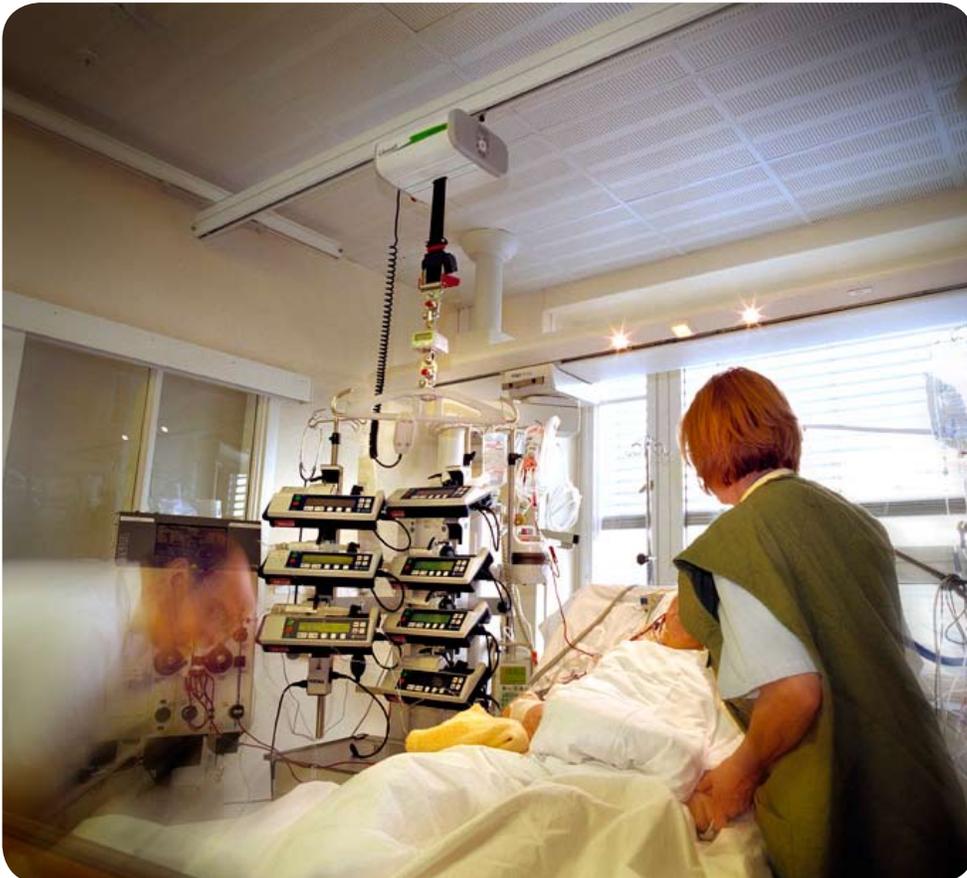


# BASICS OF OVERHEAD LIFTING



For Architects, Engineers,  
Constructors and Equipment planners







# The ideal combination of equipment and technical services

There are several critical factors to consider when planning an overhead lift system, including design flexibility, breadth of product line, experience, and depth of support services. Liko has the people, experience, technical support and track record to help you design and engineer the optimal overhead lifting system for new or existing healthcare facilities.

## A WORLD LEADER

Liko is one of the leading global manufacturers of overhead lifting systems. With Liko, you can be assured of adherence to the highest standards of quality and safety. We are quality certified to ISO 13485 and ISO 9001, environment certified to ISO 14001, and our products fulfill the requirements for ISO 10535, medical technical standard for patient lifts and slings as well as many other national or regional certifications and requirements.

## UNSURPASSED EXPERIENCE

Liko has more than 25 years of experience in the design, manufacture, and installation of overhead lifting systems. Our specialists can provide all the support you need, from consultation on suggested layout options to finished Computer Aided Drafting drawings. Plus, our unique partnership approach will help ensure the ultimate satisfaction of your clients and end users.

## UNMATCHED PRODUCT RANGE – FROM PEDIATRICS TO BARIATRICS

Contrary to what many may believe, patient handling equipment isn't only needed for bariatric patients... it's now used throughout healthcare to ensure that transfers are safe for all caregivers and patients. Research shows that virtually all patient lifting and repositioning tasks increase the risk of injury. From pediatrics to bariatrics, Liko's pioneering family of overhead lifting systems will put your project at the forefront of safe lifting technology.

## UNEQUALLED MOUNTING FLEXIBILITY

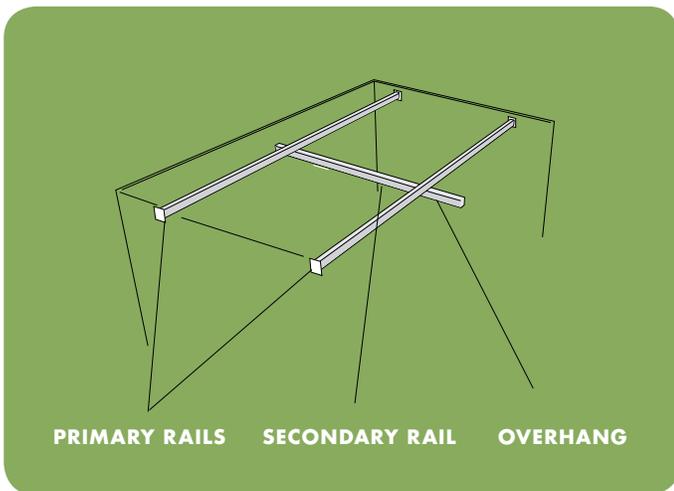
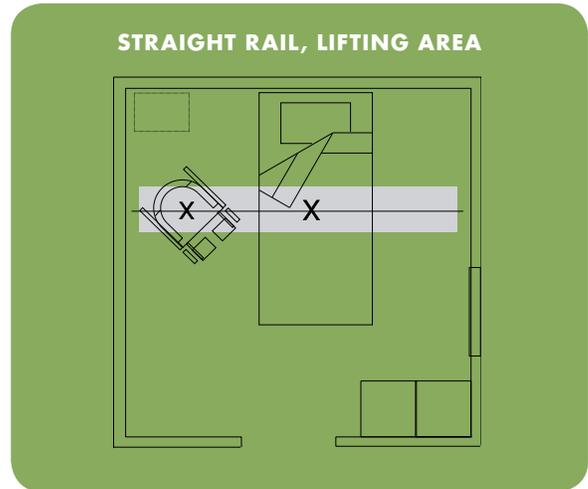
Liko's overhead lift systems can be installed virtually anywhere, in any material, in facilities ranging from retrofits to the rooms of tomorrow. Whether in concrete, wooden roof trusses, laminated wooden beams, or against walls, Liko has a range of options that will simplify your job and ensure the safety and comfort of patients and caregivers.

Before you begin planning to install overhead lifts, it can be useful to understand some definitions and simple facts which help in choosing a solution.

## Straight rail or traverse?

The area where you can carry out a lift is called the lifting area (see the shaded area to the right). A larger lifting area means greater flexibility and greater risk protection – but a large lifting area is not always necessary.

With a straight rail the lifting area is directly below the rail while a traverse system can cover greater parts of the room.



## Rail System

Liko has a broad range of lift rails, for all needs. All of the rails are the same width 2 1/2" (or 53 mm) and come in several different heights, from 2 3/4" (or 70 mm) to 7 1/2" (or 180 mm), in order to suit various span requirements. The photo to the right shows a rail which is suspended in the false ceiling.

### FIXTURES

Thanks to an extensive range of fixtures, Liko's products can be fixed to all materials – the optimum solution can always be chosen.

For example, you can attach the rail system:

- directly to the ceiling using particular fixtures and/or pendants,
- the lift rail can even be fixed directly against the wall or,
- with support legs which the photos to the right show.



# Likorall

Likorall is perhaps the world's most widely used patient lift. Every day it lifts tens of thousands of people and saves just as many backs. User-friendliness, robust safety considerations and well-thought-out design have made Likorall highly valued among caregivers and users.

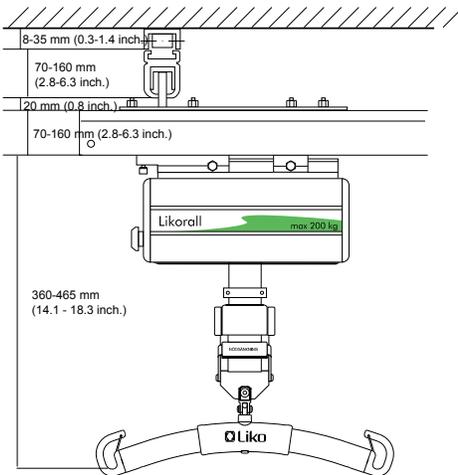
The combination of unique technology, reliability and easy service make Likorall a very wise choice for every purchaser.

Important qualities:

- Patented safety drum, SFS, with controlled lowering
- Pinch Guard, SSP, Safety Squeeze Protection
- Lift strap with a tenfold safety margin
- Wide range of models



Always there when you need it



## ADJUSTABLE MEASUREMENTS

The illustration shows an example of the adjustable measurements in an installation using Likorall in a traverse solution.

Of course, the measures can be considerably more or less than those shown in the example. Contact us for a proposal of how an installation solution might look in your specific case.

# Multirall

The key to Multirall's flexibility is Liko's Quick-release Hook system. Multirall is as suitable for occasional lifting needs as it is for the longer term.

As a simple portable overhead lift Multirall is unbeatable, without compromising on safety and functionality.

Important qualities:

- Flexible lift which can be used in different ways.
- Easily portable, no tools needed.
- Secure integrated safety system.



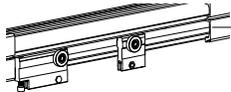
An overhead lift for flexible needs

# Straight-rail on Slimline Upright Supports

Following are commonly occurring installation examples. If you are interested in seeing more examples please visit [www.liko.com](http://www.liko.com) or contact us.

## CARRIAGES FOR LIFT MOTORS

The Likorall motor is mounted onto the rail with easy-rolling carriages, inserted inside the rail. Some carriages are equipped with friction brakes, which make it possible to dampen the lift motor's speed.



## SLIMLINE UPRIGHT SUPPORTS

Installation with Slimline Upright Supports is a good option when the ceiling and the walls can't bear the weight from the rail system. If you are the least uncertain of the material of the ceiling and the walls, Slimline is the safest installation alternative. Installation with Slimline affects the building minimally, and it can easily be restored to its previous state when the rail system is removed. Since the rail is freehanging (only attached in the ends), rail profile H100 or higher is required, depending on the span of the rail.

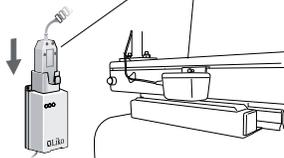
## END STOP AND SAFETY BOLTS

The adjustable end stop is a vital safety detail which apart from damping the lift motor's movement at the end of the rail, can also be used to restrict the motor's range of movement.

At the end of the rail there is a safety through bolt which is fixed with lock nuts.

## CHARGING

The lift motor can be charged by placing the hand control in the wall-mounted charger. To charge the lift motor at the desired place along the rail, simply use a Multi Station connected to a power source. Charging is done by parking the lift motor, equipped with transfer motor or contact rail, below the Multi Station.

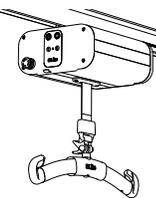


## CEILING RAIL

Available in several different profiles from 2 3/4" to 7 1/12" (70 to 180 mm) in height (H70-H180). The profile's height determines the rail's carrying capacity, and therefore the number of fixing points along the rail. Available in white or natural aluminium. Comes with a cover at both ends.



## LIFT MOTOR (LIKORALL)



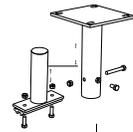
Likorall is one of the world's most widely used lift motors and is compatible with a complete program of rail gears, charging systems, transfer motor and more. There is a clear focus on safety with in-built safety drum system with controlled lowering, lift strap with a tenfold safety margin, slingbar with safety latches, mechanical and electrical emergency lowering and more. The lift motor needs to be fitted with a carriage for the rail system (see separate point), slingbar, hand control and suitable charging system.

# Traverse on pendants in concrete

## PENDANTS

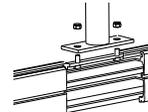
*(adjustable 300-1200 mm)*

Installation using pendants is appropriate for high ceilings and when there is a suspended ("false") ceiling. When there are obstacles in the ceiling, for example, heating ducts or sprinklers, pendants are a suitable solution, because the rails then can be suspended below the ceiling. Pendants longer than 1' 7" (500 mm) require side supports in order to counteract any swaying. The pendants are fixed into the concrete ceiling using four bolts.



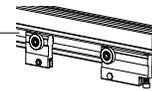
## FIXING THE RAIL

The rail is mounted in the pendant using a locking rail which is inserted into a particular track in the rail. The fixing points have a four-fold safety margin, which means that they are designed to support 2,200 lbs (1,000 kg).



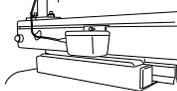
## CARRIAGES FOR LIFT MOTORS

The Likorall motor is mounted in the rail using two easy-rolling carriages, inserted inside the rail. The front carriage has an adjustable friction brake which makes it possible to dampen the lift motor's speed along the rail's drive direction.



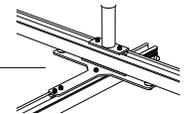
## CHARGING

The lift motor can be charged by placing the hand control in the wall-mounted charger. To charge the lift motor at the desired place along the rail, simply use a Multi Station connected to a power source. Charging is done by parking the lift motor, equipped with transfer motor or contact rail, below the Multi Station.



## TRAVERSE CARRIERS

Choosing a traverse carrier is determined by the length of the secondary rail and the distance between the primary rails. A rule of thumb is the greater the distance between the primary rails, the broader the traverse carriage.



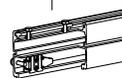
## CEILING RAIL



Available in several different profiles from 2 3/4" to 7 1/2" (70 to 180 mm) in height (H70-H180). The profile's height determines the rail's carrying capacity, and therefore the number of fixing points along the rail. Available in white or natural aluminium. Comes with a cover at both ends. The Primary rails are the rails which are permanently fixed and the Secondary rails are the moving traverse rails onto which the lift motor is mounted. The Secondary rails are mounted in the Primary rails with Traverse carriers.

## END STOP AND SAFETY BOLTS

The adjustable end stop is a vital safety detail which apart from damping the lift motor's movement at the end of the rail, can also be used to restrict the motor's range of movement. At the end of the rail there is a safety through bolt which is fixed with lock nuts.



## LIFT MOTOR (LIKORALL)

Likorall is one of the world's most widely used lift motors and is compatible with a complete program of rail gears, charging systems, transfer motor and more. There is a clear focus on safety with in-built safety drum system with controlled lowering, lift strap with a tenfold safety margin, slingbar with safety latches, mechanical and electrical emergency lowering and more. The lift motor needs to be fitted with a carriage for the rail system (see separate point), slingbar, hand control and suitable charging system.



**CONTACT US – NO MATTER HOW LARGE OR SMALL YOUR PROJECT**

All our customers agree – the end result is better the earlier we enter the process. By offering free consultation the system’s functionality becomes better, end users are more satisfied and you also get a solution which suits need as well as economy. With Liko, you’ll get...

EXPERT PERSONAL ASSISTANCE

Rely on certified specialists who have years of experience working with architects, construction companies, planners, and installation subcontractors

HELP IN CHOOSING THE BEST SOLUTION

Work with seasoned professionals to ensure the safest possible solution for both patients and staff, and the most cost-effective solution for you.

SUPPORT FROM START TO FINISH

Look to your Liko overhead lift support team to help solve every problem, no matter how large or trivial it may seem.

[www.liko.com](http://www.liko.com)

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Fax: 508-528-6642  
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