



Rando HDZ

Proven performance multi-viscosity hydraulic fluids

Product description

Rando® HDZ are proven performance multi-viscosity hydraulic fluids formulated with premium Group II base oil technology. As hydraulic pressures increase to over 1000 psi, the need for anti-wear protection increases. Rando HDZ is designed for robust wear protection where surge pressures can increase metal-to-metal contact in vane, piston, and gear-type pumps.

Rando HDZ offers reliable corrosion protection, durable oxidation resistance, foam and aeration suppression as well as dependable shear stable viscosity index improver performance, helping maintain optimum system protection.

In field performance demonstrations, Rando HDZ oils provided up to 3.4% improvement in overall hydraulic pump efficiency when compared to a typical conventional hydraulic oil (a lower VI product with VI<105).

Customer benefits

- Formulated with premium Group II base oils and shear stable viscosity modifier helps minimise viscosity change in temperature window.
- Anti-wear additives offer protection when load causes oil film breakdown helps reduce abrasive wear.
- Effective rust and corrosion inhibitors offer robust protection against steel and copper corrosion.
- Hydrolytic stability and oil oxidation inhibitors reduce oil thickening and deposit formation, improving filterability.

Product highlights

- **Helps minimise viscosity change in temperature window**
- **Formulated to reduce abrasive wear**
- **Offers steel and copper corrosion protection**
- **Promotes deposit resistance, improving filterability**

Selected specification standards include:

ANSI/AGMA	Arburg
ASTM	Bosch Rexroth
DIN	Eaton
Fives Cincinnati	Frank Mohn
ISO	JCMAS
MAN Truck & Bus	Parker Hannifin
SAE	US Steel
Volvo	ZF

Applications

- Industrial hydraulic equipment subject to wide variation in temperatures
- Hydraulics in mobile, construction and agricultural equipment where water separating oil is required
- Hydraulic systems with vane, gear or piston pumps
- Fork-lift trucks in refrigerated areas
- Plastic injection moulding machines
- Marine deck equipment, steering gears, thrusters and automatic controls
- Machine tools
- Enclosed gear systems (dependent on load)

ISO Grade	15	22	32	46	68	100
High performance industrial applications where pressures may exceed 5000 psi			X	X	X	
Lightly loaded reciprocating compressors			X	X	X	
Hydraulic equipment reduction gears where EP is not required						X
Plain and antifriction bearings						X
Circulating oil systems						X
Applications where AGMA rust and oxidation inhibited oils are required						X

Approvals, performance and suitable for use

ISO Grade	15	22	32	46	68	100
Arburg Injection Moulding				A		
Bosch Rexroth RDE 90245			A	A	A	
Bosch Rexroth RA & RE 90220a, 90221a			M	M	M	
Eaton (Vickers) 35VQ25A (Pump Test) I-286-S (Stationary) M-2950-S (Mobile)			M	M	M	
Fives Cincinnati (formerly MAG Cincinnati, Cincinnati Machine, Cincinnati Milacron)			M p-68	M P-70	M p-69	
Frank Mohn, (Framo) hydraulic cargo pumping				A		
MAN Truck & Bus OEM Engine Specifications	A					
Parker Hannifin (Denison) HF-0, HF-1, HF-2			A	A	A	
ZF TE-ML 04R			A	A		
Volvo 98608			M	M	M	
Volvo 98611			A	A	A	
ANSI/AGMA 9005-E02, 9005-F16 R&O			M	M	M	M
ASTM D6158 HM, HV	M	M	M	M	M	M
DIN 51524-2 HLP, 51524-3 HVLP	M	M	M	M	M	M
ISO 11158 L-HM, L-HV	M	M	M	M	M	M
JCMAS HK VG 32, 46			M	M		
SAE MS1004-HM, HV		M	M	M	M	M
US Steel (AIST) 126,127			M	M	M	

a: Obsolete specification

A: Approved

M: Performance

Product maintenance and handling

Avoid any spillage of used and unused product to the environment. Product residue and package/container should be disposed of in dedicated collection points.

Refer to the service manual of the equipment to ensure that the minimum fluid viscosity requirements are met at the highest operating temperature. Please consult with your equipment manufacturer if equipment is operating outside normal operating conditions.

Do not use in high pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

Typical test data				
Test	Test methods	Results		
Viscosity Grade		15	22	32
Shelf Life: 60 months from date of filling indicated on the product label.				
Kinematic viscosity at 40°C, mm ² /s	ASTM D445	15	22	32
Kinematic viscosity at 100°C, mm ² /s	ASTM D445	3.89	5.0	6.45
Viscosity Index	ASTM D2270	159	170	151
Flash Point COC, °C	ASTM D92	160	166	216
Pour Point, °C	ASTM D97	-57	-39	-42
Density at 15°C, kg/l	ASTM D4052	0.855	0.859	0.867
Copper corrosion (3 h, 100 °C)	ASTM D130	1A	1A	1A
Foam Seq. II (after blowing), ml	ASTM D892	10	10	10
Foam Seq. II (after 10' standing), ml	ASTM D892	0	0	0

Typical test data				
Test	Test methods	Results		
Viscosity Grade		46	68	100
Shelf Life: 60 months from date of filling indicated on the product label.				
Kinematic viscosity at 40°C, mm ² /s	ASTM D445	46	68	100
Kinematic viscosity at 100°C, mm ² /s	ASTM D445	8.16	11.0	14.0
Viscosity Index	ASTM D2270	154	152	150
Flash Point COC, °C	ASTM D92	228	230	246
Pour Point, °C	ASTM D97	-42	-42	-42
Density at 15°C, kg/l	ASTM D4052	0.874	0.880	0.884
Copper corrosion (3 h, 100 °C)	ASTM D130	1A	1A	1A
Foam Seq. II (after blowing), ml	ASTM D892	10	10	10
Foam Seq. II (after 10' standing), ml	ASTM D892	0	0	0

The typical test data set out above does not constitute a specification. It is indicative only and can be affected by allowable production tolerances. Chevron may modify this test data. Modified data will supersede all previous data, so please ensure you refer to the latest version of this Product Data Sheet (PDS).

Disclaimer: Data provided in this Product Data Sheet (PDS) is based on standard tests under laboratory conditions and is indicative only. This product should not be used for any purpose other than those expressly set out in this PDS. The user has sole responsibility for verifying that this product is suitable for the user's intended application. Neither Chevron nor its subsidiaries (i) make any warranty or representation as to the accuracy or completeness of this PDS; and/or (ii) accept liability for any loss or damage suffered as a result of the use of this product other than in accordance with the terms of this PDS.

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

When disposing of used product, take care to protect the environment and follow local legislation. Safety Data Sheets (SDS's) are available for all Chevron products. If you require a SDS or any further information regarding a Chevron product, please contact your local sales office or see www.texacolubricants.com.

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