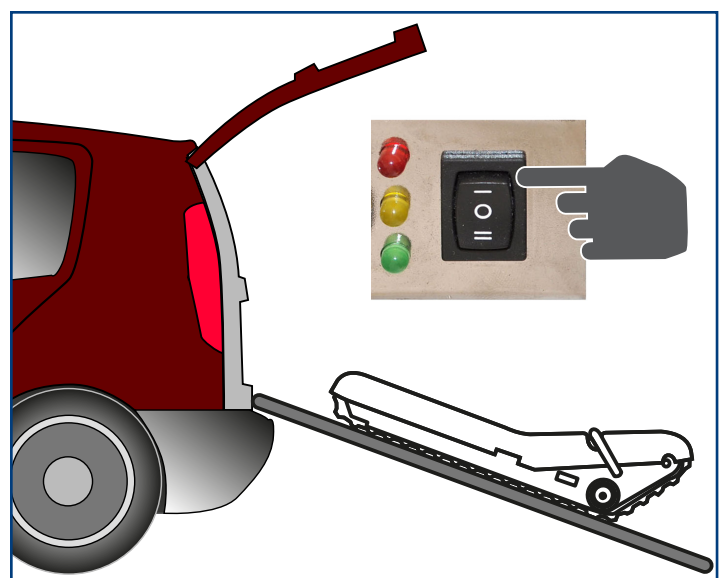
- Hold the stair chairs (one person in front and another behind) from the suitable handles
- After resting the stair chairs on the ground press the motion button to perform small movements.



### Load the stair lift with a footboard

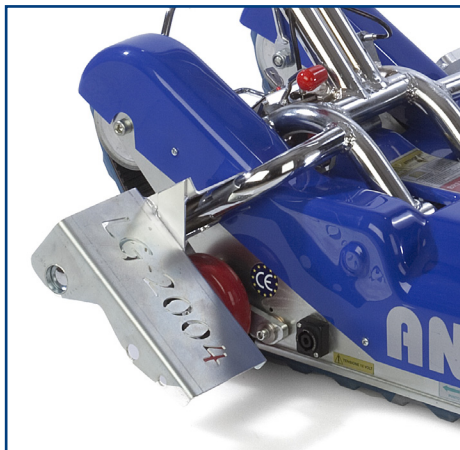
Use a footboard that ensures stability and the perfect connection to the device.

- Bring the aid onto the footboard
- Release the handlebar
- Continue the movement by appropriately operating the handling button



## OPTIONAL ACCESSORIES AVAILABLE UPON REQUEST

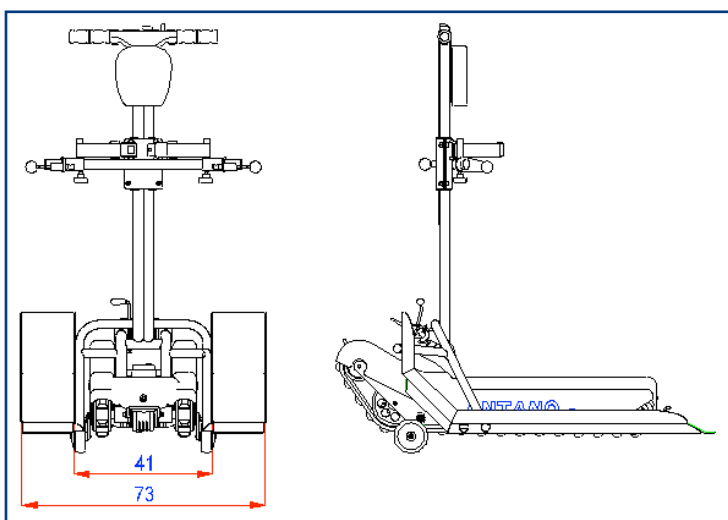
**ART. A006**  
Sliding blocks with rear wheels ø300



**ART. A007**  
Sliding blocks for pushchairs



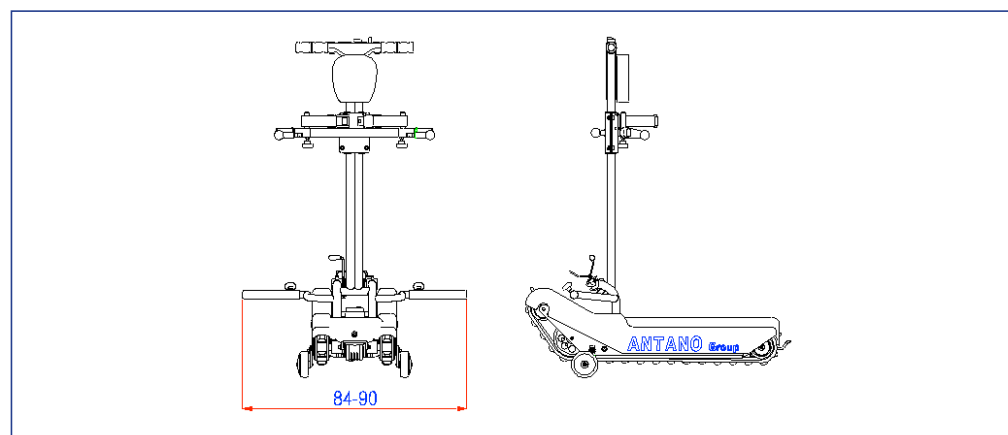
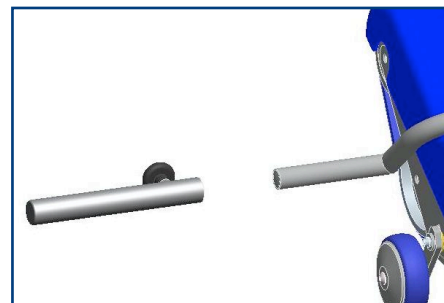
**ART. A008 -**  
Universal platforms for use any types of wheelchairs including the electronic and tilting ones and pushchairs



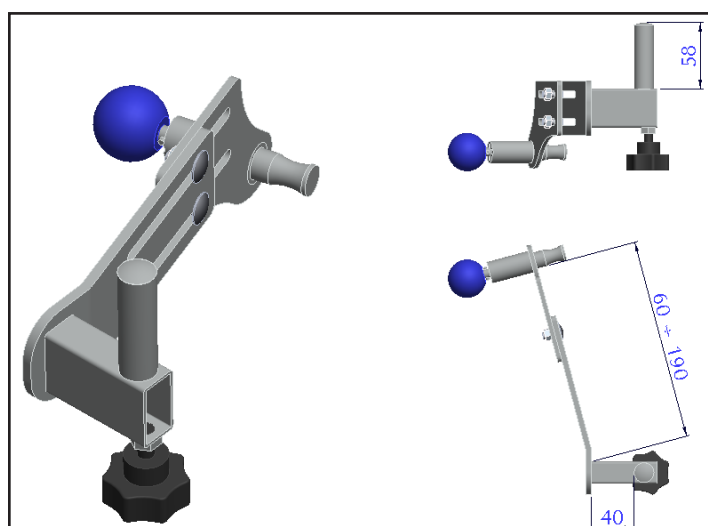
**ART. A009**  
**Anti-overturning safety system**



**ART. A010**  
**Extention cable for oversized wheel-chair**



**ART. A023**  
**Standard hook**



The standard system adopted by the Antano Group for the supply of the LG 2004 – Stair Lift device is the following:

- first of all, perform an inspection of the structure or dwelling where the vehicle will be used, in order to evaluate the perfect compatibility between the device itself and the environment in which it will be used.
- Besides evaluating the compatibility with the environment in which it will be used, the appointed personnel must also assess the attendant and his ability to drive the vehicle.

For this reason the attendant, first of all, must manoeuvre an empty vehicle and, only after having learned how to use it, will he do the same with the passenger on board.

It is necessary to perform the test with the final user so as to not only test the attendant's ability, but also to assess the user's opinion, from a comfort point of view, as well as from a psychological point of view.

- At the end of the inspection a special form "INSPECTION TEST AND DEMONSTRATION OF USE" undersigned by authorised Antano Group personnel and by the test applicant, is handed out, in conformity with Ministerial Decree of 27 August, 1999 n. 332, ex Ministerial Decree of 28 December, 1992.

After the inspection, in the event of a positive result of suitability of the device, the aid will be consigned by authorised Antano Group personnel.

At the moment of the consignment authorised personnel will assist both the attendant and the user in the definitive test, providing detailed explanations on its use.

- Personnel appointed by the manufacturing company will hand out the special form "DECLARATION OF PERFORMED INSTRUCTION ON THE USE OF THE STAIR LIFT"; this document will be undersigned by the attendant that was trained and by the appointed personnel.
- The guarantee provided for this device is 24 months. During the guarantee period maintenance of the device is ensured directly at the seat of the manufacturing Company, at its own expense, or at service centres located throughout the territory.