



Product Bulletin

GULF HARMONY R&O AW HYDRAULIC OILS

Gulf Harmony R&O AW Hydraulic Oils are premium quality anti-wear hydraulic oils formulated from high-quality base oils and a carefully selected additive system to offer outstanding thermal stability. They are designed for use in high pressure, high speed hydraulic pumps used in industrial, mobile, and marine hydraulic systems.

FEATURES AND BENEFITS:

Gulf Harmony R&O AW Hydraulic Oils utilize a zinc dithiophosphate anti-wear additive system to impart outstanding wear protection and long component life. Additionally, these products offer the following benefits:

- Easy filterability
- Outstanding thermal stability
- Excellent rust protection
- Outstanding anti-foam protection
- Good low temperature properties for cold ambient temperatures
- Excellent anti-wear protection to pumps, motors, valves and other hydraulic components
- Excellent hydrolytic stability in the presence of water-will not contribute to the formation of corrosive reactants or metal etching acids.
- Extremely low pump part weight losses are encountered in the ASTM-D2882 Vane Pump Wear Test as well as the Vickers 35VQ25 and Denison T5D-42 Pump Wear Tests

APPLICATIONS:

- **Gulf Harmony R&O AW Hydraulic Oils** are recommended for applications where a premium quality anti-wear hydraulic oil is required. The additive system satisfies the requirements for both high and low pressure industrial and mobile systems that call for: Denison (HF-0, HF-1, and HF-2), Cincinnati Machine P-68, P-69, and P-70, U.S. Steel 127, DIN 51524 Part 2, Vickers (M-2950-S and I-286-S) and various other commercial hydraulic systems. Typical applications include mobile construction equipment, air compressors, hydraulic lifts and hoists, winches, and machine tools and presses.

SELECTION:

Gulf Harmony R&O AW Hydraulic Oils are available in four ISO viscosity grades (ISO VG) to comply with most industrial applications – **32, 46, 68, and 100**. Follow equipment manufacturer recommendations for appropriate viscosity grade.



AVAILABILITY:

Gulf Harmony R&O AW Hydraulic Oils are available throughout Gulf's marketing area. Your Gulf representative or Gulf Jobber can provide specific information. Need additional information? Call Gulf @ 1-800-566-GULF (4853).

Gulf Harmony R&O AW Hydraulic Oils - Typical Properties

ISO Viscosity Grade		32	46	68	100
Product Code	Test Method	334227	334229	334231	334232
Viscosity, cSt @ 40°C	ASTM D-445	32	46.0	68.0	100
Viscosity, cSt @ 100°C	ASTM D-445	5.3	6.9	8.8	11.4
Viscosity, SUS @ 100°F	ASTM D-2161	165	237	352	521
Viscosity, SUS @ 210°F	ASTM D-2161	44.0	49.3	55.9	65.4
Viscosity Index	ASTM D-2270	95	109	100	99
Color	ASTM D-1500	1.0	1.0	1.0	2.0
Pour Point, °F (°C)	ASTM D-5949	-30 (-33) (max)	-25 (-30) (max)	-25 (-30) (max)	-10 (-21)
Flash Point, COC, °F (°C)	ASTM D-92	400 (204)	410 (210)	430 (220)	440 (226)
KF Moisture, ppm	ASTM D-6304	N/A	200 (max)	200 (max)	200 (max)
Rust Test	ASTM D-665 A&B	Pass	Pass	Pass	Pass
Oxidation Stability, hours	ASTM D-943	3,000+	2,500+	2,000+	2,000+
Cincinnati Machine		P-68	P-70	P-69	N/A
API Gravity, 60°F	ASTM D-4052	30.9	30.5	30.0	30.1
Density, lbs/gal (g/L)	Calculated	7.225(866)	7.289 (873)	7.296 (874)	7.29 (874)