

**EWELLIX**

A Schaeffler Company

# Solutions for agricultural machinery



# The heritage of innovation

Ewellix is a global innovator and manufacturer of linear motion and actuation solutions. Our state-of-the-art linear solutions are designed to increase machine performance, maximise uptime, reduce maintenance, improve safety and save energy. We engineer solutions for assembly automation, medical equipment, mobile machinery, distribution and a wide range of other industrial applications.

## Technology leadership

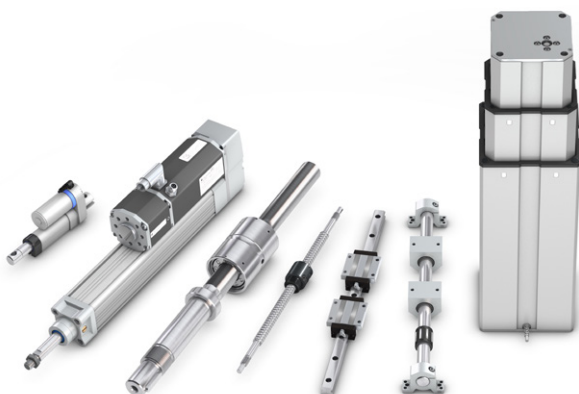
We earned our reputation through decades of engineering excellence. Our journey began over 50 years ago as part of the SKF Group, a leading global technology provider.

Our history provided us with the expertise to continuously develop new technologies and use them to create cutting edge products that offer our customers a competitive advantage.

In 2019, we became independent and changed our name to Ewellix. We are proud of our heritage. This gives us a unique foundation on which to build an agile business with engineering excellence and innovation as our core strengths.

## Global presence and local support

With our global presence, we are uniquely positioned to deliver standard components and custom-engineered solutions, with full technical and applications support around the world. Our skilled engineers provide total life-cycle support, helping to optimise the design, operation and maintenance of equipment thus improving productivity and reliability while reducing costs. At Ewellix, we don't just provide products; we engineer integrated solutions that help customers realise their ambitions.



## Schaeffler Group – We pioneer motion

Ewellix is since 2023 owned by the Schaeffler Group.

As a leading global supplier to the automotive and industrial sectors, the Schaeffler Group has been driving forward groundbreaking inventions and developments in the fields of motion and mobility for over 75 years.

With innovative technologies, products, and services for electric mobility, CO<sub>2</sub>-efficient drives, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion and mobility more efficient, intelligent, and sustainable.

Schaeffler manufactures high-precision components and systems for powertrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.



# Agricultural solutions to increase farmer profitability

Ewellix offers solutions for increased reliability, performance and safety for agricultural machinery.

Farming is undoubtedly one of the world’s toughest jobs. Aside from being physically demanding and labor intensive, farming requires a high level of knowledge and expertise. Producers must account for various soil types and unpredictable weather conditions, as well as differing crop nutrition requirements, pest management strategies and harvest techniques. Even under the best conditions, this is a lot to manage.

Technology companies and equipment manufacturers are determined to help by developing solutions that automate the hardest, most dangerous tasks.

As the agriculture industry continues to advance, experts predict that the forthcoming machines will help farmers to improve the crop yield, energy efficiency and the work conditions with eco-friendly solutions.



## From standard range to customised solutions

Ewellix provides a range of actuators, guides systems and controllers to meet all your needs. From high-performing, robust products that have minimal play to straightforward configurations needed for less demanding jobs.

## Application competence

Building on our more than 30 years’ experience and knowledge in handling applications, Ewellix can support you with technical advice, system setup, and customised designs throughout the entire product development cycle.



**Mobile Machinery**



**Battery Electric Vehicles**

## Electromechanical actuators benefits

- Accurate positioning with feedback
- High productivity
- High energy efficiency
- Less components
- Oil free solution without maintenance

# Ag robots

Autonomous electric machines are developed to work in the field for soil preparation, seeding, spraying or picking. The steering and the tools can be adjusted by electromechanical actuators that provide oil-free and energy efficient solutions with smooth movement, position feedback and on-board diagnostics.

The sprayer attachment on the robot needs to be compact for parking position or for transportation and positioned to follow the soil when they are in the field.

Electromechanical actuators powered by the batteries of the robot provide oil-free movement and stability for a more reliable process. Our CAHB series and CASM-100 series of linear actuators reduce the risk of plant or soil contamination and provide a simpler and robust powered functions.

## Ewellix solutions

### Features

- Wide product range with force from 120 to 150000 N
- Optional floating mode
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- Smooth movement
- On-board diagnostic
- Compactness
- Calibration-free



### Linears actuators

	CAHB-10	CAHB-2x	CASM-100
Rated push load	up to 1500 N	up to 10000 N	up to 82000 N
Speed	up to 18 mm/s	up to 57 mm/s	up to 890 mm/s
Stroke	up to 700 mm	up to 700 mm	up to 2000 mm
Retracted length	Stroke + 109/143 mm	Stroke + 160/235 mm	Stroke + 326
Static load	2500 N	20000 N	82000 N

# Combine harvester

In order to optimise crop yield, combine harvesters must be able to regulate their mechanisms both accurately and efficiently. Ewellix electromechanical actuators are used in this area and perform up to 13 functions. With the CAHB series of linear actuators we offer a perfect and comprehensively tested solution specially developed for these demanding environments. In the cab, the curved rail guide serves as a holder for the control panel that can be positioned for maximum visibility and user safety.

## Ewellix solutions

### Features

- Wide product range with force from 120N to 150000 N
- Optional floating mode
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- Compactness
- High stability

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic
- Calibration-free



## Linears actuators

	CAHB-10	CAHB-2x
Rated push load	up to 1500 N	up to 10000 N
Speed	up to 18 mm/s	up to 57 mm/s
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Retracted length	Stroke + 109/143 mm	Stroke + 160/235 mm
Static load	2500 N	20000 N

# Windrower

Windrowers or swathers are agricultural implements that cut hay or small grains and forms them into windrows. The height adjustment of the cutter bar or cutting discs and other settings are necessary to achieve optimum drying and a high yields. By using an electric current as opposed to a hydraulic system, the series of CAHB-2 linear actuators from Ewellix delivers the desired motion with position feedback and high setting stability, even in case of vibration.

## Ewellix solutions

### Features

- Wide product range with force from 120 to 150000 N
- Optional floating mode
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- High stability

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic
- Calibration-free



## Linears actuators

CAHB-2x	
Rated push load	up to 10000 N
Speed	up to 57 mm/s
Stroke	up to 700 mm
Retracted length	Stroke + 160/235 mm
Static load	20000 N

# Tractor

Tractors are the most commonly used agricultural machine and therefore require the utmost attention when it comes to ergonomics. Ewellix offers a wide range of electromechanical actuators for demanding environments to help designers and manufacturers find the right solution. The linear actuators provide a remote adjustment with position feedback in the cab.

The front loader is a popular attachment that can be easily operated with electric actuators offering smooth, oil-free, efficient movement.

## Ewellix solutions

### Features

- Wide product range with force from 120 to 150000 N
- Optional floating mode
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- High stability

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic
- Front loader easy installation
- Calibration-free



### Linears actuators

	CAHB-10	CASM-100
Rated push load	up to 1500 N	up to 82000 N
Speed	up to 18 mm/s	up to 890 mm/s
Stroke	up to 700 mm	up to 2000 mm
Retracted length	Stroke + 109/143 mm	Stroke + 326
Static load	2500 N	82000 N

# Fertilizer spreader

The fertilizer spreader must deliver the exact quantity with continuous adjustment. The electromechanical actuators stop and adjust the flow while limiting the angle of the spreading. The position feedback and the stability of the CAHB series from Ewellix provide an accurate adjustment that can be monitored in the cab.

## Ewellix solutions

### Features

- Compactness with force up to 1500 N
- Oil-free operation with the same performance as a hydraulic system
- Integrated absolute position sensor
- High stability
- Robustness

### Benefits

- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- Calibration-free



## Linears actuators

CAHB-10	
Rated push load	up to 1500 N
Speed	up to 18 mm/s
Stroke	up to 700 mm
Retracted length	Stroke + 109/143 mm
Static load	2500 N



# Seeding

Farmers want the right amount of seed to be sown or to be plant at the correct depth with the optimum soil pressure in each section of the field. Ewellix linear actuators combined with a GPS tracking system place the seed in the right place. This meticulous way of farming leads to cost savings and therefore higher efficiency. The absolute position feedback doesn't request any calibration in the field and gives the accurate positioning.

## Ewellix solutions

### Features

- Wide product range with force from 120 to 10000 N
- Compactness with force up to 1500 N
- Optional floating mode
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- Integrated absolute position sensor

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic
- Calibration-free



## Linears actuators

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Retracted length	Stroke + 109/143 mm	Stroke + 160/235 mm
Static load	2500 N	20000 N

# Feeding

Feeding equipment can be towed by the tractor or self propelled. The hay is spread to the correct location using a spout adjusted in height and orientation by an electromechanical actuator. Our linear actuators CAHB series provide feedback, accurate control, no oil and on board diagnostics to the operator in the cab allowing a more reliable feeding.

## Ewellix solutions

### Features

- Wide product range with force from 120 to 10000 N
- Compactness with force up to 1500 N
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- Integrated absolute position sensor
- Optional manual override and floating mode

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic
- Calibration-free



## Linears actuators

CAHB-2x	
Rated push load	up to 10000 N
Speed	up to 57 mm/s
Stroke	up to 700 mm
Retracted length	Stroke + 160/235 mm
Static load	20000 N

# Baler

Round balers wrap individual hay bales with nets or twine that require a tensioning system with fast and precise positioning. With the linear actuator CAHB-2, Ewellix has developed a drive solution that combines both high speeds with a high static load capacity and an overload protection that is triggered as soon as the actual load approaches the nominal load. When the round baler attachment is not connected to the tractor, the manual override can be used to manually adjust the actuator.

## Ewellix solutions

### Features

- Wide product range with speed up to 57 mm/s
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- Integrated absolute position sensor
- Optional manual override and floating mode

### Benefits

- Precise adjustment
- Calibration-free
- Quick cycle time
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic



## Linears actuators

CAHB-2x	
Rated push load	up to 10000 N
Speed	up to 57 mm/s
Stroke	up to 700 mm
Retracted length	Stroke + 160/235 mm
Static load	20000 N

# Lawn mower

In order to improve the ergonomics of lawn mowers, certain functions are no longer performed manually. By using a battery-powered electromechanical actuator the user avoids stress on the engine that could affect the performance of the primary function. Efficiency, durability and accuracy are paramount in carrying out all these functions. This is why Ewellix provides electromechanical actuators with ball screws to raise the deck, select side discharge/mulching and empty the grass collector.

## Ewellix solutions

### Features

- Wide product range with force from 120 to 10000 N
- Compactness with force up to 1500 N
- Optional floating mode
- Oil-free operation with the same performance as a hydraulic system
- Integrated controller and sensor
- Integrated absolute position sensor

### Benefits

- Energy efficient
- Precise adjustment
- Less maintenance
- No leakage
- Smooth movement
- On-board diagnostic
- Calibration-free



### Linears actuators

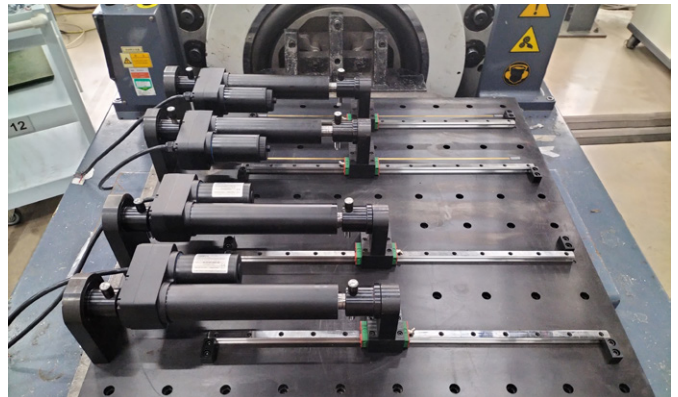
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Retracted length	Stroke + 109/143 mm	Stroke + 160/235 mm
Static load	2500 N	20000 N

# Tested for your environment

Ewellix's expertise in mechanics and electronics and specific application requirements contribute to developing electromechanical actuators to meet the needs of mobile machinery manufacturers. We verify our products by a comprehensive test plan that covers all regulatory and environmental requirements.

## Mechanical tests

The actuators are used on mobile equipment, and we put them on different test benches to validate how they withstand vibration and shock on all three axes.



*Vibration test*

## Climatic tests

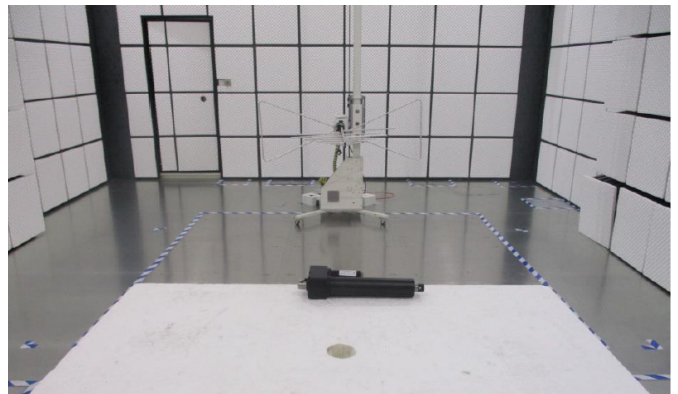
The actuators are tested in a climatic test chamber that reproduces extremely low  $-40^{\circ}\text{C}$  and high temperatures  $+85^{\circ}\text{C}$ , and any possible variations, including humidity and corrosive atmospheres. Doing this ensures that all the functions and performance of the actuators are working as expected.



*Low temperature test*

## Electrical tests

The actuators are tested with different test equipment that reproduces the electrical environment recommended by international standards, such as power supply, immunity to the electrostatic discharges, and electromagnetic compatibility during extreme cases, even during the transient mode typical on a vehicle.



*EMC test air immunity or radiation test*

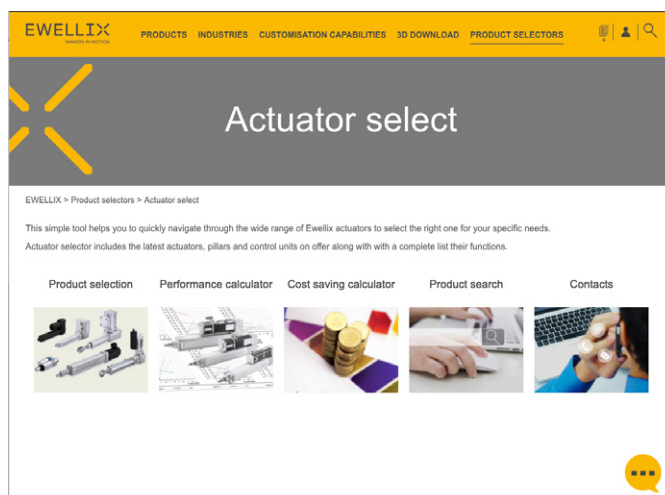
# Supporting tool

## Digital

Ewellix has developed a portfolio of tools to support customers in the easy selection and calculation of the right Ewellix product for their application.

## Actuators

- Product selection
- Performance calculator
- Cost saving calculator



## Publications

Supporting documents are available for downloading on ewellix.com in each product page under technical data section:

- operating manual
- mounting instruction

### Linear actuator CAHB series



### High performance actuator CASM-100







## **ewellix.com**

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