Product Data

BP Energol HLP-HM Range

Anti-wear hydraulic oil

Description

The BP Energol™ HLP-HM hydraulic oil range are based upon highly refined mineral oil enhanced with a stabilised zinc additive system.

Application

Energol HLP-HM has been specially formulated to provide good anti-wear and thermal stability performance using the very latest additive technology. The careful blend of additives with a high quality base stock ensures that Energol HLP-HM has excellent hydrolytic and oxidative stability while exhibiting a minimal tendency to produce sludge and deposits. In addition, Energol HLP-HM provides corrosion protection to ferrous and yellow metal components found within a hydraulic system.

This range is designed for use in industrial hydraulic systems which require anti-wear protection. It is also suitable for other duties in which lubricants of high oxidation stability and lubrication performance are required, such as lightly loaded gears, variable speed units and bearings.

The Energol HLP-HM range is fully compatible with elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g. Viton) polymers.

Energol HLP-HM is classified as follows:
DIN 51502 classification – HLP
ISO 6743/4 – Hydraulic Oils Type HM

Energol HLP-HM grades meet the requirements (for appropriate viscosity grade) of:
DIN 51524 Part 2
Cincinnati Lamb (Milacron) P 68-69-70
Denison (Parker Hannafin) HF-0
US Steel 126 & 127
Eaton (formerly Vickers) I-286-S & M-2950-S
Bosch Rexroth RE90220

Advantages

- Good thermal and oxidative stability leads to longer operating life, reduction in lubricant costs and minimises deposit formation giving a cleaner system.
- Excellent anti-wear performance gives wear protection and reduces downtime from unscheduled maintenance.
- Good filterability characteristics (including in the presence of water), enables cost savings to be made from increased filter life and reduced maintenance.
- Excellent water separation and hydrolytic stability means reduced down time through prolonged lubricant life and increased equipment reliability.

Typical Characteristics

Test	Method	Units	HLP-HM 15	HLP-HM 22	HLP-HM 32	HLP-HM 46	HLP-HM 68	HLP-HM 100	HLP-HM 150
ISO Viscosity Grade	-	-	15	22	32	46	68	100	150
Density @ 15°C	ISO 12185/ ASTM D4052	g/ml	0.87	0.87	0.88	0.88	0.88	0.89	0.89
K.V. @ 40°C	ISO 3104/ ASTM D445	mm^2/s	15	22	32	46	68	105	150
K.V. @ 100°C	ISO 3104/ ASTM D445	mm^2/s	3.2	4.21	5.44	6.82	8.77	12.01	14.76
Viscosity Index	ISO 2909/ ASTM 2270	-	-	>95	>95	>95	>95	>95	>95
Pour Point	ISO 3016/ ASTM D97	°C/°F	-51/-60	-30/22	-30/-22	-27/-17	-24/-11	-21/-6	-18/-0.4
Flash Point, COC	ISO 2592/ ASTM D92	°C/°F	180/355	205/401	210/411	215/419	226/440	226/440	232/450
Flash Point, PMCC	ISO 2719/ ASTM D93	°C	160	170	200	200	220	220	220
Foam Seq I	ISO 6247/ ASTM D892	mls	10/0	10/0	10/0	10/0	10/0	10/0	10/0
Water Separability @ 54°C	ISO 6614/ ASTM D1401	Mins	10	10	15	15	15	-	-
Water Separability @ 82°C	ISO 6614/ ASTM D1401	Mins	-	-	-	-	-	15	20
Air Release Value	ISO 9120/ ASTM D3427	Mins	4	4	4	8	8	12	18
FZG fail stage (A8.3/90)	ISO 14635-1/ DIN 51354	-	-	-	11	12	12	12	12
Rust Test (24 hrs distilled water)	ISO 7210/ ASTM D665A	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust Test (24 hrs Synthetic sea water)	ISO 7210/ ASTM D665B	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Subject to usual manufacturing tolerances

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