Premium Anti-Wear Hydraulic Oil



Product description

Rando HD[®] oils are formulated with premium base oils and robust additives to help protect hydraulic pumps and systems. Rando HD oils helps ensure good film strength between metal surfaces and is further enhanced by antiwear additive protection.

Rando HD oils helps to deliver long oil service life with its premium base oil quality used in formulation.

Customer benefits and product features

Customer benefits

• Protects equipment

Robust anti-wear additive package helps minimize wear by protecting surfaces when loads causes breakdown of the lubricant film.

• Minimizes downtime

Rust and oxidation inhibitors help to prevent the production of abrasive particles from rust formation, and deposits, varnishes and sludges from oil breakdown, which can damage equipment surfaces and seals, and block filters prematurely.

• Smooth operation

Good hydrolytic stability and water separation characteristics promote excellent filterability in the presence of water contamination. Good anti-foam and air release properties help ensure smooth operation and system efficiency.

• Longer oil service life

The use of premium base stocks helps resist oil thickening and deposit formation in service to minimize the possibility of an unscheduled change of hydraulic fluid. Oxidation test life is higher than solvent extracted hydraulic oil products.

Product features

- Robust anti-wear additive protects equipment.
- Rust and oxidation inhibitors help to prevent deposits and minimize downtime.
- Good hydrolytic stability and water separation help with smooth operation.
- Premium Group II base oil helps to ensure longer oil life.

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Applications

General hydraulics in both mobile or stationary equipment using gear, vane or piston pumps across a wide range of industries.

- Industrial hydraulic systems
- Hydraulics of mobile and construction equipment where a water separating oil is required
- Hydraulic systems with vane, gear or piston pumps
- Plastic injection molding machines
- Machine tools
- Enclosed gear systems (dependent on load)
- Industrial circulating systems

Consult OEM representatives for independent verification, updates and recommendations.

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Approvals, performance and recommendations

Developed independently by Chevron to comply with the following performance standards and specifications:

AIST (US Steel) 126, 127MMNNNNNNAIImineral Lube ChartAA <t< th=""><th>RANDO[®] HD</th><th>32</th><th>46</th><th>68</th><th>100</th><th>220</th><th>320</th></t<>	RANDO [®] HD	32	46	68	100	220	320
Allmineral Lube ChartAAAAAAAAAAAANSI/AGMA 9005-E02 R&O-AAMMMMMAAA	AFNOR NF E 48-603 HM	М	-	-	М	-	-
ANSI/AGMA 9005-E02 R&OMMMMMArburg Injection Moulding	AIST (US Steel) 126, 127	М	-	-	-	-	-
Arburg Injection MouldingAAAASTM D6158-HMMM <td>Allmineral Lube Chart</td> <td>А</td> <td>А</td> <td>А</td> <td>-</td> <td>-</td> <td>-</td>	Allmineral Lube Chart	А	А	А	-	-	-
ASTM DE 158-HMM<	ANSI/AGMA 9005-E02 R&O	-	М	М	М	М	м
Bosch Rexroth RDE 90245AA <t< td=""><td>Arburg Injection Moulding</td><td>-</td><td>А</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>	Arburg Injection Moulding	-	А	-	-	-	-
Chevron ISOCLEAN Certified LubricantMMMMMMMMMMMMMMMMMMMMMMMMMDD <thd< th="">DDD</thd<>	ASTM D6158-HM	М	М	М	М		
David Brown 0A, 1A, 2A, 3A, 4A, 5AMMM<	Bosch Rexroth RDE 90245	А	А	А	-	-	-
DIN 51524/2 HLPMMM	Chevron ISOCLEAN Certified Lubricant	М	М	М	М	М	м
Eaton E-FDGN-TB002-EAAA	David Brown 0A, 1A, 2A, 3A, 4A, 5A	М	М	М	М	-	-
Fives Cincinnati P-68MMII	DIN 51524/2 HLP	М	М	М	М	-	-
Fives Cincinnati P-69MFives Cincinnati P-70.MM	Eaton E-FDGN-TB002-E	А	А	А	-	-	-
Fives Cincinnati P-70MGeneral Motors LS2 LHMMMM	Fives Cincinnati P-68	М	-	-	-	-	-
General Motors LS2 LHMMMMMIIIGrob Lubricant ChartAAA<	Fives Cincinnati P-69	-	-	М	-	-	-
Grob Lubricant ChartAAA	Fives Cincinnati P-70	-	М	-	-	-	-
Husky Injection Molding Systems Ltd, OEM-specific listing.AA <td>General Motors LS2 LH</td> <td>М</td> <td>М</td> <td>М</td> <td>-</td> <td>-</td> <td>-</td>	General Motors LS2 LH	М	М	М	-	-	-
ISO 11158-HMMMMMMMMMMJCMA JCMAS HKMM <t< td=""><td>Grob Lubricant Chart</td><td>А</td><td>А</td><td>А</td><td>-</td><td>-</td><td>-</td></t<>	Grob Lubricant Chart	А	А	А	-	-	-
JCMA JCMAS HKMJoy HO-SMAAAAANSF H2AAAAAAAAAParker Hannifin (Denison) HF-0, HF-1, HF-2AAParker Hannifin (Denison) T6H20CM <t< td=""><td>Husky Injection Molding Systems Ltd, OEM-specific listing</td><td>-</td><td>А</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>	Husky Injection Molding Systems Ltd, OEM-specific listing	-	А	-	-	-	-
Joy HO-SMNSF H2AAAAAAAParker Hannifin (Denison) HF-0, HF-1, HF-2AAAParker Hannifin (Denison) T6H20CMPEKRUN WERKNORM N8053A	ISO 11158-HM	М	М	М	М	М	М
NSF H2AAAAAAParker Hannifin (Denison) HF-0, HF-1, HF-2AAAParker Hannifin (Denison) T6H20CMPEKRUN WERKNORM N8053A	JCMA JCMAS HK	М	-	-	-	-	-
Parker Hannifin (Denison) HF-0, HF-1, HF-2AAAAParker Hannifin (Denison) T6H2OCM <td< td=""><td>Joy HO-S</td><td>-</td><td>-</td><td>М</td><td>-</td><td>-</td><td>-</td></td<>	Joy HO-S	-	-	М	-	-	-
Parker Hannifin (Denison) T6H2OCMPEKRUN WERKNORM N8053A	NSF H2	А	А	А	А	А	А
PEKRUN WERKNORM N8053AA	Parker Hannifin (Denison) HF-0, HF-1, HF-2	А	А	А	-	-	-
Rexnord Falk Class A,F,J, PlanetgearAAARexnord Falk Class D,G,Y, Link Belt Model RAAAASAE MS1004-HMMMMMMSMS Group SN 180-2AAA-AAUS Steel 126, 127-MMMVickers (Eaton) 35VQ25AAAAAWALDRICH SIEGEN Lubricants for machine toolsAAAA	Parker Hannifin (Denison) T6H20C	М	-	-	-	-	-
Rexnord Falk Class D,G,Y, Link Belt Model RAAASAE MS1004-HMMMMMMSMS Group SN 180-2AA-A-A-US Steel 126, 127-MMVickers (Eaton) 35VQ25AAAAVickers (Eaton) I-286-S, M-2950-SMMMWALDRICH SIEGEN Lubricants for machine toolsAAA	PEKRUN WERKNORM N8053	А	-	-	-	-	-
SAE MS1004-HMMMMMMSMS Group SN 180-2AAA-A-AUS Steel 126, 127-MMA<	Rexnord Falk Class A,F,J, Planetgear	-	-	А	А	А	А
SMS Group SN 180-2AAA-A-AUS Steel 126, 127MM <t< td=""><td>Rexnord Falk Class D,G,Y, Link Belt Model R</td><td>-</td><td>-</td><td>А</td><td>А</td><td>А</td><td>А</td></t<>	Rexnord Falk Class D,G,Y, Link Belt Model R	-	-	А	А	А	А
US Steel 126, 127-MMVickers (Eaton) 35VQ25AAAAVickers (Eaton) I-286-S, M-2950-SMMMWALDRICH SIEGEN Lubricants for machine toolsAAA	SAE MS1004-HM	М	М	М	М	-	-
Vickers (Eaton) 35VQ25AAAAAVickers (Eaton) I-286-S, M-2950-SMMMWALDRICH SIEGEN Lubricants for machine toolsAAA	SMS Group SN 180-2	А	А	-	А	-	-
Vickers (Eaton) I-286-S, M-2950-SMMMWALDRICH SIEGEN Lubricants for machine toolsAAA	US Steel 126, 127	-	М	М	-	-	-
WALDRICH SIEGEN Lubricants for machine tools A A	Vickers (Eaton) 35VQ25A	А	А	А	-	-	-
	Vickers (Eaton) I-286-S, M-2950-S	М	М	М	-	-	-
ZF TE-ML 04K A	WALDRICH SIEGEN Lubricants for machine tools	А	А	А	-	-	-
	ZF TE-ML 04K	А	А	-	-	-	-

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Typical test data

RANDO [®] HD										
ISO Viscosity Grade	32	46	68	100	220	320				
Product Code	520210	520211	520212	520213	520215	520220				
Viscosity, Kinematic										
mm²/s at 40°C mm²/s at 100°C	32.4 5.4	46.0 6.8	68 8.9	100 10.8	220 19	304 23.4				
Viscosity Index	110	110	110	97	97	96				
Density at 15kg/L	0.86	0.8700	0.87	0.8730	0.8878	0.8951				
Flash Point, °C	216	238	240	240	274	277				
Pour Point, °C	-33	-33	-30	-21	-12	-12				
FZG Fail Load Stage	12	12	12	12	12	12				
Air Release at 50°C, min	1.1	2	3.5	12	-	-				
Oxidation Stability(TOST)	>5000	>4500	>4500	>2000	>1000	>1000				

ENVIRONMENT, HEALTH, and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions, and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the Product Information Center.

This Product Data Sheet (PDS) was produced for the Africa, Middle East and Pakistan region in good faith from the best information available at the time of issue. The specific information included may not directly reflect the local market or conditions. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. For the most up-to-date, country-specific information, please contact your local customer service center.

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