Change information:

Chap. / page	**Description** (changes to the previous edition)	Modification no.
1.1 / 4	Abbreviations: Explanation "SPC" included	240851
	Inclusion: Lubricant-specific information "SPC" for - ExxonMobil Mobil Glygoyle 220 - Klüber Klüberoil 4UH1-68, -220, -460, -680 N - Klüber Klübersynth UH1 6-150, -220, -460, -680 - Klüber KlüberSummit HySyn FG-32	
10 / 24	PS.C gear unit: Enable grease Klübersynth UH1 14-151 extinguished PS.C gear unit: Grease release SEW Grease HL 2 H1 E1	

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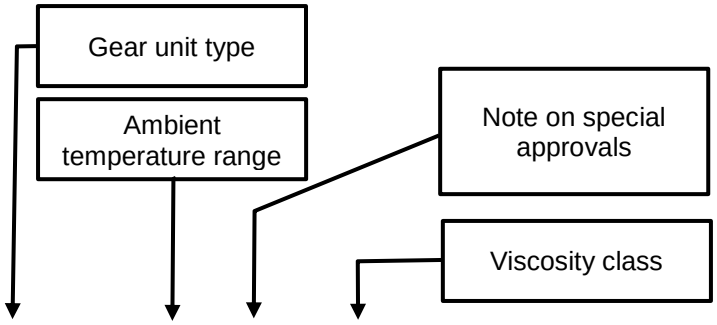
1. Introduction/area of application

This document describes the approved/recommended lubricants for SEW gear unit series. The approvals/ recommendations are worldwide valid.
If other lubricants are used in the gear units and/or lubricants are used with other temperature ranges than the ones recommended, the right to claim under warranty will become invalid.
Lubricants for standard gear units are subject to approval, the approval will be made according to the document 07004__13 "Supplier approval for qualification and approval of lubricants – gear unit oils" in its current version.

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

1.1. Explanations 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 Klüberoil GEM 1-150 N	-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 (environment) temperatures** are **rough guide values for a preselection** of a suitable lubricant. The exact upper and lower temperature limit for the project planning must be taken from the table with the corresponding trade name! Please note during project planning that the starting behavior may change with low temperatures due to the 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	Synthetic hydrocarbons – polyalphaolefins (PAO).
E	Oil based on esters.
	Lubricant suitable for ATEX environment.
	Lubricant for the food processing industry and feed industry. Oils are NSF H1 registered and compliant according to FDA 21 CFR § 178.3570.
	Lubricants with slight bio-degradability for environmentally sensitive areas (> 60% according to OECD 301 or according to appendix A of EPA 2013 VGP).
	Lubricants with particularly reduced co_2 footprint (cradle-to-gate) made of sustainable raw materials.
1)	Helical-worm gear units with CLP-PG: contact SEW-EURODRIVE.
2)	Low-viscosity grease.
3)	Ambient temperatures up to -40 °C can be implemented with appropriate measures. Please contact SEW-EURODRIVE.
4)	Oils for the food processing industry cannot be combined with the gear unit option “Extended storage” (a VCI anti-corrosion agent is added).
RWDR	Radial oil seal.
PSS	Radial oil seal type PSS (Premium Sine Seal). The addendum "PSS" at the lubricant type signals compatibility with the sealing system.
SPC	**S**pecial **p**roduct **c**lassification Note safety data sheet for product classification – requires special procedures.

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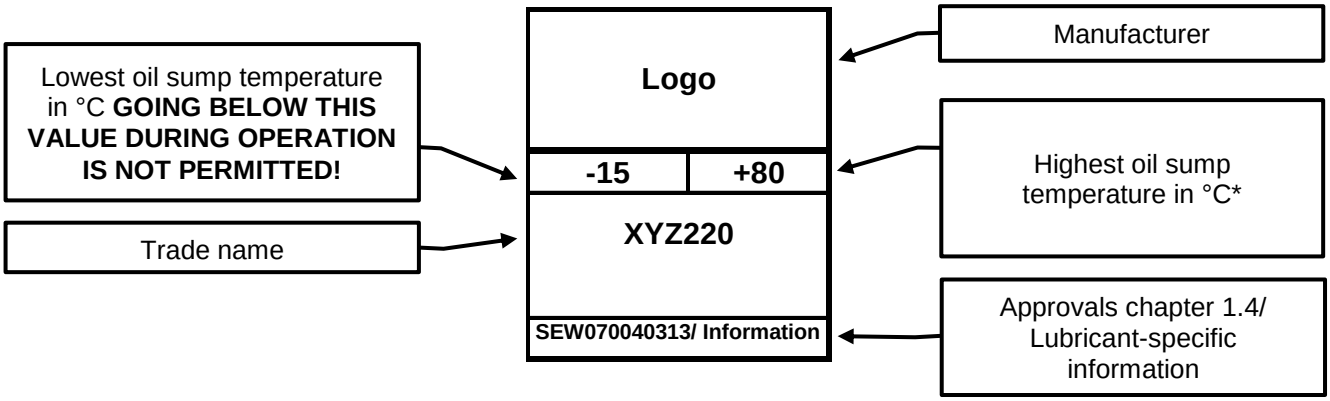
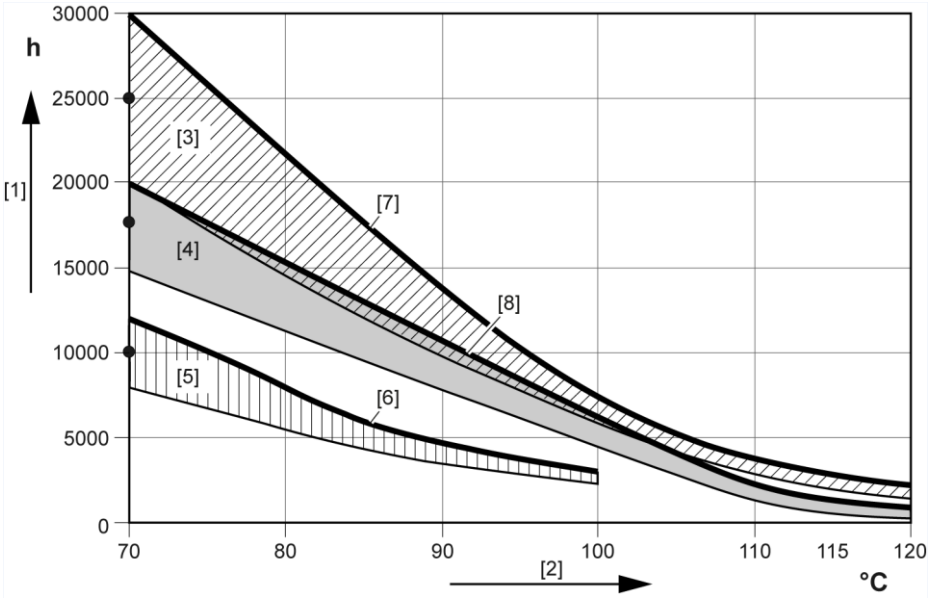
1.2. Explanations on the individual lubricants



* The service life will be considerably reduced when 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 case of special designs under severe/aggressive ambient conditions, change the lubricant more frequently.
Notice: Filling of wrong lubricant may lead to a loss of the lubricant properties and thus damage the gear unit. Do not mix synthetic lubricants and mineral lubricants. In general, the guideline FVA 606 must be adhered to.



[1] Operating hours
[2] Sustained 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 radial oil seals

SEW07004__13: A lubricant especially recommended by SEW-EURODRIVE, also in regard of compatibility with the approved oil seals. The lubricant exceeds the state-of-the-art requirements.

Approved application temperature range of the oil seals

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

In the low temperature range, oil seals can withstand shaft deflections (e. g. through overhung load) only to a limited extent. Especially avoid or limit pulsating or changing radial displacements of the shaft. Please contact SEW-EURODRIVE if required.

Limitations of use of radial oil seals with the specific lubricant are indicated in the following table:

	Material class		Manufacturer		Material
S	1 NBR	1	Freudenberg		72 NBR 902
		2	Trelleborg		4NV11
	2 FKM	1	Freudenberg	1	75 FKM 585
				2	75 FKM 170055
		2	Trelleborg	1	VCBVR
		3	SKF	1	FKM 00934

Example 1:

S11 - Only the elastomer Freudenberg 72 NBR 902 meets the requirements of the SEW-EURODRIVE approval in regard of the specific lubricant.

Example 2:

S2 - Only the elastomer FKM meets the requirements of the SEW-EURODRIVE approval in regard of the specific lubricant.

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

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	SINOPEC	TotalEnergies
R.. RES K..7 KES HK.. F..	Standard -15 40		CLP	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1 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 AP-SGO 220 SEW 070040313	-15 +80 Carter EP 220
	-20 30			VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1 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 Klüberoil GEM 1-150 N	-20 +80 AP-SGO 150 SEW 070040313	-20 +80 Carter EP 150
	Standard -15 40		CLP (PSS)	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1 SEW 070040313		-15 +80 Renolin CLP 220 Plus SEW 070040313	-15 +80 Mobilgear 600 XP 220 SEW 070040013		-15 +80 AP-SGO 220 SEW 070040313	
	-20 30			VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1 SEW 070040313		-20 +80 Renolin CLP 150 Plus SEW 070040313	-20 +80 Mobilgear 600 XP 150 SEW 070040013		-20 +80 AP-SGO 150 SEW 070040313	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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SEW drives of the series

R../ K.7/ F../ K.9/ S../ HS../ W.0/ HW.0/ W.9HG/ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7

Lubricant approvals - latest version at: www.sew-eurodrive.de/lubricants

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..	Standard -25 … 80	Ex	CLP PG	VG 220	-25 … +115 GearOil Poly 220 E1 SEW 070040313	-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 SEW 070040313				-30 … +115 Klübersynth GH 6-150		
	Standard -25 … 80	Ex	CLP PG (PSS)	VG 220	-25 … +115 GearOil Poly 220 E1 SEW 070040313				-25 … +115 Klübersynth GH 6-220		
	-30 … 70			VG 150	-30 … +115 GearOil Poly 150 E1 SEW 070040313				-30 … +115 Klübersynth GH 6-150		
	-25 … 80	Ex	CLP PG rPCF (PSS)	VG 220	-25 … +115 GearFluid Poly 220 E1 SEW 070040313						
	Standard -25 … 40		CLP PG NSF H1[4] (PSS)	VG 220	-25 … +95 GearOil Poly 220 H1 E1 SEW 070040313				-25 … +95 Klübersynth UH1 6-220 SPC		
	-20 … 80	Ex		VG 460	-20 … +115 GearOil Poly 460 H1 E1 SEW 070040313				-20 … +115 Klübersynth UH1 6-460 SPC		
	-30 … 30			VG 150	-30 … +80 GearOil Poly 150 H1 E1 SEW 070040313				-30 … +80 Klübersynth UH1 6-150 SPC		
	-25 … 80	Ex	CLP PG NSF H1[4] rPCF (PSS)	VG 220	-25 … +95 GearFluid Poly 220 H1 E1 SEW 070040513						

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	FUCHS	Mobil	KLÜBER LUBRICATION	TotalEnergies
R.. RES K..7 KES HK.. F..	Standard -25 / 60	Ex	CLP HC	VG 220[3]	-30 / +110 GearOil Synth 220 E1/US1 SEW 070040313	-25 / +110 Renolin Unisyn CLP 220	-25 / +110 Mobil SHC 630	-25 / +110 Klübersynth GEM 4-220 N	-25 / +110 Carter SH 220
	-30 / 50			VG 150 [3]	-35 / +105 GearOil Synth 150 E1/US1 SEW 070040313	-30 / +95 Renolin Unisyn CLP 150	-30 / +100 Mobil SHC 629	-30 / +100 Klübersynth GEM 4-150 N	-30 / +95 Carter SH 150
	-35 / 20			VG 68		-35 / +75 Renolin Unisyn CLP 68	-40 / +75 Mobil SHC 626		
	-40 / 0			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 SEW 070040313		-25 / +110 Mobil SHC 630		
	-30 / 50			VG 150 [3]	-35 / +105 GearOil Synth 150 E1/US1 SEW 070040313		-30 / +100 Mobil SHC 629		

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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SEW drives of the series

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Lubricant approvals - latest version at: www.sew-eurodrive.de/lubricants

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..	Standard -15 / 40		CLP HC NSF H1[1]	VG 460	-20 / +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 / +100 Cassida Fluid GL 460	-15 / +100 Optileb GT 460 SEW 070040313	-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 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Optileb GT 220 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Klüberoil 4 UH1-220 N SPC
	-35 / 0			VG 68		-35 / +50 Cassida Fluid HF 68	-40 / +50 Optileb HY 68	-35 / +50 Cassida Fluid HF 68	-35 / +50 Klüberoil 4 UH1-68 N SPC
	-40 / -10			VG 32		-40 / +30 Cassida Fluid HF 32	-40 / +30 Optileb HY 32	-40 / +30 Cassida Fluid HF 32	-40 / +30 KlüberSummit HySyn FG 32 SPC
	Standard -15 / 40		CLP HC NSF H1[1] (PSS)	VG 460	-20 / +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 / +100 Cassida Fluid GL 460	-15 / +100 Optileb GT 460 SEW 070040313	-15 / +100 Cassida Fluid GL 460	
	-25 / 30			VG 220	-30 / +90 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Optileb GT 220 SEW 070040313	-25 / +80 Cassida Fluid GL 220	
	Standard -15 / 50		E	VG 460				-15 / +95 Plantogear 460 S S2	
	-20 / 40			VG 320				-20 / +85 Plantogear 320 S S2	-20 / +85 Klüberbio EG 2-320 S2

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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2.1. Other approved lubricants

The lubricants listed below meet the SEW requirements according to SEW specification SEW07004__13 for use in helical gear units (R..), helical-bevel gear units (K.7), and parallel-shaft helical gear units (F..) including PSS approval, however, they are not available as 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 25 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 (synthetic based on polyalphaolefin) Max. oil bath temperature 100°C (short-term 110°C)	Chevron / Texaco / Caltex – Meropa EliteSyn XM	VG150 – VG680
	Hindustan Petroleum Corporation Limited – Parthan SL	VG220 – VG460
	Klüber Lubrication – Klübersynth MEG-4	VG150 – VG680
	PetroChina Lubricant Company – KunLun KPM/S Synthetic Heavy-duty Industrial Gear Oil	VG150 – VG680
	Shell – Omala S4 GXV Plus	VG150 – VG680
	Sinopec – AP-S Industrial Gear Oil	VG150 – VG680

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

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
K.9	Standard -20 … 60		CLP PG (PSS)	VG 460	-20 … +95 GearOil Poly 460 E1 SEW 070040313	-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 SEW 070040313	-25 … +70 Klübersynth GH 6-220
	-30 … 30			VG 150	-30 … +60 GearOil Poly 150 E1 SEW 070040313	-30 … +60 Klübersynth GH 6-150
	-25 … 40	Ex	CLP PG rPCF (PSS)	VG 220	-25 … +70 GearFluid Poly 220 E1 SEW 070040313	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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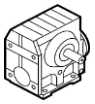
R../ K.7/ F../ K.9/ S../ HS../ W.0/ HW.0/ W.9HG/ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7

Lubricant approvals - latest version at: www.sew-eurodrive.de/lubricants

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
K.9	Standard -20 / 60		CLP PG NSF H1[1] (PSS)	VG 460	-20 / +95 GearOil Poly 460 H1 E1 SEW 070040313	-20 / +95 Klübersynth UH1 6-460 SPC
	-15 / 80			VG 680		-15 / +115 Klübersynth UH1 6-680 SPC
	-25 / 40			VG 220	-25 / +70 GearOil Poly 220 H1 E1 SEW 070040313	-25 / +70 Klübersynth UH1 6-220 SPC
	-30 / 30			VG 150	-30 / +60 GearOil Poly 150 H1 E1 SEW 070040313	-30 / +60 Klübersynth UH1 6-150 SPC
	-25 / 40		CLP PG NSF H1[4] rPCF (PSS)	VG 220	-25 / +70 GearFluid Poly 220 H1 E1 SEW 070040513	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

4. 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 0 – 40		CLP	VG 680	0 / +80 GearOil Base 680 S E1 SEW 070040313	0 / +80 Optigear BM 680	0 / +80 Renolin CLP 680 Plus SEW 070040313	0 / +80 Mobilgear 600 XP 680 SEW 070040313	0 / +80 Klüberoil GEM 1-680 N	0 / +80 AP-SGO 680 SEW 070040313	0 / +80 Carter EP 680
	-20 – 25			VG 150	-20 / +65 GearOil Base 150 E1/US1/CN1/BR1 SEW 070040313	-20 / +65 Optigear BM 150	-20 / +65 Renolin CLP 150 Plus SEW 070040313	-20 / +65 Mobilgear 600 XP 150 SEW 070040313	-20 / +65 Klüberoil GEM 1-150 N	-20 / +65 AP-SGO 150 SEW 070040313	-20 / +65 Carter EP 150
	Standard 0 – 40		CLP (PSS)	VG 680	0 / +80 GearOil Base 680 S E1 SEW 070040313		0 / +80 Renolin CLP 680 Plus SEW 070040313	0 / +80 Mobilgear 600 XP 680 SEW 070040313		0 / +80 AP-SGO 680 SEW 070040313	
	-20 – 25			VG 150	-20 / +65 GearOil Base 150 E1/US1/CN1/BR1 SEW 070040313		-20 / +65 Renolin CLP 150 Plus SEW 070040313	-20 / +65 Mobilgear 600 XP 150 SEW 070040313		-20 / +65 AP-SGO 150 SEW 070040313	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

Supplier Approval

SEW drives of the series

R../ K.7/ F../ K.9/ S../ HS../ W.0/ HW.0/ W.9HG/ W.9/ PxG/ PS.F/ PS.C/ BS.F/ MGF/ G.7

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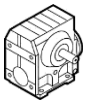
Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	Shell	TotalEnergies
S.. HS.. 	Standard -20 80		CLP PG[1]	VG 460				-20 +115 Klübersynth GH 6-460		
	-25 60	Ex		VG 220	-25 +90 Optigear Synthetic 800/220	-25 +95 Renolin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

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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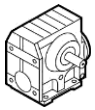
Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
S.. HS.. 	Standard -20 / 70	Ex	CLP PG NSF H1[1) 4)] (PSS)	VG 460	-20 / +110 GearOil Poly 460 H1 E1 SEW 070040313	-20 / +110 Klübersynth UH1 6-460 SPC
	-25 / 40	Ex		VG 220	-25 / +80 GearOil Poly 220 H1 E1 SEW 070040313	-25 / +80 Klübersynth UH1 6-220 SPC
	-30 / 20			VG 150	-30 / +65 GearOil Poly 150 H1 E1 SEW 070040313	-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 SEW 070040513	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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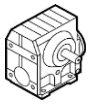
Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	FUCHS	Mobil	KLÜBER LUBRICATION	TotalEnergies
S.. HS.. 	Standard -15 / 60	Ex	CLP HC	VG 460	-20 / +110 GearOil Synth 460 E1/US1 SEW 070040313	-15 / +100 Renolin Unisyn CLP 460	-20 / +105 Mobil SHC 634	-15 / +105 Klübersynth GEM 4-460 N	-15 / +105 Carter SH 460
	-30 / 30	Ex	CLP HC	VG 150 [3]	-35 / +75 GearOil Synth 150 E1/US1 SEW 070040313	-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	Ex	CLP HC	VG 68		-35 / +50 Renolin Unisyn CLP 68	-40 / +55 Mobil SHC 626		
	-40 / 0	Ex	CLP HC	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 SEW 070040313		-20 / +105 Mobil SHC 634		
	-30 / 30	Ex	CLP HC (PSS)	VG 150 [3]	-35 / +75 GearOil Synth 150 E1/US1 SEW 070040313		-30 / +75 Mobil SHC 629		

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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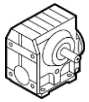
Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	KLÜBER LUBRICATION
S.. HS.. 	Standard -15 40		CLP HC NSF H1[1]	VG 460	-20 +95 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 +85 Cassida Fluid GL 460	-15 +90 Optileb GT 460 SEW 070040313	-15 +85 Cassida Fluid GL 460	-15 +90 Klüberoil 4 UH1-460 N SPC
	-25 30			VG 220	-30 +75 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 +70 Cassida Fluid GL 220	-25 +70 Optileb GT 220 SEW 070040313	-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	-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	-40 +25 Cassida Fluid HF 32	-40 +25 KlüberSummit HySyn FG 32 SPC
	Standard -15 40		CLP HC NSF H1[1] (PSS)	VG 460	-20 +95 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 +85 Cassida Fluid GL 460	-15 +90 Optileb GT 460 SEW 070040313	-15 +85 Cassida Fluid GL 460	
	-25 30			VG 220	-30 +75 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 +75 Cassida Fluid GL 220	-25 +70 Optileb GT 220 SEW 070040313	-25 +75 Cassida Fluid GL 220	
	Standard -15 50		E	VG 460				-15 +95 Plantogear 460 S S2	
	-20 40			VG 320				-20 +85 Plantogear 320 S S2	-20 +85 Klüberbio EG 2-320 S2

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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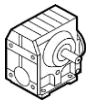
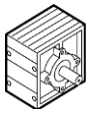
5. Helical-worm gear units (S.7p)

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 / SEW 070040313
	-25 / 60	Ex		VG 220	-25 / +100	GearOil Poly 220 E1 / SEW 070040313
	-30 / 40			VG 150	-30 / +85	GearOil Poly 150 E1 / SEW 070040313
	-25 / 60	Ex	CLP PG rPCF (PSS)	VG 220	-25 / +100	GearFluid Poly 220 E1 / SEW 070040313

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

6. 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 SEW 070040313		
	-20 … 60	Ex	CLP PG NSF H1[4] (PSS)	VG 460	-20 / +115 GearOil Poly 460 H1 E1 SEW 070040313		-20 / +115 Klübersynth UH1 6-460 SPC
	-30 … 20			VG 150	-30 / 65 GearOil Poly 150 H1 E1 SEW 070040313		-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 radial oil seal materials (chapter 1.4) have to be considered as well!

7. Spiroplan gear units (W.9)

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	KLÜBER LUBRICATION
W.9	Standard -25 / 60	Ex	CLP PG (PSS)	VG 220	-25 / +100 GearOil Poly 220 E1 SEW 070040313	-25 / +100 Klübersynth GH 6-220
	-20 / 80	Ex	CLP PG (PSS)	VG 460	-20 / +115 GearOil Poly 460 E1 SEW 070040313	-20 / +115 Klübersynth GH 6-460
	-30 / 40	Ex	CLP PG (PSS)	VG 150	-30 / +85 GearOil Poly 150 E1 SEW 070040313	-30 / +85 Klübersynth GH 6-150
	-25 / 60	Ex	CLP PG rPCF (PSS)	VG 220	-25 / +100 GearFluid Poly 220 E1 SEW 070040313	
	Standard -25 / 40	Ex	CLP PG NSF H1[4] (PSS)	VG 220	-25 / +80 GearOil Poly 220 H1 E1 SEW 070040313	-25 / +80 Klübersynth UH1 6-220 SPC
	-20 / 70	Ex	CLP PG NSF H1[4] (PSS)	VG 460	-20 / +110 GearOil Poly 460 H1 E1 SEW 070040313	-20 / +110 Klübersynth UH1 6-460 SPC
	-30 / 20	Ex	CLP PG NSF H1[4] (PSS)	VG 150	-30 / +65 GearOil Poly 150 H1 E1 SEW 070040313	-30 / +65 Klübersynth UH1 6-150 SPC
	-25 / 40	Ex	CLP PG NSF H1[4] rPCF (PSS)	VG 220	-25 / +80 GearFluid Poly 220 H1 E1 SEW 070040513	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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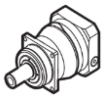
8. PxG

Produkt / Product		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	
 PxG		CLP PG (PSS)	VG 220	-15	+90
				GearOil Poly 220 E1	
				SEW 070040313	
			VG 150	-20	+90
				GearOil Poly 150 E1	
				SEW 070040313	
		CLP PG rPCF (PSS)	VG 220	-15	+90
				GearFluid Poly 220 E1	
				SEW 070040313	
		CLP PG NSF H1 [4] (PSS)	VG 220	-15	+90
				GearOil Poly 220 H1 E1	
				SEW 070040313	
			VG 150	-20	+90
				GearOil Poly 150 H1 E1	
				SEW 070040313	
		CLP PG NSF H1 [4] rPCF (PSS)	VG 220	-15	+90
				GearFluid Poly 220 H1 E1	
				SEW 070040513	
		Fett / Grease	NLGI 2	-15	+90
				Grease HL2 E1	
			NLGI 2	-15	+90
				Grease HL2 H1 E1	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!
Configurable lubricant depends on the gear unit performance class. Not all listed lubricants are available in all performance classes!

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9. 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 SEW 070040313		-25 / +100 Klübersynth GH 6-220
	-25 / 80	Ex	CLP PG rPCF (PSS)	VG 220	-25 / +100 GearFluid Poly 220 E1 SEW 070040313		
	-20 / 80	Ex	CLP PG NSF H1[4] (PSS)	VG 460	-20 / +100 GearOil Poly 460 H1 E1 SEW 070040313		-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 radial oil seal materials (chapter 1.4) have to be considered as well!

10. PS.C gear units

Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	Mobil
PS.C	Standard -15 40		CLP	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1 SEW 070040313	-15 +80 Mobilgear 600 XP 220 SEW 070040013
	-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 radial oil seal materials (chapter 1.4) have to be considered as well!

11. 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 GearOil Poly 220 E1 SEW 070040313	-25 / +100 Klübersynth GH 6-220
	-25 / 60	Ex	CLP PG rPCF (PSS)	VG 220	-25 / +100 GearFluid Poly 220 E1 SEW 070040313	
	-20 / 60	Ex	CLP PG NSF H1[4] (PSS)	VG 460	-20 / +100 GearOil Poly 460 H1 E1 SEW 070040313	-20 / +100 Klübersynth UH1 6-460 SPC

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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12. 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
MGF..-C	Standard -25 / 60		CLP HC (PSS)	VG 220	-30 / +110 GearOil Synth 220 E1/US1 SEW 070040313				-25 / +110 Mobil SHC 630
	-30 / 50			VG 150	-35 / +105 GearOil Synth 150 E1/US1 SEW 070040313				-30 / +100 Mobil SHC 629
	-40 / 20		CLP HC	VG 68					-40 / +75 Mobil SHC 626
	Standard -15 / 40		CLP HC NSF H1 [4] (PSS)	VG 460	-20 / +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 / +100 Cassida Fluid GL 460	-15 / +100 Optileb GT 460 SEW 070040313	-15 / +100 Cassida Fluid GL 460	
	-25 / 30			VG 220	-30 / +90 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Optileb GT 220 SEW 070040313	-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	-35 / +50 Cassida Fluid HF 68	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil	KLÜBER LUBRICATION	TotalEnergies
MGF..-B MGF..-DSM	Standard -25 / 60		CLP HC	VG 220	-30 / +110 GearOil Synth 220 E1/US1 SEW 070040313			-25 / +110 Renolin Unisyn CLP 220	-25 / +110 Mobil SHC 630	-25 / +110 Klübersynth GEM 4-220 N	-25 / +110 Carter SH 220
	-30 / 50			VG 150	-35 / +105 GearOil Synth 150 E1/US1 SEW 070040313			-30 / +95 Renolin Unisyn CLP 150	-30 / +100 Mobil SHC 629	-30 / +100 Klübersynth GEM 4-150 N	-30 / +95 Carter SH 150
	Standard -25 / 60		CLP HC (PSS)	VG 220	-30 / +110 GearOil Synth 220 E1/US1 SEW 070040313				-25 / +110 Mobil SHC 630		
	-30 / 50			VG 150	-35 / +105 GearOil Synth 150 E1/US1 SEW 070040313				-30 / +100 Mobil SHC 629		
	Standard -15 / 40		CLP HC NSF H1[4]	VG 460	-20 / +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 / +100 Cassida Fluid GL 460	-15 / +100 Optileb GT 460 SEW 070040313	-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 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Optileb GT 220 SEW 070040313	-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 SEW 070040313	-15 / +100 Cassida Fluid GL 460	-15 / +100 Optileb GT 460 SEW 070040313	-15 / +100 Cassida Fluid GL 460			
	-25 / 30			VG 220	-30 / +90 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Optileb GT 220 SEW 070040313	-25 / +80 Cassida Fluid GL 220			

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

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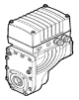
Produkt / Product	Umgebungstemperatur / Environment Temperature		Öltyp / Oil Type	ISO, SAE NLGI	SEW EURODRIVE	bremer & leguil	Castrol	FUCHS	Mobil
 MGF..-B /PG MGF..-DSM /PG MGF..-C /PG	Standard -25 / 60		CLP HC (PSS)	VG 220	-30 / +110 GearOil Synth 220 E1/US1 SEW 070040313				-25 / +110 Mobil SHC 630
	-30 / 50			VG 150	-35 / +105 GearOil Synth 150 E1/US1 SEW 070040313				-30 / +100 Mobil SHC 629
	Standard -15 / 40		CLP HC NSF H1 [4] (PSS)	VG 460	-20 / +110 GearOil Synth 460 H1 E1/US1 SEW 070040313	-15 / +100 Cassida Fluid GL 460	-15 / +100 Optileb GT 460 SEW 070040313	-15 / +100 Cassida Fluid GL 460	
	-25 / 30			VG 220	-30 / +90 GearOil Synth 220 H1 E1/US1 SEW 070040313	-25 / +80 Cassida Fluid GL 220	-25 / +80 Optileb GT 220 SEW 070040313	-25 / +80 Cassida Fluid GL 220	

NOTICE: The thermal application limits of radial oil seal materials (chapter 1.4) have to be considered as well!

13. Hoist drives (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 radial oil seal materials (chapter 1.4) have to be considered as well!