

your global specialist

Detailed information

We have a system
for effective lubrication.

Klübermatic lubricant dispensers





The right lubricant at the right point at the right time	3
Automatic lubrication with Klübermatic – your benefits at a glance	4
The right solution for every application	5
Klübermatic NOVA	8
Klübermatic STAR VARIO	10
Klübermatic STAR CONTROL TIME	12
Klübermatic Basis Kits	14



The right lubricant at the right point at the right time

Correct lubrication is what matters

In technical equipment, any contact between materials like metal or plastic causes friction and tends to induce wear. Lubricants that are tailor-made for individual components prevent bearings, gears or chains from wear damage or even failure.

This is what Klüber Lubrication specialises in: the development of speciality lubricants for all branches of industry, all significant components and almost any tricky application.

Klüber Lubrication – the globally leading company for speciality lubricants

Whether components operate under extreme temperatures or at high speeds, are subjected to extreme pressure or exposed to aggressive environmental influences: with its range of approximately 2 000 different speciality lubricants sold directly worldwide, Klüber Lubrication offers the right solution – backed by intensive consultation and special services. Should the right solution for a particular tribological requirement not be found among our product range, Klüber Lubrication will tailor-develop a lubricant in close cooperation with the customer. Through constant dialogue with our customers and regular customer audits, we learn about their individual wishes and give them top priority. Notably, all manufacturing plants from Klüber Lubrication worldwide are certified as ISO/TS 16949 or ISO 9000:2000 and validated according to the EU eco-audit.

Lubricant – an element with added value

Klüber Lubrication understands lubricants to be elements that contribute to improving the function and efficiency of machines and installations, or that make technical solutions feasible in the first place. For the operator, this entails longer component life, lower energy consumption, less maintenance, and hence maximum equipment profitability. Klüber's high-end lubricants are used by companies in sectors as varied as the wind energy industry, steel-making, base materials, food processing, pharmaceutical, chemical and many other fields. Our customers appreciate our comprehensive solutions supporting them especially in the challenges of today, such as process cost optimisation and maximising efficiency.

Lubricants as problem-solvers

We at Klüber Lubrication regard ourselves as suppliers of solutions, which is why we offer not only high-performance oils and greases, but a "smart package" as well, which will take care of the automatic lubrication of your equipment and components. A selection of our lubricant range covering many typical applications can be obtained in automatic lubricant dispensers for single-point lubrication. These thoughtfully designed and proven systems based on electro-mechanical or electro-chemical technology can be fitted with standard, long-term or extreme-pressure greases, standard chain oils or high-temperature chain oils, or a special food-grade grease or oil. Apart from this standard range, you can also obtain other lubricants in automatic dispenser systems on request for larger quantities – provided their use has been tested and approved. Just talk to your contact at Klüber Lubrication.

Automatic lubrication with Klübermatic – your benefits at a glance

Profitability

With uninterrupted production processes and reliable maintenance intervals, production downtime is reduced to a minimum. Continuous, maintenance-free long-term lubrication and a constantly high lubricant quality ensure high machine availability. The permanent supply of fresh lubricant to the friction point keeps friction low and thus helps to reduce energy costs considerably.

Klübermatic lubrication reduces costs by up to 25 %

Reliability

Automatic lubricating systems offered by Klüber Lubrication ensure reliable, clean and accurate lubrication 24 hours a day, over many years. Machine availability is safeguarded as there is always fresh lubricant at the friction point.

Klübermatic lubrication helps to prevent 55 % of rolling bearing failures

Safety

Longer maintenance intervals means that the frequency of maintenance works and staff having to work within dangerous areas is reduced. So, if lubricant dispensers from Klüber Lubrication are used in areas that are difficult to access, the risk level at the workplace decreases considerably.

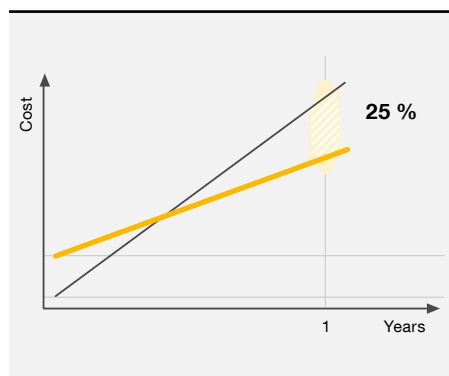
Klübermatic lubrication reduces risk of accidents by up to 90 %

From low-cost to high-end – automatic systems meeting any challenge

These technical solutions are offered by Klüber Lubrication:

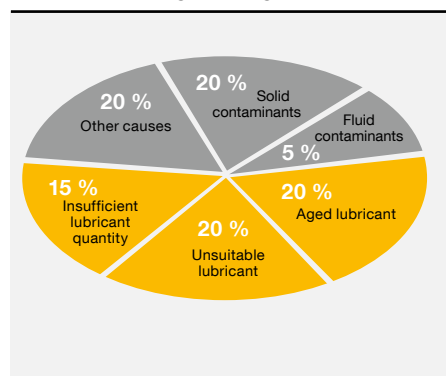
- freely selectable lubrication intervals, from one day to twelve months
- a variety of lubricants
- self-controlled or PLC-controlled lubrication systems (programmable time control)
- a combination of proven lubricant from Klüber Lubrication and automatic lubricant dispenser

Cost reduction with Klübermatic



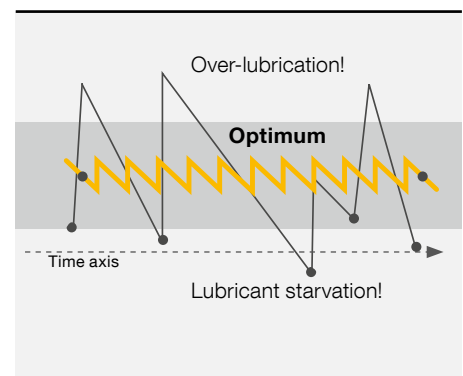
Calculations per 100 lubrication points

Causes of rolling bearing failure



55 % of rolling bearing failures could be prevented through the use of Klübermatic lubricating systems!

Lubricant release compared



The right solution for every application

Food-processing industry

In the food-processing industry, lubrication has an effect on food safety as well as on operating costs and productivity. Klüber Lubrication offers a comprehensive range of synthetic high-performance lubricants for the food sector. Several of them can also be obtained in automatic lubricant dispensers for clean, reliable and economical lubrication. This is particularly beneficial with regard to stringent hygiene requirements. Most of these lubricants are registered as NSF H1 and certified under ISO 21469, and as halal and kosher.



Steel industry

Temperatures and other ambient conditions in the steel industry are tough, both for lubricants and their application. Many lubrication points are difficult to access or require particular safety precautions. Some of them can only be supplied when the machinery is standing still, which is of course a highly undesirable state for any equipment. To improve safety, reliability and machine availability, Klüber Lubrication offers not only the right lubricant but also a practical solution for its application in the form of an automatic lubricant dispenser.



Base materials industry

Extreme temperatures, operation under heavy loads twelve months a year, tons of cement dust – such extreme conditions are commonplace in the cement industry around the world. Klüber Lubrication offers lubricants for all parts of a cement plant. Many decades of experience have shown that use of the right lubricant can help to reduce wear and costs and enhance machine reliability. Lubrication points that are located far apart, or may pose a particular safety risk to employees, can be continuously and reliably supplied by automatic lubricant dispensers with little effort.



Chemical and pharmaceutical industries

In these industries, requirements and safety standards to be met by lubricants are particularly stringent. Any risk of contamination is to be avoided – which makes automatic lubricant dispensers an obvious choice. Accurate automatic metering also supports compliance with the many applicable guidelines. Klüber Lubrication has a wide range of lubricants registered as NSF H1 especially for the pharmaceutical industry. These lubricants, as well as the associated manufacturing processes, are also certified under ISO 21469.



A systematic approach to optimised lubrication

This table is to provide you with an overview of lubricants from Klüber Lubrication that are available for use in Klübermatic lubricant dispensers. The applications and product data shown provide guidance for lubricant selection. Further data can be obtained from the product information leaflets. Of course, our lubricant experts will be pleased to consult you personally to make your choice.

Even if one of your applications is not in the list, please do not hesitate to contact our consultants: In many cases, Klübermatic lubricant dispensers can also be used for other components, for example shaft seals.






Greases	Lower service temperature ¹⁾ , approx.	Upper service temperature ¹⁾ , approx.
Standard grease POLYLUB GA 352 P	-35 [°C] -31 [°F]	120 [°C] 248 [°F]
Long-term grease STABURAGS NBU 12	-15 [°C] 5 [°F]	130 [°C] 266 [°F]
Extreme-pressure grease Klüberlub BE 71-501	-20 [°C] -4 [°F]	160 [°C] 320 [°F]
Food-grade grease Klüberfood NH1 94-402 ²⁾	-30 [°C] -22 [°F]	140 [°C] 284 [°F]






Oils	Lower service temperature ¹⁾ , approx.	Upper service temperature ¹⁾ , approx.
Multi-purpose oil Klüberoil GEM 1-68 N	-15 [°C] 5 [°F]	100 [°C] 212 [°F]
High-temperature oil Klübersynth CEH 2-100	0 [°C] 32 [°F]	280 [°C] 536 [°F]
Food-grade oil PARALIQ P 150 ²⁾	-15 [°C] 5 [°F]	100 [°C] 212 [°F]

1) Service temperatures (not referring to DIN 51825) are guide values which depend on the lubricant's composition, the intended use and the application method. Lubricants change their consistency, shear viscosity or viscosity depending on the mechanical-dynamic loads, time, pressure and temperature. These changes in product characteristics may affect the function of a component.

For further product data, please refer to the product information leaflets.



	NLGI class	Application				
		Rolling bearings	Plain bearings/ slideways	Open gears/ toothed racks	Threaded spindles	Chains
						
	2	•	•	•	•	–
	2/3	•	•	•	•	–
	1	•	•	•	–	–
	1/2	•	•	–	–	–

	Viscosity at 40 °C/104 °F	Application				
		Rolling bearings	Plain bearings/ slideways	Open gears/ toothed racks	Threaded spindles	Chains
						
	68	•	•	•	•	•
	105	–	–	–	–	•
	150	–	–	–	–	•

2) This lubricant is registered as H1, which means that it has been designed for incidental, technically unavoidable food contact. Experience shows that it can be used for equivalent applications in the cosmetics and pharmaceutical industry under the conditions described in the product information leaflet. Specific test results as e.g. biocompatibility, which could be an additional requirement for applications in the pharmaceutical industry, are not available for this product. Therefore, before using the lubricant adequate risk analyses should be performed and, if necessary, suitable measures be taken by the manufacturer and user of installations in order to exclude the risk of health hazards and personal injuries.

Klübermatic NOVA

Temperature-independent electrochemical lubrication system

For applications subject to strong temperature fluctuations

Klübermatic NOVA can be used for all applications between -20 °C and $+60\text{ °C}$. On the Klübermatic NOVA control unit, a discharge period from 1 to 12 months can be set by push-button. The control unit will then calculate the amount of gas required for constant and reliable lubricant release over that time, taking into account the ambient temperature. Klübermatic NOVA consists of a reusable control unit, an LC unit (LC = lubricant canister) with integrated oil retention valve – filled with 130 cm^3 of grease or oil – and a protection cover.

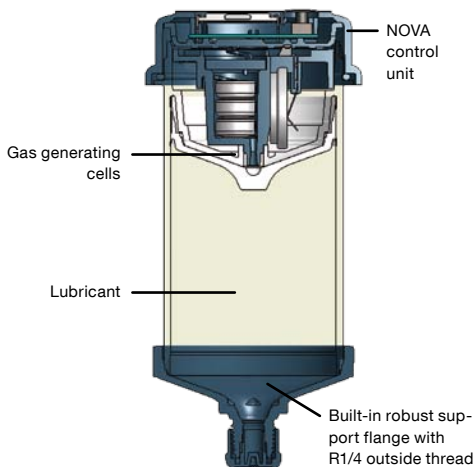
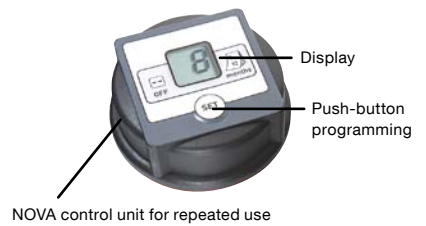

Applications

Klübermatic NOVA is particularly useful for the single-point lubrication of rolling- and plain bearings, slideways, open gears, toothed racks, shaft seals and chains operating under strongly varying temperatures (e.g. open-air applications). The lubricating system is dust-tight and protected against splash water (acc. to IP 65) provided it is properly assembled.





Dispenser characteristics	Your benefit
Electronic control unit with integrated temperature compensation	<ul style="list-style-type: none"> – Simple handling – Setting of operating period matching varying temperatures automatically, hence temperature-independent discharge throughout operation period – Much faster start-up (within one day only) than with other electrochemical lubricant dispensers. The lubrication point is therefore supplied continuously from the start. – Reusable control unit
LCD and push-button control	<ul style="list-style-type: none"> – Variable discharge period from 1 to 12 months – Discharge period can be adjusted to changing requirements any time – Constant condition monitoring possible due to display function
Service temperature range from –20 to +60 °C (–4 to 140 °F)	<ul style="list-style-type: none"> – Universal use over a wide temperature range, also under varying ambient temperatures
Ex-proof certification IP 65	<ul style="list-style-type: none"> – Use in spaces with explosion risk – Improved workplace safety

Technical information	
Housing Transparent plastic	
Drive Electrochemical reaction involving gas generating cells and electronic temperature compensation	
Dispensing time 1, 2, 3, ..., 12 months	
Lubricant volume 130 cm ³	
Service temperature –20 to +60 °C (–4 to 140 °F) Possibly less depending on lubricant used	
Pressure build-up 6 bar max.	
Approvals CE approval Ex-proof approval	
	 <p>NOVA control unit for repeated use</p>  <p>Cover for protection during transport and against dust and dirt</p>

Klübermatic STAR VARIO

Temperature-independent precision lubrication

Highly accurate discharge and individualised lubricant metering

Klübermatic VARIO STAR is fully automatic and works independent of the ambient temperature. It dispenses lubricant with utmost accuracy over 1, 3, 6 or 12 months. Klübermatic VARIO STAR consists of an electro-mechanical drive unit, an LC unit containing 120 cm³ of lubricant and a battery set. The functional condition can be monitored via an LED so that an empty LC unit or malfunction can be detected and remedied without delay.

Applications

Klübermatic STAR VARIO is used for the single-point lubrication of rolling- and plain bearings, slideways, open gears, toothed racks, threaded spindles, shaft seals and chains. With its high-precision lubricant metering, Klübermatic STAR VARIO may be used under strongly varying ambient temperatures and with different pressure requirements, e.g. for the lubrication of electric motors. The lubricating system is protected against dust and splash water provided it has been properly assembled.





Dispenser characteristics	Your benefit
Electromechanical drive unit	<ul style="list-style-type: none"> – Function independent of temperature, pressure and vibration – High plant availability – Reusable
LED flashing signals on drive unit	<ul style="list-style-type: none"> – Simple visual monitoring enabling more rapid inspections – Lower risk of accidents
Battery-operated	<ul style="list-style-type: none"> – Fast, simple assembly – No wiring required, hence high flexibility and low-cost mounting on inconveniently located lubrication points – Can be switched off when required (e.g. during machine downtime) to avoid unnecessary lubricant discharge
Constant pressure build-up of 5 bar max.	<ul style="list-style-type: none"> – Flexible tube connection up to 3 m distance possible (e.g. in high-temperature sections) – Improved workplace safety due to automatic supply to inconveniently located lubrication points

Technical information			
Housing Transparent plastic		Lubricant quantity per discharge cycle	
Drive Electromechanical, reusable		Time programming Code switch	M120, 120 cm ³
Power supply Klübermatic VARIO STAR battery set			
Dispensing time 1, 3, 6 or 12 months			0.26 cm ³
Lubricant volume 120 cm ³ *)			0.26 cm ³
Service temperature –10 to +50 °C (+14 to +122 °F) Possibly less depending on lubricant used			0.26 cm ³
Pressure build-up 5 bar max.			0.26 cm ³
Approvals CE approval Emission sound level < 70 dB(A)			0.26 cm ³

*) For larger orders, 60 cm³ or 250 cm³ units can be supplied on request.

Klübermatic STAR CONTROL TIME

Individual automatic relubrication by means of external control

Accurate lubricant supply – constant and temperature-independent

Klübermatic STAR CONTROL TIME supplies the lubrication point with oil or grease immediately on starting – ensuring constant, accurate and temperature-independent lubrication. Klübermatic STAR CONTROL TIME is power-supplied directly from the machine it is connected to and can be linked up to the machine's PLC unit for control and monitoring. Klübermatic STAR CONTROL TIME automatically discharges a set amount of lubricant as long as it remains connected to power. The LC unit contains 120 cm³ of lubricant as standard.

Applications

Klübermatic STAR CONTROL TIME can be used for rolling- and plain bearings, slideways, open gears, toothed racks, threaded spindles, shaft seals and chains. This lubricating system operates with great accuracy in all machines where lubrication is required in line with machine runtimes and where over-lubrication is to be avoided. Connection to the machine's PLC is possible. The lubricating system is protected against dust and splash water provided it has been properly assembled.





Dispenser characteristics	Your benefit
Machine-based control, e.g. via PLC	<ul style="list-style-type: none"> – The lubricating system can be linked up to the machine so that the system can provide feedback, enabling flexible control and an additional monitoring facility of the lubrication performance – Connection to the machine enables automatic system switch-on and -off – Integration in fault alert system possible – Efficient lubricant use
Power supply from machine/installation	<ul style="list-style-type: none"> – Constant power supply – No battery change required
Reusable drive unit	<ul style="list-style-type: none"> – Accurate, lubrication-point-specific metering – Transparent housing enables visual fill level inspection
Pressure build-up up to 5 bar	<ul style="list-style-type: none"> – Flexible tube connection up to 3 m distance possible (e.g. in high-temperature sections) – Improved workplace safety due to automatic supply to inconveniently located lubrication points

Technical information		
Housing Transparent plastic		
Drive Electromechanical, reusable		
Power supply External, 15-30 V DC / typ. 0.2 A		
Runtime Klübermatic STAR CONTROL TIME: time-controlled		
Lubricant volume 120 cm ³ *)		
Service temperature –10 to +50 °C (+14 to 122 °F) Possibly less depending on lubricant used	Lubricant quantity per discharge cycle STAR CONTROL TIME: lubricant quantity in cm ³ per 100 operating hours	
Pressure build-up 5 bar max.	LC unit	M120, 120 cm ³
Approvals CE approval Emission sound level < 70 dB(A)	Settings of code switches	Pause time (h:min)
		1:30 16.67 cm ³
		4:37 5.56 cm ³
		9:17 2.78 cm ³
		18:36 1.39 cm ³




*) For larger orders, 60 cm³ or 250 cm³ units can be supplied on request.

Klübermatic Basis Kits

We want to make the changeover from manual to automatic lubrication as easy and convenient for you as possible. We have therefore developed a basic kit for each of the lubricant dispenser models that comprises all components required for operation under normal circumstances. It allows you to start dispenser operation without having to gather all your data or go through a complex component selection procedure first. The kit contains adapters for regular thread sizes, enabling easy connection of the lubricant dispenser and its LC unit once the machine's lubricating nipple has been removed.

Your advantages at a glance:

- Simple ordering, one article number only
- Savings compared to individual ordering
- All components required for normal operation contained in the kit

Basic Kit	Klübermatic NOVA	Klübermatic STAR VARIO	Klübermatic STAR CONTROL TIME
			
Contents	<p>NOVA control unit with LCD</p> <p>+ NOVA LC 130 with battery, protective cover and integrated support flange</p> <p>Accessories, one each:</p> <p>Adapter G1/8a x G1/4i</p> <p>Adapter M6a x G1/4i</p> <p>Adapter M8x1a x G1/4i</p> <p>Adapter M10x1a x G1/4i</p> <p>Integrated oil retention valve for LC units filled with oil</p>	<p>STAR VARIO drive unit</p> <p>+ STAR VARIO battery pack</p> <p>+ STAR LC M120</p> <p>Accessories, one each:</p> <p>STAR support flange G1/4a x G1/4i</p> <p>Adapter G1/8a x G1/4i</p> <p>Adapter M6a x G1/4i</p> <p>Adapter M8x1a x G1/4i</p> <p>Adapter M10x1a x G1/4i</p> <p>Oil retention valve up to +60 °C / +140 °F (brass with plastic valve) for LC units filled with oil</p>	<p>STAR CONTROL TIME drive unit</p> <p>+ STAR CONTROL cable (5m)</p> <p>+ STAR LC M120</p> <p>Accessories, one each</p> <p>STAR support flange G1/4a x G1/4i</p> <p>Adapter G1/8a x G1/4i</p> <p>Adapter M6a x G1/4i</p> <p>Adapter M8x1a x G1/4i</p> <p>Adapter M10x1a x G1/4i</p> <p>Oil retention valve up to +60 °C / +140 °F (brass with plastic valve) for LC units filled with oil</p>



Publisher and Copyright:
Klüber Lubrication München KG

Reprints, total or in part, are permitted only prior consultation with Klüber Lubrication München KG and if source is indicated and voucher copy is forwarded.

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 KG
Geisenhausenerstraße 7
81379 München
Germany

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

www.klueber.com

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 80 years.



A company of the Freudenberg Group