

Lubricating oils

Mineral oils

Designation	ISO VG	Temperature (°C)	to be used for
LFC 1005	5	-20/ +80	Pn, Sp
LFC 1010	10	-20/ +80	Pn, Sp
LFC 1015	15	-20/ +100	Pn
LFC 1022	22	-15/ +100	Pn, Hy
LFC 1032	32	-15/ +120	Pn, Hy
LFC 1046	46	-15/ +120	Hy, Um, Ge
LFC 1068	68	-10/ +120	Hy, Um, Ge, Ke
LFC 1100	100	-10/ +120	Um, Ge, Ke
LFC 1150	150	-10/ +120	Ge, Ke, La
LFC 1220	220	-10/ +120	Ge, Ke, La
LFC 1320	320	-10/ +120	Ge, La
LFC 1460	460	-10/ +120	Ge, La
LFC 1680	680	-5/ +120	Ge, La
LFC 11000	1000	-5/ +120	Ge, La
LFC 11500	1500	-5/ +120	Ge, La

Mineral oils (adhesive version)

Designation	ISO VG	Temperature (°C)	to be used for
LFC 1046H	46	-15/ +120	Ge, Ke
LFC 1068H	68	-10/ +120	Ge, Ke
LFC 1100H	100	-10/ +120	Ge, Ke
LFC 1150H	150	-10/ +120	Ge, Ke, La
LFC 1220H	220	-10/ +120	Ge, Ke, La
LFC 1320H	320	-10/ +120	Ge, Ke, La
LFC 1460H	460	-10/ +120	Ge, Ke, La
LFC 1680H	680	-10/ +120	Ge, Ke, La
LFC 11000H	1000	-10/ +120	Ge, La
LFC 11500H	1500	-10/ +120	Ge, La

Paraffin oils for food processing industries with H1-approval

Designation	ISO VG	Temperature (°C)	to be used for
LFC 3015	15	-20/ +120	Pn, Sp
LFC 3022	22	-20/ +120	Pn, Hy, Ke
LFC 3032	32	-20/ +120	Hy, Ke
LFC 3046	46	-20/ +120	Hy, Um, Ge, Ke
LFC 3068	68	-15/ +120	Hy, Um, Ge, Ke
LFC 3100	100	-15/ +120	Um, Ge, Ke
LFC 3150	150	-15/ +120	Ge, Ke
LFC 3220	220	-10/ +120	Ge, Ke, La
LFC 3320	320	-10/ +120	Ge, Ke, La
LFC 3460	460	-10/ +120	Ge, La
LFC 3680	680	-10/ +120	Ge, La
LFC 31150	(1150)	-10/ +120	Ge, La

LFC 34068	68	-15 / +120	Um, Ge, Ke
LFC 34100	100	-15 / +120	Um, Ge, Ke
LFC 34150	150	-15 / +120	Um, Ge, Ke
LFC 34220	220	-15 / +120	Ge, Ke

Poly-Alpha-Olefines (with H1-approval)

Designation	ISO VG	Temperature (°C)	to be used for
LFC 9032	32	-45/ +150	Hy
LFC 9046	46	-45/ +150	Hy, Um, Ko
LFC 9068	68	-40/ +150	Um, Ge, Ko
LFC 9100	100	-40/ +150	Um, Ge, Ko

LFC 9150	150	-40/ +150	Ge, Ke, La, Ko
LFC 9220	220	-35/ +150	Ge, Ke, La, Ko
LFC 9320	320	-35/ +150	Ge, Ke, La
LFC 9460	460	-30/ +150	Ge, Ke, La

Ester based oils

Designation	ISO VG	Temperature (°C)	to be used for
LFC 4032	32	-40/ +130	Hy
LFC 4046	46	-40/ +130	Hy
LFC 4068	68	-35/ +130	Hy, Ke, Ko
LFC 4100	100	-35/ +140	Um, Ge, Ke, Ko
LFC 4150	150	-35/ +140	Um, Ge, Ke, Ko
LFC 4220	220	-35/ +140	Ge, La, Ke, Ko
LFC 4320	320	-35/ +140	Ge, La, Ke, Ko

Poly glycol based oils

Designation	ISO VG	Temperature (°C)	to be used for
LFC 8032	32	-20/ +120	Hy
LFC 8046	46	-20/ +120	Hy
LFC 8068	68	-20/ +120	Hy, Um
LFC 8100	100	-20/ +120	Um, Ge
LFC 8150 (H1)	150	-20/ +120	Um, Ge, Ke, La
LFC 8220 (H1)	220	-20/ +120	Ge, Ke, La
LFC 8320 (H1)	320	-20/ +120	Ge, Ke, La
LFC 8460	460	-20/ +120	Ge, La
LFC 8680	680	-20/ +120	Ge, La
LFC 81000	1000	-20/ +120	Ge, La

Special oils

Designation	ISO VG	Temperature (°C)	to be used for
LFC 41068 ¹⁾	68	-35/ +120	Hy, Um, Ge, Ke
VP 784 ²⁾		-10/ +80	oil with grease
VP 785		-20/ +120	cylinder bearer
VP 790	32		aluminium work

1) Ester based oil, biodegradable
2) with H1-approval

Lubricating concentrates

Designation	ISO VG	Temperature (°C)	for mineral oils of ISO VG
LA 1	68	-20/ +120	46, 68, 100
LA 4	150	-20/ +120	100, 150, 220
LA 7	320	-10/ +120	220, 320, 460, 680
LA 8		-5/ +80	(adhesive lubricant)
LA 8P		-10/ +80	(adhesive lubricant)
LA 8H1 with H1-approval		-10/ +80	(adhesive lubricant)

The LA-concentrates are miscible with mineral oils (excluded: hypoid oils). LA 1, LA 4 and LA 7 will be added approx 15% to 20%, LA 8 and LA 8P approx 5% to 8%. Border line lubrication characteristics will be improved considerably.

Temperature indications represent average values. Please contact us.

Legend:

Pn = pneumatic, Hy = hydraulic, Um = circulation, Ge = gearboxes, Sp = rinse oil, Ke = chains, La = bearing, Ko = compressor

Lubricating greases

Designation	NLGI	lower Temp. (ca°C)*	upper Temp. (ca°C)*	shortt. Temp. (ca°C)*	ndm-value (rev.) (ca ndm)*	Base oil / thickener	Remarks
GLL 6	3;2	-15	100	130	300.000	M;Li	adhesive, long fibred, for roller / slide bearings, shakers, open lubricating points
GLL 7	3;2;1	-20	120	150	400.000	M;Li	multi-purpose grease for roller and slide bearings
GLL 10	2;1	-20	120	130	300.000	M;Li	MoS ₂ -grease for roller and slide bearings under high working load
GLG 111		-20	80	130		M;Na	grease for all kind of gears: elevating spindles and feeding rods
GLG 113	thixotrop	-20	120	140		M;Na;Ph	for high speed and well sealed transmissions
GLG 16	0 bis 000	-20	80	120		M;Li	for gears under heavy work load; shows outstanding slide friction behaviour
GLS 35	2	-20	120	150	400.000	M;Li	universal grease for all kinds of roller- and slide bearings
GLS 37	1	10	80			M;oV	longfibred; for heavy loads, to be used with slide ways and slide bars
GLS 72						M;aoV	assembly- and disassembly paste for temperatures up to +1500°C
GLS 75	2	-20	120	150	400.000	M;Li	long term grease with high oxidation stability for high working pressure loads
GLS 135	2, 1,00	-20	120	150	500.000	M;Li	for roller- and slide bearings under high working load
GLS 163	2	-20	130	150	400.000	M;Ph	for bearings and slide motions, under changing motions and directions
GLS 595	3;2;00	-40	250	300	100.000	PFE;oV	long term grease for high high temperature use miscible <u>only</u> with grease of same kind
GLS 734	1-2	-40	140			Si;Li	for sliding motion excellent for Bowden cables
GLS 764	2	-40	180	300	>500.000	Si;Ph	high-temperature grease; contains silicone
GLS 795	3;2	-40	180	200	100.000	Si;oV	high-temperature grease; when in use with hot air, it is limited to 120°C
GLS 815	1	-20	80	130	100.000	PG;Na	special grease for UV-lacquering; dissolving lacquer; for bearings, gears, chains
GLS 931	1	-40	90	120		PAO;Li	for stepper motors; especially plastic gears; paramount friction values
GLS 932	1	-40	130	150	300.000	PAO;Li	lubricating grease for aluminium / steel- and plastic / steel- pairings
GLS 962	2	-40	170	250	>600.000	PAO;Ph	lubrication of roller- and slide bearings in high-temperature areas
GLS 965	3;000	-40	170	250	>600.000	PAO;Ph	high-temperature grease for high loads in roller- and slide bearings
GLS 966	2	-40	160	230	>600.000	PAO;Ph	high-temperature grease for medium- till high speed bearings
GLS 993	1	-40	150	200	<100.000	PAO;oV	for pneumatic, bearings, gears, slide motions, bars and fittings

Lubricating grease for the food processing industries

GLS 305		-5	120	180	100.000	M;oV;aoV	assembly for high alloy and brass joints; for cams and slide ways
GLS 364	2	-10	120	150	>600.000	M;Ph	H1 -grease for cutter shaft bearings, slicers, sausage fillers, sterilizers
GLS 367	2;1;00;000	-10	130	180	100.000	M;aoV	H1 -grease for roller- and slide bearings, guides even exposed to water
GLS 380	2;1	-10	120	180	200.000	M;Al	H1 -grease, with preference for slide bearings with ferrous-non ferrous pairings
GLS 381	00; 000	-20	120	150	200.000	M;Al	H1 semi liquid grease for gears
GLS 388	2;1	-10	100	130	200.000	M;Al	H1 -grease, very adhesive, for slide bearings, bars, open cog wheels
GLS 794	3;2;1;0	-40	180	200	100.000	Si;oV	H1 -silicone grease for slide motions, valves, guides, O-ring-assembly, etc.
GLS 867						PG;aoV	H1 -assembly grease for EPDM-gaskets, can be well rinsed off
GLS 964	2	-20	130	150	500.000	PAO;Ph	synthetic H1 -grease for roller- and slide bearings
GLS 967	1-2	-15	130	150	100.000	PAO;aoV	H1 -grease with extended resistance to water, acids and alkalis
GLS 993 H1	1	-40	150	200	<100.000	PAO;oV	H1 -grease for pneumatic, bearings, gears, slide motions, bars, etc.
VP 873	2	-20	140		200.000	M,s.oil;oV	H1 -grease for highly loaded roller and slide bearings
VP 874	2	-20	120	150	>600.000	PAO;aoV	H1 -grease for linear contacts, recommended by Bosch Rexroth
VP 886	2	-30	120	150	300.000	PG;aoV	H1 -grease with good sliding friction behaviour, UV resistant
VP 889	2-3	-15	130	150	100.000	s.oil;E;aoV	H1 -grease for sterilizer chains does not leave any stains on the tins
VP 890	<000	-35	140			PAO;aoV	H1 -special-semi-liquid grease with high corrosion protection

*basic values for preselection, consultation necessary. ndm = 1/2 (outside- + internal-average in mms) x revolutions per minute

Legend: M = Mineral oil, E = Ester, PAO = Poly-Alpha-Olefins, Si = Silicone, PFE = Perfluorether, PG = Polyglycol, PHE = Phosphate ester, Al = Aluminium, Li = Lithium, Na = Sodium, Ph = Polyurea, aoV = anorganic thickener, oV = organic thickener

Sprays

Designation	General application	Properties
FLC 8 FLC 8 H1	chains under high load, cams and open cog wheels	(-20°C to +120°C); very adhesive and no spin-off until +80°C; highly loadable, good creeping and anti-corrosion properties; resistant to water; for chains under load and open lubricating points like cog wheels, cams, curve discs and barrel rings
FLC 95	high temperature-chains and slide rails	(-30°C to +150°C, short term +220°C); grease spray with good creeping abilities, adhesion and EP properties for lubrication of chains, metal surfaces in high-temperature and hot air areas; particularly to recommend for shrinkage- and dryer tunnels
FLC 367 H1-spray	for food and beverage firms, as well as pharmacy	(-20°C to +130°C, short term +180°C); grease spray for lubrication of chains and slide ways exposed to very aggressive influences, extremely resistant to water, acids and alkalis (pH-frame 2-11 at 50°C)
FLC 400	hot embossing press devices, chains under high temperature	(up to +250°C, short term +300°C); metal surfaces must be absolutely clean before application!
FLC 675 R+S (H1)	chain cleaning agent	odourless, anti-corrosive cleaning agent for treatment of grease and oil mudded machinery components; a very thin interim lubrication film prevents the dry running during the cleaning process
FLC 700	silicone based slide fluid for paper, wood, rubber, fabrics	(after vaporation max. +170°C); relatively fast drying, a non-filthy sliding layer with good anti-corrosion capabilities will show up and have long standing effects
FLC 710	similar to FLC 700	properties similar to FLC 700; very short period of vaporation; much thinner consistency than FLC 700; can be used during regular production run
FLC 745 H1-spray	silicone based slide fluid mainly for plastics	(after vaporation max. +170°C); physiologically harmless slide film remains, not glueing, odourless with good corrosion inhibitors
FLC 1010	gripper seats (printing industry), spindles, joints, chains	(-20°C to +120°C); extremely good creeping lubricant for fits to cope with utmost high work loadability; the creeping performance is rather limited on metal surfaces; free of resins and acids; does not bind any dirt particles or dust
FLC 1012	similar to FLC 1010	similar to FLC 1010
FLC 1014	oil spray with PTFE	(-20°C to +120°C); accepts high loads; best anti-corrosion- and sliding properties
FLC 1040	rust solvent	very effective rust solvent, with dewatering properties for rusted screws, bolts, guides, chains, etc.
FLC 1070	for highly loaded drive-, lift and transport chains; bearings	(-10°C to +120°C); very high AW- and anti-corrosion properties; excellent creeping abilities, free of resin and acids
FLC 3010 H1-spray	food making- and beverage industries; pharmacy	(-20°C to +120°C); oil spray with paramount creeping, enormous pressure resistance and anti-corrosive characteristics; resin and acid free, for transmission- and transport chains, hinges, spindles and guides
FLC 4010	chains, rollers and joints exposed to high-temperature	(-35°C to +180°C, short term +200°C); ester based oil spray offering good creeping and outstanding AW anti wear and anti-corrosion protection
FLC 8010	UV-installations	(-30°C to +130°C); well suited for UV-installations; high loadability of remaining film is ensured
FLC 9010 H1-spray	Synthetic oil-spray for universal use	(-35°C up to +160°C); oil spray based on PAO with good creeping ability; very suitable for use in the high temperature range as well as for higher loads, application for roller and sliding motions
MBF 370 H1-spray	food making and beverage industries	(-5°C to +120°C, preferably till +60°C); high effective, anti-corrosion- and grease agent under aggressive working conditions; contains PTFE; anti-static to dust and dirt, suitable for chains, cams and guides

Remark: Most a.m. sprays can be also delivered in a liquid performance.

Coolant and Cutting fluids with corrosion inhibitors

Designation	General application	Properties
MBF 330	metal treatment fluid	to assist metal cutting of high alloy steel; reduces tool wear out considerably; improves quality of metal processing; for drilling and threading operations; MBF 330 must be used pure
MBF 360 H1-approval	anti-corrosion and lubricant fluid	(viscosity at 40°C 17 mPas); thin, but highly effective anti-corrosion and lubricating agent for storage of metal parts and sea transport of machines; due to low dust take-up MBF 360 can be used as lubricant in sensitive areas; application by means of splash treatment (diving), spraying, with a brush or a rag
MBF 370 H1-approval	anti-corrosion and lubricant fluid	(viscosity at 40°C 60 mPas); intermediate and long time anti-corrosion protection with extreme high-pressure characteristics; prevents blooming of high alloy exposed to sea water; well suited for greasing of chains; to avoid corrosion at simultaneous improvement of working performance. MBF 370 can be added to mineral oils to upgrade working mode of gears. This fluid can not be sprayed.

Above mentioned indications are given as per our best knowledge. This should serve for evaluation and advise only. A commitment and warranty can't be taken over due to manifold applications and use.