KLÜBER LUBRICATION

your global specialist

Meeting today's challenges together

Specialty lubricants for sustainable success in the petrochemical industry

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Green Chemistry – we share the same goal

Green Chemistry is playing an increasingly important role in the petrochemical industry. Also referred to as sustainable chemistry, it aims to reduce the environmental impact of the chemical industry.

This increases the importance of sustainable, responsible suppliers for petrochemical companies. Corporate responsibility has been a core value at Klüber Lubrication for decades. We are actively committed to environmental protection and sustainability, both in our own value creation and by developing specialty lubricants and services for our customers. Responsibility is also reflected in the way we work together. Internally, and when dealing with customers and other business partners, our interactions are shaped by appreciation and respect.

Petrochemical partners

As part of the Freudenberg Chemical Specialities business group, Klüber Lubrication is a company in the chemical industry. Consequently, we understand the challenges that the petrochemical industry faces as it strives to achieve Green Chemistry. Further reducing the environmental and health impact of chemicals is our top priority. Optimising production processes also plays a key role.

Prioritising energy efficiency and waste reduction

Conserving resources is more important than ever in the petrochemical industry. Our specialty lubricants and services help our customers reduce their ecological footprint. Our lubricants reduce friction and wear. This leads to:

– Verifiably improved energy efficiency – energy savings attained at multiple facilities
– Lower waste volumes – longer component life, lower lubricant consumption and consolidation of lubricant stocks

External recognition of our sustainability management

The petrochemical industry needs reliable partners – ideally those with an outstanding record of sustainable actions. For Klüber Lubrication, sustainability plays a decisive role in every area. We also undergo external assessment:

– In May 2024, Klüber was awarded the ‘Gold Medal’ for the third time in a row by Ecovadis, a leading sustainability rating company. This puts us in the top five percent of the around 130,000 companies assessed worldwide.
– In 2023, Klüber received the ESG Transparency Award for outstanding performance with regard to the transparency and quality of its sustainability report.
– Our company received the European Responsible Care® Award from the European Chemical Industry Council (CEFIC) in 2023. We were highly commended in the ‘Climate neutrality’ category and for our climate action plan.

At a glance: benefits of our products and services for petrochemical applications

- Reduction in maintenance and repair costs and materials
- Lower lubricant volumes coupled with improved performance
- Energy consumption savings, lower costs and fewer CO_2 emissions
- Significant improvement in safety during the production process
- Contribution to environmental protection
- Lubricants for specific petrochemical requirements
- International presence and decades of experience in the efficient delivery of products to every region of the world

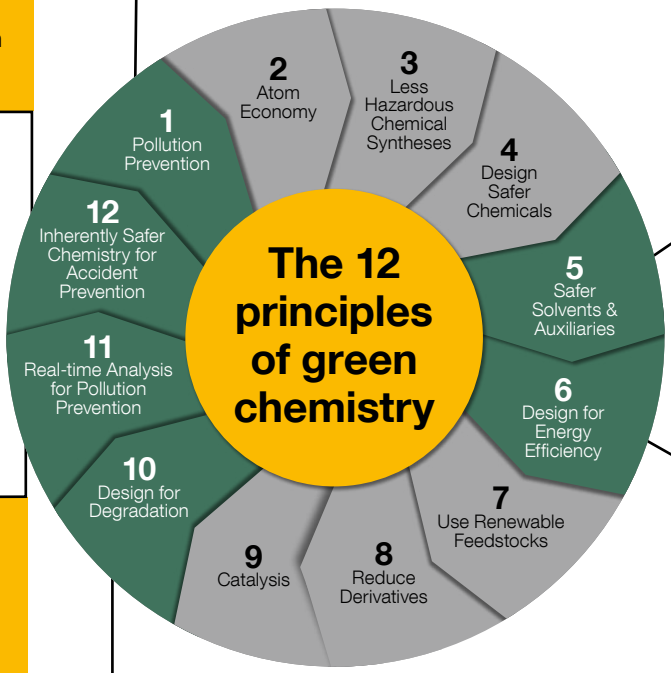
How we support you with the twelve principles

Petrochemical companies are striving to make progress in each of the twelve Green Chemistry principles. These aim to have all aspects of chemical production – from product development to manufacturing and handling – designed in a way that minimises the environmental and health impact. Klüber Lubrication supports the petrochemical industry with innovative products and services.

High-quality synthetic lubricants have a longer service life and enable reduced consumption, less waste and lower disposal quantities.

Automatic lubricant dispensers applying the right lubricant ensure accurately timed lubrication, supporting the safety and health of your maintenance team.

Conventional lubricants can be prone to extreme reactions and be dangerous when coming into contact with aggressive media. Special lubricants such as those made of PFPE are chemically inert and can therefore be a smart and safe choice in certain applications.



Lubricants based on mineral oils have a less favourable viscosity behaviour and are strongly influenced by temperature. Synthetic alternatives have a much better friction coefficient and a higher viscosity index, leading to energy savings of 2-6 % in the application.

Oil condition and leakage sensors monitor your installations online and in real time, making the condition of your lubricants and their applications transparent at all times.

For ecologically sensitive applications, biologically degradable lubricants might be used, e.g. EALs (Environmentally Acceptable Lubricants).

Safety in the petrochemical industry – we take responsibility

Would you like a precise overview of when and where your next relubrication is due? Do you want to use every opportunity to reduce your lubricant quantities and energy consumption, as well as wear on components? Or do you need expert help to identify and replace a contaminated or inadequate lubricant?
We offer a wide range of services and numerous digital tools that simplify the challenges associated with the actual lubrication process. Find out more about our face-to-face, in-house and online training courses.

Benefits for your application

– Excellent operational reliability in systems and components with gaseous and liquid oxygen
– Excellent resistance to oxygen pressure surges
– Broad compatibility with materials customary in this line of business
– Wide service temperature range
– Each production batch is tested for its reaction to oxygen

Klübermatic reduces the risk of accidents by up to 90 %

The automatic lubrication systems in the Klübermatic range minimise contact points between people and machines, thereby making an important contribution to occupational safety. Some Klübermatic lubricant dispensers are also approved for use in explosion protection zones, so-called ATEX zones.
Other benefits for you include:
– Less time spent in relatively inaccessible danger zones
– Prevents direct contact with noxious lubricants
– Fewer accidents caused by slipping hazards as a result of lubricant contamination

Confirmed safety aspects:

– 100% compliance: REACH, TSCA and many more
– Quality management: DIN EN ISO 9001, IATF 16949
– Environmental protection and occupational safety: ISO 14001, ISO 45001
– Food industry: ISO 21469, NSF H1, halal, kosher

Circular economy – we face new challenges

The petrochemical industry urgently needs additional approaches in shaping the circular economy. The circular economy affects the entire product life cycle. It influences how products are designed and production processes are structured. It is aimed at achieving sustainable consumption, avoiding waste and reusing and recycling resources. The petrochemical industry is developing new processes, products and systems for this. Klüber Lubrication is well prepared in this regard with a wide range of products and services – especially in the areas of energy efficiency and waste avoidance. We also offer specific solutions for green hydrogen applications.

Specialty lubricants for improved energy efficiency

Due to high energy prices and ambitious sustainability targets, petrochemical companies must constantly explore new ways of reducing their energy consumption. The potential savings offered by lubricants is often underestimated. However, these can be significant for gearbox and compressor applications: the right choice of lubricant can save from 2–6% of energy and improve your carbon footprint.

A quickly implemented and worthwhile investment

Most of the measures that the petrochemical industry can take to improve energy efficiency involve considerable costs. Upgrading to newer machines, replacing devices or installing alternative energy sources such as solar panels is expensive. It often takes years for the costs to be recovered. Switching to specialty lubricants pays for itself relatively soon, because it can be achieved more quickly than investing in new technology.

Evidence of your energy savings

For petrochemical companies, the certification of systems in the context of energy and resource management is becoming increasingly important. With a lubricant partner that has experience of savings potential, this challenge can be overcome more quickly and easily – especially if this expert knows how to measure and evaluate lower energy consumption.

Klüber Lubrication can demonstrate energy savings and implement appropriate projects that comply with internationally recognised standards: the International Performance Measurement and Verification Protocol (IPMVP) or DIN ISO 50015. Our customers also receive a detailed energy savings report that they can include in their energy audit documentation.

Tribological know-how for objective evidence

The optimisation of energy efficiency resulting from lubricant use is challenging, as is its quantification or monetary proof. In order to achieve particularly high energy efficiency, the entire tribological system must be considered – not just the lubricant. Measures such as cleaning, changing seals and selecting the optimum viscosity grade also play a major role. A valid statement about the energy efficiency of a lubricant solution can only be made based on a before-and-after comparison. One indicator for improved energy efficiency is the reduction of the temperature in the designated application.

Avoid waste with specialty lubricants

For sustainability and cost reasons, the petrochemical industry aims to further reduce its waste. Specialty lubricants can support this goal. By reducing friction and wear, they contribute to a longer service life for all component types, resulting in fewer discarded system components. High-quality synthetic lubricants themselves also have a longer service life. This reduces oil and grease consumption, as well as waste and disposal requirements.

Our services – systematic, comprehensive improvements

Would you like a precise overview of when and where your next relubrication is due? Do you want to use every opportunity to reduce your lubricant quantities and energy consumption, as well as component wear and tear? Or do you need expert help to identify and replace a contaminated or inadequate lubricant? We offer a wide range of services and numerous digital tools that simplify the challenges associated with the actual lubrication process. Find out more about our face-to-face, in-house and online training courses.

Cleaning during continuous operation

Petrochemical companies cannot afford limited functionality or even component failure due to contamination. Production must run smoothly. Klüber Lubrication has developed products that take this into account: Klüber Summit Varnasolv and Klüber Summit Varnasolv FG are cleaning concentrates based on synthetic ester oils with cleaning additives. These can be mixed with mineral oils, synthetic hydrocarbon oils, ester oils and polyglycol-based oils. The process can be completed easily and within 48 hours. For rolling bearing applications, we offer the special cleaning grease Klübersynth BZ 68-400. As this effectively removes deposits, it can significantly extend component service life.

LuCA – we analyse the condition of your lubricants

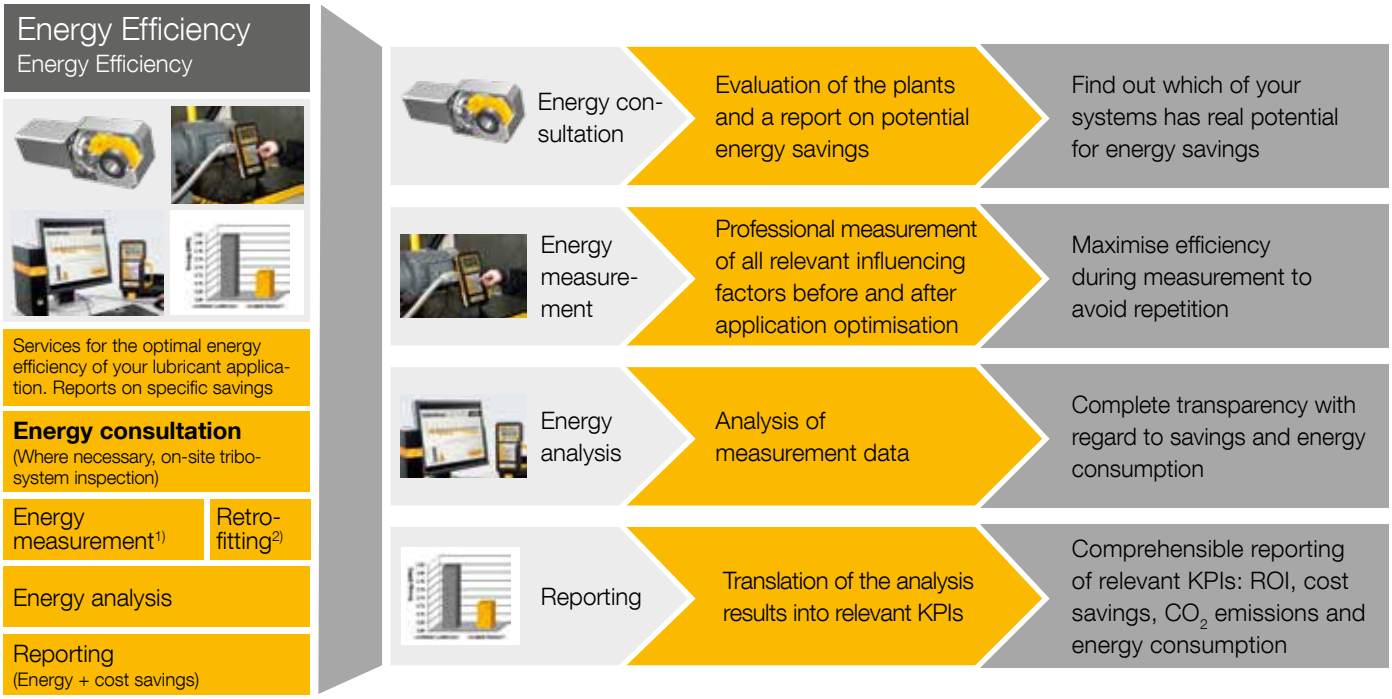
How good is the condition of your specialty lubricants? When should they be replaced? Is the safety of your machines and systems at risk? If you know the answer to these questions, you will maintain control and extend the service life of your components, prevent unscheduled plant downtime, reduce costs and improve production efficiency.

To help Rotating Equipment Managers achieve these goals, Klüber Lubrication offers the Lubricant Condition Analysis Programme (LuCA). The oil and grease analysis service in Klüber Lubrication's laboratories provides information about composition, impurities and wear, as well as oxidation and aging. This creates the basis for highly efficient maintenance processes and effective predictive maintenance in accordance with the principles of risk management and Total Productive Maintenance (TPM).

LuCA can be integrated into our online EfficiencyManager platform, which maps and supports maintenance management.

Our services – systematic, comprehensive improvements

Klüber Energy Efficiency: a programme to save energy



1) Along with retrofitting if necessary, provided it is economically viable; 2) Includes a product change;

Figure: Consulting, measurement, analysis and reporting are the four process steps of our service aimed at improving energy efficiency.

Maintenance management

Klüber Lubrication offers numerous services that enable petrochemical companies to reduce maintenance and repair costs for their machines and systems. These range from help with generating lubrication schedules to lubrication point labelling in accordance with compliance requirements. They also include staff training or data implementation in our digital EfficiencyManager.

Component efficiency/inspection

Our services for petrochemical industry components also focus on a variety of objectives, including the improved efficiency of these components, extended service life of the machines and systems overall and improved reliability during operation. They also help reduce investment costs. If the basic conditions are right, we can even carry out remote diagnostics via our Remote Expert service.

Klübermatic – automatic lubricant dispensers with many benefits

System availability

Premature wear leads to unwanted downtime. In the case of grease-lubricated bearings, well thought-out lubrication strategies have a major impact on extending their service life. Lubrication using Klübermatic lubrication systems can prevent up to 75 % of all bearing failures.

- **Reliable supply of lubrication points** with fresh lubricant
- **Excellent system availability** thanks to permanent relubrication
- **Reduction in maintenance costs** and unscheduled system downtime

Protection from soiling

Contamination by water and solid matter accelerates wear and shortens the service life of bearings. By applying fresh lubricant, automatic lubrication systems from Klüber Lubrication prevent the ingress of liquids, dirt and dust, thereby extending bearing life.

- **Klübermatic** prevents the **ingress** of **dirt particles** and **liquids** into the bearing
- **Protection against friction** and **wear** in the bearing
- **Extension** of **bearing life**

Cost-effectiveness

Klübermatic reduces costs by up to 25 %. Constant automatic lubrication minimises premature wear and therefore downtime, avoiding expensive maintenance and repair.

- **Excellent system availability** thanks to automated production process
- **Maintenance intervals can be scheduled** to match downtime
- **Reduction in repair and maintenance costs**

Petrochemical partners – how we innovatively support your success

We develop innovative products that meet the specific challenges of the petrochemical industry. Our experience has taught us that development partnerships with customers are the quickest and best way to achieve our goals.

More than 100 test rigs in our own laboratory

Our test lab plays an important role in the development process. We have more than 110 test rigs at our company headquarters in Munich.

We work closely with two other companies in the Freudenberg Group: with Freudenberg Sealing Technologies when it comes to the best possible seal-lubricant pairing and with Eagle Burgmann when this mechanical seal manufacturer's extensive know-how is required.

We are proud of our 100 percent compliance. For decades, OEMs from various industries have confirmed the quality and reliability of our products by granting us the appropriate approvals.

Withstanding extreme conditions: our PFPE lubricants

Selecting suitable PFPE products can have a positive impact on the service life of highly stressed components such as rolling bearings, as well as the operational reliability and cost situation of the overall unit – provided they are precisely tailored to the respective environmental influences. BARRIERTA greases have proven effective over decades, particularly in rolling and plain bearings, valves, O-rings and other types of seal.

PFPE greases from Klüber Lubrication support the functionality of components – even when exposed to chemicals, UV or X-rays. If direct contact between the lubricant and aggressive media is unavoidable for structural reasons, this places particularly high demands on the stability of the lubricants. Our PFPE-based lubricants achieve this thanks to their specific texture and purity.

What makes PFPE lubricants so efficient?

What makes PFPE lubricants so efficient?

Perfluorinated polyether (PFPE) is a long-chain polymer consisting of carbon, oxygen and fluorine atoms. The molecular structure can be branched, linear, or both. The fluorine and oxygen atoms are strongly bonded to the carbon atoms. PFPE is extremely inert, as none of the molecular elements are available for reactions. This inertness enables the exceptional performance of PFPE products at high temperatures, making them ideal for use in contact with highly reactive chemicals, such as corrosive substances, acids and liquid oxygen.

For the sake of the environment: Environmentally Acceptable Lubricants (EALs)

Most chemical parks or production facilities are located outdoors and often near waterways. EAL lubricants enable petrochemical companies to comply with legal requirements, improve their reputation and better meet the expectations of customers and residents.

EAL lubricants from Klüber Lubrication have a lower environmental impact in the event of leakage, as they are fully biodegradable and non-toxic. They also protect the environment thanks to the synthetic base oil used, as well as the extended relubrication intervals and component service life that can be expected.

– Non-bioaccumulative: substances must not accumulate in the tissue of organisms and must not enter the food chain.
– Biodegradable: at least 60 % of a lubricant's ingredients must be broken down naturally within 28 days.
– Non-toxic to aquatic organisms: the lubricant must not impair the growth or well-being of aquatic organisms.

Rotating equipment – achieving measurable improvement

Specialty lubricants from Klüber Lubrication ensure that your processes run as smoothly as possible. Find out which rotating component challenges can be met using our products.

Process gas compressors:
Every single compressor in your petrochemical plant contributes to your annual production results. Compressors are extremely critical and cost-intensive machines that require increased attention to maintenance. Klüber Summit DSL XM and Klüber Summit NGSH have proven effective for hydrogen compressors, as they do not damage downstream metal catalysts, for example.

Refrigeration compressors:
Your competitiveness crucially depends on the cost-effectiveness, operational and production reliability of your refrigeration compressors. This makes customised lubricants all the more important for this application.

As an innovative lubricant expert, we specialise in the lubrication of refrigeration plants with natural refrigerants such as ammonia, carbon dioxide and hydrocarbons. We help you with the relevant environmental regulations. Use our pioneering solutions to significantly reduce your oil consumption, maintenance, repair and operating costs – all while improving the availability of your compressor.

Our Klüber Summit product brand offers a number of fully synthetic product series for refrigeration compressors.

Two factors are crucial when selecting compressor oil:

The right base oil: The type of base oil must be tailored to the gas composition in order to avoid interaction between the compressor oil and the gas flow wherever possible. This particular aspect is often overlooked in petrochemical plants, which then becomes noticeable in the form of excessive wear on components and parts. In the worst case, deposits and residues on the valves can bring operations to a standstill.

The right viscosity: In addition, the optimum viscosity of the oil must be determined, which depends on both the operating conditions and gas composition. The experts at our Compressor Competence Centre use these parameters to determine the optimum oil viscosity.

Ammonia refrigeration compressors

Disadvantages of mineral base oil

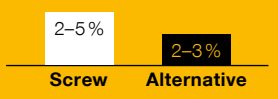
- High level of oil carryover/purging
- High oil consumption by top up
- Higher miscibility with ammonia liquid and higher presence of oil at evaporators
- Limited oil lifetime

Advantages of synthetic specialty lubricants from Klüber Lubrication

Less costs possible **80 %** **>3 %** **Energy savings possible**

- Klüber oil lifetimeup to 40,000 hours
- Less maintenance costs with parts (filters, bearings, coalescents
- Average reduction of energy consumption of 4 %
- Reduction in working temperature

Switch mineral base oil to Klüber Summit



Energy savings achieved with Klüber Summit in different kinds of compressors. Payback less than 6 months

Klüber Energy Efficiency provides complete transparency regarding savings and energy consumption following IPMVP international protocolls

Switch to Klüber Summit RHT68	2–3 % energy saving possible	Lifetime up 15,000 hours
Switch to Klüber Summit RSB 68	3–5 % energy saving possible	Lifetime up 25,000 hours
Switch to Klüber Summit R 200	3–7 % energy saving possible	Lifetime up 40,000 hours

- Energy savings help for the reduction of emissions
- Health & safety for the users, less exposition to risks
- Less transport and oil discharge
- Reduction of water consumption and contamination

Air compressors:
Less downtime and improved availability: petrochemical companies expect these benefits from lubricants for air compressors. Our specialty oils also reduce the cost of spare parts like oil filters and separators, as well as oil itself. They reduce energy consumption and lead to less waste – an important Green Chemistry goal. Our products for air compressors significantly reduce friction in the compressor and improve volumetric efficiency. They have a low pour point and high demulsibility. Depending on the operating conditions and oil type, they can be used to achieve oil change intervals of up to 12,000 hours.

Turbomachinery, centrifugal compressors, compressors with integrated gears and turbines:
Mineral oil residues, known as varnish, cannot be removed by simply changing or filtering the oil. The varnish adheres to the surfaces of the components. With our Klüber Summit Varnasolv, we have developed a synthetic cleaner that dissolves the residues prior to the oil change and then removes them from the system during the oil change.

Our Klüber Summit CTPS for the petrochemical industry is a turbine oil that eliminates this problem in the long term. It can also contribute to energy savings of around 0.5 % to 2 %.

Gears:
Our synthetic gear oils are characterised by a particularly high level of protection against wear, scuffing and micropitting damage, optimised friction behaviour and a wide operating temperature range. In addition, these specialty lubricants have high ageing and oxidation stability and show low foam and residue formation. Customers benefit from a long service life and thus from reduced lubricant consumption. This saves costs for gear oil and waste disposal, improves productivity and supports Green Chemistry.

Extruder gearboxes:
Maximum reliability, excellent component protection and high energy efficiency – these are the expectations of modern gear oils for extruder gearboxes. Our fully synthetic gear oils, such as Klübersynth MEG 4, can be used to achieve these goals.

Our Klübersynth MEG 4 is an energy-efficient, synthetic high-performance gear oil with KlüberCompLube Technology. By selecting high-quality raw materials and innovative additives, this technology achieves an extremely high level of performance in the lubrication of all gearbox components.

Benefits of Klübersynth MEG 4 for your application:
– Excellent protection against scuffing
– Outstanding wear protection for gear teeth and rolling bearings
– Excellent protection against micropitting
– Outstanding ageing and oxidation resistance
– Can be used over a very wide temperature range thanks to excellent viscosity-temperature behaviour
– Excellent shear stability for reliable lubricating film formation
– Energy savings thanks to optimised friction behaviour
– Improved operational reliability due to low foaming tendency and good compatibility with elastomers
– Approved by several gear OEMs

Typical oil change intervals

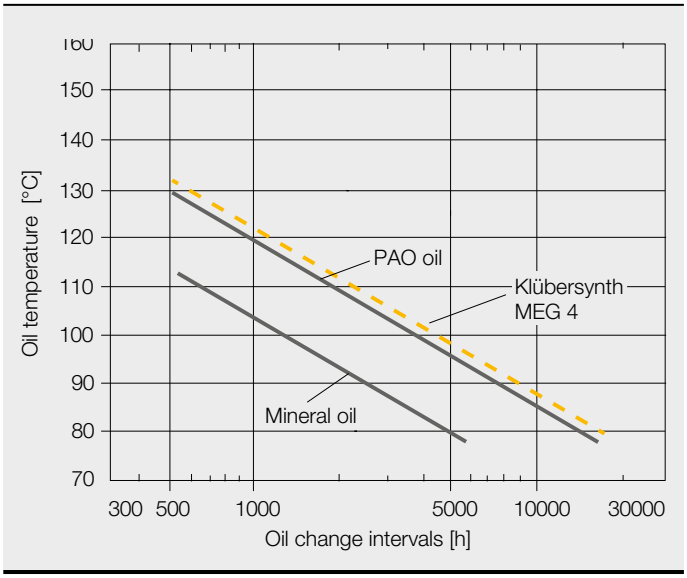


Figure: Compared to mineral oils, synthetic gear oils help extend oil change intervals by three to five times at the same operating oil temperature.

Rolling bearings:
Rolling bearings have to withstand high speeds, extreme temperatures and environmental conditions. Klüber Lubrication develops and produces special greases and oils that enable long maintenance intervals or even lubrication that lasts the entire life cycle of the application. They help prevent wear and bearing damage and reduce costs.

Rolling bearing failures are often due to incorrect selection, improper use, lubricant contamination or excessive or deficient lubrication. Insufficient compatibility with materials or foreign matter is sometimes also the cause. Our experts will help you calculate grease service life and gain potential savings thanks to lifetime lubrication and improved energy efficiency.

Our products Klüberplex BEM 41-132, Klübersynth EM 94-102, Klübersynth HB 74-401 and BARRIERTA L 55/2 have already proven effective many times over in the petrochemical industry.

Centrifugal pumps:
The energy-efficient operation of pumps is a major challenge in petrochemistry. There is also a risk of residue formation, such as varnish due to mineral oils.

Our synthetic pump oil for centrifugal pumps – the Klübersynth EE 4 range – offers many potential improvements:
– Reduction in energy costs thanks to more energy-efficient operation
– Low maintenance and operating costs due to extended oil change intervals – even at extreme operating temperatures
– Extended pump service life thanks to outstanding component protection
– Reduced formation of oxidation residues in the pump

Vacuum pumps:
Klüber Tyreno fluids are based on a technology specially developed for vacuum pumps. This is characterised by:
– Low evaporation even at high temperatures
– High oxygen pressure shock resistance*
– High chemical stability and resistance to aggressive media

Mechanical seals:
Our synthetic barrier fluids for mechanical seals offer many benefits for applications in the petrochemical industry:
– Their outstanding temperature and oxidation resistance mean they can be used in double mechanical seals over a long period – even under extreme operating conditions.
– The formation of blisters on the surface of carbon sealing rings is prevented thanks to efficient heat dissipation and low friction coefficient.
– The absence of sulphur or metal-based components in our synthetic oils results in extended seal service life.
– The process safety requirements are met thanks to NSF-H1 registration.

Our Klüberfluid NH1 M4 range is ideal for this application.

Figure: Klüber's synthetic gear oils offer significantly higher efficiency than standard mineral gear oils. This results in a lower oil temperature, as shown in the thermal images.

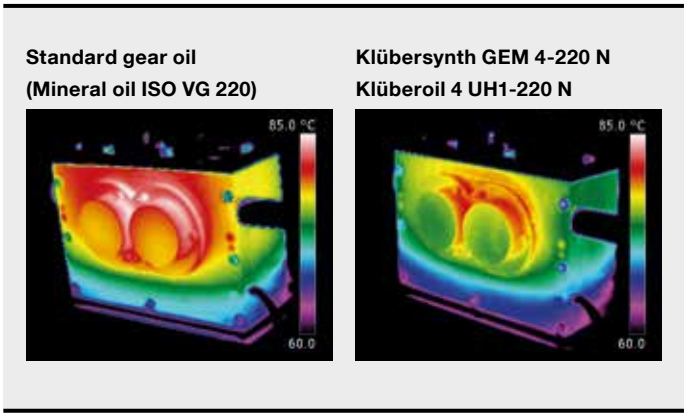


Figure: Even in spur gears, the oil temperature can be reduced from 85 °C with mineral oil to 80 °C with synthetic PAO gear oils from Klüber. This results in lower energy consumption, extended gearbox running times and lower maintenance costs.

* To ensure this quality standard, these fluids are produced in small batches under strict purity criteria and each batch is tested for gaseous oxygen (in accordance with Annex of Code of Practice M based on M 034-1 Liste der nichtmetallischen Materialien / List of non-metallic materials (213-075)).

Static equipment – additional setting screws for Green Chemistry

Screw and flange connections:
Tightening screws and bolts leads to high surface pressure, mixed and boundary friction and usually low sliding speeds. Consequently, the lubricant must be able to withstand high pressure and at the same time show favourable and reliable friction coefficients with low spread. This is the only way to achieve a higher preload force with the same tightening torques. In addition, it is also important that the screw connections can be undone non-destructively in the more critical high-temperature range.

Which lubricant is the right one for these challenges depends, among other things, on the operating temperature, media influences and material combinations. We help you with selecting the right specialty lubricant, e.g.
from our Klüberpaste product series.

Thanks to their low friction coefficients, our lubricants can also be used with smaller bolt and nut dimensions, thereby saving resources and costs, preventing the formation of chromium(VI) oxide/ chromium trioxide (CrO3) and preventing pins, hinges, etc. from "seizing". Some products are NSF-H1 registered and therefore compliant with FDA 21 CFR § 178.3570 and certified according to ISO 21469.

Valves and fittings:
Valves and fittings ensure a consistent flow and constitute complex tribological systems. To minimise wear on these components, the lubricant must be compatible with lots of different materials. Our certified specialty lubricants are designed to ensure excellent reliability and a long service life for your fittings.

Klüber Lubrication offers the following benefits for your application:
– Cost savings due to reduced downtime and component wear
– Expert advice based on in-depth knowledge of tribological solutions
– Customised products that can withstand extreme conditions (temperature, pressure, humidity)
– Reliable functioning of petrochemical systems and components thanks to excellent resistance to various gases such as ethylene and propylene.

Oxygen valves and fittings: Klüberalfa YV 93-1202 is manufactured in small batches under strict purity criteria and each batch is tested in accordance with ISO 21010 (based on M 034-1 / List of non-metallic materials 213-075). The product is NSF-H1 registered and therefore compliant with FDA CFR 21 § 178.3570 and can be used in food-processing technology.

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The data in this document is based on our general experience and knowledge at the time of publication and is intended to give information of possible applications to a reader with technical experience. It constitutes neither an assurance of product properties nor does it release the user from the obligation of performing preliminary field tests with the product selected for a specific application. All data are guide values which depend on the lubricant's composition, the intended use and the application method. The technical values of lubricants change depending on the mechanical, dynamical, chemical and thermal loads, time and pressure. These changes may affect the function of a component. We recommend contacting us to discuss your specific application. If possible we will be pleased to provide a sample for testing on request. Products from Klüber Lubrication are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this document at any time without notice.

Klüber Lubrication München GmbH & Co. KG
Geisenhausenerstraße 7
81379 München
Germany

Local first-instance court Munich, Germany
Certificate of registration 46624

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Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 90 years.

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