

# Klüberalfa HPX 93-1202

High-temperature lubricant for extreme requirements in baking ovens and grills



## Your benefits at a glance

- Lifetime lubrication enabled by high thermal stability up to 300 °C
- Low noise and smooth running due to excellent damping behaviour
- Reduced relubrication due to good resistance to cleaning agents
- NSF H1 registered and ISO 21469 certified - supports compliance with the hygienic requirements in your production plant

## Your requirements – our solution

Extensions and sliding rails in automatic or other baking ovens are expected to function without jamming or generating noise over many years of use. Operating conditions are extremely taxing for the lubricant with exposure to temperatures up to 300 °C, aggressive cleaning agents, greases and steam over many years. To reduce, or even prevent extensive relubrication, the lubricant has to work throughout the equipment lifetime. To make sure the food product is not compromised physiologically and its taste remains unaffected, the lubricant used must not release any substances which might provoke such effects.

Klüberalfa lubricants are highly advanced speciality products based on selected raw materials and production techniques. They are custom-made for specific requirements in for-life applications.

Klüberalfa HPX 93-1202 is a lubricant meeting all requirements of these applications to the full.

Our expertise in the development of high-temperature lubricants is based on several decades of experience gained in collaboration with international manufacturers of household appliances.

We manufacture the PFPE base oils of this lubricant ourselves and therefore know their properties in detail. Consequently, we are in a position to develop products specifically for the needs of our customers.

Klüberalfa HPX 93-1202 is based on unique highly viscous oils with an exceptionally low evaporation rate. Due to the low evaporation rate, the grease remains at the friction point for a long time, providing effective lubrication, and its PTFE-free thickener further adds to the lubricant's performance capabilities. Relubrication is no longer required in most cases. Klüberalfa HPX 93-1202 is thermally stable up to 300 °C, making it the preferred choice for use in baking ovens.

Klüberalfa HPX 93-1202 is the first non-PTFE high-temperature grease of its type to be registered as NSF-H1 and therefore to comply with FDA 21 CFR § 178.3570. It was developed for incidental contact with products and packaging materials in the food-processing, cosmetics, pharmaceutical or animal feed industries. The use of Klüberalfa HPX 93-1202 can contribute to

increased reliability of your production processes. Nevertheless it is recommended to conduct an additional risk analysis, e.g. HACCP.

## Application

Klüberalfa HPX 93-1202 is a fully synthetic high-temperature grease for use in industrial and household baking ovens as well as automatic baking ovens. It improves the functional capabilities of sliding rails, hinges, locking systems, joints and other elements at low speed and very high temperatures. This enables you as an operator to benefit from long-term lubrication in combination with good damping even at extremely high temperatures.

Klüberalfa HPX 93-1202 is generally regarded as resistant to most chemicals and solvents. The lubricant is therefore not expected to be negatively affected by cleaning agents.

## Application notes

For optimum lubrication results, we recommend cleaning the friction points with white spirit 180/210 followed by Klüberalfa XZ 3-1 before using Klüberalfa HPX 93-1202 for the first time. Then blow the surfaces with clean, dry compressed air or hot air to remove white spirit residues.

For initial lubrication, the friction points must be clean and bright, i.e. free from oil, grease, perspiration and contamination.

To optimise the service life of your equipment or if you have any other questions regarding your application, our experts will be pleased to help you.

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.



# Klüberalfa HPX 93-1202

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Pack sizes	Klüberalfa HPX 93-1202
Cartridge 800 g	+
Can 1 kg	+
Bucket 10 kg	+

Product data	Klüberalfa HPX 93-1202
Article number	090026
NSF-H1 registration	138 460
Chemical composition, type of oil	PFPE
Chemical composition, solid lubricant	solid lubricant
Lower service temperature	-20 °C / -4 °F
Upper service temperature	300 °C / 572 °F
Density at 20 °C	approx. 1.90 g/cm <sup>3</sup>
NLGI grade, DIN 51818	2
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 1 200 mm <sup>2</sup> /s
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 100 mm <sup>2</sup> /s
Vapour pressure of the base oil at 20 °C	approx. 4x10 <sup>-17</sup> Torr
Water resistance, DIN 51807 pt. 01, 3 h/90 °C, rating	<= 1 - 90
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	60 months

## 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.

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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. Klüber products are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this document at any time without notice.

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