

GST Advantage™ RO with VARTECH™ Technology



Industrial Gas and Steam Turbine Oil



Product description

VARTECH™ Technology:

GST Advantage™ RO is formulated with VARTECH™ Technology which is advanced chemistry that helps:

- Improve oxidation stability
- Reduce oil degradation
- Extend oil life by limiting harmful precursors that can lead to varnish formation

VARTECH™ Technology inhibits varnish formation to help maintain peak performance, reliability and productivity.

Customer benefits and product features

Customer benefits

- **Exceptional Oxidation and Thermal Stability** assists with long service life at severe temperatures with **Minimal Deposit Formation**
- **Low Varnish Potential** helps minimize varnish formation in order to protect the equipment
- **Outstanding Rust and Corrosion Protection**
- **High Viscosity Index** helps ensure minimum viscosity change when variations in temperature occur
- **Minimal Foaming** helps prevent sump overflow or erratic governor operation
- **Fast Air Release** helps minimize possibility of pump cavitation in systems with high circulation rates and lesser resonance time
- **Rapid Water Separation** facilitates water removal
- **Hydraulic Fluid Service** for systems requiring an ISO 32/46 viscosity oil and pressures not exceeding 1000 psi
- **Air Compressor Lubricant** for systems requiring an ISO 32/46 viscosity, R&O oil

Product features

- **GST Advantage™ RO** turbine oil has exceptional thermal and oxidative stability. It is suitable for use in gas and steam turbines where extreme temperatures are experienced and require circulation systems with exceptional high temperature stability
- **GST Advantage™ RO** turbine oil combines highly refined group II base stocks and an advanced additive package to help minimize the formation of deposits in reservoirs, high temperature bearings and other hot areas of the turbine

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Applications

- Non-geared gas, steam and hydroelectric turbines
- Rotating machinery in gas and steam combined-cycle cogeneration units
- Air compressors, turbo-blowers and centrifugal pumps requiring a rust and oxidation inhibited oil
- Marine reduction gears where R&O oils are specified
- Industrial applications requiring R&O type circulating oils with extended service capability

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.

Product approvals, performance and recommendations

GST Advantage™ RO approval of the following specifications:

- Siemens TLV 901304 and TLV 901305 (non-geared turbine)
- MAN Diesel & Turbo TQL T2 : now called MAN Energy Solutions 10000494596
- Ansaldo Energia TG02-0171-E00000, AE94.3 A & AE94.2 (ISO 46)
- Ansaldo Energia (Alstom) G-HTCT 689029 (Pending)
- GE Specification HTGD 90117 V0001 AC (Pending)

GST Advantage™ RO meets the requirements of the following specifications:

- Mitsubishi Hitachi Power Systems (erstwhile Mitsubishi Heavy Industries) MS04-MA-CL002 / MS04-MA-CL001
- General Electric GEK 121608, GEK 32568k, GEK 28143b, GEK 46506e, GEK27070, GEK 107395 including GE Frame 9HA.01 Gas turbines
- GEC Alstom NBA P5001A/ P50003A
- Solar Turbine ES9-224 Class II
- Suitable for use in Peter Brotherhood Steam Turbines
- ANSI/ AGMA 9005-E02-R&O
- ASTM D4304-Type I / Type III (for non-geared turbines)
- British Standard BS 489:1999
- DIN 51515-1 and 51515-2
- ISO 8068-L-TSA and L-TGA
- JIS K-2213 Type II
- Chinese Specification GB1120-2011 L-TGA and L-TSA (Type A and Type B)

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Typical test data

GST ADVANTAGE™ RO KEY PROPERTIES	TEST METHODS ASTM	TYPICAL RESULTS	
ISO Grade		32	46
Product Code		520035	520036
Air Release @ 50°C, mins	D 3427	1.0	2.3
Flash Point, COC, °C	D 92	222	236
Oxidation Stability, TOST life, hrs to 2.0 Acid No.	D 943	10,000	10,000
D2272, RPVOT, mins	D 2272	1500	1600
Pour Point, °C	D 97	-12	-13
Viscosity, mm ² /s @ 40°C	D 445	34.20	42.40
mm ² /s @ 100°C	D 445	5.67	6.50
Viscosity Index	D 2270	104	103

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ENVIRONMENT, HEALTH and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the [Product Information Center](#).

This Product Data Sheet (PDS) was produced for the Asia Pacific region based on the best available information at the time of issue. The specific information included may not directly reflect the market or conditions, and may vary. For the most up-to-date, country-specific information, please contact your local customer service center.