

MF-1200

Intelligent Trace Moisture Analyzer



Precision moisture down to micrograms

The MF-1200 determines trace moisture in liquids, gases and solids using the coulometric Karl Fischer titration method. It is purpose-built for petroleum and chemical process and product testing, moisture analysis of insulating oil in oil-filled electrical equipment, and moisture determination in pharmaceuticals, pesticides and mineral raw materials — the ideal next-generation trace moisture analyzer.

3 μ g – 260 mg
MEASUREMENT RANGE

0.01 μ g H₂O
RESOLUTION

$\leq \pm 0.2 \%$
TEST ACCURACY

01 KEY FEATURES

Microprocessor control

Fully automated by a single-chip microcomputer for stable, unattended operation.

Bilingual touchscreen

Clean true-color GUI with Chinese / English display and intuitive touch input.

High sensitivity

Automatic blank-current deduction delivers outstanding accuracy at low water contents.

Fast & repeatable

Rapid measurement with excellent repeatability, batch after batch.

Data & printing

On-board storage, thermal printing and real-time clock for full traceability.

Built-in help center

One-touch access to version info, serial number, service log, notes and electrolyte color chart.

02 TECHNICAL SPECIFICATIONS

Measurement range	3 µg – 260 mg
Endpoint detection	Constant-current polarization detection
Titration method	Coulometric titration (Karl Fischer)
Electrolysis control	Automatic electrolysis-current control
Titration speed	Up to 2.4 mg H ₂ O / min
Electrolysis current	0–400 mA automatic control; automatic blank-current correction
Display system	10-inch true-color touchscreen LCD with menu-guided navigation bar
Interface	Touchscreen input; switchable Chinese / English bilingual display
Output	Built-in thermal micro printer
Endpoint signal	On-screen message and electronic buzzer
Automatic calendar	Displays and prints year, month, day, hour, minute, second
Data storage	Non-volatile; selectable capacity up to 1,500 records
Memory support	Automatic release
Calculation formulas	8 formulas (direct, mass, density, volume, gas, etc.)
Display units	9 units: mg/kg, µg/g, PPM, %, mg/L, µg/mL, µg/L, mg/m ³ , µL/m ³
Stirring speed	1–15 selectable levels
Resolution	0.01 µg H ₂ O
Electrode detection	Auto self-check; indicates short-circuit / open-circuit status
PC transmission	Optional data upload (requires add-on device and software)
Test accuracy	3 µg–1 mg H ₂ O: ≤ ±2 µg; > 1 mg H ₂ O: ≤ ±0.2 % (sampling error excluded)
Operating system	Ver prt2007.0005
Power consumption	< 100 W
Operating conditions	5 °C – 40 °C, humidity < 85 %
Power supply	AC 220 V ±10 %, 50 Hz ±2.5 Hz
Dimensions	420 × 420 × 240 mm
Weight	5 kg

03 APPLICABLE STANDARDS

The MF-1200 complies with a wide range of national and international standards for coulometric Karl Fischer moisture determination:

GB/T 7600-1987	Determination of water content in in-service transformer oil (coulometric method)
GB 6283-1982	Determination of water in chemical products — Karl Fischer method (general)
SH/T 0246	Determination of water in light petroleum products (coulometric method)
GB/T 11133-1989	Determination of water in liquid petroleum products (Karl Fischer method)
GB/T 7380-1995	Determination of water content in surfactants (Karl Fischer method)
GB 10670-1989	Determination of trace water in industrial fluoromethanes — Karl Fischer method
GB/T 606-2003	General method for determination of water in chemical reagents — Karl Fischer
GB/T 8350-2001	Denatured fuel ethanol
GB/T 3776.1-1983	Determination of water in pesticide emulsifiers
GB/T 6023-1999	Determination of trace water in industrial butadiene — coulometric Karl Fischer
ASTM D6304	Determination of water in petroleum products, lubricating oils and additives
ISO 12937:2002	Petroleum products — determination of water — coulometric Karl Fischer titration

04 DETECTABLE SUBSTANCES

Oils

Gasoline, hydraulic oil, insulating oil, transformer oil, turbine oil and fire-resistant oil.

Hydrocarbons

Pentane, hexane, dimethylbutane, octane, dodecane, eicosane, octacosane, cyclododecane, decylcyclohexane, methylbutadiene, benzene, toluene, xylene, ethyltoluene, dimethylstyrene, tetradecene, petroleum ether, cyclohexylamine, methylcyclohexylamine, cycloheptane, ethylcyclohexylamine, dicyclopentadiene, dimethylnaphthalene, trimethylstyrene, biphenyl, dihydroacenaphthylene, fluorene, methylenephenanthrene, isopropyltoluene and more.

Phenols

Phenol, cresol, fluorophenol, chlorophenol, dichlorophenol, nitrophenol and related compounds.

Ethers

Diethyl ether, diethylene glycol monomethyl ether, diethylene glycol diethyl ether, polyethylene glycol ether, anisole, fluoroanisole, iodoanisole, didecyl ether and diheptyl ether.

Also compatible with

All alcohols, all halogenated hydrocarbons and all esters.