

SERVICE PRO[®]

Premium Lubricants

SERVICE PRO[®] PREMIUM A/W HYDRAULIC OILS

DESCRIPTION: SERVICE PRO[®] Premium A/W Hydraulic Oils are superior antiwear hydraulic and circulating fluids specially formulated with high quality base stocks and improved thermally stable additives. These oils offer outstanding resistance to sludge formation, are chemically stable, and exhibit excellent antiwear protection.

PERFORMANCE BENEFITS: SERVICE PRO[®] Premium A/W Hydraulic Oils are made from top quality base stocks and contain all the necessary additive components to offer trouble-free service in high-pressure, high-output industrial hydraulic circuits. SERVICE PRO[®] Premium A/W Hydraulic Oils have these outstanding properties:

Hydraulic Oils utilize the latest in thermally stable zinc-type additives. This virtually eliminates the formation of heat-related sludging in sensitive electro-hydraulic servos associated with conventional zinc-type oils. These oils are wholly suitable for N/C machine tools and other high-output equipment where sustained heat is prevalent.

These oils exhibit superior hydrolytic stability in the presence of water and will not contribute to either the formation of metal-etching acids or corrosive reactants.

Service Pro[®] Premium A/W Hydraulic Oils are inhibited against rusting in both fresh and sea water and pass both A and B Sequences of the ASTM D 665 Turbine Oil Rust Test.

These oils offer optimum antiwear protection to pumps, motors, valves, and other hydraulic circuit components. They are approved against stringent performance requirements including Cincinnati Machine (formerly Cincinnati Milacron) P-68, P-69 and P-70, Denison HF-O, and Eaton M-2950-S and I-286-S.

Service Pro[®] Premium A/W Hydraulic Oils resist foaming and will not foster abnormal air entrainment in properly designed hydraulic circuits. The oils also readily separate water permitting contaminating water to be drained from the sump.

APPLICATIONS: SERVICE PRO[®] Premium A/W Hydraulic Oils are recommended for service in vane, piston, and gear pumps when used in accordance with the manufacturers' recommendations. The oils are designed to provide maximum service life to these pumps as well as to other circuit components such as motors and servos.

SERVICE PRO[®] Premium A/W Hydraulic Oils are also recommended for use as gear and bearing lubricant in industrial applications where rust and oxidation inhibited oils are required.

SERVICE PRO[®] Premium A/W Hydraulic Oils meet the general physical and performance requirements of the European classifications as follows:

AFNOR NF E 48-603 HM

TYPICAL PROPERTIES:**SERVICE PRO® PREMIUM A/W HYDRAULIC OILS**

GRADE ALL	32	46	68
Gravity, ASTM D 4052, °API	31.3	30.4	29.3
Density, lb/gal	7.24	7.28	7.33
Flash Point, ASTM D 92, COC, °F (°C)	414 (212)	428 (220)	468 (242)
Viscosity, cP at -35°C(2)	-	-	-
cP at -20°C(2)	-	-	-
cSt at 40°C	32.9	46.5	68
cSt at 100°C	5.5	6.8	8.5
SUS at 100°F	170	240	352
SUS at 210°F	45	49	55
Viscosity Index	102	100	95
Pour Point, ASTM D 97, °F (°C)	-30 (-34)	-22 (-30)	-11 (-24)
Color, ASTM D 1500	L1.0	L1.0	L1.5
Emulsion Test, ASTM D 1401(3)	40-40-0	40-40-0	40-40-0
Oxidation Test, ASTM D 943, Hrs.	3680	3540	3500
Rust Test, ASTM D 665 A, B(4)	Pass	Pass	Pass
Meets Eaton Requirements M-2950-S(5)	Yes	Yes	Yes
Meets Eaton Requirements I-286-S(6)	Yes	Yes	Yes
Meets Denison HF-O Requirement	Yes	Yes	Yes
Meets Cincinnati Lamb Requirement	P-68	P-70	P-69
ASTM Grade	150	215	315
AFNOR NF E 48-603	HM32	HM46	HM68
ISO VG No.	32	46	68

Notes: (1) Meets FMC Hi-Performance, Hydraulic Oil, Grade 32 requirements.

(2) ASTM D 2893 Brookfield Viscosity.

(3) 30 minutes max. separation time.

(4) Pass - No Rust.

(5) This requirement utilizes Eaton 35VQ25A vane pump test and is for mobile equipment.

(6) This requirement utilizes Eaton 104c or 105c vane pump test, ASTM D 2882, and is for industrial, stationary systems.

(7) A multigrade, high VI type which may be used in most applications requiring a multiviscosity range of ISO-VG 22, 32, 46.

(8) A multigrade, high VI type which may be used in most applications requiring a multiviscosity range of ISO-VG 32, 46.