



Product Data

Dual Range HV

High viscosity index anti-wear hydraulic oils

Description

Castrol Dual Range HV hydraulic fluids are exceptional multi-viscosity hydraulic fluids that provide proven anti-wear protection coupled with very shear-stable polymers and anti-foam additives for a balanced package.

Application

Castrol Dual Range HV hydraulic fluids have high viscosity indexes and low pour points. This ensures extra pump protection and efficiency in cold-weather starts and provides needed viscosity protection at higher-operating temperatures. These products are dyed purple to facilitate leak detection. High load performance provides the extra measure of protection required in high-load applications such as hydrostatic transmissions and high speed, high pressure hydraulic circuits.

Exceeds all manufacturer's warranty requirements for applications requiring a Dennison HF-O approved hydraulic fluid.

Industry Specifications and OEM Approvals by Grade

- Denison HF-O, HF-1, HF-2 Approved
- Vickers 35VQ25A - meets performance requirements
- Vickers M-2950-S Mobile Hydraulic Systems and I-286-S Industrial Hydraulic Systems
- Cincinnati Machine P-68 (ISO 32), P-70 (ISO 46) and P-69 (ISO 68) approved
- Meets Racine S106
- Meets Joy Mining Machinery HO-T (AW 46), HO-S (AW 68)
- Meets DIN 51524 Part I, II, III

Advantages

- Very shear stable polymers provide universal applications under a wide range of ambient conditions.
 - Excellent viscosity at operating temperatures (particularly under extreme conditions).
- Less wear promotes longer equipment life and better productivity through maximum hydraulic system efficiency.
- Excellent vane and piston pump performance that meets major hydraulic pump manufacturers' requirements.
 - Less failure of hydraulic circuits.
 - Less equipment repair for long term trouble-free service
- Outstanding hydrolytic stability provides additional protection against corrosion in the presence of water. Systems operate more efficiently, while reducing maintenance costs.
- Exceptional oxidation and thermal stability provides resistant to thermal degradation in the presence of entrained air and catalyzing metals.
 - Prevents the formation of sludge and varnish deposits during periods of extended high temperature operation.
- Resistant to the formation of oxidation acids allowing longer pump life, less wear, less down time

Typical Characteristics

Name	Method	Units	Dual Range 32	Dual Range 46	Dual Range 68	Dual Range 100
Appearance	Visual	-	Purple fluid	Purple fluid	Purple fluid	Purple fluid
ISO Viscosity Grade	-	-	32	46	68	100
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	g/ml	0.848	0.878	0.874	0.890
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	cSt	31.9	45.9	69.15	103.2
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	cSt	6.4	8.15	11.0	15.1
Viscosity Index	ISO 2909 / ASTM D2270	None	158	152	150	153
Pour Point	ISO 3016 / ASTM D97	°C/°F	-51/-60	-45/-49	-39/-38	-36/-33
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	210/410	232/450	240/464	251/484
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	mls/mls	20/0	20/0	20/0	20/0
Water Separation @ 54°C / 129°F (40/37/3)	ISO 6614 / ASTM D1401	minutes	6.5	20	20	-
Water Separation @ 82°C / 180°F (40/37/3)	ISO 6614 / ASTM D1401	minutes		-	-	6
Rust test - synthetic seawater (24 hrs)	ISO 7120 / ASTM D665B	Rating	Pass	Pass	Pass	Pass
Dielectric Breakdown Voltage	ASTM D877	KV/0.1 inch		35	-	-
FZG Gear Scuffing test A/8.3/90	ISO 14635-1	Failure Load Stage	11	12	12	12

Subject to usual manufacturing tolerances.

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