

Nuto H Series

Premium Quality Anti-wear Hydraulic Oils

Product Description

Nuto H Series oils are premium quality anti-wear hydraulic oils intended for industrial and mobile service applications where anti-wear lubricants are required. They are formulated with high quality base oils and a select additive system that results in products that provide many desirable features to improve and prolong equipment life. Nuto H Series oils are designed to provide good performance in a range of hydraulic components used in systems subjected to moderate to severe operating conditions. These products meet the performance requirements of a wide range of hydraulic system and component OEM's.

Features and Benefits

The Nuto H Series hydraulic oils help reduce the potential for wear and corrosion, particularly where water or moisture is present. Their effective oxidation resistance and chemical stability support good oil life in moderate to severe applications. Their high level of anti-wear properties prevents wear in vane, gear and piston pumps used in hydraulic service. Their good demulsibility characteristics permit the oils to work well in systems contaminated with small amounts of water yet readily separate large amounts of water.

The Nuto H Series oils offer the following features:

- Good anti-wear performance reducing pump wear and leading to long pump life
- Fast air release, good foam control and good water separability
- Corrosion protection that reduces the negative effects of moisture on system components
- Filterability to prevent filter blockage even in the presence of water
- Effective oxidation and chemical stability characteristics allows good oil and filter life

Applications

- Systems employing gear, vane, radial and axial piston pumps where anti-wear hydraulic oils are recommended
- Hydraulic applications where contamination or leakage are unavoidable
- Where small amounts of water are unavoidable and this water could damage components
- Systems containing gears and bearings where mild anti-wear characteristics are required
- Applications where thin oil-film corrosion protection is an asset such as systems where small amounts of water exist

Specifications and Approvals

| Meets or Exceeds the following industry specifications | Nuto H 32 | Nuto H 46 | Nuto H 68 | Nuto H 100 | Nuto H 150 |
|--|-----------|-----------|-----------|------------|------------|
| Denison HF-0 | X | X | X | | |
| Vickers I-286-S | X | X | X | | |



| Meets or Exceeds the following industry specifications | Nuto H 32 | Nuto H 46 | Nuto H 68 | Nuto H 100 | Nuto H 150 |
|---|------------------|------------------|------------------|-------------------|-------------------|
| Vickers M-2950-S | X | X | X | | |
| DIN 51524 HLP (2006) | X | X | X | X | |
| ISO 11158 TYPE HM (1997) | X | X | X | X | X |
| Cincinnati Machine P-68 | X | | | | |
| Cincinnati Machine P-70 | | X | | | |
| Cincinnati Machine P-69 | | | X | | |

| Has the following builder approvals | Nuto H 32 | Nuto H 46 | Nuto H 68 | Nuto H 100 | Nuto H 150 |
|--|------------------|------------------|------------------|-------------------|-------------------|
| Denison HF-0 | X | X | X | | |
| Cincinnati Machine P-68 | X | | | | |
| Cincinnati Machine P-69 | | | X | | |
| Cincinnati Machine P-70 | | X | | | |

Typical Properties

| Nuto H Series | Nuto H 32 | Nuto H 46 | Nuto H 68 | Nuto H 100 | Nuto H 150 |
|---|------------------|------------------|------------------|-------------------|-------------------|
| ISO Viscosity Grade | 32 | 46 | 68 | 100 | 150 |
| Viscosity, ASTM D 445, cSt @ 40°C | 32 | 46 | 68 | 100 | 150 |
| cSt @ 100°C | 5.4 | 6.7 | 8.5 | 11.1 | 14.6 |
| Viscosity Index, ASTM D 2270 | 104 | 104 | 107 | 95 | 95 |
| Copper Strip Corrosion, ASTM D 130 | 1A | 1A | 1A | 1A | 1A |
| Rust Characteristics, ASTM D 665B | Pass | Pass | Pass | Pass | Pass |
| Pour Point, °C, ASTM D 97 | -24 | -24 | -18 | -15 | -18 |
| Flash Point, °C, ASTM D 92 | 212 | 226 | 234 | 242 | 258 |
| Density 15°C, ASTM D 1298, kg/L | 0.872 | 0.876 | 0.882 | 0.884 | 0.887 |
| Demulsibility time (minutes) to 3ml emulsion; @ 54°C | 15 | 15 | 20 | - | - |
| @ 82°C | - | - | - | 10 | 5 |

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

The Mobil logotype, the Pegasus design and Nuto H are trademarks of Exxon Mobil Corporation, or one of its subsidiaries.

ExxonMobil Lubricants & Specialties

All products may not be available locally. For more information, contact your local sales office or visit www.exxonmobil.com.

ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the local ExxonMobil affiliate entities. Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly.

© 2007 Exxon Mobil Corporation. All rights reserved.