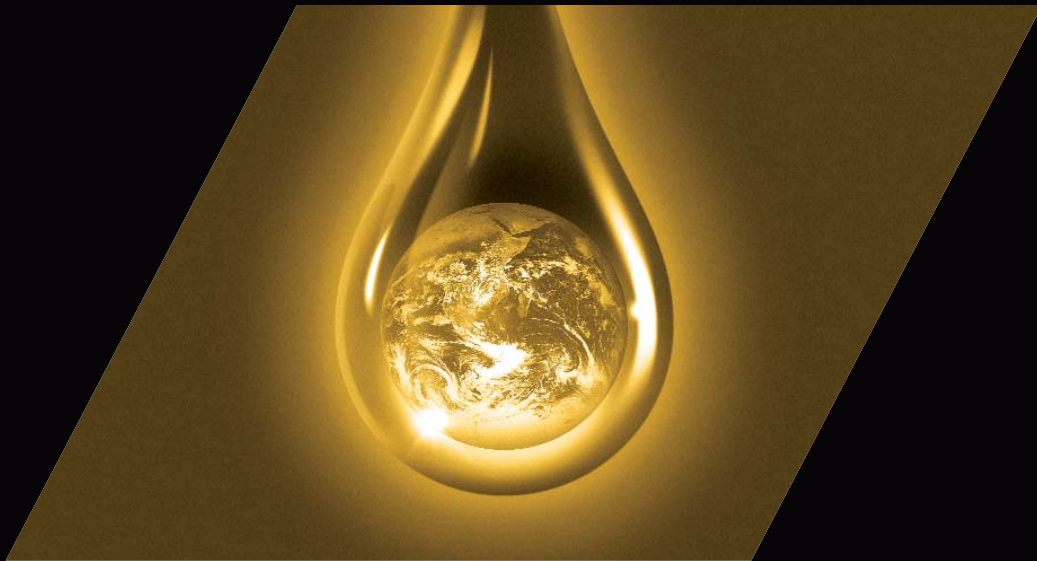


**KLÜBER**  
LUBRICATION



Specialty Lubricants to Keep Your World Running

**Lubrication is our world**

## Specialty Lubricants Are Our Specialty

When you have a tough problem, see a specialist. When your problem is lubrication related, Klüber is that specialist. Because specialty lubricants are our only business, we focus solely on devising better solutions for your lubrication needs. Investing in a Klüber specialty lubricant solution will result in long-term cost savings. That's Klüber value.

Founded in 1929 as a mineral oil processor, Klüber soon recognized the advantages of synthetic oils in creating lubricants for specialty applications. Combining tribological expertise with advanced processing capabilities, Klüber produces only the highest quality lubricants—lubricants that perform better, under harsher conditions, to meet the widest range of needs.



### We Take Lubrication to the Extreme

A lubricant shows its strength when it meets the extremes of temperature, pressure, load, speed, and local environmental conditions. As nearly every industry pushes machine performance to increase productivity, reduce maintenance and operating expenses, and improve customer satisfaction, standard lubricants can't keep up. Even a lubricant that does the job initially can experience premature failure, increasing the need for maintenance or shortening operational life.

Klüber specialty lubricants are formulated and performance-tested to meet specific application requirements. They can:

- / *Extend the operating life of sealed, lubed-for-life equipment*
- / *Lower noise levels in consumer devices such as computer disk drives or fans*
- / *Protect the environment through rapid biodegradability*
- / *Carry heavier loads without breaking down*
- / *Perform in extremes of hot and cold*
- / *Run at higher speeds*
- / *Increase maintenance intervals for greater uptime*
- / *Lower warranty and repair costs*
- / *Increase end-user satisfaction*

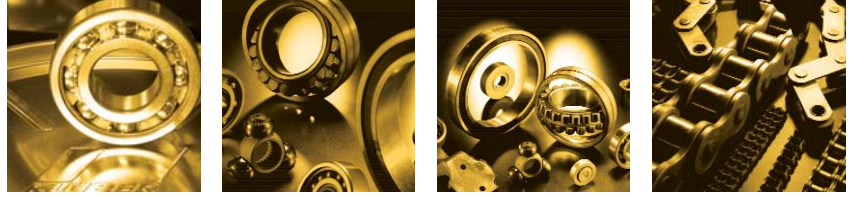
### Solutions as Unique as Your Applications

When you have solved as many tough application problems as we have, you know that every application is unique. Each has large or small variations—in conditions, materials, mechanical requirements, expected performance—that distinguish it from other, similar applications. We will not recommend a lubrication solution without thoroughly understanding your specific application requirements.

If we don't have a stock lubricant solution that satisfies all of your performance needs, we can formulate one that will. Our lubrication solutions include the following:

- / *Greases*
- / *Lubricating oils*
- / *Pastes*
- / *Waxes*
- / *Bonded coatings*
- / *Self-lubricating materials*
- / *Anticorrosion agents*

Altemp, Amblygon, Asonic, Barrierta®, Centoplex, Constant, Duofix, Duotempi, Fluoropan, Forminol, Grafloscon



## The Klüber Value: Lowering the Cost of Lubrication

What's the value of a premium Klüber lubricant in a commodity-driven world? Consider the numerous factors that define the true value of a Klüber lubricant.

**What is the cost of applying the lubricants?** Klüber lubricants often apply faster, easier, cleaner, and with fewer lubrication intervals than low-cost alternatives.

**What is the optimum lubrication interval for maintaining equipment performance?** Many of our customers have doubled or tripled their relubrication intervals.

**What are the associated costs of a lubricant failure?** Downtime, personnel-time, and lost production all significantly affect your bottom line. Klüber lubricants are manufactured to the highest standards of quality and consistency to meet application requirements every time. Our products ensure that these costs are kept to a minimum.

Hotemp®, Hydrokapilla, Isoflex®, Klüber Madol, Klüberalfa, Klüberbio, Klüberfluid, Klüberfood, Klübergrease

# Superior **Application-Specific** Lubrication Solutions

No one knows your business better than you do! Because picking the right lubricant is not a straightforward task, given the numerous variables that must be considered, Klüber has developed a methodology that brings your knowledge and our lubrication expertise together to achieve the optimum solution. It is our goal to understand your needs completely. We begin with the components and evaluate the application to obtain essential operating conditions such as speeds, loads, temperatures, and contamination potential. In addition, regulatory requirements are considered before any recommendations are made.

## **Keeping Machine Tools Machining**

The influence of coolants and harsh environmental conditions found with cutting, drilling, grinding, turning, and milling can stress the lubricant that protects critical machine tool components. Our lubricants are developed to withstand the toughest environments and protect against machine downtime, slow production, and decreased accuracy.

When recommending the best lubricant to obtain a lifetime of operation, our specialists will analyze all the particulars of your application. For example, gear and bearing lubricants are recommended only after serious consideration of important requirements such as speed, load, temperature, and duty cycle. Furthermore, anticipated operating conditions are questioned to determine the presence of corrosive dust, liquids, and gases. Klüber works closely with original equipment manufacturers from all parts of the world to design and develop lubricants that make "lubed for life" possible.

## **Keeping the Automotive Industry Running**

Klüber specialty lubricants contribute to longer warranties, improved passenger amenities and conveniences, and higher customer satisfaction. Nearly every major auto manufacturer and their suppliers worldwide use Klüber products in their cars and trucks, as well as in their manufacturing processes. And every company is looking for a cost-effective solution that offers increased performance and decreased cost.

For example, Klüber lubricants help vehicle windows open and shut smoothly and reliably. The methodology for selecting a lubricant for a gear in a window lifter is similar to that of a machine-tool bearing, but the requirements are vastly different. Duty cycles, speeds, and loads are significantly lower, but the need for lifetime lubrication and the ability to withstand extremes of hot and cold are higher. In addition, plastics compatibility and adhesion to small gears are essential to long-term reliability. Klüber lubricants satisfy automotive consumers and suppliers by reducing noise for a better driving experience and simplifying process procedures for mass production.



## **Keeping Food Production Productive**

Count on Klüber food-grade lubricants to perform while meeting the special requirements of the food, beverage, and pharmaceutical industries: resistance to chemicals, water and hot steam, as well as compatibility with plastics, elastomers, and seals. Our H1 food-grade lubricants conform to NSF, USDA, and FDA requirements by meeting regulations and fulfilling HACCP and GMP programs. We offer the widest range of synthetic, mineral-oil-free H1 lubricants that satisfy extreme applications from ovens to freezers.

Consider a chain, for example. We evaluate a chain application to determine the motion type (rolling, sliding, combination), lubricating system (automatic, manual, grease, oil), and design components (ball bearings, roller bearings, pins, bushings, etc.). Furthermore, the chain may be loaded in a horizontal or vertical orientation and subjected to environmental stresses such as moisture, steam, and caustic chemicals. After careful consideration of all the application specifics, a lubricant is selected to provide the best chain protection, extended lubrication intervals, and worry-free operation.





## See What We Can Do in Your Industry

Because our lubrication expertise lies in understanding specific application needs, we have worked closely with leaders in many industries, including:

**Amusement**

**Automotive**

**Conveyors**

**Food & beverage processing**

**Glass**

**Machine tools**

**Mining & cement facilities**

**Pharmaceuticals**

**Pulp & paper**

**Railways**

**Rubber & plastics**

**Steel**

**Textiles**

**Wind energy**

**Wood products**

Klüberspeed, Klüber-Summit, Klübersynth, Klübertemp, Klübertop, Kontasynth, Lamora, Microlube, Mikrozzella, Molybkombin

# Klüber Relationships **Begin with Service**

## **Application Expertise Second to None**

All companies talk about service. We live it!

Determining the right lubrication for a specific need is a consultative process. Our sales team and application engineers are highly trained and backed by our expert R&D staff. We'll talk with you about specific needs, develop and test prototypes, and produce pilot batches to ensure your complete satisfaction.

## **Powerful R&D Yields 2100 Standard Products**

Klüber offers the world's most comprehensive line of lubricants—over 2100 standard lubrication products and 6000 formulations. We regularly create new products to meet the evolving needs of the many industries we serve. Our global R&D facilities employ more than 130 expert chemists and tribological engineers, and our state-of-the-art research labs have upwards of 70 custom and commercial test rigs.



## **Lubrication Management Programs**

Complement the value of Klüber specialty lubricants by investing in a comprehensive lubrication management program tailored to your needs. We'll thoroughly audit your plant and equipment, provide training and written instructions for your maintenance staff, develop a list of recommended lubricants and lubrication schedules, and provide a streamlined purchase plan to make sure your experience goes smoothly.

Klüber lubricant and procedure solutions will save you money through reduced operating costs and downtime, extended equipment life, and trained maintenance personnel.

We also offer the Windows<sup>®</sup>-based Klüber Maintenance System. It will help you manage and document your preventative maintenance program efficiently and cost-effectively.

## **We Cover the Globe for You**

Klüber is a global company with sales, engineering, R&D, and manufacturing facilities and staff throughout the world. You will receive the same high-quality, high-performance products and services wherever you are. Whether your needs are regional, national, or global, Klüber is positioned to fully support your specialty lubrication and program management needs.



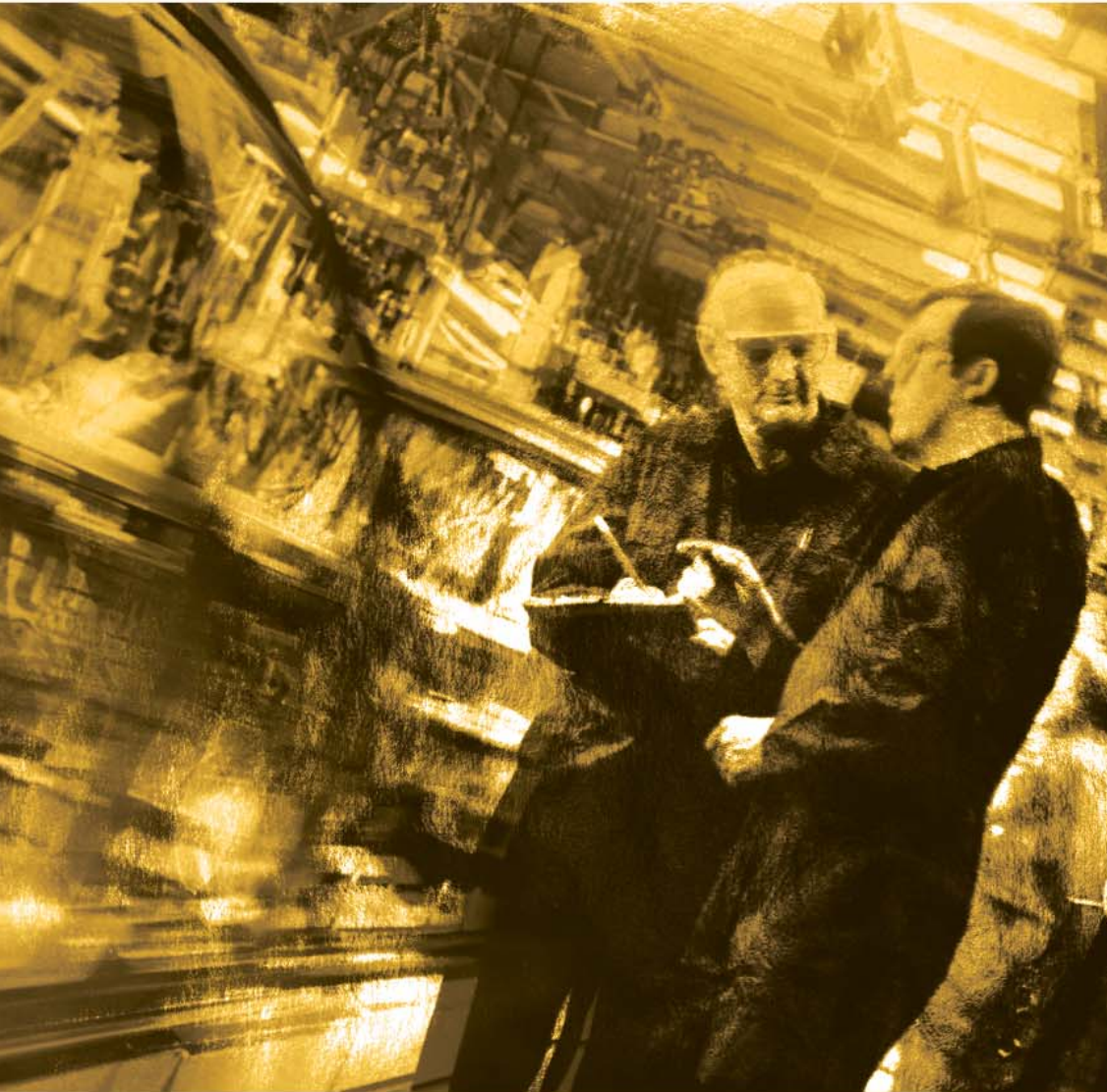
Natosbin, Nontrop, Oxigenoex, Paraliq<sup>®</sup>, Petamo, Polylub, Primium, Quietsch-ex, Staburags<sup>®</sup>, Staburin



## Lubrication is Our World

There is a simple truth in business: the more you specialize, the more you excel. Klüber's commitment to providing specialty lubricant solutions is the foundation of our success. Or, put another way, your success is our success.

To learn more about the advantages of Klüber Lubrication, visit [www.kluber.com](http://www.kluber.com). Better still, call 1.888.455.8237 to discuss your specific needs with a Klüber technical representative.



Stabutherm, Structovis®, Syntheso®, Unimoly®, Unisilikon®, Varilub, Wolfrakote®, Wolfrasynt, Zeliot

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