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# INDUSTRIAL R&O HYDRAULIC OIL

## INDUSTRIAL LUBRICANTS AND GREASES

### **EVOLUTIONARY PERFORMANCE™**

OEMs and systems continue to evolve. One brand has evolved right alongside today's equipment – MAG 1®. Only the most advanced industrial lubricants meet the difficult challenges of effectively balancing performance, strength and durability.

### **SUPERIOR PROTECTION**

MAG 1® Industrial R&O Hydraulic Oil has an outstanding rust/oxidation resistance, contains a metal passivator, demulsifier and anti-foam protection.

### **POWERFUL ANTI-FRICTION, ANTI-WEAR CHEMISTRY**

MAG 1® provides outstanding control of friction and wear. Advanced molecules bond together to create a wear-resistant shield that works to build barriers that reduce friction and wear.

### **WITHSTANDS THE MOST EXTREME CONDITIONS**

MAG 1® Anti-Wear Hydraulic Oils provide unsurpassed protection even in the harshest conditions to fight oxidation, separate air and water and improve filtration.

### **ANTI-WEAR HYDRAULIC OILS FEATURING FMX® TECHNOLOGY AND *EVOLUTIONARY PERFORMANCE™***

MAG 1® Industrial R&O Oils are specially engineered and formulated to provide:

#### **PERFORMANCE**

Extra protection for equipment life and reliability.

Excellent varnish control and cleanliness.

#### **STRENGTH**

Outstanding wear and corrosion protection.

#### **DURABILITY**

Long oil life.

Optimized maintenance cost and uptime.

### **TYPICAL PROPERTIES**

<b>Viscosity Grade</b>		<b>Ind R&amp;O ISO 32</b>	<b>Ind R&amp;O ISO 68</b>	<b>Ind R&amp;O ISO 100</b>	<b>Ind R&amp;O ISO 220</b>
Color	ASTM D1500	0.05	0.5	0.5	6.5
Flash Point °C	ASTM D92	207	-	-	-
Flash Point °F	ASTM D92	405	-	-	-
Gravity, °API	ASTM D287	32.63	30.81	29.94	28.31
Nitrogen, wt. %	ASTM D4629	0.0164	0.0164	0.0164	0.0164
Phosphorus, wt. %	ASTM D5185	0.003	0.003	0.003	0.003
Pour Point °C (°F)	ASTM D5950	-33°C (-27°F)	-33°C (-27°F)	-33°C (-27°F)	-21°C (-6°F)
Specific Gravity @ 60°F (15.6°C)	ASTM D4052	0.8621	0.8718	0.8765	0.8854
Sulfated Ash, wt. %	ASTM D874	0	0	0	0

Sulfur, wt. %	ASTM D4951	0.011	0.011	0.011	0.011
Viscosity @ 100°C cSt	ASTM D445	5.565	8.89	11.4	18.95
Viscosity @ 40°C cSt	ASTM D445	32.38	68.92	101.9	218.7
Viscosity Index	ASTM D2270	109	102	106	98

#### INDUSTRY/OEM APPROVALS

<b>Title</b>	<b>Ind R&amp;O ISO 32</b>	<b>Ind R&amp;O ISO 68</b>	<b>Ind R&amp;O ISO 100</b>	<b>Ind R&amp;O ISO 220</b>
AFNOR E-48600 HL	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
British Standard 489	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
Cincinnati Machine/Milacron P- 38	Suitable for Use	-	-	-
Denison HF-1	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
DIN 51515 Part 1, Part 2	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
DIN 51524, Part 1	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
General Electric GEK- 32568F, GEK107395	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
MIL-L-17672C	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
Solar Turbines ES 9- 224	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
U.S. Steel 126	Suitable for Use	Suitable for Use	Suitable for Use	Suitable for Use
Alstom HTGD 90117	-	Suitable for Use	Suitable for Use	Suitable for Use
Cincinnati Machine/Milacron P- 54	-	Suitable for Use	-	-

Information accurate as of June 6, 2020