

## Hyspin HVI

High viscosity index anti-wear hydraulic oils

### Description

The Castrol Hyspin™ HVI range of high viscosity index (VI) oils is based on a carefully selected ashless (zinc free) additive system designed to meet and exceed the most exacting performance standards.

### Application

Castrol Hyspin™ HVI oils are intended for severely stressed hydraulic systems requiring a high level of anti-wear performance and fine filtration. In addition, Castrol Hyspin™ HVI exhibits excellent corrosion protection as well as outstanding thermal and oxidative stability. Castrol Hyspin™ HVI has excellent hydrolytic stability and separates rapidly from water contamination. Castrol Hyspin™ HVI contains a shear stable additive system which helps to maintain the viscosity characteristics of the product over a wide temperature range, even during prolonged use, and imparts a very low pour point which enables the product to be used in cold environments. The Castrol Hyspin™ HVI range is fully compatible with elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g. Viton) polymers.

Applications include:

- Hydraulic packages operating over wide temperature ranges and or subjected to cold start conditions and high temperature continuous running where minimal viscosity change due to temperature is required.
- Examples include highly stressed hydraulic systems (HPU) utilised in the oil and gas industry whether it be drilling, production or processing offshore and onshore.

Castrol Hyspin™ HVI is classified as follows:

- DIN 51502 classification – HVLP.
- ISO 6743/4 - Hydraulic Oils Type HV.

Hyspin HVI grades meet the requirements of:

- DIN 51524 Part 3.
- Cincinnati Lamb (Milacron) P 68-69-70.
- Denison (Parker Hannafin) HF-0.
- US Steel 126 & 127.
- Eaton I-286-S & M-2950-S.
- Frank Mohn.
- Bosch Rexroth RE07075/RE90220.

### Advantages

- High viscosity index and low pour point enables the product to be used over a wide temperature range. Good shear stability means no excessive loss in viscosity due to mechanical shearing.
- Excellent anti-wear performance provides extended wear protection for hydraulic pumps. Reduced down time due to unscheduled maintenance and savings from replacement part costs.
- Excellent water separation and hydrolytic stability means reduced down time through prolonged lubricant life and increased equipment reliability.
- Excellent 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 filterability characteristics (including in the presence of water) enables cost savings to be made due to increased filter life.

## Typical Characteristics

Name	Method	Units	Hyspin HVI 15	Hyspin HVI 22	Hyspin HVI 32	Hyspin HVI 46	Hyspin HVI 68	Hyspin HVI 100	Hyspin HVI 150
ISO Viscosity Grade	-	-	15	22	32	46	68	100	150
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	g/ml	880	880	880	880	880	890	890
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	15	22	32	46	68	100	150
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	3.8	4.8	6.3	8.1	10.8	13.2	17.7
Viscosity Index	ISO 2909 / ASTM 2270		>150	>150	>150	>150	>140	>130	>125
Pour Point	ISO 3016 / ASTM D97	°C/°F	-48/-54	-42/-44	-39/-38	-36/-33	-36/-33	-33/-27	-30/-22
Flash Point - Closed Cup Method	ISO 2719 / ASTM D93	°C/°F	144/291	162/324	186/337	186/337	192/378	192/378	192/378
Foam Sequence I - Tendency / Stability	ISO 6247 / ASTM D892	ml/ml	20/0	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	10	15	15	-	-
Water Separation @ 82°C / 180°F (40/37/3)	ISO 6614 / ASTM D1401	min	-	-	-	-	-	20	20
Air Release @ 50°C / 122°F	ISO 9120 / ASTM D3427	min	4	4	4	8	8	12	18
FZG Gear Scuffing Test - A/8.3/90	ISO 14635-1	FLS	-	-	11	12	12	12	12
Rust Test - Distilled Water (24 hrs)	ISO 7120 / ASTM D665A		Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust Test - Synthetic Seawater (24 hrs)	ISO 7120 / ASTM D665B		Pass	Pass	Pass	Pass	Pass	Pass	Pass
Shear Stability - KRL test (4hrs)	DIN 51350-6 / CEC L45-A-99	viscosity loss (%)	-	-	-	9.5	-	-	-

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

Hyspin HVI

10 Jan 2018

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Australia Level 8 (QV1 Building), 250 St. Georges Terrace, Perth WA 6000, Australia. Customer Service Number +61 (0)8 9420 1825

Dubai City Tower 2, 6th Floor PO BOX 1699, Sheikh Zayed Road, Dubai, U.A.E. Customer Service Number +971 4 3079304

Norway Drammensveien 167, Box 153 Skoyen, 0212 Oslo, Norway. Customer Service Number +47 22 51 12 43 501

Singapore Keppel Bay Towers, 1 Harbourfront Avenue 02-01, Singapore 098632, Singapore. Customer Service Number +65 6371 8478

United Kingdom BlueSky Business Space, Westpoint House, Pavilion 2 Prospect Park, Prospect Road, Arnhall Business Park, Westhill. AB32 6FJ, UK. Customer Service Number +44 (0)1224 270365

USA 501 Westlake Park Boulevard, Houston, Texas 77079, USA. Customer Service Number +1 800 339-7157., Brazil Avenida Itaoca, 2.400, Inhauma, Rio de Janeiro, Zip code 21061-020, customer service +55 11 4133 7835

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