Change information:

Chap. /page	**Description** (changes compared to the previous edition)	Modification no.
Entire document	Editorial changes	260502
1.1 /4	Revision of the CLP HC definition	
1.2 /5	Update of the explanation of the various lubricants	
1.4 /6	Revision of the approved oil seals	
1.4 /6	Revision of the chapter	
2.1 /11	Revision of the chapter	
2.1 /11	Revision of the CLP HC definition	
2.1 /11	New lubricant: Gulf Oil Geartek SHD	
3 /13	Mobil SHC 626 added for F02-F03 gear units	
9 /24	Mobil Synthetic GearOil 75W90 added for W02-W03 gear units	
11 /26	PxG gear units: P1.G, P2.G, and P3.G added	

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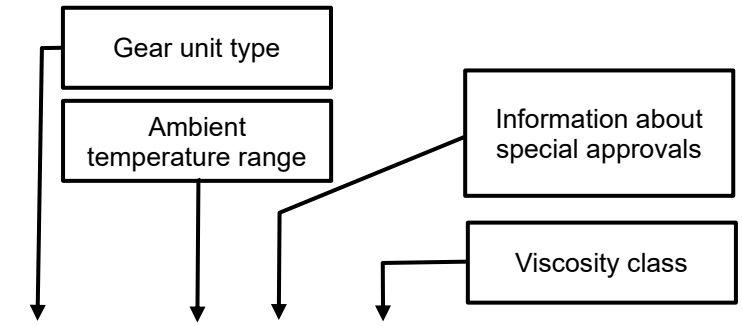
1. Introduction/area of application

This document describes the approved/recommended lubricants for SEW-EURODRIVE gear unit series. The approvals/recommendations are valid worldwide.
SEW-EURODRIVE accepts no liability if other lubricants are used in the gear units and/or if they are used outside of the recommended temperature ranges.
Lubricants for standard gear units are subject to approval; approval is granted in accordance with the specifications of document 07004__13 "Supplier approval for qualification and approval of lubricants – gear unit oils" in its latest version.

INFORMATION: Printed documents may not include the latest changes. For the latest version of this document, refer to www.sew-eurodrive.de/schmierstoffe.

1.1. Explanation of the structure of the tables and abbreviations



Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	SINOPEC	TOTAL
R.. RES K..7 KES HK.. F..	Standard -15 40		CLP	VG 220	-15 +80 GearOil Base 220 E1/US1 SEW 070040313		-15 +80 Optigear BM 220	-15 +80 Renolin CLP 220 Plus SEW 070040313	-15 +80 Mobilgear 600 XP 220 SEW 070040013	-15 +80 Klüberoil GEM 1-220 N	-15 +80 Shell Omala SG 220	-15 +80 AP-SGO 220	-15 +80 Carter EP 220
	-20 30			VG 150	-20 +80 GearOil Base 150 E1 /US1* SEW 070040313		-20 +80 Optigear BM 150	-20 +80 Renolin CLP 150 Plus SEW 070040313	-20 +80 Mobilgear 600 XP 150 SEW 070040013		-20 +80 Shell Omala SG 150	-20 +80 AP-SGO 150	-20 +80 Carter EP 150
	Standard -15 40		CLP - PSS	VG 220	-15 +80 GearOil Base 220 E1/US1 SEW 070040313			-15 +80 Renolin CLP 220 Plus SEW 070040313	-15 +80 Mobilgear 600 XP 220 SEW 070040013				
	-20 30			VG 150	-20 +80 GearOil Base 150 E1/US1* SEW 070040313			-20 +80 Renolin CLP 150 Plus SEW 070040313	-20 +80 Mobilgear 600 XP 150 SEW 070040013				

The specified **ambient temperatures** serve as **approximate guide values for preselecting** a suitable lubricant. The exact lower or upper temperature limit for project planning must be taken from the table with the respective trade name! During project planning, note that the starting behavior may change at low temperatures due to increasing viscosity.

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Abbreviations:

	Synthetic lubricant.
	Mineral lubricant.
CLP	Mineral oil.
CLP PG	Polyglycol (PG).
rPCF	Reduced Product Carbon Footprint.
CLP HC	Polyalphaolefins (PAO) and related hydrocarbons with comparable technical properties. Base oils with the code letter PR according to DIN 51502-2.
E	Ester-based oil.
	Lubricant suitable for ATEX environment.
	Lubricant for the food processing industry and feed industry. The oils are registered with NSF H1 and comply with FDA 21 CFR § 178.3570.
	Lubricants that are easily biodegradable for use in environmentally sensitive areas (> 60% according to OECD 301 or according to appendix A of EPA 2013 VGP).
	Lubricants with a significantly reduced CO_2 footprint (cradle-to-gate) made from sustainable raw materials.
1)	Helical-worm gear units with CLP-PG: Contact SEW-EURODRIVE.
2)	Low-viscosity grease.
3)	With appropriate measures, the gear units can be operated at ambient temperatures as low as -40 °C. Contact SEW-EURODRIVE.
4)	Oils for the food processing industry cannot be combined with the gear unit option "Extended storage" (addition of a VCI anti-corrosion agent).
RWDR	Oil seal.
PSS	Oil seal of type Premium Sine Seal (PSS). The addendum "PSS" for the lubricant type indicates compatibility with the sealing system.
SPC	**S**pecial **p**roduct **c**lassification Observe the safety data sheet for product classification – special handling required.

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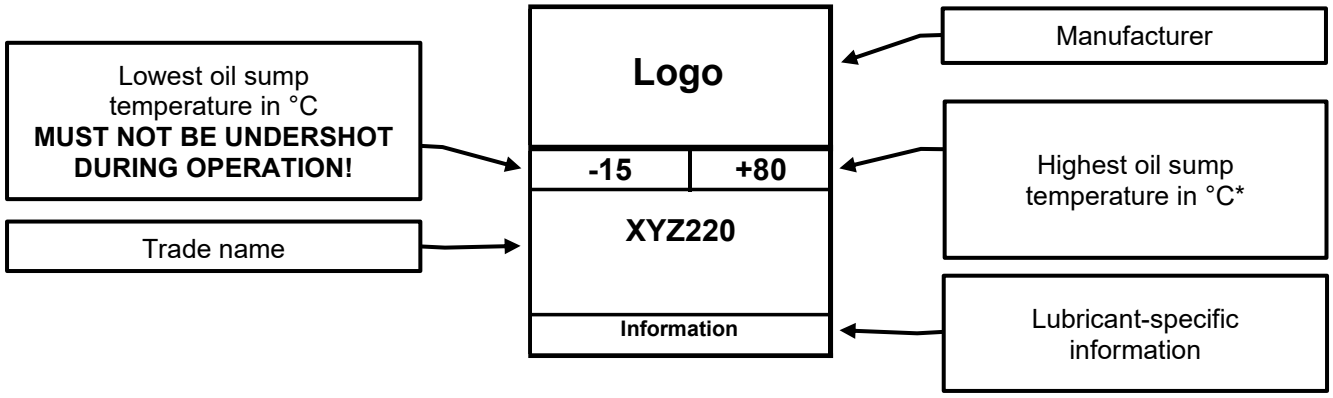
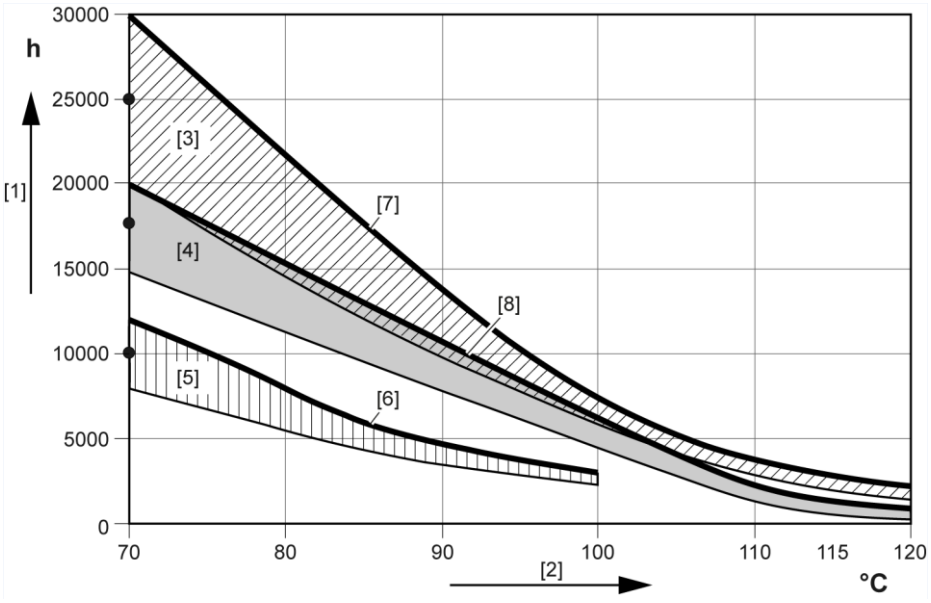
1.2. Details regarding the various lubricants



* The service life will be considerably reduced if this value is exceeded. Observe the lubricant change intervals according to chapter 1.3.

1.3. Lubricant change intervals

The following image depicts the change intervals for standard gear units under normal ambient conditions. In special designs used under severe/aggressive ambient conditions, change the lubricant more frequently.
Notice: Loss of lubricant properties due to filling with the wrong lubricant may cause damage to the gear unit. Do not mix synthetic lubricants and mineral lubricants. In general, FVA guideline 606 must be observed.



[1] Operating hours
[2] Continuous oil bath temperature
[3] CLP PG/CLP PG NSF H1
[4] CLP HC/CLP HC NSF H1
[5] CLP/E
[6] GearOil Base by SEW-EURODRIVE
[7] GearOil Poly (H1)/GearFluid Poly (H1) by SEW-EURODRIVE
[8] GearOil Synth (H1) by SEW-EURODRIVE

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1.4. Compatibility of lubricants with oil seals

The listed lubricants meet the minimum requirements for compatibility with oil seals according to SEW specifications 97118__15.

Permitted temperature range for use of oil seals

Oil seal material class	Approved oil sump temperature
NBR	-40 °C to +80 °C
FKM	-25 °C to +115 °C
FKM-PSS	-25 °C to +115 °C

In the low temperature range, oil seals can withstand shaft deflections (e.g. through overhung load) only to a limited extent. It is particularly important to avoid or limit swelling and alternating radial displacements of the shaft. Contact SEW-EURODRIVE if required.

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2. Helical gear units (R..), helical-bevel gear units (K.7), parallel-shaft helical gear units (F.7)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	SINOPEC	TotalEnergies
R.. RES K..7 KES HK.. F.7	Standard -15 … 40		CLP	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1	-15 +80 Optigear BM 220	-15 +80 Renolin CLP 220 Plus	-15 +80 Mobilgear 600 XP 220	-15 +80 Klüberoil GEM 1-220 N	-15 +80 Shell Omala S2 GX Plus 220	-15 +80 AP-SGO 220	-15 +80 Carter EP 220
	-20 … 30			VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1	-20 +80 Optigear BM 150	-20 +80 Renolin CLP 150 Plus	-20 +80 Mobilgear 600 XP 150	-20 +80 Klüberoil GEM 1-150 N	-20 +80 Shell Omala S2 GX Plus 150	-20 +80 AP-SGO 150	-20 +80 Carter EP 150
	Standard -15 … 40		CLP (PSS)	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1		-15 +80 Renolin CLP 220 Plus	-15 +80 Mobilgear 600 XP 220			-15 +80 AP-SGO 220	
	-20 … 30			VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1		-20 +80 Renolin CLP 150 Plus	-20 +80 Mobilgear 600 XP 150			-20 +80 AP-SGO 150	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

SEW-EURODRIVE drives of the series
R../ K.7/ F.7/ F0./ FL.9/ K.9/ S../ HS../ S.7p/ W.0/ HW.0/ W.9HG/ W0./ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7/ Z..
Lubricant approvals – latest version at: www.sew-eurodrive.de/schmierstoffe

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TotalEnergies
R.. RES K..7 KES HK.. F.7	Standard -25 … 80	Ex	CLP PG	VG 220	-25 … +115 GearOil Poly 220 E1/CN1	-25 … +115 Optigear Synthetic 800/220	-25 … +115 Renolin PG 220	-25 … +115 Mobil Glygoyle 220 SPC	-25 … +115 Klübersynth GH 6-220	-25 … +115 Shell Omala S4 WE 220	-25 … +115 Carter SY 220
	-30 … 70	Ex	CLP PG	VG 150	-30 … +115 GearOil Poly 150 E1/CN1				-30 … +115 Klübersynth GH 6-150		
	Standard -25 … 80	Ex	CLP PG (PSS)	VG 220	-25 … +115 GearOil Poly 220 E1/CN1				-25 … +115 Klübersynth GH 6-220		
	-30 … 70	Ex	CLP PG (PSS)	VG 150	-30 … +115 GearOil Poly 150 E1/CN1				-30 … +115 Klübersynth GH 6-150		
	-25 … 80	Ex, bio	CLP PG rPCF (PSS)	VG 220	-25 … +115 GearFluid Poly 220 E1						
	Standard -25 … 40		CLP PG NSF H1 [4] (PSS)	VG 220	-25 … +95 GearOil Poly 220 H1 E1 SPC				-25 … +95 Klübersynth UH1 6-220 SPC		
	-20 … 80	Ex	CLP PG NSF H1 [4] (PSS)	VG 460	-20 … +115 GearOil Poly 460 H1 E1 SPC				-20 … +115 Klübersynth UH1 6-460 SPC		
	-30 … 30		CLP PG NSF H1 [4] (PSS)	VG 150	-30 … +80 GearOil Poly 150 H1 E1 SPC				-30 … +80 Klübersynth UH1 6-150 SPC		
	-25 … 80	Ex, bio	CLP PG NSF H1 [4] rPCF (PSS)	VG 220	-25 … +95 GearFluid Poly 220 H1 E1 SPC						

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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R../ K.7/ F.7/ F0./ FL.9/ K.9/ S../ HS../ S.7p/ W.0/ HW.0/ W.9HG/ W0./ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7/ Z..
Lubricant approvals – latest version at: www.sew-eurodrive.de/schmierstoffe

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TotalEnergies
R.. RES K..7 KES HK.. F.7	Standard -25 60	Ex	CLP HC	VG 220[3]	-30 +110 GearOil Synth 220 E1/US1	-25 +110 Renolin Unisyn CLP 220	-25 +110 Mobil SHC 630	-25 +110 Klübersynth GEM 4-220 N	-25 +110 Shell Omala S4 GXV Plus 220	-25 +110 Carter SH 220
	-30 50	Ex	CLP HC	VG 150 [3]	-35 +105 GearOil Synth 150 E1/US1	-30 +95 Renolin Unisyn CLP 150	-30 +100 Mobil SHC 629	-30 +100 Klübersynth GEM 4-150 N	-30 +100 Shell Omala S4 GXV Plus 150	-30 +95 Carter SH 150
	-35 20	Ex	CLP HC	VG 68		-35 +75 Renolin Unisyn CLP 68	-40 +75 Mobil SHC 626		-35 +75 Shell Omala S4 GXV Plus 68	
	-40 0	Ex	CLP HC	VG 32		-40 +50 Renolin Unisyn OL32	-40 +50 Mobil SHC 624			-40 +50 Dacnis SH 32
	Standard -25 60	Ex	CLP HC (PSS)	VG 220[3]	-30 +110 GearOil Synth 220 E1/US1		-25 +110 Mobil SHC 630			
	-30 50	Ex	CLP HC (PSS)	VG 150 [3]	-35 +105 GearOil Synth 150 E1/US1		-30 +100 Mobil SHC 629			

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

SEW-EURODRIVE drives of the series
R../ K.7/ F.7/ F0./ FL.9/ K.9/ S../ HS../ S.7p/ W.0/ HW.0/ W.9HG/ W0./ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7/ Z..
Lubricant approvals – latest version at: www.sew-eurodrive.de/schmierstoffe

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	KLÜBER LUBRICATION
R.. RES K..7 KES HK.. F.7	Standard -15 … 40	Ex	CLP HC NSF H1 [4]	VG 460	-20 … +110 GearOil Synth 460 H1 E1/US1 SPC	-15 … +100 Cassida Fluid GL 460	-15 … +100 Optileb GT 460 SPC	-15 … +100 Cassida Fluid GL 460	-15 … +105 Klüberoil 4 UH1-460 N SPC
	-25 … 30	Ex	CLP HC NSF H1 [4]	VG 220	-30 … +90 GearOil Synth 220 H1 E1/US1 SPC	-25 … +80 Cassida Fluid GL 220	-25 … +80 Optileb GT 220 SPC	-25 … +80 Cassida Fluid GL 220	-25 … +80 Klüberoil 4 UH1-220 N SPC
	-35 … 0	Ex	CLP HC NSF H1 [4]	VG 68		-35 … +50 Cassida Fluid HF 68	-40 … +50 Optileb HY 68 SPC	-35 … +50 Cassida Fluid HF 68	-35 … +50 Klüberoil 4 UH1-68 N SPC
	-40 … -10	Ex	CLP HC NSF H1 [4]	VG 32		-40 … +30 Cassida Fluid HF 32	-40 … +30 Optileb HY 32 SPC	-40 … +30 Cassida Fluid HF 32	-40 … +30 KlüberSummit HySyn FG 32 SPC
	Standard -15 … 40	Ex	CLP HC NSF H1 [4] (PSS)	VG 460	-20 … +110 GearOil Synth 460 H1 E1/US1 SPC	-15 … +100 Cassida Fluid GL 460	-15 … +100 Optileb GT 460 SPC	-15 … +100 Cassida Fluid GL 460	
	-25 … 30	Ex	CLP HC NSF H1 [4] (PSS)	VG 220	-30 … +90 GearOil Synth 220 H1 E1/US1 SPC	-25 … +80 Cassida Fluid GL 220	-25 … +80 Optileb GT 220 SPC	-25 … +80 Cassida Fluid GL 220	
	Standard -15 … 50	Ex	E	VG 460				-15 … +95 Plantogear 460 S S2	
	-20 … 40		E	VG 320				-20 … +85 Plantogear 320 S	-20 … +85 Klüberbio EG 2-320

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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2.1. Other approved lubricants

The lubricants listed below meet the SEW-EURODRIVE requirements according to SEW-EURODRIVE specification SEW07004__13 for use in helical gear units (R..), helical-bevel gear units (K.7), and parallel-shaft helical gear units (F..), but they are not available as an initial filling ex works.

The maximum permitted oil bath temperatures must not be exceeded.
The viscosity-temperature behavior can vary greatly depending on the selected lubricant product. During operation of the above-mentioned gear units, the minimum operating viscosity of 20 mm²/s must not be undershot, and the maximum operating viscosity of 40 000 mm²/s must not be exceeded.

Oil type	Manufacturer – product name	Viscosity
CLP (mineral) Max. oil bath temperature 80 °C		
CLP-HC (polyalphaolefins and related hydrocarbons) Max. oil bath temperature 100 °C (short-term 110 °C)	Chevron/Texaco/Caltex – Meropa EliteSyn XM	VG150 to VG680
	Deutsche Ölwerke Lubmin GmbH – Aveno Gear Ultimate FLD	VG150 to VG680
	GulfOil Geartek SHD	VG150 to VG680
	Hindustan Petroleum Corporation Limited – Parthan SL	VG220 to VG460
	Klüber Lubrication – Klübersynth MEG-4	VG150 to VG680
	Petro-Canada Enduratex Synthetic EP	VG150 to VG1000
	Petro-China Lubricant Company – KunLun KPM/S Synthetic Heavy-duty Industrial Gear Oil	VG150 to VG680
	Ravensberger Schmierstoffvertrieb GmbH – Ravenol Synthetic Wind Turbines SWT	VG150 to VG680
	Sinopec – AP-S Industrial Gear Oil	VG150 to VG680

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3. Parallel-shaft helical gear units (F0.)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE		Castrol		FUCHS		Mobil		KLÜBER LUBRICATION		Shell		SINOPEC		TotalEnergies	
F02-F03	Standard -15 40		CLP	VG 220	-15	+80	-15	+80	-15	+80	-15	+80	-15	+80	-15	+80	-15	+80	-15	+80
					GearOil Base 220 E1/US1/CN1/BR1		Optigear BM 220		Renolin CLP 220 Plus		Mobilgear 600 XP 220		Klüberoil GEM 1-220 N		Shell Omala S2 GX Plus 220		AP-SGO 220		Carter EP 220	
	-20 30			VG 150	-20	+80	-20	+80	-20	+80	-20	+80	-20	+80	-20	+80	-20	+80	-20	+80
					GearOil Base 150 E1/US1/CN1/BR1		Optigear BM 150		Renolin CLP 150 Plus		Mobilgear 600 XP 150		Klüberoil GEM 1-150 N		Shell Omala S2 GX Plus 150		AP-SGO 150		Carter EP 150	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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R../ K.7/ F.7/ F0./ FL.9/ K.9/ S../ HS../ S.7p/ W.0/ HW.0/ W.9HG/ W0./ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7/ Z..
Lubricant approvals – latest version at: www.sew-eurodrive.de/schmierstoffe

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TotalEnergies
F02-F03	Standard -25 … 80		CLP PG	VG 220	-25 … +115 GearOil Poly 220 E1/CN1	-25 … +115 Optigear Synthetic 800/220	-25 … +115 Renolin PG 220	-25 … +115 Mobil Glygoyle 220 SPC	-25 … +115 Klübersynth GH 6-220	-25 … +115 Shell Omala S4 WE 220	-25 … +115 Carter SY 220
	-30 … 70			VG 150	-30 … +115 GearOil Poly 150 E1/CN1				-30 … +115 Klübersynth GH 6-150		
	-25 … 80		CLP PG rPCF	VG 220	-25 … +115 GearFluid Poly 220 E1						
	Standard -25 … 40		CLP PG NSF H1	VG 220	-25 … +95 GearOil Poly 220 H1 E1 SPC				-25 … +95 Klübersynth UH1 6-220 SPC		
	-20 … 80			VG 460	-20 … +115 GearOil Poly 460 H1 E1 SPC				-20 … +115 Klübersynth UH1 6-460 SPC		
	-30 … 30			VG 150	-30 … +80 GearOil Poly 150 H1 E1 SPC				-30 … +80 Klübersynth UH1 6-150 SPC		
	-30 … 20		CLP HC	VG 68				-30 … +75 Mobil SHC 626			

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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4. Parallel-shaft helical gear units (FL.9)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
FL.9	Standard -25 60		CLP PG (PSS)	VG 220	-25 +100 GearOil Poly 220 E1/CN1	-25 +100 Klübersynth GH 6-220
	-20 80			VG 460	-20 +115 GearOil Poly 460 E1/CN1	-20 +115 Klübersynth GH 6-460
	-30 40			VG 150	-30 +85 GearOil Poly 150 E1/CN1	-30 +85 Klübersynth GH 6-150
	Standard -25 40		CLP PG NSF H1 [4] (PSS)	VG 220	-25 +80 GearOil Poly 220 H1 E1 SPC	-25 +80 Klübersynth UH1 6-220 SPC
	-20 70			VG 460	-20 +110 GearOil Poly 460 H1 E1 SPC	-20 +110 Klübersynth UH1 6-460 SPC
	-30 20			VG 150	-30 +65 GearOil Poly 150 H1 E1 SPC	-30 +65 Klübersynth UH1 6-150 SPC

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

5. Helical-bevel gear units (K.9)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil	KLÜBER LUBRICATION
K.9	Standard: -20 … 60		CLP PG (PSS)	VG 460	-20 … +95 GearOil Poly 460 E1/CN1		-20 … +95 Klübersynth GH 6-460
	-15 … 80			VG 680			-15 … +115 Klübersynth GH 6-680
	-25 … 40	Ex		VG 220	-25 … +70 GearOil Poly 220 E1/CN1		-25 … +70 Klübersynth GH 6-220
	-30 … 30			VG 150	-30 … +60 GearOil Poly 150 E1/CN1		-30 … +60 Klübersynth GH 6-150
	-40 … 0	Ex	API GL5	SAE 75W90 (~VG 100)		-40 … +45 Mobil Synthetic Gear Oil 75 W90	
	-25 … 40	Ex	CLP PG rPCF (PSS)	VG 220	-25 … +70 GearFluid Poly 220 E1		

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
K.9	Standard -20 … 60	Ex	CLP PG NSF H1 [4] (PSS)	VG 460	-20 … +95 GearOil Poly 460 H1 E1 SPC	-20 … +95 Klübersynth UH1 6-460 SPC
	-15 … 80	Ex	CLP PG NSF H1 [4] (PSS)	VG 680		-15 … +115 Klübersynth UH1 6-680 SPC
	-25 … 40	Ex	CLP PG NSF H1 [4] (PSS)	VG 220	-25 … +70 GearOil Poly 220 H1 E1 SPC	-25 … +70 Klübersynth UH1 6-220 SPC
	-30 … 30	Ex	CLP PG NSF H1 [4] (PSS)	VG 150	-30 … +60 GearOil Poly 150 H1 E1 SPC	-30 … +60 Klübersynth UH1 6-150 SPC
	-25 … 40	Ex	CLP PG NSF H1 [4] rPCF (PSS)	VG 220	-25 … +70 GearFluid Poly 220 H1 E1 SPC	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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6. Helical-worm gear units (S.., HS..)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	SINOPEC	TotalEnergies
S.. HS..	Standard		CLP	VG 680	0 +80	0 +80	0 +80	0 +80	0 +80	0 +80	0 +80
	0 40				GearOil Base 680 S E1/BR1	Optigear BM 680	Renolin CLP 680 Plus	Mobilgear 600 XP 680	Klüberoil GEM 1-680 N	AP-SGO 680	Carter EP 680
				VG 150	-20 +65	-20 +65	-20 +65	-20 +65	-20 +65	-20 +65	-20 +65
	-20 25				GearOil Base 150 E1/US1/CN1/BR1	Optigear BM 150	Renolin CLP 150 Plus	Mobilgear 600 XP 150	Klüberoil GEM 1-150 N	AP-SGO 150	Carter EP 150
	Standard		CLP (PSS)	VG 680	0 +80		0 +80	0 +80		0 +80	
	0 40				GearOil Base 680 S E1/BR1		Renolin CLP 680 Plus	Mobilgear 600 XP 680		AP-SGO 680	
				VG 150	-20 +65		-20 +65	-20 +65		-20 +65	
	-20 25				GearOil Base 150 E1/US1/CN1/BR1		Renolin CLP 150 Plus	Mobilgear 600 XP 150		AP-SGO 150	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TotalEnergies
S.. HS..	Standard -20 80	Ex	CLP PG [1]	VG 460				-20 +115 Klübersynth GH 6-460		
	-25 60	Ex	CLP PG [1]	VG 220	-25 +90 Optigear Synthetic 800/220	-25 +95 Renolin PG 220	-25 +100 Mobil Glygoyle 220 SPC	-25 +100 Klübersynth GH 6-220	-25 +90 Shell Omala S4 WE 220	-25 +90 Carter SY 220
	-30 40	Ex	CLP PG [1]	VG 150				-30 +85 Klübersynth GH 6-150		
	Standard -20 80	Ex	CLP PG [1] (PSS)	VG 460				-20 +115 Klübersynth GH 6-460		
	-25 60	Ex	CLP PG [1] (PSS)	VG 220				-25 +100 Klübersynth GH 6-220		
	-30 40	Ex	CLP PG [1] (PSS)	VG 150				-30 +85 Klübersynth GH 6-150		

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
S.. HS..	Standard -20 … 70	Ex	CLP PG NSF H1 [1,4] (PSS)	VG 460	-20 … +110 GearOil Poly 460 H1 E1 SPC	-20 … +110 Klübersynth UH1 6-460 SPC
	-25 … 40	Ex		VG 220	-25 … +80 GearOil Poly 220 H1 E1 SPC	-25 … +80 Klübersynth UH1 6-220 SPC
	-30 … 20	Ex		VG 150	-30 … +65 GearOil Poly 150 H1 E1 SPC	-30 … +65 Klübersynth UH1 6-150 SPC
	-25 … 40	Ex	CLP PG NSF H1 [1,4] rPCF (PSS)	VG 220	-25 … +80 GearFluid Poly 220 H1 E1 SPC	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	FUCHS	Mobil	KLÜBER LUBRICATION	TotalEnergies
S.. HS..	Standard -15 … 60	Ex	CLP HC	VG 460	-20 … +110 GearOil Synth 460 E1/US1	-15 … +100 Renolin Unisyn CLP 460	-20 … +105 Mobil SHC 634	-15 … +105 Klübersynth GEM 4-460 N	-15 … +105 Carter SH 460
	-30 … 30			VG 150 [3]	-35 … +75 GearOil Synth 150 E1/US1	-30 … +70 Renolin Unisyn CLP 150	-30 … +75 Mobil SHC 629	-30 … +70 Klübersynth GEM 4-150 N	-30 … +70 Carter SH 150
	-35 … 20			VG 68		-35 … +50 Renolin Unisyn CLP 68	-40 … +55 Mobil SHC 626		
	-40 … 0			VG 32		-40 … +30 Renolin Unisyn OL32	-40 … +30 Mobil SHC 624		-40 … +30 Dacnis SH 32
	Standard -15 … 60	Ex	CLP HC (PSS)	VG 460	-20 … +110 GearOil Synth 460 E1/US1		-20 … +105 Mobil SHC 634		
	-30 … 30			VG 150 [3]	-35 … +75 GearOil Synth 150 E1/US1		-30 … +75 Mobil SHC 629		

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	KLÜBER LUBRICATION
S.. HS..	Standard -15 … 40	Ex	CLP HC NSF H1 [4]	VG 460	-20 … +95 GearOil Synth 460 H1 E1/US1 SPC	-15 … +85 Cassida Fluid GL 460	-15 … +90 Optileb GT 460 SPC	-15 … +85 Cassida Fluid GL 460	-15 … +90 Klüberoil 4 UH1-460 N SPC
	-25 … 30	Ex		VG 220	-30 … +75 GearOil Synth 220 H1 E1/US1 SPC	-25 … +70 Cassida Fluid GL 220	-25 … +70 Optileb GT 220 SPC	-25 … +70 Cassida Fluid GL 220	-25 … +70 Klüberoil 4 UH1-220 N SPC
	-35 … 0			VG 68		-35 … +40 Cassida Fluid HF 68	-40 … +40 Optileb HY 68 SPC	-35 … +40 Cassida Fluid HF 68	-35 … +40 Klüberoil 4 UH1-68 N SPC
	-40 … -10			VG 32		-40 … +25 Cassida Fluid HF 32	-40 … +20 Optileb HY 32 SPC	-40 … +25 Cassida Fluid HF 32	-40 … +25 KlüberSummit HySyn FG 32 SPC
	Standard -15 … 40	Ex	CLP HC NSF H1 [4] (PSS)	VG 460	-20 … +95 GearOil Synth 460 H1 E1/US1 SPC	-15 … +85 Cassida Fluid GL 460	-15 … +90 Optileb GT 460 SPC	-15 … +85 Cassida Fluid GL 460	
	-25 … 30	Ex		VG 220	-30 … +75 GearOil Synth 220 H1 E1/US1 SPC	-25 … +75 Cassida Fluid GL 220	-25 … +70 Optileb GT 220 SPC	-25 … +75 Cassida Fluid GL 220	
	Standard -15 … 50	Ex	E	VG 460				-15 … +95 Plantogear 460 S S2	
	-20 … 40			VG 320				-20 … +85 Plantogear 320 S	-20 … +85 Klüberbio EG 2-320

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

7. Helical-worm gear units (S.7p)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE
S.7p	Standard -20 … 80		CLP PG (PSS)	VG 460	-20 … +115 GearOil Poly 460 E1/CN1
	-25 … 60	Ex		VG 220	-25 … +100 GearOil Poly 220 E1 E1/CN1
	-30 … 40			VG 150	-30 … +85 GearOil Poly 150 E1 E1/CN1
	-25 … 60	Ex	CLP PG rPCF (PSS)	VG 220	-25 … +100 GearFluid Poly 220 E1

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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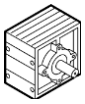
8. SPIROPLAN® gear units (W.0, HW.0, W.9HG)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil	KLÜBER LUBRICATION
 W.0 HW.0 W.9HG	Standard -20 … 60	Ex	CLP PG (PSS)	VG 460	-20 … +115 GearOil Poly 460 W E1		
	-20 … 60	Ex	CLP PG NSF H1 [4] (PSS)	VG 460	-20 … +115 GearOil Poly 460 H1 E1 SPC		-20 … +115 Klübersynth UH1 6-460 SPC
	-30 … 20	Ex /	CLP PG NSF H1 [4] (PSS)	VG 150	-30 … 65 GearOil Poly 150 H1 E1 SPC		-30 … +65 Klübersynth UH1 6-150 SPC
	-40 … 10	Ex	API GL5	SAE 75W90 (~VG 100)		-40 … +65 Mobil Synthetic Gear Oil 75 W90	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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9. SPIROPLAN® right-angle gear units (W02-03)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil	KLÜBER LUBRICATION
W02 W03 	Standard -20 … 60		CLP PG (PSS)	VG 460	-20 … +115 GearOil Poly 460 W E1		
	-20 … 60		CLP PG NSF H1 [4] (PSS)	VG 460	-20 … +115 GearOil Poly 460 H1 E1 SPC		-20 … +115 Klübersynth UH1 6-460 SPC
	Standard -25 … 40			VG 220	-25 … +80 GearOil Poly 220 H1 E1 SPC		-25 … +80 Klübersynth UH1 6-220 SPC
	-30 … 20			VG 150	-30 … 65 GearOil Poly 150 H1 E1 SPC		-30 … +65 Klübersynth UH1 6-150 SPC
	-30 … 10	Ex	API GL5	SAE 75W90 (~VG 100)		-30 … +65 Mobil Synthetic Gear Oil 75 W90	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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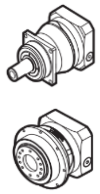
10. SPIROPLAN® right-angle gear units (W.9)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil	KLÜBER LUBRICATION
W.9 WES.9	Standard -25 … 60	Ex	CLP PG (PSS)	VG 220	-25 … +100 GearOil Poly 220 E1/CN1		-25 … +100 Klübersynth GH 6-220
	-20 … 80	Ex	CLP PG (PSS)	VG 460	-20 … +115 GearOil Poly 460 E1/CN1		-20 … +115 Klübersynth GH 6-460
	-30 … 40	Ex	CLP PG (PSS)	VG 150	-30 … +85 GearOil Poly 150 E1/CN1		-30 … +85 Klübersynth GH 6-150
	-40 … 10	Ex	API GL5	SAE 75W90 (~VG 100)		-40 … +65 Mobil Synthetic Gear Oil 75 W90	
	-25 … 60	Ex, fire	CLP PG rPCF (PSS)	VG 220	-25 … +100 GearFluid Poly 220 E1		
	Standard -25 … 40	Ex, food	CLP PG NSF H1 [4] (PSS)	VG 220	-25 … +80 GearOil Poly 220 H1 E1 SPC		-25 … +80 Klübersynth UH1 6-220 SPC
	-20 … 70	Ex, food	CLP PG NSF H1 [4] (PSS)	VG 460	-20 … +110 GearOil Poly 460 H1 E1 SPC		-20 … +110 Klübersynth UH1 6-460 SPC
	-30 … 20	Ex, food	CLP PG NSF H1 [4] (PSS)	VG 150	-30 … +65 GearOil Poly 150 H1 E1 SPC		-30 … +65 Klübersynth UH1 6-150 SPC
	-25 … 40	Ex, fire, food	CLP PG NSF H1 [4] rPCF (PSS)	VG 220	-25 … +80 GearFluid Poly 220 H1 E1 SPC		

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

11. PxG gear units

Produkt / Product		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE
PxG P5.G P7.G 		CLP PG (PSS)	VG 220	-15 +90 GearOil Poly 220 E1/CN1
		CLP PG rPCF (PSS)	VG 220	-15 +90 GearFluid Poly 220 E1
		CLP PG NSF H1 [4] (PSS)	VG 220	-15 +90 GearOil Poly 220 H1 E1 SPC
		CLP PG NSF H1 [4] rPCF (PSS)	VG 220	-15 +90 GearFluid Poly 220 H1 E1 SPC
PxG P6.G		CLP PG (PSS)	VG 150	-15 +90 GearOil Poly 150 E1/CN1
		CLP PG NSF H1 [4] (PSS)	VG 150	-15 +90 GearOil Poly 150 H1 E1 SPC
PxG P1.G P2.G P3.G P6.G		Fett / Grease	NLGI 2	-15 +90 Grease HL2 E1
			NLGI 2	-15 +90 Grease HL2 H1 E1

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.
The configurable lubricant depends on the gear unit performance class. Not all listed lubricants are available in all performance classes!

12. PS.F gear units

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil	KLÜBER LUBRICATION
PS.F	Standard -25 … 80	Ex	CLP PG (PSS)	VG 220	-25 … +100 GearOil Poly 220 E1/CN1		-25 … +100 Klübersynth GH 6-220
	-25 … 80	Ex	CLP PG rPCF (PSS)	VG 220	-25 … +100 GearFluid Poly 220 E1		
	-20 … 80	Ex	CLP PG NSF H1 [4] (PSS)	VG 460	-20 … +100 GearOil Poly 460 H1 E1 SPC		-20 … +100 Klübersynth UH1 6-460 SPC
	-40 … 0	Ex	CLP HC	VG 32		-40 … +50 Mobil SHC 624	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

13. PS.C gear units

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil
PS.C	Standard -15 … 40		CLP (PSS)	VG 220	-15 … +80 GearOil Base 220 E1/US1/CN1/BR1	-15 … +80 Mobilgear 600 XP 220
	-40 … 0		CLP HC	VG 32		-40 … +50 Mobil SHC 624
	-20 … 40		Fett / Grease	NLGI 00 [2]		-20 … +80 Mobilux EP 004
	-20 … 40			NLGI 2	-20 … +80 Grease HL 2 H1 E1	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

14. BS.F gear units

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE		KLÜBER LUBRICATION	
BS.F	Standard -25 … 60	Ex	CLP PG (PSS)	VG 220	-25	+100	-25	+100
					GearOil Poly 220 E1 E1/CN1		Klübersynth GH 6-220	
	-25 … 60	Ex	CLP PG rPCF (PSS)	VG 220	-25	+100		
					GearFluid Poly 220 E1			
	-20 … 60	Ex	CLP PG NSF H1 [4] (PSS)	VG 460	-20	+100	-20	+100
					GearOil Poly 460 H1 E1		Klübersynth UH1 6-460	
					SPC		SPC	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

15. MGF gear units (MGF..-B, MGF..-C, MGF..-DSM, MGF../PG)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil
	Standard -25 … 60		CLP HC (PSS)	VG 220	-30 … +110 GearOil Synth 220 E1/US1				-25 … +110 Mobil SHC 630
	-30 … 50			VG 150	-35 … +105 GearOil Synth 150 E1/US1				-30 … +100 Mobil SHC 629
	-40 … 20		CLP HC	VG 68					-40 … +75 Mobil SHC 626
MGF..-C 	Standard -15 … 40		CLP HC NSF H1 [4] (PSS)	VG 460	-20 … +110 GearOil Synth 460 H1 E1/US1 SPC	-15 … +100 Cassida Fluid GL 460	-15 … +100 Optileb GT 460 SPC	-15 … +100 Cassida Fluid GL 460	
	-25 … 30			VG 220	-30 … +90 GearOil Synth 220 H1 E1/US1 SPC	-25 … +80 Cassida Fluid GL 220	-25 … +80 Optileb GT 220 SPC	-25 … +80 Cassida Fluid GL 220	
	-35 … 10		CLP HC NSF H1 [4]	VG 68		-35 … +50 Cassida Fluid HF 68	-40 … +50 Optileb HY 68 SPC	-35 … +50 Cassida Fluid HF 68	
	-25 … 60		CLP PG rPCF (PSS)	VG 220	-25 … +100 GearFluid Poly 220 E1				

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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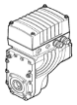
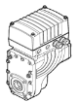
Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TotalEnergies
 MGF..-B MGF..-DSM	Standard -25 60		CLP HC	VG 220	-30 +110 GearOil Synth 220 E1/US1			-25 +110 Renolin Unisyn CLP 220	-25 +110 Mobil SHC 630	-25 +110 Klübersynth GEM 4-220 N	-25 +110 Shell Omala S4 GXV Plus 220	-25 +110 Carter SH 220
	-30 50			VG 150	-35 +105 GearOil Synth 150 E1/US1			-30 +95 Renolin Unisyn CLP 150	-30 +100 Mobil SHC 629	-30 +100 Klübersynth GEM 4-150 N	-30 +100 Shell Omala S4 GXV Plus 150	-30 +95 Carter SH 150
	Standard -25 60		CLP HC (PSS)	VG 220	-30 +110 GearOil Synth 220 E1/US1				-25 +110 Mobil SHC 630			
	-30 50			VG 150	-35 +105 GearOil Synth 150 E1/US1				-30 +100 Mobil SHC 629			
	Standard -15 40		CLP HC NSF H1 [4]	VG 460	-20 +110 GearOil Synth 460 H1 E1/US1 SPC	-15 +100 Cassida Fluid GL 460	-15 +100 Optileb GT 460 SPC	-15 +100 Cassida Fluid GL 460		-15 +105 Klüberoil 4 UH1-460 N SPC		
	-25 30			VG 220	-30 +90 GearOil Synth 220 H1 E1/US1 SPC	-25 +80 Cassida Fluid GL 220	-25 +80 Optileb GT 220 SPC	-25 +80 Cassida Fluid GL 220		-25 +80 Klüberoil 4 UH1-220 N SPC		
	Standard -15 40		CLP HC NSF H1 [4] (PSS)	VG 460	-20 +110 GearOil Synth 460 H1 E1/US1 SPC	-15 +100 Cassida Fluid GL 460	-15 +100 Optileb GT 460 SPC	-15 +100 Cassida Fluid GL 460				
	-25 30			VG 220	-30 +90 GearOil Synth 220 H1 E1/US1 SPC	-25 +80 Cassida Fluid GL 220	-25 +80 Optileb GT 220 SPC	-25 +80 Cassida Fluid GL 220				
	-25 60		CLP PG rPCF (PSS)	VG 220	-25 +100 GearFluid Poly 220 E1							

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

SEW-EURODRIVE drives of the series
R../ K.7/ F.7/ F0./ FL.9/ K.9/ S../ HS../ S.7p/ W.0/ HW.0/ W.9HG/ W0./ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7/ Z..
Lubricant approvals – latest version at: www.sew-eurodrive.de/schmierstoffe

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil
 MGF..-B /PG MGF..-DSM /PG MGF..-C /PG	Standard -25 60		CLP HC (PSS)	VG 220	-30 +110 GearOil Synth 220 E1/US1				-25 +110 Mobil SHC 630
	-30 50			VG 150	-35 +105 GearOil Synth 150 E1/US1				-30 +100 Mobil SHC 629
	Standard -15 40		CLP HC NSF H1 [4] (PSS)	VG 460	-20 +110 GearOil Synth 460 H1 E1/US1 SPC	-15 +100 Cassida Fluid GL 460	-15 +100 Optileb GT 460 SPC	-15 +100 Cassida Fluid GL 460	
	-25 30			VG 220	-30 +90 GearOil Synth 220 H1 E1/US1 SPC	-25 +80 Cassida Fluid GL 220	-25 +80 Optileb GT 220 SPC	-25 +80 Cassida Fluid GL 220	
	-25 60		CLP PG rPCF (PSS)	VG 220	-25 +100 GearFluid Poly 220 E1				

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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16. Hoist gear units (G.7)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	KLÜBER LUBRICATION	
G.7	Standard -15 40		CLP PG (PSS)	VG 680	-15	+115
					Klübersynth GH 6-680	

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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17. Cycloidal gear units (Z..)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	FUCHS	KYODO YUSHI Essence of Tribology
ZN.. ZE.. ZP.. ZC..	Standard -10 … 40		CLP HC (PSS)	VG 150	-10 … 60 Cassida Fluid GL 150	
ZN.. ZE.. ZP.. ZC..	-10 … 40		CLP HC	VG 150		-10 … 60 VigoOil SB150
ZN.. ZE.. ZP.. ZC..	Standard -10 … 40		Fett/ Grease	NLGI 00		-10 … 60 RV Grease LB00

NOTICE: The thermal application limits of the oil seal materials (chapter 1.4) must also be taken into account.

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