



# Clarity<sup>®</sup> Synthetic Hydraulic Oil AW

## Ultra high performance synthetic hydraulic oil

### Product description

Clarity Synthetic Hydraulic Oils AW are ultra high performance hydraulic fluids, formulated with synthetic base stocks in combination with ashless, zinc-free additive technologies. These fluids are designed to promote advanced oxidation resistance, rapid water separation, wear, rust and corrosion protection.

Clarity Synthetic Hydraulic Oils AW have a very high viscosity index (VI) designed to offer improved hydraulic response time across a wider temperature range.

Clarity Synthetic Hydraulic Oils AW are formulated to offer high level protection in both mobile and stationary hydraulic equipment applications in both industrial and environmentally sensitive environments.

### Customer benefits

- Advanced ashless formulation promotes ultra high performance wear protection, rust and corrosion resistance, increasing uptime
- Resilient synthetic technologies offer high level oxidation resistance at high operating temperatures aiding increased service life
- Synthetic design contributes hydrolytic stability, rapid water separation performance, foam inhibition and filterability
- Very low acute aquatic toxicity to both fish and invertebrates based on tests of water accommodated fractions
- Ashless formulation facilitates conventional recycling programs, offering improved environmental protection
- High VI offers wear protection across a wide temperature range – from cold starts to high temperature operations
- Multi-viscosity performance helps reduce the need to change viscosity grades for seasonal variations

### Product highlights

- **Ultra high performance wear and oxidation protection**
- **Rust and corrosion resistance**
- **Hydrolytic stability, rapid water separation, foam inhibition and filterability**
- **Very low acute aquatic toxicity**
- **Environmental protection**
- **Wide temperature range performance and protection**

#### Selected specification standards include:

Arburg	ASTM
Bosch-Rexroth	Cincinnati Machine
DIN	Eaton Vickers
Frank Mohn	ISO
Krauss-Maffei Kunststofftechnik	Vestas

- High VI formulation designed to promote improved hydraulic response time across a wide operating temperature range
- Advanced low temperature fluidity offers protection at temperatures as low as -40°C
- Zinc-free, ashless formulation contributes ultra high performance protection in yellow metal components, reducing maintenance costs

## Applications

- Clarity Synthetic Hydraulic Oils AW are designed to offer effective protection to both mobile and stationary hydraulic vane, piston and gear-type pumps in both high-performance industrial applications and environmentally sensitive areas
- Clarity Synthetic Hydraulic Oils AW are designed to meet or exceed the performance requirements of conventional anti-wear hydraulic oils, in severe, high-output applications such as axial piston pumps, while offering an additional level of safety in case of leaks or incidental discharge to the environment
- Many hydraulic systems are required to operate in environmentally sensitive areas where leaks or spills of hydraulic fluid may result in contamination of the soil or nearby waterways. Conventional anti-wear hydraulic oils are formulated with metal-containing performance additives which can persist in the environment in the event of leaks
- The anti-wear performance of Clarity Synthetic Hydraulic Oils AW makes them suitable for high performance industrial applications utilising axial piston pumps where pressures may exceed 5000 psi
- High level of oxidation stability is especially applicable in high efficiency (high speed, high temperature, high output) applications where severe stress is placed on the hydraulic fluid

## Approvals, performance and recommendations

### Performance

- Clarity Synthetic Hydraulic Oil AW meets or exceeds the following industry or manufacturer's requirements:

	32	46	68
• DIN 51524-3 (HVLP, 2006, pt. 3)	X	X	X
• ISO 11158 L-HV	X	X	X
• Vestas 0000-2843	X		
• ASTM D6158, HV°	X	X	X
• Eaton Vickers 35VQ25A, M-2950-S, I-286 S	X	X	X
• Cincinnati Machine P70		X	
• Cincinnati Machine P69			X
• Cincinnati Machine P68	X		
• Frank Mohn, Framo hydraulic cargo pumping		X	
• Bosch-Rexroth RD/RE 90220-01	X	X	X
• Arburg		X	
• Krauss-MaffeiKunststofftechnik		X	

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**Health, safety, storage and environmental** Based on current available information, this product is not expected to produce adverse effects on health when used for the intended application and in accordance with the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your local sales office, or via the Internet. This product should not be used for purposes other than its intended use. When disposing of used product, take care to protect the environment and follow local legislation.

### A Chevron company product

Typical test data				
Test	Test methods	Results		
Viscosity Grade		32	46	68
Product Code		002823	002824	002828
Kinematic Viscosity, 40°C, mm <sup>2</sup> /s	ASTM D445	32.5	46.5	68.0
Kinematic Viscosity, 100°C, mm <sup>2</sup> /s	ASTM D445	7.0	9.3	11.4
Viscosity Index	ASTM D2270	186	183	162
Density at 15°C, kg/l	ASTM D1298	-	-	-
Flash Point, COC, °C	ASTM D92	228	230	218
Pour Point, °C	ASTM D5950	-48	-42	-45
Copper Corrosion, 3h/150°C	ASTM D130	1B	1B	1B
TAN, mg KOH/g	ASTM D664	0.33	0.33	0.33
Dielectric Strength, kV	ASTM D1816	>35	>35	>35
FZG Gear test, fail Stage	DIN 51 354	11	≥12	≥12

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