

# HYDRAULIC BIOSYN

ISO VG 32, 46, 68

## Product Description

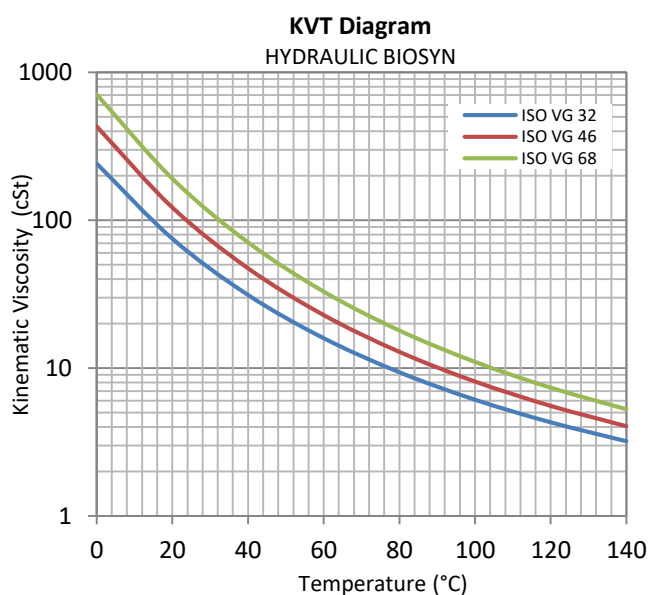
Premium and high performance hydraulic fluid blended with advanced additive technologies. It is developed to meet stringent environmental standard giving excellent thermal stability and wear protection. High viscosity index and very low pour point exhibit ability to use in wide temperature range. HYDRAULIC BIOSYN is biodegradable (>60% biodegradability by OECD 301B) and classified as HEES fluid (ISO 15380). It also conforms EPA Vessel General Permit (VGP)

## Benefits

- High viscosity index and low pour point properties which can be used efficiently in board operating temperature range.
- Low environmental impacts and high biodegradability more than 60% by OECD 301B.
- Excellent wear and corrosion protections which result in extending service life of machine
- Excellent thermal and oxidative stability to reduce oil degradation and deposit formation extending oil drain intervals.
- Excellent hydrolytic stability to resist chemical decomposition in the presence of water.

## Applications

- Designed for industrial hydraulic systems which operate in wide temperature range and environmentally sensitive areas where ISO HEES category hydraulic fluids are recommended.
- Suitable for hydraulics of mobile, construction, mining and agricultural equipment.
- Recommended for marine applications requiring environmentally acceptable lubricants (EALs).



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## Typical Characteristics

Tests	Methods	Units	Results		
			32	46	68
Kinematic Viscosity at 40 °C	ASTM D 445	mm <sup>2</sup> /s	32	46	68
Kinematic Viscosity at 100 °C	ASTM D 445	mm <sup>2</sup> /s	6.1	8.1	11
Viscosity Index	ASTM D 2270		147	144	146
Density at 15°C	ASTM D 4052	g/cm <sup>3</sup>	0.937	0.9393	0.944
Density at 30°C	ASTM D 4052	g/cm <sup>3</sup>	0.9293	0.9301	0.9356
Flash Point (COC)	ASTM D 92	°C	280	264	290
Pour Point	ASTM D 97	°C	-36	-36	-36
Copper Strip Corrosion	ASTM D 130		1a	1a	1a
Foaming	Seq. I	ASTM D 892	ml/ml	10/0	10/0
	Seq. II	ASTM D 892	ml/ml	0/0	0/0
	Seq. III	ASTM D 892	ml/ml	0/0	0/0

## Performance Standards

- ISO 15380 HEES
- MAG (Cincinnati Milacron) P-68, P-69, P-70
- Bosch Rexroth RD 90220-1
- Parker (formerly Denison) HF-1, HF-2, HF-6
- Eaton 03-401-2010
- Vessel General Permit (VGP)

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## Health and Safety

This product shows no significant health or safety hazard when used under the recommended applications and suitable handling.

Avoid the direct contact. Wash immediately after contact. Health and safety information is available on the Safety Data Sheet (SDS) which can be obtained from <http://pttlubricants.pttor.com>



The product can cause some skin irritation and has flash point higher than 93.4°C

Note: Data and information contained in this publication are based on standard test under laboratory conditions and/or performance test. To consider the use of PTT Lubricants' products in particular application, customer is responsible for determining whether product and information are appropriate for customer conditions or should consult with PTT Lubricants' technical service division. The procedure of using any lubricant may differ or change depended on different machines and their manuals. Therefore, we recommend to read, understand and review the latest SDS in order to ensure the use of product is accomplished safety.

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