



Focus on Outdoor Power Equipment

Electric Actuators for outdoor power equipment

LINAK® improves productivity with simple, safe and powerful motion control for a variety of Outdoor Power Equipment. From Zero Turn Radius mowers, golf mowers and utility vehicles, to spreaders, sprayers and other turf and snow maintenance attachments, LINAK delivers:

- Reliable products designed for harsh outdoor conditions
- Excellent alternative to many light-duty hydraulic applications
- Turnkey supplier of complete motion control solutions
- Cutting-edge technology when more sophisticated controls and precise motion is required
- Close collaboration between your team and our application engineers, represented in over 30 countries

From small, light and compact actuators for space savings, to powerful robust systems able to lift up to 15,000 N, LINAK electric actuators are built for long-lasting durability.

Furthermore, our actuators are tested to the highest standards and can be delivered in protection classes up to IP66 and IP69K - water, dust and dirt proof and tested for high-pressure cleaning.

Go electric and spot the difference

With electric actuators you achieve reliable and

cost-effective operation, without oil leaks, costly maintenance, spareparts, and loss of productivity associated with downtime.

With fewer components required to design a system, you can reduce your component costs and it is possible to replace an entire fluid system with one electric actuator.

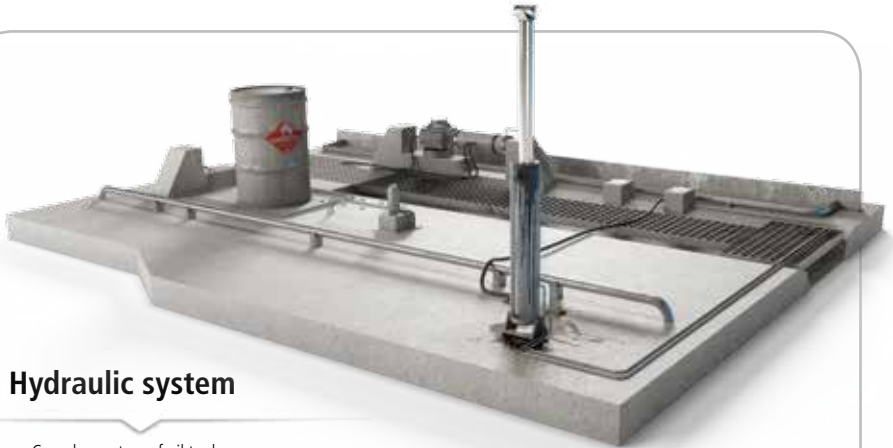
Electric actuators from LINAK provide easy and time-saving installation as there are no hoses, clamps or pumps to install and test.

LINAK offers optional built-in positioning feedback, parallel operation and accurate positioning. This allows you to design innovative and flexible solutions for your customers.

Furthermore, our controls can easily connect to the existing power supply or control systems, offering a simple plug and play solution.

LINAK electric actuators work on low voltage DC, provide high self-locking ability and optional manual operation, creating a safer work environment for the operator. Moreover, an electric solution is not only more energy efficient it also eliminates the risk of hazardous oil leaks, providing a greener alternative.

Additionally, an electric linear system requires no maintenance, minimising downtime of the application.



Hydraulic system

- Complex system of oil tanks, pumps, filters and hoses
- Per default no integrated positioning
- Requires routine maintenance
- High energy consumption
- Risk of fluid leaks

VS.

Electric actuator system

- Simple system of actuator, control and power connection
- Integrated positioning
- Maintenance-free
- Low energy consumption
- No fluids



What LINAK® actuators do for the lawn mower

For the lawn mower, the usage of electric adjustment of e.g. the cutter blades and the positioning of the steering wheel ensures an optimum mowing result. Also, by adjusting the mowing height the lawn maintains its perfect condition and the mowing frequency can even be decreased.

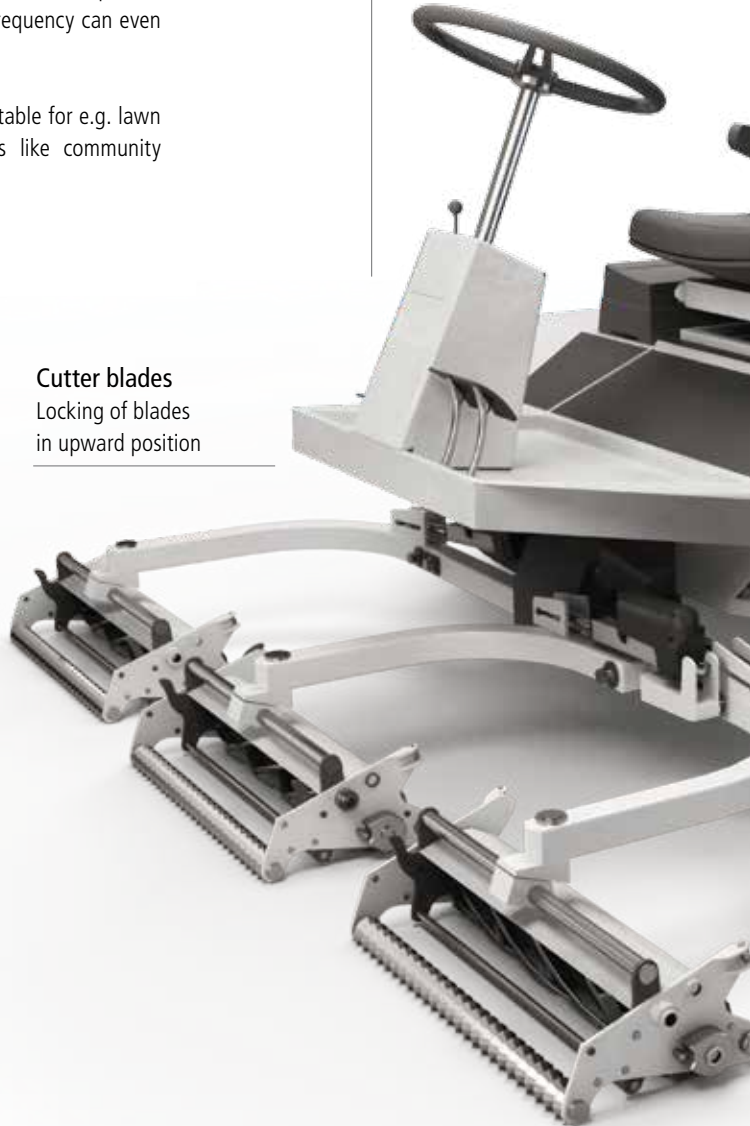
LINAK actuators are very suitable for e.g. lawn mowers used on big fields like community lawns, golf courses etc.

Positioning

Positioning of the steering wheel and the driver seat for easy access and comfort during operation

Cutter blades

Locking of blades in upward position





Engine hatch

Opening and closing of the engine hatch for effortless, quick access

Cutter blades

Individual adjustment of the cutter blades

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Bagger lid

Opening and closing
of the bagger lid

Bagger

Tilting of the bagger





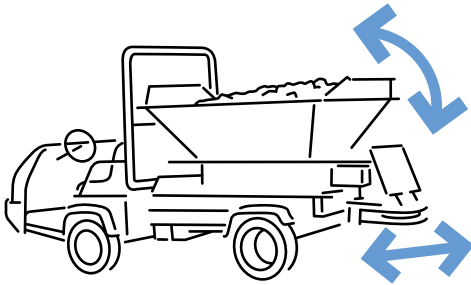
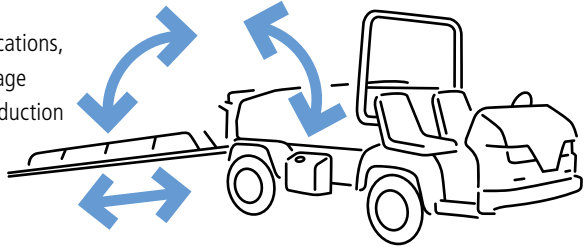
Mower deck
Raising and lowering the
mower deck

What LINAK actuators do for outdoor power equipment

LINAK actuator solutions provide easy and precise adjustment in a wide range of outdoor power equipment applications.

Boomsprayer

Precise delivery of spray applications, move from spray to transport & storage mode and adjustment of drift reduction shroud

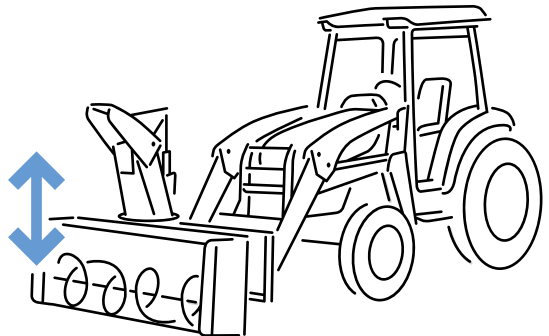


Top dresser

Electric opening and closing of material outlet, precise adjustment of spread pattern, removal of dump material

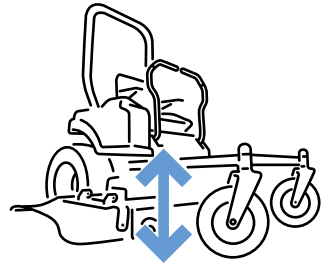
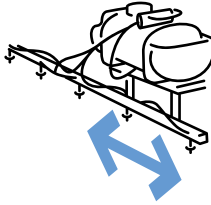
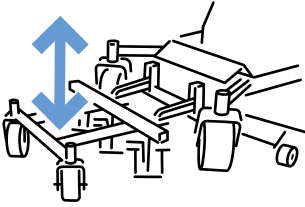
Snowblower attachment

Simple adjustment height of auger box and rotate and adjust angle of chute



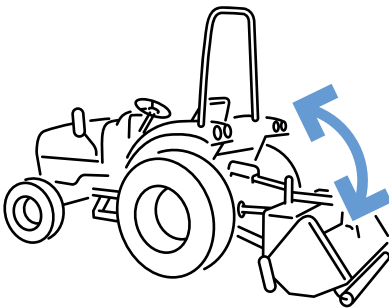
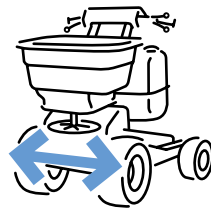
Zero Turn Radius mowers & attachments

Electric adjustment of mower deck for precise cutting heights and various functions for lawn attachments



Ride on spreader/sprayer combo

Opening/closing and precise calibration control of spreader outlet and spray nozzle

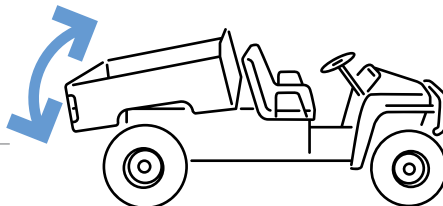


Aerating machine

Tilting of the aerating roller

Utility vehicle

Easy and steady electric operation of UTV dump beds



Move for the future

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 outdoor power equipment

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 outdoor power equipment, 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.

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/)

Actuators for outdoor power equipment

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 and chemical tested
- High-pressure cleaning resistant
- **Available with IC™**

Actuators for outdoor power equipment

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 enstop switches
- Hand crank for manual operation
- Salt spray and chemical tested
- **Available with IC™**

Actuator LA30 - rugged and compact

LA30 is a powerful actuator yet small enough to fit most applications. The actuator can be supplied with options such as built-in potentiometer for servo operation or an extra powerful motor for increased speed and strength (S-motor).

LA30 features:

- Max thrust up to 6,000 N
- Max speed up to 65 mm/sec
- Standard stroke 50-600 mm
- Protection class IP66
- Stainless steel piston rod
- Potentiometer for positioning
- Elegant and compact construction with small installation dimensions
- Self-locking ability



Actuators for outdoor power equipment

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° 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° C to 85° C
- **Available with IC™**

Actuators for outdoor power equipment

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 50 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
- **Available with Basic IC™**

Accessories for outdoor power equipment

Motor controller TR-EM-208 - Complete control



- Variable power supply 12-36 V DC
- Overload protection - adjustable current limit 1-20 A
- Adjustable soft start and stop
- Several versions for different applications
- Integrated brake (*)

Rocker switch - easy operation



- For all actuators with limit switches
- Easy operation of actuators without use of further electronics
- IP66 for outdoor use
- Easy to install
- Tested with an LA36 12 V DC for 50,000 operations

(*)

Parallel controller - Complete control



- Synchronised parallel control for 2 actuators
- Operates with pulse feedback (Hall or Reed)
- Current and temperature limited
- Soft start/stop
- Adjustable drive speed
- Accurate repeatability
- Easy setting via serial interface

(*)

(*) "The specified product is a third party product that is produced by third party and distributed by LINAK as a supplement to LINAK's existing product range. It is the responsibility of the product user to determine the suitability of the product for a specific application. LINAK will at point of delivery replace/repair defective products covered by the warranty if promptly returned to LINAK."



If you use IC there is no need for these accessories!

100% function tests

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!

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.

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/OUTDOOR-POWER-EQUIPMENT/](https://www.linak.com/business-areas/outdoor-power-equipment/)

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](https://www.linak.com)

LINAK® 
WE IMPROVE YOUR LIFE