



Hyspin ZZ Range

Anti-wear Hydraulic Oil

Description

The Castrol Hyspin™ ZZ hydraulic oil range of lubricants are based on a carefully selected ashless (zinc free) 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 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 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 32	ZZ 46	ZZ 68	ZZ 150
ISO Viscosity Grade	-	-	32	46	68	150
Density @ 15°C	ASTM D4052	kg/m ³	857	865	873	887
Kinematic Viscosity @ 40°C	ASTM D445	mm ² /s	32	46	68	150
Kinematic Viscosity @ 100°C	ASTM D445	mm ² /s	5.3	6.7	8.6	14.5
Viscosity Index	ASTM D2270	-	>95	>95	>95	>95
Pour Point	ASTM D97	°C	-27	-27	-18	-21
Flash Point - closed cup method	ASTM D93	°C	>190	>190	>190	>190
Foam Sequence I - tendency / stability	ASTM D892	ml/ml	50/0	50/0	50/0	50/0
Water Separation @ 54°C (40/37/3)	ASTM D1401	min	15	15	15	-
Water Separation @ 82°C (40/37/3)	ASTM D1401	min	-	-	-	20
Air Release @ 50°C	ASTM D3427	min	4	8	8	20
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	12	12	12	12
Rust test - distilled water (24 hrs)	ASTM D665A	-	Pass	Pass	Pass	Pass
Rust test - synthetic seawater (24 hrs)	ASTM D665B	-	Pass	Pass	Pass	Pass
Oxidation Stability - TOST	ASTM D943	hrs	>2000	>2000	>2000	not tested

Subject to usual manufacturing tolerances.

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