



Focus on  
**marine**

# Understanding your needs

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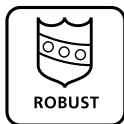
From small motor boats over sailboats to luxury yachts, regardless of the type of your boat, LINAK® can help you with all kinds of movements by offering high-quality electric actuator solutions.

When your customers step onto their floating palace they expect luxury living and custom comfort. If you want to offer a level of customisation that will set your boat apart from all others, LINAK can help you in your quest for the perfect shipbuilding.

For maritime applications it is often critical that products work under extreme conditions. LINAK actuators are very suitable to use in harsh conditions with corrosive environments and variable weather as well as temperatures where they provide high control and simple operation of the application. Even in these environments the actuators do not need maintenance.

## So what can LINAK do for boat builders?

- Supply reliable products specially designed for harsh conditions
- Be a one supplier of complete actuator solutions for almost any requirements
- Provide maintenance-free products with a long lifetime
- Offer a broad product range – for all demands, also stainless steel solutions
- Offer ignition protection certified actuators
- Offer a high degree of flexibility
- Offer plug and play solutions for easy installation
- Offer a close cooperation with our sales and application engineers represented in more than 30 countries
- Offer a worldwide network of aftersales service



## Robust and powerful

LINAK products are reliable products, made to last! High quality is the trademark of LINAK, and an element of the highest importance to us.

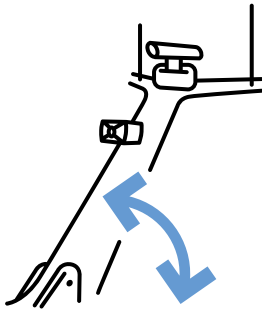


# What LINAK actuators do for marine applications

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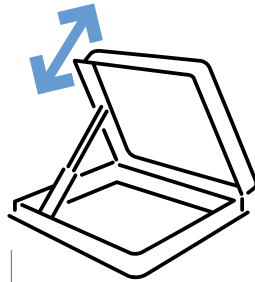
For marine boats and yachts LINAK® actuators offer a wide range of possibilities, both for indoor and outdoor use. Easily operate exterior applications such as ladders, ventilation systems, valves, engine hatches, storage access doors or interior applications such as beds, the captain's chair, TVs;

anything that requires an extension or a retraction adjustment. Actuators even make it easy to perform regular maintenance of your watercraft. Check out some application ideas here.



## Radar arches

Easily collapsing or raising arches by use of a built-in actuator

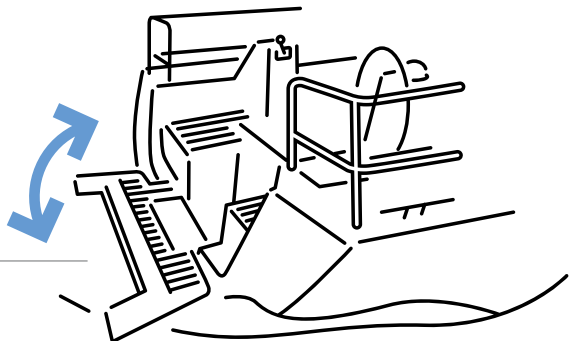


## Boat hatches

Opening and closing of hatches for easy access to e.g. the engine compartment or storage spaces

## Bathing platform

Easily lowering or raising the bathing platform on a sailboat for direct and safe access to the water



## TWINDRIVE® - electric adjustable beds

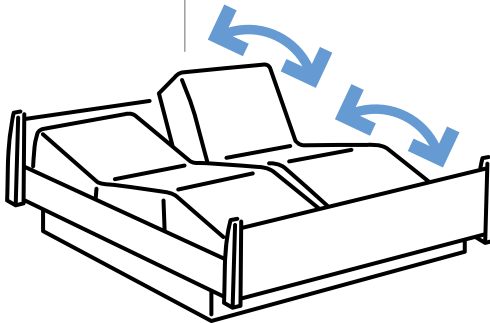
Take comfort to the next level with a relaxing adjustable bed. Smooth and quiet adjustment. With RF control and vibrating massage option



### TD3 features:

- RF based handsets as standard, with memory function
- Unique motor system ensuring high force on the bed
- Emergency lowering
- Exchangeable mains cables, even with mains cut-off
- Wide range of accessories

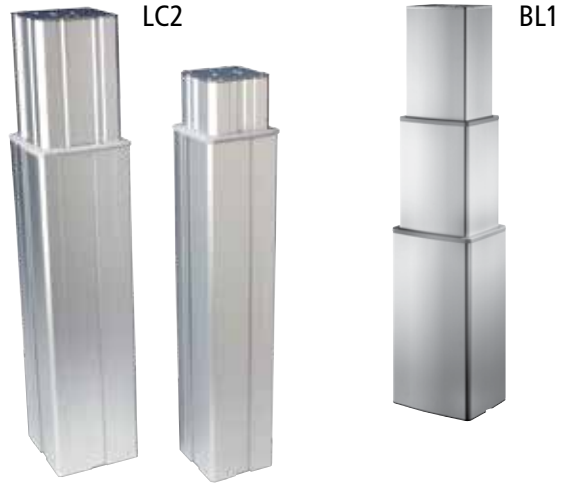
Box spring beds



# Diversify by offering posh on-board comforts

## Lifting columns LC2 and BL1- guidance and lift in one package

Elevate a coffee table to the ideal dining height or extend a countertop to increase workspace

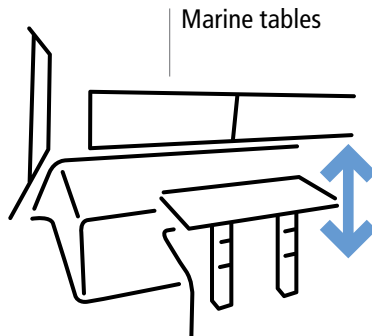


### LC2 features:

- Built-in limit switches
- Low noise level
- Indoor use
- Speed: Up to 18 mm/sec
- Stroke: 500 mm
- Thrust: 5,000 N

### BL1 features:

- Built-in limit switches
- Low noise level
- Indoor use
- Speed: Up to 46 mm/sec
- Stroke: 400 mm
- Thrust: 2,000 N



## Lifting column DL2 - strong stability

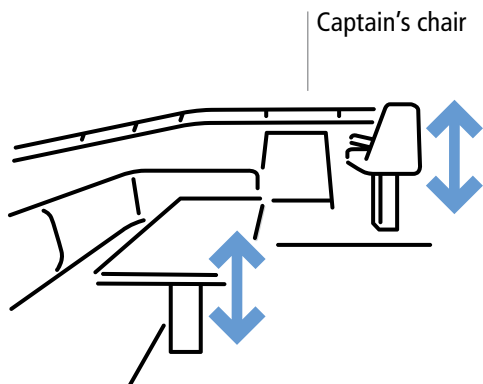
For a perfect view at the helm:  
raise, lower, recline and even  
move the captain's chair closer  
to or further away from the  
controls

DL2



### DL2 features:

- Built-in limit switches
- Low noise level
- Indoor use
- Speed: Up to 20 mm/sec with CBD4
- Stroke: 500 mm
- Thrust: 2,500 N



# Move for the future

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Step into the future world of movement and enhance your competitive edge.

Do you want cost-effective performance, innovative technology and a competitive edge?

***Go for IC™ and Move for the Future™***





# IC movement for marine boats and yachts

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IC is the range of integrated control options for TECHLINE® actuators that present you with almost unlimited possibilities for superior control and monitoring, to enhance the value and performance of your application.

For boats and yachts, actuators with IC provide cost-effective performance and innovative technology:

- Simple installation with built-in electronics.
- Easy overview and precise control of the actuator movement.

- The actuator can be customised on site to fit multiple solutions in a single application.
- Easy monitoring of the actuator's condition which ensures a minimum of downtime.
- All IC options are based on the same well-tested interface, which is covered by the actuator's IP degree.

If you are looking for a movement solution that will help you stay competitive in the future, then go for LINAK actuators with integrated controller, and Move for the Future.

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## Integrated Controller:

- Customisable feedbacks
- Parallel movement
- BUS communication



For more information on IC, please go to

**[LINAK.COM/SEGMENTS/TECHLINE/TECH-TRENDS/INTEGRATED-CONTROL/](https://www.linak.com/segments/techline/tech-trends/integrated-control/)**

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# Actuators for marine

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## Actuator LA37 - solid and powerful

Tough applications require equally tough actuator solutions. The actuator LA37 is specifically developed for heavy-duty applications in harsh environments, where there is a need for high lifting capacity and holding force. The LA37 offers the well-known LINAK quality, guaranteeing you a maintenance-free product with a long lifetime.



### LA37 features:

- Max thrust up to 15,000 N
- Max speed up to 3.5 mm/sec
- Standard stroke 100-600 mm
- Protection class IP66 / IP69K
- Voltage 12 or 24V DC
- Heavy-duty aluminum housing for harsh conditions
- Integrated brake, high self-locking ability
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- Built-in endstop
- Solid metal construction
- Hand crank for manual operation
- Salt spray and chemical tested
- High-pressure cleaning resistant
- **Available with IC™**

## Actuator LA36 - reliable and tough

The actuator LA36 is one of the most solid and powerful LINAK actuators, designed to operate under extreme conditions. The LA36 is a maintenance-free product with a long lifetime and a high IP degree. This high-quality actuator offers a very strong alternative to hydraulic solutions.



### LA36 features:

- Max thrust up to 10,000 N
- Max speed up to 160 mm/sec
- Standard stroke 100-999 mm
- Protection class IP66 / IP69K
- Voltage 12, 24 or 36 V DC
- Heavy-duty aluminum housing for harsh conditions
- Integrated brake, high self-locking ability
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- Endstops: slip clutch or built-in limit switches
- Solid metal construction
- Hand crank for manual operation
- Salt spray and chemical tested
- High-pressure cleaning resistant
- **Ignition protection certified**
- **Available with IC™**

# Actuators for marine

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## Actuator LA35 - flexible and powerful

The actuator LA35 is a powerful actuator with a low noise level. It is designed for a variety of both indoor and outdoor applications and provides a practical, cost-effective solution with low power consumption.

### LA35 features:

- Max thrust up to 6,000 N in push and up to 4,000 N in pull
- Stroke up to 600 mm
- Protection class IP66 dynamic / IP69K static
- Voltage 12 or 24 V DC
- Heavy-duty aluminium housing for harsh conditions
- Easy to use interface – with integrated power electronics for direct connection to control system
- Potential free limit switches as an option
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- Built-in limit switches and brake
- Salt spray tested
- **Available with Basic IC™**



## Actuator LA33 - tough and powerful

The actuator LA33 is a true mid-size actuator that combines compact design and high power in one solution, fit for use in the most extreme environments. A thorough and demanding testing programme forms the basis for the maintenance-free and long lasting performance of this solid and high-quality actuator.



### LA33 features:

- Max thrust up to 5,000 N
- Max speed up to 30 mm/sec
- Standard stroke 100-600 mm
- Heavy-duty aluminium housing for harsh conditions
- Solid metal construction
- Protection class IP66 / IP69K
- Integrated brake, high self-locking ability
- Voltage 12 or 24 V DC
- Hall sensors for relative or absolute feedback, regardless of the stroke length
- Built-in endstop switches
- Hand crank for manual operation
- Salt spray and chemical tested
- **Available with IC™**

# Actuators for marine

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## Actuator LA25 - tough and compact

With its robust design, high IP degree and aluminium housing, the actuator LA25 is ideal for harsh environments where operation under extreme conditions is required. Furthermore, the compact dimensions of the LA25 make it applicable for confined spaces.



### LA25 features:

- Max thrust up to 2,500 N
- Max speed 13 mm/sec
- Standard stroke 20-300 mm
- Protection class IP66 and IP69K
- Voltage 12 or 24 V DC
- Built-in electrical endstop
- **Available with IC™**

## Actuator LA14 - robust and reliable

The actuator LA14 is a very tough actuator with a high IP degree and aluminium housing, making it ideal for use in harsh and demanding environments.

The LA14 offers top quality in every detail and ensures reliable performance in temperatures ranging from  $-40^{\circ}$  to  $+85^{\circ}$  °C. With its small size the LA14 is well suited for applications that require short linear movements.



### LA14 features:

- Max thrust up to 750 N
- Max speed up to 45 mm/sec
- Standard stroke 40-130 mm
- Protection class IP66 dynamic / IP69K static
- Stainless steel inner tube and piston rod
- Voltage 12 or 24 V DC
- Heavy-duty aluminium housing for harsh conditions
- Built-in limit switches
- Wide range of customised feedback options
- Operation temperature from  $-40^{\circ}$ C to  $85^{\circ}$ C
- **Available with IC™**

# Actuators for marine

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## Actuator LA12 - reliable and compact

Thanks to its small size and outstanding performance, the actuator LA12 provides a practical and cost-effective alternative to small-scale traditional hydraulic and pneumatic systems. The LA12 is ideal for applications requiring short linear movements.

After many years on the market, the actuator LA12 demonstrated that it is a very reliable and robust actuator that can handle almost any situation and challenge.

### LA12 features:

- Max thrust up to 750 N
- Max speed up to 40 mm/sec
- Standard stroke 40-130 mm
- Protection class IP66
- Voltage 12 or 24 V DC
- High quality reinforced plastic housing protects motor and gear
- Built-in limit switches and EOP
- Hall sensors or potentiometer for relative or absolute feedback, regardless of the stroke length
- Ignition protection certified
- **Available with Basic IC™**





# Stainless steel options

It has never been easier to give your customers the customisation they require. Enhance your marine applications by making them electric. Use a LINAK actuator for current manual operations or even to

replace gas springs and hydraulics. Whatever your need, LINAK can help you differentiate through customisation.



Stainless steel piston rod eye – AISI 304



The actuator can be mounted with inner and outer tubes of stainless steel – AISI 304



Stainless steel back fixture  
- AISI 304  
- AISI 316\*



Make sure your applications are LINAK powered

\*Only with LA36

# 100% function tests

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In each application, the actuator is just one component of many, but at TECHLINE® we fully appreciate that it is of utmost importance to you and your customers. Not a single actuator leaves LINAK® until it has undergone a 100% function test.

Depending on the actuator type, various tests have been carried through. Please consult your local LINAK office or take a look at the actuator data sheet in question to get a thorough test overview.

This is your guarantee that a solution based on LINAK TECHLINE electric actuator systems is a solution that will work reliably for years and years.

## Electrical tests:

All electrical parts are tested i.e. power supply, power and signals cables, control signals etc. Electrical immunity is tested according to industrial standards i.e. for radio noise, electrical discharge and burst.\*

(\* ) These tests do not apply to third party products!

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## Climatic tests:

In the climatic test the actuators are tested to operate in extreme temperatures as well as to endure rapid changes in temperature. In some tests, the actuator has to withstand going from a +100°C environment to -30°C repeatedly and still maintain full functionality.

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## Mechanical tests:

**Vibration:** The actuator must withstand continuous vibration in three directions.

**Shock:** The shock test puts the actuator through 3 shocks of up to 100 G in each of 6 directions.

**Bump:** The actuator receives bumps of up to 40 G in each of six directions several hundred times.

- EN/IEC 61000-6-4** - Generic standard emission industry
- EN/IEC 60204** - Electrical equipment of machinery
- EN 50121-3-2** - Railway applications - Rolling stock apparatus
- 94/25/EC** - Recreational crafts directive
- EN/ISO 13766** - Earth moving machinery
- EN/IEC 61000-6-2** - Generic standard immunity industry
- 2004/104/EC** - Automotive Directive
- EN/ISO 14982** - Agricultural and forestry machines
- EN/ISO 13309** - Construction machinery



- EN600068-2-1 (Ab)** - Cold test
- EN60068-2-2 (Bb)** - Dry heat:
- EN60068-2-14** - Change of temperature
- EN60068-2-30** - Damp heat
- EN60068-2-52** - Salt spray
- EN60529-IP66** - Degrees of protection
- BS7691/96 hours** - Chemicals



- EN60068-2-36 (Fdb)** - Vibration
- EN60068-2-29 (Eb)** - Bump
- EN60068-2-27 (Ea)** - Shock





## Global presence

LINAK has a well-developed sales and service organisation in Europe, the Americas, Asia and Australia. Therefore, we can assist you and your customers locally, under the global sales concept idea: Be global, act local



For further information, please visit our website:  
[LINAK.COM/BUSINESS-AREAS/MARINE/](http://LINAK.COM/BUSINESS-AREAS/MARINE/)

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### TERMS OF USE

The user is responsible for determining the suitability of LINAK products for a specific application. LINAK takes great care in providing accurate and up-to-date information on its products. However, due to continuous development in order to improve its products, LINAK products are subject to frequent modifications and changes without prior notice. Therefore, LINAK cannot guarantee the correct and actual status of said information on its products. While LINAK uses its best efforts to fulfil orders, LINAK cannot, for the same reasons as mentioned above, guarantee the availability of any particular product. Therefore, LINAK reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or other written material drawn up by LINAK.

All sales are subject to the Standard Terms of Sale and Delivery for LINAK. For a copy hereof, please contact LINAK.

LINAK has a world-class sales and service organisation.  
Today we are present in 35 countries all over the world.  
For further information, please visit our website: **LINAK.COM**

