FCA-2000 Ferrous Content Analyzer

The concentration of iron magnetic particles in oil is one of the most direct indicators of equipment wear.
The FCA-2000 portable iron content analyzer can detect the concentration of iron magnetic particles in oil within 10 seconds, providing a simple and intuitive output of concentration in ppm (mg/kg).

This instrument features compactness, portability, fast detection speed, low sample consumption, ease of operation, high data reproducibility, and other advantages, enabling users to quickly identify abnormal wear conditions of equipment whether on site or in the laboratory.

Unique Features

- Compliant with ASTM 8120 Standard
- 10-second rapid detection
- 0-2000ppm(mg/kg) wide test range
- Unaffected by aging, bubbles and moisture
- Only requires 5ml of sample
- <5ppm measurement repeatability
- Detection from nanometer to millimeter iron magnetic particles
- Compact and portable, no chemical consumables required

Principle of Operation

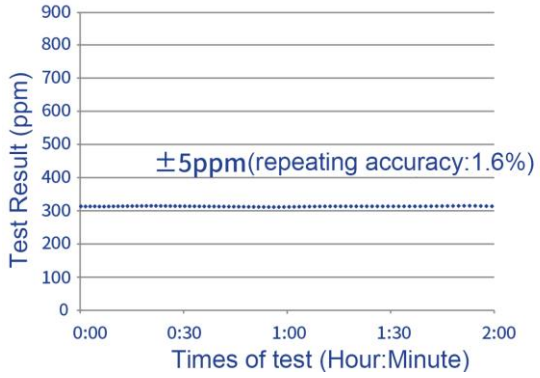
The core of the FCA-2000 consists of two precision-winding electromagnetic induction coils. One coil is used for real-time detection while the other serves as a reference comparison. When a 5ml sample tube is inserted into the instrument, iron magnetic particles such as iron, nickel, and cobalt cause changes in the magnetic field of the sensing coil, which is linearly related to the concentration of iron magnetic particles in lubricating oil. Thus, it realizes the function of detecting the concentration of iron magnetic particles ranging from nanometers to microns in oil.

Fields of Application

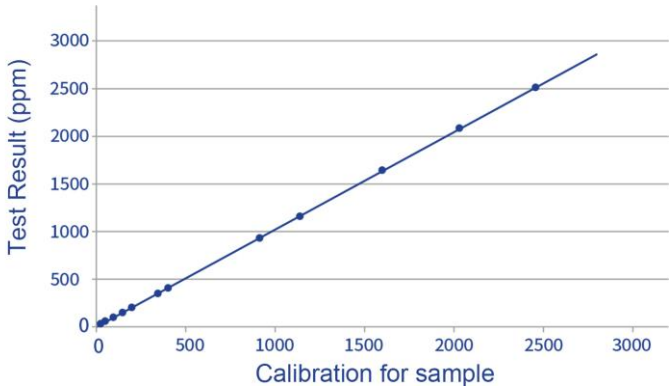
Oil laboratory, shipbuilding, power generation, mining, metallurgy, papermaking, cement, chemical industry etc.

Applicable oils

■ Hydraulic fluid ■ Transmission oil ■ Gear oil
■ Compressor oil ■ Engine oil



Repeating test accuracy



Linearity of test result

Technical Specification

Detection Content	Iron magnetic particle concentration in oil (μg/kg)	Display Interface	4.3" TFT Touch screen
Detection Range	0~2000ppm	Data Storage	2000 test records
Detection Lower Limit	5ppm	Power Supply	DC24V, 0.25A
Repeatability	- 0~100ppm < 5ppm - 100~500ppm < 2% or 5ppm (whichever is greater) - 500~2000ppm < 1%	Working humidity	10~90%RH, non-condensing
Resolution	1ppm	Storage Temperature	-20~70℃
Detection Time	<10s	Working Temperature	10~45℃
Sample Amount	5mL	Applicable Fluid	Lubricating oil and hydraulic oil
Particle Response	From nanometer to millimeter (ESD effective diameter)	Dimensions	20*19.2*14cm
Calibration Accessory	Three calibration samples included	Conforms to Standard	ASTM D8120
IP Rating	IP34	Weight	About 3kg

System Composition

FCA-2000 Ferrous Content Analyzer, 1 unit
DC24V power supply cable, 1 piece
5ml test tube, 50 pieces
Pipette, 50 pcs (optional)