



7th axis solutions to boost  
your robot's capabilities

We pioneer motion

**SCHAEFFLER**

# Increase your profitability with 7th axis solutions

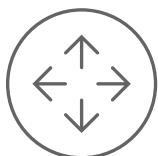
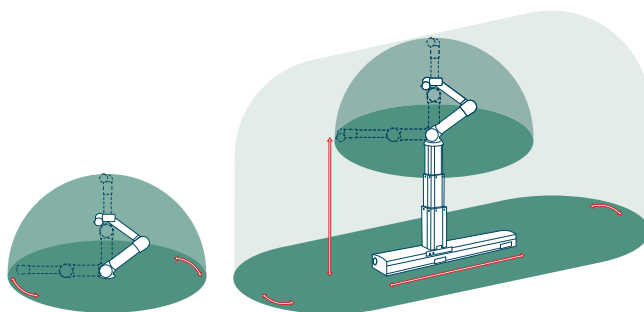
Robots are one of the key players in the Industry 4.0 revolution. They are increasingly used in new applications to perform repetitive work or hazardous tasks, improving productivity and ergonomics. With collaborative robots, new industries can also benefit from this trend.

Robots are limited by their reach.

Solutions to extend the reach of the 7th axis for robots can significantly improve productivity in many environments with repetitive tasks.

Our additional linear axes can increase the operating range by up to 7 times by repositioning the robot's base during its work cycle.

We offer a range of linear motion axes - vertical and horizontal - to easily extend your robot's capabilities.



## Sensors and edge software extend the robot operating range

- Additional linear axes increase the robot's reach by up to 7 times



## Easy to install plug-and-play systems

- Ready to use compatible package with leading robot brands
- Fully integrated into the robot environment



## High reliability

- Robust design for industrial use with high stiffness
- High positioning precision and stability
- Thousands of units working in the field in various applications since 2014



## High safety

- Anti-pinching function
- Emergency stop connection to robot upto safe torque off PLe, Cat.4



## Easy maintenance

- LIFTKIT virtually maintenance free
- SLIDEKIT easy access to outside lubrication ports

# Palletizing

with EWELLIX 7th axis solutions



LIFTKIT

Fully automated pick-and-place solutions are becoming a new standard for packaging stations. The main challenge for packaging system manufacturers is to design multi-axis systems in a simple and cost effective way. A typical application that benefits from an added linear axis is palletizing of boxes. Stacking on pallets can start at floor level, but the stack can reach up to 2 m high. A standard collaborative robot does not have such a large vertical working area. We provide practical solutions to perform vertical adjustment smartly.

## Features

- Longest stroke on the market to extend the operating range of the robot by up to 7 times
- Robust mechanical design for industrial use with high stiffness
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Silent and smooth motion
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP

## Benefits

- Extension of the reach enables the use of a cost-effective robot
- 7th axis range extender control integrated into cobot environment and teach pendant
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Improved working environment
- Easy integration into existing lines

## 7th axis solutions\*



LIFTKIT

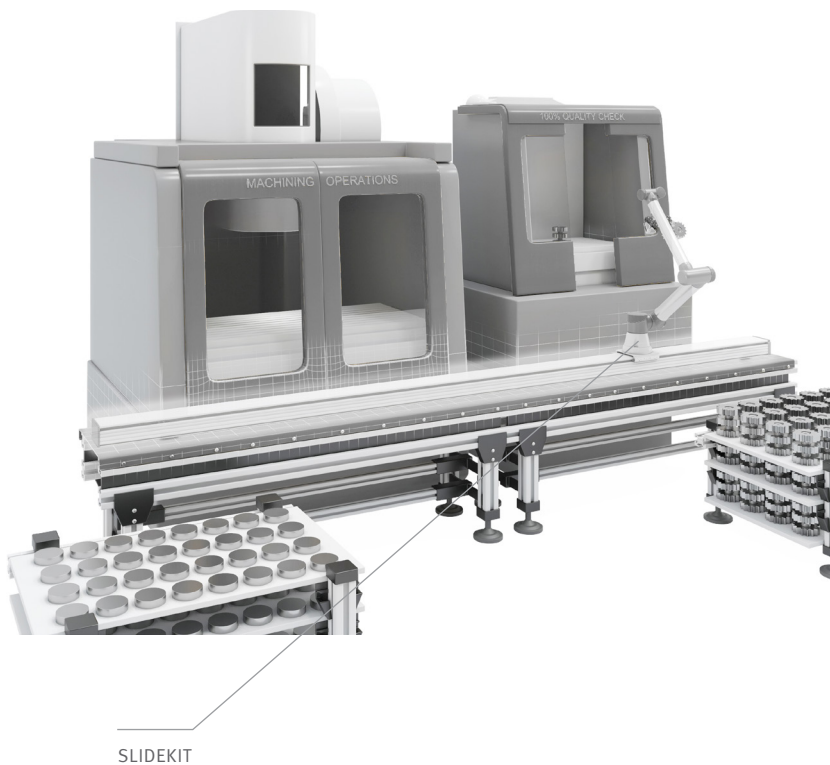


SLIDEKIT

\* EWELLIX actuators offered by Schaeffler

# Machine tending

## with EWELLIX 7th axis solutions



SLIDEKIT

Handling applications often involve travelling long distances between machines, such as loading and unloading CNC centres with machined parts. These repetitive operations, usually performed manually, are time-consuming and with low value-added to operators. By using a robot on the SLIDEKIT, it is possible to easily automate this handling process and increase its productivity and reliability. In addition, SLIDEKIT enables fast and precise movements to position the robot along horizontal axes effectively.

### 7th axis solution\*



SLIDEKIT

\* EWELLIX actuators offered by Schaeffler

### Features

- Longest stroke on the market to extend the operating range of the robot by up to 3 times
- Robust mechanical design for industrial use with high stiffness
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Smooth and fast positioning
- General purpose version available for all cobots, controlled via digital I/O
- Speed control and acceleration of the SLIDEKIT
- High accuracy and repeatability
- Cable management included

### Benefits

- Extension of the reach enables the use of a cost-effective robot
- 7th axis range extender control integrated into cobot environment and teach pendant
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Improved working environment
- Easy integration into existing lines

# Construction

## with EWELLIX 7th axis solutions



LIFTKIT

Construction is a labour-intensive industry with many repetitive tasks that can be physically demanding, monotonous, and dangerous. The LIFTKIT enables the use of robots on construction sites by increasing the reach by up to 3 times. LIFTKIT improves the flexibility of construction works such as bricklaying, plastering, grinding and painting. Construction robots guarantee accuracy and reduce human error, which significantly reduces the number of injuries on construction sites. As a result, robots can work much longer with consistent quality while employees focus on more value-added tasks.

### Features

- Longest stroke on the market to extend the operating range of the robot by up to 3 times
- Stroke modularity in one footprint
- Low weight with a compact footprint
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Smooth and fast positioning
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP

### Benefits

- Extension of the reach enables the use of a cost-effective robot
- Enhanced integration in the customer application
- 7th axis range extender control integrated into cobot environment and teach pendant
- Improved battery autonomy
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Increased productivity and shorter return on investment

### 7th axis solutions\*



LIFTKIT

\* EWELLIX actuators offered by Schaeffler

# Autonomous vehicles with EWELLIX 7th axis solutions



CAHB-2x

## Features

- Longest stroke on the market to extend the operating range of the robot by up to 3 times
- Stroke modularity in one footprint
- Low weight with a compact footprint
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Silent and smooth motion
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP
- CAFL compact and powerful actuator
- CAHB-2x with integrated controller with BUS communication

Autonomous vehicles (AV) that transport a wide range of products or perform archiving/inspection tasks sometimes in harsh environments are becoming increasingly popular in today's fast-moving environment. Our plug-and-play LIFTKIT creates a vertical axis to extend the performance of the AV's 6th axis robot. EWELLIX electromechanical actuators CAHB-2x offered by Schaeffler, lift a few tones, and provide efficiency, ease of operation and positioning with feedback. Wherever the robot needs to perform precise tasks, the EWELLIX CAFL compact electromechanical floor lock actuator offered by Schaeffler, increases the stability of the mobile base. Expand the potential of autonomous vehicles (AV) with our solutions.

## Benefits

- Extension of the reach enables the use of a cost-effective robot
- Enhanced integration in the customer application
- 7th axis range extender control integrated into cobot software and teach pendant
- Improved battery autonomy
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Increased productivity and shorter return on investment
- CAFL precise positioning and levelling with high stability
- CAHB-2x with position feedback and on-board diagnostic

### Linear actuators\*

### 7th axis solution\*



CAHB-2x



CAFL



LIFTKIT

\* EWELLIX actuators offered by Schaeffler



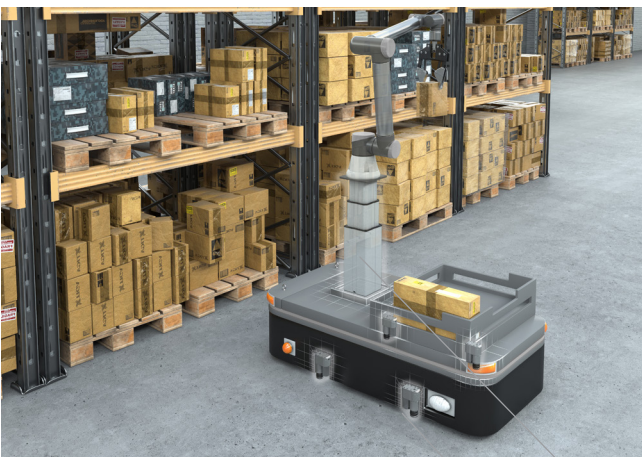
Inspection robot

CAFL LIFTKIT



Archive robot

CAFL LIFTKIT

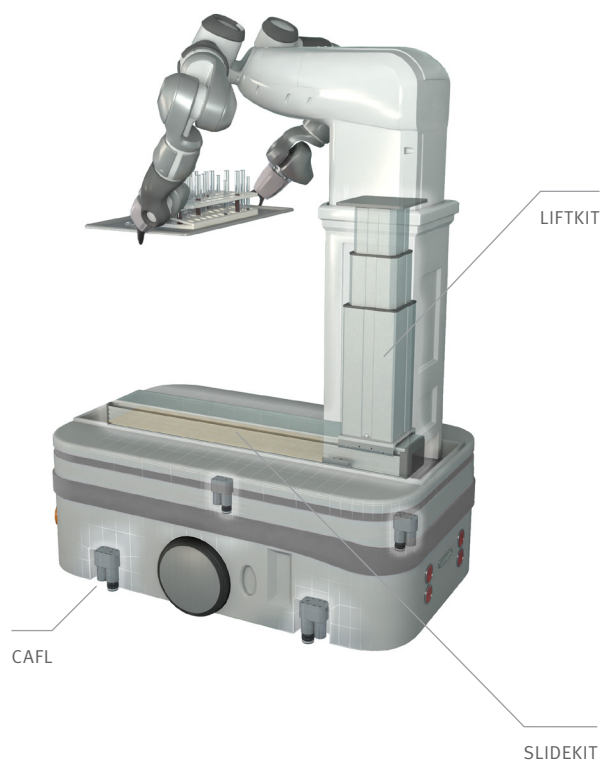


Material handling robot

CAFL LIFTKIT

# Life sciences

## with EWELLIX 7th axis solutions



### Features

- Longest stroke on the market to extend the operating range of the robot by up to 7 times
- Low weight with a compact footprint
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Silent and smooth motion
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP
- CAFL compact and powerful actuator

### Benefits

- Extension of the reach enables the use of a cost-effective robot
- Enhanced integration in the customer application
- 7th axis range extender control integrated into cobot environment and teach pendant
- Improved battery autonomy
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Increased productivity and shorter return on investment
- CAFL precise positioning and levelling with high stability

New technologies improve laboratory equipment. Robotics plays an increasingly important role in the life sciences. As a result, labs are moving towards using robots for automated fluid processing and diagnostic systems. Our plug-and-play LIFTKIT extends the robot's reach and facilitates complex movements that enable out-of-reach tasks. Our plug-and-play SLIDEKIT optimises the accuracy and repeatability of autonomous vehicles (AV). The EWELLIX CAFL compact electromechanical floor lock actuator offered by Schaeffler, increases the stability of the mobile base. While repetitive tasks are automated and completed with higher productivity, the employees can focus on higher value-added tasks.

### 7th axis solution\*

### Linear actuators\*



LIFTKIT



SLIDEKIT



CAFL

\* EWELLIX actuators offered by Schaeffler

# Automated professional kitchens with EWELLIX 7th axis solutions



SLIDEKIT

Fast and automated kitchens are becoming increasingly popular, especially for restaurants, as they help to close staff gaps, speed up processes, shorten waiting times and extend opening hours. Thanks to the extended reach of the plug-and-play SLIDEKIT, one robot can operate between different kitchen appliances. Automated kitchens allow hygienic cooking with consistent quality at any time.

## Features

- Longest stroke on the market to extend the operating range of the robot by up to 3 times
- Compact footprint
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Silent and smooth motion
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP
- Speed control and acceleration of the SLIDEKIT
- High accuracy and repeatability

## Benefits

- Extension of the reach enables the use of a cost-effective robot
- Enhanced integration in the customer application
- 7th axis range extender control integrated into cobot software and teach pendant
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Increased productivity and shorter return on investment
- Flexible and precise motion

## 7th axis solution\*



SLIDEKIT

\* EWELLIX actuators offered by Schaeffler

# Welding robot

## with EWELLIX 7th axis solutions



### Features

- Longest stroke on the market to extend the operating range of the robot by up to 3 times
- Robust mechanical design for industrial use with high stiffness
- Stroke modularity in one footprint
- Plugin included
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Smooth and fast positioning
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP
- Speed control and acceleration of the SLIDEKIT
- High accuracy and repeatability

Welding applications often require semi-automated processes to increase productivity and quality. Our plug-and-play SLIDEKIT offers an extended robot reach of up to 3 times and accurate repetitive positioning. Complex welding operations on long parts or repetitive welding operations are ensured qualitatively. While our SLIDEKIT enables long welding cycles, the operator can focus on more value-added tasks such as programming, production management and quality control.

### Benefits

- Extension of the reach enables the use of a cost-effective robot
- High stability
- Enhanced integration in the customer application
- 7th axis range extender control integrated into cobot software and teach pendant
- Plug-and-play solution reduces time to market
- Fast safety certification process
- Increase productivity and shorter return on investment
- Improved working environment
- Flexible and precise motion

### 7th axis solution\*

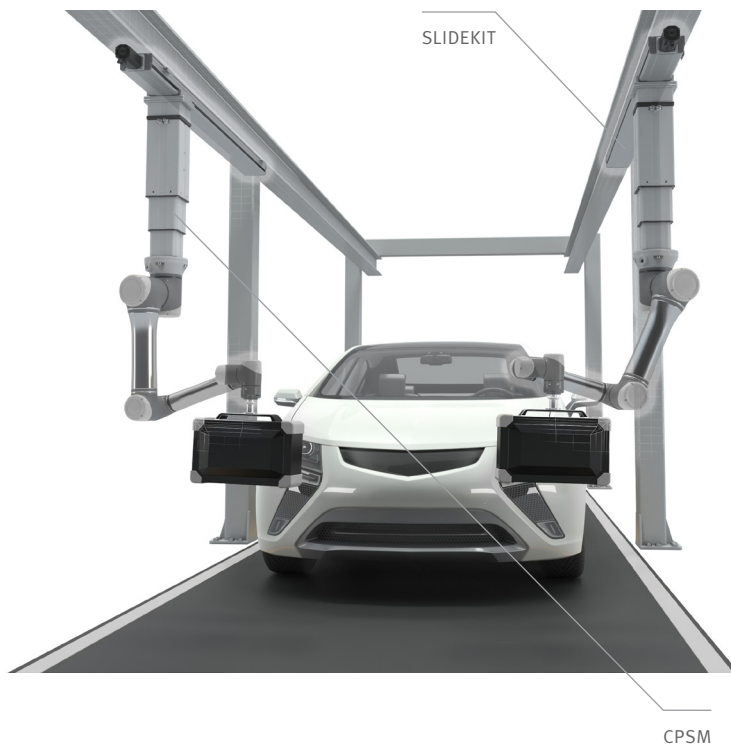


SLIDEKIT

\* EWELLIX actuators offered by Schaeffler

# Final inspection processes

with EWELLIX 7th axis solutions



## Features

- Longest stroke on the market to extend the operating range of the robot by up to 7 times
- Robust mechanical design for industrial use with high stiffness
- Stroke modularity in one footprint
- Emergency stop connection to robot up to safe torque off (STO) PLe, Cat.4
- Silent and smooth motion
- Fast positioning
- General purpose version available for all cobots, controlled via digital I/O or Ethernet TCP/IP
- Speed control and acceleration of the SLIDEKIT and CPSM
- High accuracy and repeatability

Automotive production lines must be highly flexible and adaptable to remain competitive and cost-effective in a fast-changing industry. We provide practical solutions to complete vertical and horizontal adjustments smartly. They are designed for different applications, giving your robot an extended operating range to perform manufacturing processes like finishing and parts inspection. Whenever you need a repetitive operation, usually done manually, that is time-consuming and low value-added for the operators, such as end-of-line quality inspection, our LIFTKIT and SLIDEKIT can guarantee precision and reliability to maximise your results and automate these processes. This is an application example in automotive assembly lines, with custom LIFTKIT and SLIDEKIT axes for ceiling mount installation.

## Benefits

- Extension of the reach enables the use of a cost-effective robot
- High stability
- Plug-and-play solution reduces time to market
- Improve working environment
- Fast safety certification process
- Increased productivity and shorter return on investment

## 7th axis solution\*    Lifting column\*



SLIDEKIT



CPSM

\* EWELLIX actuators offered by Schaeffler

# EWELLIX Products overview



Characteristic	LIFTKIT 601*	LIFTKIT 620*	LIFTKIT 630*	SLIDEKIT S00*	SLIDEKIT S20*
Max Stroke (mm)	1400	900	900	3000	3000
Robot Size	Small & large cobots (up to 50 kg)	Large cobots (up to 75 kg)	Very large cobots (up to 150 kg)	Small & large cobots (up to 50 kg)	Large cobots (up to 75 kg)
Cobot Compatibility	Universal Robot: UR5, UR10, UR16 Fanuc: CRX5, CRX10, CRX20 TM: TM12, TM14, TM20 Yaskawa: HC10 Any Robot: open OS version	Universal Robot: UR20, UR30 Any Robot: open OS version	Yaskawa: HC20, HC30 Fanuc: CRX25, CRX30 TM: TM25 Any Robot: open OS version	Universal Robot: UR5, UR10, UR16 Any Robot: open OS version	Universal Robot: UR20, UR30 Any Robot: open OS version
Communication Protocols	USB & RS232 for UR version Ethernet TCP/IP for other robots	USB & RS232 for UR version Ethernet TCP/IP for other robots	Ethernet TCP/IP	USB for UR robots Ethernet TCP/IP for other robots	USB for UR robots Ethernet TCP/IP for other robots



Linear actuators*	CAHB-2x	CAFL	Lifting column*	CPSM
Max. rated push load	10000 N	1700 N	Max. dynamic load	5000 N
Max. speed	57 mm/s	12 mm/s	Max. speed	100 mm/s
Max. stroke	700 mm	36 to 50 mm	Max. stroke	700 mm
Retracted length	Stroke + 160 mm	Stroke + 88,5 mm	Retracted length	Stroke + 180 mm/232 mm
Max. static moment	20000 N	6800 N	Accuracy	± 0,01 mm

\* EWELLIX actuators offered by Schaeffler  
More data available on request

# Your engineering partner

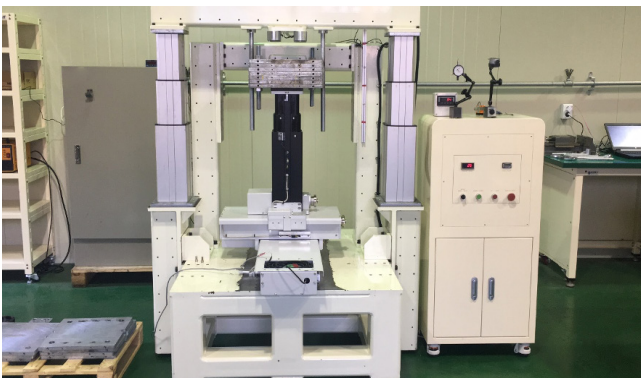
## Customisation

We have many years of expertise in linear motion solutions that meet the needs of customers across different industries and applications. Our various designs and features are suitable for virtually all applications regarding cost, size, accuracy and motion patterns. Our expertise in standard and custom linear motion solutions is based on engineering and design know-how of processes and precision parts.

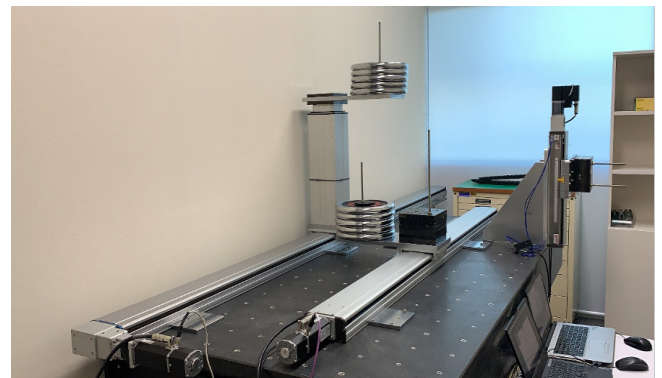


## Tested for your environment

Our expertise in mechanics and electronics and specific application requirements contribute to developing solutions to meet customers' expectations. In addition, we verify our products by a comprehensive test plan to guarantee performance.



CPSM testing



SLIDEKIT testing

# 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.

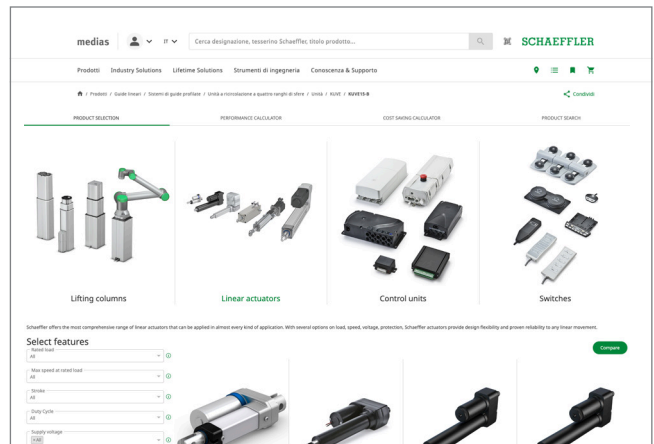
### EWELLIX Actuator select

- 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 LIFTKIT

› Scan QR code

› Click on [link](#)



### EWELLIX SLIDEKIT

› Scan QR code

› Click on [link](#)



### EWELLIX CPSM

› Scan QR code

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### EWELLIX CAFL

› Scan QR code

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### EWELLIX Linear actuator CAHB series

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