



● Delta 2004

Delta Evolution ●



Owner's Manual

KR-204-B/S

Standing Frame with electric retractable belt
(Modell „Delta 2004“)

KR-214-B/S

Standing Frame with electric retractable belt
and tilting function
(Model „Delta Evolution“)



Stand: 10/2021
(Rev. 1.4)



Dear Customer,

We want to thank you for your trust by having purchased our product. Some of the remarkable features of the Standing Frame include quality, safety, easy handling, and modern design. For optimal use of this Standing Frame, we ask you and your assistant to carefully read through the owner's manual and keep it easily accessible.

Please read completely and carefully through the owner's manual before using this product for the first time. You should always keep the owner's manual readily available.

EU Declaration of Conformity

We, as solely responsible manufacturers, declare that our Standing Frame meets the basic standards of the EU guideline for:

Medical Product 2017/745, Appendix II



ISKO KOCH GmbH
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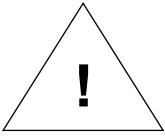




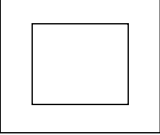


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1 Note on the symbols used in these operating instructions

	<p>This warning sign indicates all instructions that are important for safety. Non-observance can lead to accidents or injuries.</p>
	<p>Shows the manufacturer of the medical device according to the EU directives 2017/745 The symbol must appear in close proximity to the symbol, together with the name and address of the manufacturer (i.e. the person who places the medical device on the market)</p>
	<p>Conformity symbol according to 2017/745 of the Medical Device Directive</p>
	<p>Shows the medical device provided by the manufacturer in accordance with EU Directives 2017/745</p>
	<p>Device type B according to IEC 601-1 (Special protection against electric shock)</p>
	<p>Device of protection class II, insulated</p>
	<p>Dispose of electrical components in accordance with legal regulations. Do not dispose of in the household waste!</p>
	<p>Protective earthing: earthing of one or more points of a network, installation or equipment for electrical safety purposes</p>

2 Safety Instructions

- The Frame should only be used by those trained to do so, ideally by a healthcare professional who is fully conversant with these instructions.
- Check clamping levers regularly for wear, do not over-tighten these as this may cause deterioration to chrome tubes.
- The user must be assisted by one or two people, if necessary!
- The Frame should be used only on a firm, level, floor!
- The Frame should not be used outdoors!
- Do not use the Frame for transporting items. Do not store other equipment on top of the Delta or its accessories as this may cause damage. Do not store the Delta where it may block access to doors, walkways or fire exits.
- The Frame should be parked with the wheels braked!
- Do not attempt to remove the Gas Actions in the tray or adjust their position.
- Keep castors free of dirt, hair and other loose fibers.
- The Standing Frame has multiple possibilities of adjustment, some of the mentioned adjustments will not be possible for some users or under certain circumstances.
- Ensure the buckles of the harness are not being caught on the arms of the wheelchair the user is being transferred from. Constant catching of the buckles against wheelchair arms of the hip bar rail will lead to damage.

3 General product description

The standing frame is used exclusively for standing training for people who are unable to walk or have difficulty walking, for independent use with an assistant. Standing training is used in inpatient and outpatient rehabilitation, as well as in the home environment. The construction of our standing devices enables independent, stable and safe standing. The patient is brought out of the wheelchair into a secure standing position by means of an electrical or mechanical belt retractor.



3.1 Indications

People, whose height is between 140 to 200 cm and who are physically and/or psychologically limited, are able to safely and steadily stand without much effort. Daily use stabilizes circulation, reduces the chances of osteoporosis, strengthens hip and knee joints, stimulates breathing, as well as bladder and bowel functions. Desired head control can be achieved by height and depth adjustable head supports.

3.2 Contraindications

The following patients are not permitted to use the standing device:

- Decubitus – most of all seat and foot area
- Extreme deformation and not able to bear the load of the lower extremities
- Massive cardiovascular problems
- Strong anxiety states

3.3 Side effects

When used properly, no side effects are known.

3.4 Delivery & Parts List

- Pre-assembled stable frame with adjustable handle bars from 80 to 105 cm
- Supporting table with height adjustment from 90 to 128 cm
- Adjustable hip pad according to height and width



- Adjustable knee pad according to height and width
- Heel straps with Velcro fasteners
- Electric retractable belt to assist standing

4 Assembly information

4.1 Basic information for assembly

The standing frame should only be assembled by authorised personnel. The fuse protection on the installation side must not exceed 16A.

Before connecting the device, please make sure that the voltage and frequency of your mains supply correspond to the specifications on the type plate.

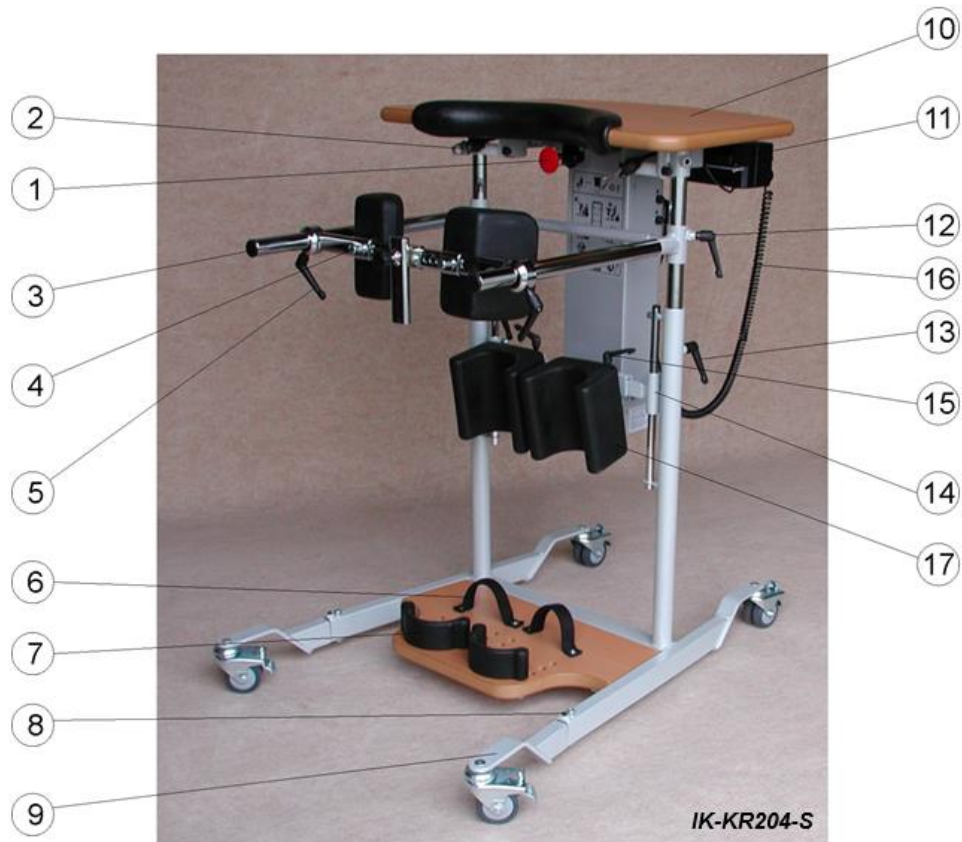
Make sure that the floor is level when choosing a location for the standing frame. Provide a suitable floor covering if the standing frame has to be moved frequently. Carpets, rugs and loose floor coverings can be damaged or make it difficult to push the appliance.

Connect the power plug firmly to the power outlet. Lay the power cord on the floor. Make sure that the standing unit is not standing on the cable with its castors (especially when moving it).

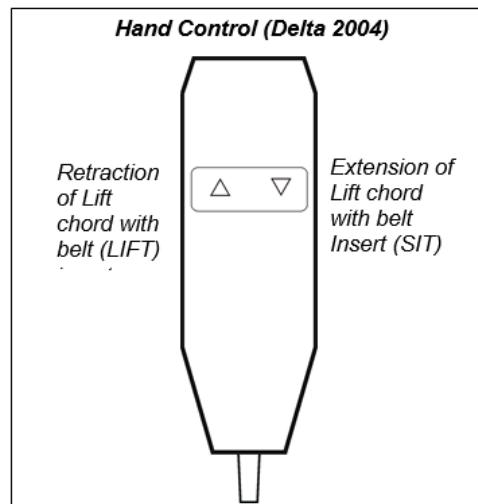
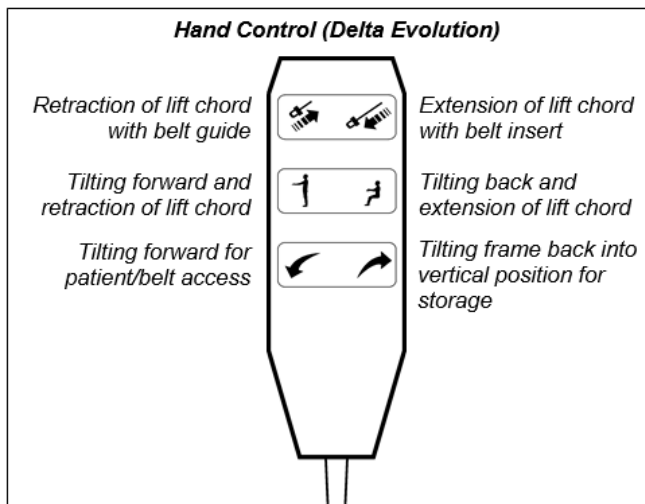


Damage to the electrical mains cable by running over it or clamping it can have fatal consequences.

4.2 Description of the individual parts of the Standing Frame



- | | |
|---|--|
| 1 Emergency stop push button | 10 Table top with cushioned anterior pad |
| 2 Lifting Chord with belt insert | 11 Control with power supply cable |
| 3 Handle bars | 12 Clamping handles (height adjustment handle bars) |
| 4 Index adjusting device (lateral pads horizontal adjustment) | 13 Clamping handles (height adjustment table top) |
| 5 Clamping handle (lateral pads vertical adjustment) | 14 Index adjusting device (height adjustment knee pad) |
| 6 Toe straps | 15 Clamping handle (horizontal knee pad adjustment) |
| 7 Heel cup | 16 Hand Control Unit & cable |
| 8 Threaded pin (width of rear wheels) | 17 Knee pad |
| 9 Rear wheels extendable | |



5 Instructions for Adjustment

All pre-adjustments need to be made without the user standing at the Standing Frame. Fine tuning adjustments can then be made with the user in position.

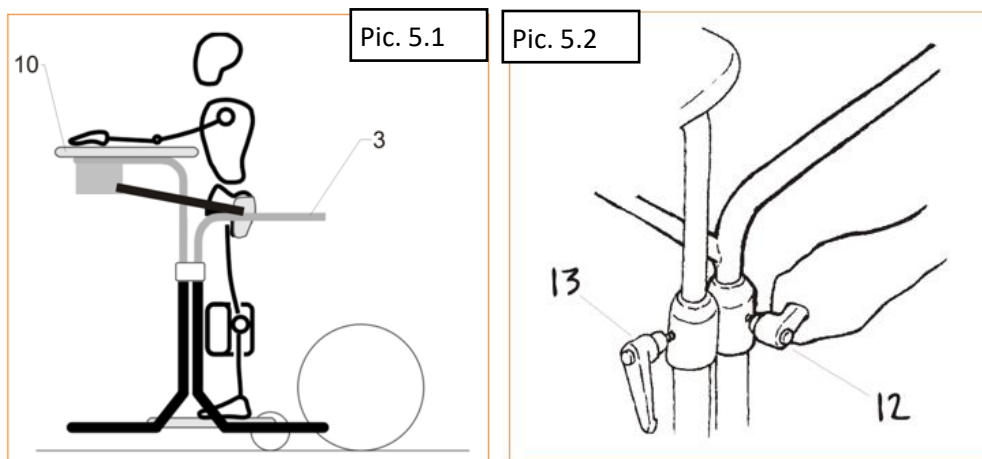
Prior to using the Standing Frame with the electric belt rewriter, it is important to adjust the position of the knee pads, hip bar height and table height using measurements relevant to each user if necessary. Attention needs to be made to the correct positioning of the table and knee pads in particular, as this affects the efficiency of the lift as well the user's comfort. By loosening the clamping handles, pos. 13 (pic. Chapter 4.2), the table height should be adjusted so that the moulded crescent pad of the table top is located between sternum and upper edge of the pelvis in accordance with the individual personal requirements.



By no means, it is allowed to adjust the pad of the table top so as to be located below the upper edge of the pelvis!

5.1 Body Height

The height adjustment of the table, pos. 10 (pic. 5.1), and the handle bars, pos. 3 (pic. 5.1), are used for adjusting the table height respective to the body height. The ideal position may vary from user to user but a rough guide is when the arms of the user rest comfortably on the table top and when the hand rails are well in reach in the standing position.



Loosen clamping handles, pos. 13 (pic. 5.2), at the stand pipe for positioning the table top. For adjusting the correct height for the two handle bars, please loosen clamping handles, pos. 12 (pic. 5.2), adjust as required and then retighten them.



Is it imperative to check that all clamping handles are secure before the Frame is used by the patient!

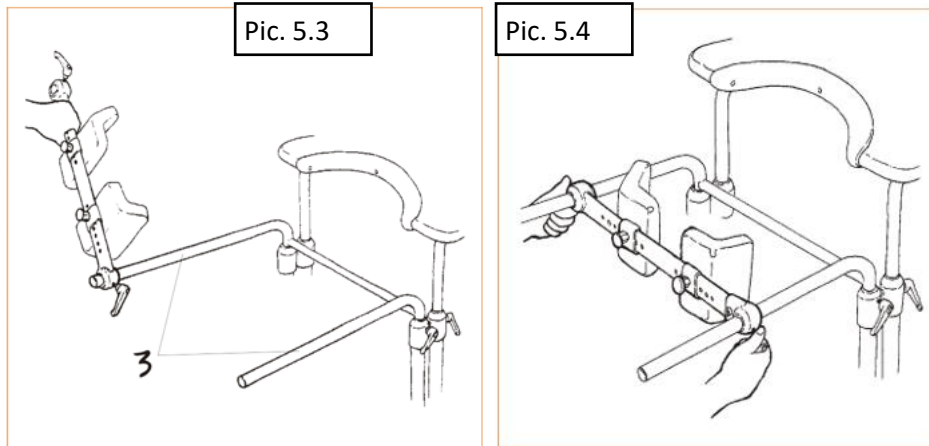
5.2 Back Pad

(not included in standard extent of delivery)



An assistant is necessary for using the back pad!

The hip pads may be adjusted to the correct height by loosening the clamps on the main bar. It may be adjusted to the user's midsection by loosening the clamps, pos. 3 (pic. 5.3), on the rear crossbar. The width is altered by adjusting the latches on the rear crossbar.



The hip support rails have a dual function. They can be used as hand holds for the user to aid lifting and to support the hip bar and pads.

To adjust the height of the hip support rails undo the clamping handles on the top chromed section of the vertical tubes. There is no additional height adjustment control in the hip support rails so caution must be taken to support the rails when adjusting their height. Hold the rails as close to the handles as possible to ensure the rail moves smoothly. Raise or lower the rails to the desired height and tighten the clamping handles. Ensure the rails are firmly positioned before using.

The lifting harness will hold the user in a standing position. However, additional hip supports can be used to provide more positive pelvic control. The hip support bar is positioned on the hip support rails, which allows adjustment of the depth of the hip pads in relation to front of the tray.

The hip support bar is semi-permanently attached to the hip support rails. The left hand rail is slightly longer than the right hand rail. The hip support bar slides along the rails and is held in position with clamp handles. The support bar can slide off the right hand rail and will be held on the left hand rail. This allows the hip support bar to be swung out of the way for transferring.



Tighten the clamping levers again.

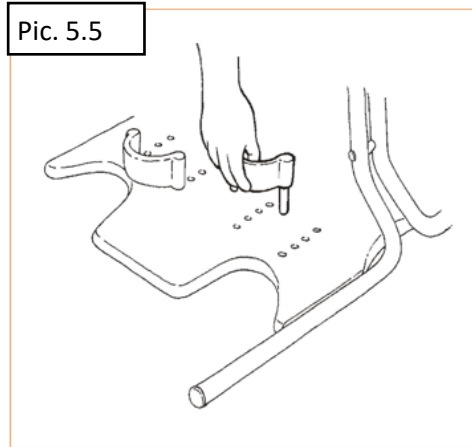
5.3 Foot and Heel Strap

When using the Delta the user must be adequately supported at the chest, hip, knee and foot. The support of these areas helps the skeleton to support itself.

When standing vertically, the user's legs should be as straight as possible. The depth adjustment on the knee support helps maintaining a straight leg. However, the heel has to be blocked so that the support can work against any flexion (bending) in the knee. Therefore, knee support depth should be

set so that when the user's trunk is vertical against the pad on the front of the tray, the knee is extended or very slightly flexed.

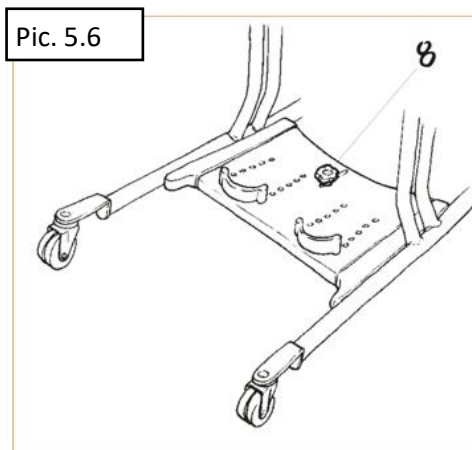
Adjust the heel strap on the frame base by moving the heel strap to the location holes that help maintain this alignment through the body. The straps should be tightly fastened over the top of the foot.



Check that the feet are firmly secured!

5.4 Depth Adjustable Footboard

The Delta standing frame has a depth adjustable footboard option (factory fitted), which allows for greater flexibility of foot positioning. This option may be required by those with fixed flexion deformities at the knees and hips or for some designs of wheelchair foot supports. The above description of setting up the standing frame still applies. However, the footboard can be slid forwards and backwards to improve foot positioning by undoing the knob (pos. 8, pic. 5.6) in the middle of the footboard. The footboard can then be slid to the desired position. Tighten the knob before using the Delta standing frame. The knob can be a star grip screw or in newer versions a clamping handle.



Do not attempt to adjust footboard depth when user is standing on the footboard!



Before using the standing frame the knob (star grip screw or clamping handle) must be checked for tightness!

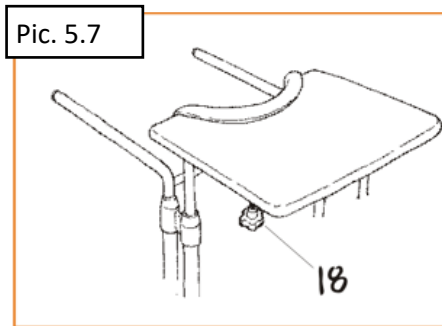
5.5 Sliding Tray

There is a sliding tray interface option (factory fitted) for the Delta standing frame which allows the tray to be slid closer to the user once they are in a standing position.

To bring the tray closer to the user, undo the two knobs (pos. 18, pic. 5.7) on the underside edges of the tray and push/pull the tray to the desired position. Tighten the knobs once the tray is in the correct position for the user.



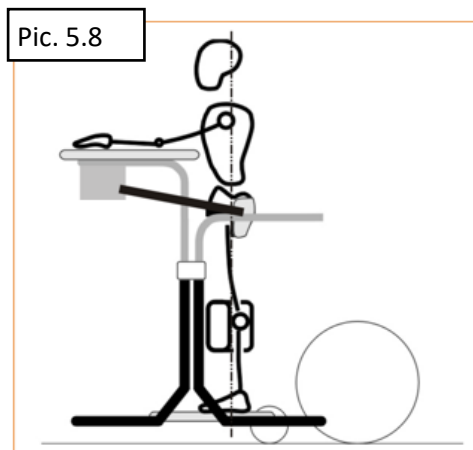
Before using the standing frame the knob (star grip screw) must be checked for tightness!



NOTE: If the user has fixed, flexed hips and knees, they will tend to lean forward once they are in their upright position. With this in mind, adjust the tray forward, if necessary, to accommodate their position. If the tray is adjusted correctly, the user will touch the safety cut-out button once they are in a comfortable, upright position.

5.6 Knee Pads

The knee pad's height can be adjusted by loosening the vertical latch, pos. 14 (chapter 4.2)), and its depth by loosening the horizontal latch, pos. 15 (chapter 4.2). Knee support should be set so that the user's knee cap will be at the centre of the pad height. Take the user's foot to knee measurement and use this to set the height of the centre of the knee pad from the footboard. To adjust knee pad height release the two plungers on the ends of the cross bar which carries the knee pads.



Lift or lower the knee pads to the desired height and allow the plungers to fit into the nearest set of holes on the chromed upright tubes. Ensure the plungers have popped into place before using the standing frame.

5.7 Lifting Harness

The user should put on the belt before approaching the Standing Frame. The belt should be fastened so that the bottom edge just touches the seat of the wheelchair. Then, the belt may be fastened around the lower abdomen.

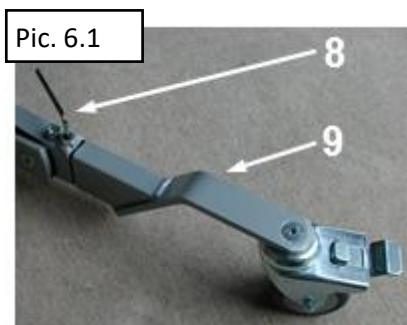


6 Approaching the Standing Frame

Once the above adjustments have been made and the lifting harness fitted, the user can be positioned ready for the lift to standing. In all cases it is desirable for the user's thigh to be horizontal in the sitting position with feet on the footboard.

The Delta should be positioned as close to the user as possible. The cut-outs in the footboard are designed to receive the front wheels of a wheelchair.

Lock the castors on the Delta before using the DELTA. User's feet should be positioned on the footboard with the velcro toe-straps used to help maintain position and their knees should be firmly positioned against the knee supports. The DELTA is designed to accommodate larger wheelchairs by using its retractable rear wheels. To adjust, loosen the threaded pin, pos. 8 (pic. 6.1), adjust the rear wheels outward as necessary pos. 9 (pic. 6.1). Secure the threaded pin once the desired position has been established.

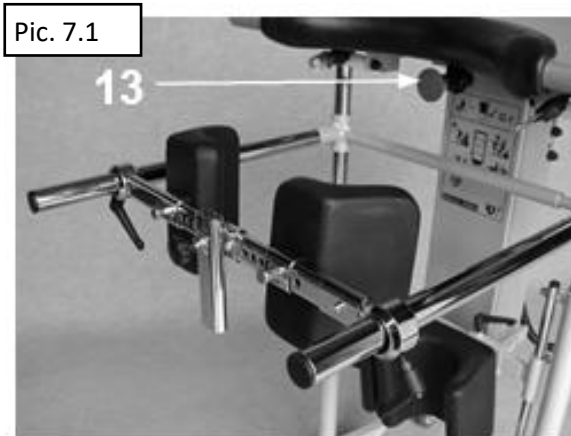


Make sure that the grub screw is firmly seated!

7 Starting the Standing Frame

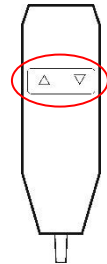
Connect the power cable to a suitable supply and switch on the socket, the Frame is ready for use.

The additional forced switch-off is released, as long as the emergency stop push button, pos. 1 (see chapter 4.2), is kept pressed. The Frame can be operated again, only after this emergency stop push button has been released. Up- or downward movement of the Lift Chord is effected by pressing the respective key of the manual control switch, pos. 16 (see chapter 4.2). The keys are marked with arrows according to their functions (see chapter 4.2)



7.1 How to stand up using "DELTA 2004"

Set up the Standing Frame and fit the lifting harness as described earlier. Plug the lifting mechanism into the electricity supply and check the unit is functioning by checking that the green indicator light on the front of the unit is on. Press the 'down' arrow on the handset to feed out the Lift Chord and connect them to the lifting harness. Press the 'up' button to remove the slack from the Lift Chords before proceeding to lift.



The 'down' button on the handset will override the 'up' button. If the user or assistant operating the handset wants the lifting mechanism to lower the user back to sitting, pressing the 'down' button will lower the user, even if the 'up' button is still depressed.

The handset connection to the motor unit is on the side of the box on the front of the motor unit. If the handset ever gets detached from the motor unit, it can be re-connected to the socket on the side of the unit. If the handset is attached to either of the sockets on the front of the unit it will not work and may cause damage to the motor.

If the user has sufficient arm and trunk control they can guide the lift to standing themselves. If additional assistance is required, an appropriately trained person can assist the lift to standing. A reassuring hold can be placed around the user's trunk to help guide them to vertical. In either case, pressing the 'up' arrow on the handset takes up the slack in the Lift Chords and lifts the user's pelvis as the knees are blocked against the knee supports. Once in a vertical position, the button can be released to hold the position. A separate hip support unit can be fitted in position to provide more positive hip control.



Always leave the lifting straps and harness in position when the user is standing.

To return the user to sitting, provide an appropriate level of support and press the 'down' button on the handset. Guide them to a sitting position and release the button when the sitting surface is fully

supporting the user. Release the lifting straps from the harness by depressing the red button on each buckle and pulling the two items apart.

7.2 How to stand up using "DELTA Evolution"

The Standing Frame with tilting function facilitates easier access and a smoother lifting operation. Arm rails, knee support, and footboard are inclined towards the patient prior to standing up (see Pic. 7.2)

Pic. 7.2



Pic. 7.3

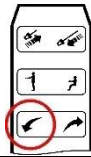
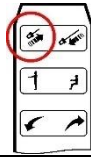

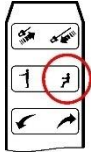
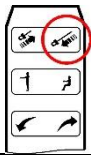
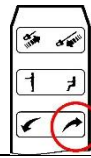


Pic. 7.4



Pic. 7.5



Standing-up process		
	Description	Key on the handset
1	Tilt the stander back by pressing the switch as indicated (right). Click in the two Lift Chords with the patient support harness fastened	
2	Tighten the Lift Chords; to this end, press the rope retract switch as indicated until the ropes are tightened, Please note the user has not yet begun to lift.	
3	By pressing the standing-up switch, the two motors are actuated simultaneously and the standing-up process is started (see pics 7.2 – 7.5)	
Sitting-down process		
	Description	Key on the handset
1	Once you press the sitting switch as indicated (left), the sitting-down process proceeds. The twodrive units move again simultaneously, and the patient is brought gently into sitting position.	
2	Press the rope extension switch in order to release the tension of the Lift Chords.	
3	In order to store the DELTA in it's upright position, Press the stander restore button as indicated here.	

7.3 What to do when the electrical supply is cut off

If the event of a power failure whilst the electric retractable belt system is in use, it is necessary to get an assistant to help the user back into his/her wheelchair. Please note that the following instructions are intended for a right-handed assistant. A left-handed assistant must simply mirror these actions. First, turn the wheelchair so that the front-left wheel stays stationary, but only as far as necessary so that the assistant can stand behind the user. Ensure that the wheelchair is as close as possible to the user. The assistant stands behind the user, releases the Velcro fastener, and with his/her right arm reaches around the user, under the right armpit, to the user's chest. The assistant should use his/her left hand to open the left belt fastener of the user's belt. If necessary, release the user's belt with slight pressure on the user's body. The assistant's left hand reaches under the user's buttocks to support the user when putting the user back into the wheelchair.

7.4 Suck/blow function for using the standing frame

The electrical components can also be operated with a suck/blow function. When suck/blow function is applied to the mouthpiece of the tube, the straps are moved upwards and downwards when blowing at the mouthpiece. The air hose must always be laid and stored in such a way that unwanted functions by the user, auxiliary person or third parties are excluded. Malfunctions can occur if the air hose is kinked or crushed. If the air switch is not needed, the air hose can be pulled off the connector.

THE SUCK/BLOW CONTROL SHOULD ONLY BE USED WHEN THE DELTA/ MOTOR IS PRESCRIBED FOR AN INDIVIDUAL AND SHOULD BE REGULARLY CLEANED AND STERILISED WITH MILTO SOLUTION OR SIMILAR. IT SHOULD BE REMOVED PRIOR TO RE-ISSUE AND SHOULD NOT BE USED FOR DEMONSTRATION OR TRAINING PURPOSES!

7.5 Anterior Tray Support

The Anterior Tray Support supports the patient while standing (pic. 7.6). After centering and aligning the bed on the table it can be mounted on the table of the standing frame with two screw terminals.



8 Environmental conditions

These conditions apply to both use and storage of the device



Room temperature: **10°C to 45°C**

Air humidity: **30% to 75%**

Air pressure: **700hPa to 1060hPa**

9 Technical Data

(subject to change)!

Designation	KR204-B/S	KR214-B/S	KR216-B
Nominal voltage	230V~/ 50Hz	230V~/ 50Hz	230V~/ 50Hz
Nominal power	70 VA	140 VA	140 VA
Device type B according to IEC 601-1			
Protection class II II			
IP Protection class Hand switch, control box, motor	IP X4		
IP Protection class Upright unit lifting mechanism	IP X1		
Duty cycle ED 10%	10%, max. 2 Min. / 18 Min.		
max. patient weight	120 kg	120 kg	200 kg
Patient size	140-200 cm	140-200 cm	140-200 cm
Frame weight	ca. 62 kg	ca. 65 kg	ca. 65 kg
Width	75 cm	75 cm	80 cm
Length	90 cm	90 cm	100 cm
Table height	100-125 cm	100-125 cm	100-125 cm

Design description

The standing frame is manufactured as a welded steel tube construction. The surfaces are powder-coated or galvanized. All wooden parts are either laminated or painted.

10 Maintenance and Care

For cleaning the pipe parts and the wooden parts with a damp cloth, all household cleaners without ammonium chloride and scouring agents are permissible. Solvents (e.g. nitro) destroy the coating of the pipes!

Mechanical cleaning (e.g. scraping, sanding) or jet cleaning of the floor-mounted appliance is not permitted. All pivot points of the moving parts, including the bearing eyes on the adjustment device, are equipped with maintenance-free slide bearings and must not be oiled or greased.

11 Service life of the product

With an expected average degree of use in home care, the service life of the standing device is approx. 10 years. Lack of maintenance and excessive strain on the product can considerably reduce the life of the standing device. The expected life expectancy in professional nursing home use is approx. 7 years.

12 Disinfection

- In order to ensure that the standing device functions properly, each ISKO standing frame should be cleaned, disinfected and checked after each use so that it can be used again immediately.
- Incorrect cleaning/disinfection of the standing frame can cause hazards.
- Depending on the degree of soiling, we recommend cleaning the standing device with a damp cloth or similar.
- For wipe and spray disinfection, disinfectants can be used in their intended concentration. (see manufacturer's instructions)
- The dilution ratio recommended by the manufacturers in the respective instructions for use must be used.



Solvents are not permitted.

Abrasive materials or scouring sponges must not be used.

12.1 Specifications of detergents and disinfectants

- The working solutions should normally be used freshly prepared.
- Do not exceed or fall below the concentrations indicated.
- They must not contain corrosive or caustic components.
- They must not contain substances that alter the surface structure or the adhesion properties of the materials.
- Lubricants must not be attacked by the cleaning and disinfecting agent.



Under no circumstances should soap or washing-active substances be added to the disinfectant. In the case of products containing alcohol, there is a risk of explosion and fire when used over large areas.



The use of unsuitable detergents and disinfectants can cause damage to the surface coating for which ISKO KOCH GmbH cannot be held liable.

13 Troubleshooting

	Problem	Solution
1	The motor does not work, when the switch is activated.	Make sure that the plug is firmly connected to the electrical socket outlet.



Changes, readjustments and repairs to the Upright Helper that cannot be remedied in accordance with the above instructions may only be carried out by the manufacturer directly or by a workshop authorised by the manufacturer.

14 Recommended Accessories

Article	Order-No.
Thoracic support and laterals with head control unit; straight version	KR-631-X

Suck/blow function	KR-601-SB
Table height adjustment from 0° to 30°	KR-730
Sliding footboard (displacement approx. 10 cm)	KR-720
Footboard height adjustment (only available with IK-KR-720)	KR-721-X
Upper body support (thorax support) Height 15 cm	KR-744-X
Upper body support (thorax support) Height 25 cm	KR-745-X
Lift support harness Size: S with 5 cm lip	KR-608-1-X
Lift support harness Size: S with 10 cm lip	KR-608-2-X
Lift support harness Size: S	KR-608-3-X
Lift support harness Size: M with 5 cm lip	KR-607-1-X
Lift support harness Size: M with 10 cm lip	KR-607-2-X
Lift support harness Size: M	KR-607-X
Lift support harness Size: L with 5 cm lip	KR-606-1-X
Lift support harness Size: L with 10 cm lip	KR-606-X
Lift support harness Size: L	KR-606-3-X
Lift support harness Size: XL with 10 cm lip	KR-609-2-X
Lift support harness Size: XL	KR-609-3-X

15 Maintenance Intervals

After having had the Standing Frame in operation for two years at the latest, a thorough visual inspection, a functional test, and a current leakage test according to DIN EN 62535 should be effected.

In particular, please consider the following issues when effecting the visual inspection:

- Tight fit of all screw connections
- Mobility of the centres of rotation
- Checking the power supply cable for pinches or shears
- Checking the power supply cable for strain relief

In particular, please consider the following issues when effecting the functional test:

- Functioning of all electrically actuated movements
- Extend and retract all motors at the Standing Frame (without patient) completely, until they switch off automatically. (Limit switches in the motors must switch off by an audible click.)
- Functional efficiency of the brakes
- Check belt straps and belt ropes for cracks and wear
- Check the emergency stop switch of the electric belt rewriter (without patient)



16 Instructions for Disposal

Disposal of the device and its accessories, if any, may only be carried out in accordance with waste segregation regulations!



Please observe that all electrical components should be disposed of in accordance with legal guidelines.