Linear Motion solutions for mobile machinery

We pioneer motion

SCHAEFFLER

More benefits with fluid power replacement

Schaeffler has a clear strategy to support customers in developing better mobile machines for tomorrow

Electrification is a macro-trend across all mobile machines
Electromechanical actuators have already replaced hydraulic cylinders in many auxiliary adjustment or steering functions. This brochure will guide you through the benefits of using oil-free technologies in linear motion for a wide variety of applications, including aerial work platforms, agriculture machinery, construction equipment, material handling truck, and many more.

You will learn about linear actuators with improved lifting capabilities designed to enhance productivity with more energy efficiency, safety and reliability. High precision adjustment, smooth movement and exceptional stability are just some of the benefits which, together with a lower total cost of ownership, make these solutions increasingly competitive.

Discover how oil-free solutions can be a sustainable alternative for the linear motion of the future.

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.

Critical drivers for electrification in mobile machinery industries

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

Electromechanical advantages compared to hydraulics

How environmental constraints of mobile machinery are driving electrification trends ‘end to end’ without compromising performance

The automotive market has seen a fast ramping-up in electrification through a combination of disruptive new technologies (Battery Electric Vehicle) and mixed models (Hybrid EV). The same trend is also driving a transformation in trucks and buses, construction equipment, material handling and other vehicle types.

How is electrification related to fluid power replacement?
A car engine exceeds 100 kW but has limited electric power available to drive electric auxiliary adjustment functions, electric power steering or electric parking brake.
In mobile machinery, the first step was taken when electromechanical actuators replaced hydraulic cylinders to improve auxiliary adjustments with position feedback and good stability, increasing safety.

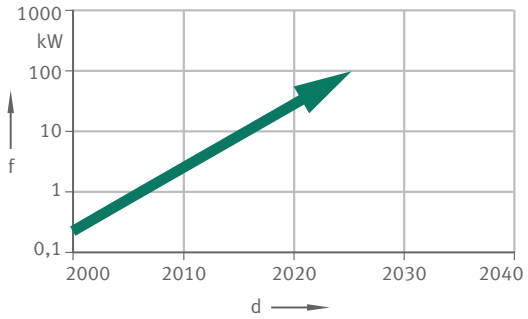
The next step was the electrification of the vehicle drive functions, with electric drive trains and more auxiliary functions such as electric steering units.

Now, higher capacity electric power sources allow replacing fluid power used for work functions with electromechanical actuators. 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. Finally, a machine equipped with electromechanical actuators will offer a lower Total Cost of Ownership (TCO).

Benefits

- Energy recuperation capability
- Smaller battery
- Quick recharge for less downtime
- Higher productivity
- More data for On-board diagnostic and telematics

Increase of the electric power available on the mobile equipment



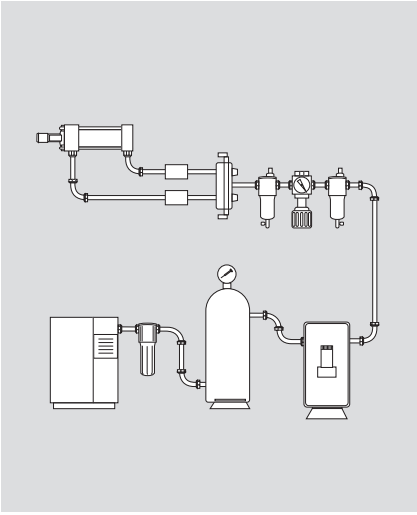
f	Electric power	d	Year

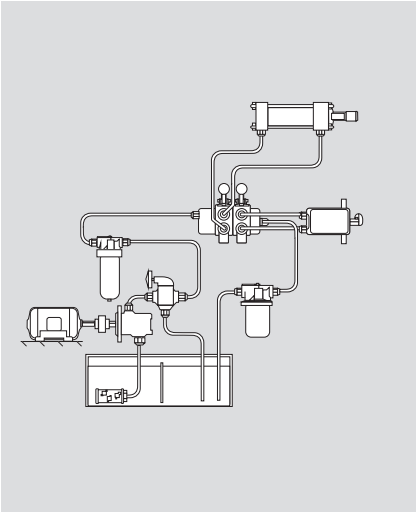
Simpler system
Pneumatic systems require many components, including hoses, pumps, valves, regulators, lubricators and air filters. Hydraulic systems, as well, require a complex setup, along with noise-reduction equipment. Commissioning time is also longer since technicians need to fine-tune several parts.
Electromechanical systems only require a motor, electric cables and a driver connected by a CAN Bus to the electronic control unit (ECU) of the vehicle.
This system allows for a much smaller system footprint and simple mechanical layout, reducing the equipment's installation significantly and the commissioning time needed.

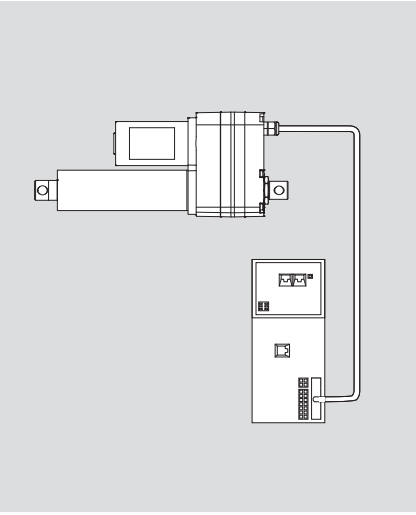
Control, positioning accuracy & stability
Capability to control motion and position while ensuring stability is limited with fluid power and requires costly additional sensors and servo valves.
The position and motion are easy to control with an electromechanical actuator, with cost-effective position feedback integrated as standard. The force chain through mechanical components offers stability and safety. Systems are less complex to design, ensuring adequate reliability and performance.

Safety and environment
Compressed air has high energy losses. In hydraulics, oil at high pressure has a risk of leakages, which are almost impossible to eliminate and require constant service. Additionally, a faulty line can result in dangerous and costly damage.
Regarding safety in case of power loss, actuators can maintain their position and stability, and not collapse or change position.

Benefits
- Fewer components
- Smaller footprint
- Cleaner machine design
- Easier integration in existing equipment
- Quicker installation


Pneumatic


Hydraulic


Electromechanical

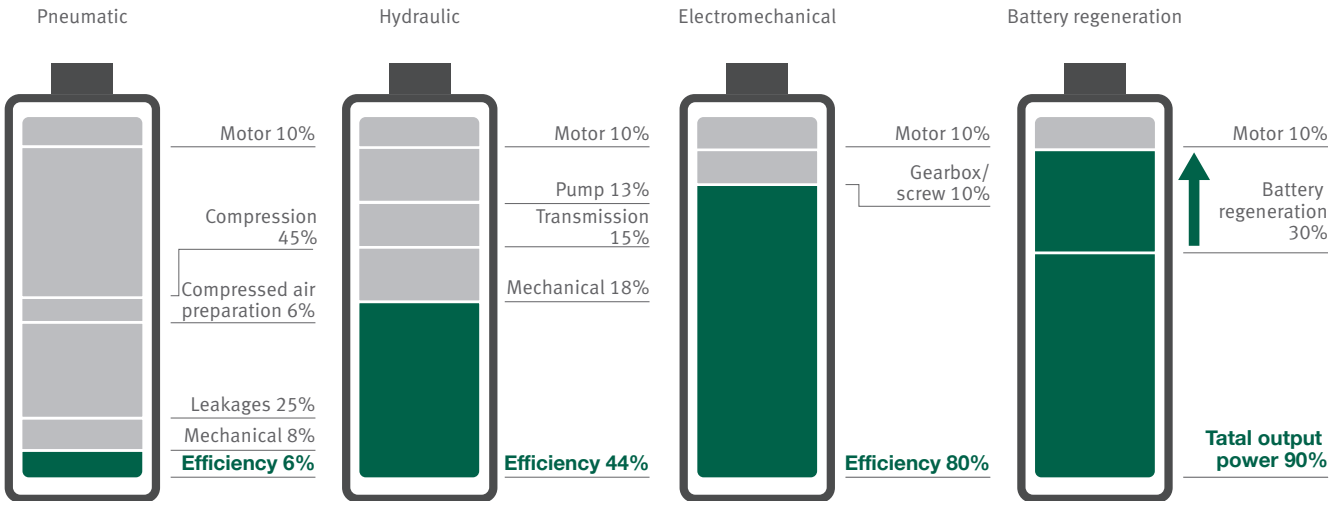
Energy savings
Air preparation and compressibility make pneumatics less efficient than other linear motion technologies.
Depending on the load, hydraulics can operate efficiently; however, they encounter several internal and external losses in the conversion between pressure generation and linear movement.
Electromechanical actuators require only 2-3 steps in converting input energy into output power, providing greater energy efficiency.

Overhaul, maintenance and repair
To maintain the performance of the fluid power system, it is essential to follow the overhaul recommendation.
Depending on the type, an electromechanical actuator could be maintenance-free or with very little re-lubrication points. In addition, the built-in electronics of the actuator will provide off-board diagnostic and will help the onboard diagnostic of the machine.

Energy recuperation
In addition to greater energy efficiency when pushing a load, high efficiency electromechanical actuators can recuperate a significant part of the potential energy used when reversing a movement, depending on its function. This additional benefit can drastically improve the overall efficiency of the system.

Benefits
- Power consumption only when operated
- Higher system efficiency
- Easier predictive maintenance and On-board diagnostic
- Easier energy recuperatio

Efficiency: Energy losses comparison



Linear motion solutions designed for Battery Electric Vehicles

On- and Off-highway vehicles must meet both regulatory requirements and user expectations. Some of the regulations the market faces include legislation on CO_2 and greenhouse gas emissions, environmental zones, EU emissions regulations for combustion engines and enclosed workspaces, work environment regulations and urban noise limits. Electrical solutions for hybrid or all-electric systems are increasingly entering the market both in city and indoor applications. Schaefflers provides manufaturers a wide range of EWELLIX electromechanical actuators for demanding environments to support OEMs in their electrification journey.

Challenges

- No compromise on the work and power density compared to traditional equipment
- Reduced energy consumption and CO_2 emissions
- Quick recharge, more uptime
- Low noise emissions
- Enhanced functionality and safety

Values

- No oil, no leaks, virtually maintenance-free, less noise, higher reliability
- Extensive range including high-performance actuators for high speed/force applications
- High efficiency, stability without power, energy recuperation capability
- Safety features to prevent damage to operator or machine
- Monitoring and onboard diagnostic to improve process control and reduce downtime
- Lower TCO (Total Cost of Ownership)

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_2, environmental zones, and urban noise limits. Schaeffler provides a wide range of EWELLIX high performance 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/EMA-150

* 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.

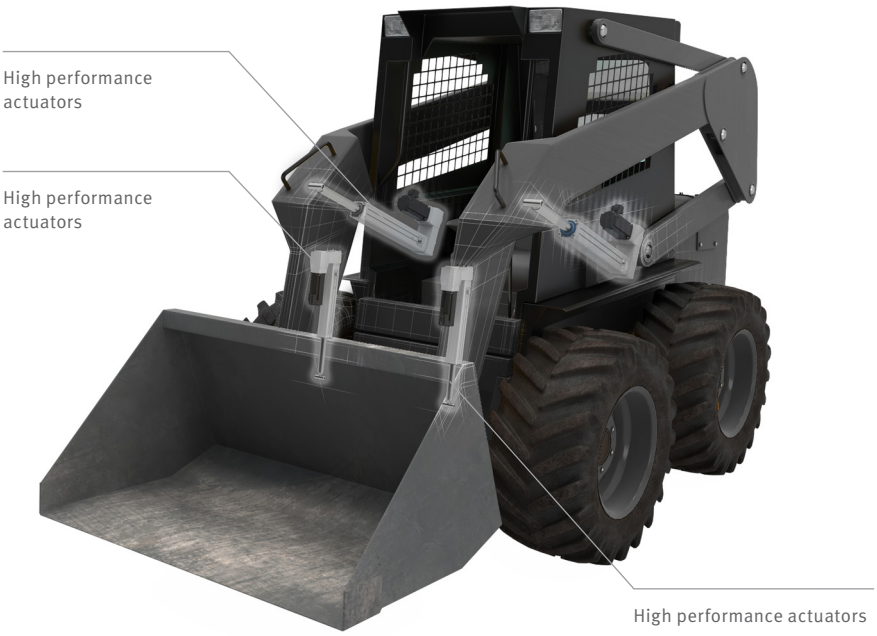
Linear actuators*

CAHB-2x

* EWELLIX actuators offered by Schaeffler

Skid-steer loader

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

- Less overhaul and maintenance
- Energy efficiency with recuperation
- Compactness
- Position feedback
- Stability
- Smooth movement
- Lower TCO
- Parallel motion

Skid-steer loaders become battery electric to be used indoors or in the city. EWELLIX electromechanical actuators offered by Schaeffler can be used in the compact loader to lift the arm and tilt the bucket with high energy efficiency and smooth movement. In addition, they offer an oil-free solution for less overhaul and maintenance and a lower total cost of ownership.

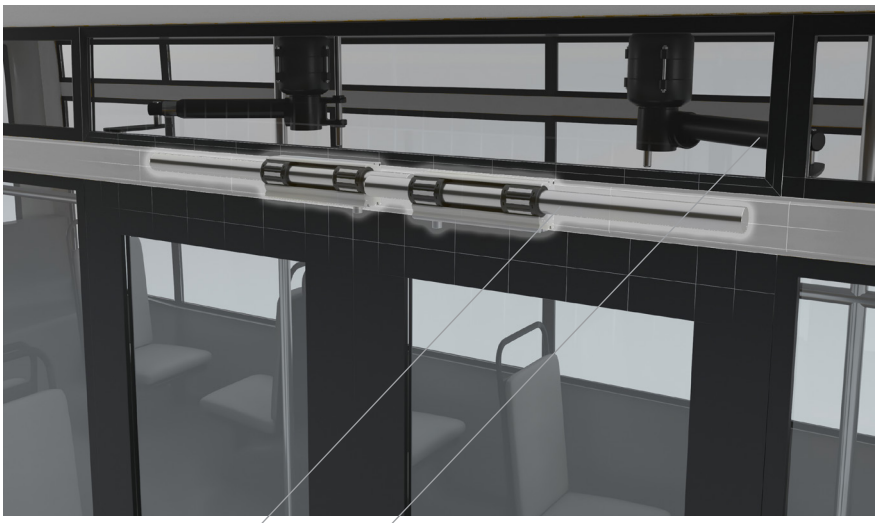
High performance actuators*

EMA-100/EMA-130

* EWELLIX actuators offered by Schaeffler

Train and bus doors

with EWELLIX actuators



Linear ball bearings

Linear actuators

Features

- Wide range of bearings sizes from 3 to 80 mm
- Ready to install factory pre-lubricated products
- Linear bearings fulfill EN 45545-2 railway norm

Benefits

- Powered function pneumatic free
- Compatible with pneumatic control
- Smooth operation
- Long service life even in harsh environment
- Excellent sealing performance for rough conditions

Train, tram and bus doors must open fully and safely throughout the day, all year long. The parallel side movement of the door systems and the rectangular unlock movement are possible thanks to linear ball bearing solutions even in harsh environment..

Linear actuators*	Linear guides	Precision ball screws
		
CAHB-10	LBBR	SX

* EWELLIX actuators offered by Schaeffler

Aerial work platform

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.

Challenges

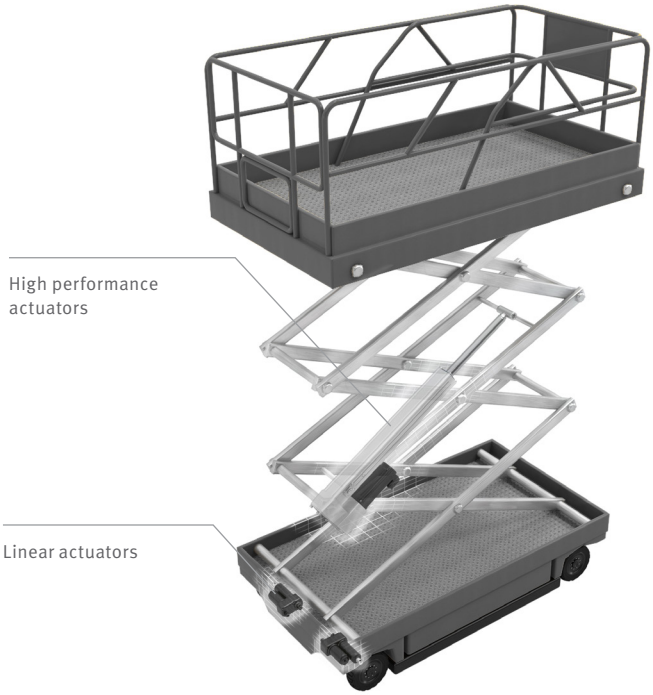
- Oil-free operation with comparable performance and power density
- Energy-efficient electrical solution
- Critical functions and upgraded functionalities

Values

- Large assortment including actuators for high speed/force applications
- Higher reliability and mechanical efficiency with brake/lowering device
- Valuable data output for telematics
- Lower TCO (Total Cost of Ownership)

Scissor lift platform

with EWELLIX actuators



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The trend is towards hybrid or all-electric solutions. EWELLIX electromechanical actuators offered by Schaeffler are strategic components in electrical solutions.

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

Linear actuators* **High performance actuators***

CAHB-2x

EMA-100

* EWELLIX actuators offered by Schaeffler

Material handling

Material handling equipment requires smooth and fast motion to move material around an operation efficiently. Most forklift trucks and Autonomous Guided Vehicles (AGV) or Autonomous Mobile Robots (AMR) operate with electric drives. Energy efficiency is a crucial feature in material handling to increase runtime and productivity, whilst systems are still prevalent in high power lifting functions but have poor energy efficiency. EWELLIX electromechanical actuators provide energy-efficient alternatives for these functions in material handling.

Challenges

- Oil-free operation with the same performance and power rating
- High responsiveness, speed and positioning
- Key safety features

Values

- Extensive selection with high-performance drive speeds
- High energy efficiency and recuperation capability
- No risk of leakage
- Greater reliability and mechanical efficiency
- Telematics-ready sensors and feedback options
- Lower TCO (Total Cost of Ownership)

Forklifts

with EWELLIX actuators

Features

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

Benefits

- Oil-free
- Energy efficient
- Smooth movement
- Lower TCO
- Energy recuperation

An electric forklift is a powered industrial truck used to lift and move materials over short distances for indoor and outdoor applications. It has become increasingly common to use electrical solutions for lifting, tilting and adjusting the fork and for steering. The EWELLIX electromechanical actuators offered by Schaeffler, provide an energy efficient and oil-free solution for smooth movement with energy recuperation and lower Total Cost of Ownership.

High performance actuators* **Linear actuators***

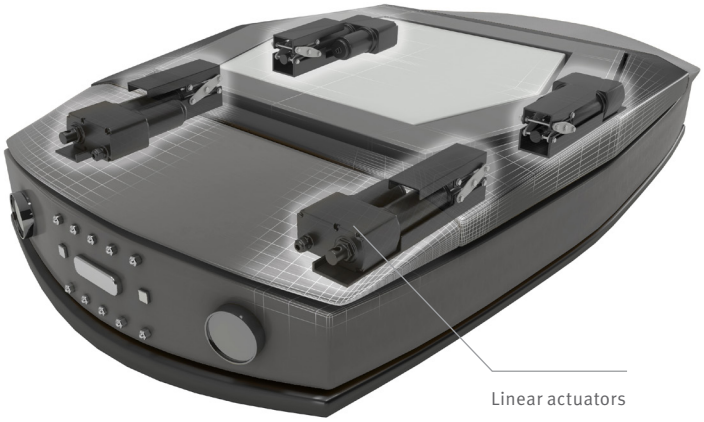
EMA-100

CAHB-2x

* EWELLIX actuators offered by Schaeffler

Automated Guided Vehicles (AGV)

with EWELLIX actuators



Features

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

Benefits

- Oil-free
- Energy efficient
- Compactness
- Position feedback
- On-board diagnostic
- Stability
- Vertical axis
- Parallel motion

Automatically controlled or autonomous vehicles that transport a wide range of products from crates to pallets are becoming increasingly popular in today's fast-moving environment. Electromechanical actuators lift few tons in a small space for unit load AGV, move the arm of the tow tugs top module or lift the low lift truck Autonomous Mobile Robots (AMR).
The plug-and-play EWELLIX LIFTKIT offered by Schaeffler generates a vertical axis to extend the performance of the AMR and 6 axis Robot for goods-to-person operations. The EWELLIX electromechanical actuators and lifting columns offered by Schaeffler, provide efficiency, ease of operation and positioning with feedback.

Linear actuators*

CAHB-2x

* EWELLIX actuators offered by Schaeffler

Agricultural machinery

Farmers today face the challenge of reducing costs while increasing crop yields. Agricultural machinery manufacturers have developed a wide range of equipment with the latest technologies that can adapt better to the conditions in which it will be used, thereby improving performance. They need a wide range of products with greater load-bearing capacity and speed, as well as individual solutions from reliable suppliers with a global presence and support. Current industry regulations are already having a significant impact on the engine used, which has consequences for other components such as cooling systems and a heavier bonnet. A new generation of equipment such as battery-electric and autonomous vehicles are being launched. Schaeffler offers solutions for increased reliability, performance and safety for OEMs manufacturing such machines.

Challenges

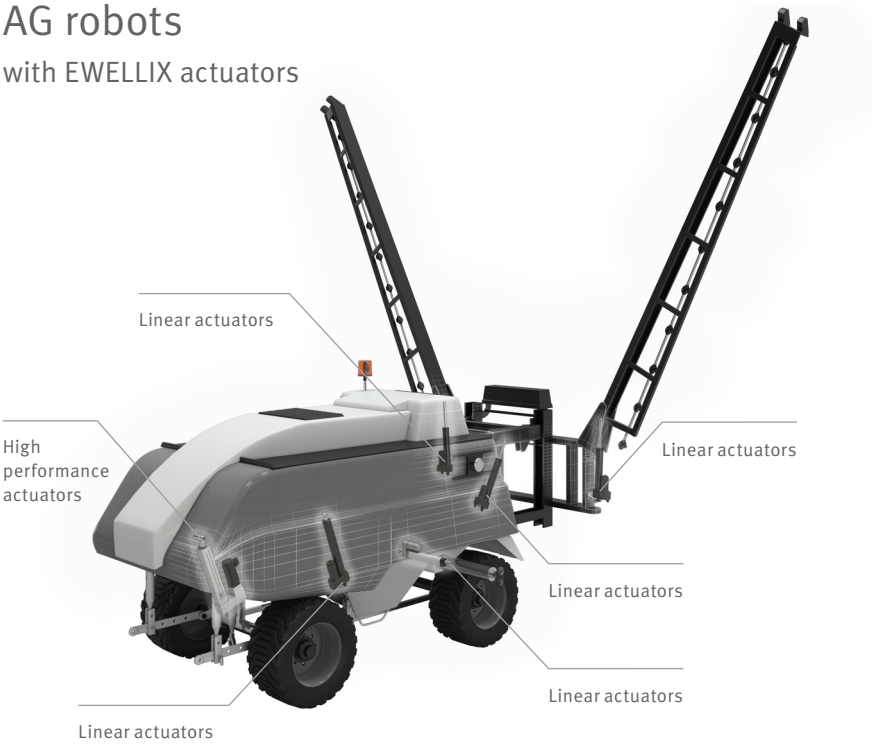
- Higher crop yield and productivity
- Consistent performance even in demanding environments
- High-cost efficiency

Values

- Ingress protection in movement IP66M
- Higher controllability and positioning feedback
- No leakage, tested and maintenance-free
- Lower TCO (Total Cost of Ownership)

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*

CAHB-10

CAHB-2x

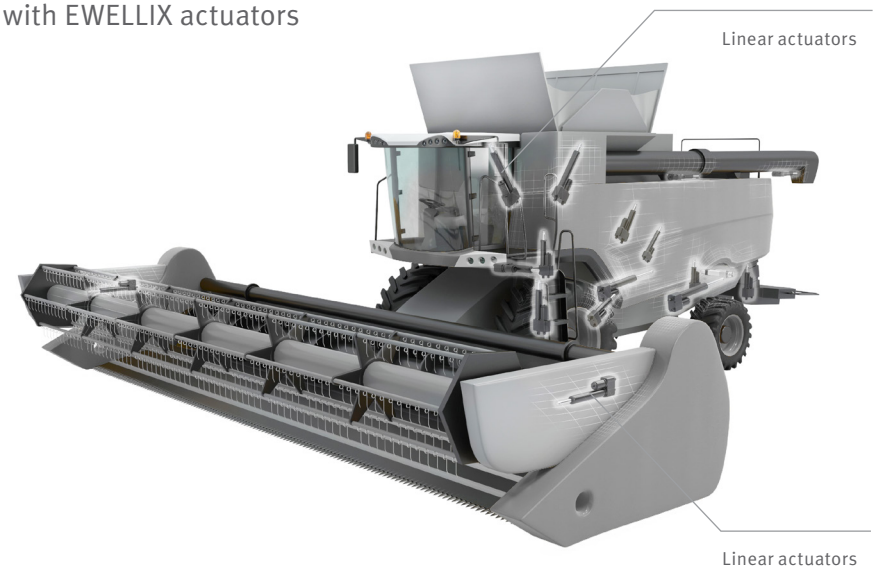
High performance actuators*

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

Construction equipment

Construction machinery manufacturers today face the challenges of reducing costs on the one hand and increasing productivity on the other. Products with higher work capacity and performance are needed to achieve these goals and pose higher demands to the components installed. Schaeffler offers a wide range of EWELLIX electromechanical actuators for demanding environments to provide more comfort and productivity for construction equipment.

Challenges

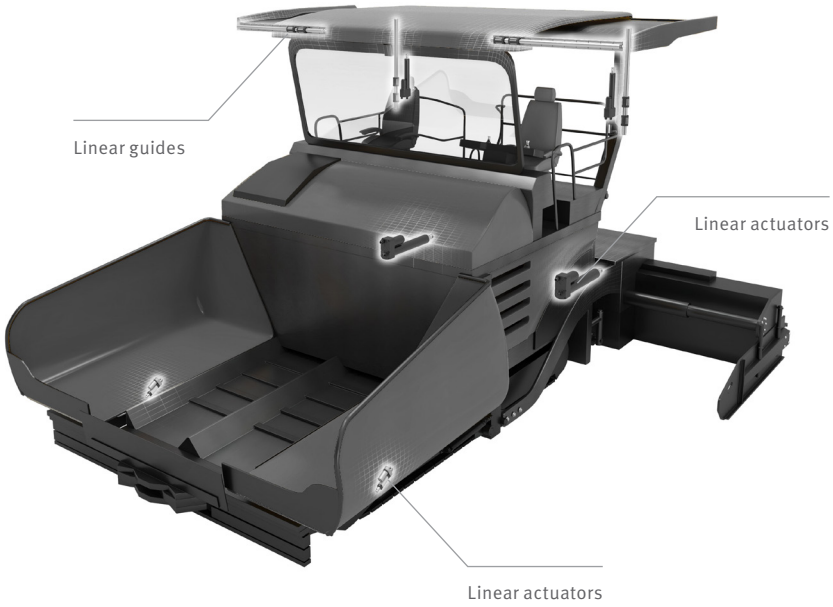
- Greater productivity
- Improved operator safety and ergonomics
- High cost-efficiency

Values

- Reliable and maintenance-free
- Improved manoeuvrability and position sensing
- No risk of leakage
- Lower TCO (Total Cost of Ownership)

Road machine

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

- Less overhaul and maintenance
- Accurate positioning
- Position feedback
- Stability
- Easy operation
- Compactness
- No risk of leakage
- Lower TCO

In road construction employing paving or asphalting equipment, numerous settings are required to ensure perfectly laid asphalt on roads, bridges and car parks. The EWELLIX electromechanical actuators offered by Schaeffler and our linear guides provide accurate positioning, position feedback, stability and easy operation to lift the roof of the cabin and set the scraper plate.

To make construction machinery more compact for transport, the lateral roof extension and roof lift are retracted using linear ball bearings.

Linear actuators*

CAHB-10

CAHB-2x

Linear guides

LBBR

* EWELLIX actuators offered by Schaeffler

Articulated compact dumper

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
- Energy efficiency with recuperation
- Compactness
- Position feedback
- Stability
- Smooth movement
- Lower TCO

Compact dumpers become battery electric to be used indoors or in the city. EWELLIX electromechanical actuators offered by Schaeffler can be used in compact dumpers to steer the vehicle and to dump the bucket with high energy efficiency and smooth movement. In addition, they offer an oil-free solution for less over-haul and maintenance and a lower total cost of ownership.

High performance actuators*

EMA-100/EMA-130

* EWELLIX actuators offered by Schaeffler

Municipal vehicles

Municipal vehicles as delivery truck and ground support equipment must meet both regulatory requirements and user expectations. Electrical solutions for hybrid or all-electric systems are increasingly entering the market. Schaeffler provides manufacturers with a wide range of EWELLIX actuators for demanding environments to support OEMs in their electrification journey providing high energy efficiency, no oil solution and lower total cost of ownership (TCO).

Challenges

- Decrease CO_2 emissions
- Ergonomics and safety for the operator

Values

- Lower CO_2 emissions
- More productivity
- More uptime (linguistic check)
- Lower TCO (Total Cost of Ownership)

Tail lift delivery truck

with EWELLIX actuators

High performance actuator

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.

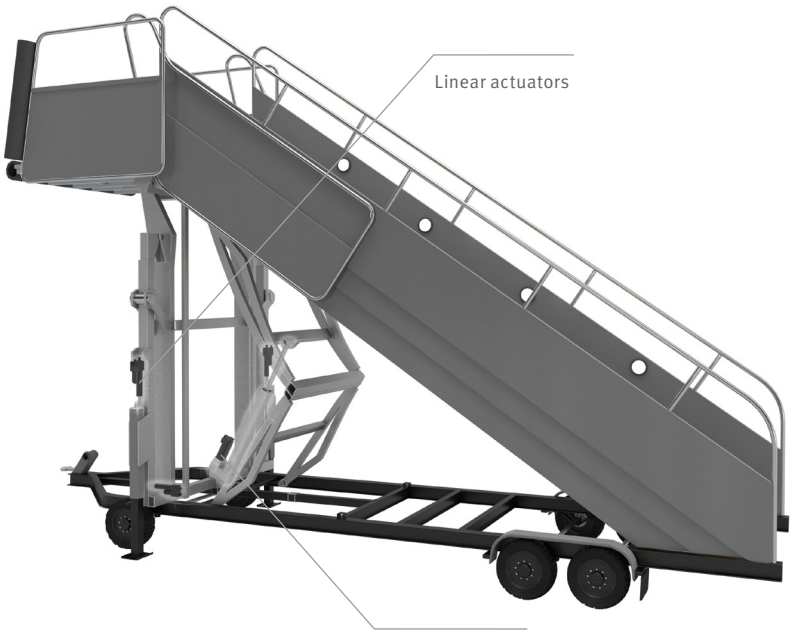
High performance actuators*

EMA-100/EMA-130

* EWELLIX actuators offered by Schaeffler

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

Linear actuators*

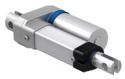
CAHB-2x

High performance actuators*

EMA-100

* EWELLIX actuators offered by Schaeffler

Products overview



EWELLIX Linear 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
Stroke	Up to 700 mm	Up to 700 mm
Retracted length	Stroke + 108/168 mm	Stroke + 160/235 mm
Static load	2500 N	20000 N

EWELLIX High performance actuators	EMA-100	EMA-130	EMA-150
Rated push load	Up to 80000 N	150000 N	150000 N
Speed	Up to 890 mm/s	up to 150 mm/s	up to 190 mm/s
Stroke	Up to 2000 mm	up to 2000 mm	up to 2000 mm
Retracted length	Stroke +326 mm	Stroke +326 mm	Stroke +326 mm
Static load	80000 N	320000 N	250000 N

Linear guides	LBB range
Size and range	3 to 80
Dynamic load rating	up to 37,5 kN
Speed	up to 5 m/sec

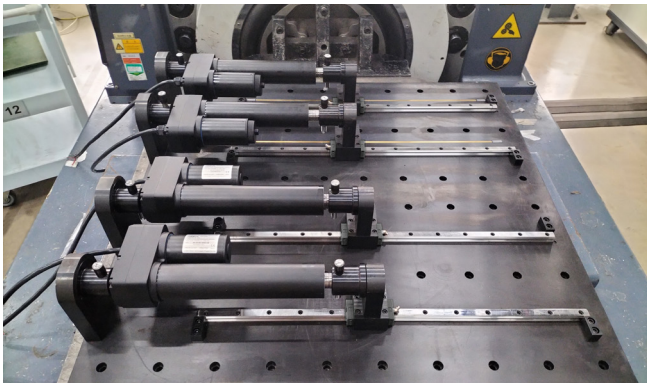
Precision ball screws	SX series
Shaft diameter	20 to 63 mm
Lead	5 to 10 mm
Max axial load	10 to 100 kN
Max length	up to 5700 mm

More data available on request

Your development partner

Tested for your environment

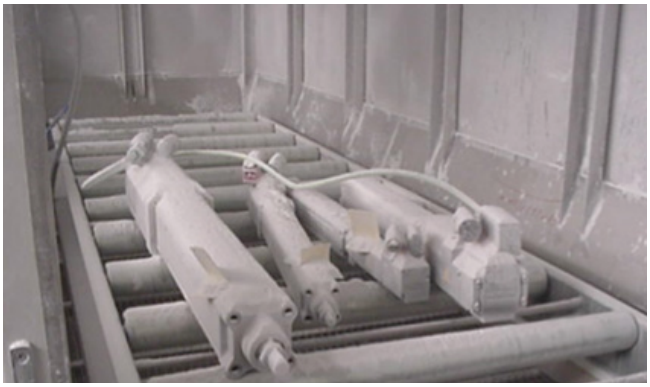
Our expertise in mechanics and electronics and specific application requirements contribute to the development of electromechanical actuators to meet the requirements of mobile machinery manufacturers. We verify our products through a comprehensive test plan that covers all regulatory and environmental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



Vibration test

Mechanical tests

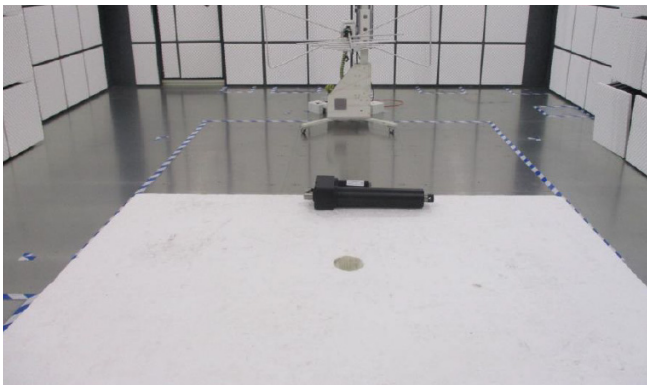
The actuators are used on mobile equipment and we put them on different test benches to validate how they withstand vibration and shock on all three axes.



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.

Customization

Our engineers support customers in developing new solutions based on proven processes and modular platforms, focusing on client-specific requests. Our strong understanding of linear and actuation technologies enables us to offer an extensive customisation program to meet virtually any application need.

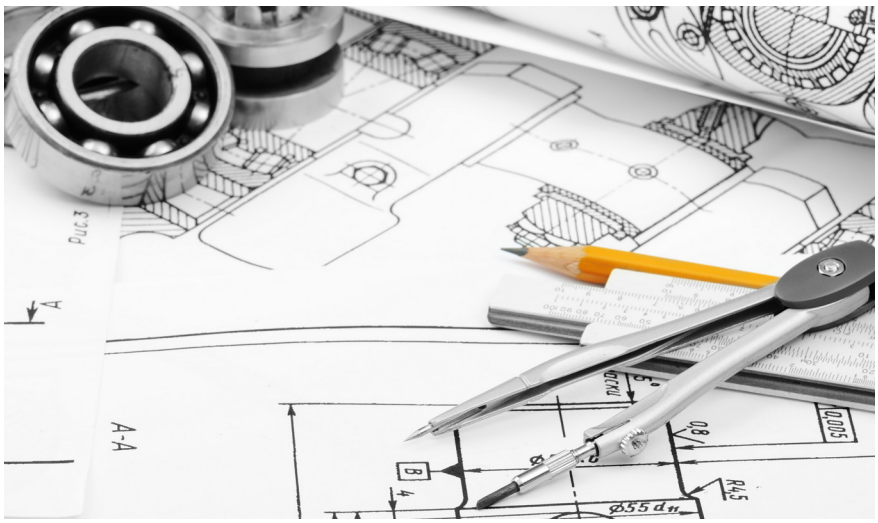
Basic customisation
The following basic design options can be implemented quickly and easily:

- Stroke
- Mounting holes
- Colours
- Attachments
- Motors
- Cables / connectors

Advanced customisation
These design options are more complex and require a dedicated project by Schaeffler personnel working with the customer:

- Materials
- Housing
- Guiding system
- Gearbox (e.g., with hand crank)
- Screw (e.g., lead, treatments)
- Screw nut (e.g., additional backup nut)
- Painting and surface treatments

Complete customization
If the standard assortment cannot fulfill specific technical requirements, we can offer completely customized solutions tailored for each customer.



Digitalisation

We made a step forward in automating and electrifying the machinery and equipment by adding integrated smart control functions, sensors, and communication.
All these new functions are integrated into the SmartX digital platform, where Schaeffler delivers EWELLIX actuation solutions that can represent IoT enablers for customers, supporting their journey toward digitalisation.
SmartX digital platform is a set of solutions that address modern equipment needs: intelligent, flexible and connected. With this offering, we enable customers (OEMs and end-users) to unlock a new world of benefits like increased productivity, higher uptime and lower total cost of ownership. We can offer embedded future-proof functionalities that create new possibilities for current and next-generation machinery.

Innovation

We work pro-actively to better understand and improve our customer's applications, the challenges and benefits they are facing when electrifying their equipment. On the right a concept vehicle is shown: an electric forklift in which all hydraulic functions have been replaced by electromechanics.

Scalability of the solution

To enable electromechanical solutions for larger mobile machinery or with higher power work functions, we are continuously expanding our offer to increase the power range. On the right the extensive EWELLIX EMA-100 actuator series offered by Schaeffler is shown.

EWELLIX EMA-150 (top) and EMA-100

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

Ball and Roller Screw select

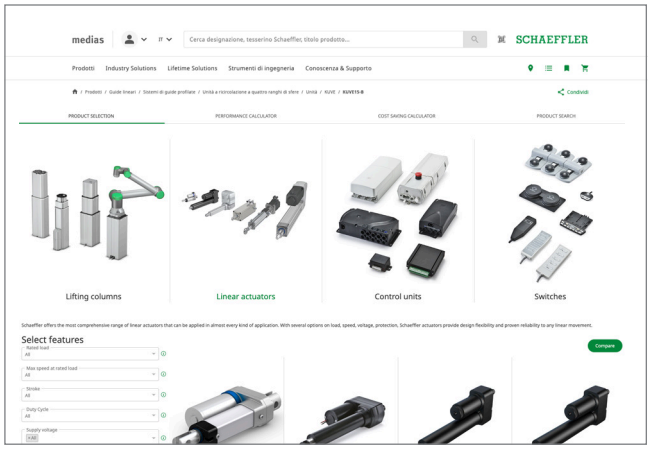
- Product selection
- Product calculator
- Product verification

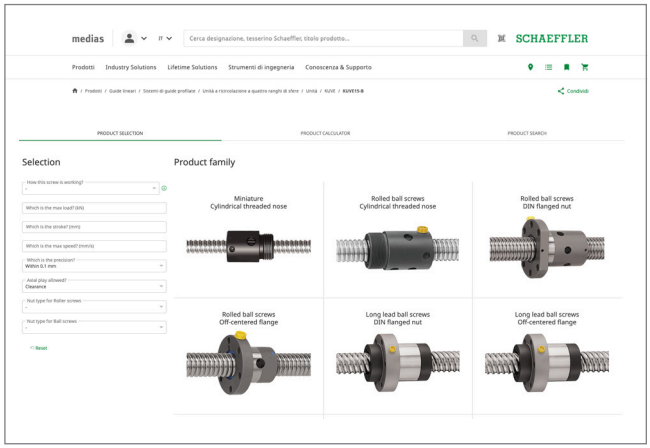
Linear guides select

- Product selection
- Product calculator
- Cross reference

EWELLIX Actuator select
› Scan QR code
› Click on link

Ball and Roller Screw 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

Linear ball bearings and shafts
› Scan QR code
› Click on link

EWELLIX High performance actuator EMA-100
› Scan QR code
› Click on link

Precision rolled ball screws
› Scan QR code
› Click on link

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