

FBK TURBINE

Premium Turbine Oil with Additives

FBK TURBINE is the first domestically produced turbine oil with additives in Japan. It is designed with superior quality and performance for lubricating cutting-edge thermal turbines operated with high-temperature, high-pressure steam. **FBK TURBINE** is suitable for various types of turbines, including nuclear, steam, gas, and hydro turbines. In addition, **FBK TURBINE** can be widely used as a lubricating oil or a hydraulic fluid in a variety of industrial machinery.

● Special Features

1. Superior Oxidation Stability

Continuous long-term use of lubricating oil can lead to degradation, sludge formation, and potential harm to machinery operations. This is particularly critical for cutting-edge high-temperature, high-pressure steam turbines, which require turbine oils with superior oxidation stability to avoid accidents and reduce the frequency of oil changes. **FBK TURBINE** exhibits outstanding oxidation and thermal stability which can withstand long-term use under harsh conditions. Its superior performance has been proven by consistent excellent results in numerous thermal and hydroelectric power plants operated by electric power companies.

2. Superior Rust Prevention

If water enters a lubrication system, it may cause rust to form inside the system, thus hindering the smooth operation of the machinery. The powerful rust preventive agents contained in **FBK TURBINE** provide outstanding rust prevention performance. As a result, it keeps rust from forming inside the lubricating system even during long periods of continuous use.

3. Excellent Antifoaming Characteristics

Foaming in lubricating oils or hydraulic fluids can occur when oil and air are vigorously stirred, when air is drawn in through leaks in the piping, or when air and other gases dissolved in the oil are suddenly released. While it is crucial to investigate and address the root causes of foaming, it is also important for the oil itself to have the ability to quickly eliminate any formed foam.

FBK TURBINE is formulated with special antifoaming agents to enhance this capability, demonstrating superior practical performance in preventing foam formation.

4. Excellent Demulsibility and Water Separation

When water contaminates lubricating oils or hydraulic fluids, it often leads to emulsification, which can make operations unstable. Therefore, oils that resist emulsification and facilitate the separation of water are preferred.

FBK Turbine exhibits superior water separation capabilities, ensuring that emulsification issues do not occur by water contamination.

5. Excellent Viscosity-Temperature Characteristics and Low-Temperature Performance

FBK TURBINE exhibits minimal viscosity changes with temperature fluctuations and has a low pour point, providing high-performance also as a hydraulic fluid.

● Types

FBK TURBINE is available in five viscosity grades: 32, 46, 56, 68, and 100, allowing for the selection of the optimal oil based on usage conditions. Additionally, viscosity grades 32, 46, and 68 meet the specifications of JIS K2213 Type 2 (turbine oil with additives).

● Applications

FBK TURBINE can be widely used for lubricating various types of industrial machinery, including:

- (1) Nuclear, steam, gas, and hydro turbines.
- (2) Various electric generators and motors.
- (3) Medium and small-sized compressors, blowers and pumps.
- (4) Light-load gear reducers, machine tools, and other industrial machines.
- (5) Various hydraulic systems.

● Containers

200-liter drum and 20-liter pail can

● Typical Properties of FBK TURBINE

ISO Viscosity Grade		32	46	56*	68	100
Color (ASTM)		L0.5	L0.5	L0.5	L0.5	L1.0
Density (15°C)	g/cm ³	0.841	0.847	0.859	0.868	0.879
Kinematic viscosity (40°C)	mm ² /s	31.8	45.8	54.7	66.3	99.9
Kinematic viscosity (100°C)	mm ² /s	5.95	7.59	8.23	9.07	11.5
Viscosity index		135	132	122	112	102
Flash point (COC)	°C	236	254	250	256	262
Pour point	°C	-20.0	-20.0	-15.0	-15.0	-15.0
Acid number	mgKOH/g	0.08	0.07	0.07	0.07	0.08
Copper strip corrosion (100°C, 3 h)		1	1	1	1	1
Rust prevention (artificial sea water, 60°C, 24 h)		No rust	No rust	No rust	No rust	No rust

*: Special viscosity grade which is not included in the ISO viscosity grades.

Note: The typical properties may be changed without notice. (May 2024)



Handling Precautions

▼ Follow these precautions when handling this product.

Composition :	Base Oil(s), Additives
Hazard pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Harmful to aquatic life Harmful to aquatic life with long lasting effects
Precautionary Statements: Prevention	<ul style="list-style-type: none"> • Do not handle until all safety precautions have been read and understood. • Wear protective gloves/protective clothing/eye protection/face protection. • Do not allow the eyes to become exposed to the product. Do not swallow the product. • Avoid release to the environment. • Wash hands thoroughly after handling. • Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none"> • IF SWALLOWED: Immediately call a POISON CENTER/doctor. • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. • If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician. • IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none"> • The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight. • Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none"> • Dispose of contents/container in accordance with local/regional/national/international regulations. • If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.