

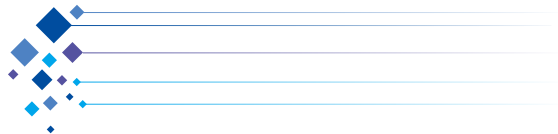
# Performance Par Excellence



Hydraulic Oils

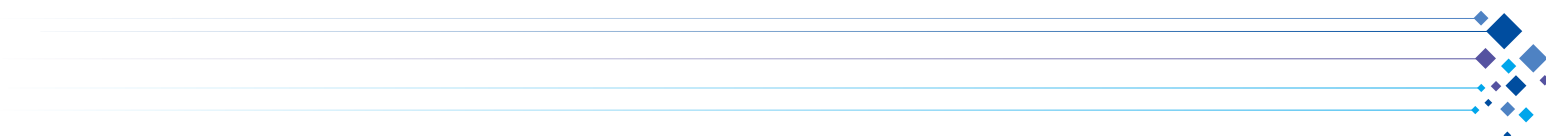
Industrial Oils

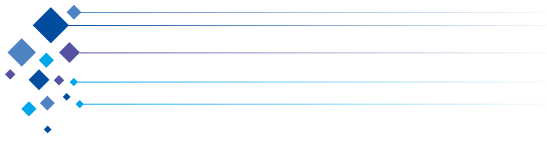




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## WIDE RANGE OF INDUSTRIAL OILS



## HYDRAULIC OILS

### Lightening the load for heavy-duty performers

Divyol hydraulic oils are designed for the most demanding applications. By offering excellent oxidation and thermal stability, corrosion resistance, and foam resistance, these oils significantly extend equipment life.



## DIVYOL CIRCULATING OILS

### Applications:

Divyol Circulating Oils are specially formulated for use in circulating systems, hydraulic systems, enclosed gearboxes, chain drives, compressors, vacuum pumps, mining machinery, machine tools, etc. They are also recommended for hydraulic systems that require oils with moderate anti-wear properties and mild to extreme pressure characteristics.

### Standards:

Divyol Circulating Oils are a blend of solvent refined base oils, and select anti-oxidant, anti-rust and anti-foam additives. They meet the requirements of very high pressure systems as also of systems operating with high pump speeds. These oils match the requirements of ISO:VG 220 to 460 as well as IS:10522-1983 (Reaffirmed 1993); IS:3098 – 1983 (Reaffirmed 1993); and DIN – 51524 for Hydraulic Oils

H and H-L. Higher viscosity grades (Grades 220 to 460) are not covered in Indian Standards (IS) but are fortified with some amount of anti-wear properties to ensure optimum protection and conform to IPSS 1-09-022 and USS 127. The oils also pass Vickers Vane Pump Test.

### Advantages:

Divyol Circulating Oils offer a host of benefits. The oil has high chemical stability to ensure long and trouble-free service life. Its resistance to foaming ensures prompt and efficient functioning. Its film strength and anti-wear properties protect pumps, valves, Cylinders, pistons, etc. from wear, especially between moving parts under heavy load. Its high viscosity index enables operating under wide range of temperature and other conditions and meets the requirements of the hydraulic pump and the designed system. Its excellent demulsibility allows entrained water to settle down. Being highly corrosion resistant, it protects metal parts from rusting and corrosion even in the presence of moisture.

### Typical properties:

Sr. No.	Characteristics	Test Method	Divyol Circulating Oils		
			220	320	460
1	Appearance	Visual	Bright and clear	Bright and clear	Bright and clear
2	Colour, max.	ASTM D 1500	3.54	4	4.5
3	Kinematic viscosity at 40 °C, cSt min.	ASTM D 445	220	320	460
4	Viscosity index, min.	ASTM D 2270	90	90	90
5	Flash point, COC, °C, min.	ASTM D 92	230	250	260
6	Pour point, °C, max.	ASTM D 97	-3	-3	-3
7	Copper strip corrosion at 100 °C for 3 hrs.	ASTM D 130	1	1	1

The above properties are typical values and do not constitute specification of the product.

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## DIVYOL HYDRAULIC OILS

### Applications:

Divyol Hydraulic Oils are blends designed for use in circulating system, hydraulic system, enclosed gearboxes, chain drives, compressors, vacuum pumps, mining machinery, machine tools, etc. They are also recommended for hydraulic systems with moderate anti-wear property and requiring mild to extreme pressure characteristics. They also meet the requirements of very high pressure systems operating at high pump speeds.

### Standards:

Divyol Hydraulic Oils are solvent refined base oils blended with select anti-oxidant, anti-rust and anti-foam additives. The grades of oil meet the performance requirements of ISO VG 32 to 150 and also conform to IS : 3098 – 1983 (Reaffirmed 1993) as also DIN – 51524 for Hydraulic Oils H and H-L.

### Advantages:

Divyol Hydraulic Oils possess high viscosity index which enables its usage over wide operating temperature range and also meets the requirements of the hydraulic pump and the designed system. The blends' superior demulsibility helps to settle entrained water quickly. The oil protects lubricating parts from rusting even in the presence of moisture and prevents wear between moving parts under heavy load. Its resistance to foaming ensures prompt and efficient functioning and its high chemical stability ensures long and trouble-free service life. Having good film strength and antiwear properties, it minimizes wear of pumps, valves, cylinders, pistons, etc. Its excellent corrosion resistance ensures optimum protection against rusting and corrosion of metal parts, resulting in longer service life of the machines.

### Typical properties:

Sr. No.	Characteristics	Test Method	Divyol Hydraulic Oils				
			32	46	68	100	150
1	Appearance	Visual	Bright and clear	Bright and clear	Bright and clear	Bright and clear	Bright and clear
2	Colour, max.	ASTM D 1500	2.5	2.5	2.5	3.0	3.5
3	Kinematic viscosity at 40 °C, cSt, min.	ASTM D 445	32	46	68	100	150
4	Viscosity index, min.	ASTM D 2270	95	95	95	95	90
5	Flash point, COC, °C, min.	ASTM D 92	190	200	210	210	230
6	Pour point, °C, max.	ASTM D 97	-6	-6	-6	-6	-6
7	Copper strip corrosion at 100 °C for 3 hrs.	ASTM D 130	1	1	1	1	1
8	FZG gear failure load stage	DIN 51354	10	10	10	10	10

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## DIVYOL HYDRAULIC OILS HLP

### Applications:

Divyol Hydraulic Oils HLP (N) are specially formulated for use in hydraulic systems, enclosed gear boxes, chain drives, compressors, vacuum pumps, mining machinery, machine tools, circulating oiling systems, etc., wherein oil is recirculated and used for extensive periods. It is especially recommended for sophisticated high performance electro-hydraulic or numerically controlled systems.

### Standards:

Divyol Hydraulic Oils HLP (N) are blended using select high viscosity index base-oils and additives. The blends' performance conforms to IS:11656-1983, IS:10522 -1993, DIN 51524 Part II and ISO HM -III 58. They also pass the Vickers V-104C vane pump test and are approved by Rexroth.

### Advantages:

Divyol Hydraulic Oils HLP (N) possess excellent anti-wear, oxidation inhibition and anti-rust qualities which reduce wear of moving parts. They also have excellent demulsibility, hydrolytic stability, anti-foam properties and superior filterability. The blends have an improved FZG rating and being versatile can be used for various applications, with a possible reduction in inventory. These blends have an improved FZG rating and being multipurpose, they can bring about a reduction in inventory.

### Typical properties:

Sr. No.	Characteristics	Test Method	Divyol Hydraulic Oils HLP				
			32 N	46 N	68 N	100 N	150 N
1	Appearance	Visual	Bright and clear	Bright and clear	Bright and clear	Bright and clear	Bright and clear
2	Colour, max.	ASTM D 1500	3.0	3.5	4.0	4.5	5.0
3	Kinematic viscosity at 100 °C, cSt	ASTM D 445	5.0	6.5	7.6	9.6	12.0
4	Viscosity index, min.	ASTM D 2270	100	110	110	110	105
5	Flash point, COC, °C, min.	ASTM D 92	196	200	204	210	210
6	Pour point, °C	ASTM D 97	-12	-12	-12	-9	-9
7	Emulsion characteristics at 54 °C	ASTM D 1401	40-37-3 (20)	40-38-2 (20)	40-37-3 (20)	–	–
8	Emulsion characteristics at 82 °C	ASTM D 1401	–	–	–	40-37-3 (20)	40-37-3 (20)
9	4 ball wear at 30 kg	ASTM D 4172	0.4	0.4	0.4	0.4	0.4
10	FZG load test, passes load stage	ASTM D 5182	12	12	12	12	12

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## DIVYOL ANTI-WEAR HYDRAULIC OILS

### Applications:

Divyol Anti-wear (AW) Hydraulic Oils are used, with due pressure, to actuate various mechanisms of CNC and special purpose machines. The pressure is developed by employing positive displacement pumps such as axial, piston, vane and gear types. Usually, the moving parts of these pumps wear out with repeated use, thus impairing machine performance. But Divyol AW Hydraulic Oils protects the pumps and their components from wear. These oils are suitable for high pressure hydraulic systems and where high speed actuations are desired. They are also used in enclosed gear boxes, compressors, chain drives, machine tools and circulation oiling systems.

### Standards:

Divyol AW Hydraulic Oils are a unique blend of solvent refined base oils and select additives with the superior anti-wear, anti-oxidant, anti-rust and anti-foam properties. Each grade oil in the series conforms to ISO:VG 22 to 150 requirements as well as performance standards of DIN 51524 Part I, IS:10522 -1993 and ISO:11158 (HM Fluid).

### Advantages:

Divyol AW Hydraulic Oils protect pump components, valves, cylinders, pistons and other system internals from wear, rust and corrosion. These oils have excellent demulsibility which allows entrained water to settle down. The blend also provides resistance to foaming to ensure prompt functioning. Regular use of these oils results in longer oil change intervals and longer service life of the pumps. Being multipurpose, Divyol AW Circulating Oils also cause a reduction in inventory.

### Typical properties:

Sr. No.	Characteristics	Test Method	Divyol Anti-Wear Hydraulic Oils						
			AW 22	AW 32	AW 46	AW 57	AW 68	AW 100	AW 150
1	Appearance	Visual	Bright and clear	Bright and clear	Bright and clear	Bright and clear	Bright and clear	Bright and clear	Bright and clear
2	Colour, max.	ASTM D 1500	3.0	3.0	3.5	2.5	2.5	4.5	4.5
3	Kinematic viscosity at 40 °C, cSt min.	ASTM D 445	22	32	46	57	68	100	150
4	Viscosity index, min.	ASTM D 2270	98	98	95	98	98	95	95
5	Flash point, COC, °C, min.	ASTM D 92	180	195	210	215	220	230	230
6	TAN, mg KOH/g, max.	IS:1448 P:2	1.5	1.5	1.5	1.5	1.5	1.5	1.5
7	Rust preventive characteristics	ASTM D 665B	Complies	Complies	Complies	Complies	Complies	Complies	Complies
8	Pump wear in mg ms (Vickers 104 °C pump test)	ASTM D 2882	–	50	50	50	50	50	50
9	Pour point, °C, max.	ASTM D 97	-9	-9	-6	-3	-6	-3	-6
10	Emulsion characteristics at 54 °C	ASTM D 1401	40-37-3 (20)	40-37-3 (20)	40-38-2 (20)	40-37-3 (20)	40-37-3 (20)	–	–
11	Emulsion characteristics at 82 °C		–	–	–	–	–	40-37-3 (30)	40-37-3 (10)
12	Foaming characteristics, ML stability	ASTM D 892							
	Seq. I		Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Seq. II		Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Seq. III		Nil	Nil	Nil	Nil	Nil	Nil	Nil

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## DIVYOL ANTI-WEAR CIRCULATING OILS

### Applications:

Divyol Anti-wear (AW) Circulating Oils are used, with due pressure, to actuate various mechanisms of CNC and special purpose machines. Positive displacement pumps such as axial, piston, vane and gear types are used to develop the required pressure. The moving parts of these pumps are well protected from wear by Divyol AW Circulating Oils, thus ensuring sustained and optimum machine performance. These oils are suitable for high-pressure hydraulic systems, enclosed gear boxes, compressors, chain drives, machine tools and circulation oiling systems.

### Standards:

Divyol AW Circulating Oils are a blend of solvent refined base oils and select anti-oxidant, anti-rust, anti-foam additives. These oils also have excellent demulsibility. Each of the Divyol AW grades conforms to ISO:VG 220 to 460 requirements and performance standards as per DIN 51524 Part I, IS:10522 -1993 and ISO:11158 (HM Fluid).

### Advantages:

Divyol AW Circulating Oils offer maximum protection to pump components, valves, cylinders, pistons and other system internals from wear, rust and corrosion. The oils' excellent demulsifying quality allows entrained water to settle down. It also provides resistance to foaming to ensure prompt functioning. Longer oil change intervals leads to longer service life of the pumps. Being multipurpose, Divyol AW Circulating Oils also cause a reduction in inventory.

### Typical properties:

Sr. No.	Characteristics	Test Method	Divyol Anti-Wear Circulating Oils		
			220	320	460
1	Appearance	Visual	Bright and clear	Bright and clear	Bright and clear
2	Colour, max.	ASTM D1500	5	5	5
3	Kinematic viscosity at 40 °C, cSt min.	ASTM D445	227	320	455
4	Viscosity index, min.	ASTM D2270	95	95	90
5	Flash point, COC, °C, min.	ASTM D92	240	250	250
6	TAN, mg KOH/g, max.	IS:1448 P:2	1.5	1.5	1.5
7	Rust preventive characteristics	ASTM D665B	Complies	Complies	Complies
8	Pump wear in mg ms (Vickers 104 °C pump test)	ASTM D2882	50	50	50
9	Pour point, °C	ASTM D97	-6	-6	-6
10	Emulsion characteristics at 82 °C	ASTM D1401	40-37-3 (30)	40-37-3 (10)	40-37-3 (30)
11	Foaming characteristics ML stability	ASTM D892			
	Seq. I		Nil	Nil	Nil
	Seq. II		Nil	Nil	Nil
	Seq. III		Nil	Nil	Nil

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**Gandhar Oil Refinery (India) Limited**

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, GMP Certified, NABL Accreditation and Government Recognized Three Star Export House

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