



## Hyspin AWH-M

High viscosity index anti-wear hydraulic oils

### Description

The Castrol Hyspin™ AWH-M hydraulic oil range of shear stable high viscosity index lubricants are based on the latest stabilised zinc additive technology.

### Application

Hyspin AWH-M contains a shear stable additive system which helps 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 very cold environments. It exhibits excellent corrosion and wear protection as well as outstanding thermal and oxidative stability. In addition, Hyspin AWH-M has excellent hydrolytic stability and separates rapidly from water contamination upon standing. Applications include:

- Outdoor equipment which are likely to operate in wide temperature ranges, such as machinery subjected to cold start up conditions and high temperature continuous running. Examples include off-highway and marine applications.
- Indoor manufacturing equipment that incorporates control systems requiring minimal viscosity change with temperature. Examples include precision machine tools.
- The Hyspin AWH-M 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 AWH-M is classified as follows:

DIN 51502 classification – HVLP

ISO 6743/4 - Hydraulic Oils Type HV

Hyspin AWH-M grades meet the requirements (for appropriate viscosity grade) of:

DIN 51524 Part 3

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 RE07075/RE90220

### Advantages

- High viscosity index and low pour point enables the product to be used over a wide temperature range, with good shear stability which 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.
- Good filterability gives a cleaner system with less frequent filter changes.

# Typical Physical Characteristics

Subject to usual manufacturing tolerances.

Test	Method	Units	AWH-M 15	AWH-M 32	AWH-M 46	AWH-M 68	AWH-M 100
ISO Viscosity Grade	-	-	15	32	46	68	100
Density @ 15°C	ISO 12815/ASTM D4052	g/ml	0.88	0.88	0.88	0.88	0.89
KV @ 40°C	ISO 3104/ASTM D445	mm <sup>2</sup> /s	15	32	46	68	100
KV @ 100°C	ISO 3104/ASTM D445	mm <sup>2</sup> /s	3.83	6.3	8.1	10.4	13.45
Viscosity Index	ISO 2909/ASTM 2270	-	>150	>150	>150	>140	>150
Pour Point	ISO 3016/ASTM D97	°C	-48	-39	-36	-36	-33
Flash Point, PMCC	ISO 2719/ASTM D93	°C	>150	>190	>190	>190	>190
Foam Seq 1	ISO 6247/ASTM D892	mls	20/0	20/0	20/0	20/0	20/0
Water Separability @ 54°C	ISO 6614/ASTM D1401	Mins	5	10	15	15	-
Water Separability @ 82°C	ISO 6614/ASTM D1401	Mins	-	-	-	-	20
Air Release Value	ISO 9120/ASTM D3427	Mins	4	4	8	8	12
FZG fail stage (A8.3/90)	ISO 14635-1/DIN 51354	-	-	11	12	12	12
Rust Test (24 hrs Distilled water)	ISO 7210/ASTM D665A	-	Pass	Pass	Pass	Pass	Pass
Rust Test (24 hrs Synthetic sea water)	ISO 7210/ASTM D665B	-	Pass	Pass	Pass	Pass	Pass
K.V. @ 100°C after 4 hours KRL	DIN 51350 T6	% loss	-	-	9.5	-	-

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