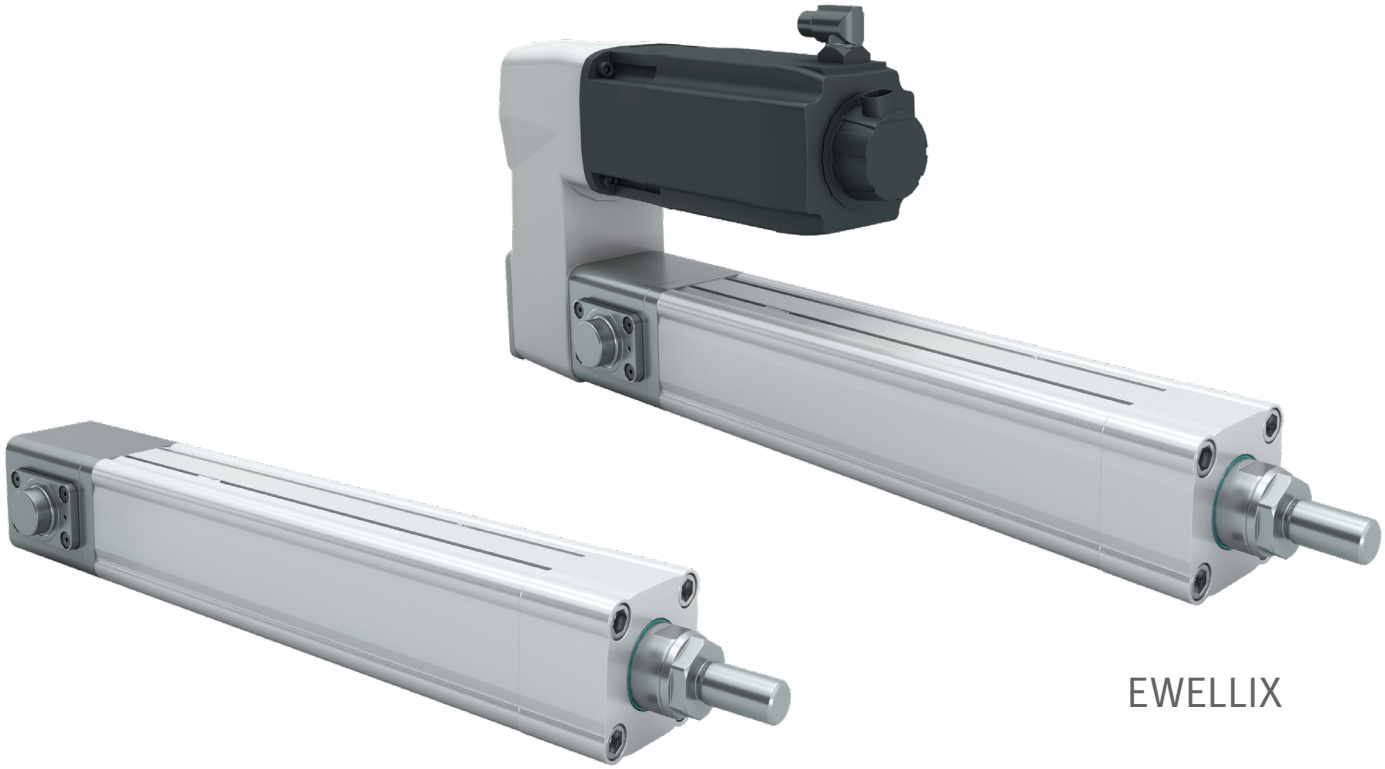


EWELLIX

EWELLIX high performance actuator for heavy duty applications

Power density and modularity

We pioneer motion

SCHAEFFLER

Critical drivers for automation processes

Electrical systems in automated machines help to enhance assembly, forming, pressing and testing processes by being robust, flexible and programmable.

In multiple industries and sectors, electrification is already mature. It offers an excellent solution to reduce final energy consumption and has rapidly changed the mechanical design landscape.

Performance optimization, easy integration and environmental friendliness are three key factors that lead to savings in total cost of ownership. Schaeffler, with a long-standing tradition of technical expertise, helps customers transition from established manufacturing process technologies to innovative approaches with easy, safe and environmentally friendly linear motion solutions.

EWELLIX electromechanical actuators offered by Schaeffler are more reliable and energy efficient than the old-style fluid power versions, combining best-in-class roller screw mechanism powered by brushless servomotor and offering great benefits. We support customers in improving automation equipment with processes that run faster, longer, and safer sustainably.

Planetary roller screw technology benefits

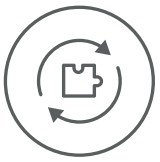
- Power density
- Robustness and shock load resistance
- Long service life
- Efficiency and energy reduction

Our mechatronic and linear solutions offer:

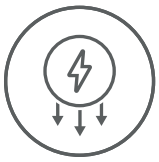
- Minimal maintenance
- Reduced downtime
- Improved total cost of ownership

General features

Greater productivity
High-performance roller screws guarantee continuous use and improve service life while having minimized maintenance.



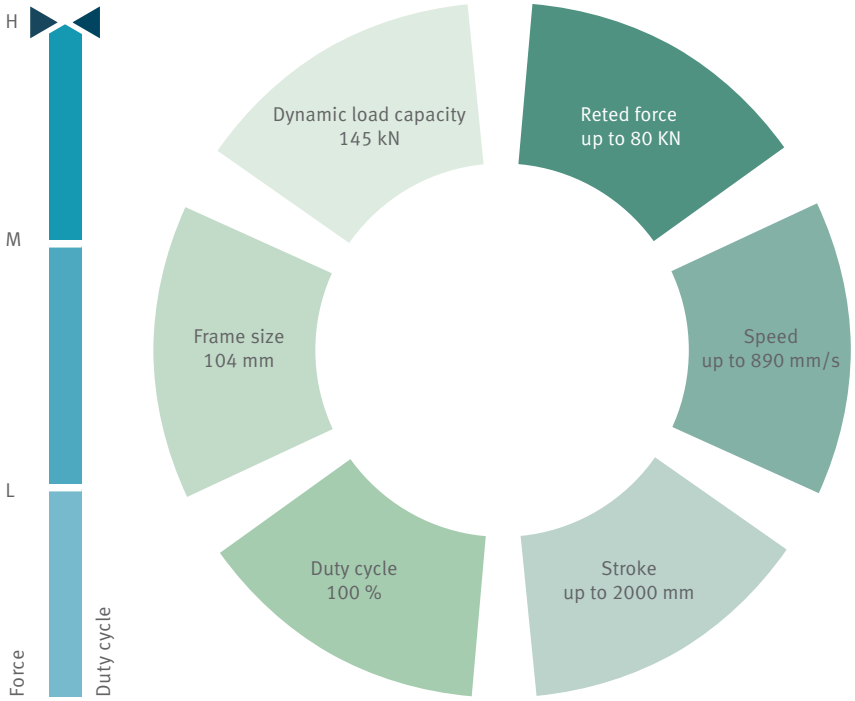
Flexibility and programmability
Modular design offers easy integration into automation equipment.



Pneumatic free systems
Mechatronic systems are environmentally friendly and offer greater efficiency in energy reduction.

Maximized power density
Compact and robust technology where high force and reliability are essential, leading to millions of cycles.

EWELLIX EMA-100

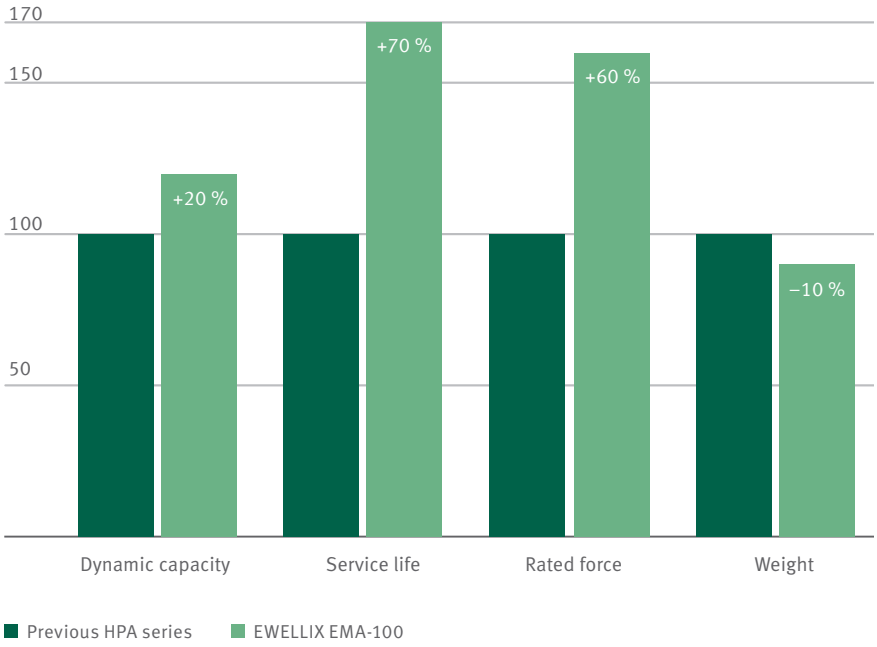


Design highlights:

- Bearing housing in steel for stronger load path resistance
- Robust anti rotation with multiple keys for higher torque resistance
- Sealed body for IP54S ingress protection

Performance improvements

Comparison between the previous HPA series and the EWELLIX EMA-100 by Schaeffler, using an actuator with a Ø30 roller screw.



DYNAMIC CAPACITY +20%

SERVICE LIFE +70%

RATED FORCE +60%

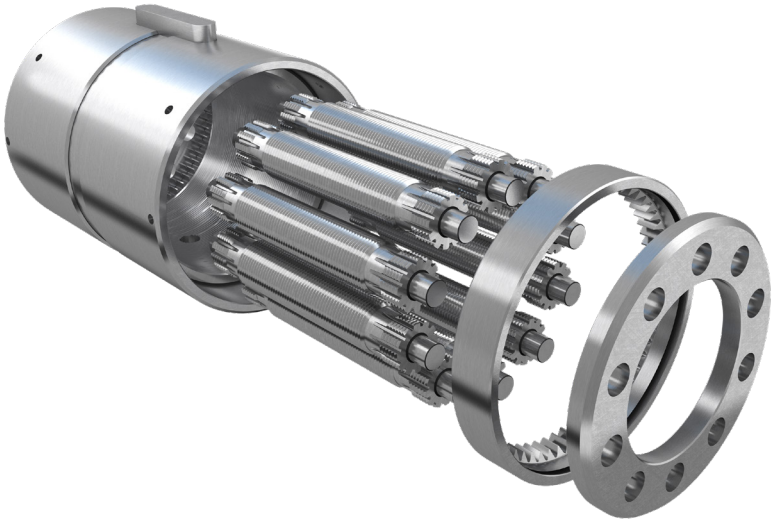
› Usable force to apply the theoretical lifetime calculation L_{10}

POWER DENSITY –10% KG

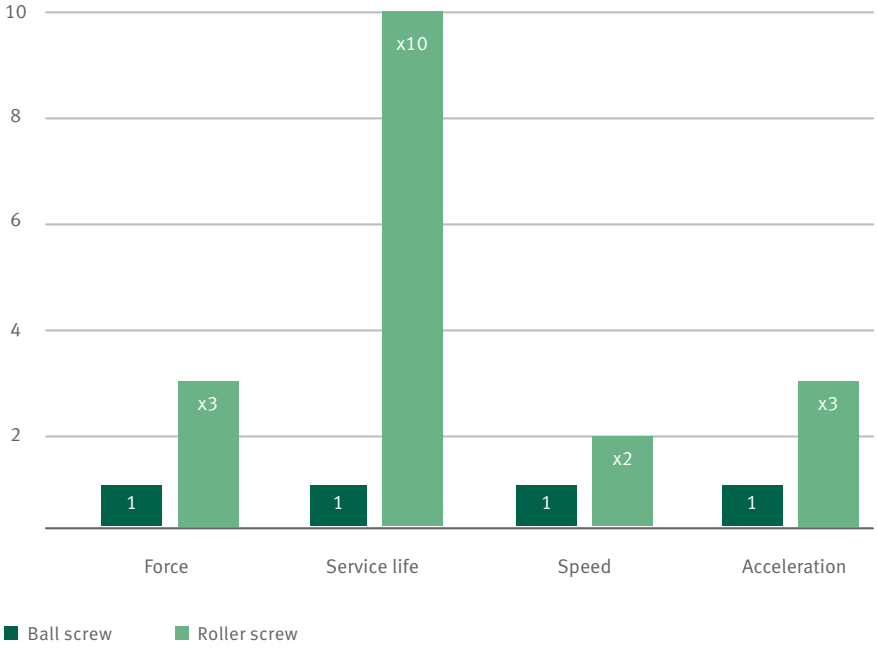
› Factor ratio between weight (kg) and dynamic capacity (kN), to evaluate power density

Core technology for automation processes

Schaeffler is a pioneer in the technology of roller screws and offers high quality, high performance and the most comprehensive assortment of roller screws available on the market. In addition, planetary technology helps improve screw performances following market needs in power density.



Comparison of ball screws and roller screws performances calculated on an equivalent screw diameter



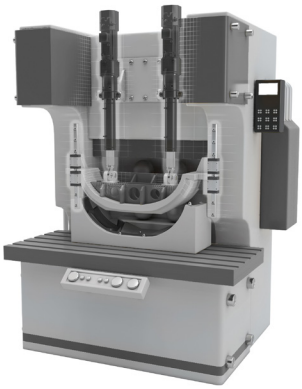
Application examples

With the EWELLIX EMA-100 series, we offer performances improvements and power density for multiple processes, impacting several important application parameters:

- Long service life
- Increased productivity and high duty
- Peak load acceptance
- Easy force and position control
- Force repeatability for constant quality

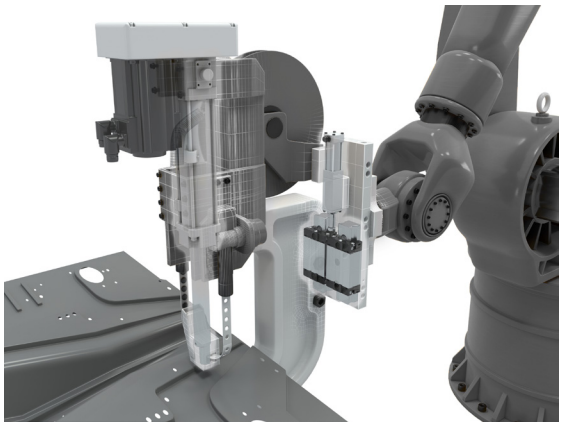
Common applications

- Bending
- Crimping
- Riveting
- Welding
- Gluing
- Press fitting
- Clinching
- Stamping
- Thermoforming
- Blow molding
- Testing equipment
- ...



Material forming

There are many different processes used depending on the material. In metal forming, sheets and parts are pressed into the desired shape. In contrast, thermoplastic components are produced by injection molding or blow molding.

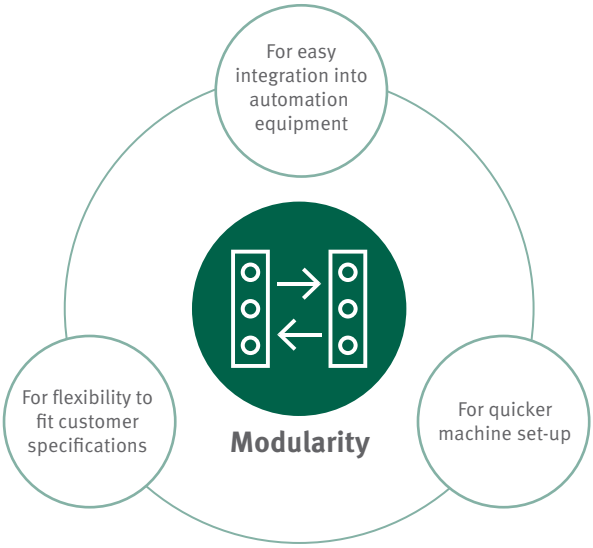


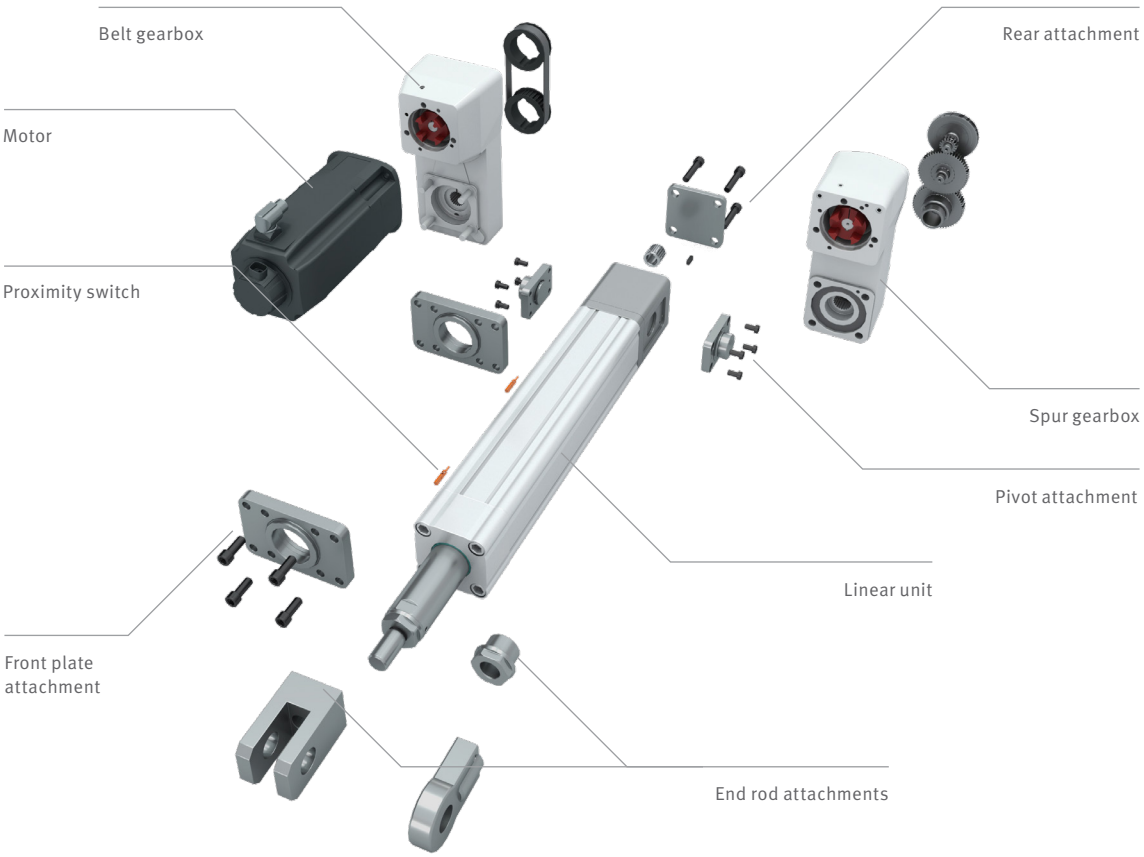
Material joining

Mechanical joining technologies such as riveting are expected to experience significant developments driven by the electrification of the automotive industry. For instance, self-piercing riveting is very adaptable to join mixed lightweight materials such as high-grade steel or aluminum alloys. Industry demands expect robust, reliable, and cost-effective joints combined with repeatable, fast and easy to apply processes.

The modularity

The built-in modularity of the EWELLIX EMA series allows customers to create tailor-made solutions through a vast number of standard components. Considering the multiple options in body attachments, rod attachments, end shaft (spline or keyway to fit customer standard needs), motor interfaces and gearboxes, several hundreds of combinations are possible to meet most demanding application requirements.





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