

Klübertemp GR M07, M30, M60

Long-term greases for a wide temperature range



Benefits for your application

- **Long component life**
 - over a wide service temperature range
 - in contact with aggressive media
 - where sensitive plastic materials are used

Description

Klübertemp GR M greases are white, odourless, long-term greases based on perfluorinated polyether (PFPE) oils and polytetrafluoroethylene (PTFE) thickener. The extremely high viscosity index, i.e. the very flat viscosity curve of the base oils, allows excellent sliding friction properties across a wide service temperature range. Klübertemp GR M greases show a neutral behaviour towards most plastics and elastomers and can therefore be used for a variety of component materials.

Application

Klübertemp GR M greases are preferably used for the lubrication of electromechanical actuators, small gears and seals where they show low breakaway torques, exceptionally low friction values as well as a reduced tendency to stick-slip. This leads, for example, to lower frictional heating of elastomers subject to dynamic loads and hence longer component life.

General behaviour towards elastomers and plastics

Lubricants based on perfluorinated polyether oils and polytetrafluoroethylene are generally regarded as neutral towards most elastomers and plastics (possible exception: highly fluorinated rubber). Nevertheless, compatibility with the materials should be tested, especially prior to series application.

Application notes

For optimum lubrication results, we recommend cleaning the friction points with white spirit 180/210 followed by Klüberalfa XZ 3-1. Then blow the surfaces with clean, dry air or hot air to remove solvent residues. For initial lubrication, the friction points must be clean and bright, i.e. free from oil, grease, perspiration and contamination. Klübertemp GR M greases may be applied directly or by means of brush, spatula or lubricant dispenser.

The technical sales departments at Klüber Lubrication may be contacted at any time for advice to ensure optimum service life results.

Klübertemp GR M greases have been tested and approved for contact-free minimum-quantity greasing by electro-pneumatic jet valves.

Material safety data sheets

Material safety data sheets can be requested via our website www.klueber.com. You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klübertemp GR M07	Klübertemp GR M30	Klübertemp GR M60
Tube 100 g	+	+	+
Can 1 kg	+	+	+
Bucket 10 kg	+	+	-

Product data	Klübertemp GR M07	Klübertemp GR M30	Klübertemp GR M60
Article number	090173	090177	090184
NLGI grade, DIN 51818		2	2
Chemical composition, type of oil	PFPE	PFPE	PFPE

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Chemical composition, solid lubricant	PTFE	PTFE	PTFE
Lower service temperature	-65 °C / -85 °F	-60 °C / -76 °F	-50 °C / -58 °F
Upper service temperature	180 °C / 356 °F	200 °C / 392 °F	230 °C / 446 °F
Colour space	white	white	white
Texture	homogeneous	homogeneous	homogeneous
Density at 20 °C	approx. 1.91 g/cm ³	approx. 1.94 g/cm ³	approx. 1.94 g/cm ³
Worked penetration, DIN ISO 2137, 25 °C, lower limit value	315 x 0.1 mm	265 x 0.1 mm	265 x 0.1 mm
Worked penetration, DIN ISO 2137, 25 °C, upper limit value	345 x 0.1 mm	295 x 0.1 mm	295 x 0.1 mm
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 40 mm ² /s	approx. 160 mm ² /s	approx. 310 mm ² /s
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 11 mm ² /s	approx. 45 mm ² /s	approx. 85 mm ² /s
Oil separation, based on ASTM D 6184 [FTMS 791 C 321], after 30 h/120 °C	<= 11 % by weight		
Oil separation, based on ASTM D 6184 [FTMS 791 C 321], after 30 h/200 °C		<= 11 % by weight	<= 10 % by weight
Evaporation loss, ASTM D 2595 22h/120°C	<= 3 % by weight		
Evaporation loss, ASTM D 2595 22h/204°C		<= 2 % by weight	<= 2 % by weight
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	60 months	60 months	60 months





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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 80 years.

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