

Environmentally Acceptable Hydraulic Fluids HEPG, HEES for Axial Piston Units

RE 90 221-01/09.07
 replaces: 06.07

Table of environmentally acceptable hydraulic fluids.

This does not imply that such tests were exhaustive or that a recommendation of such fluids is implied.

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Type of fluid	Synthetic hydraulic fluids based on Polyglycol, HEPG			Synthetic hydraulic fluids based on esters, HEES			
ISO-viscosity class	VG 22	VG 32	VG 46	VG 22	VG 32	VG 46	VG 68
Manufacturer ↓							
ADDINOL						Ökosynth HEES 46	
ARAL			BAF-46 Vitam	Vitam EHF 22 Forbex E 22		Vitam EHF 46 Forbex E 46 Forbex SE 46 ¹⁾	
AUSCHEM, ITALIA						Pentaflux 46 AT	Pentaflux 68 AT
AVIA	Avia Hydrosynth 22	Avia Hydrosynth 32	Avia Hydrosynth 46		Avia ¹⁾ Syntofluid N 32	Avia ¹⁾ Syntofluid N 46	Avia ¹⁾ Syntofluid N 68
BayWa					Plantohyd Super S Plantohyd Super Syn ¹⁾	Plantohyd Super S Plantohyd Super Syn ¹⁾	Plantohyd Super S Plantohyd Super Syn ¹⁾
BECHEM				Hydrostar HEP 22	Hydrostar HEP 32	Hydrostar HEP 46 Hydrostar HEES 46 Longlife ¹⁾	Hydrostar HEP 68
BINOL AB						Binol Hyd. 46 E	
BINOL BioSafe Oy				BioSafe HO 22 SE	BioSafe HO 32 SE	BioSafe HO 46 SE BioSafe ¹⁾ HO 46 XE	Biosafe HO 68 SE BioSafe ¹⁾ HO 68 XE
BLASER						Blasol LP8905	
BP					Biohyd ¹⁾ SE-S 32	Biohyd ¹⁾ SE-S 46	Biohyd ¹⁾ SE-S 68
Bremer & Leguil				Rivolta SBH 11		Rivolta SBH 23	
BUCHER & CIE MOTOREX						MOTOREX ¹⁾ OEKOSYNT HEES 46	
CASTROL					Carelube HES		
Cognis Corporation					ProEco 332 ProEco ¹⁾ 432LL	ProEco 346 ProEco ¹⁾ 446LL	ProEco 368 ProEco ¹⁾ 468LL
CONDAT					CONDAT Bio 32	CONDAT Bio 46	CONDAT Bio 68

¹⁾ Saturated Esters: These fluids are the most suitable for highest hydraulic strain (e.g. in construction machines)

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Manufacturer ↓							
Eni S.p.A.				Arnica S22	Arnica S32	Autol HE46 Arnica S46	Arnica S68
ESSO		Univis WEPG 32	Univis WEPG 46			Univis HEES 46	
FINKE				Aviaticon HY HE 22	Aviaticon HY HE 32	Aviaticon HY HE 46	Aviaticon HY HE 68
FRAGOL	Hydraulic TR 22	Hydraulic TR 32	Hydraulic TR 46	Hydraulic HE 22 Hydraulic HE-SH 22 1)	Hydraulic HE 32	Hydraulic HE 46 Hydraulic HES 46 1) Hydraulic HE-SH 46 1)	Hydraulic HES 68 1)
FUCHS		Renolin PG 32	Renolin PG 46	Plantohyd S 22 Plantohyd Polar 15S + 22S Plantosyn 15 HVI 1)	Plantohyd S 32 Plantosyn 3268 1) UNIFLUID 32 1)	Plantohyd S 46 Plantosyn 3268 1) Plantosyn 46 HVI 1)	Plantohyd S 68 Plantosyn 3268 1) Plantosyn 68 HVI 1)
GLOBOIL					BHF 32	BHF 46	BHF 68
HESSOL						HLP 46 Bio	
Houghton		Hydro drive P-32	Hydro drive P-46		Vital Fluid SL 32/B	Vital Fluid SL 46/B	Vital Fluid SL 68/B
KAJO-Chemie				Bio-Hydrauliköl HEES 22 HEES 22-S	Bio-Hydrauliköl HEES 32-S	Bio-Hydrauliköl HEES 46 HEES 46-S	Bio-Hydrauliköl HEES 68
KENDALL Demmler & Co Schweiz						Synth. Natura 46HV	
Klöckner					DEUTZ OEL H-EP 32 BA	DEUTZ OEL H-EP 46 BA	DEUTZ OEL H-EP 68 BA
Kompressol		Biovis					
Kuwait Petroleum Q8					Holbein 32	Holbein 46 Q8 Holbein NWG 46	
Lubricating Dutchman					LD Bio-Hydresther HVI 32	LD Bio-Hydresther HVI 46	LD Bio-Hydresther HVI 68
Leprince-Siveke						Leprincol BSE Hydrosynt 46	Leprincol BSE Hydrosynt 68
LUBRITECH Fuchs					Eco-HYD 32 S	Eco-HYD 46 S S Plus	Eco-HYD 68 S
MOBIL						EAL Syndraulic 46 Hydraulic Oil UF 46	
MOBIL/USA					Envirosyn 32 H	Envirosyn 46 H	Envirosyn 68 H
MOL RT, Ungarn					Biokom HID 46S		

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Manufacturer ↓							
Molyduval					Chemlube 5126		
Nat Oil					SunLub Ultra S VG 32	SunLub Ultra S VG 46	
NILS ITALIA SRL					NILS ANTARES ES ISO VG 32 ¹⁾	NILS ANTARES ES ISO VG 46 ¹⁾	
ÖMV				Biohyd MS 15	Biohyd MS 32	Biohyd MT 46	Biohyd MS 68
OEST						Bio Synth. HYD 46	
OPTIMOL						HYDO BS 46	HYDO BS 68
PAKELO						Geolube Hydraulic EP-46	
PANOLIN, Schweiz				HLP Synth 15 ¹⁾ 22 ¹⁾ Gro Synth 22 ¹⁾	HLP Synth 32 ¹⁾ Gro Synth 32 ¹⁾	HLP Synth 46 ¹⁾ Gro Synth 46 ¹⁾	HLP Synth 68 ¹⁾ Gro Synth 68 ¹⁾
PETRO-Canada				Premium ECO HT-E 22	Premium ECO HT-E 32	Premium ECO HT-E 46	Premium ECO HT-E 68
PETROFER						Envolubric HE 46	Envolubric HE 68
Quaker Chemical						Greensave 46	
RAISION Finland						Raisio Bio Safe 46 SE	Raisio Bio Safe 68 SE
SHELL					Naturelle HF-X 32 ¹⁾	Naturelle HF-E 46 Naturelle HF-X 46 ¹⁾	Naturelle HF-E 68
STATOIL						Hydraway Bio SE 46	
Strub & Co Schmiertechnik CH-Reiden				Hydrosynt HEES 22	Hydrosynt HEES 32	Hydrosynt HEES 46 Vulcolube Synt HEES ISO 46 ¹⁾	Hydrosynt HEES 68
Stuart			Hydrocor E 46 ISOCOR E 46			ISOCOR HF 46	ISOCOR HF 68 ISOCOR HF 2000
TAMOIL					Green Hydro Safety 32	Green Hydro Safety 46	Green Hydro Safety 68
Terresolve					Enviro-Logic 3032	Enviro-Logic 3046	Enviro-Logic 3068
TOTAL FINA ELF					TOTAL Biohydran TMP 32	TOTAL Biohydran TMP 46 TOTAL Biohydran SE 46 ¹⁾	TOTAL Biohydran TMP 68
Tribol					Bio Top 1448/32	Bio Top 1448/46	Bio Top 1448/68

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Manufacturer ↓							
VALVOLINE			Ultrasyn PG 46		Unisyn HLP 22/46	Unisyn HLP 32/68	
York Ginouves					York 777 1) Bio VG 32	York 777 1) Bio VG 46	
Zeller & Gmelin						Divinol HE 46	
Vickers Oils					ECOSURE 1) HSE 32	ECOSURE 1) HSE 46	ECOSURE 1) HSE 68

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Guarantee of correct operation of hydrastatic installations

Environmentally acceptable fluids to RE 90 221.

This guarantee is limited to the supply of suitable materials and correct functioning of the items supplied.

Requirements:

- The fulfilment of the minimum requirements of DIN 51 524, parts 2 and 3 (FZG ≥ 10) (this is only **partially** fulfilled by vegetable oil based fluids).
- Maintenance of the correct viscosity limits.
- Operation within the limits set by the technical data with respect to the fluid characteristics (e.g. density, the compatibility of the fluid with paints, filter materials and seals).
- Maintenance of the correct degree of fluid cleanliness.
- Regulated maintenance of the installation and changing the fluid at the intervals recommended by the manufacturer and at least as often as laid down in publication RE 90 221.

The guarantee is limited to **6 months** after commissioning or **9 months** after the supply of the units, **whichever is the shorter**.

Where not otherwise stated, our standard terms and conditions apply.

Bosch Rexroth AG
Hydraulics
Product Segment Axial Piston Units
Elchingen Plant
Glockeraustrasse 2
89275 Elchingen, Germany
Phone +49 (0) 73 08 82-0
Facsimile +49 (0) 73 08 72 74
info.brm-ak@boschrexroth.de
www.boschrexroth.com/brm

Horb Plant
An den Kelterwiesen 14
72160 Horb, Germany
Phone +49 (0) 74 51 92-0
Facsimile +49 (0) 74 51 82 21

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Subject to change.