



# RANDO<sup>®</sup> HD PREMIUM OIL MV ISOCLEAN<sup>®</sup> CERTIFIED LUBRICANT

## PRODUCT DESCRIPTION

Rando<sup>®</sup> HD Premium Oil MV ISOCLEAN<sup>®</sup> Certified Lubricant is a versatile multiviscosity lubricant designed to give robust protection to hydraulic pumps. Chevron ISOCLEAN Certified Lubricants have been certified to meet specified ISO Cleanliness standards at point of delivery using industry leading filtration and testing technology. ISOCLEAN Certified products are the first step for contamination control and maximizing component life.



- **Seal conditioning** — For long seal life and leak resistance.
- **Excellent antiwear properties** — Provides excellent wear protection.
- **Good stability** in the presence of water in the ASTM D2619 Hydrolytic Stability Test.
- **Fast water separation and excellent demulsibility** — Protects against rust problems by fast release of water.
- **Good filterability** — Excellent thermal and hydrolytic stability help prevent formation of deposits which may interfere with filtration in equipment having close tolerances.

## CUSTOMER BENEFITS

Rando HD Premium Oil MV ISOCLEAN Certified Lubricant delivers value through:

- **Ready to use** — Enables users to meet stringent original equipment manufacturers' cleanliness standards for fill lubricants.
- **Flexibility** — ISO Cleanliness targets can be customized to fit your business application needs.
- **Peace of mind** — Each delivery of Chevron ISOCLEAN Certified Lubricant includes an ISOCLEAN Certificate of Analysis.
- **OE fluid cleanliness requirements** — Customized to meet specific equipment manufacturers' fluid cleanliness requirements.
- **High oxidation stability** — Long service life in high pressure service.
- **Excellent protection against rust and corrosion** — Gives excellent protection against corrosion of both copper and steel. Passes the ASTM D665A distilled water rust test and ASTM D665B salt water rust test.
- **High viscosity index** — Minimum change in viscosity over wide operating temperatures.
- **Foam inhibition** — Contains special foam suppressant.

Product(s) manufactured in the USA.

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.

A **Chevron** company product

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IO-172 ISOCLEAN

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## FEATURES

The multiviscosity feature of Rando HD Premium Oil MV ISOCLEAN Certified Lubricant promotes even and continuous power transmission over a wide temperature range with a minimum of shudder.



Hydraulic systems, due to the nature of their operation, experience accelerated wear unless they are protected by clean, high quality antiwear hydraulic oils.

Surging pressures in pumps and valves can increase metal-to-metal contact unless antiwear protection is present. The antiwear additives in Rando HD Premium Oil MV ISOCLEAN Certified Lubricant plate out on the metal surfaces and minimize the metal-to-metal contact that is most severe in vane-, piston-, and gear-type pumps.

As hydraulic pressures increase over 1000 psi, the need for antiwear protection increases proportionally.

In laboratory efficiency testing, Rando HD Premium Oil MV ISOCLEAN Certified Lubricant provided up to 4% improvement in overall hydraulic pump efficiency when compared to a typical monograde hydraulic oil like Hydraulic Oil AW (a lower VI product with VI<105).

## APPLICATIONS

Rando® HD Premium Oil MV ISOCLEAN® Certified Lubricant is recommended for hydraulic or circulating oil systems, including marine on-deck machinery, hydraulic actuated loading bins, or hydraulic equipment that require a wider operating temperature as compared to a single viscosity grade oil. 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.

Rando HD Premium Oil MV ISOCLEAN Certified Lubricant meets the requirements of:

- **ASTM** D6158, D6158 HV
- **Bosch Rexroth** former specification RE 90220-01
- **DIN** 51524-3, HVLP
- **ISO** 6743-4 HV
- **Fives Cincinnati** (formerly MAG Cincinnati, Cin Machine, Cin Milacron) P-68
- **Vickers** M-2950S, I-286

In a clean, dry environment, Rando HD Premium Oil MV ISOCLEAN Certified Lubricant typically meets a typical dielectric strength of 35 kV<sup>1</sup> (ASTM D877<sup>2</sup>).

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.

Consult with your Chevron Lubricant Representative or Chevron ISOCLEAN® Certified Lubricants Marketer to set specific ISO Cleanliness targets for your business application.

## TYPICAL TEST DATA

<i>Product Number</i>	278066
<i>SDS Number</i>	
<i>U.S.</i>	23695
<i>Mexico</i>	24839
<i>Colombia</i>	32615
ISO Grade	32
API Gravity	31.6
Viscosity, Kinematic	
cSt at 40°C	32.5
cSt at 100°C	6.9
Viscosity, Saybolt	
SUS at 100°F	164.9
SUS at 210°F	48.8
Viscosity Index	180
Flash Point, °C(°F)	190(374)
Pour Point, °C(°F)	-50(-58)
Brookfield Viscosity, ASTM	
D2983, cP at -20°C	1040
Brookfield Viscosity,	
ASTM D2983, cP at -30°C	3310
Brookfield Viscosity,	
ASTM D2983, cP at -40°C	14800

Minor variations in product typical test data are to be expected in normal manufacturing.

- 1 Dielectric strength value applies only to "point of manufacture" of packaged products produced at a Chevron manufacturing facility. (Does not apply to bulk packaging). The oil will quickly lose its high dielectric strength value when exposed to contamination and to very small amounts of moisture and water.
- 2 Industry standard test method for measuring kV values is not precise and test results can differ significantly.

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.