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RIVOLTA F.L. 50 / F.L. 75 / F.L. 100

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

RIVOLTA F.L. hydraulic-oils are fully synthetic high performance hydraulic-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 hydraulic-oils as per DIN 51524 part 2 HLP. 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 aging- and oxidation resistance**
- **good sealing compatibility
good miscibility with mineral oils**
- **minimum friction and minimum wear
FZG-test > 12 load steps**
- **very good demulsifying behaviour,
high hydrolysis resistance**
- **operative temperature range
-60 °C up to +120 °C**

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.
- long term use of the lubricant, reduce maintenance and reduce labour costs.
- will minimize the efforts while changing from mineral oils to synthetic oils
- extend lifetime of machines and facilities and optimize economic efficiency.
- penetrating water will be deposited. The oil filling will be hardly affected by penetrating water.
- will guarantee the functionality of the hydraulic equipment at very low and high temperatures

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



RIVOLTA F.L. 50 / F.L. 75 / F.L. 100

F.L.-Hydraulic-Oils for the food industry
approved as per NSF-H1 guidelines

RIVOLTA F.L. 50 / F.L. 75 / F.L. 100 are fully synthetic hydraulic-oils which exceed the demands of DIN 51524 part 2 for hydraulic oils with specification HLP.

Fully synthetic hydraulic-oils with additives for wear protection, aging stability and corrosion protection					
Colour: transparent, yellowish			Odour: neutral		
Technical data	Unit of measurement	Norm	F.L. 50	F.L. 75	F.L. 100
Density	g/ml	DIN 51757	0.82	0.83	0.84
ISO viscosity grade	-	DIN 51519	32	46	68
Viscosity at 20°C	mm ² /s	DIN 51562	80	110	170
Viscosity at 40°C	mm ² /s	DIN 51562	32	46	68
Viscosity at 100°C	mm ² /s	DIN 51562	6	8	11
Viscosity index	-	DIN/ISO 2909	> 140	> 140	> 140
Flash point	°C	DIN/ISO 2592	> 200	> 200	> 200
Pourpoint	°C	DIN/ISO 3016	-62	-62	-55
Operative temperature range	°C	-	-60/+120*	-60/+120*	-50/+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	< 2	< 2	< 3
Tost-test after 2000 h	mgKOH/g	DIN 51587	< 2.0	< 2.0	< 2.0
Demulsifying behaviour, 54 °C/30min.	-	DIN/ISO 6614	40/38/2	40/38/2	40/38/2
FZG-Test 8.3/90	-	DIN 51354 Part 2	> 12	> 12	> 12
Behaviour against sealing material SRE-NBR1	% by volume	DIN 53538 Part 3			
• relative change in volume			+5	+4	+2
• change of hardness (shore A)			-3	-2	-1
Mechanical test in a vane cell pump		DIN 51389 Part 2			
Loss in weight Total	mg		< 20	< 20	< 20
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		0.55	0.53	0.52
	disc		< 1.50	< 1.50	< 1.50

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

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

Preparation of lubrication point

The following steps have to be carried out before new filling with F.L. hydraulic-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. hydraulic-oil which shall be used.
- If the system was filled with a product which is not mixable a flushing must be included.

Applications

Hydraulics:

Hydraulics of all kinds as well as hydraulic-motors, hydraulic-pumps, e.g. for packaging machines, sealing machines for cans, bottle filling machines, presses (like presses for farinaceous products, salad oil or fruit juice), hydraulic lifting devices (e.g. lift trucks, elevating gates).

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.

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.