INDUSTRIAL LUBRICATION SOLUTIONS

High-Performance Engineering for Modern Industrial Machinery & Equipment

GAUGE ENERGY | GAUGE LUBRICANTS delivers high-performance lubrication solutions engineered to support the demanding requirements of modern industrial machinery and equipment.

Our industrial portfolio includes hydraulic oils, gear oils, compressor oils, circulating oils, turbine oils, industrial greases and specialty lubricants, formulated to provide dependable protection and consistent performance across a wide range of operating conditions.

Our solutions are designed to help reduce wear, control corrosion, maintain equipment cleanliness, manage operating temperatures and support reliable equipment performance, contributing to longer service life and improved operational efficiency.

From manufacturing and processing facilities to heavy-duty machinery and industrial operations, GAUGE ENERGY | GAUGE LUBRICANTS provides lubrication solutions built for performance, protection and reliability.

PORTFOLIO HIGHLIGHTS

- **Hydraulic Systems:** Superior anti-wear protection and thermal stability across multi-viscosity grades.
- **Industrial Gears:** High load-carrying capacity and micropitting protection for heavy-duty gearboxes.
- **Compressors & Turbines:** Outstanding oxidation resistance, deposit control, and rapid water separation.
- **Electrical Insulating:** High dielectric strength and thermal dissipation for power transformers.

GAUGE ENERGY | GAUGE LUBRICANTS

Global Standards • Local Strength

www.gaugeenergy.com

GAUGE TRANSFORMER OIL

Specialized Mineral-Based Electrical Insulating Fluid

GAUGE Transformer Oil is a specialized, highly refined mineral-based fluid engineered to provide electrical insulation, suppress corona discharge, and dissipate thermal energy in power transformers, switchgear, and circuit breakers.

CORE PERFORMANCE GRADES

Under international standards such as **IEC 60296**, insulating oils are categorized based on their oxidation stability, processing origin, and low-temperature fluidity:

- **Uninhibited Oils (Type U / Class I):** Manufactured without synthetic oxidation additives, relying purely on the inherent stability of deep-hydrotreated mineral stocks. Ideal for standard distribution transformers operating under moderate thermal loads.
- **Inhibited Oils (Type A / Class II):** Blended with chemical antioxidants (such as 2,6-di-tert-butyl-p-cresol) to significantly retard sludge formation and extend operational life under continuous heavy-duty loads.
- **Trace Inhibited Oils:** Formulated with minimal antioxidant concentrations to balance initial cost-efficiency with moderate oxidation resistance.

Nominal ISO Grade: ISO VG 10 (with a typical kinematic viscosity around 9 to 11 mm^2/s at 40°C).

TYPICAL LABORATORY CHARACTERISTICS

Property	Test Method	Typical Value (Uninhibited)	Typical Value (Inhibited)
Appearance / Color	Visual	Clear & Bright	Clear & Bright
Kinematic Viscosity @ 40°C	ISO 3104	10.0 mm^2/s	10.2 mm^2/s
Density @ 20°C	ISO 3675	0.885 g/cm^3	0.882 g/cm^3
Flash Point (Closed Cup)	ISO 2719	> 140°C	> 145°C
Pour Point	ISO 3016	≤ -40°C	≤ -42°C
Dielectric Breakdown Voltage	IEC 60156	> 50 kV (before treatment)	> 70 kV (after treatment)
Interfacial Tension @ 25°C	EN 14210	> 40 mN/m	> 42 mN/m

GAUGE ENERGY | GAUGE LUBRICANTS
Global Standards • Local Strength • www.gaugeenergy.com

GAUGE INDUSTRIAL HYDRAULIC OILS

Reliable Lubrication and Anti-Wear Protection for Hydraulic Systems

GAUGE ENERGY | GAUGE LUBRICANTS Industrial Hydraulic Oils are formulated to provide reliable lubrication and protection for hydraulic systems operating across a wide range of industrial applications and operating conditions.

Our hydraulic oil range is available in multiple ISO viscosity grades to accommodate different equipment designs, operating temperatures, load requirements and hydraulic system specifications. They are engineered to reduce wear, control corrosion, maintain system cleanliness, and prevent foam formation.

AVAILABLE ISO VG GRADES

- **ISO VG 22:** For lighter-duty and high-speed hydraulic applications
- **ISO VG 32:** Suitable for high-speed hydraulic systems and general industrial equipment
- **ISO VG 46:** A versatile, general-purpose grade for a broad range of industrial hydraulic systems
- **ISO VG 68:** Designed for higher-load and higher-temperature operating conditions
- **ISO VG 100:** For slower-moving systems and applications requiring higher-viscosity hydraulic oil
- **ISO VG 150:** For specialized, heavy-duty hydraulic applications
- **ISO VG 220:** For heavily loaded, slow-speed hydraulic applications where higher viscosity is specified

TYPICAL LABORATORY CHARACTERISTICS

Property	Test Method	ISO VG 32	ISO VG 46	ISO VG 68
Kinematic Viscosity @ 40°C	ISO 3104	32 cSt	46 cSt	68 cSt
Kinematic Viscosity @ 100°C	ISO 3104	5.4 cSt	6.8 cSt	8.7 cSt
Viscosity Index	ISO 2909	100	100	98
Flash Point (COC)	ISO 2592	215°C	220°C	230°C
Pour Point	ISO 3016	-27°C	-24°C	-21°C
FZG Scuffing Test (Fail Stage)	DIN 51354-2	10	10	11

GAUGE ENERGY | GAUGE LUBRICANTS
Global Standards • Local Strength • www.gaugeenergy.com

GAUGE INDUSTRIAL GEAR OILS

Reliable Protection for Industrial Gear Systems

GAUGE ENERGY | GAUGE LUBRICANTS Industrial Gear Oils are formulated to provide reliable lubrication, wear protection, load-carrying performance and oxidation stability for demanding industrial gear systems.

Suitable for industrial gearboxes, enclosed gear drives, heavy-duty machinery, conveyors, crushers and other high-load industrial equipment, subject to the equipment manufacturer's specifications.

AVAILABLE ISO VG GRADES

ISO VG 68 | 100 | 150 | 220 | 320 | 460 | 680

PERFORMANCE & PROTECTION FEATURES

- **Extreme Pressure (EP) Performance:** Protects gear teeth against micropitting, scuffing, and shock-load wear under boundary lubrication conditions.
- **Thermal & Oxidation Stability:** Resists oil thickening and varnish formation at elevated operating temperatures.
- **Demulsibility & Corrosion Protection:** Rapidly separates water and prevents rust formation on ferrous metal components.

TYPICAL LABORATORY CHARACTERISTICS

Property	Test Method	ISO VG 150	ISO VG 220	ISO VG 320
Kinematic Viscosity @ 40°C	ISO 3104	150 cSt	220 cSt	320 cSt
Kinematic Viscosity @ 100°C	ISO 3104	14.8 cSt	19.0 cSt	24.2 cSt
Viscosity Index	ISO 2909	95	95	95
Flash Point (COC)	ISO 2592	238°C	245°C	252°C
FZG Scuffing Test (Fail Stage)	DIN 51354-2	> 12	> 12	> 12
Copper Strip Corrosion (@ 100°C, 3h)	ISO 2160	1B	1B	1B

GAUGE ENERGY | GAUGE LUBRICANTS
Global Standards • Local Strength • www.gaugeenergy.com

GAUGE COMPRESSOR OILS

Dependable Lubrication and Deposit Control for Air and Gas Compressors

GAUGE ENERGY | GAUGE LUBRICANTS Compressor Oils are formulated to provide dependable lubrication, oxidation stability, wear protection and deposit control for industrial air and gas compressors operating under demanding conditions.

Engineered for rotary screw, reciprocating, and vane compressors, these oils maintain film integrity at high discharge temperatures while preventing carbon and varnish accumulation on valves and discharge lines.

AVAILABLE GRADES

ISO VG 32, 46, 68, 100, 150 and 220

KEY BENEFITS

- Low volatility and carbon residue formation
- Excellent demulsibility for efficient condensate separation
- Strong anti-rust and anti-foam performance

TYPICAL LABORATORY CHARACTERISTICS

Property	Test Method	ISO VG 46	ISO VG 68	ISO VG 100
Kinematic Viscosity @ 40°C	ISO 3104	46 cSt	68 cSt	100 cSt
Kinematic Viscosity @ 100°C	ISO 3104	6.8 cSt	8.7 cSt	11.2 cSt
Density @ 15°C	ISO 3675	0.875 g/ml	0.880 g/ml	0.886 g/ml
Flash Point (COC)	ISO 2592	222°C	234°C	242°C
Conradson Carbon Residue	ISO 10370	< 0.05%	< 0.05%	< 0.08%
Demulsibility @ 54°C	ISO 6614	≤ 20 mins	≤ 20 mins	≤ 30 mins

GAUGE ENERGY | GAUGE LUBRICANTS
Global Standards • Local Strength • www.gaugeenergy.com

GAUGE CUTTING OILS

Precision Machining Fluids and Coolants

GAUGE ENERGY | GAUGE LUBRICANTS Cutting Oils provide exceptional cooling, lubricity, surface finish, and tool life extension across a wide spectrum of metal removal and machining operations, including turning, milling, drilling, and grinding.

Formulated with advanced anti-weld and lubricity additives, our cutting fluids minimize friction at the tool-chip interface, reducing heat generation and preventing built-up edge (BUE) formation on ferrous and non-ferrous metals.

AVAILABLE GRADES & TYPES

Soluble / Emulsifiable Grades & Neat Cutting Oils (Light, Medium & Heavy Duty)

KEY BENEFITS

- Superior cooling and rapid heat dissipation
- Excellent surface finish and dimensional accuracy
- Bio-stable formulations resisting bacterial and fungal growth

TYPICAL LABORATORY CHARACTERISTICS

Property	Test Method	Neat Cutting Oil	Soluble Cutting Oil (Emulsion)
Appearance (Concentrate)	Visual	Amber / Clear Liquid	Dark Amber Fluid
Appearance (Emulsion @ 5%)	Visual	N/A (Neat)	Milky / Translucent White
Kinematic Viscosity @ 40°C	ISO 3104	22 cSt	35 cSt (Mineral Base)
Flash Point	ISO 2592	> 175°C	> 150°C
pH Value (5% Aqueous Solution)	ASTM E70	N/A	8.8 - 9.4
Corrosion Test (IP 287)	IP 287	Pass (0% rust)	Pass (2% pass @ 4.0%)

GAUGE ENERGY | GAUGE LUBRICANTS
Global Standards • Local Strength • www.gaugeenergy.com

GAUGE TURBINE OILS

High-Performance Circulating & Turbine Lubrication

GAUGE ENERGY | GAUGE LUBRICANTS Turbine Oils provide reliable lubrication, exceptional thermal stability, and superior rust and corrosion protection for continuously lubricated industrial machinery, bearings, gears, circulation systems, and steam/gas turbines.

Formulated from highly refined paraffinic base oils combined with ashless oxidation and rust inhibitors, ensuring long service life under severe high-speed bearing conditions.

AVAILABLE GRADES

ISO VG 32, 46, 68, 100, 150, 220 and 320

PERFORMANCE & PROTECTION

- Outstanding resistance to thermal and chemical degradation
- Rapid air release and excellent demulsibility
- Effective protection against rust and copper corrosion

TYPICAL LABORATORY CHARACTERISTICS

Property	Test Method	ISO VG 32	ISO VG 46	ISO VG 68
Kinematic Viscosity @ 40°C	ISO 3104	32 cSt	46 cSt	68 cSt
Kinematic Viscosity @ 100°C	ISO 3104	5.4 cSt	6.8 cSt	8.7 cSt
Viscosity Index	ISO 2909	102	102	100
Flash Point (COC)	ISO 2592	218°C	226°C	238°C
TOST Life (Oxidation Stability)	ASTM D943	> 10,000 hrs	> 10,000 hrs	> 10,000 hrs
Air Release @ 50°C	ISO 9120	≤ 2 mins	≤ 3 mins	≤ 4 mins