

Installation HandBook

Liko Overhead Lift Systems

English
3EN680001-02
2010-03-18



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1. Introduction

An overhead lift is much more than simply a lift motor. Even though the lift motor does much of the work, it has plenty of help. By an overhead lift system, we mean a whole system of components which together make it possible to lift a patient. It is an easy-to-use system that is always close at hand.

Installing an overhead lift system requires careful consideration. You must know the types of problems that will need to be solved, the lifting situation and how you intend to lift with the system. To facilitate installation, it is also essential to know the underlying technical conditions and prerequisites in the location where the system is to be installed. To create the optimal system, the following should be considered: > What do we wish to achieve? > Will we be lifting to one or several locations? > How much space will be needed for lifting? > How will the room be furnished? > How will installation be performed?

This handbook provides support and guidance to installation performance of Liko overhead lift systems.

This handbook contains important information about the design criteria and installation solutions for an overhead lift system. It is important to thoroughly understand the content of the handbook. Only personnel authorized by Liko can perform site survey, install the overhead system and issue the installation certificate, all in accordance with Liko's installation instructions and this handbook.

 is a warning triangle used for situations which require extra care and attention.

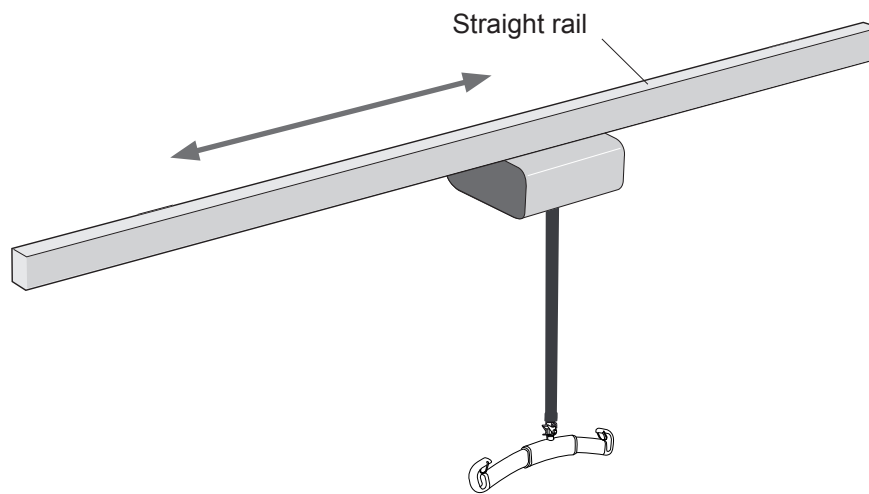
2. System Overview

Liko overhead lift systems are built as a *straight rail system* or a *traverse system*. A straight rail system is built of rail/rails in a line, where the lift motor can be moved in two directions.

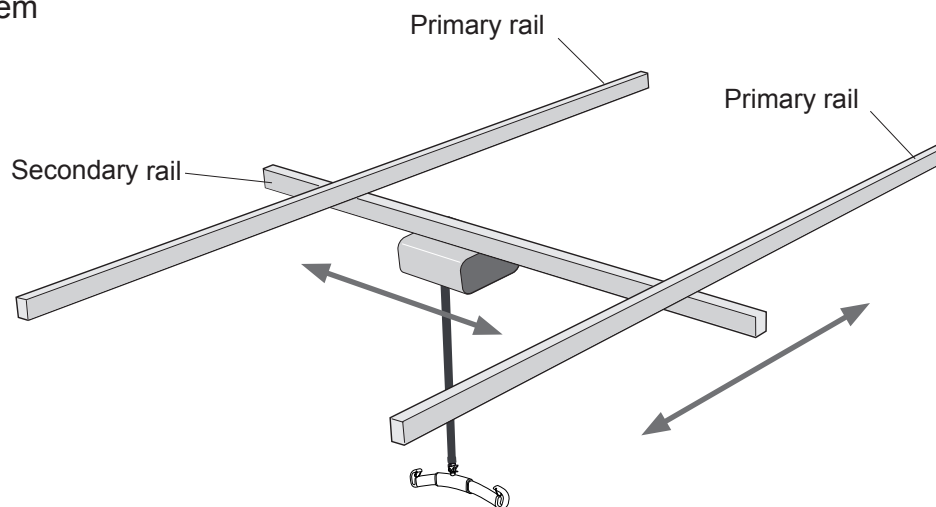
A traverse system consists of two primary rails with a secondary rail in-between. The secondary rail is connected to each primary rail with a traverse rail carrier, which is movable along the primary rails. The lift motor in a traverse system is attached to the secondary rail. In a traverse system the lift motor can be moved in four directions. See examples below.

The lifting area is defined as the area in which a overhead lift system can perform comfortable and secure lifts. For a straight rail system the lifting area is underneath the rail and stretches almost the entire length of the system. In a Traverse system the lifting area is close to the area created by the primary and secondary rails.

Straight Rail System

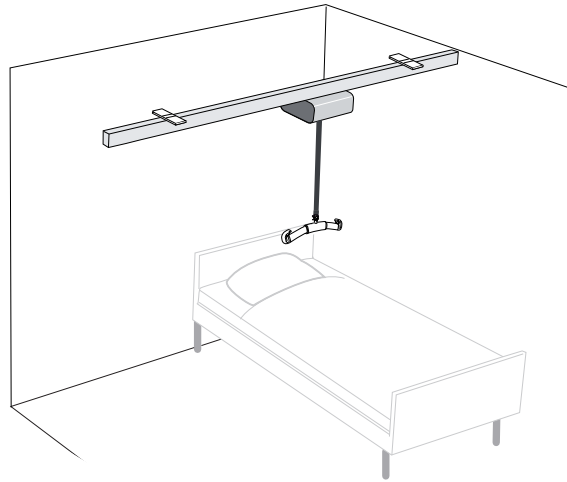


Traverse System

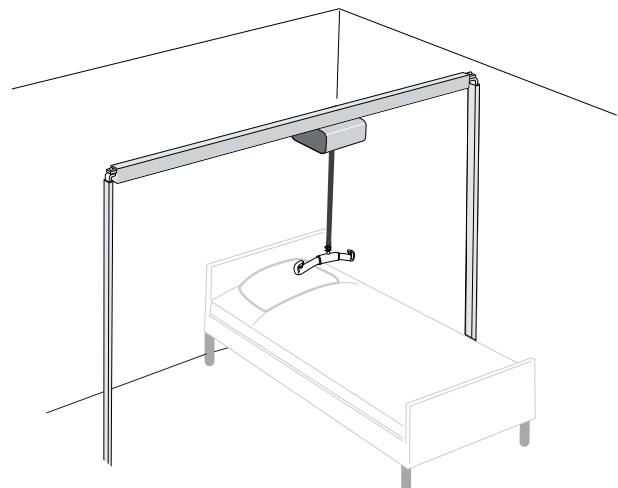
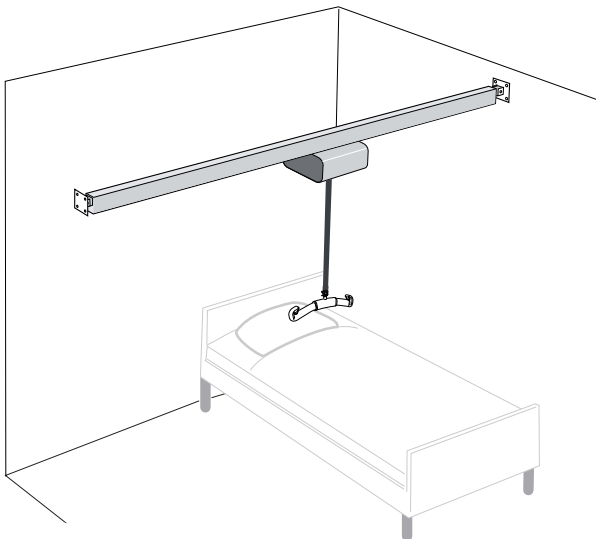


Liko overhead lift systems are installed either as a *ceiling mounted system* or a *suspended system*. A ceiling mounted system are fixed to a ceiling meanwhile a suspended system can be mounted wall to wall with wall brackets or with upright-supports. Upright-supports provide a floor standing, wall anchored system. See examples of the two installation principles below.

Ceiling Mounted System

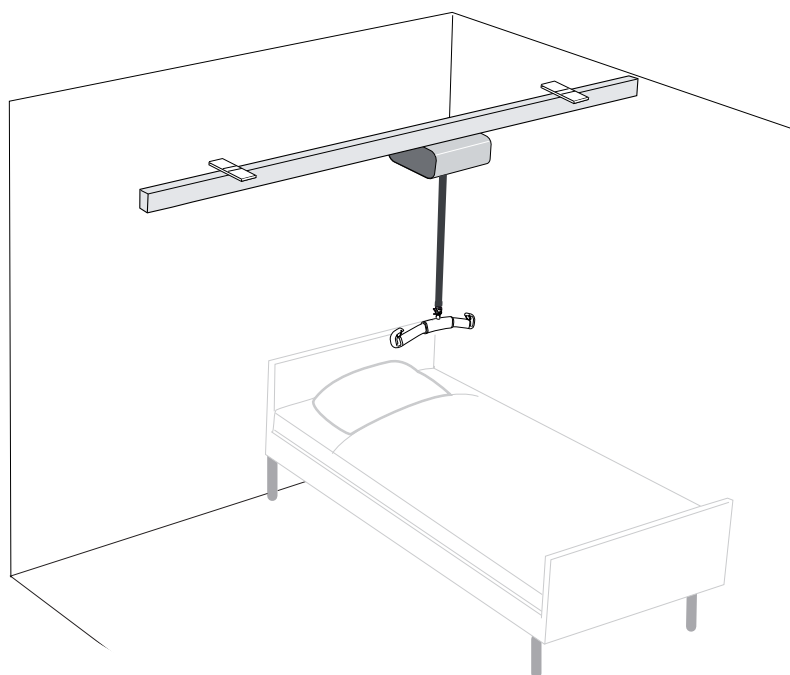


Suspended Systems

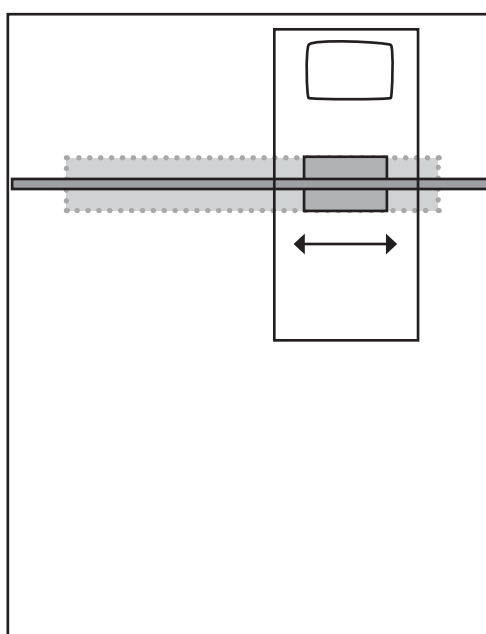


2.1 Ceiling Mounted System

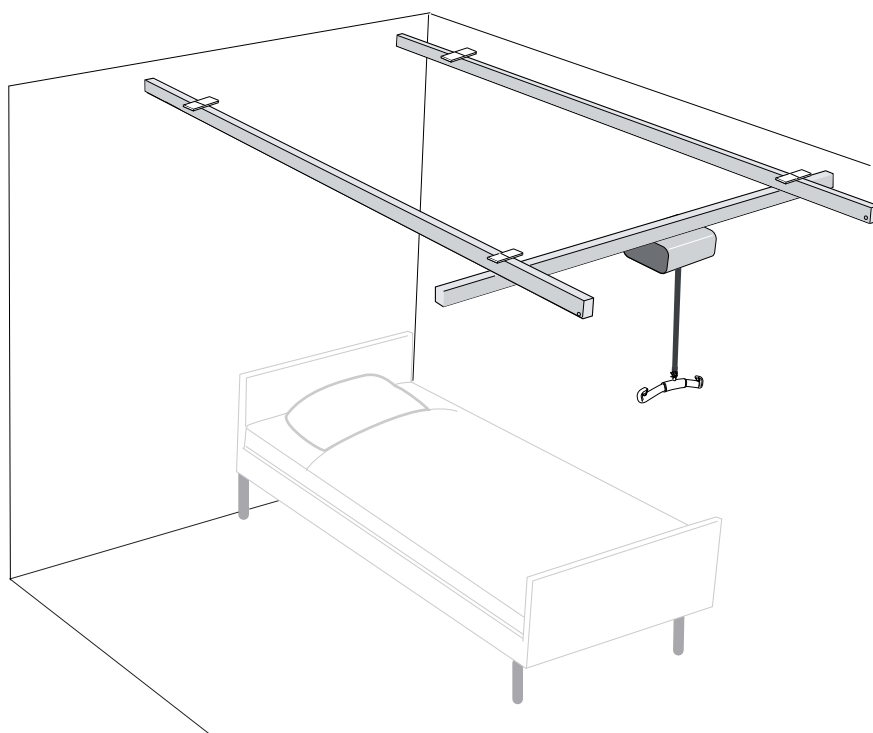
Straight Rail



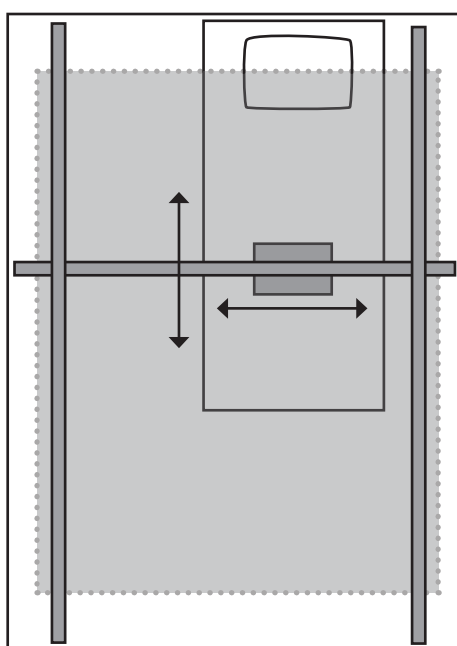
Lifting area: dotted/grey



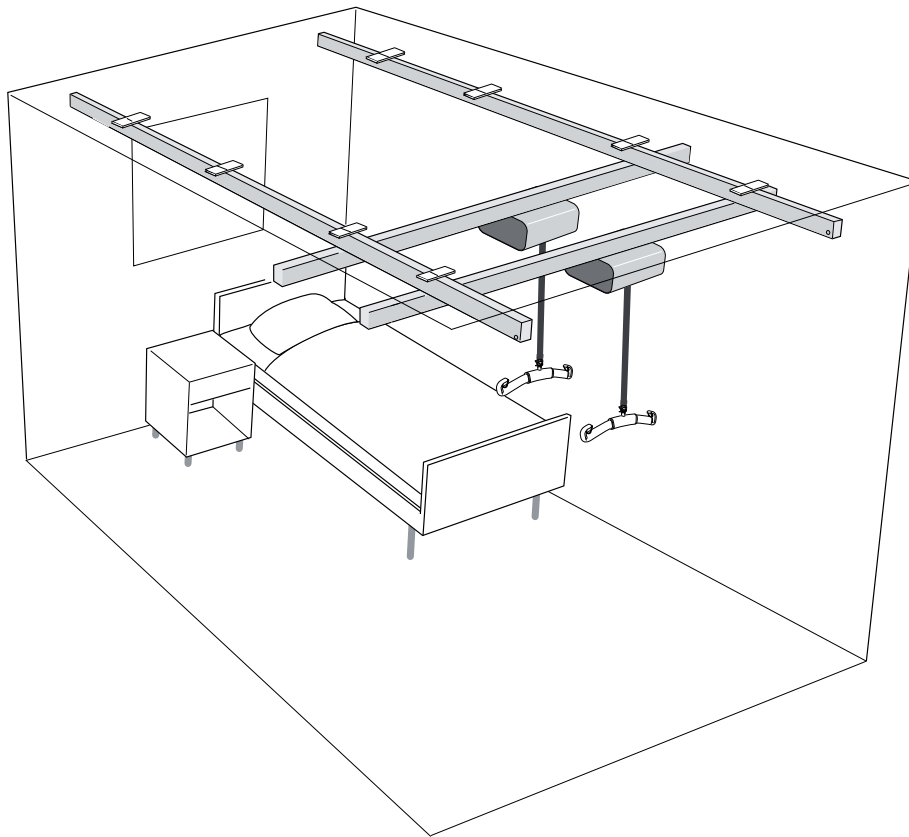
Traverse



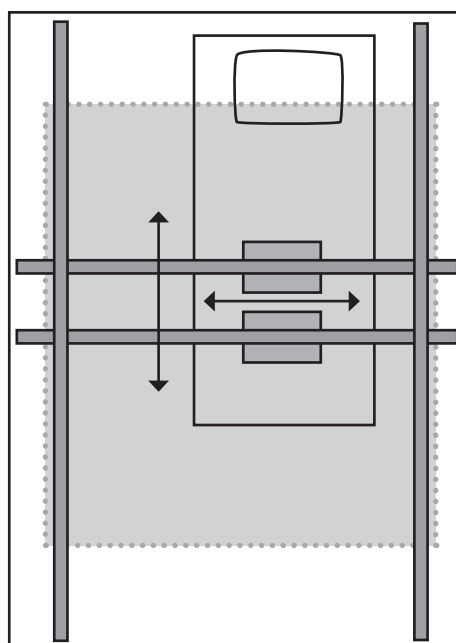
Lifting area: dotted/grey



Ultra Traverse

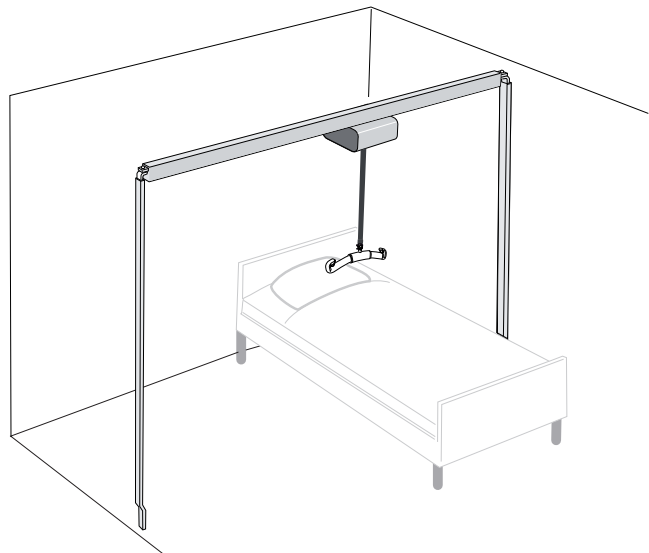
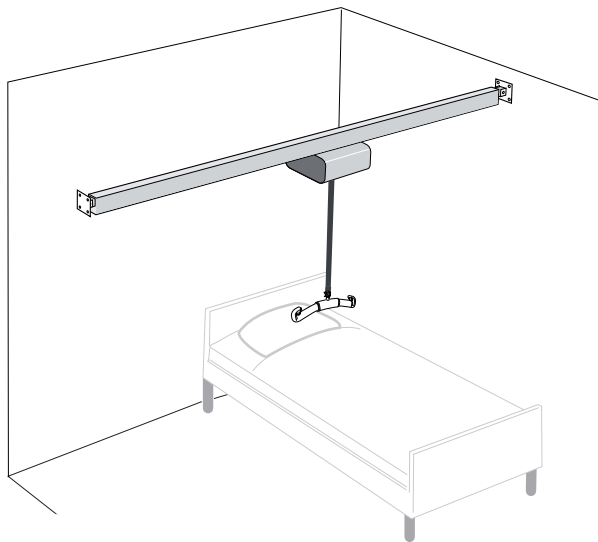


Lifting area: dotted/grey

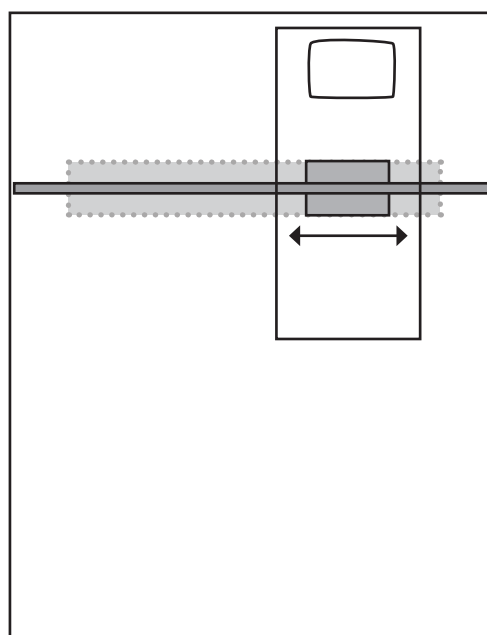


2.2 Suspended System

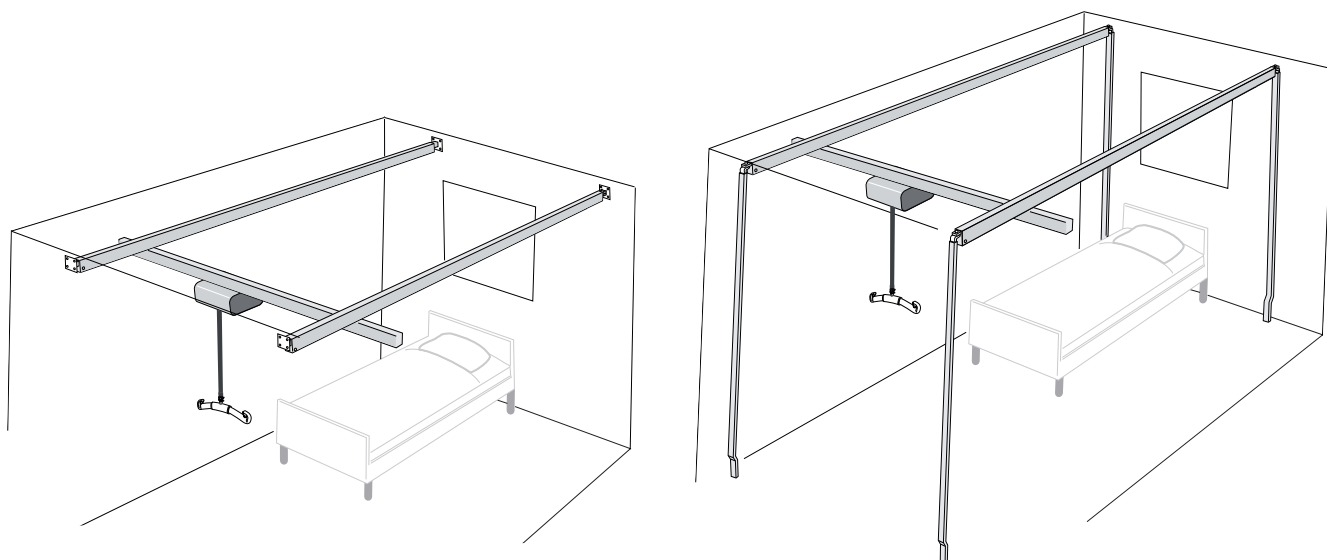
Straight Rail



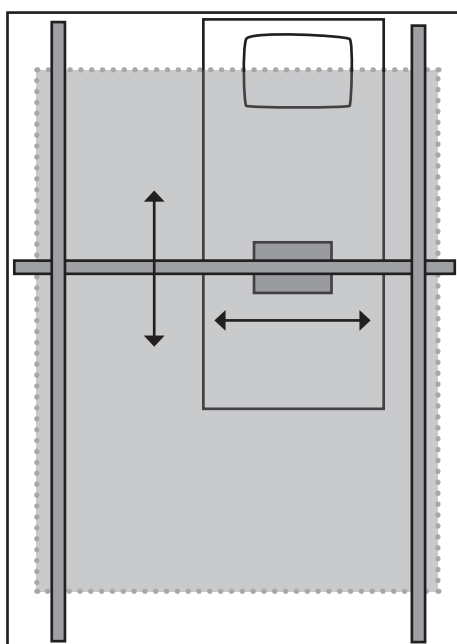
Lifting area: dotted/grey



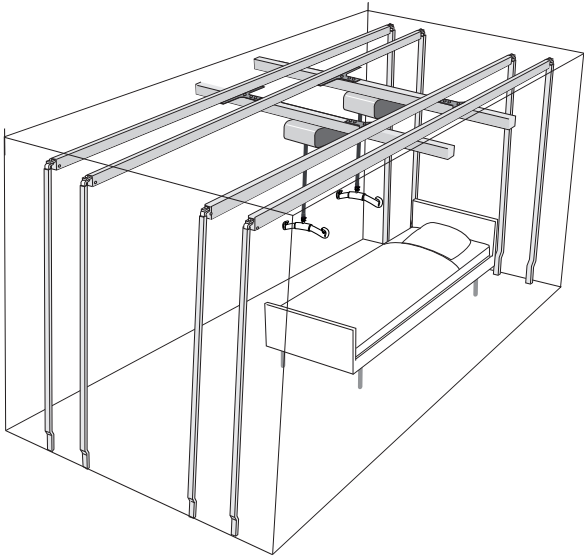
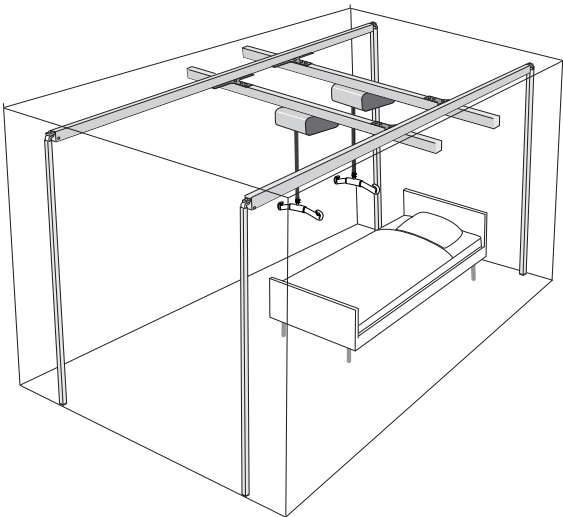
Traverse



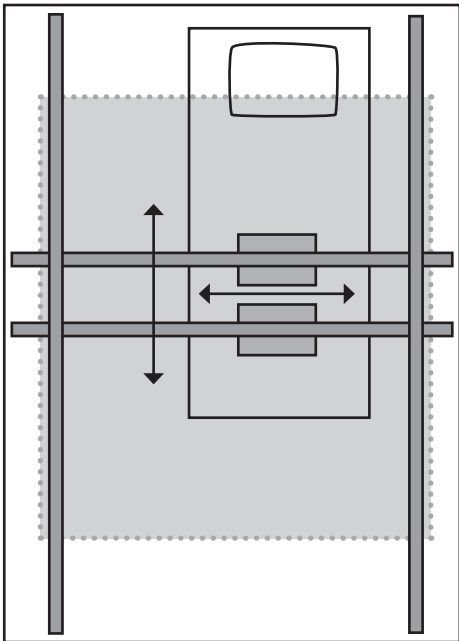
Lifting area: dotted/grey



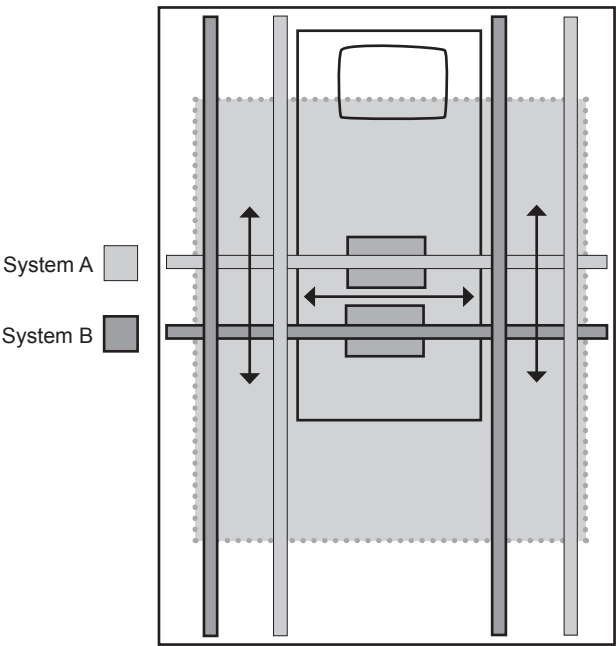
Ultra Traverse



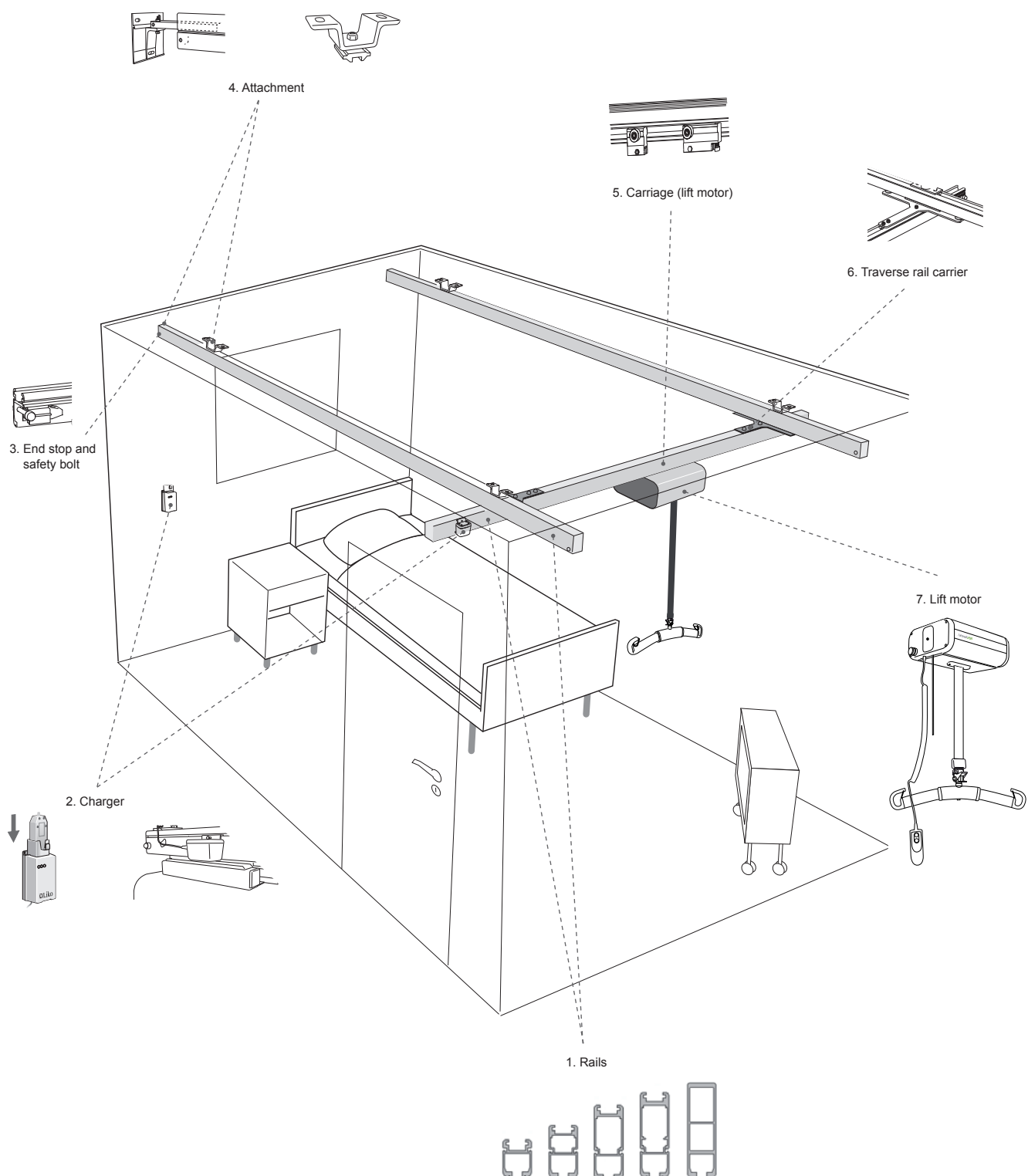
Lifting area: dotted/grey



Lifting area: dotted/grey

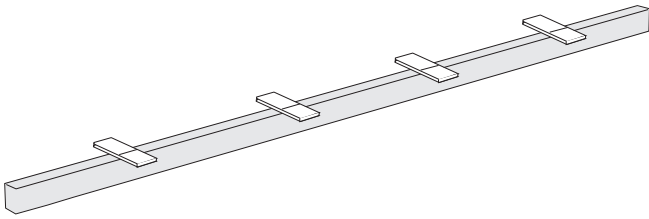


3. Component Overview

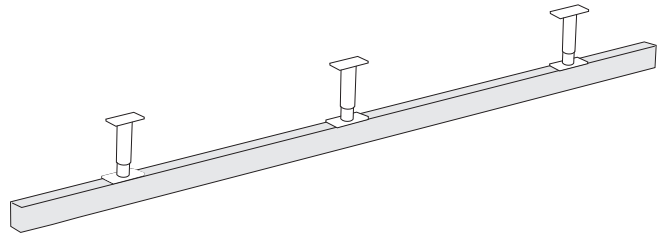


3.1 Attachment, Ceiling Mounted System

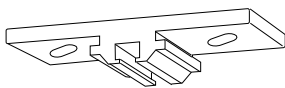
Ceiling bracket



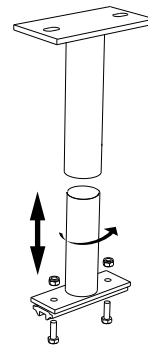
Pendant



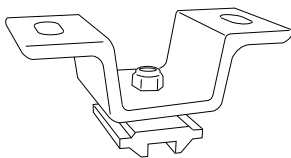
There are two different attachments for ceiling mounted systems. Ceiling brackets are developed for ceilings with no or minor obstacles for example cables. Pendants are a solution in a room with high ceiling, suspended ceiling or where ceiling mounted sprinkler systems or lamps etc. might be an obstacle.



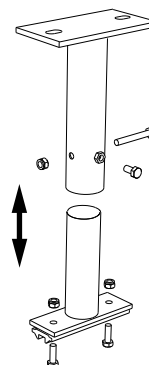
Ceiling Bracket 61



Pendant, adjustable
(90-310 mm)



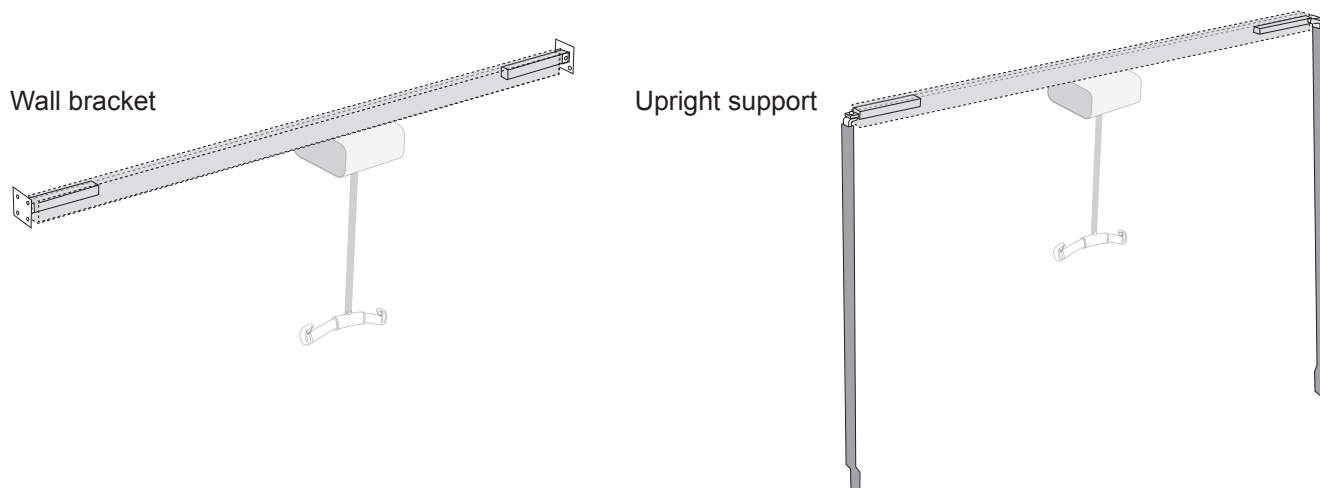
Ceiling Bracket 71



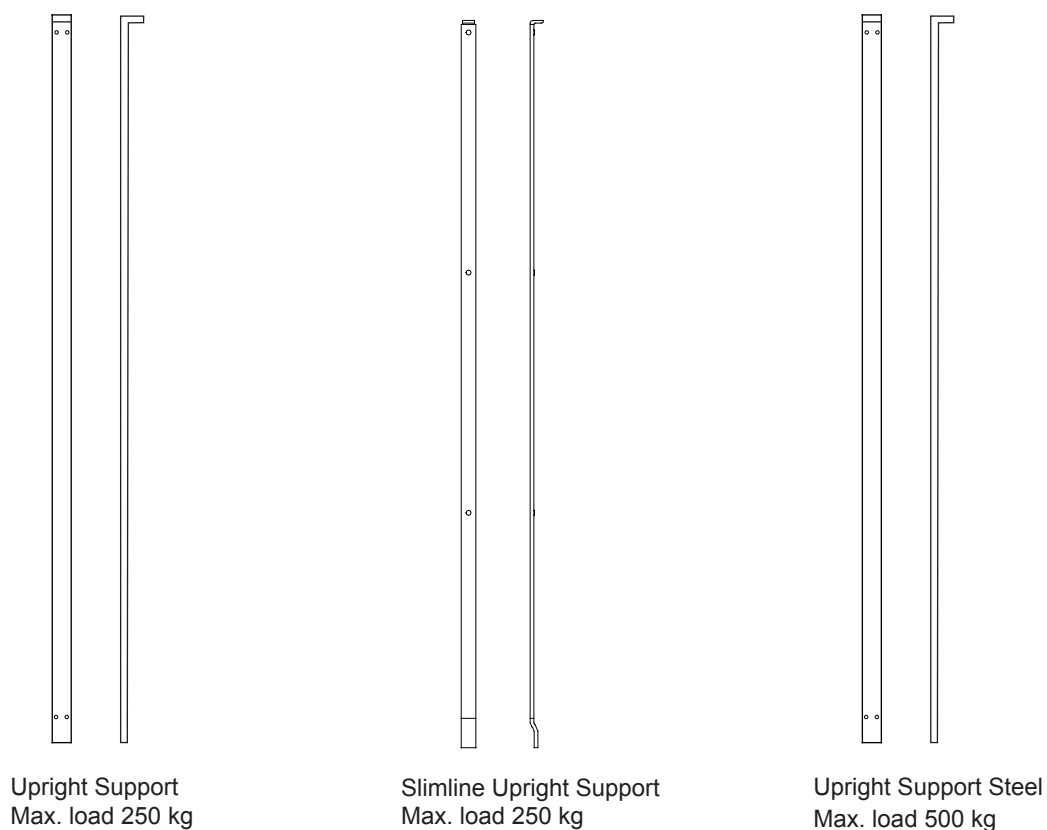
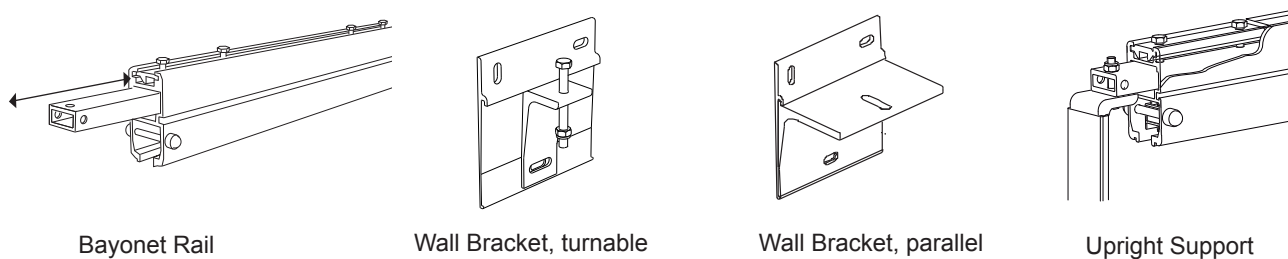
* Pendant, adjustable
(300-2100 mm)

** A system using pendants longer than 500 mm / 20 in. need two or more Side Supports to stabilize the system from horizontal movements.*

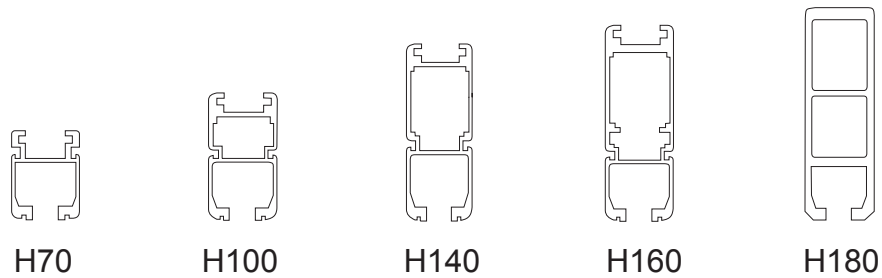
3.2 Attachment, Suspended System



Rail attachments in a suspended system are wall brackets or upright supports. For both these solutions bayonet rails are necessary as a connection between the attachments and the rail.

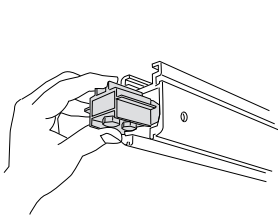


3.3 Rails

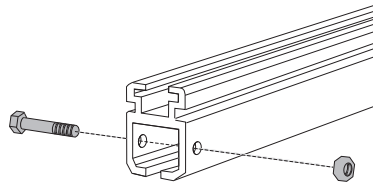


Liko has five different rail models H70, H100, H140, H160 and H180. The strength is related to the height H (mm) of the rail profile. A larger height (H) increases the strength of the rail. All rails are made out of anodised aluminium and they are available in two colours; white and nature. These rail models are used in different combination in all Liko Overhead systems. An exception though is the H180 rail that only is for use in suspended systems and never as a Secondary rail and are available just in the colour nature.

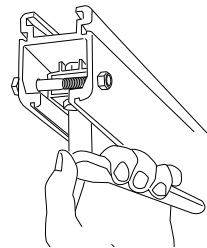
3.4 End Stop Set



End Stop



Safety bolt and locking nut

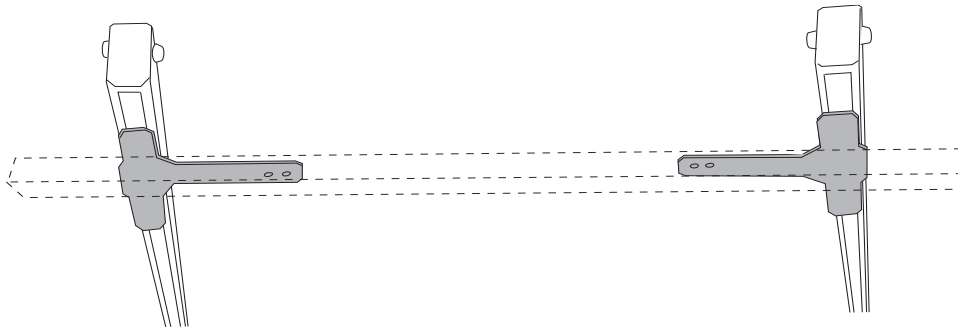


Adjusting/ fixing of End Stop

The safety bolt is an important safety detail in an overhead system and a part of the end stop set. The safety bolt is inserted through the rail and fixed with a locking nut. All rail ends must have a safety bolt installed to secure carriages and traverse carriers to drop out of the overhead system. The end stop function is to reduce the stop motion when the lift motor comes close to the end of the rail. It's adjustable from inside of the rail and can for example be used to limit the range of the lift area.

△ Check to ensure that the End Stops together with the safety bolts are assembled into all rail ends in the overhead rail system.

3.5 Traverse Rail Carriers

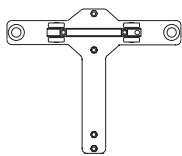


Liko has various models of traverse rail carriers for different installation solutions. It is important to choose correct width of traverse rail carriers which is based upon the distance between the primary rails in the traverse system, this in order to secure a smooth and easy movement of the secondary rail. The result of a traverse installation with traverse rail carriers that aren't wide enough is a "bumpy" asynchronous motion when moving the secondary rail.

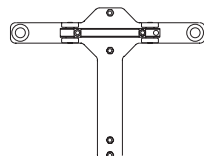
A rule of thumb: The longer the distance between the primary rails are the wider the traverse rail carriers should be.

△ Check to ensure that the End Stops together with the safety bolts are assembled into all rail ends in the overhead rail system.

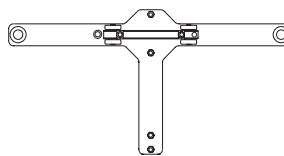
Traverse rail carriers: different in width



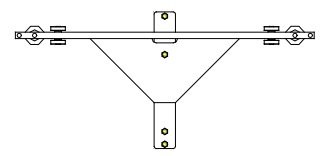
Slim



Standard



Wide

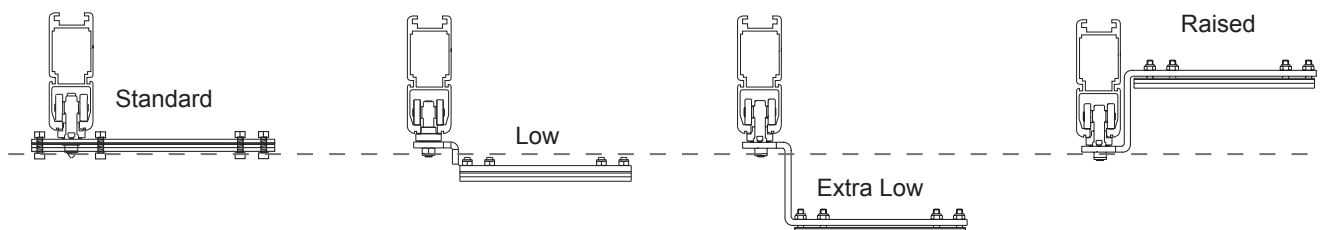


Extra wide

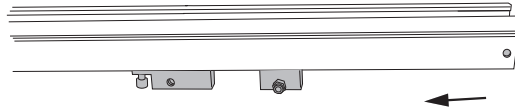
To choose correct traverse rail carrier

Traverse Rail Carrier	Distance between primary rails
Slim	$\leq 2000 \text{ mm} / \leq 78\frac{3}{4} \text{ inch}$
Standard	$\leq 3000 \text{ mm} / \leq 118 \text{ inch}$
Wide	$\leq 4500 \text{ mm} / \leq 177 \text{ inch}$
Extra Wide	$\leq 6000 \text{ mm} / \leq 232 \text{ inch}$

Other optional Traverse rail carriers ex. low - or raised profile.

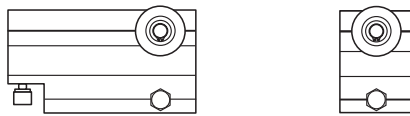


3.6 Carriages for Lift Motors

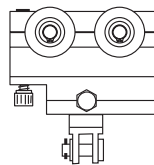
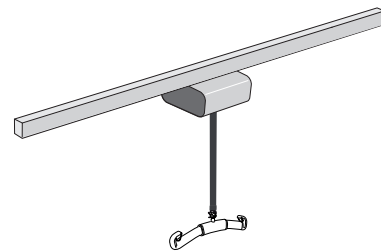


There are various models of carriages to use with Liko lift motors for instance there's carriages equipped with brake that increases the friction against the rail, thus slowing down the movement along the rail. With a Transfer Motor the movement of the lift motor along the rail is motor driven and controlled with the hand control. See examples below.

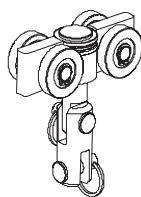
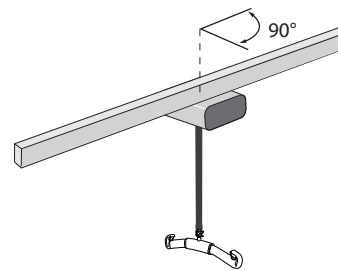
△ Check to ensure that the End Stops together with the safety bolts are assembled into all rail ends in the overhead rail system.



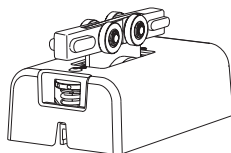
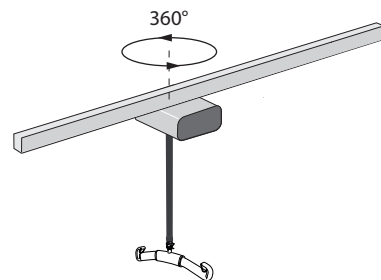
Carriage (2 piece) with brake



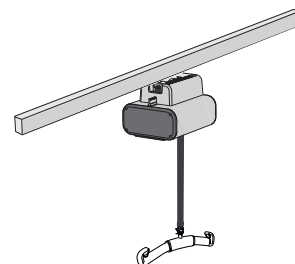
Carriage with brake for Likorall R2R
(for 90° turning of lift motor)



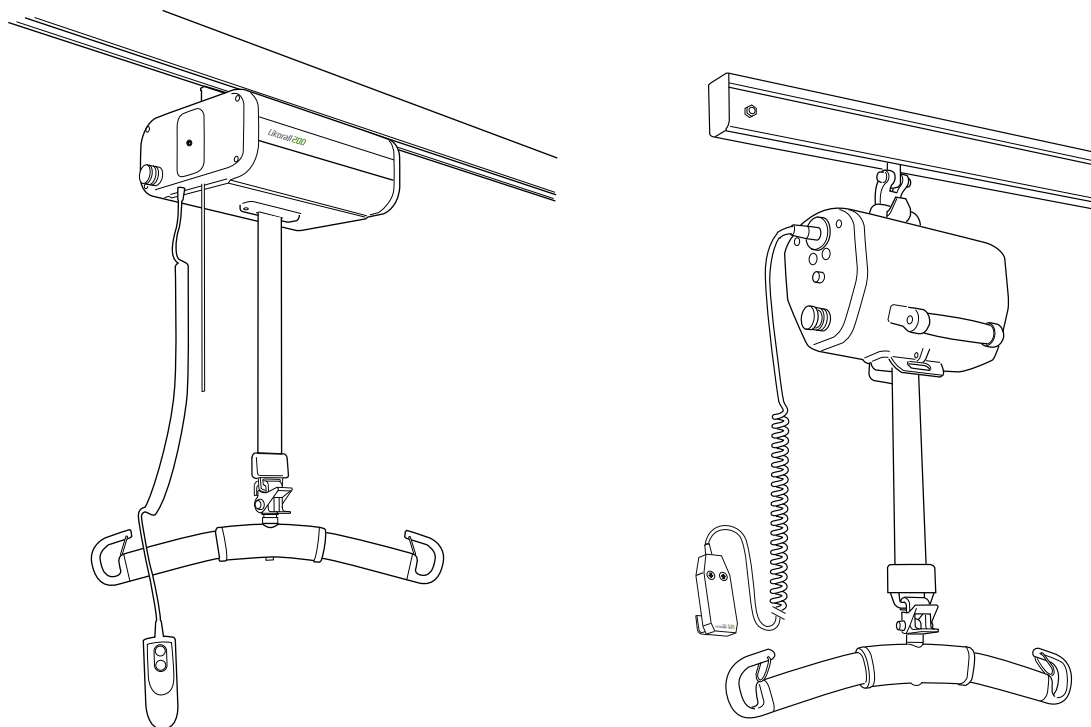
Carriage LR 360° for R2R



Transfer Motor Likorall ES



3.7 Lift Motor



The lift motor is mounted to a carriage. To the lift motor you can choose between a wide variety of accessories.

4. Fixing of Attachments

The fixing points of the installed overhead system should have a total of 4-fold tolerance compared to the highest maximum load of the system. The calculation should be on the attachment level.

Ceiling attachments to concrete:

- must have a minimum of two fixing points.
- use M10 expander bolts or a type approved fixing component with ceiling brackets or pendants.

Ceiling attachments to wooden beams:

- Liko's Threaded Steel Rod are approved as a single fixing.

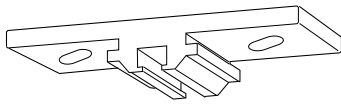
Wall attachments to concrete:

- use M8 expander bolts or a type approved fixing component with wall brackets.

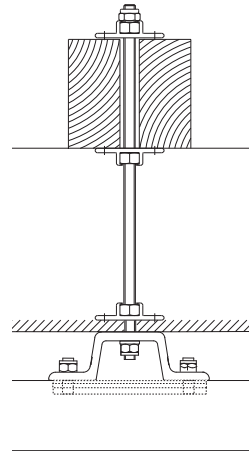
Wall attachments to wood:

- use bolts with steel quality 8.8, at minimum.

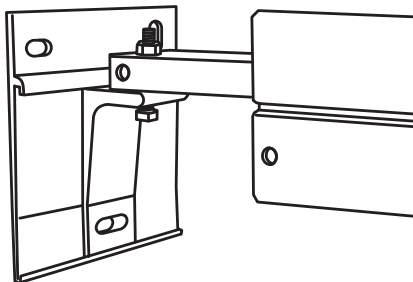
△ Fixings shall always be tighten with torque specified by the bolt manufacturer.



Ceiling bracket



Threaded Steel Rod (wooden beams)



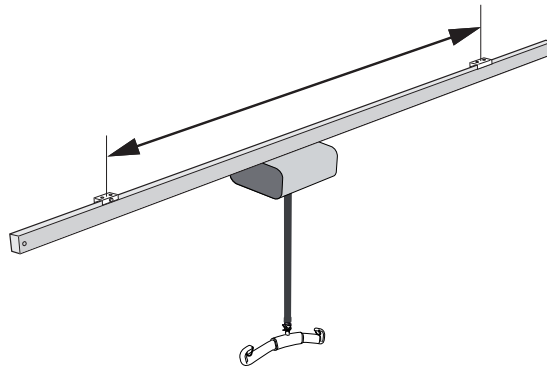
Wall bracket

5. Design Conditions

5.1 Ceiling Mounted Systems

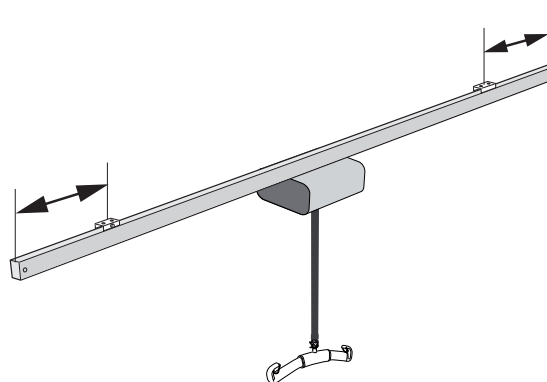
Note! Distances varies with rail profile and the maximum load for the overhead system.

Straight Rail



Maximum (c/c) distance between attachment points

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	(only for use as a suspended rail)					



Maximum distance for overhang

Overhang: distance from rail end to the centre of nearest attachment point.

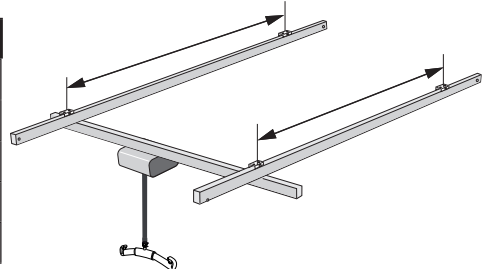
Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch
H180	(only for use as a suspended rail)					

Traverse

Maximum (c/c) distance between attachment points

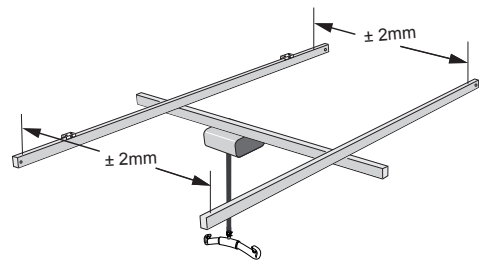
Distance varies with rail profile and the maximum load for the overhead system.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	(only for use as a suspended rail)					



Maximum (c/c) distance between primary rails

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	(only for use as a suspended rail)					



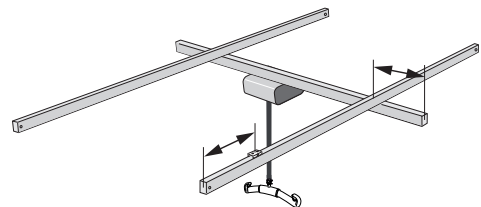
Maximum distance for overhang

Secondary rail: distance from rail end to the center of the nearest primary rail.

Primary rail: distance from rail end to the centre of nearest attachment point.

Note! Measure both ends of each primary rail (4 measurements) and both ends of the secondary rail (2 measurements).

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch
H180	(only for use as a suspended rail)					

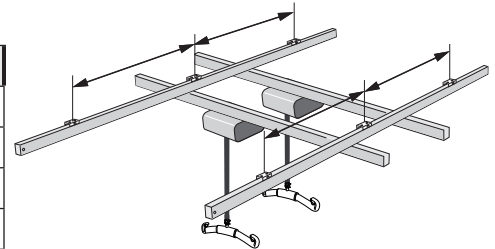


△ The distance of the secondary rail's overhang must never exceed 25 % of the distance between the primary rails.

Ultra Traverse

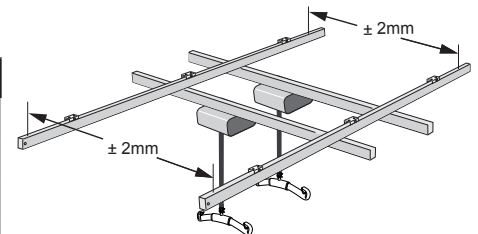
Maximum (c/c) distance between attachment points

Max. load	400 kg / 880 lbs		460 kg / 1014 lbs		500 kg / 1100 lbs	
H70	1100 mm	43 inch.	1000 mm	39 inch	750 mm	29 inch
H100	1650 mm	65 inch.	1500 mm	59 inch	1250 mm	48 inch
H140	3000 mm	118 inch.	2750 mm	108 inch	2400 mm	94 inch
H160	3700 mm	145 inch.	3400 mm	133 inch	2800 mm	110 inch
H180	(only for use as a suspended rail)					



Maximum (c/c) distance between primary rails

Max. load	400 kg / 880 lbs		460 kg / 1014 lbs		500 kg / 1100 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	(only for use as a suspended rail)					



Maximum distance for overhang

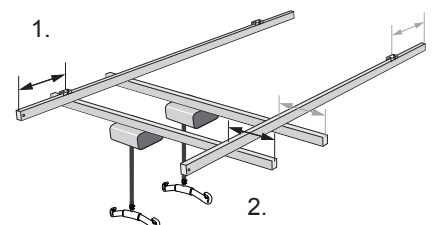
- Overhang primary rail: distance from rail end to the centre of the nearest attachment point.
Note! Measure both ends of each primary rail (4 measurements) in the system.
- Overhang secondary rail: distance between secondary rail end and the centre of its nearest primary rail. Note! Measure both ends of each secondary rail (4 measurements) in the system.

1.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	250 mm	10 inch.	225 mm	8 inch	175 mm	6 inch
H100	400 mm	15 inch.	375 mm	14 inch	300 mm	11 inch
H140	500 mm	19 inch.	450 mm	17 inch	375 mm	14 inch
H160	650 mm	25 inch.	600 mm	23 inch	450 mm	17 inch
H180	(only for use as a suspended rail)					

2.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch
H180	(only for use as a suspended rail)					

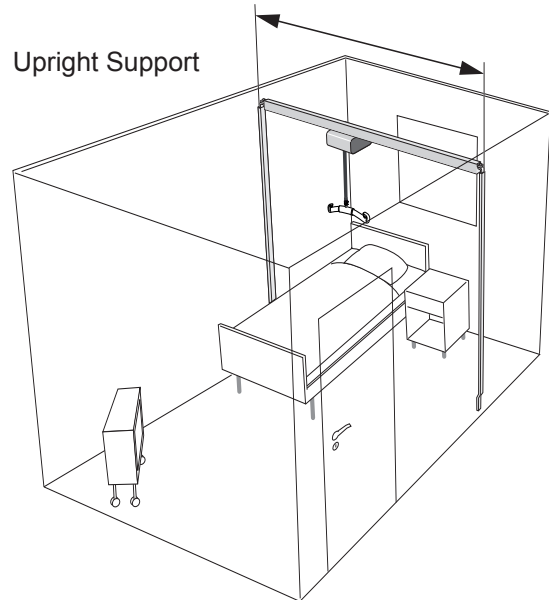
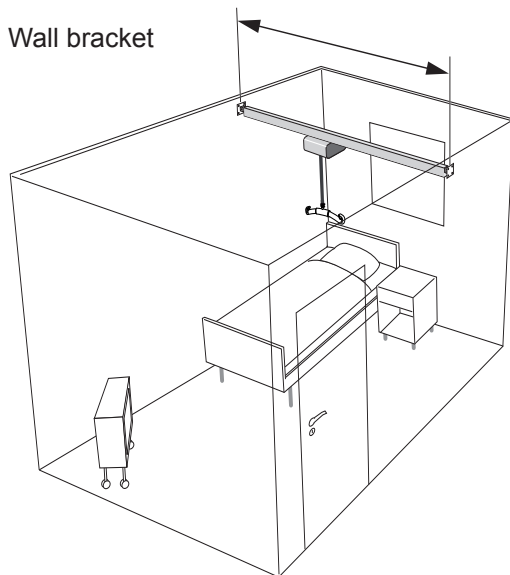


△ The distance of the secondary rail's overhang must never exceed 25 % of the distance between the primary rails.

5.2. Suspended Systems

Note! Distances varies with rail profile and the maximum load for the overhead system.

Straight Rail



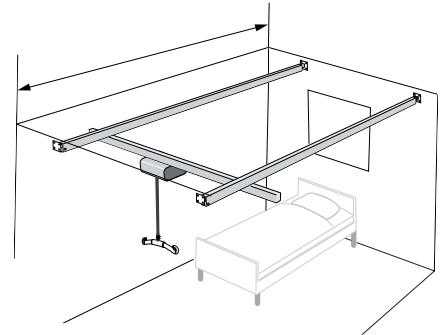
Maximum distance between walls

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	8600 mm	338 inch.	8000 mm	315 inch	6500 mm	256 inch

Traverse

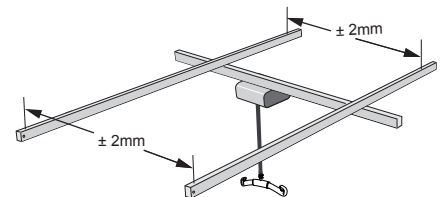
Maximum distance between walls

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	8600 mm	338 inch.	8000 mm	315 inch	6500 mm	256 inch



Maximum c/c distance between primary rails

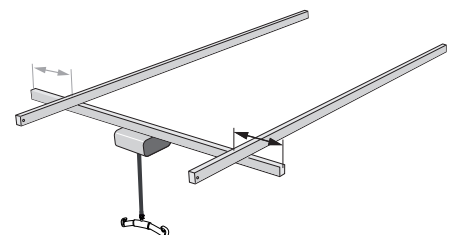
Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch



Maximum distance for overhang

Overhang secondary rail: distance between secondary rail end and the centre of its nearest primary rail. Measure both ends of the secondary rail in the system.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch

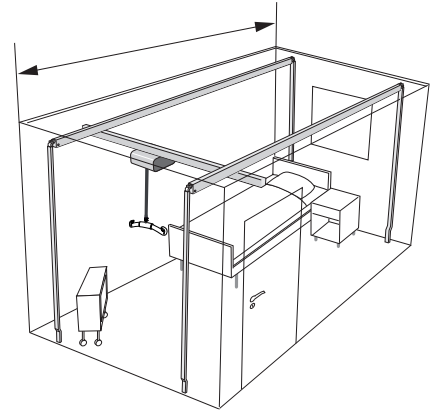


△ The distance of the secondary rail's overhang must never exceed 25 % of the distance between the primary rails.

Traverse

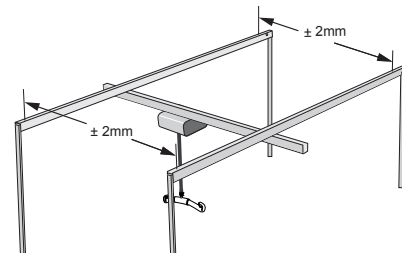
Maximum distance between walls

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	8600 mm	338 inch.	8000 mm	315 inch	6500 mm	256 inch



Maximum c/c distance between primary rails

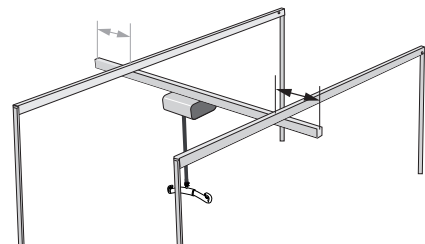
Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch



Maximum distance for overhang

Overhang secondary rail: distance between secondary rail end and the centre of its nearest primary rail. Measure both ends of the secondary rail in the system.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch



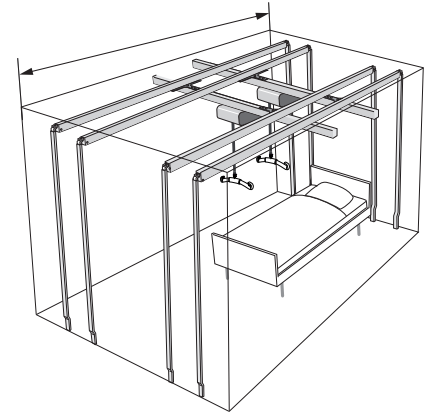
△ The distance of the secondary rail's overhang must never exceed 25 % of the distance between the primary rails.

Ultra Traverse

Note! Installed with upright supports, max. load 250 kg/550 lbs.

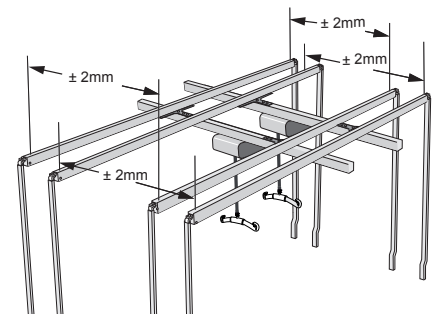
Maximum distance between walls

Max. load	400 kg / 880 lbs		460 kg / 1014 lbs		500 kg / 1100 lbs	
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch
H180	8600 mm	338 inch.	8000 mm	315 inch	6500 mm	256 inch



Maximum c/c distance between primary rails

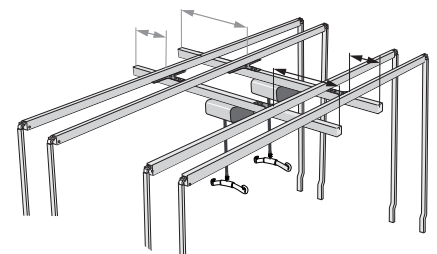
Max. load	400 kg / 880 lbs		460 kg / 1014 lbs		500 kg / 1100 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch



Maximum distance for overhang

Secondary rail: distance from secondary rail end to the center of the nearest primary rail.
Measure both ends of the secondary rail in each system.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch



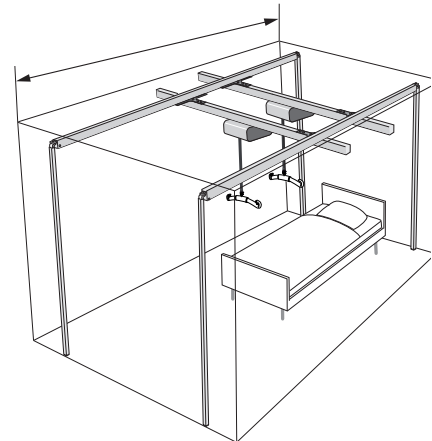
△ The distance of the secondary rail's overhang must never exceed 25 % of the distance between the primary rails.

Ultra Traverse

Note! Installed with upright supports steel, max. load 500 kg/1100 lbs.

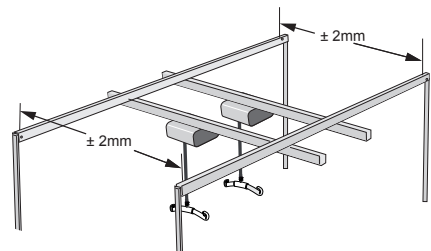
Maximum distance between walls

Max. load	400 kg / 880 lbs		460 kg / 1014 lbs		500 kg / 1100 lbs	
H100	1650 mm	65 inch	1500 mm	59 inch	1250 mm	48 inch
H140	3000 mm	118 inch	2750 mm	108 inch	2400 mm	94 inch
H160	3700 mm	146 inch	3400 mm	133 inch	2400 mm	110 inch
H180	4400 mm	173 inch	4000 mm	157 inch	3250 mm	128 inch



Maximum c/c distance between primary rails

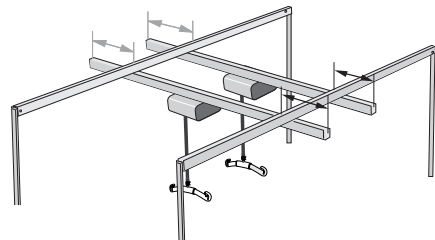
Max. load	400 kg / 880 lbs		460 kg / 1014 lbs		500 kg / 1100 lbs	
H70	2200 mm	86 inch.	2000 mm	78 inch	1500 mm	59 inch
H100	3300 mm	130 inch.	3000 mm	118 inch	2500 mm	98 inch
H140	6000 mm	236 inch.	5500 mm	216 inch	4800 mm	189 inch
H160	7400 mm	290 inch.	6800 mm	267 inch	5600 mm	220 inch



Maximum distance for overhang

Secondary rail: distance from secondary rail end to the center of the nearest primary rail.
Measure both ends of secondary rails in the system.

Max. load	200 kg / 440 lbs		230 kg / 507 lbs		250 kg / 550 lbs	
H70	500 mm	20 inch.	450 mm	17 inch	350 mm	13 inch
H100	800 mm	31 inch.	750 mm	29 inch	600 mm	23 inch
H140	1000 mm	39 inch.	900 mm	35 inch	750 mm	29 inch
H160	1300 mm	51 inch.	1200 mm	47 inch	900 mm	35 inch



△ The distance of the secondary rail's overhang must never exceed 25 % of the distance between the primary rails.

5.3 Compatibility of Liko Carriages for use with Traverse Switch

For a overhead rail system equipped with a Traverse Switch, carriages must be supplemented with End Stop LR* according to the the compatibility table below.

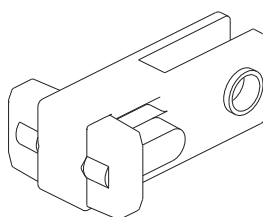
*End Stop LR (2pcs.) are included with the Traverse Switch prod. no 3124604.

Compatibility Table: See key below.

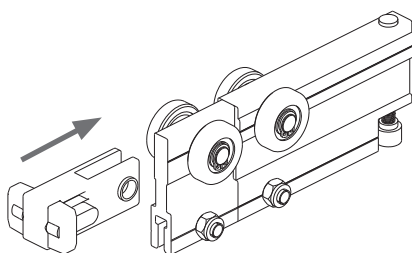
Prod. no.		3126008	3126011	3126012	3126014	3126015	3126028	3126044	3136010	3136100	3136011
Carriage		Quick-release carriage Likorall	Carriage (two pieces) with brake	Carriage (two pieces) without brake	Carriage without brake for Likorall R2R	Carriage with brake for Likorall R2R	Carriage Likorall 360° for R2R	Transfer motor Likorall ES	Carriage S50 with Single Hook	Carriage D45 with Double Hook	Carriage S65 with Single Hook
Lift motor	Likorall	2	3	4	4	2	4	1	—	—	—
	Multirall	—	—	—	—	—	—	—	4	4	4

Key:

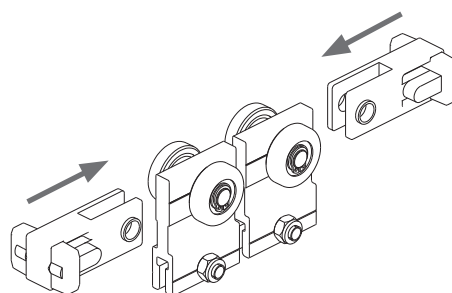
- Not compatible
- 1 Ready to use.
- 2 Not approved for travers switches.
- 3 Applyh one: End Stop LR, Trav. switch, before use.
- 4 Apply two: End Stop LR, Trav. switch, before use.



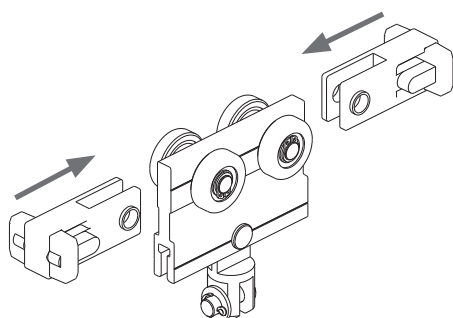
End stop LR, Trav. switch
(2 pcs.) incl. with Traverse Switch, prod. no 3124604



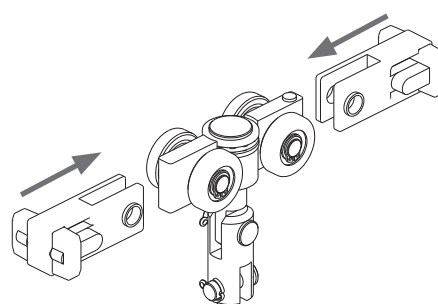
Prod. no. 3126011



Prod. no. 3126012



Prod. no. 3126014

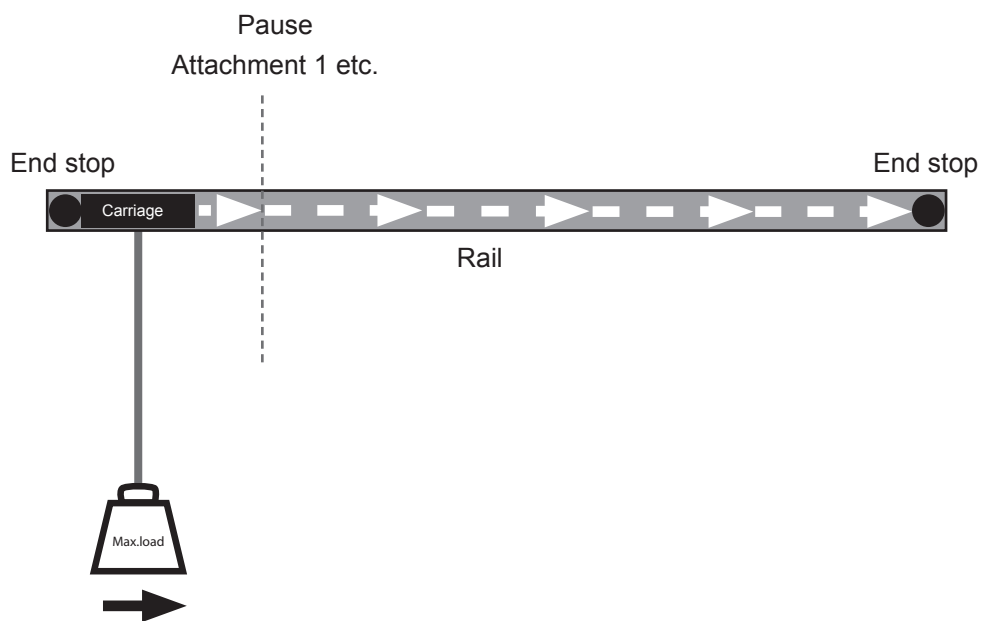
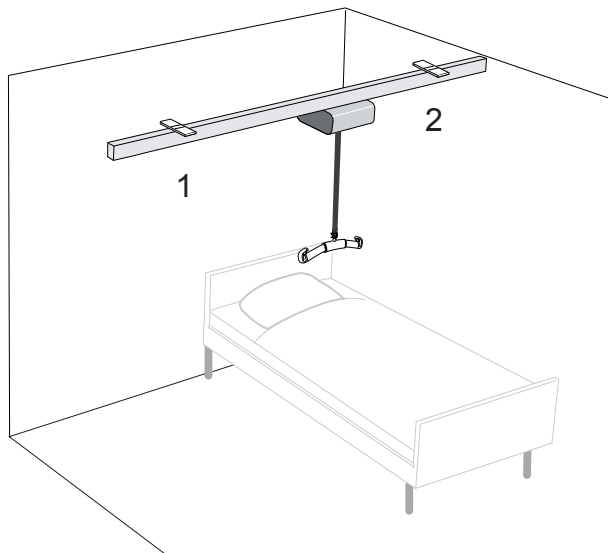


Prod. no. 3126028

6. Final Installation Procedure

6.1 Test Loading: Straight Rail System

Apply the maximum load for the overhead rail system. Travel the applied load along the rail from one end stop to the other end stop, with a pause under each attachment point. Travel as the dashed line shows.



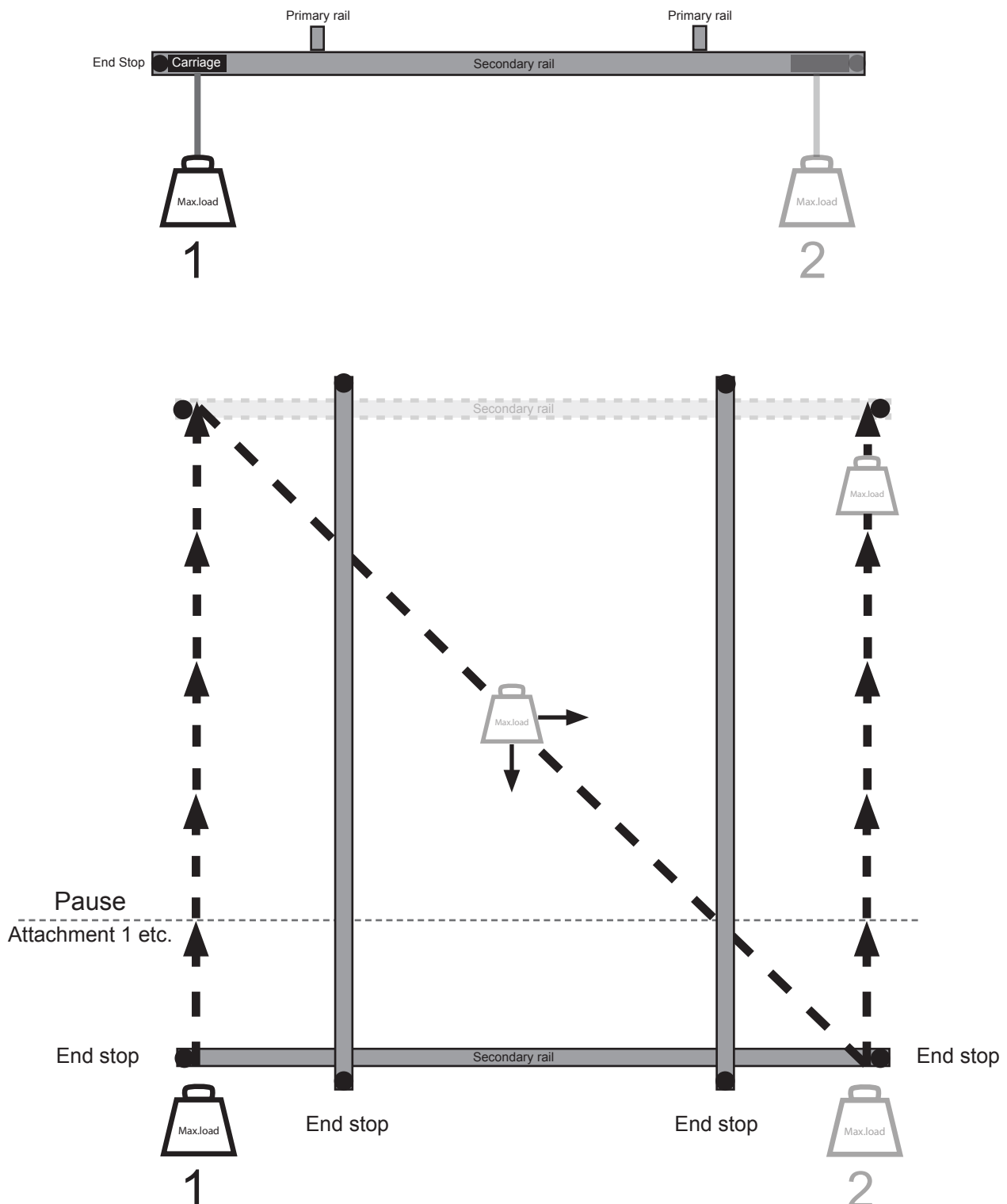
6.2 Test Loading: Traverse System

Apply the maximum load for the overhead rail system.

Place the carriage with the applied load at the end stop of the secondary rail (1). Move the secondary rail, with a pause under each attachment point, from one end stop to the other end stop of the primary rail.

Continue by moving the applied load diagonally through the centre of the system over to the other side, as the dashed line shows.

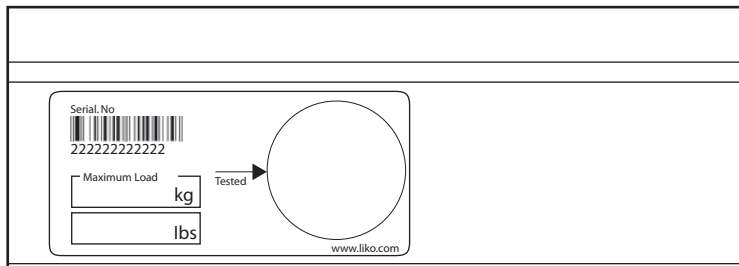
Now continue by moving the secondary rail with the applied load, from (2), with a pause under each attachment point, from one end stop to the other end stop of the primary rail.



6.3 Identification

After an approved test load procedure the overhead system is ready for identification marking. This marking is made with a decal rail marking on which the maximum load is to be stated. The decal must be placed clearly visible on the rail in the system to which the lift motor is attached.

Decal rail marking



6.4 Installation Certification

The installation certification is the last performance in order to finish the installation of the overhead rail system. The installation certificate has to be performed by installation personnel authorized by Liko.

3EN903001-03



A Hill-Rom Company

Installation Certificate

Order No:
Customer address:

Customer's No:
Installation address:

Overhead Lift System

Maximum Load	kg	lbs.			
					Installation to: Concrete ceiling Wooden ceiling Wall: suspended Upright support: suspended
					Serial No.
					Location
Straight-rail system					
Curve system					
Traverse system					
Switch system					Concrete ceiling

Checklist

	Checked
1. Attachment	
1.1 Ceiling bracket	<input type="checkbox"/>
1.2 Wall bracket	<input type="checkbox"/>
1.3 Upright support	<input type="checkbox"/>
1.4 Screw joint	<input type="checkbox"/>
2. Rail System	
2.1 Primary rails / Secondary rails	<input type="checkbox"/>
2.2 Traverse rail carrier / Transfer motor traverse	<input type="checkbox"/>
2.3 End stop	<input type="checkbox"/>
2.4 Screw joint	<input type="checkbox"/>
3. Lift Motor	
3.1 Attachment carrier	<input type="checkbox"/>
3.2 Lifting area	<input type="checkbox"/>
3.3 Lift strap / Attachment sling bar	<input type="checkbox"/>
3.4 Hand control	<input type="checkbox"/>
4. Safety Advice	
4.1 Emergency lowering	<input type="checkbox"/>
4.2 Safety latches	<input type="checkbox"/>
5. Electronic	
5.1 Cables / Connections	<input type="checkbox"/>
5.2 Battery / Charging features	<input type="checkbox"/>
5.3 Emergency stop	<input type="checkbox"/>
6. Test Loading	
6.1 Test Loading performed	<input type="checkbox"/>
7. Documentation	
7.1 Decal Rail Marking	<input type="checkbox"/>
7.2 Instruction Guide	<input type="checkbox"/>

Lift Motor

	Serial No.	Year of mfr.
Likorall 240/242 S <input type="checkbox"/> ES <input type="checkbox"/> R2R <input type="checkbox"/>		
Likorall 243 <input type="checkbox"/>		
Likorall 250 <input type="checkbox"/>		
Likorall 200 <input type="checkbox"/>		
Multirail 200 <input type="checkbox"/>		
Other: <input type="checkbox"/>		

Notes:

Installation is performed by an installer educated by Liko, in accordance with Liko Installation Instructions and with Liko original parts. Liko's rail system therewith complies with the requirements according to ISO 10535.

Separate description of Installation, according to appendix 1: Yes ☐ No ☐ **Installation can be used:** Yes ☐ No ☐

Inspection performed by authorized Liko installer: _____ **Date:** _____

Clarification of signature: _____