

UNITED OIL COMPANY

Quality Industrial Lubricants Since 1906

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UNITED AW ISO HYDRAULIC OILS

10, 22, 32, 46, 68, 100, 150, 220, 320

PRODUCT DESCRIPTION

United AW Hydraulic oils are formulated with premium base oil technology and designed to give robust protection to hydraulic pumps in mobile and stationary systems. United AW Hydraulic oils provide excellent: antiwear protection oxidation and corrosion inhibition foam and aeration suppression Under moderate loads and temperatures, the high viscosity index of Rando HD oils help ensure good film strength between metal surfaces and is further enhanced by antiwear additive protection.

CUSTOMER BENEFITS

- Long equipment life** — Special antiwear additive package minimizes wear by protecting surfaces when load causes breakdown of the lubricant film.
- Minimized downtime** — Effective rust and oxidation inhibitor system helps prevent the production of abrasive particles from rust formation, and deposits, varnishes and sludges from oil breakdown, which can damage equipment surfaces and seals, and block filters prematurely.
- Smooth operation** — Good hydrolytic stability and water separation characteristics promote excellent filterability in the presence of water contamination. Good anti-foam and air release help ensure smooth operation and system efficiency.
- Optimal oil service life** — High oxidation stability resists oil thickening and deposit formation in service, minimizing the possibility of an unscheduled change of hydraulic fluid.

APPLICATIONS

ISO 10 and **22** can be used as spindle lubricants where zinc-free oils are not a requirement.

ISO 32, 46, or 68 are recommended for:

- vane-, piston-, or gear-type pumps, especially where pressures exceed 1000 psi
- lightly loaded reciprocating compressors

ISO 100, 150, 220, or 320 are recommended for applications where AGMA rust and oxidation inhibited oils are required:

- hydraulic equipment reduction gears where EP is not required
- plain and antifriction bearings
- circulating oil system

United AW Hydraulic Oils meets the requirements of the following industry and OEM specifications:

- Bosch Rexroth RE 90220, Type HLP
- DIN 51524 Part 2, Antiwear Hydraulic Oils, Type HLP

Supplying Quality Industrial Lubricants to the Metals Industry since 1906

- Eaton-Vickers I-286-S, M-2950-S, 35VQ25A antiwear performance (brochure 03-401-2010 Rev 1)
- Fives Cincinnati P-68 (ISO VG 32), P-70 (ISO VG 46), P-69 (ISO VG 68) (approved)
- Parker Hannifin
- ISO 11158:1997, Family H (Hydraulic Systems), Type HM

TYPICAL TEST DATA

| ISO Grade | 10 | 22 | 32 | 46 | 68 | 100 | 150 | 220 | 320 |
|----------------------|------|------|------|------|------|------|------|------|------|
| AGMA GRADE | | | | 1 | 2 | 3 | 4 | 5 | 6 |
| API Gravity | 27.7 | 33.7 | 32.6 | 31.8 | 31.6 | 30.1 | 29.7 | 28.5 | 27.4 |
| Viscosity, Kinematic | | | | | | | | | |
| cSt @ 40 C | 10.3 | 23.1 | 30.4 | 43.7 | 64.6 | 95 | 143 | 209 | 304 |
| cSt @ 100 C | 2.5 | 4.4 | 5.2 | 6.5 | 8.4 | 11 | 14.2 | 18.2 | 23.4 |
| Viscosity Saybolt | | | | | | | | | |
| SUS @ 100 F | 63 | 120 | 157 | 225 | 334 | 495 | 751 | 1105 | 1617 |
| SUS @ 210 F | 35 | 41 | 44 | 48 | 54 | 64 | 76 | 93 | 117 |
| Viscosity Index | 48 | 98 | 99 | 97 | 98 | 100 | 97 | 96 | 96 |
| Flash Point F | 309 | 351 | 428 | 439 | 455 | 482 | 500 | 520 | 531 |
| Pour Point F | -38 | -33 | -27 | -22 | -22 | 5 | 10 | 10 | 10 |