



# Turbine Oil XL

## Premium R&O Turbine and Circulating Oil

### General Description

Turbine Oil XL is a premium quality zinc-free rust and oxidation (R&O) inhibited turbine oil. It is designed for optimum control of oxidation, sludge, corrosion, maximizing industrial equipment life. It is exceptionally stable in the presence of moisture.

Turbine Oil XL is blended with the highest quality Group 2 base oils which allow for excellent thermal and oxidative stability. In addition, a balanced additive system provides supplementary oxidation and thermal stability, rust and corrosion protection, demulsibility and foam control.

The lighter ISO grades of Turbine Oil XL are used in steam, gas, or hydraulic turbines with or without gear reducers, as well as plain and rolling element bearings, compressors, vacuum pumps, air tools, air-line lubricators and low pressure hydraulic systems. (below 1000 psi/1200 rpm) **Use Indol® premium anti-wear oils in heavy duty, high pressure hydraulic systems.**

The heavier ISO grades of Turbine Oil XL are used as circulating oils in industrial applications, non-EP gear boxes, machine tools, speed reducers, roller chains, cone drives, slow speed plain and rolling element bearings.

### Features and Benefits

- **Oxidation Control:** Superior oxidation and thermal stability provides maximum oil, filter and equipment life.
- **Deposit Control:** Excellent control of sludge and varnish deposits which leads to longer equipment life, reduced maintenance and increased system reliability.
- **Hydrolytic Stability:** Superior hydrolytic stability minimizes acidity and copper varnish in the presence of moisture.
- **Water Separation:** Outstanding demulsibility characteristics allow water deposits to drain from the system while maintaining film strength and reducing wear with added protection against emulsions and filter plugging.
- **Rust and Corrosion Protection:** A unique rust inhibitor maximizes oil compatibility while preventing rust and corrosion of critical components.
- **Foam Control:** Special anti-foam technology promotes the rapid break up of air bubbles to minimize foam and air entrainment.

**Always check equipment manual, application and ambient temperatures for proper ISO viscosity grade.**

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### Turbine Oil XL is recommended when the following types of oil are called for:

- Cincinnati Lamb P38,54,55,57
- AGMA 9005-D94, US Steel 126 (R&O)
- Denison HF-1, MIL-L 17672D
- ASTM D4303 Type 1, 2 & 3 (non-EP)
- DIN 51515/17, DIN 51524 Part 1 & 2
- ISO 8068, British Standard 489
- ASTM D-943 Oxidation Test: 12,000 hrs
- AGMA 9005-F16 (R&O)
- GEK 101941A&B, GEK 46506E
- ISO 11158 HH & HL
- ISO 8068 TSA, TGA, TGE & TSE

### Typical Applications/Customers

Owners and operators of:

- Power plant turbines such as Alstom, ABB, GE, Westinghouse, Brown Boveri, ASA Brown, Siemens, and Solar
- Enclosed gear reducers and bearings not requiring an AGMA EP type oil
- Centrifugal, rotary, reciprocating compressors and vacuum pumps
- Irrigation gear drives

### Typical Properties

ISO Viscosity Grade	22	32	46	68	100	150	220	320	460
API Gravity / lbs./gal.	33.5/7.14	33.2/7.16	32.2/7.20	30.7/7.26	30.4/7.28	28.9/7.33	28.0/7.38	27.5/7.47	27.0/7.42
Viscosity @ 100°C, cSt	4.2	5.4	6.9	8.6	11.8	14.7	19.0	24.0	32.0
	SUS 39.9	43.3	48.1	54.3	63.1	77.9	96.3	116.2	151
Viscosity @ 40°C, cSt	21.0	31.7	45.7	65.8	101.4	153.0	218.1	324	460.0
	SUS 118	160	225	330	490	750	1160	1620	2410
Viscosity Index	102	104	107	102	105	95	98	95	101
Pour Point, °F / °C	-44 / -42	-44 / -42	-33 / -36	-27 / -33	-22 / -30	5 / -15	+15/-9.5	+21/-6	+20/-6.7
Total Acid Number	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Copper Corrosion	1A	1A	1A	1A	1A	1A	1A	1A	1A
Rust Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
5 Metals Test (Pitting/Etching)	None	None	None	None	None	None	None	None	None
FZG Load Stage	11	11	11	11	11	11	11	11	11

Cenex® Turbine Oil XL meets industry zinc-free specifications only in new sealed packaged containers from CHS Lubricant manufacturing plants. The typical properties listed reflect the general characteristics of the product and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

### Health & Safety

A complete safety data sheet is available by calling 1-651-355-8438 or visit [cenex.com/sds-library](http://cenex.com/sds-library).