

# Puma Hydraulic AW

## Industrial Hydraulic Fluid

Puma Hydraulic Oils are high quality lubricating oils specially developed for use in all types of industrial plant hydraulic systems and many types of mobile equipment. These oils are formulated from selected base stocks treated with "low zinc" technology which provides for very high thermal stability, oxidative stability and hydrolytic stability. Available in ISO 32,46,68,100.

- ✓ Anti-wear Protection
- ✓ Oxidation Resistance
- ✓ Anti-foam Performance

## Designed to Perform

### Anti-wear Protection – Longer Equipment Life

Proven anti-wear additive packages provide greater resistance to sliding wear thus ensuring efficiency and long life of all moving parts of hydraulic systems. They pass the Denison T6H20C (hybrid pump) and Vickers 104C impeller pump (IP281/85) tests.

### Oxidation Resistance - Longer Oil Life

It has extremely good oil life and lubricant stability even when subjected to unusually high thermal stresses; this property minimises sludge and deposit formation, thus preventing blocking of ports, valves and controls, while guaranteeing that the oil remains properly fluid. Maintenance costs are therefore reduced and the useful service life of the oil is extended.

### Anti-foam – Increased Performance

Easy release of entrained air which will prevent difficulties with pumps and controls which can cause irregularities in performance and other problems arising from the compressibility of air bubbles.

### Low Pour Point - Easy Start Up

Allows for easy start-up of hydraulic equipment; even at low temperatures, without circulation or regulation problems.

### High Filterability

It is suitable for very fine filters (3 micron up to ISO VG 68).

### Anti-corrosion & Anti-rust Properties

These inhibit the oxidation of internal surfaces of hydraulic circuits and therefore preventing breakdown of the oil.

### Demulsibility – Component Life Extension

Prevents the formation of water in oil emulsion, which enters the system through leakage or condensation. The fluids therefore maintain their lubricating power and anticorrosion performance even under these circumstances.

## Performance Characteristics

Due to the great influence of viscosity on the efficiency of hydraulic machinery, the grade chosen should be that recommended by the system designer.

Purely as an indication, the lighter grades are generally used in high-speed machinery and in precision equipment, while the heavier grades are used in low-speed machinery with high hydrostatic pressures.

Can be used as heavy-duty lubricants for bearings, reduction units, etc., where operating conditions call for special anti-wear characteristics.

## Specifications

Meets / Exceeds the following Specifications:

- Parker (Denison) HF0, HF1, HF2
- Fives (MAG) P68; P69; P70
- EATON M2950S; I-286-S3
- GM LS-2
- SAE MS1004 (HM, HV)
- US Steel 127, 136
- Bosch Rexroth RE 90220
- DIN 51524 Part 2,3
- SO 11158 (HM, HV)
- AGMA 9005-E02-R0
- ASTM D6158
- AIST 126, 127
- SEB 181222

## Typical Physical Characteristics

Property	Temp	Units	Test Methods	ISO 32	ISO 46	ISO 68	ISO 100
ISO Viscosity Grade	-	-	ISO 2422	32	46	68	100
Kinematic Viscosity	@ 40°C	cSt	ASTM D445	34.2	46.3	68	100
Kinematic Viscosity	@100°C	cSt	ASTM D445	5.6	6.81	8.84	11.23
Viscosity Index	-	-	ASTM D2270	104	101	100	98
Flash Point (COC)	-	°C	ASTM D92	229	232	240	260
Pour Point	-	°C	ASTM D97	-33	-30	-30	-30
Density	-	g/ml	ASTM 4052	0.86	0.866	0.873	0.874
Demulsibility <sup>^</sup>	54°C	-	D1401	39-38-3 (30')	39-38-3 (30')	39-38-3 (30')	-
Demulsibility <sup>^</sup>	82°C	-	D1401	-	-	-	40-40-0 (60)
Foam Sequence II	-	mL	ASTM D892	-	75/0	75/0	75/0

*These characteristics are typical of current product methods whilst future production will conform to Puma Lubricants specifications, variations in these physical characteristics may occur.*

## Health & Safety Environment

- This product is unlikely to present any significant health and safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.
- Avoid contact with eyes and skin, use proper impervious gloves with used oil. After skin contact, wash immediately with soap and water. Guidance on health and safety is available on the appropriate Safety Data Sheet (SDS) which can be obtained from [sds.pumaenergy.com.au](http://sds.pumaenergy.com.au).

## Protect the Environment

- Take used oil to an authorized collection point. Do not discharge used or new oil into drains, soil or water.

## Additional Information

- Technical advice on any applications not covered here may be obtained from your Puma Energy Representative.