Product Data

BP Energol GR-XP Range

Industrial Extreme Pressure Gear Oil

Description

The BP Energol™ GR-XP gear oil range of high quality lubricants are based upon highly refined mineral oil, enhanced with sulphur/phosphorus extreme pressure additive technology providing outstanding thermal stability and high load carrying capacity.

The advanced extreme pressure additive system not only provides high load carrying capacity, but was designed to provide microscopic wear protection. Microscopic wear protection, also known as micropitting protection, is critical in preventing destructive wear at the micro level therefore extending gear life and meeting the evolving demands of smaller and higher output gear boxes

Application

The Energol GR-XP range is recommended for the lubrication of industrial gearboxes using forced circulation or splash and oil bath lubrication. They may be used for the lubrication of spur and helical gears and in some lightly loaded worm type gear applications.

They have very good viscosity characteristics to ensure that starting torques are not excessively high in cold operating conditions. The additives are compatible with the ferrous and non-ferrous metals used in industrial gear units.

The Energol GR-XP range is fully compatible with nitrile, silicone and fluropolymer seal materials.

Energol GR-XP is classified as follows:
DIN Classification is CLP

Energol GR-XP grades meet the requirements of:
DIN 51517 Part 3
AGMA 9005 - D94
US Steel 224
David Brown Type E
Hansen Transmissions
Flender

Advantages

- ‘Clean gear’ additive technology ensures low deposit formation and enhanced filter life.
- Full Extreme Pressure (EP) performance* gives maximum protection of gears against wear and shock-loading.
- Good water separation and demulsification characteristics means reduced down time through prolonged lubricant life and increased equipment reliability.
- Excellent protection against corrosion and wear results in less maintenance.
- Suitable for Müller Weingarten equipment

* ISO 220 grade achieved FZG >14 rating under A16.6/90 (double speed) test conditions

Typical Characteristics

Test	Method	Units	68	100	150	220	320	460	680	1000
AGMA No.			2EP	3EP	4EP	5EP	6EP	7EP	8EP	-
Density @ 15°C	ISO 12185 / ASTM D4052	g/ml	0.88	0.89	0.89	0.89	0.9	0.9	0.92	0.93
K.V. @ 40°C	ISO 3104 / ASTM D445	mm2/s	68	100	150	220	320	460	680	1000
K.V. @ 100°C	ISO 3104 / ASTM D445	mm2/s	8.53	11.1	14.5	18.7	24	30.5	37.3	43.6
Viscosity Index	ISO 2909 / ASTM 2270	-	> 95	> 95	> 95	>95	> 95	> 95	85	80
Pour Point	ISO 3016 / ASTM D97	°C	-21	-21	-18	-18	-15	-12	-9	-3
Flash Point, PMC	ISO 2719 / ASTM D93	°C	220	220	220	226	226	226	230	230
Foam Seq I	ISO 6247 / ASTM D892	mls/mls	10/0	10/0	10/0	10/0	10/0	10/0	10/0	10/Nil
Copper Corrosion (3 hrs @ 100°C)	ISO 2160 / ASTM D130	-	1b	1b	1b	1b	1b	1b	1b	1b
Rust Test (24 hrs Synthetic sea water)	ISO / 7210 / ASTM D665B	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Timken OK Load	ASTM D2782 / IP 240	lbs	-	-	-	70	70	70	70	70
FZG fail stage (A8.3/90)	ISO 14635-1 / DIN 51354	-	> 12	> 12	> 12	> 12	> 12	> 12	> 12	>12
FZG Micropitting										
Fail Stage	FVA Proj No. 54	-	-	-	-	>10	>10	>10	-	-	-
GFT Class	FVA Proj No. 54	-	-	-	-	High	High	High	-	-	-

Subject to usual manufacturing tolerances.

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