



## Linear Motion solutions for commercial and municipal vehicles

We pioneer motion

**SCHAEFFLER**

# Supporting the world's trend towards zero-emission fleets

We have developed powerful electromechanical actuators with extended functionality for demanding applications for commercial and municipal equipment applications.

Zero-emission fleets is the trend in Global market for vehicle manufacturers to evaluate citylife and provide low-pollution vehicles for urban service. They have released or are developing fully or partially electric-powered equipment, not only for powertrain, but for movement and actuation systems.

The EWELLIX electromechanical actuators offered by Schaeffler provide a better solution with:

- Lower overhaul and maintenance
- Oil-free
- Higher static performance
- Smooth operation with combined movement
- Lower TCO

#### 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 with minimal play to straightforward configurations needed for less demanding jobs.

#### Application competence

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

#### Benefits

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



# Refuse truck

## with EWELLIX actuators



### Features

- Oil-free operation with the same performance as a hydraulic system
- High responsiveness, speed and positioning
- Integrated safety feature for lifting
- Parallel motion

### Benefits

- Less overhaul and maintenance
- Compactness
- Position feedback
- Stability
- Smooth movement
- Lower TCO

Some of the regulations the market faces include legislation on CO<sub>2</sub>, environmental zones, and urban noise limits. Schaeffler provides a wide range of EWELLIX high performance electromechanical actuators for demanding environments to support OEMs in their electrification journey. With our solutions, we can power all functions of the truck to remove the hydraulic systems providing no leak, no maintenance and smooth movement with high energy efficiency.

### High performance actuators\*



EMA-100/EMA-130

\* EWELLIX actuators offered by Schaeffler

# Street sweeper

## with EWELLIX actuators



### Features

- Oil-free operation with the same performance as a hydraulic system
- High responsiveness, speed and positioning
- Integrated safety feature for lifting
- Integrated sensor

### Benefits

- Less overhaul and maintenance
- Compactness
- Position feedback
- Stability
- Smooth movement
- Lower TCO

Thanks to its innovative, ecological technology of sweeping movements that avoid hydraulic oil leaks, it responds perfectly to the needs of towns and municipalities that want to invest in quality of life for their citizens.

Moreover, positioning speed and accuracy, increase productivity, reducing the time for adjustment to the road surface.

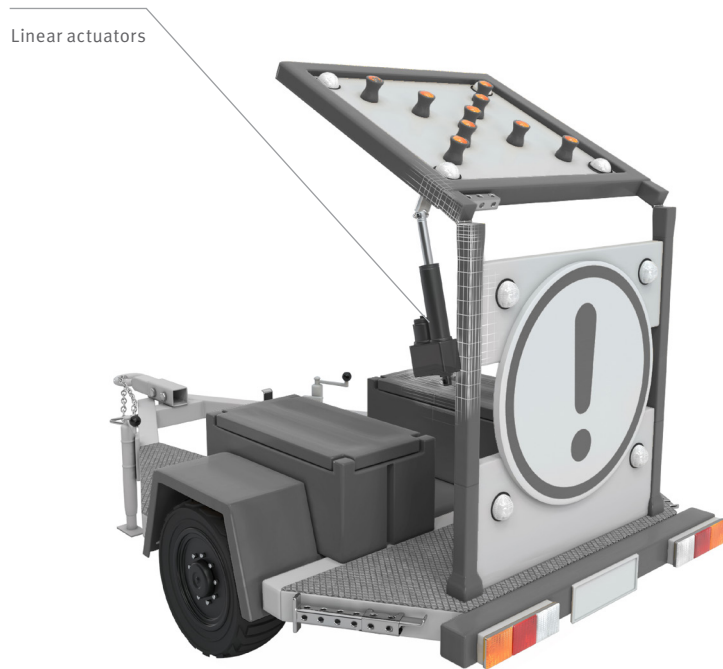
### Linear actuators\*



CAHB-2x

\* EWELLIX actuators offered by Schaeffler

# Safety road signage equipment with EWELLIX actuators



## Features

- Oil-free operation with the same performance as a hydraulic system
- High responsiveness, speed and positioning
- Integrated controller
- Integrated controller with BUS communication

## Benefits

- Less overhaul and maintenance
- Energy efficient
- Position feedback
- Lower TCO
- Remote control

Safety on the road is a must. Remote operation using powered motion reduces the risk of exposure to road workers. EWELLIX electromechanical actuators offered by Schaeffler provide an easier design controlled by I/O or CAN Bus with diagnostic and position feedback and are tested for use in harsh environments such as road construction sites.

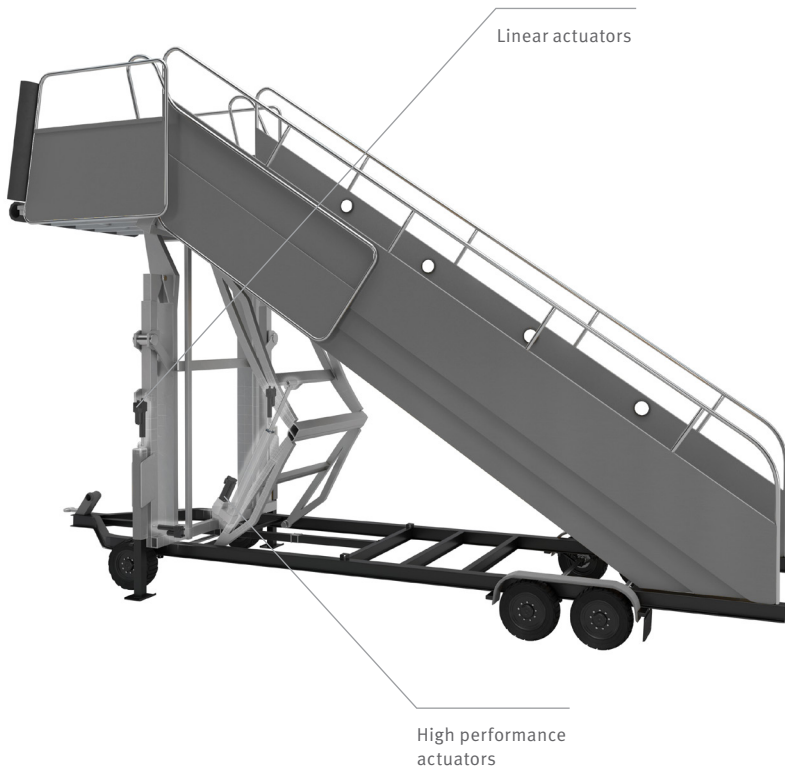
## Linear actuators\*



CAHB-2x

\* EWELLIX actuators offered by Schaeffler

# Ground support equipment with EWELLIX actuators



## Features

- Oil-free operation with the same performance as a hydraulic system
- High responsiveness, speed and positioning
- Integrated safety feature for lifting
- Integrated sensor

## Benefits

- Less overhaul and maintenance
- Compactness
- Position feedback
- Stability
- Smooth movement
- Lower TCO

Passenger steps provide a mobile means to board the aircraft from the ground. Due to different door sill heights, most models have adjustable heights to accommodate various aircraft.

An easy and fast adjustment and floor locking is the main value to allow a simple use in all airport apron situations.

EWELLIX electromechanical solutions offered by Schaeffler allow positioning precision with high safety in high energy efficient operation without risk of oil leakage.

## Linear actuators\*



CAHB-2x

## High performance actuators\*



EMA-100

\* EWELLIX actuators offered by Schaeffler

# Tail lift delivery truck with EWELLIX actuators



High performance actuators

## Features

- Oil-free operation with the same performance as a hydraulic system
- High responsiveness, speed and positioning
- Integrated safety feature for lifting

## Benefits

- Less overhaul and maintenance
- Compactness
- Stability
- Smooth movement
- Lower TCO
- Parallel motion
- Energy efficiency

Tail lift delivery service is the best alternative to a forklift or a dedicated unloading dock to transfer goods from or in the truck.

Thanks to quick and easy loading and unloading, trucks with such equipment are suitable for urban delivery, with frequent stop and go.

Schaeffler's electromechanical solutions from EWELLIX offer a superior alternative to traditional hydraulic systems, without the risk of oil leakage, with silent operation and regenerative braking, and precise positioning.

## High performance actuators\*



EMA-100/EMA-130

\* EWELLIX actuators offered by Schaeffler

# Service crane

## with EWELLIX actuators



### Features

- Oil-free operation with the same performance as a hydraulic system
- High responsiveness, speed and positioning
- Integrated safety feature for lifting

### Benefits

- High efficient power on demand
- Less overhaul and maintenance
- Position feedback
- Stability
- Smooth movement
- Lower TCO

Some of the regulations the market faces include legislation on CO<sub>2</sub> and greenhouse gas emissions, environmental zones, EU emissions regulations for combustion engines and urban noise limits.

Schaeffler provides a wide range of EWELLIX electromechanical actuators for demanding environments to support OEM's in their electrification journey. With our solutions, we can power all truck functions by the battery pack to remove the hydraulic systems providing no leak, no maintenance and smooth movement without engine running.

### High performance actuators\*



EMA-100/EMA-130

\* EWELLIX actuators offered by Schaeffler

# EWELLIX products overview



<b>Linear actuators*</b>	<b>CAHB-2x</b>
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



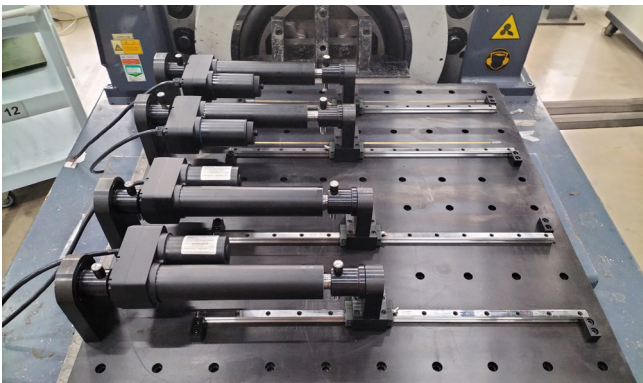
<b>High performance actuators*</b>	<b>EMA-100</b>	<b>EMA-130</b>
Rated push load	Up to 80000 N	150000 N
Speed	Up to 890 mm/s	Up to 160 mm/s
Stroke	Up to 2000 mm	Up to 2000 mm
Retracted length	Stroke + 326 mm	Stroke + 326 mm
Static load	80000 N	300000 N

\* 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**

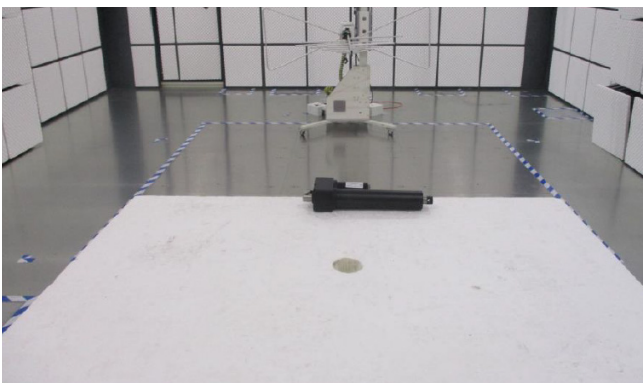
The actuators are used on mobile equipment and we put them on different test benches to validate how they withstand vibration and shock on all three axes.



Low temperature test

### **Climatic tests**

The actuators are tested in a climatic test chamber that reproduces extremely low  $-40\text{ }^{\circ}\text{C}$  and high temperatures  $+85\text{ }^{\circ}\text{C}$  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.

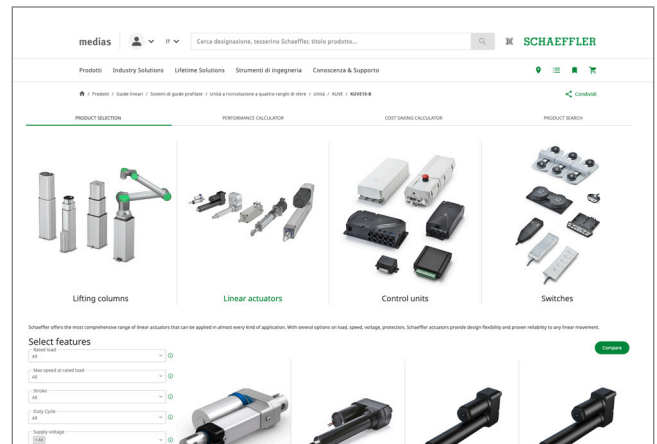
### EWELLIX Actuator select

- 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

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

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Issued: 2025, September

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