



Product Data

Energol HLP Range

Hydraulic Oil

Description

Energol™ HLP hydraulic oils are a range of premium quality products based upon BP's proven ashless sulphur-phosphorus additive technology. This unique additive system has many benefits over traditional zinc containing products, especially when the oils operate in moist conditions. It results in improved corrosion prevention, reduced wear and significantly better filtration performance.

Application

Energol HLP is primarily for use in hydraulic equipment, but is also suitable for other duties in which lubricants of high oxidation stability and lubrication performance are required.

Energol HLP range of oils exceed the requirements of the German DIN 51524 part 2, CETOP RP 47H and American Vickers 1.286.S specifications for anti-wear hydraulic oils and are classified as ISO type HM. The oils have been formulated to minimize oxidation and foaming and to ensure long machinery life by reducing wear to a minimum and preventing corrosion. The oils are compatible with the seal materials used in modern hydraulic systems.

Advantages

- Excellent filterability and no tendency to block fine filters when contaminated with water.
- High chemical stability, excellent corrosion inhibition, low foaming and seal compatibility.
- Unique ashless additive technology for premium performance.
- Very low rates of wear and therefore extended life for hydraulic components.

Typical Characteristics

Name	Method	Units	22	32	46	68	100	150
Density @ 20°C / 68°F	ISO 12185 / ASTM D4052	kg/m ³	860	870	880	880	890	890
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	226	210	222	232	240	267
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm ² /s	22	32	46	68	105	160
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm ² /s	4.32	5.47	6.88	8.77	12	16
Viscosity Index	ISO 2909 / ASTM D2270	-	101	107	104	101	101	101
Pour Point	ISO 3016 / ASTM D97	°C/°F	-18	-30	-38	-38	-24	-24
Acid Number	ISO 6619 / ASTM D664	mgKOH/g	0.2	0.2	0.2	0.2	0.2	0.2
Air Release @ 75°C / 167°F	ISO 9120 / ASTM D3427	min	-	2	-	-	-	-
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	Rating	Pass	Pass	Pass	Pass	Pass	Pass
Copper corrosion (24 hrs@100°C/212°F)	ISO 2160 / ASTM D130	Rating	1a	1a	1a	1a	1a	1a
Eaton-Vickers 35VQ/25 Vane Pump test (3000 psi, 2400 rpm, 93°C / 203°F)	Vickers M-2952-S	wt loss (ring & vane) mg	<10/ <10	<10/ <10	<10/ <10	<10/ <10	<10/ <10	<10/ <10
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	10	10	10	10	10	10

Subject to usual manufacturing tolerances.

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