

## ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS

### OVERVIEW

**ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS** are high viscosity index (HVI), highly refined, premium quality, non-toxic, inherently biodegradable, zinc-free, anti-wear hydraulic oils developed for mobile and industrial equipment operating under high pressures and over a wide range of temperatures. **ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS** are ashless, have excellent thermal stability, low temperature properties and a lower pour point than conventional anti-wear hydraulic oils and are non-toxic to fish and other aquatic life. Designed for use in vane, rotary, and geared pumps, and compressors, as well as circulating systems and machine tools, **ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS** are commonly used in outdoor equipment due to their ability to handle wide temperature fluctuations.

### FEATURES & BENEFITS

**ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS** are characterized by their outstanding viscosity indexes and their ability to prevent wear, rust, oxidation, foam, air and water entrainment and provide excellent thermal stability in addition to their non-toxic and biodegradable nature. **ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS** are recommended for applications where the use of lubricants with stay-in-grade performance is required due to temperature fluctuations, OEM multi-grade fluid requirements, or higher fluid efficiency is desired and a fluid containing toxic heavy metals is restricted because of soil, water, or general environmental contamination concerns.

### APPLICATIONS

**ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS** are designed for use in modern hydraulic systems operating at high pressures and extreme temperature fluctuations. They are an excellent choice for areas located near water or that are environmentally sensitive such as national parks, wildlife refuges and ski resorts. These zinc-free oils are inherently biodegradable and designed for use in most major hydraulic pump manufacturers as well as off road mobile construction equipment. The additive system in these oils meets the requirements of pump manufacturers and machine tool builders and their hydraulic-specific, exceptionally shear stable viscosity index improver allows them to be used as an all seasons fluid.

### SPECIFICATIONS

**Hitachi Advanced Hydraulic Oil • DIN 51524 Part 3, Antiwear Hydraulic Oils (Type HVLP) • AFNOR NFE 48-603 (Typer HV) • ISO 11158:1997 (Type HV) • Poclairn • Hitachi • Cincinnati Lamb • Eaton-Vickers I-286, M-2950-S, 35VQ25A • Parker-Hannifin (Denison) HF-0, HF-1, HF-2 • Bosch Rexroth RE 90220**

*ADVANTAGE ASHLESS AW HVI HYDRALUIC OILS are compatible with most zinc-containing hydraulic oils, however, mixing the two products will lessen the environmental and performance benefits. Dielectric strength measurement given at point of manufacture. Dielectric strength deteriorates rapidly with contamination from particulates and moisture; oil must be kept clean and dry at all times.*

### TYPICAL PROPERTIES

Product Code	489	499	497	498	492
ISO Viscosity Grade	15	22	32	46	68
Viscosity, cSt @ 40 °C	15	22	32	46	68
Viscosity, cSt @ 100 °C	3.5	4.8	6.2	7.5	8.9
Viscosity Index, min.	140	140	140	140	140
Flash Point, °C	180	190	200	210	220
Pour Point, °C	-55	-50	-50	-42	-37
TOST, D943, hrs.	10,000+	10,000+	10,000+	10,000+	10,000+
Demulsibility, mins.	20	20	20	20	20
FZG Pass, Load Stage	10	10	10	10	10
Biodegradability in 28 days, OECD 301B, %	20-59	20-59	20-59	20-59	20-59
Dielectric Strength, kV	48	48	40	47	48