

# EWELLIX

A Schaeffler Company

## Aerodynamic booster actuator

CAWD and CAHB series for tractor truck roof air deflector



# The heritage of innovation

Ewellix is a global innovator and manufacturer of linear motion and actuation solutions. Our state-of-the-art linear solutions are designed to increase machine performance, maximise uptime, reduce maintenance, improve safety and save energy. We engineer solutions for assembly automation, medical equipment, mobile machinery, distribution and a wide range of other industrial applications.

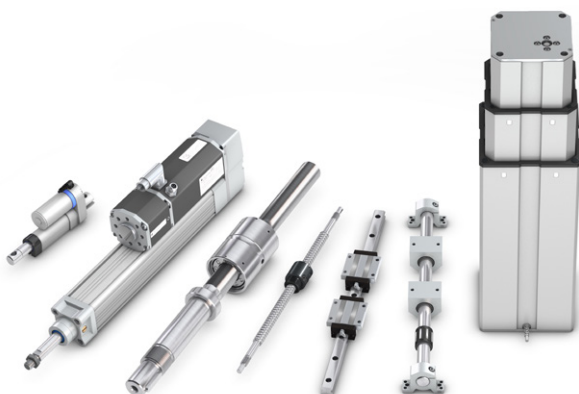
## Technology leadership

We earned our reputation through decades of engineering excellence. Our journey began over 50 years ago as part of the SKF Group, a leading global technology provider. Our history provided us with the expertise to continuously develop new technologies and use them to create cutting edge products that offer our customers a competitive advantage.

In 2019, we became independent and changed our name to Ewellix. We are proud of our heritage. This gives us a unique foundation on which to build an agile business with engineering excellence and innovation as our core strengths.

## Global presence and local support

With our global presence, we are uniquely positioned to deliver standard components and custom-engineered solutions, with full technical and applications support around the world. Our skilled engineers provide total life-cycle support, helping to optimise the design, operation and maintenance of equipment thus improving productivity and reliability while reducing costs. At Ewellix, we don't just provide products; we engineer integrated solutions that help customers realise their ambitions.



## Schaeffler Group – We pioneer motion

Ewellix is since 2023 owned by the Schaeffler Group.

As a leading global supplier to the automotive and industrial sectors, the Schaeffler Group has been driving forward groundbreaking inventions and developments in the fields of motion and mobility for over 75 years.

With innovative technologies, products, and services for electric mobility, CO<sub>2</sub>-efficient drives, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion and mobility more efficient, intelligent, and sustainable.

Schaeffler manufactures high-precision components and systems for powertrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.



# Application

Ewellix contributes to reducing fuel consumption for the long-haul tractor truck fleet. A solution that decrease the aerodynamic drag without compromising efficiency, comfort and safety for the driver.

Fuel is a heavy cost for the road transportation sector. The long-haul tractor trucks in particular, where the travel speed is higher, experience a higher aerodynamic drag in combination with longer travel distance. In a highly competitive environment the profit levels are at a few percent for many of the companies active in the business.

With the Ewellix Aerodynamic Booster Deflector the adjustment of the roof deflector is continuous and the driver can easily set the deflector in an optimized position resulting in reducing wind resistance, fuel consumption and CO<sub>2</sub> emissions. A solution that provides value and improves the Return On Investment for truck operators.



3%

Fuel saving\*

\*compare a roof deflector with a misalignment of 10 cm

## Benefits

- Optimized roof deflector position in few seconds
- Maintenance free
- Possible retrofit with backward compatibility
- Possible upgrade of manual version to electrical version

### For more sustainable transport

Fuel is a major part of the total operating costs of a truck – so finding ways to improve fuel efficiency pays off. Reducing harmful emissions is also an important aspect of sustainable development efforts.

Ewellix Aerodynamic Booster Actuators reduce the aerodynamics drag by 3,5% compared to typical mechanical setting by step, improving tractor truck fuel efficiency by around 3%. This represents a yearly decrease in CO<sub>2</sub> emissions of 3,5 tons per tractor truck in yearly long-haul traffic or 52 tons after a mileage of 1,5 million km.

### Cut the cost

Long haul tractor trucks must operate with efficiency in all kinds of weather and work conditions. On highway, the aerodynamic drag is 3 times more important than the rolling resistance. One way to cut the fuel consumption is to decrease the aerodynamic drag and the first contributor.

The distance and the roof fairing is the height of the roof compare the trailer need to be well adjusted. Just 10 cm gap compare the optimum position will increase the fuel consumption by 3%. And it is well adjusted for a trailer , change it or change the load will affect the height difference between the roof of the cabin and the trailer. With the Ewellix Aerodynamic Booster Actuators, you can readjust continuously with-out step (↳ fig. 1).

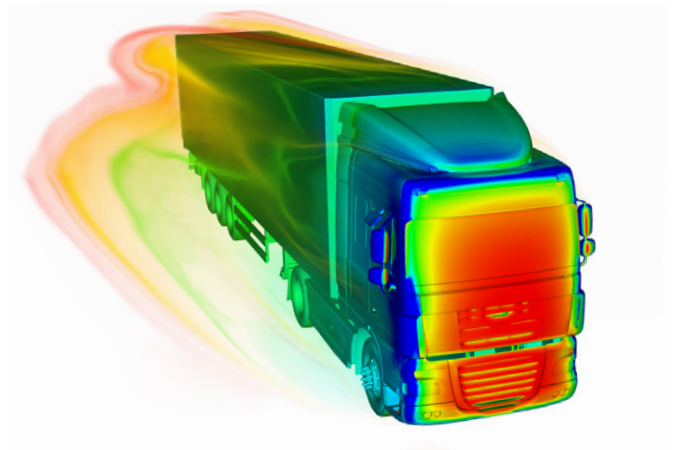
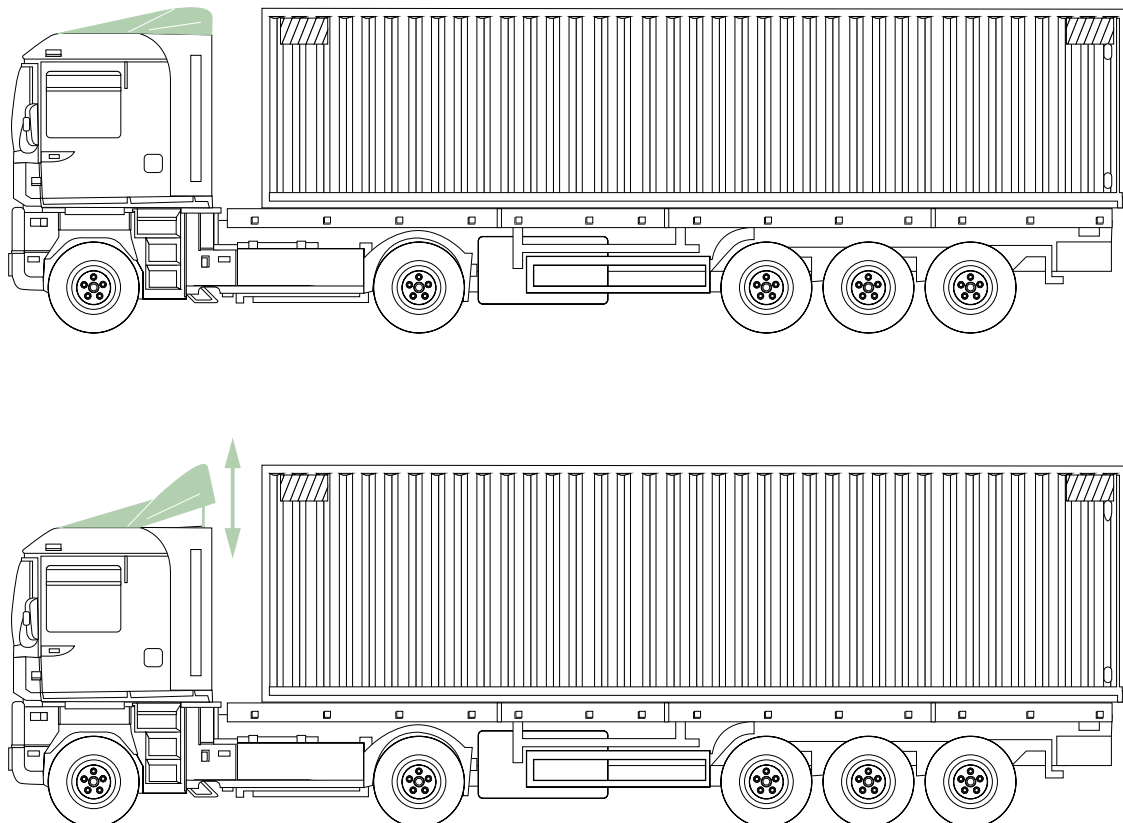


Fig. 1



## Safe and easy to use whatever the climate

The driver can fine tune the height adjustment easily and in a safe mode from the catwalk.

When the driver changes the trailer or just remove it, it is beneficial to adjust the height of the roof deflector to decrease the aerodynamic drag.

The manual version is activated by a crank from the catwalk and the electrical version is controlled by a switch inside the cabin. So simple and safe for the driver who doesn't need to climb to the roof. And the manual version could be replaced later by an electrical version.

## Environmental benefits

- Fuel saving 3%
- CO<sub>2</sub> emission reduction, 52 ton after 1,5 M km
- Safe adjustment for the driver with manual or electrical movement operated from the catwalk or the cabin.



## Tractor truck roof air deflect actuator



Trunnion mount with multiple position to be backward compatible with a possible retrofit

Compact design to fit on existing roof fairing

Tested for Truck industry/chassis requirements and regulations: Environmental, Electrical and mechanical tests.

3 sizes, manual and electrical versions backward compatible

High stability and corrosion resistance

Electronic force monitor and overload protection for enhanced safety

## A joint initiative with one major truck manufacturer

The Ewellix Aerodynamic Booster Actuator is the result of a close collaborative project with a large Truck manufacturer. What started out as a quest for improved efficiency and durability has evolved into a thoroughly tested and proven solution.



Complete actuator system exposed to ice water (ISO 16750-4) and Arizona dust (ISO 20653).



Extensive duration tests have validated a life target of more than 17 000 cycles over 15 years

## Ewellix solutions for Aerodynamic wind deflector

Ranking: ★ The best    ✓ Available    – Not available

	CAWD Manual	CAWD Electrical	CAHB-10-xx	CAHB-20-xxE	CAHB-21-xxE	CAHB-22-xxE
<b>Productivity</b>						
High speed, the best > 40 mm/s	–	✓	★	✓	★	★
Manual version	✓	–	–	–	–	–
Manual override	–	–	–	✓	✓	✓
<b>Reliability</b>						
High holding force, the best 2 Ton	✓	✓	✓	★	★	★
Overload protection	–	✓	–	✓	✓	✓
Thermal switch	–	✓	✓	✓	✓	✓
IP 66S, best IP 69K	★	★	★	★	★	★
IP66M, best with Vent	✓	✓	–	★	★	★
Salt spray test perf. 96 h or 250 h, the best 336 h	★	★	✓	✓	✓	✓
Pass test for vehicle, the best is for road vehicle	★	★	★	✓	✓	✓
Operating Temperature -40 to +85 °C	✓	✓	✓	✓	✓	✓
<b>Save development time</b>						
Pull & push rated load, the best is > 4 500 N up to 10 000 N	✓	✓	✓	★	★	★
Long stroke, the best is 500 mm and more	★	★	✓	★	★	★
Compact, the best is < stroke +100	★	★	✓	✓	✓	✓
Limit switch (depending the version)	–	✓	✓	✓	✓	✓
Potentiometer	–	–	✓	✓	✓	✓
Encoder	–	–	✓	✓	✓	✓
Absolute analogue position output	–	–	✓	✓	✓	✓
<b>Cost effectiveness</b>						
Cost level, the best is lower	★	✓	★	✓	✓	✓





## **ewellix.com**

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