



# FLUID HVI

## Supreme Quality High Viscosity Index Hydraulic Oils

### Product Overview

FLUID HVI Series are supreme quality anti-wear hydraulic oils specially developed for applications subjected to wide range of temperature or where small viscosity change with fluctuating temperature is needed. They are formulated with high quality base oils, a highly shear stable polymer and an advanced additive system to meet the stringent requirements of modern hydraulic systems using high pressure high output pumps and critical requirement of other hydraulic system components such as high accuracy numerically controlled machine tools and those employing close clearance servo valves.

Their outstanding thermo-oxidative stability and low & high temperature performance allows for extended service life. They provide excellent anti-wear property, rust & corrosion protection, water separation & air-release properties and hydrolytic stability to reduce breakdowns and help improve production capacity. They are available in ISO viscosity grades 15 through 150 and exceed the performance requirements of global industry standards: DIN 51524 Part 3 HVLP, AFNOR NFE 48-603 (HV) & ISO 11158 HV and majority of the international OEMs such as GM, Cincinnati Lamb, Eaton (Vickers) and Denison.

### Benefits

- Outstanding thermo-oxidative stability reduces deposit formation, improves pump & valve performance and allows extension of oil and filter change intervals.
- Extremely high viscosity index assures equipment protection at cold start-up temperatures and protects system components at high operating temperature.
- Exceptional anti-wear property results in fewer breakdowns, longer pump life and reduced maintenance costs.
- Excellent shear stability minimises viscosity loss over time and exhibits "stay-in-grade" performance under high shear conditions.
- Excellent demulsibility helps in faster separation of water from oil and resists formation of emulsions.
- Special rust & corrosion inhibitors protect multi-metallurgy components against negative effects of moisture presence in the system.
- Rapid air release property minimises chances of pump cavitation and thus prevents component damage, reduces vibration and maintains efficiency especially in modern hydraulic systems where sump sizes are becoming smaller
- Offers long term hydrolytic stability and yellow metal compatibility in presence of water
- Compatible with multi-metals and sealing materials commonly used in hydraulic systems

### Applications

- Hydraulic and power transmission systems subjected to a wide range of ambient & operating temperatures
- Applications requiring extended oil change intervals
- Critical hydraulic systems such as high accuracy numerically controlled machine tools and those employing close clearance servo valves
- Hydraulic systems of excavators, cranes and hydrostatic drives subjected to most severe outdoor operating conditions
- Hydraulic systems operating under high pressures and requiring high degree of load carrying capability and anti-wear protection

### Health and Safety

This lubricant is unlikely to produce any significant health or safety hazard when used in the application it has been designed for and according to the recommendations provided in the Material Safety Data Sheet. MSDS are available upon request through your sales advisor.

When disposing of used oil, please observe all current regulations and protect the environment.

## FLUID HVI SERIES

### Meets or exceeds the following industry Specifications

Grade	15	22	32	46	68	100	150
DIN 51524 Part 2 (HLP) and Part 3 (HVLP)	✓	✓	✓	✓	✓	✓	✓
AFNOR NF E 48-603 (HM & HV)		✓	✓	✓	✓		
ISO 11158 category (HM & HV)	✓	✓	✓	✓	✓	✓	✓
Denison HF-0, HF-1 & HF-2	✓	✓	✓	✓	✓		
Eaton 03-401-2010 Rev 1 (formerly named Eaton Brochure 694)	✓	✓	✓	✓	✓		
ASTM D 6158 type H M & HV		✓	✓	✓	✓	✓	
MIL-H-176 72D			✓	✓	✓		
Bosch Rexroth RDE 90220			✓	✓	✓		
Cincinnati Machine			P-68	P-70	P-69		
GM LS2			✓	✓	✓		

### Typical properties

Test parameters	Method							
Viscosity @ 40 °C, cSt	ASTM D 445	14.9	22.5	32.2	46.9	68.9	98.6	147.2
Viscosity Index	ASTM D 2270	152	151	144	145	148	135	152
Flash Point, °C	ASTM D 92	180	192	219	222	232	242	248
Pour Point, °C	ASTM D 97	-42	-42	-39	-33	-30	-27	-30
Density @ 15 °C, Kg/m3	ASTM D 1298	855	857	861	855	858	861	862
Rust Test	ASTM D 665A/B	Pass	Pass	Pass	Pass	Pass	Pass	Pass
FZG, Fail stage, minimum	DIN 51324		-	-	11	11	11	11

Above characteristics are mean values given as information. They do not constitute a specification.