

## ADVANTAGE R&O OILS

### OVERVIEW

ADVANTAGE R&O OILS are highly refined, rust and oxidation inhibited hydraulic oils developed to meet the requirements of hydraulic and circulating systems. The additive system in ADVANTAGE R&O OILS has been approved as meeting the requirements of most major pump manufacturers and machine tool builders.

### FEATURES & BENEFITS

ADVANTAGE R&O OILS are characterized by outstanding performance in preventing rust, oxidation, foaming, air entrainment and many other factors that occur in typical hydraulic systems. They have outstanding thermal and oxidative stability, excellent demulsibility, good film strength and foam resistance, and protect against rust and corrosion.

### APPLICATIONS

ADVANTAGE R&O OILS are designed for use in vane, rotary, gear pumps, and compressors, along with circulating systems and machine tools. Centrifugal air compressors, air tools and other pneumatic equipment lubricated through air line lubricators, lightly loaded enclosed industrial gear boxes that do not require a compounded or extreme-pressure (EP) gear oil, electric motor bearings, vacuum pumps, deep water well pumps, steam turbines and hydroelectric turbines, both direct drive and with gear drives, marine turbines all benefit from the use of ADVANTAGE R&O OILS.

### SPECIFICATIONS

ABB G12106 • AGMA Grades 0 through 7 (non-EP) • Alstom Power HTGD 90 117 for geared turbines • ASTM D4304 Type I Turbine Oil (ISO VG 32, 46, 68, 100) • British Standard 489 • Denison Hydraulics HF-1 • DIN 51517 Part 2, Lubricating Oils, Type CL • DIN 51524 Part 1, Hydraulic Oils, Type HL • General Electric GEK 101941A, GEK 46506e, GEK 27070 (obsolete), GEK 28143A (obsolete) • Ingersoll-Rand Centak centrifugal compressors • Solar Turbines ES 9-224 Class II Turbine Oil • U.S. Military MIL-L-17672D • U.S. Steel 126

### TYPICAL PROPERTIES

PRODUCT CODES	432	436	459	458	460	470	472
ISO GRADE	32	46	68	100	150	220	320
Viscosity, cSt @40 °C (D445)	32	46	68	100	150	220	320
Viscosity, cSt @100 °C (D445)	5.4	6.6	8.7	11.1	14.8	18.6	23.8
Viscosity Index (D2270)	100	100	98	98	98	95	95
Flash Point, COC °F (D92)	425	446	475	495	498	500	500
Pour Point ° C (D97)	0	0	+5	+10	+15	+20	+20
Oxidation Stability, hrs (D943)	4500+	4500+	3500+	3500+	-	-	-
Rust Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Color	0.5	0.5	0.5	1.0	3.0	4.0	5.0
Gravity, API (D287)	31.5	31.5	31.0	30.0	28.9	28.9	27.6