Focus on

Grain Handling

www.linak.com/techline

LINAK®

WE IMPROVE YOUR LIFE

Electric Actuators - fully integrated systems for grain handling

For all types of grain handling systems and facilities, LINAK® offers complete electric actuator systems providing improved performance in harsh conditions, easy installation and built-in intelligence.
For grain handling LINAK delivers:

- Reliable products designed for harsh environments and certified for dust explosive atmospheres
- Few cables and components for easy installation and little or no maintenance
- Accurate positioning with analogue or digital feedback ensures a precise grain mix
- Excellent alternative to AC motor, pneumatic or hydraulic systems
- Close collaboration between your team and our sales and application engineers represented in more than 30 countries
- Available with IC™ for full integrated control, from basic to advanced intelligent features, feedback and a high degree of flexibility

With IECEx/ATEX dust explosion certification, accurate position control, analogue or digital feedback, available system monitoring and a minimum of maintenance, LINAK actuators are able to withstand the harsh environment of grain facilities while optimising both grain handling and safety in your facility.

Go electric and spot the difference

Electric linear actuators from LINAK are the perfect solution when you need safe and reliable movement with built-in positioning feedback. They offer high flexibility in movement for your application, also when ongoing adjustment of stroke, speed or feedback is needed.

Electric actuators can easily be integrated into sophisticated control systems using data bus communication, and they have a high self-locking ability that will support a safe working environment for the operator.

Compared to AC motors, pneumatic and hydraulic systems LINAK actuators are a low-energy, cost and resource reductive alternative. They provide easy and time-saving installation and require little or no ongoing maintenance as there are no hoses, filters or pumps to install or maintain. It is even possible to replace an entire AC motor/gearbox, pneumatic or hydraulic system with a single electric actuator which will provide fully integrated control, feedback and built-in limit switches.

Furthermore, if replaced by an electric system, up to 90% of the energy normally consumed in a standard pneumatic system can be saved!

Pneumatic system

- Complex system of compressor, pumps, valves, filters, lubricators, flow controls etc.
- Elaborate installation due to many components
- Per default no integrated positioning
- Requires routine maintenance
- High energy consumption

VS.

Electric actuator system

- Simple system of actuator, control and power connection
- Easy installation due to few components
- Integrated positioning
- Maintenance-free
- Low energy consumption

What LINAK actuators do for the grain handling facility

LINAK TECHLINE® electric actuator solutions provide reliable and precise movement in grain handling facilities. From diverter valves, gates, and hoppers, to conveyors and transfer equipment, LINAK electric actuators improve automation performance.

Furthermore, TECHLINE® actuator systems offer simple installation with few components and an easy 'all in one package' solution.

With their multiple and advanced feedback options, LINAK actuators ensure a reliable and high level performance as well as a safe working environment.

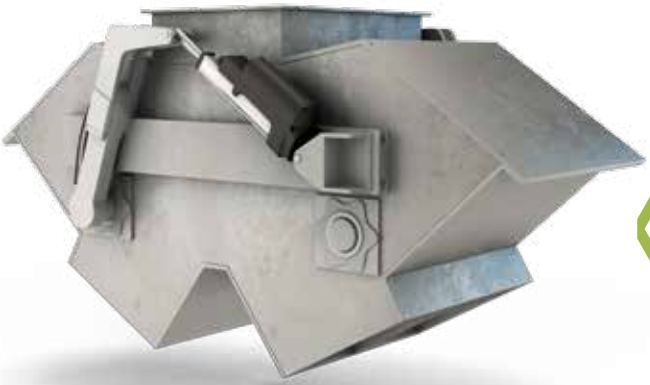
All these advantages combined provide cost-efficient automation for grain handling facilities.

What LINAK actuators do for grain handling applications

TECHLINE® offers electric actuator solutions for opening and closing of grain doors, diverting, blending and transporting grain around grain handling facilities.

TECHLINE solutions provide precise blending due to accurate positioning of valves and grain doors. Moreover, they ensure an efficient transporting process in the grain elevator with advanced feedback solutions reducing the risk of overloading the system.

Grain door
Opening and closing with built-in feedback and endstop signals for precise positioning, and accurate blending



Diverter valve
Adjustment of the diverter with built-in feedback and endstop signals for a reliable overview of the grain flow

Grain elevator
Controls the inlet flow to allow the grain elevator to oprate efficiently and prevent overloading

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 grain handling

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 grain handling systems, 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

IC INTEGRATED CONTROLLER

For more information on IC, please go to
www.linak.com/techline/moveforthefuture

Actuators for grain handling

Actuator LA36 - reliable and tough, IECEx and ATEX certified

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. 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
- Heavy-duty aluminium housing for harsh conditions
- Integrated brake, high self-locking ability
- Voltage 12, 24 or 36 V DC
- 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™**
- **Available with IECEx and ATEX certifications**

IC INTEGRATED CONTROLLER

Actuator LA25 - tough and compact, IECEx and ATEX certified

With its robust design 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
- Voltage 12 or 24 V DC
- Built-in electrical endstop
- **Available with IC™**
- **Available with IECEx and ATEX certifications**

IC INTEGRATED CONTROLLER

Actuators for grain handling

Actuator LA14 - robust and reliable, IECEx and ATEX certified

The actuator LA14 is a very tough actuator with an aluminium housing that makes it ideal for use in harsh and demanding environments.

The LA14 offers top quality in every detail and ensures reliable performance. 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
- 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
- **Available with IC™**
- **Available with IECEx and ATEX certifications**

IC INTEGRATED CONTROLLER

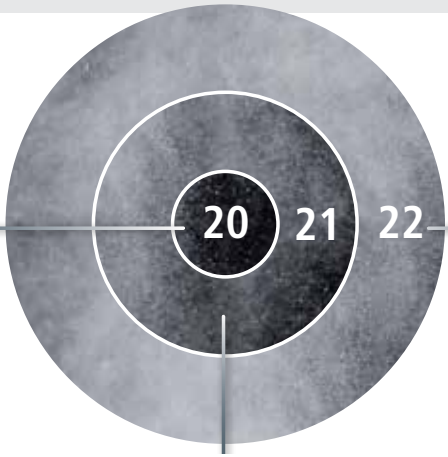
IECEx and ATEX

EX approvals

For a completely safe and proven operation, equipment used in explosion protected (Ex) industries must be certified in accordance with the IECEx international certification system or the EU directive 94/9/EC, also called the ATEX directive.

The IECEx and ATEX directives describe safety requirements for applications and products in explosive atmospheres and account for both mechanical and electrical sources of ignition in these areas.

LINAK® offers products that have been tested and certified for electrical operation in dust explosive atmospheres. Our actuators displayed in this folder have all been certified according to both IECEx standards and the ATEX 2D and 3D categories. This means that they can be used in Ex zones 21 and 22 - see the illustration below.



Category 1 equipment

Category 2 equipment

Category 3 equipment

Dust occurs continuously

Zone 20 is a place in which an explosive atmosphere in the form of a cloud of combustible dust in the air is present continuously, for long periods or frequently. This would typically include the inside of containers or pipelines and enclosed conveying equipment.

Dust occurs occasionally

Zone 21 is a place in which an explosive atmosphere in the form of a cloud of combustible dust in the air is likely to occur in normal operation occasionally, for example when discharging and filling equipment.

Dust occurs in short periods

Zone 22 is a place in which an explosive atmosphere in the form of a cloud of combustible dust in the air is not likely to occur in normal operation but – if it does occur – it will persist for a short period only. Areas in which dust escapes from leaks and forms dust deposits are included in this category.

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

Global presence

LINAK has a well-developed sales and service organisation in Europe, America, 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 websites:
www.linak.com/techline

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