



PORTABLE LIQUID PARTICLE COUNTER

Portable Liquid Particle Counter TT-4406B

Portable Liquid Particle Counter TT-4406B is engineered based on the light blockage method principle, specifically for rapid onsite detection of oil contamination levels.

Portable Liquid Particle Counter TT-4406B offers the benefits of compact size, lightweight construction, swift detection speed, high precision, excellent repeatability, and the ability to operate under extreme conditions like high temperatures and pressures. With built-in micro water and temperature sensors, it can detect water content, temperature, and oil pollution levels. This device finds extensive applications in aerospace, petrochemical, transportation ports, iron and steel metallurgy, automobile manufacturing, and various other fields for analyzing hydraulic oil, lubricating oil, transformer oil (insulation oil), turbine oil, gear oil, engine oil, and other oil types.

APPLICATIONS

The primary application of the Portable Liquid Particle Counter TT-4406B is the rapid, on-site analysis of fluid contamination. Using the light blockage method, it provides immediate data on the level of particulate contamination, water content, and temperature in various oils. This allows for real-time condition monitoring and predictive maintenance, helping to prevent equipment failures caused by dirty or contaminated oil.

Key Industries

- **Industrial Manufacturing (e.g., Steel Metallurgy, Automotive):** This is a core industry for the instrument. It is used for on-the-spot checks of hydraulic fluids and lubricating oils in critical manufacturing machinery, helping to prevent costly unplanned downtime and extend equipment life.
- **Aerospace:** The cleanliness of hydraulic fluid is a critical safety parameter in aircraft. This portable counter is used by maintenance crews for on-tarmac or in-hangar checks to ensure fluid quality and the reliability of flight control and landing gear systems.

- **Heavy Equipment (e.g., Construction, Mining, Marine):** Operators of expensive heavy machinery rely on this tool for field-based predictive maintenance. By regularly testing hydraulic, transmission, and engine oils on-site, they can detect early signs of wear or contamination and schedule maintenance before a catastrophic failure occurs.

FEATURES

- Utilizing the light blockage method principle and using high-precision laser sensors, this device offers compact size, high precision, and stable performance.
- It is well-suited for both laboratory and on-site detection, and can be adapted for online high-pressure measurements with a pressure-reducing device for real-time monitoring of oil particle contamination.
- Equipped with a built-in calibration function, it can be calibrated according to ISO4402 and other standards.
- Featuring a built-in data analysis system, it automatically determines sample grades according to standards, and offers automatic data processing and printing capabilities.
- Users can set alarm levels as desired, receiving prompts when contamination exceeds set limits, facilitating pollution or cleanliness detection.
- The alarm level is customizable, providing alerts when contamination exceeds set limits for effective pollution or cleanliness detection.
- An external pressure chamber can be connected to establish positive or negative pressure, facilitating high viscosity sample detection and sample degassing.
- The washing mode can be adjusted based on volume or time, ensuring user convenience in operation and maintenance.
- English Language.
- With a super large storage capacity, data can be optionally stored internally or on external storage devices connected to the instrument.
- Its embedded design, coupled with a high-strength shell, makes it easy to carry and suitable for various construction machinery applications.

TECHNICAL SPECIFICATIONS

No.	Parameter	Specification
1	Light Source	Semiconductor laser
2	Viscosity Range	≤100cSt (Optional air pressure chamber available for higher viscosity)
3	Flow Rate Range	5 to 60 mL/min (Typical value: 30mL/min)
4	Online Testing Pressure Range	0.1 to 0.6Mpa (Maximum pressure up to 42 MPa with decompression device)
5	Sample Temperature Range	0 to 80°C
6	Particle Size Range	1μm to 500μm (Dependent on sensor type)
7	Sensitivity	1μm/4μm(c)
8	Standards Compliance	SAE4059F-CPC, ISO4406, NAS1638/SAE4059F, GOST17216
9	Volume Range	1 to 999mL
10	Accuracy	±0.5 contamination levels
11	Test Interval Range	1s to 24h
12	Coincidence Deviation Limit	40,000 p/ml
13	Data Storage	Supports 1000 groups of data storage internally, with additional support for U disk storage
14	Water Activity Range	1 to 1aw (±0.05aw)
15	Water Content Range	1 to 360ppm (±10%)
16	Interfaces	USB interface, power interface
17	Protection Grade	IP67 (with protection box)
18	Operating Temperature	-20 to 60°C
19	Power Supply	AC220V±10%; 50/60Hz; DC 12V (110V also available)

No.	Parameter	Specification
20	Weight	5.5 kg
21	Dimensions	400 mm × 305 mm × 170 mm



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