

KENDRION



KENDRION SOLUTIONS

Compressor clutches for thermal comfort in coaches and busses

PRECISION. SAFETY. MOTION.

Kendrion

Develops, produces and markets high precision systems and components enabling the actuation and control of forces and fluids throughout the entire powertrain and chassis. As a reliable partner of the automotive industry we provide high quality, innovative solutions with the highest performance.

We are the trusted partner of some of the world's market leaders in the automotive and industrial segments when it comes to designing and producing complex components and customized systems. As a technology pioneer and innovator, we keep in motion and we are committed to create solutions for the mobility changes of tomorrow.

Taking broad responsibility for how we source, manufacture and conduct business is integrated in our processes and embedded into our culture.

Rooted in Germany, headquartered in the Netherlands and listed on the Amsterdam stock exchange, our expertise extends across Europe to the Americas and Asia.

KENDRION – Precision. Safety. Motion.



**KENDRION shaping the future of mobility
– around the globe**



Shaft-mounted clutches for A/C compressors

The advantages at a glance

- Easy installation
- Slim designs possible
- Weight-optimization possible with aluminium pulleys
- Service-friendly through use of standard ball bearings
- Wide range of pulley diameters possible, owing to the ingenious design
- Even small pulley diameters possible for increased weight reduction

Clutches for 2-cylinder compressors

LA21 / LA28 / LA30

Applications	<ul style="list-style-type: none">- Bock FKX20- Bock FKX30
Speed	Max. permissible: 3,500 rpm
Voltage	12 V und 24 V



Clutches for 4-cylinder and 6-cylinder compressors

LA16 / LA25 / LA26

Applications	<ul style="list-style-type: none">- Bock FKX40- Bock FKX50/460...775- Bock FKX50/830- Bock FKX50/980- Bitzer 4UFC(Y)...4NFC(Y)- Bitzer 6UFC(Y)...6TFC(Y)- Bitzer 6PFC- Bitzer 6NFC
Speed	Max. permissible: 3,500 rpm
Voltage	12 V and 24 V



Housing-mounted clutches for A/C compressors

The advantages at a glance

- Maintenance-friendly
- Slim designs possible
- No false brinelling, as the bearing rotates both when the clutch is engaged and disengaged
- Belt forces are absorbed by the compressor housing, relieving the shaft and thus the compressor bearing from belt forces.
- Durable and robust through high wear reserve

Clutches for Thermoking compressors

LA18

Applications	<ul style="list-style-type: none">- X426/X430- S391/S616
Speed	Max. permissible: 3,500 rpm
Voltage	12 V and 24 V



Clutches for Bitzer compressors

LA400 / LA600

Applications	<ul style="list-style-type: none">- F400- F600
Speed	Max. permissible: 3,500 rpm
Voltage	12 V and 24 V



Clutches for Valeo compressors

LA18 / LA21

Applications	<ul style="list-style-type: none">- TM65- TM55- TM43- TM31
Speed	Max. permissible: depending on compressor between 4,000 and 6,000 rpm
Voltage	12 V and 24 V



The plus for your clutch

Micro-pulsing

In very tough and demanding applications, the lifetime of the ball bearings can be shortened due to the long-time engagement of the clutch. The longer the clutch is engaged, the more the risk of lubrication shortage of the rolling elements increases. As a result, the ball bearing surface can be damaged. The risk of ball bearing damages due to idle marks can occur in all shaft mounted clutches.

The Kendrion solution lets the bearing roll off despite the clutch is engaged. An electronic circuit, that opens the clutch for a brief moment causes a micro movement of the rolling elements and ensures the lubrication of the rolling bearings.

Thanks to the intelligent control technology this function can be guaranteed reliably and independent of the wear of the clutch without causing relevant wear itself.

The endurance test

The comparison of the bearing surface after a test of an engaged clutch at resonance speed with and without micro-pulsing shows a significant result (see pictures below).



Without micro-pulsing
Depth approx. 0.08 mm



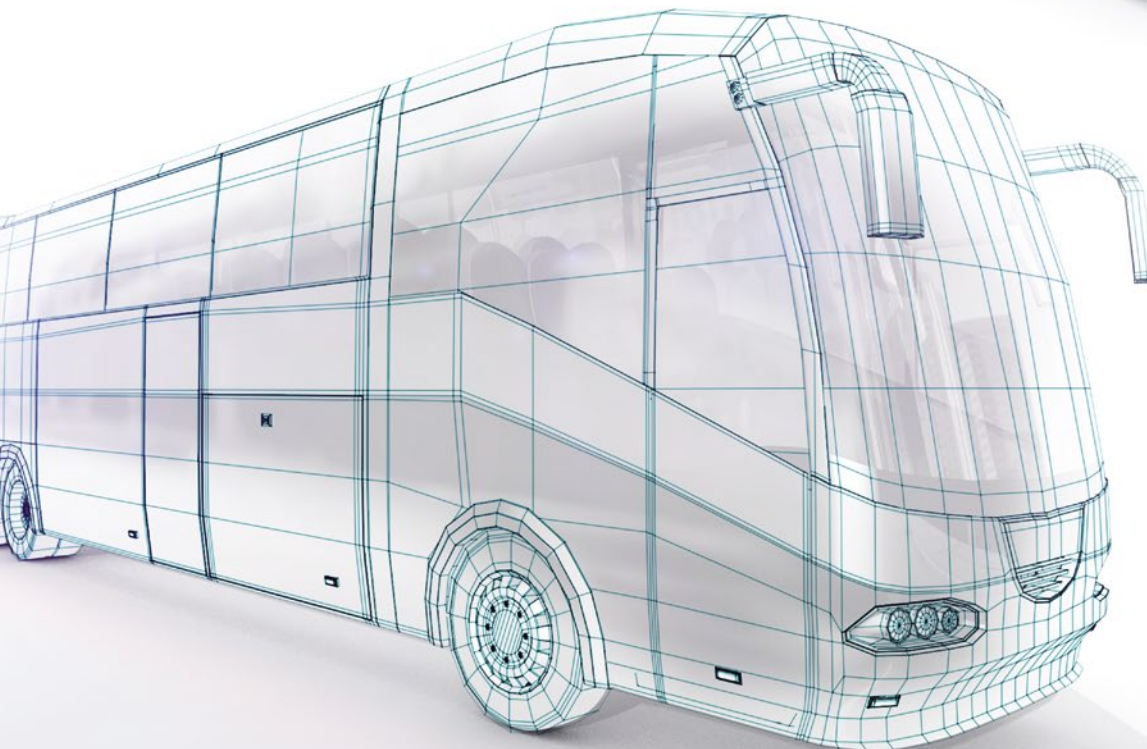
With micro-pulsing
no visible damage

Technical details

Dimension	826.5 mm
Operating temperature	-40°C up to 120 °C
Operating voltage	18V up to 32V
Cable length	600 mm

Micro-pulsing for other applications

This solution also solves bearing problems on other crankshaft-mounted applications.



Contact us

We'll find the right product for your application!

Our qualified employees, the precisely defined manufacturing processes and globally-uniform, strict quality guidelines ensure top quality at the end of every production process – worldwide.

Our customers trust us because we have successfully been on the market for over 100 years, and always with the optimum for them in our focus. The cooperation with leading automotive manufacturers continually improves our know-how and processes. In this, we rely on production and logistics processes that enable both modular and individual production – regardless if large or small-lot orders are placed.



Feel free to contact us!

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