



Linear Motion solutions
for agricultural machinery

We pioneer motion

SCHAEFFLER

Agricultural solutions to increase farmer profitability

Schaeffler 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

Schaeffler provides a range of EWELLIX actuators, guiding 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

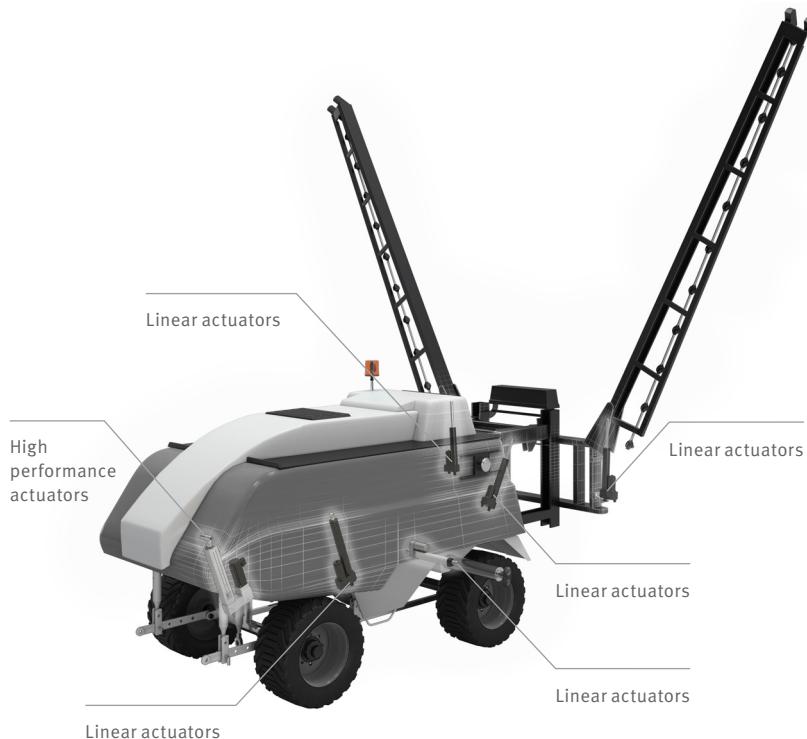
Building on our more than 30 years' experience and knowledge in handling applications, we can support you with technical advice, system setup, and customised designs throughout the entire product development cycle.

Electromechanical actuators benefits

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



AG robots with EWELLIX actuators



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

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. EWELLIX electromechanical actuators offered by Schaeffler, powered by the batteries of the robot provide oil-free movement and stability for a more reliable process. The EWELLIX CAHB and EMA actuator series offered by Schaeffler reduce the risk of plant or soil contamination and provide a simpler and robust powered functions.

Linear actuators*



High performance actuators*

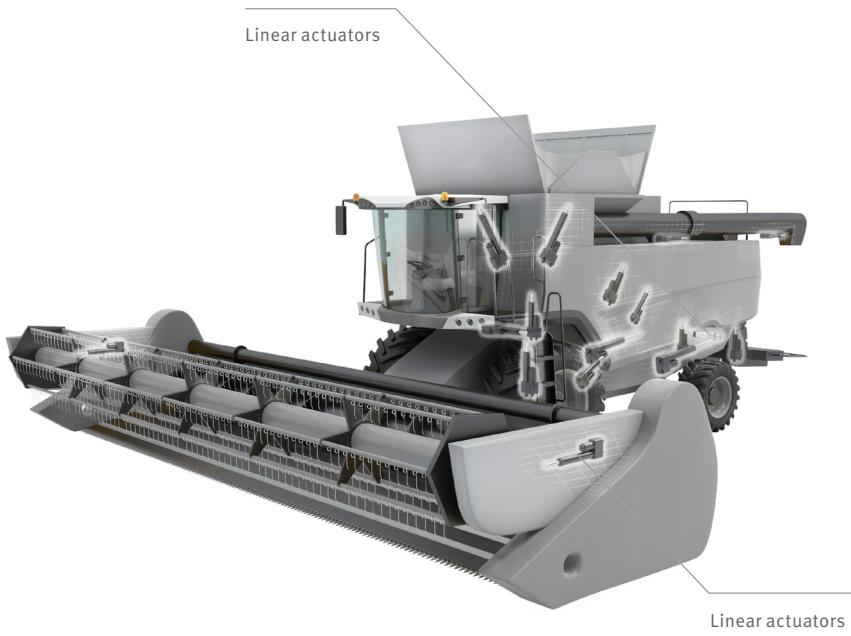
CAHB-10

CAHB-2x

EMA-100

* EWELLIX actuators offered by Schaeffler

Combine harvester with EWELLIX actuators



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
- Compactness
- High stability

Benefits

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

In order to optimise crop yield, combine harvesters must be able to regulate their mechanisms both accurately and efficiently. EWELLIX electromechanical actuators offered by Schaeffler are used in this area and perform up to 13 functions. With the EWELLIX CAHB series of linear actuators Schaeffler offers 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.

Linear actuators*



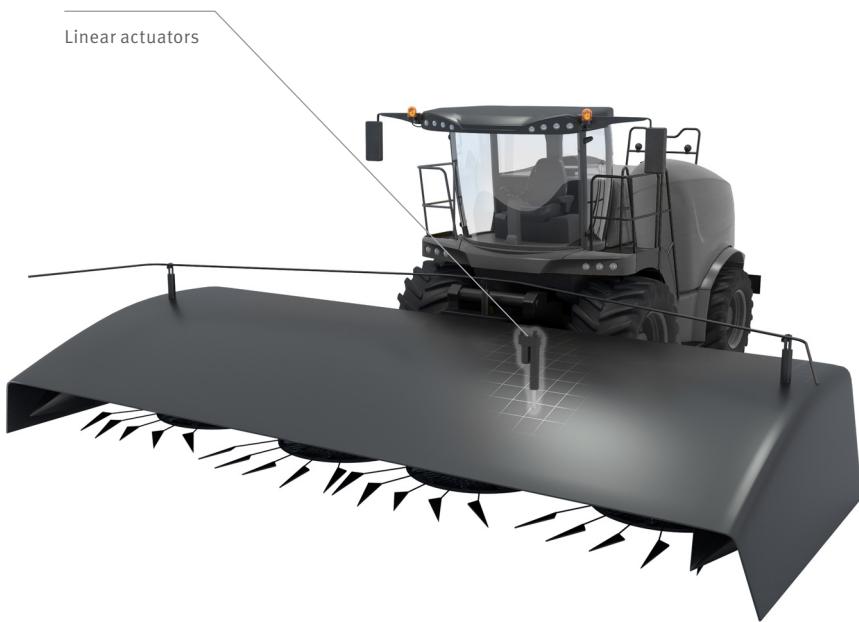
CAHB-10



CAHB-2x

* EWELLIX actuators offered by Schaeffler

Windrower with EWELLIX actuators



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

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 EWELLIX CAHB-2 linear actuators offered by Schaeffler deliver the desired motion with position feedback and high setting stability, even in case of vibration.

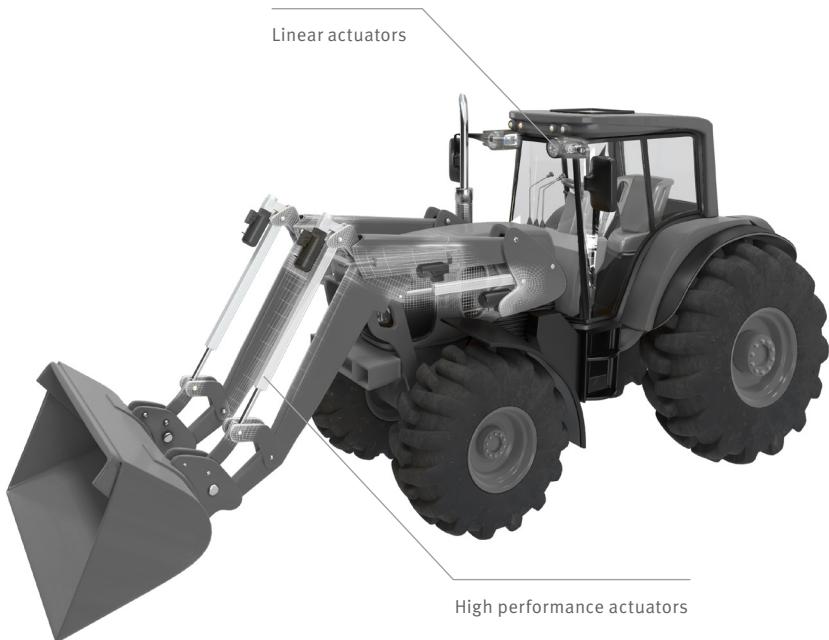
Linear actuators*



CAHB-2x

* EWELLIX actuators offered by Schaeffler

Tractor with EWELLIX actuators



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

Tractors are the most commonly used agricultural machine and therefore require the utmost attention when it comes to ergonomics. Schaeffler offers a wide range of EWELLIX 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.

Linear actuators* **High performance actuators***



CAHB-10

EMA-100

* EWELLIX actuators offered by Schaeffler

Fertilizer spreader

with EWELLIX actuators



Linear actuators

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

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 EWELLIX CAHB series offered by Schaeffler provide an accurate adjustment that can be monitored in the cab.

Linear actuators*



CAHB-10

* EWELLIX actuators offered by Schaeffler

Seeding with EWELLIX actuators



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

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 offered by Schaeffler 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.

Linear actuators*



CAHB-10



CAHB-2X

* EWELLIX actuators offered by Schaeffler

Feeding with EWELLIX actuators



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

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. The EWELLIX CAHB linear actuator series offered by Schaeffler provides feedback, accurate control, no oil and on board diagnostics to the operator in the cab allowing a more reliable feeding.

Linear actuators*



CAHB-2x

* EWELLIX actuators offered by Schaeffler

Baler

with EWELLIX actuators



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

Round balers wrap individual hay bales with nets or twine that require a tensioning system with fast and precise positioning. The EWELLIX CAHB-2 linear actuator offered by Schaeffler is 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.

Linear actuators*



CAHB-2x

* EWELLIX actuators offered by Schaeffler

Lawn mower with EWELLIX actuators



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

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 Schaeffler provides EWELLIX electromechanical actuators with ball screws to raise the deck, select side discharge/mulching and empty the grass collector.

Linear actuators*



CAHB-2x

* EWELLIX actuators offered by Schaeffler

EWELLIX Products overview



Linear actuators*

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

* EWELLIX actuators offered by Schaeffler
More data available on request



High performance actuators*

	EMA-100
Rated push load	Up to 80000 N
Speed	Up to 890 mm/s
Stroke	Up to 2000 mm
Retracted length	Stroke + 326 mm
Static load	80000 N

* EWELLIX actuators offered by Schaeffler
More data available on request

Your development partner

Tested for your environment

Our expertise in mechanics and electronics and specific application requirements contribute to the development of electromechanical actuators to meet the requirements of mobile machinery manufacturers. We verify our products through a comprehensive test plan that covers all regulatory and environmental requirements.



Vibration test

Mechanical tests

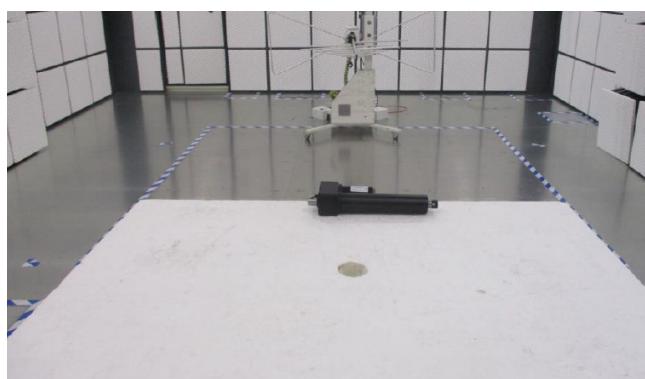
The actuators are used on mobile equipment and we put them on different test benches to validate how they withstand vibration and shock on all three axes.



Low temperature test

Climatic tests

The actuators are tested in a climatic test chamber that reproduces extremely low -40°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.



EMC test air immunity or radiation 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.

Supporting tool

Digital

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

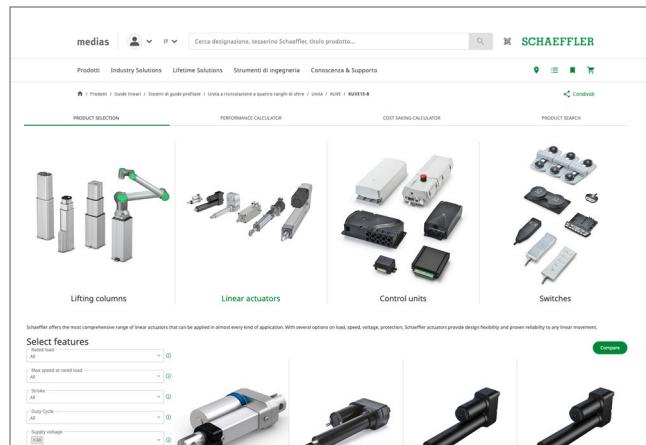
EWELLIX Actuator select

- Product selection
- Performance calculator
- Cost saving calculator



EWELLIX Actuator select

- › Scan QR code
- › Click on [link](#)



Publications

Supporting documents are available for download on Schaeffler.com on each product page under the technical data section:

- Operating manual
- Mounting instruction



**EWELLIX Linear actuator
CAHB series**
› Scan QR code
› Click on [link](#)



**EWELLIX High performance
actuator EMA-100**
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