GST Advantage EP

High performance industrial gas and steam turbine oils

Product description

Texaco® GST Advantage™ EP are high performance oils, formulated with VARTECH® Technology, which is advanced chemistry combined with premium base oils designed to inhibit varnish formation and help maintain peak performance, reliability and productivity.

GST Advantage EP oils are recommended for use in gas and steam turbines with and without loaded gearboxes.

Customer benefits

- Premium base oil technology in an ashless, zinc-free design offers oxidation stability and long service life at high temperatures
- High viscosity index helps ensure minimum viscosity change when variations in temperature occur
- Formulated for minimal sludge and varnish formation
- Offers rapid water separation and helps keep water in oil to a minimum
- Promotes rust and corrosion protection
- Designed for resistance to foam formation, helping prevent reservoir overflow
- Quick air release helps minimise pump cavitation in systems with high circulation rates and small reservoirs

Product highlights

- **Designed for long service life at high temperatures**
- **Helps minimise viscosity change at high temperatures**
- **Formulated for minimal sludge and varnish**
- **Offers rapid water separation**
- **Promotes rust and corrosion protection**
- **Aids resistance to foam formation**
- **Quick air release formulation**

Selected specification standards include:

Ansaldo Energia	ANSI/AGMA
ASTM	British Standard
China National Standard	DIN
GE Oil and Gas	GEC Alstom
General Electric	JIS
MAG Cincinnati Machine	MAN Energy Solutions
Masada	Siemens
Siemens Westinghouse	Solar
TGM Kanis Turbinen	Toshiba

Applications

GST Advantage EP oils are designed to meet the critical lubrication demands of:

- Combined cycle turbines
- Large heavy duty industrial gas turbines
- Gas and steam turbines
- Hydraulic Turbines
- Rotating machinery in gas and steam combined-cycle cogeneration units
- They are recommended for many other industrial applications including hydraulic/controller liquids, turbo and process-gas screw compressor sets
- Bath and circulating systems supplying moderately loaded gear sets, low pressure hydraulic systems, vacuum pumps, rolling element bearings, machine tools, conveyors and electrical motors
- Air compressors, turbo-blowers and centrifugal pumps requiring a rust and oxidation inhibited anti-wear oil

Approvals, performance and suitable for use

	ISO 32	ISO 46	ISO 68
Ansaldo Energia AD00020487 (previously Ansaldo Energia G-HTCT689029)	A	A	
Ansaldo Energia TGO2-0171-E00000/C, AE64.3A	A	A	
SIEMENS TLV 9013 04 / 05	A	A	
MAN Energy Solutions 10000494596	A	A	A
Masada Steering Gear, SFC/DFT type		A	A
TGM Kanis WN000023 Rev. 15	A	A	
ASTM 4304 - type I / type II / type III	M	M	M
ANSI/AGMA 90005-E02-R&O / EP	M	M	M
BS-489: 1999	M	M	M
China National Std GB 11120-2011 L-TSA Type A / Type B	M	M	M
China National Std GB 11120-2011 L-TSE Type A (Type B not existed)	M	M	M
China National Std GB 11120-2011 L-TGA / L-TGE	M	M	M
DIN 51515 Pt. 1 2010-02, TD32, 46, 68,100	M	M	M
DIN 51515 Pt. 2 , 2010-02, TG32&46	M	M	
GEC Alstom NBA P50001A / P50003A	M	M	

GEK 101941A / 107395A / 120498 / 27070	M		
GEK 28143B	M	M	M
GEK 28143B, AW	M	M	
GEK 32568e-P	M		
GEK 46506 d, e	M		
GE Oil and Gas, ITN52220.02 Table 1 Section 1, 2,3	M	M	M
GE Oil and Gas, ITN52220.03 Par 16, Table 1 Section 1,2, 4	M	M	M
ISO 8068 AR / B / L-TSA / L-TGA / L-TSE / L-TGE	M	M	M
JIS K2213 type 2	M	M	M
Siemens MAT 812101 / 812106 / 812108	M		
Siemens MAT 812102 / 812107 / 812109		M	
Siemens Westinghouse PD-55125Z3	M		
SOLAR ES-9-224 Class II W	M	M	
Toshiba LST-GMH-XUTW2-0005 Rev. 2	M		
Skoda Power TP0010P	M	M	
Cincinnati Machine (MAG) P-38	M		
Cincinnati Machine (MAG) P-55		M	
Cincinnati Machine (MAG) P-63			M
ASTM D6158-HL	M	M	M
ISO 11158-HM	M	M	M
DIN 51524/1 HL	M	M	M

A: Approved

M: Meets or exceeds requirements

Product maintenance and handling

Premium quality turbine oils must be capable of lubricating and cooling bearings while protecting the system against rust, corrosion and harmful deposits. Since turbine equipment is normally used in key applications, the reliability of the rotating machinery and its lubricant is critical.

Periodic monitoring of the oil in service is recommended to assure satisfactory performance of the turbine. The principal reasons for monitoring are two-fold:
Firstly to determine the condition of the used oil and secondly, to disclose environmental or operational problems within the equipment. The oil should be visually inspected by the operator at frequent intervals for contaminants and/or appearance changes. Refer to ASTM D4378 or OEM manuals for guidance on sampling and testing frequency. Samples should be taken from the discharge side of the oil pump while the system is circulating.

During service, effective purification of the lubricating oil is recommended for the removal of contaminants such as water and solids.

Care should be taken to ensure against top-up and/or contamination from other products, as this could reduce the performance characteristics of GST Advantage EP.

- Not intended for use in aviation-derivative gas turbines.
- Must not be used in breathing air compressors.
- Do not use in high pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
- Avoid any spillage of used and unused product to the environment.
- Product residue and package/container should be disposed of in dedicated collection points.

Typical test data

Test	Test Methods	Results		
Viscosity Grade		**32**	**46**	**68**
Shelf Life: 60 months from date of filling indicated on the product label				
Appearance	Visual	Bright and Clear	Bright and Clear	Bright and Clear
Colour	ASTM D1500	L0.5	L0.5	L0.5
Kinematic Viscosity at 40°C, mm²/s	ASTM D445	34.2	42.4	68
Kinematic Viscosity at 100°C, mm²/s	ASTM D445	5.813	6.55	8.9
Viscosity Index	ASTM D2270	112	105	104
Density at 15°C, kg/l	ASTM D1298	0.859	0.865	0.87
Flash Point, °C	ASTM D92	226	234	258
Air Release at 50°C, min	ASTM D3427	1.0	2.0	3.0
Pour Point, °C	ASTM D97	-36	-34	-32
FZG Load carrying capacity (load stage)	ASTM D5182	10	10	10
Oxidation Stability - Hours to 2.0 mg KOH/g	ASTM D943	>10000	>10000	>10000
RPVOT, min	ASTM D2272	2200	2100	1800

The typical test data set out above does not constitute a specification. It is indicative only and can be affected by allowable production tolerances. Chevron may modify this test data. Modified data will supersede all previous data, so please ensure you refer to the latest version of this Product Data Sheet (PDS).