



INDUSTRIAL  
LUBRICANTS &  
SERVICES LIMITED

## Technical Data sheet

### ILS HYTROL AW Range

*Anti-wear hydraulic oils*

#### Description

**ILS HYTROL AW 10,22,32,46,68,100 and 150** are a range of premium quality hydraulic oils blended from highly refined mineral base stock, combined with a Zinc based anti-wear additive package incorporating antifoam and anticorrosion additives.

#### Typical Applications

**ILS HYTROL AW** has been specially formulated to provide good anti-wear and thermal stability performance using the very latest additive technology and designed for use in a range of hydraulic applications ranging from mobile equipment through to heavy duty industrial applications and meets the requirements of the following pump manufacturers:

- |            |          |                       |
|------------|----------|-----------------------|
| • Hagglund | • Linde  | • Vickers             |
| • Rexroth  | • Bosch  | • Cincinnati Milacron |
| • Danfoss  | • Racine | • Sundstrand          |

The careful blend of additives combined with high-quality base stocks, ensures that ILS HYTROL AW has excellent hydrolytic and oxidative stability while exhibiting a minimal tendency to produce sludge and deposits.

In addition, ILS HYTROL AW provides corrosion protection to ferrous and yellow metal components found within a hydraulic system. It is designed for use in industrial hydraulic systems which require anti-wear protection in addition to good filterability.

ILS HYTROL AW is fully compatible with elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g., Viton) polymers.

While suitable for the majority of systems running a wide range of pumps it is not recommended for systems where silver plated componentry is employed (such as Lucas pumps) due to the presence of Zinc antiwear additive.

## Specifications

ILS HYTROL AW 32,46,68,100 and 150 meets the following standards and equipment manufacturers requirements:

- DIN 51502 classification – DIN 51524 Part 2
- HLP ISO 6743/4 - Hydraulic Oils Type HM
- ASTM D 6158 HM
- ISO 11158 HM (AFNOR NFE 48-603 HM)
- Fives (Cincinnati) (Milacron) P 68-69-70
- Denison (Parker Hannifin) HF-0, HF1 & HF2
- AIST (US Steel 126 & 127)
- Eaton (formerly Vickers) I-286-S & M-2950-S
- GB 11118.1 L-HM (General and High pressure)

## Advantages

ILS HYTROL AW has the following advantages when compared to conventional hydraulic oils:

- Good thermal and oxidative stability. Oxidation stability reduces deposit formation, resulting in a cleaner system. This can extend the machinery's operating life.
- Excellent anti-wear performance gives wear protection, which can help reduce downtime caused by unscheduled maintenance.
- Good filterability characteristics, including in the presence of water, enables cost savings to be made from increased filter life and reduced maintenance.
- Excellent water separation and hydrolytic stability, measured by industry standard testing. This increases equipment reliability, helping to prolong the lubricant's life.

## Typical Properties

| Name                                     | Method                 | Units              | AW 10 | AW 22 | AW 32 | AW 46 | AW 68 | AW 100 | AW 150 |
|------------------------------------------|------------------------|--------------------|-------|-------|-------|-------|-------|--------|--------|
| ISO Viscosity Grade                      | -                      | -                  | 10    | 22    | 32    | 46    | 68    | 100    | 150    |
| Density @ 15°C                           | ISO 12185 / ASTM D4052 | kg/m <sup>3</sup>  | 890   | 870   | 860   | 865   | 878   | 890    | 890    |
| Kinematic Viscosity @ 40°C               | ISO 3104 / ASTM D445   | mm <sup>2</sup> /s | 10    | 22    | 32    | 46    | 68    | 100    | 150    |
| Kinematic Viscosity @ 100°C              | ISO 3104 / ASTM D445   | mm <sup>2</sup> /s | 2.4   | 4.3   | 5.3   | 6.7   | 8.6   | 11.1   | 14.5   |
| Viscosity Index                          | ISO 2909 / ASTM D2270  | -                  | -     | >95   | >95   | >95   | >95   | >95    | >95    |
| Pour Point                               | ISO 3016 / ASTM D97    | °C                 | -36   | -27   | -27   | -24   | -21   | -18    | -15    |
| Foam Sequence I - tendency / stability   | ISO 6247 / ASTM D892   | ml/ml              | 10/0  | 10/0  | 10/0  | 10/0  | 10/0  | 10/0   | 10/0   |
| Flash Point - open cup method            | ISO 2592 / ASTM D92    | °C                 | 170   | 205   | 210   | 215   | 225   | 230    | 230    |
| Flash Point - closed cup method          | ISO 2719 / ASTM D93    | °C                 | 145   | 170   | 200   | 200   | 220   | 220    | 220    |
| Water Separation @ 54°C (40/37/3)        | ISO 6614 / ASTM D1401  | min                | 5     | 10    | 15    | 15    | 15    | -      | -      |
| Water Separation @ 82°C (40/37/3)        | ISO 6614 / ASTM D1401  | min                | -     | -     | -     | -     | -     | 15     | 20     |
| Air Release @ 50°C                       | ISO 9120 / ASTM D3427  | min                | 4     | 4     | 4     | 8     | 8     | 12     | 18     |
| FZG Gear Scuffing test - A/8.3/90        | ISO 14635-1            | Failure Load Stage | -     | -     | 11    | 12    | 12    | 12     | 12     |
| Rust test - distilled water (24 hrs.)    | ISO 7120 / ASTM D665A  | -                  | Pass  | Pass  | Pass  | Pass  | Pass  | Pass   | Pass   |
| Rust test – synthetic seawater (24 hrs.) | ISO 7120 / ASTM D665B  | -                  | Pass  | Pass  | Pass  | Pass  | Pass  | Pass   | Pass   |

**Note: Data is typical and does not constitute a specification**

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