Product Data

Hyspin ZZ Range

Anti-wear Hydraulic Oil

Description

The Castrol Hyspin™ ZZ hydraulic oil range of lubricants are formulated without zinc containing additives, based on a carefully selected additive system, designed to meet and exceed the most exacting performance standards.

Application

The Hyspin ZZ range are formulated for applications requiring anti-wear and superior oxidation performance and are particularly suitable for hydraulic systems using vane and piston pumps where elevated operating temperatures are encountered. They are formulated for use in severely stressed systems in which high levels of anti-wear performance and/or ultra fine filtration are required. They have been proven to be resistant to the effects of 'dieseling' in highly stressed systems such as plastic injection moulding and fatigue testing equipment where the application leads to rapid breakdown of more conventional products.
The range is fully compatible with elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g. Viton) polymers.

Hyspin ZZ is classified as follows:

- DIN 51502 classification - HLP
- ISO 6743/4 - Hydraulic Oils Type HM

Hyspin ZZ (for appropriate viscosity grade) is approved by:

- Parker Hannifin (Denison) HF0, HF1 & HF2
- Eaton E-FDGN-TB002-E

Hyspin ZZ grades meet the requirements (for appropriate viscosity grade) of:

- DIN 51524 Part 2
- Fives Cincinnati P68, P69 & P70
- ASTM D6158 HM
- ISO 11158 HM
- US Steel 126
- GB 11118.1 L-HM (General and High Pressure)

Advantages

- Good thermal and oxidative stability provides reliable performance and extended oil life in severe applications. Minimal deposit formation gives a cleaner system and reduced frequency of filter changes.
- Excellent anti-wear performance provides extended wear protection for hydraulic pumps. Reduced downtime due to unscheduled maintenance and savings from replacement part costs.
- Excellent filterability characteristic (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

Name	Method	Units	ZZ 10	ZZ 22	ZZ 32	ZZ 46	ZZ 68	ZZ 100
ISO Viscosity Grade	-	-	10	22	32	46	68	100
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m³	860	870	880	880	880	880
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm²/s	10	22	32	46	68	100
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm²/s	2.7	4.3	5.3	6.7	8.6	11.1
Viscosity Index	ISO 2909 / ASTM D2270	-	-	>95	>95	>95	>95	>95
Pour Point	ISO 3016 / ASTM D97	°C/°F	-33/-27	-27/-17	-27/-17	-27/-17	-24/-11	-21/-6
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	170/ 338	205/ 401	210/ 410	215/ 419	225/ 437	225/ 437
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C/°F	145/ 293	170/ 338	200/ 392	200/ 392	220/ 428	220/ 428
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	20/0	20/0	20/0	20/0	20/0	20/0
Water Separation @ 54°C / 129°F (40/37/3)	ISO 6614 / ASTM D1401	min	5	10	15	15	15	-
Water Separation @ 82°C / 180°F (40/37/3)	ISO 6614 / ASTM D1401	min	-	-	-	-	-	15
Air Release @ 50°C / 122°F	ISO 9120 / ASTM D3427	min	4	4	4	8	8	12
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	-	-	12	12	12	12
Rust test - distilled water (24 hrs)	ISO 7120 / ASTM D665A	-	Pass	Pass	Pass	Pass	Pass	Pass
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	-	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Stability - TOST	ISO 4263-1 / ASTM D943	hrs	-	-	>3000	>3000	>3000	-

Subject to usual manufacturing tolerances.

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