



# HYDRAULIC OILS

INDUSTRIAL LUBRICANTS

( 14 – 27 )



## L-HS Low Freezing Anti-Wear Hydraulic Oil

L-HS low freezing anti-wear hydraulic oil is blended with highly refined hydrogenated base oil of high viscosity index and well-chosen special functional additives by internationally advanced process. It has better low temperature performance than L-HV low temperature anti-wear hydraulic oil, especially suitable for the lubrication of outdoor machinery in severe cold regions. The product comprises several grades such as 22, 32 and 46 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ With better cost performance ratio, capable of substituting L-HM and L-HV of same grade as well as imported low temperature hydraulic oil products
- ⊙ With better high/low temperature performance and demusibility compared to L-HM and L-HV, providing outstanding low temperature startup ability, low temperature fluidity and high temperature protection, effectively prolonging service life of oil
- ⊙ Outstanding viscosity-temperature performance, shear and oxidation stabilities, small viscosity variation ensuring more stable work of hydraulic system
- ⊙ Outstanding anti-wear, anti-rust and anti-corrosion performance, prolonging service life of equipment
- ⊙ Good anti-foaming, air release and demusibility performance
- ⊙ Outstanding adaptability to seals, effectively preventing oil from leaking

### Performance

The product meets the following specifications:

- ⊙ GB 11118.1-94 (L-HS)

### Applications

- ⊙ Especially suitable for outdoor machinery in severe cold region in winter, and moderate/high pressure hydraulic system in conditions of large ambient temperature variation or severe condition, such as hydraulic system of engineering, construction, mining and oil field machineries as well as ships and vehicles

### Typical properties

Items	L-HS low freezing anti-wear hydraulic oil		
	22	32	46
ISO viscosity grade	22	32	46
Kinematic viscosity (40°C), mm <sup>2</sup> /s	21.27	31.35	45.81
Flash point (COC), °C	222	224	238
Pour point, °C	-53	-48	-43

## L-HV Low Temperature Anti-Wear Hydraulic Oil

L-HV low temperature anti-wear hydraulic oil is blended with highly refined base oil with high viscosity index and well-chosen special functional additives by internationally advanced process. It is especially suitable for the lubrication of moderate/high pressure system working in conditions of outdoor, severe cold regions and large ambient temperature variation or severe condition. The product comprises several grades such as 15, 22, 32, 46 and 68 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ With high anti-wear performance as that of L-HM anti-wear hydraulic oil, better high/low temperature performance and demulsibility than L-HM, providing outstanding low temperature startup ability, low temperature fluidity and high temperature protection, effectively prolonging service life of oil
- ⊙ Outstanding viscosity-temperature performance, shear and oxidation stabilities, small viscosity variation ensuring more stable work of hydraulic system
- ⊙ Outstanding anti-wear, anti-rust and anti-corrosion performance, prolonging service life of hydraulic equipment
- ⊙ Outstanding adaptability to seals, effectively preventing oil from leaking

### Performance

The product meets the following specifications:

- ⊙ GB 11118.1-94(L-HV)
- ⊙ ISO 6743/4 (L-HV)

### Applications

- ⊙ Suitable for lubrication of moderate/high pressure system working in conditions of outdoor, severe cold regions and large ambient temperature variation or severe condition, such as hydraulic system of engineering, construction, mining and oil field machineries as well as ships and vehicles

### Typical properties

Items	L-HV low temperature anti-wear hydraulic oil		
	32	46	68
ISO viscosity grade	32	46	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	33.39	48.72	70.47
Flash point (COC), °C	231	240	238
Pour point, °C	-39	-37	-35

## Ashless Anti-Wear Hydraulic Oil

Ashless anti-Wear hydraulic oil is blended with highly refined base oil with high viscosity index and ashless additive formulation by internationally advanced process. Compared to L-HM anti-wear hydraulic oil, it is especially suitable for the lubrication of hydraulic system with copper/silver parts. The product comprises several grades such as 22, 32, 46 and 68 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Unique non-zinc anti-wear formulation, effectively protecting copper/silver parts, prolonging service life of pump with copper/silver or silver coated parts
- ⊙ Better hydrolytic stability than L-HM anti-wear hydraulic oil, providing good protection even when system suffered from little water pollution
- ⊙ Good environment protecting ability, reducing environment pollution

### Performance

The product meets the following specifications:

- ⊙ GB 11118.1-94 (L-HM) Premium
- ⊙ ISO 6743/4 (L-HM)

### Applications

- ⊙ Especially suitable for lubrication of high precision hydraulic system with copper/silver parts

### Typical properties

Items	Ashless anti-Wear hydraulic oil		
	32	46	68
ISO viscosity grade	32	46	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	33.39	48.72	70.47
Viscosity index	98	97	97
Flash point (COC), °C	230	235	250
Pour point, °C	-15	-15	-13

## High Pressure Anti-Wear Hydraulic Oil (HF-0)

High pressure anti-wear hydraulic oil (HF-0) is blended with high quality base oil out of special technology and ashless additive by internationally advanced process stand on scientific formulation. The product has passed T6H20C test, the strictest test of high pressure and double pumps (plunger pump and vane pump). The product comprises 4 grades such as 32, 46, 68 and 100 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Unique formulation, effectively protecting hydraulic parts, prolonging service life of hydraulic pump
- ⊙ Excellent oil-water separation, filtering performance, hydrolytic stability and oxidation stability
- ⊙ Outstanding anti-wear performance, anti-corrosion and anti-rust abilities and good adaptability to seals
- ⊙ Good environment protecting ability, reducing environment pollution

### Performance

The product meets the following specifications:

- ⊙ Q/SH303 069-2007
- ⊙ Parker-Denison HF-0

### Applications

- ⊙ Suitable for hydraulic system with vane pump and/or plunger pump of high temperature, high speed and heavy duty

### Typical properties

Items	High pressure anti-wear hydraulic oil (HF-0)			
ISO viscosity grade	32	46	68	100
Kinematic viscosity (40°C), mm <sup>2</sup> /s	32.56	47.12	68.05	99.78
Viscosity index	100	97	97	97
Flash point (COC), °C	215	235	248	263
Pour point, °C	-15	-15	-12	-12

## L-HM Super Anti-Wear Hydraulic Oil

L-HM super anti-wear hydraulic oil is blended with highly refined base oil and multi-functional additive by internationally advanced process. Meeting a plurality of international OEM standards, the product can be comprehensively used in lubrication of high pressure hydraulic system in industry, shipping and mobile type machinery, etc. The product comprises several grades such as 15, 22, 32, 46, 68 and 100 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Outstanding anti-wear performance, with multiple hydraulic pump test certification, effectively prolonging service life of pump and hydraulic system
- ⊙ Excellent filterability, minimizing blockage of filter
- ⊙ Excellent oxidation stability, longer service life of oil
- ⊙ Outstanding adaptability to seals, effectively preventing oil from leaking
- ⊙ Good oil-water separation ability, rapidly separating water from oil, avoiding emulsion of oil
- ⊙ Good air release performance and anti-foaming ability
- ⊙ Good viscosity-temperature performance and shear stability, providing effective lubrication in case of high temperature

### Performance

The product meets the following specifications: The product has been accredited by following OEM

- ⊙ GB 11118.1-94 (L-HM)
- ⊙ ISO 11158: HM
- ⊙ DIN 51524 Part 2
- ⊙ Cincinnati P68, P70, P69
- ⊙ Eaton-Vickers
- ⊙ Parker-Denison HF-0

### Applications

- ⊙ Comprehensively used in lubrication of high pressure hydraulic system in industry, shipping, mobile type machinery and so on
- ⊙ Comprehensively used in lubrication of high pressure hydraulic system in engineering machinery, mining machinery, metallurgical equipment and so on

### Typical properties

Items	L-HM supper anti-wear hydraulic oil		
ISO viscosity grade	32	46	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	33.2	45.8	67.4
Viscosity index	98	97	98
Flash point (COC), °C	230	240	245
Pour point, °C	-15	-15	-13

## L-HM Anti-Wear Hydraulic Oil

L-HM anti-Wear hydraulic oil is blended with highly refined base oil and multi-functional additive by internationally advanced process. It can be comprehensively used in lubrication of hydraulic system in industry, shipping and mobile type machinery, etc. The product comprises several grades such as 22, 32, 46, 68 and 100 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Outstanding anti-wear performance, effectively reducing wear of hydraulic pump, prolonging service life of pump and hydraulic system
- ⊙ Good oxidation stability
- ⊙ Good anti-rust and anti-corrosion performance
- ⊙ Good adaptability to seals, effectively preventing oil from leaking
- ⊙ Good demusibility performance
- ⊙ Good anti-foaming performance

### Performance

The product meets the following specifications:

- ⊙ GB 11118.1-94(L-HM) Premium

### Applications

- ⊙ Comprehensively used in lubrication of hydraulic system in industry, shipping, mobile type machinery and so on

### Typical properties

Items	L-HM anti-wear hydraulic oil		
	32	46	68
ISO viscosity grade	32	46	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	33.40	46.64	67.99
Flash point (COC), °C	218	238	245
Pour point, °C	-15	-12	-9

## HF-2 Anti-Wear Hydraulic Oil

HF-2 anti-wear hydraulic oil is blended with highly refined base oil and multi-functional additive by internationally advanced process. It can be comprehensively used in lubrication of low pressure hydraulic system in industrial equipment. The product comprises several grades such as 22, 32, 46, 68 and 100 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Good anti-wear performance, reducing wear of hydraulic pump
- ⊙ Good demulsibility performance
- ⊙ Good anti-foaming performance
- ⊙ Good oxidation stability
- ⊙ Good anti-rust and anti-corrosion performance
- ⊙ Good adaptability to seals, effectively preventing oil from leaking

### Performance

The product meets the following specifications:

- ⊙ Q/SH PRD109-2008

### Applications

- ⊙ Suitable for lubrication of low pressure hydraulic system in industrial equipment such as machine tool and so on

### Typical properties

Items	HF-2 anti-wear hydraulic oil		
ISO viscosity grade	32	46	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	31.52	47.41	69.05
Flash point (COC), °C	220	234	242
Pour point, °C	-12	-12	-9



## HFC 4631 Water-Glycol Fire Resistant Hydraulic Fluid

HFC 4631 water-glycol fire resistant hydraulic fluid is highly refined fire resistant hydraulic fluid taking water and glycol as base fluid with high level multi-functional additives such as anti-wear agent, anti-oxidizer, rust inhibitor, defoamer and so on. According to international standard classification, it belongs to water-glycol fire resistant hydraulic fluid of ISO-L-HFC type.

### Advantages

- ⊙ Excellent fire resistance, ensuring application safety in case of high temperature and contact with open flame
- ⊙ Extremely low freezing point, ensuring easy startup in condition of low temperature
- ⊙ Perfect high temperature stability (stable real solvent), no deterioration in long storage period of 2 years
- ⊙ Good gas/liquid phase anti-rust ability, and anti-corrosion performance for copper, meeting anti-rust requirement for gas and liquid phases
- ⊙ Outstanding lubricity, ensuring lubrication and service life of hydraulic oil pump
- ⊙ A long service life not less than 10,000h under normal operating mode and work conditions

### Performance

The product meets the following specifications:

- ⊙ Q/SH PRD122-2008

### Applications

- ⊙ Important fire resistant hydraulic media comprehensively used in hydraulic system in conditions of open flame and high temperature
- ⊙ Suitable for hydraulic system requiring fire resistance in such industries as steel, coal mine, light industry, chemical engineering, machining, plastic processing and so on
- ⊙ Applied temperature range: -50℃~60℃; applied pressure: 20MPa

### Typical properties

Items	HFC 4631 water-glycol fire resistant hydraulic fluid	
	Grade 40	Grade 50
Appearance	Transparent liquid of red	
Viscosity, mm <sup>2</sup> /s		
40℃	42.96	51.2
-18℃	923	910
Viscosity index	185	230
Density (20℃), g/cm <sup>3</sup>	1.082	1.080
Freezing point, ℃	<-50	<-50
pH value	8.9	10.2
Copper piece corrosion (T <sub>2</sub> Cu, 50℃×3h)	1a	1a
Foam performance, mL		
Foam tendency	0	15
Foam stability	0	0

### Precautions

- ⊙ The product can't be used together with mineral type hydraulic oil
- ⊙ Checking water content of the product periodically in order to reduce its fire resistance
- ⊙ Normally, not exceeding 55℃ for open type oil tank and 65℃ for close type oil. In case of high temperature, hydraulic viscosity to be increased by excessive evaporation of water, application effect to be affected

## 4632 Ester Based Fire Resistant Hydraulic Oil

4632 ester based fire resistant hydraulic oil is blended with synthetic base oil of special structure and high level multi-functional additives such as anti-oxidizer, anti-corrosion agent and lubrication and so on. Poisonless and degradable, the product is a new generation of environment friendly lubricant.

### Advantages

- ⊙ Low pour point, high splash point and high viscosity index
- ⊙ Outstanding lubricity and material adaptability
- ⊙ Good thermal stability, and outstanding anti-shear stability
- ⊙ Bio-degradable

### Performance

The product meets the following specifications:

- ⊙ Q/SH PRD123-2008
- ⊙ Technical recognition for matching material by Wuhan Atlantic Metallurgical Engineering & Technology Co., Ltd.
- ⊙ Technical recognition for matching material by CISDI Engineering Co. Ltd.

### Applications

- ⊙ Suitable for hydraulic system of continuous casting production line in steel industry and other hydraulic system with fire resistance and safety requirements of equipment used in furnace, furnace breaker, hot rolling plant, foundry plant, steel ladle valve, power station, coal mine and so on Capable of substituting phosphate ester type fire resistant hydraulic oil
- ⊙ Applied temperature range: -20℃~135℃

### Typical properties

Items	4632 ester based fire resistant hydraulic oil			
	N32	N46	N68	N100
Kinematic viscosity, mm <sup>2</sup> /s 100℃, not less than 40℃	7.00 28.8~35.2	9.00 41.4~50.6	11.00 61.2~74.8	13.00 90~110
Viscosity index, not less than	180			
Flash point, ℃, not less than	270			
Burning point, ℃, not less than	300			
Acid value, mgKOH/g, not larger than	3.0			
Manifold fire test	Passed			

### Precautions

- ⊙ When substituted by it, mineral type oil in system to be kept not less than 5%
- ⊙ When water-based fire resistant hydraulic oil substituted, water content in system to be kept not less than 0.2%
- ⊙ When phosphate ester and other ester type fire resistant hydraulic oil substituted, pay attention to compatibility and adaptability to seals

## Hydraulic Oils For Metallurgical Industry

Hydraulic oils for metallurgical Industry is blended with hydrogenated base oil and quality additive by internationally advanced process. It is formulated in accordance with the character that hydraulic equipment is likely to suffer from aggressive water. With excellent water separation ability, the product can separate water from oil very quickly to avoid emulsification. The product comprises 3 grades such as 32, 46 and 68 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Excellent water separation ability, rapidly separating water from oil
- ⊙ Excellent filterability, minimizing blockage of filter particularly with presence of such pollutants as water and calcium ion
- ⊙ Outstanding anti-wear performance, effectively prolonging service life of pump and hydraulic system
- ⊙ Excellent oxidation stability, prolonging service life of oil
- ⊙ Good air release performance and anti-foaming ability
- ⊙ Good anti-rust and anti-corrosion performance

### Performance

The product meets the following specifications:

- ⊙ Q/SH303 483-2007

### Applications

- ⊙ Meeting application of hydraulic equipment in metallurgy, also used in lubrication of hydraulic system in industry, shipping, mobile type machinery, transmission system and so on

### Typical properties

Items	Hydraulic oils for metallurgical industry
ISO viscosity grade	46
Kinematic viscosity (40°C), mm <sup>2</sup> /s	47.15
Viscosity index	106
Pour point, °C	-24
Flash point (COC), °C	248
Cleanliness NAS1638, grade	8

## Jack Hydraulic Oil

Jack hydraulic oil is blended with highly refined base oil and multi-functional additives by internationally advanced process. It can be used in various types of jack and lubrication of small-sized hydraulic hoisting equipment, and hydraulic transmission machinery of similar application.

### Advantages

- ⊙ Good anti-wear performance, reducing wear of equipment
- ⊙ Good oxidation stability and anti-rust and anti-corrosion performance, prolonging service life of equipment
- ⊙ Outstanding high temperature performance, ensuring reliability of outdoor work in winter
- ⊙ Good adaptability to rubber, effectively protecting sealing material, preventing leakage and stabilizing pressure of hydraulic system

### Performance

The product meets the following specifications:

- ⊙ Q/SH PRD110-2008

### Applications

- ⊙ Suitable for various types of jack used for vehicles and lubrication of small-sized hydraulic hoisting equipment, and hydraulic transmission machinery of similar application

### Typical properties

Items	Jack hydraulic oil
Density (20℃), g/cm <sup>3</sup>	836
Kinematic viscosity (40℃), mm <sup>2</sup> /s	13.52
Kinematic viscosity (100℃), mm <sup>2</sup> /s	3.28
Flash point (COC), ℃	180
Pour point, ℃	-38

## Railway Retarder Hydraulic Oil

Railway retarder hydraulic oil is blended with special quality base oil and multi-functional additives. With good viscosity-temperature performance and anti-oxidation ability and excellent low temperature performance, it is suitable for lubrication of the hydraulic system of railway retarder.

### Advantages

- ⊙ Excellent low temperature performance, ensuring normal lubrication of railway retarder hydraulic system at -30℃ of ambient temperature
- ⊙ Good viscosity-temperature performance, suitable for year round application of hydraulic system of railway retarder
- ⊙ Good anti-oxidation performance, effectively prolonging service life of hydraulic system of railway retarder

### Performance

The product meets the following specifications:

- ⊙ Q/SH303 485-2007

### Applications

- ⊙ Suitable for lubrication of hydraulic system of railway retarder

### Typical properties

Items	Railway retarder hydraulic oil
Kinematic viscosity (40℃) mm <sup>2</sup> /s	6.365
Kinematic viscosity (-30℃) mm <sup>2</sup> /s	163.4
Viscosity index	128
Flash point (Closed) ℃	113
Pour point ℃	-45

## L-HL Hydraulic Oil

L-HL hydraulic oil is blended with mineral base oil and well-chosen additive, suitable for low pressure hydraulic system and circulation system. The product comprises several grades such as 15, 22, 32, 46, 68, 100 and 150 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Good anti-oxidation stability, ensuring relatively long service life of oil
- ⊙ Outstanding anti-rust and anti-corrosion performance, effectively avoiding rust of equipment
- ⊙ Good anti-foaming performance

### Performance

The product meets the following specifications:

- ⊙ GB 11118.1-94 (L-HL)
- ⊙ Q/SH303 093-2004 (2007)

### Applications

- ⊙ Suitable for hydraulic transmission mechanism of low pressure system
- ⊙ Suitable for lubrication of hydraulic box, headstock and gearbox

### Typical properties

Items	L-HL hydraulic oil		
	32	46	68
ISO viscosity grade	32	46	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	31.84	49.02	67.83
Pour point, °C	-15	-12	-12
Flash point (COC), °C	208	224	252

## L-HG Slide-Way Hydraulic Oil

L-HG slide-way hydraulic oil is blended with paraffine-based mineral base oil and well-chosen additive, suitable for lubrication of hydraulic and slide-way combined system. The product comprises several grades such as 32, 46, 68, 100 and 120 according to its kinematic viscosity at 40°C.

### Advantages

- ⊙ Good sticky-sliding performance, avoiding occurrence of creeping
- ⊙ Good anti-wear performance, reducing wear of equipment
- ⊙ Good anti-oxidation stability, anti-rust and anti-corrosion performance
- ⊙ Good adaptability to rubber, effectively protecting sealing material

### Performance

The product meets the following specifications:

- ⊙ GB 11118.1 (L-HG)
- ⊙ Q/SH303 035-2007
- ⊙ Cincinnati P53

### Applications

- ⊙ Suitable for lubrication of low/moderate pressure hydraulic system and slide-way of high precision machine tool

### Typical properties

Items	L-HG slide-way hydraulic oil	
ISO viscosity grade	32	68
Kinematic viscosity (40°C), mm <sup>2</sup> /s	30.46	63.62
Flash point (COC), °C	226	242
Pour point, °C	-15	-12
Static/dynamic friction coefficient ratio	0.77	0.77