



NATIONAL™ ZINC FREE MULTI-VISCOSITY | Hydraulic Oils

Product Description

NATIONAL ZF HYDRAULIC MV OILS are designed for year round use and to give long service in high-output hydraulic systems operating in wide extremes of temperatures, particularly in environmentally sensitive locations due to their ashless (do not contain Zinc) Anti-Wear additive technology in combination with a very high shear stable Viscosity Index Improver. These high viscosity index (VI), low pour point and energy conserving formulas provide long oil life for fewer change-outs and reduces sludge and varnish deposits better than conventional anti-wear hydraulic fluids. These oils provide excellent wear protection and have good oxidation and thermal stability.

Industry and OEM Specifications¹

- Parker Denison HF-0 (HF-1 and HF-2 are included under the HF-0 designation)
- Eaton Vickers E-FDGN-TB002-E (this specification supersedes I-286-S and M-2950-S)
- DIN 51524 Part 2 and Part 3
- FIVES (formerly MAG, formerly Cincinnati Milacron) P-68, P-69, P-70
- ISO 11158 HV
- ASTM D6158-16
- Bosch Rexroth RE 90220

Features

- **Excellent water separation** (demulsibility) that facilitates water removal
- **Very low viscosity variation and quick start ups** thanks to the latest polymer technology that provides excellent low-temperature performance, and maintains precision of machinery when either hot, cold, or under high loads. Our VI improver is highly resistant to mechanical stress, the “stay-in-grade” characteristics ensure effective lubrication and long oil life
- **Zinc Free (ashless)** wear protection to reduce the negative impact of unavoidable water condensation in your machinery after shutdown
- **Reduce oil consumption** and improve equipment protection through outstanding shear and oxidation stability
- **Excellent filterability** minimizes the tendency to cause filter blockage
- **Fast air release and antifoam** properties minimize pump cavitation in systems with high circulation rate.

The product described above is designed for a specific use and may not be valid for other uses not specified in our specification sheet or in applications not requiring this specific product. Pinnacle Oil believes the information presented in this specification is accurate at the time written and is based upon internally generated information and information as presented by its vendors. No representation, warranty, or guarantee is made as to its accuracy or completeness. We do not accept any liability for any loss or damage that may occur from the use of this information.



Technical Data

(typical values)

ISO GRADE		32	46	68
Product Number		07-122832	07-122846	07-122868
SDS Number		S019	S019	S019
Viscosity @ 40°C, cSt	D445	32.88	47.16	62.77
Viscosity @ 100°C, cSt	D445	6.69	8.65	11.38
Viscosity Index	D2770	166	164	178
Specific Gravity @ 60°F, none	D1250	0.8582	0.8645	0.8679
Pour Point, °C	D5950	-54	-51	-42
Flash Point, °C	D92	220	227	242
Color ASTM	D1500	L0.5	L0.5	L0.5
Copper Corrosion, 3 hours at 100°C	D130	2a	2a	1b
Demulsibility	D1401	40-39-1 (10')	40-38-2 (10')	40-40-0 (15')
Oxidation Life ³ , hrs. to TAN = 2.0, minimum	D943	7,000	>10,000	>10,000
Rust, Procedures A & B, 24 hr	D665	PASS	PASS	PASS
Total Acid Number, mg KOH/g	D664	0.4	0.31	0.26
Dielectric Breakdown, kV2	D877	46	39	44

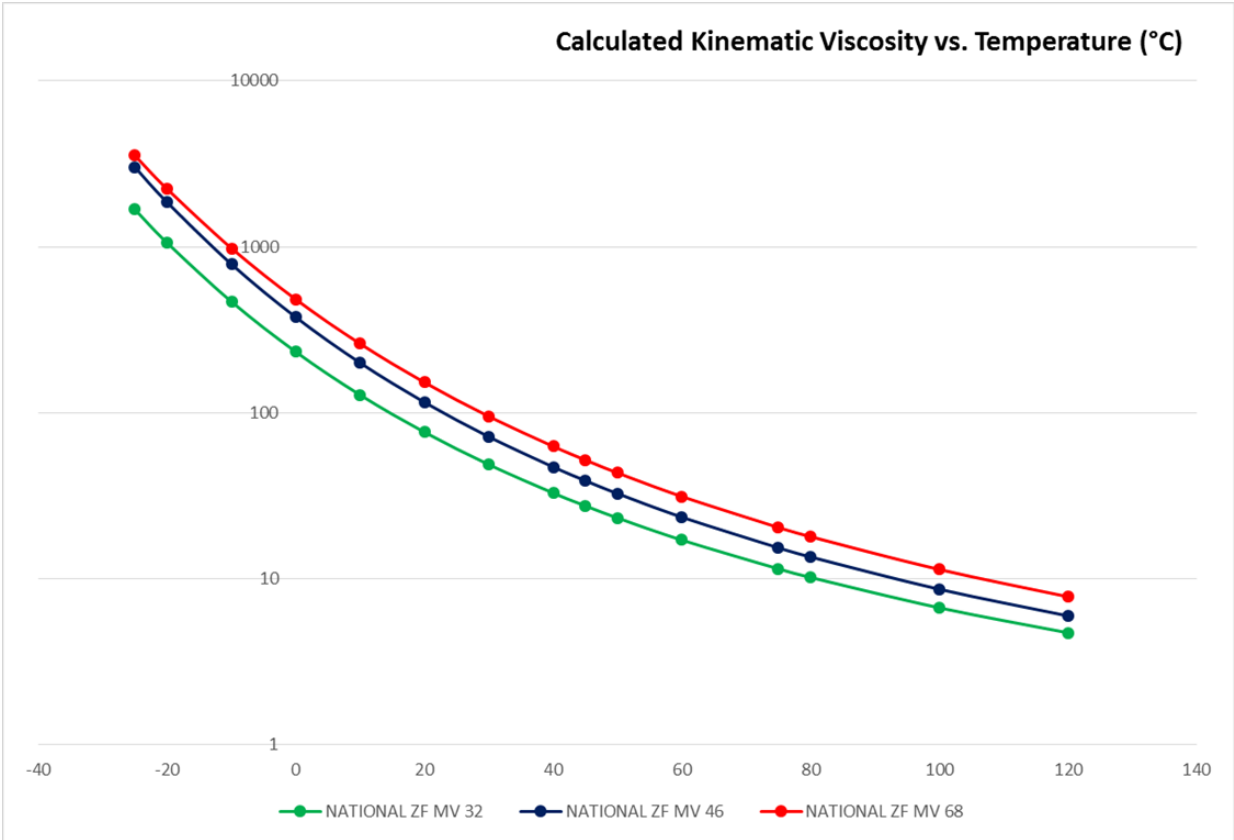
- 1) Consult your owner's manual regarding its suitability for use in equipment from other OEMs. These hydraulics perform in most equipment without concern for fluid-related harm.
- 2) Breakdown Voltage (Dielectric strength) values were measured at point of origin and they will decrease if the oil becomes contaminated with dirt or even a very small amount of water

The recommended shelf life for these oils is typically 24 months from manufacturing date when stored properly in the original sealed containers.

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