

HYRANDO ROBO

Super Clean Hydraulic Oil

To meet the need for improved productivity at less cost and with lower energy consumption, today's hydraulic devices and systems are operating at higher pressures, faster speeds, and higher levels of precision. In particular, the use of servo valves and other precision-controlled valves is growing rapidly. **HYRANDO ROBO** is a clean hydraulic fluid for use in hydraulic systems equipped with servo valves. It meets the contamination level of "-/16/13" or less according to ISO4406.

● SPECIAL FEATURES

1. Superb Cleanliness.

HYRANDO ROBO is a clean hydraulic oil with ISO cleanliness code "-/16/13" or less. It can be used in servo valves and a wide range of other precision hydraulic systems.

2. Long Life.

Thanks to its highly refined mineral base oil and its carefully selected blend of additives, **HYRANDO ROBO** provides outstanding stability for long periods of time.

3. Excellent Lubricity

In clean hydraulic systems, abrasive metallic particles from worn pump parts and other sources can

cause poor hydraulic performance, so the lubricity of the hydraulic oil is very important. **HYRANDO ROBO** has demonstrated its low wear level in vane pump tests and other evaluations, so it provides outstanding lubricity.

● APPLICATIONS

For all hydraulic devices that require a high level of cleanliness.

● CONTAINERS

200-liter drums

● TYPICAL PROPERTIES OF HYRANDO ROBO

Viscosity Grade		32	46	56
Color	(ASTM)	L0.5	L0.5	L0.5
Density	(15°C) g/cm ³	0.868	0.872	0.876
Kinematic Viscosity	(40°C) mm ² /s	31.7	45.1	56.0
	(100°C) mm ² /s	5.45	6.78	7.85
Viscosity Index		107	104	105
Flash Point	(COC) °C	234	242	252
Pour Point	°C	-25.0	-22.5	-20.0
Copper Corrosion	(100°C, 3h)	1	1	1
Rust Prevention	(artificial seawater, 24h)	No rust	No rust	No rust
Thermal Stability	(170°C, 24h)	Pass	Pass	Pass
Cleanliness Code	(ISO4406)	"-/16/13" or less	"-/16/13" or less	"-/16/13" or less

Note: 56 is a special viscosity grade, not a standard ISO viscosity grade.

Note: The typical properties may be changed without notice. (August 2020)



Handling Precautions

▼ Follow these precautions when handling this product.

Composition :	Base Oil, Additives
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements:	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Prevention	
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.