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RIVOLTA F.L. 125 / F.L. 250 / F.L. 500

Gear-Oils for the food industry approved as per NSF-H1 guidelines

RIVOLTA F.L. gear-oils are fully synthetic high performance gear-oils for the food industry. Our products meet the U.S. demands: guidelines of sec. 21 CFR of FDA regulations.

A combination of high quality, free from mineral oils, synthetic base oils in combination with an efficient additive package will give a performance spectrum to our products which is superior to conventional gear-oils as per DIN 51517 part 3 CLP. So, the outstanding features of the base oils in view of wear protection, aging stability and corrosion protection are increased by adding highly effective additives.

The property

- **NSF-H1 approval**
- **high load carrying capacity**
FZG-test
(30 min. each load step) > 12
- **minimum wear and friction**
- **good aging- and oxidation-resistance**
- **good sealing compatibility**
good miscibility with mineral oils
- **very good demulsifying behaviour,**
high hydrolysis resistance

will give the following benefits

- the strict demands to food hygienics will be kept. An oil leakage must not be followed by production stop. Demands of a quality assurance system will be fulfilled.
- extend lifetime of machines and facilities and optimize economic efficiency
- reduce noise level
- long term use of the lubricant, reduce maintenance and reduce labour costs
- will minimize the efforts while changing from mineral oils to synthetic oils
- penetrating water will be deposited. The oil filling will be hardly affected by penetrating water

RIVOLTA F.L. Gear-Oils
Your contribution to food hygienics



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RIVOLTA F.L. 125 / F.L. 250 / F.L. 500 are fully synthetic gear-oils which exceed the demands of DIN 51517 part 3 for gear-oils, specification CLP.

Fully synthetic gear-oils with additives for wear protection, aging stability and corrosion protection					
Colour: transparent, yellowish			Odour: neutral		
Technical data	Unit of measurement	Norm	F.L. 125	F.L. 250	F.L. 500
Density	g/ml	DIN 51757	0.84	0.85	0.86
ISO viscosity grade	-	DIN 51519	100	220	460
Viscosity at 20°C	mm ² /s	DIN 51562	290	690	1600
Viscosity at 40°C	mm ² /s	DIN 51562	100	220	460
Viscosity at 100°C	mm ² /s	DIN 51562	14	25	44
Viscosity index	-	DIN/ISO 2909	> 140	> 140	> 140
Flash point	°C	DIN/ISO 2592	> 200	> 200	> 200
Pourpoint	°C	DIN/ISO 3016	-50	-45	-36
Operative temperature range	°C	-	-45/+120*	-40/+120*	-35/+120*
Corrosion protection to steel	corr.-grade	DIN 51355	0-A	0-A	0-A
Corrosion protection to nonferrous metals	corr.-grade	DIN 51759 Part 1	1	1	1
Foaming behaviour	ml	DIN 51566	0/0/0	0/0/0	0/0/0
Air release	min	DIN 51381	< 4	< 4	< 5
Demulsifying behaviour, 54 °C/30min.	-	DIN/ISO 6614	40/37/3	40/37/3	40/37/3
FZG-test 8.3/90**	-	DIN 51354	> 12	> 12	> 12
spec. change in weight 12 load steps	mg/kWh	Part 2	< 0,1	< 0,1	< 0,1
Behaviour against sealing material SRE-NBR1		DIN 53538 Part 3			
• relative change in volume	% by volume		+2	+2	+1
• change of hardness (shore A)			-1	-1	±0
S.R.V.-Test***		DIN 51834			
• friction coefficient	μ min.	-	0.10	0.10	0.10
	μ max	-	0.11	0.11	0.11
• wear rate	ball	mm	0.50	0.48	0.47
	disc	μm	< 1.50	< 1.50	< 1.50

* Permanent temperature, short termed usable up to 150 °C

** Operating time: 30 min. per load step

*** Swing friction wear tester, T=50 °C, F=200N, 1,000,000 load changes (5.5 hours)

Applications

- **Gears:** spur gear, bevel gear pair, helical gear, worm gear pair, bevel gear pair with pinion offset etc. in use at meal processing machines and milk processing machines, fish processing machines, dough extruder, conveyors, packing machines, labelling machines

Compatibility

- A consistency is given with mineral oil resistant sealings.
- The products are mixable with mineral oils and ester oils but not with polyalkylen glycols.

Preparation of lubrication point

The following steps have to be carried out before new filling with F.L. gear-oils

- Leave off the old product. If the system was filled with a mixable product, a special flushing is not necessary. However, for the purposes of purity of grades we recommend a flushing with the F.L. gear-oil which shall be used.
- If the system was filled with a product which is not mixable a flushing must be included.

This text contains facts and statements and is determined with our best knowledge and will be checked continuously. These statements are depending - among other reasons - on experiences gained in the industry. We only pass them on without liability. Before using our products you should test the applicability and you should convince yourself about the satisfactory performance. Our application examples and suggestions should not request to violate patent rights.