



MAK HYDROL TQ 32

Premium ashless hydraulic fluid for torque converter

MAK Hydrol TQ 32 is a high performance premium quality ashless hydraulic oils. It is blended from highly refined, high viscosity index Group II plus base stocks with carefully selected ashless (Zinc-free) antiwear additive and shear stable viscosity modifier. This oil is designed to operate over a wide range of working conditions including wide load fluctuation, varied temperature conditions and in exposed environment. It possesses high FZG rating and provide outstanding protection and performance. Outstanding oxidation and thermal stability offer long oil life, a high degree of protection and minimised deposit formation. MAK Hydrol TQ 32 is formulated for excellent water separation, exceptional hydrolytic stability, anti-foam characteristics and cleanliness and allow efficient operation of the system. Superior moisture handling capability ensures longer life and reduces the risk of rusting and corrosion. MAK Hydrol TQ 32 oil is compatible with seal materials and paints normally specified for use in hydraulic systems with mineral oils.

Applications:

MAK Hydrol TQ 32 is recommended for use in Turbo and hydraulic transmission systems, Torque Converters and Fluid Couplings which operate at high speeds and high loads conditions. MAK Hydrol TQ 32 is specially developed for use in transmission systems of DHMU locomotives of Indian Railways. This oil should not be mixed with hydraulic oils with Zinc additive.

Performance/ Benefits:

Excellent Wear Protection – excellent protection to the pump, valve and other system components by the advanced zinc-free additive. EP property helps to operate on a wide range of load conditions – moderate to severe.

Outstanding Oxidation Stability – outstanding resistance to the effects of oxidising agents. Resists sludge and deposit formation. Minimises filter choking and valve sticking. Ensures longer operating life, less maintenance and reduction in operating cost.

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

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.

Resistance to Foaming – allows precision control, high pump pressures and efficient power transfer.

Long Fluid Life – offers improved capability to extend fluid maintenance period and hence reduces equipment downtime.

Rapid Air Release – ensures release of entrapped air from oil to offer superior performance of the control mechanism in the system.

Excellent Demulsibility – the rate of water separation from oil is very high. Increases system efficiency and reliability.

Increased System Efficiency – by resisting thermal and chemical break down, maintaining filterability, cleanliness, excellent water separation and anti-foam characteristics of the oil these oil help to maintain system efficiency and reliability.

Specification:

- 3.90 – 8A of Voith Getriebe, Germany
- 11th FLS FZG-Niemann EP Test

Typical Physico-Chemical Data: MAK Hydrol TQ 32

Characteristics	Method	Value
Appearance	Visual	Clear & Bright
Density, g/cc @15°C	ASTM D 1298	0.856
Kinematic Viscosity @40°C, cSt	ASTM D445	32.5
Kinematic Viscosity @100°C, cSt	ASTM D445	5.69
Viscosity Index	ASTM D2270	116
Flash Point, (COC), °C	ASTM D92	234
Pour Point, °C	ASTM D97	-21
Copper Corrosion, 100°C, 3 hrs.	ASTM D130	1b
Foaming/ Stability, ml Sequence I/ II/ III	ASTM D892	NIL
Demulsibility (ml-mins)	ASTM D1401	15
FZG Rating, FLS	ASTM D5182	11

**Approvals:**

MAK Hydrol TQ 32 is approved by Voith for use in Voith Turbo Transmissions T211rz.

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 vs. Temperature Chart for MAK Hydrol TQ 32

