



**BLACKBEAR "W" SERIES HYDRAULIC OILS**

**OVERVIEW**

Superb anti-wear type hydraulic oil where anti-wear characteristics are desired and long trouble-free life is primary. BLACK BEAR SERIES "W" HYDRAULIC OILS are Exceptional, Turbine Quality hydraulic oils designed to significantly out-perform industry standard hydraulic oils. Formulated from high quality base stocks and double fortified with improved thermally stable performance additives, these oils will ensure long life protection in all types of hydraulic pumps and systems. BLACK BEAR SERIES "W" HYDRAULIC OILS' unique extra-active additive formulation virtually eliminates the formation of heat related sludging in sensitive electro hydraulic servos. The premium performance additives incorporated in these oils perform exceptionally well even in fine filtration systems. These oils also exhibit good hydrolytic stability in the presence of water and will not contribute to either the formation of metal etching acids or corrosive reactants. BLACK BEAR SERIES "W" HYDRAULIC OILS offer exceptional performance in any high output equipment where sustained heat is prevalent. The double compounding of performance additives give these oils optimum antiwear protection and outstanding ASTM D 943 Turbine Oxidation Test performance.

**SPECIFICATIONS**

For most hydraulic pumps such as Commercial Shear, Denison HF-0, Hydreco, Racine, Sundstrand-Sauer BLN-9987, Tyrone, Vickers high pressure 35VQ25 pump tests.

**MANUFACTURERS:**

- Vickers I-286-S, M-2950-S
- Racine, variable volume vane pumps
- DIN 51524, Part 2
- Jeffrey No. 87
- U.S. Steel 136, 127
- Commercial Hydraulics\*
- General Motors LH-04-1, LH-06-1, LH-15-1
- Denison HF-1, HF-2, BF-0
- Cincinnati Milacron P-68, P-69, P-70
- Lee - Norse 100-1
- Ford M-6C32
- B.F. Goodrich 0152
- AFNOR E 48-603
- Paper Machines Except for PM-500 series

\* Except for PM-500 series silver containing pumps which require R & O only additive systems.

**TYPICAL PROPERTIES**

	<b>No. 1W</b>	<b>No. 2W</b>	<b>No. 3W</b>	<b>No. 5W</b>
Grade SAE Grade	10W	10W	20W	30W
ISO Viscosity Grade	32	46	68	100
Gravity, °API	31.5	31.0	30	29.6
Flash Point, °F	400	420	430	480
Pour Point, °F	-25	-25	-20	-2
Viscosity, SUS @ 100° F	150	200	300	500
Viscosity, SUS @ 210° F	43	46.5	53	64
Viscosity Index (V.I.)	100	101	100	97
Rust Test ASTM D 665 A,B	Pass	Pass	Pass	Pass
Oxidation Test, ASTM D 943, Hrs.	5000+	5000+	5000+	5000+
Foam Test ASTM D 892	Pass	Pass	Pass	Pass
Cincinnati Milacron Requirement	P-68	P-70	P-69	
DIN 51524 Part 2 Grade	HLP32	HLP46	HLP68	

Zinc, ppm.	<del>No</del> 1W	<del>No</del> 2W	<del>No</del> 3W	<del>No</del> 5W
Vickers 35VQ25 Wgt. Loss / Mg.	18	18	18	18