



Gulf Harmony ZF Super Clean

*High performance ashless super clean anti-wear
hydraulic oil*

Product Description

Gulf Harmony ZF Super Clean series are high performance ashless anti-wear hydraulic oils developed to provide excellent performance in hydraulic systems operating under moderate to severe conditions requiring super clean oils. They are formulated with an advanced ashless anti-wear technology and select base oils to provide reduced environmental impact in case of an accidental release into the environment. They exhibit excellent anti-wear property, thermo-oxidative stability, foam control and water separation properties. They are available in ISO 22 through ISO 100 viscosity grades and exceed the performance requirements of global industry standards viz. DIN 51524 Part 2-HLP, AFNOR NFE 48-603-HM & ISO 11158 HM and majority of the international OEMs viz. Denison, FIVES CINCINNATI (Former MAG IAS, LLC) & Eaton (Vickers).

Features & Benefits

- Excellent thermo-oxidative stability controls the formation of sludge & varnish and improves oil life
- Exceptional anti-wear property results in longer pump and component life and reduces costs
- Superior demulsibility helps in faster separation of water from oil and resists formation of emulsions
- Advanced ashless additive technology reduces environmental impact in case of accidental spillage
- Ensures smooth operation of hydraulic systems employing close clearance servo valves
- Special rust & corrosion inhibitors protect multi-metallurgy components even in presence of moisture
- Rapid air release property minimises chances of pump cavitation leading to trouble free operations
- Compatible with multi-metals and sealing materials commonly used in hydraulic systems

Applications

- Hydraulic systems operating under moderate to severe conditions and requiring super clean oils and also suitable for environmentally sensitive applications
- Mobile hydraulic fluid power transmission systems and general machine lubrication
- Older design hydraulic pumps containing silver or silver-plated parts

Specifications, Approvals & Typical Properties

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Properties mentioned are typical only and minor variations, which do not affect product performance, are expected to arise in normal manufacturing processes. Please follow equipment manufacturer's recommendations for performance level and viscosity grade. The Safety Data Sheet for this product is available from your nearest Gulf Distributor. Please consult our local representative if any further information is required.

The information contained herein is believed to be correct at the time of publication and may be subject to modification from time to time. It is the user's responsibility to verify that this data sheet is current prior to using the product. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

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ISO Viscosity grades	22	32	46	68	100	
Meet the following Specifications						
DIN 51524 Part 2-HLP	X	X	X	X	X	
AFNOR NFE 48-603-HM, ISO 11158 HM	X	X	X	X	X	
Denison HF-0, HF-1, HF-2		X	X	X		
FIVES CINCINNATI (Former MAG IAS, LLC)		P-68	P-70	P-69		
Eaton (Vickers) M-2950-S, I-286-S		X	X	X		
Typical Properties						
Test Parameters	ASTM Method	Typical Values				
Viscosity @ 40 °C, cSt	D 445	22.2	31.2	45.9	68.3	98.3
Viscosity Index	D 2270	98	100	100	99	97
Flash Point, °C	D 92	186	202	210	218	230
Pour Point, °C	D 97	-24	-24	-24	-24	-12
Density @ 15°C, Kg/l	D 1298	0.865	0.87	0.874	0.881	0.886
Rust Test	D 665A/B	Pass	Pass	Pass	Pass	Pass
Emulsion Test 30 minutes max	D 1401	@ 54 oC	Pass	Pass	Pass	Pass
		@ 82 oC	-	-	-	Pass
Foam Test, foam after 10 minutes of settling for all sequences	D 892	Nil	Nil	Nil	Nil	Nil
Turbine Oil Stability Test, hrs	D 943	2000+	3000+	2500+	2000+	
FZG, fail load stage, minimum	DIN 51354 Part II	-	11	11	11	11
Cleanliness level (at filling stage)	NAS 1638	6	6	6	6	6

April 2022

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