



## **Gulf Harmony ZF-HVI**

*Premium quality ashless high viscosity index hydraulic oil  
for extreme temperature ranges*

### **Product Description**

**Gulf Harmony ZF-HVI** series are premium quality ashless anti-wear hydraulic oils specially developed for modern hydraulic systems, using high pressure high output pumps, subjected to wide range of temperature or where small viscosity change with fluctuating temperature is needed. They are formulated with high quality paraffinic base oils, a highly shear stable polymer and an advanced ash-less additive system to provide reduced environmental impact in case of spillage. These oils provide excellent protection against oxidation degradation, rust & corrosion and wear. They exceed the performance requirements of global industry standards viz. DIN 51524 Part 3 HVLP, ISO 11158 HV, etc and majority of the international OEMs viz. Poclain, Hitachi, MAG IAS LLC , Eaton and Denison.

### **Features & Benefits**

- Exceptional anti-wear property results in longer component life reducing cost
- Extremely high viscosity index assures equipment protection at cold start-up temperatures as well as at high operating temperatures
- Excellent shear stability minimises viscosity loss over time and exhibits “stay-in-grade” performance under high shear conditions
- Excellent thermo-oxidative stability controls the formation of sludge & varnish and improves oil life
- 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
- 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 most sealing materials used in hydraulic systems

### **Applications**

- Hydraulic and power transmission systems operating under high pressures and subjected to a wide range of ambient & operating temperatures
- Critical high accuracy industrial hydraulic systems
- Hydraulic systems of excavators, cranes and hydrostatic drives subjected to most severe outdoor operating conditions

Properties mentioned above are typical only and minor variations, which do not affect the product performances, are to be expected in normal manufacturing. The above information is based on past history of the grade only and must not be construed as a guarantee of performance. Follow equipment manufacturer's recommendations for performance level and viscosity grade. The Material Safety Data Sheet for this product is available from your nearest Gulf Distributor.

**Gulf Oil International**

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## Specifications, Approvals & Typical Properties

ISO Viscosity grades		32	46
<b>Meet the following Specifications</b>			
DIN 51524 Part 3 HVLP, AFNOR NFE 48-603, (HV) ISO 11158 HV		X	X
Denison HF-0, HF-1, HF-2, Eaton (Vickers) M-2950-S and I-286-S		X	X
MAG IAS, LLC (formerly Cincinnati Lamb)		P-68	P-70
Poclair			
Hitachi			X
<b>Typical Properties</b>			
<b>Test Parameters</b>	<b>ASTM</b>	<b>Test Values</b>	
Viscosity @ 40 °C, cSt	D 445	32.4	46.7
Viscosity Index	D 2270	145	144
Flash Point, °C	D 92	210	218
Pour Point, °C	D 97	-36	-36
Density @ 15°C, Kg/l	D 1298	0.869	0.874
Rust Test	D 665A/B	Pass	Pass
Emulsion Test 30 minutes max	@ 54 °C	Pass	Pass
	@ 82 °C	-	-
Foam Stability in all three sequences, ml	D 892	Nil	Nil
Turbine Oil Stability Test, hrs	D 943	-	3000+
FZG, fail load stage, minimum	DIN 51354 Part II	-	11

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