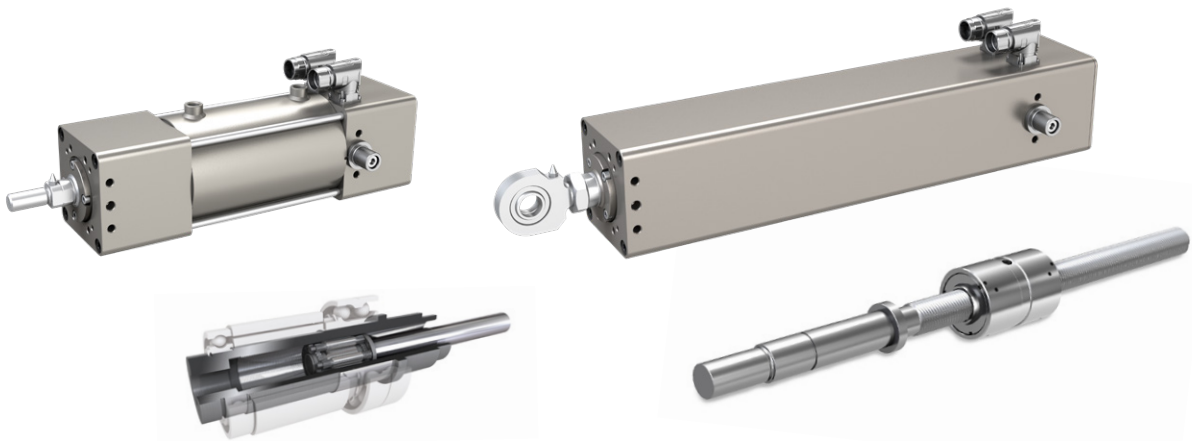


# Linear solutions for spot welding

Compact, robust, and modular solutions



Electrical actuators in automated lines help to enhance the welding assembly process by being reliable and programmable.

Automotive manufacturers strategically work on vehicle weight reduction to meet regulatory and market demands. New high-strength materials demand consistent, high-quality joints. Servo actuators offer efficient and reliable welding processes to follow market trends.

Besides improvements and the evolution of the vehicle itself, companies are actively looking for a more diverse, flexible, and reduced assembly line footprint that will positively impact the environment.

Ewellix has a long-standing tradition of technical expertise. We support customers in improving automotive manufacturing equipment for joining and welding processes that run faster, longer, and safer sustainably.

Ewellix electromechanical actuators are more reliable and energy efficient than the old-style pneumatic versions. They combine a best-in-class roller screw mechanism powered by a brushless servomotor and offer great benefits.

Ewellix mechatronic solutions integrated into assembly lines offer:

- Reliability
- Consistency in the welding process
- Minimal maintenance
- Reduced downtime
- Improved total cost of ownership

## Planetary roller screw technology benefits

- Power density
- Robustness
- Long service life
- Efficiency and energy reduction

# Critical drivers for welding assembly equipment



### Greater productivity

High-performance roller screws guarantee continuous use and improve service life while having minimized maintenance (achieving 10 million spots without re-lubrication).



### Flexibility and programmability

Compact and modular design offers easy integration into automation equipment and compatibility with various robot brands.



### 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 over 20 million spot welds.

## Ewellix solutions

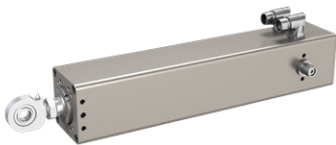
### CEMC2105



- Compactness
- Lightweight
- Power density
- Planetary roller screw for robustness and service life
- Integrated servomotor for high dynamics

- Rated force: up to 25 kN
- Speed: up to 300 mm/s
- Unique stroke: 180 mm
- Natural or water cooling
- Actuator weight ~12 kg
- More than 300 possible configurations

### CEMC1808



- Compactness
- Lightweight
- Longer stroke capability
- Planetary roller screw for robustness and service life
- Integrated servomotor for high dynamics

- Rated force: up to 15 kN
- Speed: up to 480 mm/s
- Stroke: 150 or 300 mm
- Natural or water cooling
- Actuator weight ~13 kg
- More than 300 possible configurations

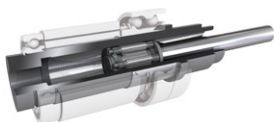
### Planetary roller screw



- Outstanding load carrying capacities vs ball screws
- No recirculation needed
- Robust design for shock load resistance and high acceleration
- Fewer failure modes
- Design flexibility

- Rated dynamic capacity: up to 80 kN
- Screw diameter: 18 to 25 mm
- Lead: 5, 8 or 10 mm

### Planetary Inverted roller screw

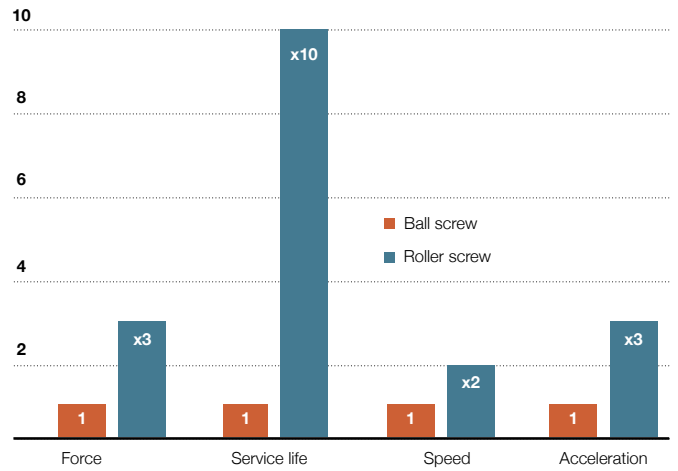
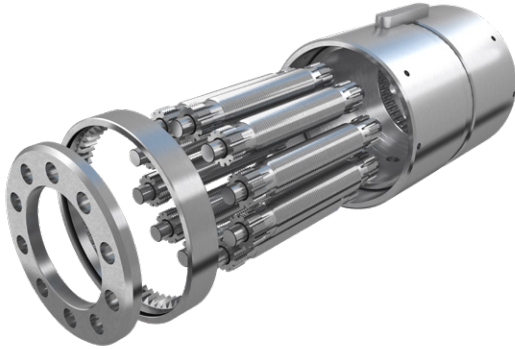


- Outstanding load carrying capacities vs ball screws
- No recirculation needed
- Robust design for shock load resistance and high acceleration
- Fewer failure modes
- Compact for easier integration with direct interface with hollow shaft motor

- Rated dynamic capacity: up to 80 kN
- Screw diameter: 18 to 24 mm
- Lead: 2.4, 3, 4, 5 or 6 mm

# Ewellix core technology for assembly automation

Ewellix 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.



\*On an equivalent screw diameter

Comparison of ball screws and roller screws performances

## Application examples

### X welding gun frame

#### Function

- Electrical actuators actuate both gun arms as a scissor mechanism while keeping welding force.

#### Requirements

- Actuator force up to 25 kN
- Stroke need of max 180 mm



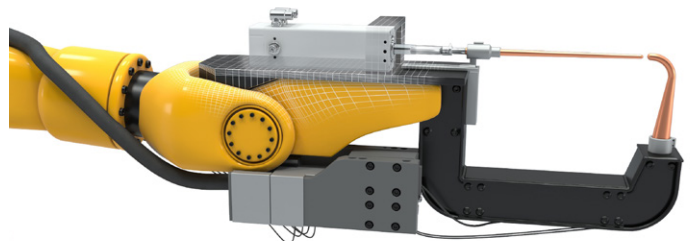
### C welding gun frame

#### Function

- Electrical actuator actuating one gun arm, the second remaining static, whilst keeping welding force.

#### Requirements

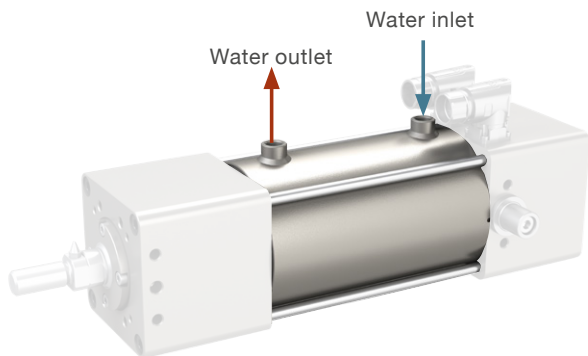
- Actuator force up to 15 kN
- Higher speed vs X gun kinematic
- Stroke need of max 300 mm



## Ewellix CEMC modularity

### Water cooling option

Following increased market productivity needs, the optional water-cooling system allows water to circulate the motor stator, reducing the actuator's running temperature while operating higher duty cycles.



**Benefits:**

- Consistent cooling around the stator increases actuator capabilities, allowing for a heavier duty cycle
- The actuator length is unchanged from the standard design with natural cooling
- Water connections can be at the top or bottom as per customer requirements

### Anti-rotation

When the actuator has to self-move without any other guidance to complete its function, the Ewellix integrated anti-rotation device is the ideal solution. The robust, no-play embedded system prevents push rod from rotating with minimal maintenance needs (over actuator lifetime).



**Benefits:**

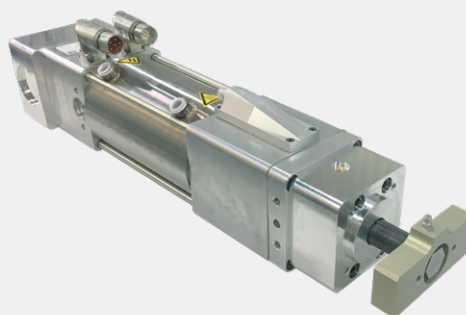
- A stiff and robust solution to meet millions of cycles
- Modularity with minimal impact on actuator length
- Ease of relubrication through direct access

## Tailor-made actuators: agility is in Ewellix DNA

Ewellix can offer customized solutions tailored for each customer and application if the standard assortment cannot fulfil specific technical requirements. Ewellix's extensive product and application knowledge and engineering automation expertise are our strengths.

### Actuator and roller screw customization capabilities

- Screw nut design, lead, heat-treatment, etc.
- Actuator design
- Body housing and raw material



For more detailed information see our full CEMC series catalogue



For more detailed information see our roller screw catalogue

[ewellix.com](http://ewellix.com)

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