

# Innovative solutions and products for commercial vehicles

**Commercial vehicles**

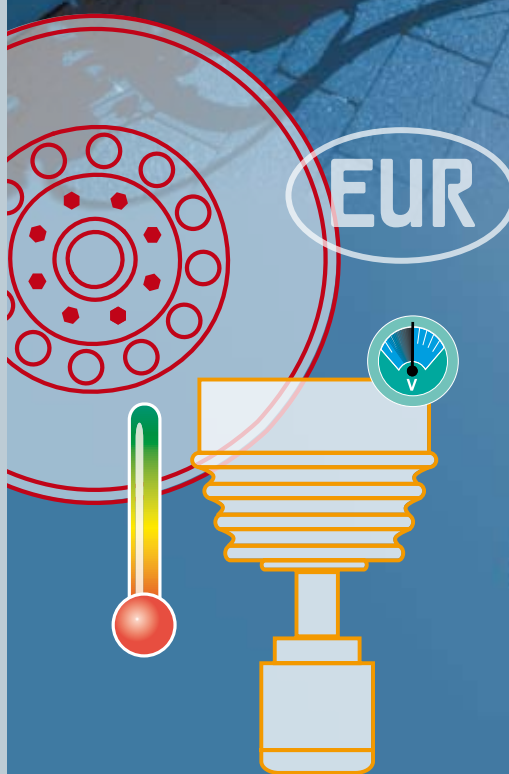
**Truck superstructures**

**Municipal vehicles**

**Mobile machines**

**Agricultural machines**

**Industrial trucks**



# Requirements of solutions for commercial vehicles

Components and system solutions on truck superstructures or mobile machines must have special properties to meet the rough conditions of use. Increased temperature ranges and large nominal voltage tolerances are recurring challenges, along with vibration and corrosion.

We will look into your individual requirements and provide you with a solution with operational reliability from our wide program of products. Through our many years of experience of customer projects, we have acquired an industry know-how that goes far beyond processing customer specifications. KUHNNKE is your development partner with the competence of consultants.



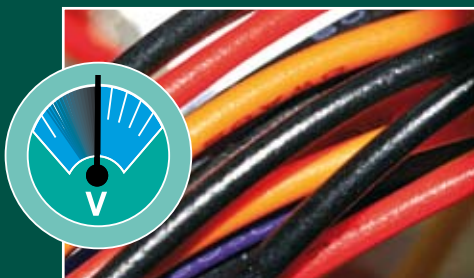
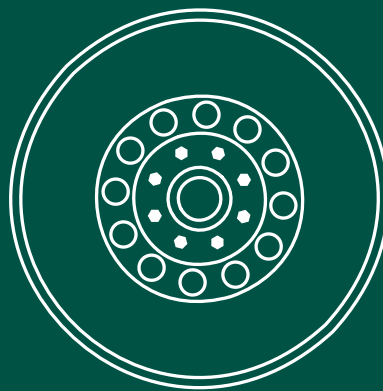
## Driver comfort and safety

KUHNNKE offers you pneumatic, mechatronic or electronic solutions that simplify the work of the driver, make handling the equipment safer and make it easier to operate. We know that your customers appreciate the unrestricted function and practically maintenance free design of components.



## Vibration and shock resistance

Our employees analyze with our customers the mounting situation of components and functional modules. We suggest solutions and measures to be taken, and we have state-of-the-art technologies available. We make tests on mechanical load and have alternative solutions available.



## Special features of the on-board power supply

Depending on the operating conditions of the components, voltage fluctuations occur whether an engine is running or is stopped, or when it is started up, which can have an adverse influence on the flawless function of components. KUHNNKE reduces energy consumption and provides components and functional modules that are optimized for performance and work safely with the voltages available.



## Compliance with standards and regulations

ADR/GGVS, ISO 16750, e 1 approvals for use in motor vehicles – we are familiar with these and other requirements and we can provide you with components and systems which enable you to obtain specific licenses. KUHNNKE develops ideas and approaches to solutions while complying with various standards and technical rules and regulations. Experienced employees make use of modern development tools and test feasibility, costs and schedules, based on targets.



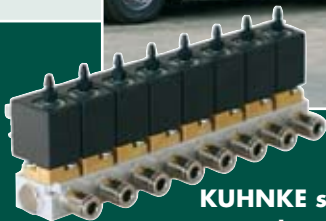
## Increased requirements for outdoors

Commercial vehicles and machines have to work in all seasons in cold and hot climates, as well as in extreme weather conditions. The construction and modification for environmental factors such as temperature, dirt, shock and vibration ensure that all functions are optimally guaranteed, even under adverse weather conditions.

# What does KUHNIKE do for you?



PHOTO: FRAPORT AG



## **KUHNIKE solutions reduce the number of parts**

Perhaps you need a new development, or an existing solution no longer meets your expectations. Our 'one stop' system solutions reduce not only handling and testing expenses, they also save costs throughout the entire logistics chain.

## **KUHNIKE solutions are energy-efficient**

The degree of automation, and therefore the power requirements of electrical on-board power supplies, is constantly increasing. KUHNIKE valve technology helps with solenoid valves specially designed for the needs of commercial vehicles, which work under standard environmental requirements with a comparatively low power consumption.

## **KUHNIKE solutions are long-lasting**

Pneumatic-mechanical drives must be low maintenance and long-lasting. KUHNIKE tests product specifications for function and wear, so that a long product life is guaranteed. Profit from our experience!



## **KUHNIKE solutions are often innovations**

Sometimes a component needs to perform work for which there are as yet no tested solutions. We can support you with our experienced employees, analyze actual states and identify reserves in performance. We are aware of the state of technology and we are developing new ideas and approaches to solutions. And if you want, we can do this together with you. Try us out!



PHOTO: REMONDIS LÜNEN, GERMANY

## **KUHNIKE solutions make the complex simple**

For the superstructures of municipal technology shown here, often complex on-board control tasks need to be solved. With decentralized control solutions and open communication networks (CANopen), KUHNIKE helps to simplify the control system. This saves costs, because complexity of installation decreases and flexibility is retained.

## **KUHNIKE solutions adopt important safety functions**

Thoroughly tested functionality, a circuit logic complying with safety regulations and extremely high quality standards are essential for special applications. KUHNIKE makes use of solenoid technology and pneumatics and combines these intelligently with sensors and electronics. This is what KUHNIKE stands for.

**KUHNIKE – we provide support for your core competencies.**



# KUHNKE

## System- partnership

The Technology Company KUHNKE develops, manufactures and distributes, through its individual companies, customer-specific products such as electronic, solenoid and pneumatic components, as well as services for the automotive, machine building and medical equipment industries.

KUHNKE is first choice if you are looking for integrated solutions. When challenges are to be solved in areas such as pneumatic control engineering, low electrical power consumption, reliable drive and control technology even in tough ambient conditions, saving space, low operating noise or trouble-free product lifetime, KUHNKE can develop innovative products for you. Mechanical solutions derived from pneumatics or solenoid technology can be combined with electronics to complete function units. So we create competitive advantages for you. With KUHNKE know-how and the KUHNKE range of services you can also achieve considerable cost and logistics benefits.



### Consulting

Competent consulting in a personal meeting always marks the beginning of a successful project. KUHNKE knows what matters in mechanical engineering, and places great emphasis on prompt

and direct communication. Because KUHNKE is not only a supplier, but also helps with its know-how in developing your products.



### Development

Close communication between your development department and ours is essential during a project. State-of-the-art development tools, combined with close cooperation and cross-technology know-how ensure both a rapid project progress and the optimal solution for you.



### Production

KUHNKE manufactures products for you tailored to the strict requirements of mechanical engineering. Because quality and reliability can only be guaranteed by a product manufactured under the right conditions. This is also appreciated by your customer.



### Service/Logistics

KUHNKE extends its logistical competence across the entire value-added chain. Our integrated logistics systems shorten delivery times, reduce your costs and your safety stock. This pays off.