



## PRODUCT DATA SHEET

# NATIONAL™ ZF HYDRAULIC MV OILS

## Premium Zinc Free Anti-Wear Hydraulic Oils

### PRODUCT DESCRIPTION

NATIONAL™ ZF Hydraulic MV Oils are designed to give long service in high-output hydraulic systems. These oils are ashless (do not contain Zinc). They are blended using the latest of the Anti-Wear additive technology in combination with a very high shear stable Viscosity Index Improver. These oils have a high viscosity index (VI) and a low pour point for use over a wider temperature range than conventional anti-wear hydraulic fluids. These oils provide excellent wear protection and have good oxidation and thermal stability.

### 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<sup>2</sup> 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 rates

### INDUSTRY AND OEM APPLICATIONS<sup>1</sup>:

- ◆ 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<sup>3</sup>

D1020716

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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 that 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.



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### TECHNICAL DATA

*(typical values)*

ISO GRADE		32	46	68
Product Number		07-122832	07-122846	07-122868
SDS Number		S102	S102	S103
Viscosity @ 40°C, cSt	D445	34.70	48.60	65.66
Viscosity @ 100°C, cSt	D445	6.73	8.43	10.72
Viscosity Index	D2770	155	150	154
API Gravity	D1250	33.2	32.1	30.8
Pour Point, °C	D5950	-60	-51	-51
Color ASTM	D1500	L0.5	L0.5	L1.0
Copper Corrosion, 3 hours at 100°C	D130	2a	2a	1b
Demulsibility	D1401	PASS	PASS	PASS
Oxidation Life <sup>4</sup> , hrs. to TAN = 2.0, minimum	D943	7,000	>10,000	>10,000
Foam characteristics	D892	PASS	PASS	PASS
Total Acid Number, mg KOH/g	D664	0.40	0.31	0.26

- 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) DYNAVIS® technology
- 3) Obsolete
- 4) Typical values

The recommended shelf life for these oils is typically 18 months from manufacturing date when stored properly in the original sealed containers.

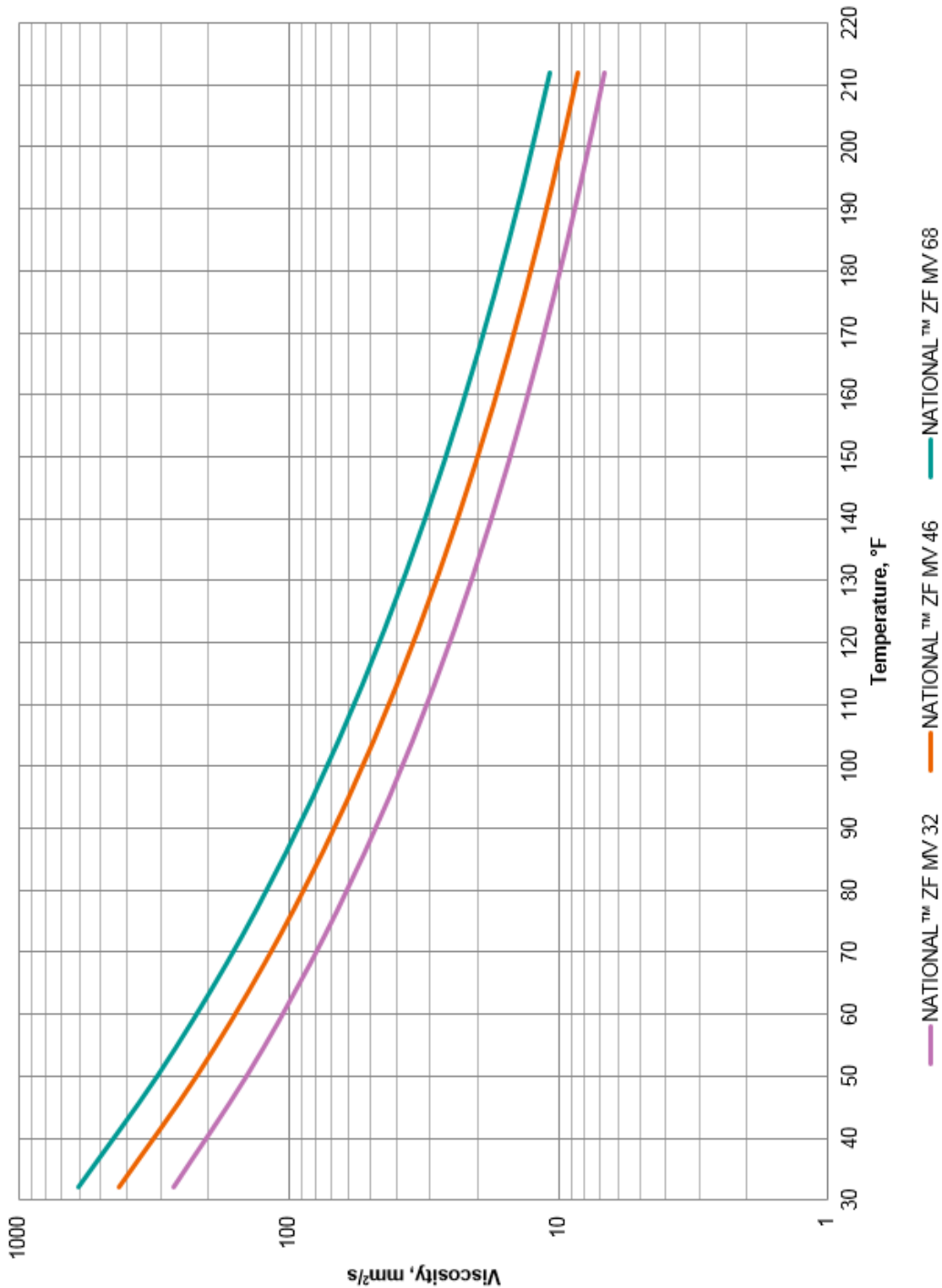
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