



# Actuator systems for operating tables

Power, precision, and smooth movement in advanced surgery applications



# Operating with precision, power, speed, and profound flexibility

As treatment in hospitals gets more and more advanced, the requirements to modern medical equipment increase in number and complexity. Precise movement patterns, multiple memorised positions and not least – sufficient power and strength to operate unaffected by heavy loads. Those are factors healthcare professionals must trust, in order to deliver efficient surgery and treatment.

## Flexible solutions for individual needs

The LINAK® product range is quite extensive. This is no coincidence. From 35 years of experience we know that no two solutions are alike. Needs vary with the specialties of each hospital. When it comes to advanced medical equipment, LINAK offers a broad variety of solutions covering complex movement, precise and intuitive control, and a wealth of value adding features. All this makes it possible for you to design the exact application requested, e.g. an operating table or a surgery chair.

## Smooth movement in advanced patterns

Electric actuator systems from LINAK are signified by smooth and low-noise adjustment. LINAK OpenBus™ in combination with LINAK CO-Link™ makes it possible to combine up to eight different actuators and create an almost endless number of smooth and precise movement patterns. The lifting column LC3 and actuators such as the LA40 HP, LA31, and LA20 ensure you have the power needed to position even very heavy loads.

## LINAK is more than a product supplier

For decades, the recipe for success at LINAK has been listening to our customers. We are more than a product supplier, offering you collaboration through the application development phase, testing and integration. From our more than 30 local offices across the world we offer continuous support and service – also after the project has been implemented.

*“We pride ourselves on being experts in electric actuator technology. Over the last 30 years, we have learned that no two applications are alike and our customers’ needs vary a great deal. To be the best manufacturer we can be, and to meet their specific needs, we believe it is important to work hand in hand with our customers to further develop our wide range of products.”*

- David Genske  
Director MEDLINE® & CARELINE®, LINAK US

LINAK offers service  
worldwide

Please contact your local LINAK office with  
your enquiry.



# Always strong and reliable movement

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Surgeons and other specialised healthcare professionals need to be able to fully trust their operating table. A combination of power, precision, and control of complex movement patterns is required – not only to support quality treatment and patient safety, but also to optimise ergonomics and general efficiency in the operating room.

The broad product range makes the number of LINAK® system combinations almost endless. The compliance of our products with required norms and standards, makes it easier for you to obtain the necessary approvals.

## The lifting columns

No doubt the lifting column LC3 is one of a kind. With a push of up to 6,000 N, a 4,000 N pull, and an extremely high bending moment this column moves anything – heavy loads as part of an advanced operating table standing on the floor or carrying equipment hanging from the ceiling above.

## The linear actuator series

The LA40 HP is a powerful actuator able to deliver a 400 mm push of 8,000 N full-stroke. At 6.5 mm/s this strong actuator means precise positioning at high speed. Utilising actuators such as the LA31, you obtain precision movement in both push and pull functions. The small inline actuator LA20 offers adjustment where space is limited or elegant design matters.

## The control box series

Our control boxes are the brain of our systems, housing several of the intelligent safety features. Position feedback and ensure safe use and flawless performance. The LINAK OpenBus™ series CO41, CO61, and CO71 house the customised software making the most advanced movement possible.

Together with the LINAK Port Junction box PJ2 it is possible to offer two extra channels (channel 5 and 6) for the CO-box series.

## The battery series

The Li-Ion batteries help deliver ample power to provide constant speed and reliable performance. They are making workflows smooth for care staff too. Li-Ion batteries, such as the BA21, are also eco-friendly.

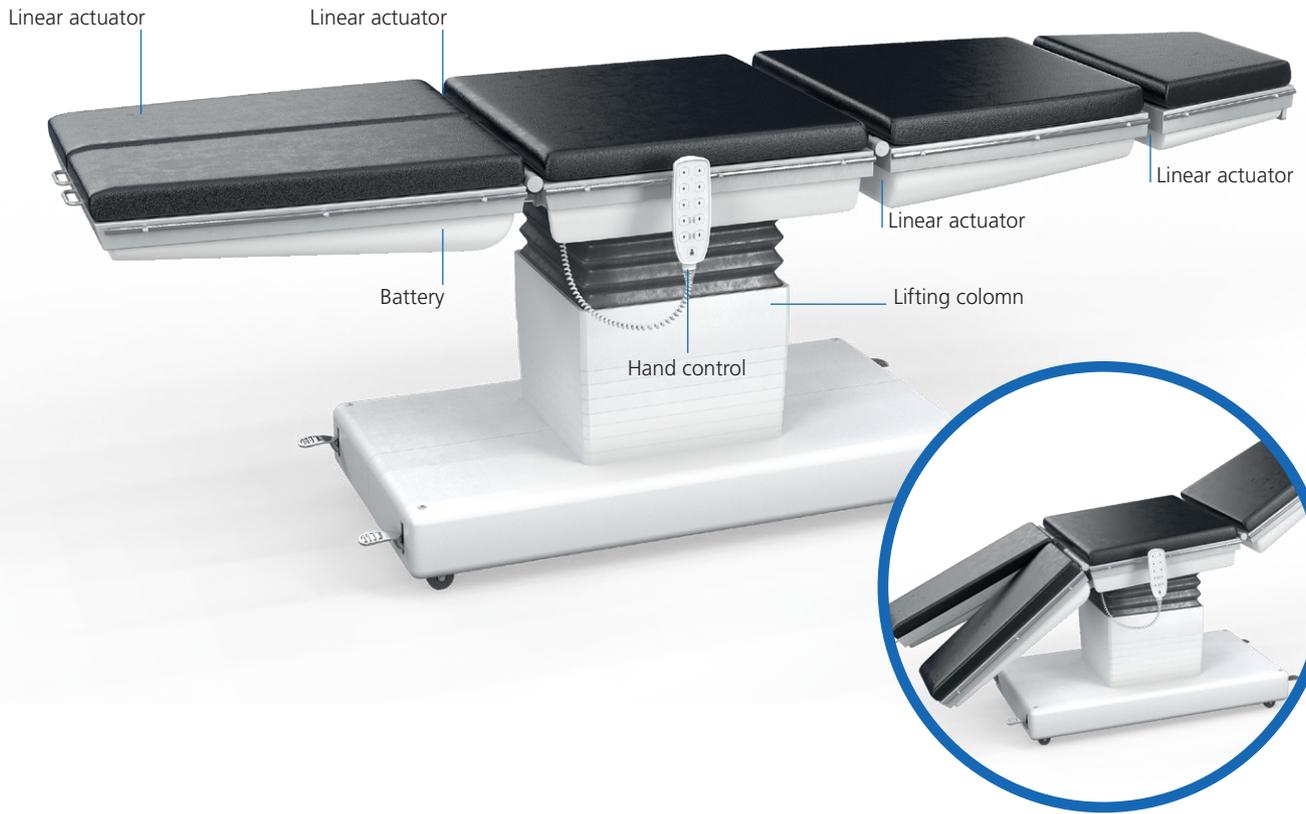
## The hand control series

Informative and intuitive interface controls such as the HB80 or ACO ensure performance perfection. Controlling the advanced movements are all at your fingertips.

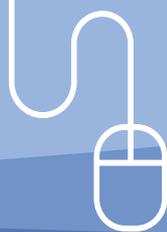
## LINAK SDT - a Service Data Tool

SDT is an accessory to your actuator system. It enables you to read status/service data from your system about wear and tear and offers information about battery status – altogether ensuring that the operating table is fully functional at all times.





Go to our website for more information about our products for the operating tables and surgery chairs.



# Products for operating tables and surgery chairs

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## Lifting column



### LC3

- Max thrust: 6,000N
- Max speed: 29.0 mm/s in 4,000N
- Max speed: 18.0 mm/s in 6,000N
- IPX6

## Linear actuators



### LA40 HP

- Max thrust: 8,000 N
- Max speed: 20.0 mm/s
- IPX6 Washable DURA™



### LA20

- Max thrust: 2,500 N
- Max speed: 8.9 mm/s
- IPX6

## Linear actuators



### LA23

- Max thrust: 2,500 N
- Max speed: 22.0 mm/s
- IPX6



### LA31

- Max thrust: 6,000 N push (4,000 N pull)
- Max speed: 32.0 mm/s
- IPX6

## Accessories



### BA21

- Li-Ion battery
- Capacity 2.25 Ah
- IPX6 Washable DURA™

## Li-ion batteries - extended battery life

- savings up to 40% compared to lead acid batteries
- 4 times more battery life compared to lead acid batteries
- low environmental impact
- high performance
- low weight
- less waste

# Products for operating tables and surgery chairs

## Control boxes



### C041

- 4-channel, OpenBus™
- Power: 120 W Switch Mode Power Supply
- IPX6 Washable DURA™



### C061

- 4-channel, OpenBus™
- Power: 200 W Switch Mode Power Supply
- IPX6 Washable DURA™



### C071

- 4-channel, OpenBus™ with Bluetooth®
- Power: 350 W Switch Mode Power Supply
- IPX6 Washable DURA™



### PJ2

- 2-channel port extension
- Functionality like control box
- IPX6 Washable DURA™

## CO-Link™



CO-Link™ is a LINAK concept allowing you to double the number of channels in your actuator system. It will operate with twice the power, and even allow you to control all of it with the same (single) hand control.

- Up to eight channels and more power (2 x 200W)
- Simple set-up with cables and a piece of customised software
- Easy logistics using products you already have

## Controls



### HD80

- OpenBus™
- Up to 12 buttons, lockable
- IPX6 Washable DURA™



### ACO

- OpenBus™
- Up to 20 buttons
- IPX6 Washable DURA™



### ACC

- OpenBus™
- Up to 11 buttons, lockable
- IPX6

# Increase efficiency in the operating room

Advanced medical procedures, such as surgery, demand steadiness, and precision. A LINAK® powered operating table fully supports this and ensures optimal working conditions for healthcare professionals. Efficiency is key to keep patients anaesthetised as shortly as possible and for surgeons to keep up with the growing number of patients.

A modern operating table or surgery chair needs to be intuitive to operate and easy to use, offering patients a maximum of comfort and healthcare professionals optimal ergonomics, a higher level of efficiency, and a wealth of options for setting memorised positions.

That is why LINAK actuator systems for healthcare applications come with several safety features, such as:

- mechanical end-stop
- safety-nut
- ratchet spline
- self-lock

LINAK also strives to accommodate professionals in numerous ways:

- hand controls, such as the HB80, are suitable for operating tables
- control panels, like the ACO and the ACC, offer healthcare professionals full control over advanced functions
- Li-Ion batteries are very reliable
- Service Data Tool helps plan maintenance to ensure full performance



## Did you know?

The number of medical doctors in hospitals per 100,000 inhabitants:

The lowest score is in Belgium with only 58.4 doctors in hospitals (per 100,000 inhabitants). At the other end of the scale, Denmark has one of the highest scores with 272.6. By comparison, Germany has 199.5, France 188.9 and Finland 140.5.

Source: Numbers from 2015. [ec.europa.eu/eurostats](http://ec.europa.eu/eurostats).  
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# Resting on the pillars of the LINAK values

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Due to modern production automation and a thorough testing programme, LINAK is decades of experience, a broad product range, and a consistent high quality. Combined with our global presence and our comprehensive local market insights, these assets form your shortcut to full compliance in your market.

We have a well-developed sales and service set-up covering Europe, the Americas, Asia, and Australia. This enables us to assist you locally, following our sales concept: Be global, act local!



Built on state-of-the-art technologies and refined processes by competent people, you can expect the same quality worldwide.



Innovation is in our core. We have the curiosity to think innovatively and the power to make it real on all levels.



We are responsible in what we do – towards customers, employees and environment. Creating trust and taking care is in our DNA.



From global presence to local understanding. We believe in world-wide support and being close to our customers.

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