Linear Motion solutions for aerial work platforms

We pioneer motion

SCHAEFFLER

More uptime, no leakage, lower total cost of ownership

Aerial work platforms are exceptionally mobile and allow operators to easily manoeuvre around tight indoor and outdoor worksites. Characterized by low noise levels, aerial work platforms provide excellent capacity and stable workspace.

Critical drivers for electrification in aerial work platforms

- Legislation to reduce CO_2 emissions
- Noise emission limits in indoor operations
- Increased sustainability targets driving energy efficiency improvements.

With greater efficiency and electrical power recuperation from the regenerative lowering system, electromechanical actuators optimise the cost of batteries by increasing their uptime. Better motion control and feedback will achieve greater productivity. Oil-free operation drastically reduces maintenance effort and eliminates the risk of oil leaks. All the above contributes to a decrease in the the total cost of ownership.

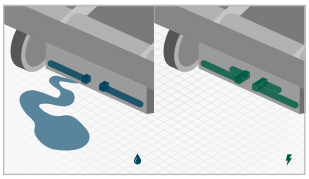
Electromechanical advantages compared to hydraulics

- Oil-free operation
- Less overhaul and maintenance
- Smooth movement
- Higher uptime and quicker recharge

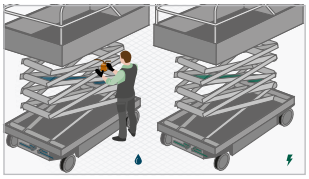
Essential for 86% of the industry

A recent survey in mobile machinery showed that over 86% of the industry agrees that electrification is an essential topic in their organisations.

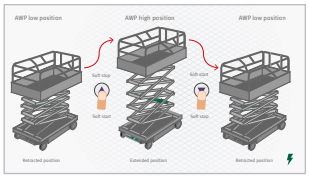
Machine manufacturers recognise that even partial electrification of equipment can potentially deliver high benefits in cost, reliability and operations. Electromechanical actuators are increasingly becoming alternatives to hydraulic systems that have dominated the mobile machinery sector for decades.



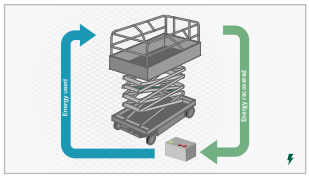
Oil-free operation



Less overhaul and maintenance



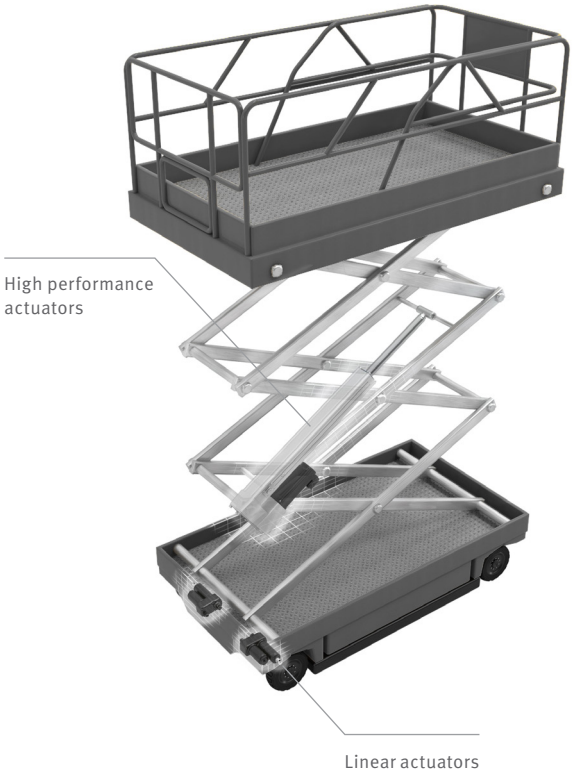
Smooth movement



Higher uptime and quicker recharge

Scissor lift platform

with EWELLIX actuators



Features

- Oil-free operation with comparable performance and power density
- Comparable attachment point and T bar
- Ball screw with back-up nut
- Electro magnetic brake and lowering device with speed control
- Allows energy recuperation
- Built-in sensor
- Built-in controller with CAN bus
- High stability
- Electrical, mechanical and climatic test performances

Benefits

- No diaper / no oil leakage risk
- Energy-efficent with less battery and recharge time
- Smooth operation with higher reliability
- Valuable data output for telematics

Aerial work platforms and access equipment are used in different locations, but they are becoming increasingly regulated by law on construction sites in our cities and buildings. Legislation on CO_2 and greenhouse gas emissions, low emission zones, EU emissions regulations, emission limits for enclosed spaces, environmental rules and urban noise limits are key aspects that manufacturers need to consider.
The trend is towards hybrid or all-electric solutions. EWELLIX electromechanical actuators offered by Schaeffler are strategic components in electrical solutions.

Linear actuators* **High performance actuators***

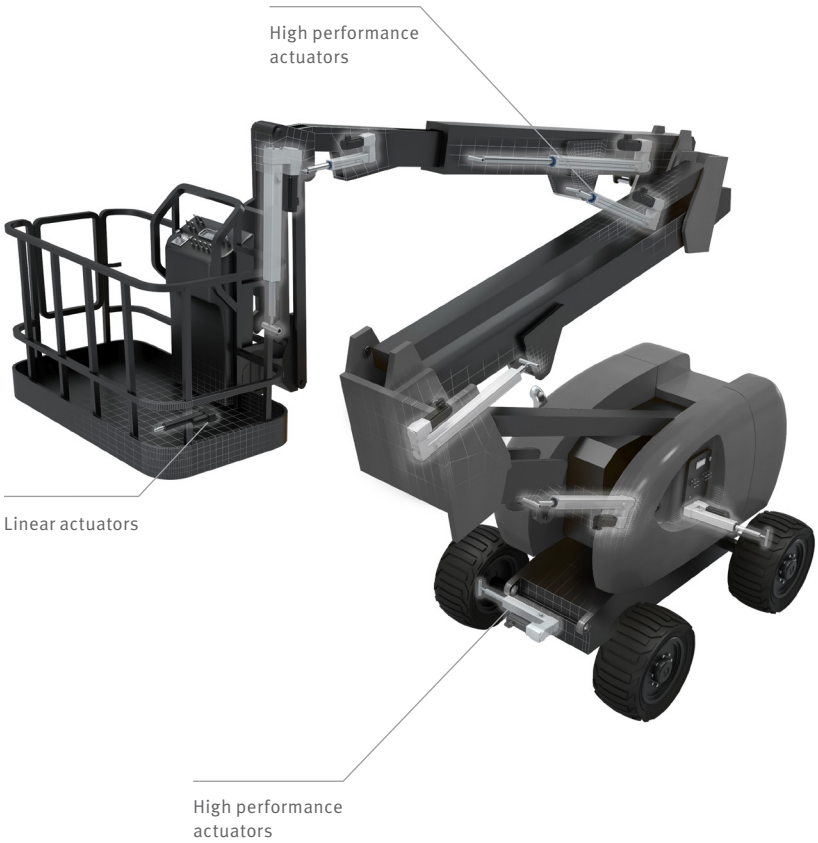
CAHB-2x

EMA-100

* EWELLIX actuators offered by Schaeffler

Boom lift platform

with EWELLIX actuators



Hydraulic lifting platforms are used in different locations,but they are becoming increasingly popular and required by law on construction sites in our cities and in buildings. The trend is towards hybrid or all-electric solutions. In addition to the lifting function, the platform rotation should also be a robust but lightweight solution as it is located at the top of the mast. EWELLIX electromechanical actuators offered by Schaeffler provide many advantages in terms of saving weight at a significant point on the mast.

Features

- Oil-free operation with comparable performance and power density
- Comparable attachment point and T bar
- Ball screw with back-up nut
- Electro magnetic brake with patented descent system
- Allows energy recuperation
- Built-in sensor
- Built-in controller with CAN bus
- High stability
- Electrical, mechanical and climatic test performances

Benefits

- Full package drop-in replacement
- No diaper/no oil leakage risk
- Energy-efficient with less battery and recharge time
- Smooth operation with higher reliability
- Valuable data output for telematics

Linear actuators* **High performance actuators***

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EMA-100

* EWELLIX actuators offered by Schaeffler

EWELLIX Products overview

Linear 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

* EWELLIX actuators offered by Schaeffler
More data available on request

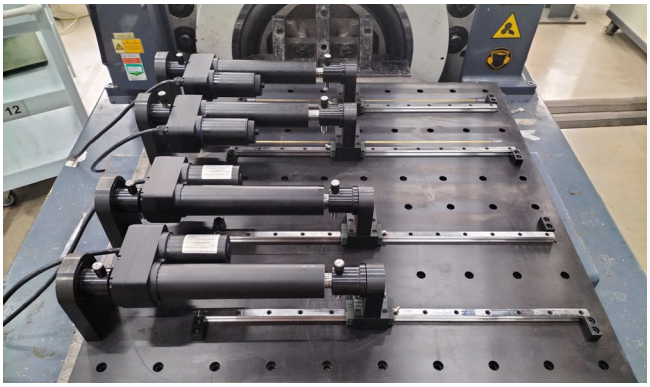
High performance actuators*	EMA-100
Rated push load	Up to 80000 N
Speed	Up to 890 mm/s
Stroke	Up to 2000 mm
Retracted length	Stroke + 326 mm
Static load	80000 N

* EWELLIX actuators offered by Schaeffler
More data available on request

Your development partner

Tested for your environment

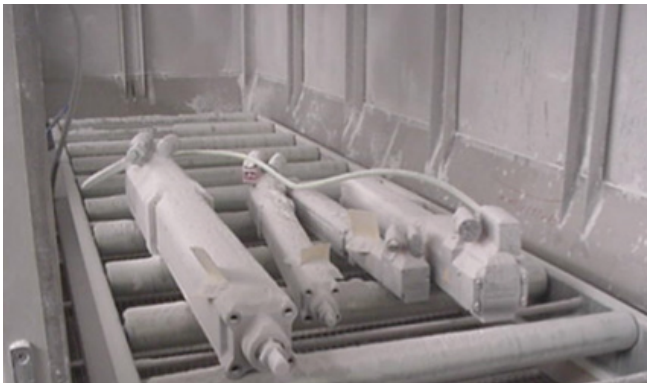
Our expertise in mechanics and electronics and specific application requirements contribute to the development of electromechanical actuators to meet the requirements of mobile machinery manufacturers. We verify our products through a comprehensive test plan that covers all regulatory and environmental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



Vibration test

Mechanical tests

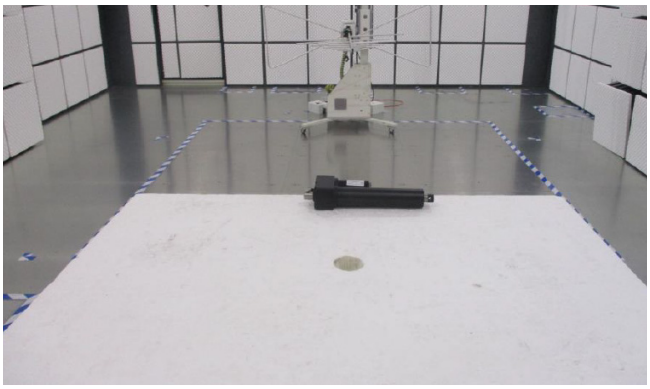
The actuators are used on mobile equipment and we put them on different test benches to validate how they withstand vibration and shock on all three axes.



Low temperature test

Climatic tests

The actuators are tested in a climatic test chamber that reproduces extremely low –40 °C and high temperatures +85 °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.

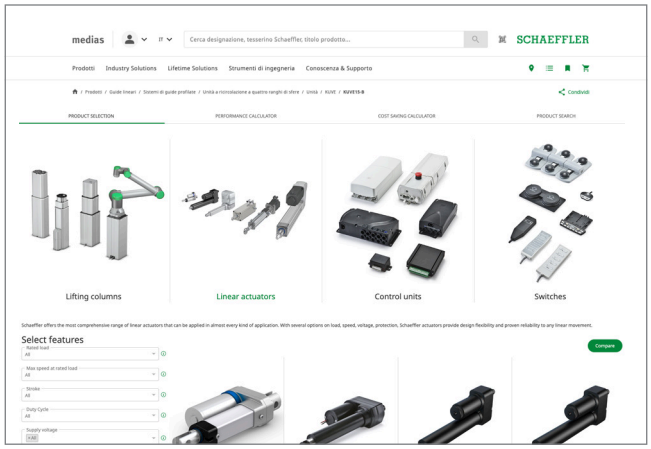
Supporting tool

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
› Scan QR code
› Click on link

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