PANO Wind Energy Lubricant Testing & Monitoring Services

Ensure maximum uptime and extend the lifespan of your wind turbines.

Our comprehensive oil and grease analysis programs are designed to monitor the health of your wind turbine components. By detecting wear, contamination, and fluid degradation early, we help you transition from reactive to predictive maintenance, reducing downtime and operational costs.

Below are our standardized testing packages tailored for specific wind turbine applications.
Standard Testing Packages

Package A: Standard Oil Package A
Target Application: Gear oil.
Test Parameters & Methods:
Appearance: Visual Inspection
Kinematic Viscosity (40℃): ASTM D445 / GB/T 265 / GB/T 11137 / ASTM D7279 / GB/T 30515 / ISO 3104 / NB/SH/T 0956
Water Content: ASTM D6304 / GB/T 11133
Total Acid Number (TAN): ASTM D664 / GB/T 7304 / ASTM D974 / GB/T 4945
Elemental Spectrometric Analysis: ASTM D5185 / GB/T 17476 / ASTM D6965 / NB/SH/T 0865

Package B: Standard Oil Package B
Target Application: Main gearbox oil and hydraulic oil.
Test Parameters & Methods:
Appearance: Visual Inspection
Kinematic Viscosity (40℃): ASTM D445 / GB/T 265 / GB/T 11137 / ASTM D7279 / GB/T 30515 / ISO 3104 / NB/SH/T 0956
Water Content: ASTM D6304 / GB/T 11133
Total Acid Number (TAN): ASTM D664 / GB/T 7304 / ASTM D974 / GB/T 4945
Elemental Spectrometric Analysis: ASTM D5185 / GB/T 17476 / ASTM D6965 / NB/SH/T 0865
Cleanliness (ISO 4406): ISO 11500 / DL/T 432 / GB/T 37163 / ASTM D7647

Package C: Standard Grease Package C
Target Application: Main bearings, pitch bearings, and generator bearings.
Test Parameters & Methods:
Appearance: Visual Inspection
Elemental Spectrometric Analysis: NB/SH/T 0864 / ASTM D7303
PQ Index: ASTM D8184

Water Content: ASTM D6304 / GB/T 11133 / GB/T 512 / GB/T 260 / ASTM D95

Optional Advanced Diagnostics

Ferrography Analysis (Optional)

Method: SH/T 0573 or ASTM D7690

Trigger Condition: This advanced analysis is highly recommended and automatically added if the following thresholds are exceeded in standard testing:

Iron content > 1000 ppm

Copper content > 200 ppm

PQ Index > 2000

Why Choose Our Wind Energy Testing Services?

Wind-Specific Expertise: We understand the unique severe operating conditions of wind turbines (high loads, temperature fluctuations, and remote locations).

Comprehensive Standards: We utilize internationally recognized ASTM, ISO, and GB testing methods for high accuracy and repeatability.

Early Fault Detection: Catch micropitting, water ingress, and severe wear before catastrophic component failure occurs.

Contact us today to schedule your sampling kits and protect your wind assets!