



MAKER TURBO ARIES

Description

In order to comply with the stringent demands of the different turbine manufacturers, a type of lubricant that, attaining excellent values, complies with various rapid oxidation tests such as IP-280, ASTM-D-2272 and IP-328, as well as exceeding 4000 h in the conventional ASTM-D-943 test. Furthermore, these oils have passed radiation exposure tests, obtaining certification for use in nuclear power plants. They are specially recommended for nuclear and thermal power plant steam turbines requiring oils inhibited against oxidation, rust and with an extended service life. They can also be applied in all uses of Aries lubricants, obtaining greater durability.

Properties

- Extraordinary resistance to ageing and sludge formation.
- High resistance to rust.
- Great water separation capacity.
- Excellent anti-foam properties.
- Very good air elimination.
- Used by most turbines installed in Spain.

Quality levels, approvals and recommendations

- DOOSAN SKODA: Tp0010P* (ISO 32)
- ALSTOM: HTGD 90117 V0001T (ISO 32, ISO 46, ISO 68)
- DIN: 51506, L-VBL (ISO 32, ISO 46, ISO 68)
- DIN: 51517/2 - CL (ISO 32, ISO 46, ISO 68)
- GEK: 46506 E; 32568 J; 28143 B (ISO 32, ISO 46, ISO 68)
- ISO: 6743/3 - DAA (ISO 32, ISO 46, ISO 68)
- SIEMENS: TLV 901304 and TLV 901305 (Turbosets without Gearbox) (ISO 32, ISO 46)
- HOWDEN & KKK* (ISO 46)
- CSN: 65 6620 (ISO 32)
- DIN: 51515, L-TD (ISO 32, ISO 46, ISO 68)
- DIN: 8659-2 (ISO 32, ISO 46, ISO 68)
- ISO: 3498-CKB (ISO 32, ISO 46, ISO 68)
- ISO: 6743/5 TGB/TSA (ISO 32, ISO 46, ISO 68)
- SOLAR: ES 9-224 AA Class II (ISO 32, ISO 46)

*Formal approval



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Technical specifications

	UNIT	METHOD	VALUE		
ISO Viscosity Grade			32	46	68
Viscosity at 40 °C	cSt	ASTM D445	32	46	68
Viscosity at 100 °C	cSt	ASTM D445	5.4	6.8	8.5
Viscosity index	-	ASTM D2270	100	98	98
Density at 15 °C	g/cm3	ASTM D4052	0.873	0.877	0.883
Pour point	°C	ASTM D97	-15	-12	-12
Flash point, open cup	°C	ASTM D92	215	220	230
Water separability at 54 °C	min	ASTM D1401	<15	<15	<30
Rust resistance, method A	-	ASTM D665	Pass	Pass	Pass
Air release at 50 °C	min	ASTM D3427	2.5	2.5	4
Oxidation (TAN = 2)	h	ASTM D943	11,602	>10,000	>10,000
RPVOT	min	ASTM D2272	750	600	600
FZG, damage stage	-	ASTM D5182	9	10	10
TAN	mg KOH/g	ASTM D664	0.14	0.14	0.14
Oxidation (TAN = 2)	h	ASTM D943	>4,000	>3,000	>3,000

The above mentioned characteristics are typical values and should not be considered product specifications.