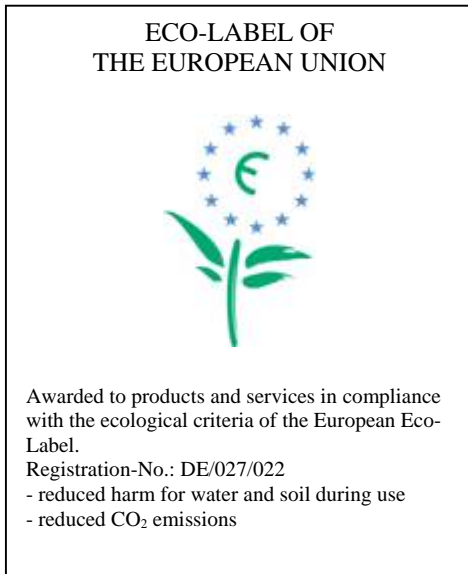


Product information

No. 338.3



BIO-Hydraulic oils HEES-S



KAJO-BIO-Hydraulic oils HEES-S are based on saturated synthetic, highly biodegradable ester and a strong, environmentally friendly combination of additives. These additives give the products excellent properties regarding oxidation stability, corrosion, low temperatures as well as EP behaviour.

Compared with products of vegetable triglyceride base, the hydraulic oils of the HEES-S-series have much better high temperature oxidation stability.

KAJO-BIO-Hydraulic oils HEES-S comply with all technical minimum requirements according to VDMA 24568 / ISO 15380.

KAJO-BIO-Hydraulic oils HEES-S meet with the requirements of the Federal Ministry for consumer protection, alimentation and agriculture regarding good biodegradability and technical specifications.

KAJO-BIO-Hydraulic oil HEES-S 46 is entitled to carry the environmental label Blauer Engel (blue Angel) according to RAL-UZ 79.

KAJO-BIO-Hydraulic oil HEES-S 46 is awarded with the European Ecolabel (registration-no. DE/027/022).

Practical advantages:

KAJO-BIO-Hydraulic oils HEES-S are used wherever there is the danger of hydraulic fluid leaking into the ground or waste water. This includes all equipment operating in or near areas of water purification or water protection or near surface water, such as e.g.

- sewage treatment plants
- dredging ships and floating dredges
- lock hydraulics and river weirs
- pipe and tunnel diving machines
- hydraulic aggregates in forests and on plains
- earth moving machines in water collecting areas
- forestry machines

Approvals – HEES 22; 32; 46; 68:

- Rexroth Bosch Group:
RE / RD 90221-01/02.10

Product information

No. 338.3



BIO-Hydraulic oils HEES-S

Ratings:

| Properties | HEES-S 22 | HEES-S 32 | HEES-S 46* | HEES-S 68 | HEES-S 100 | Unit | DIN/ISO |
|-------------------------------|-----------|-----------|------------|-----------|------------|---------------------|----------------------|
| Density at 20 °C | 925 | 935 | 955 | 970 | 995 | kg/m ³ | EN ISO 12185 |
| Kinem. Viscosity at 0 °C | 144 | 234 | 337,7 | 497 | 758 | mm ² /s | DIN 51 562 |
| at 40 °C | 22 | 32 | 46 | 68 | 100 | mm ² /s | |
| at 100 °C | 4,8 | 6,94 | 9,75 | 12,48 | 17,3 | mm ² /s | |
| Viscosity index | 145 | 170 | 173 | 185 | 190 | | ISO 2909 |
| Pour point | -42 | -42 | -42 | -42 | -39 | °C | ISO 3016 |
| Flash point | 200 | 202 | 212 | 230 | 245 | °C | ISO 2592 |
| FZG-Test A/8,3/90 | 12 | 12 | 12 | 12 | 12 | Damage loading step | DIN 51 354 |
| Neutralization number | 0,9 | 0,4 | 0,9 | 0,8 | 0,75 | mg KOH/g | DIN 51 588 |
| Lodine number | <1 | <1 | <1 | <1 | <1 | g/100g | DIN 51 774 |
| Dry TOST-test | passed. | passed. | passed. | passed. | passed. | >200 h | following DIN 51 587 |
| Biodegradability | >90 | >90 | >90 | >90 | >90 | % | CEC L-33-A93 |
| Air release property at 50 °C | | | 4 | | | min | |

Revised: 22.03.2010/B.L./T.

All ratings are average values and are subject to production-related variations.

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