



# Finnexx Ornitho Oils

## TO Premium EP

### **PRODUCT DESCRIPTION**

Finnexx Ornitho TO Premium EP is a high temperature Multi-purpose turbine oil which can be used for gas and steam turbines. For this reason it is the preferred lubricant in combined cycle units lubricated with one system. It is manufactured from special base oils and a high-performance ashless additive package which provides excellent oxidation stability, anti-corrosion and anti-wear properties.

### **CUSTOMER BENEFITS**

- Provides a superior high temperature oxidation stability, which ensures a prolonged service life under high thermal and mechanical stress.
- Has a superior resistance to sludge formation and formation of acidic oxidation products, which avoids sticking valves and which ensures good protection of bearings.
- Has excellent water separating characteristics.
- Provides excellent foam resistance and air-release properties.

### **APPLICATIONS**

Finnexx Ornitho TO Premium EP is recommended for steam as well as gas turbines, with and without gearbox.

Finnexx Ornitho TO Premium EP is primarily recommended for use in heavy duty industrial gas turbines where reservoir oil temperatures can be up to 100 °C and where gas temperatures in the bearing housings exceeds 400 °C.

The excellent steam as well as gas turbine oil properties makes Finnexx Ornitho TO Premium EP the preferred lubricant for combined cycle units with one system. The all-round properties of Finnexx Ornitho TO Premium EP make it suitable for the lubrication of a wide range of equipment associated with the turbines for which it is recommended. Typical applications include air compressors, bath and circulating systems supplying bearings of all types, lightly to moderately loaded gear sets, pumps, electric motors and low to moderate pressure hydraulic systems.

**Not** recommended for aero derivative gas turbines in either aircraft or non-aviation service.

### **PERFORMANCE**

Standards	Finnexx Ornitho TO Premium EP		
	VG 32	VG 46	VG 68
DIN 51515/T1 L-TD and L-TG	√	√	√
ISO 8068 (type L-TSE and L-TGE)	√	√	√
BS 489	√	√	√
ASTM D4304	√	√	√



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Finnexx Ornitho TO Premium EP 32/46 is recommended in applications such as:

- Siemens TLV 9013 04 for use in turbosets with and without gearbox.
- Alstom HTGD 90117
- Skoda Power TP 0010P

### TYPICAL TEST DATA

Characteristic	Test methods	32	46	68
Appearance	Visual	Bright & Clear	Bright & Clear	Bright & Clear
Kinematic viscosity at 40°C, mm <sup>2</sup> /s	ASTM D445	32	46	68
Kinematic viscosity at 100°C, mm <sup>2</sup> /s	ASTM D445	5.6	6.9	8.8
Viscosity Index	ASTM D2270	112	112	109
Colour	ASTM D1500	0.5	0.5	0.5
Flash Point COC, °C	ASTM D92	226	230	244
Pour Point, °C	ASTM D97	-9	-9	-12
Density at 15°C, kg/l	ASTM D4052	0.862	0.867	0.870
Demulsibility at 54 °C, min.	ASTM D1401	40-40-0 (10)	40-40-0 (15)	40-40-0 (15)
Air release at 50 °C, min	DIN 51381	3	3	8
TAN, mg KOH/g	DIN 51558-1	0.1	0.1	0.1
Copper corrosion (3 h, 100 °C)	ASTM D130	1A	1A	1A
Rust B	ASTM D665B	Pass	Pass	Pass
Cleanliness	ISO 4406	16/14/>9	16/14/>9	17/15/10
Water Content	ASTM D6304	< 0,01	< 0,01	< 0,01
Foam all Seq. ml	ASTM D892	0	0	0
Filterability				
Level I/II	ISO 13357		95%/95%	
Index	ISO 13357		1,01	
Oxidation stability				
RPVOT, min.	ASTM D2272	+1000	+1000	+1000
TOST life, hrs. to 2 mg KOH/g	ASTM D943	+10000	+10000	+10000
FZG load stage	DIN 51354	12	12	12

Values are typical of production but will be subject to variation.



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**Health & Safety Note** – Always maintain good levels of personal hygiene when handling mineral oils. Wear protective clothing/gloves. Wash hands and skin areas where contact has occurred and avoid ingestion. See applicable Material Safety Data Sheet for further information.