



# MAK HYDROL XHD

Industrial extra heavy duty hydraulic fluid for excellent protection and long life

MAK Hydrol XHD oil is a high performance premium quality hydraulic oil. It is blended from highly refined, high viscosity index Group II plus base oils with a special ashless additive system. This oil is designed to operate over a wide range of working conditions including low load and severe high load conditions. It provides outstanding protection and performance in manufacturing and other mobile hydraulic systems. Formulated for excellent water separation, exceptional hydrolytic stability and anti-foam characteristics this oil allows efficient operation of the system. Superior moisture handling capability ensures longer life and reduces the risk of rusting and corrosion. This product is specially designed to offer higher load carrying capability, improved resistance to oxidation and thermal stress over conventional hydraulic oils available in the market. MAK Hydrol XHD oil is compatible with seal materials and paints normally specified for use in hydraulic systems with mineral oils.

**Grades:** MAK Hydrol XHD is available in the following ISO VG grade – **68**.

**Applications:**

MAK Hydrol XHD is recommended for high pressure hydraulic power systems and a wide variety of circulation systems of modern industrial and mobile applications where there is a demand for additional wear protection and long service life. It is suitable for precision hydraulic systems requiring very high control of fluid viscosity like high performance electro-hydraulic or numerically controlled systems particularly where close clearance servo-valves are used. This oil is also used in general manufacturing, power and metal equipment operating at high speeds, loads and temperatures like presses, injection moulding, machine tools etc. These oils are also recommended for the lubrication of rotors, bearings, gears in rotary compressors like screw and vane type.

**Performance/ Benefits:**

**Outstanding Oxidation Stability** – designed for a minimum 5000 hrs. TOST life as per ASTM D 943. Offers outstanding resistance to the effects of oxidising agents. Resists sludge and deposit formation. Minimises filter choking. Ensures longer operating life, less maintenance and reduction in operating cost.

**Superior Hydrolytic Stability** – resists water absorption and chemical decomposition of the oil in the presence of water. Protects from acid corrosion, rusting and allows longer oil life.

**Excellent Wear Protection** – excellent protection to the pump, valve and other system components by the ashless additives. Operates on a wide range of load conditions – moderate to severe.

**Good Thermal Stability** – provides good resistance to thermal break down and capability to work under varied ambient and operating temperatures to offer optimum life and performance.

**Anti-foam Characteristics** – allows precision control, high pump pressures and efficient power transfer.

**Increased System Reliability** – by resisting thermal and chemical break down of the oil these oils minimise the risk of formation of the harmful sludge and deposit.

**Specification:**

- 11<sup>th</sup> FLS FZG-Niemann EP Test
- IS 11656:1986 (Reaffirmed 2013)
- Denison HF-0
- DIN 51524 Part 2 HLP type

**Typical Physico-Chemical Data: MAK Hydrol XHD**

Characteristics	Method	Value
Appearance	Visual	Clear
Density, g/cc @15°C	ASTM D1298	0.850
Kinematic Viscosity @40°C, cSt	ASTM D445	68.5
Kinematic Viscosity @100°C, cSt	ASTM D445	9.3
Viscosity Index	ASTM D2270	115
Flash Point, COC, °C	ASTM D92	246
Pour Point, °C	ASTM D97	-18
Copper Corrosion, 100°C, 3 hrs.	ASTM D130	1a
Foaming Characteristics/ Stability Sequence I/ II/ III	ASTM D892	NIL
Demulsibility (ml-mins)	ASTM D1401	40-40-0 (20)
FZG Rating, FLS	ASTM D5182	11
Rust test	ASTM D665	Pass



**Storage & Handling:**

The product should be stored inside. Keep it properly sealed to avoid contamination. Avoid freezing. Shelf life is 5 yrs. under protected storage conditions.

**Health & Safety:**

They are unlikely to be hazardous when properly used in recommended applications. Contamination of the oil from other oils, greases, chemicals, dirty water etc. can occur during the use. It should be avoided. Regular monitoring of the in-use product is recommended.

**Viscosity - Temperature Chart for MAK Hydrol XHD**

