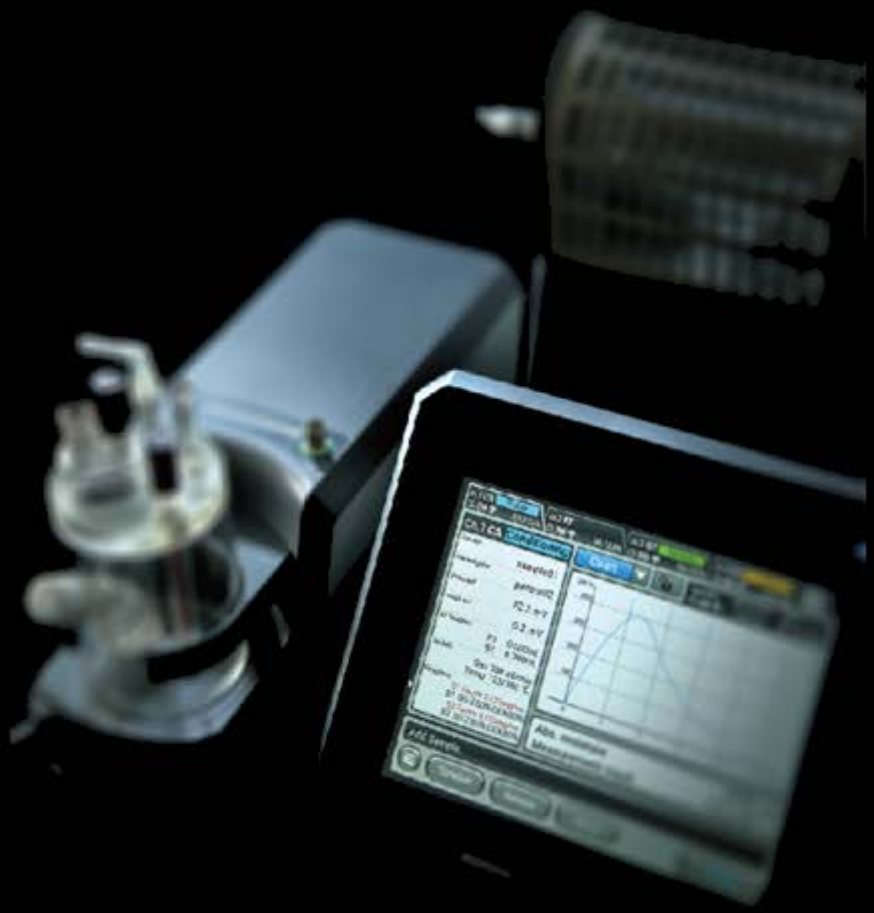
Analysis for Solution

CA-310

High spec & performance Karl Fischer Moisture Meter



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Convertible between coulometric and volumetric measurements, up to 4 channel simultaneously.
The system can be fully automated by schedule control.
Wide range of applications: pharmaceuticals, foods, oils etc.

Measuring limit 5 μgH_2O

Measures 5 μgH_2O accurately with good repeatability by coulometric titration under controlled conditions.

Schedule control

System automation:
Calendar start-up
Cell dehydration
Heating VA-300
System shutdown

Wireless stirrer control

Can operate stirrer in a glovebox to achieve trace measurement.
* Dongle (USB) is not included.

Various start switches

Optical start switch and foot switch are available for use in a glovebox.

Reduction of waiting time

Smart flow control with VA-300 reduces waiting time for boat and heater cooling.

Automatic EVAC unit

CA-310 recognizes exchange time of reagent automatically.
The system supports full automation together with Auto Sample Changer

Comply to official analytical methods
ISO 760, ASTM E203, ASTM E1064, JIS K0113, JIS K0068

Convertible analyzer

A single stirrer unit can be used for both coulometric and volumetric titrations.

SOP preparation function

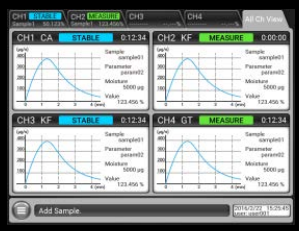
Operation process can be logged and output as text and/or image data. These information can be utilized to prepare Standard Operating Procedures (SOP).

Reagent data manage

With an optional barcode reader, Mitsubishi Chemical AQUAMICRON™ data such as lot no., expiry date can be imported to the system.

4-Channels measurement

Up to 4 stirrer units can be operated simultaneously.



Data integrity

Functions to support GMP/GLP compliance such as user rights management, reagent information, hardware and analytical validation.

VA ramp heating

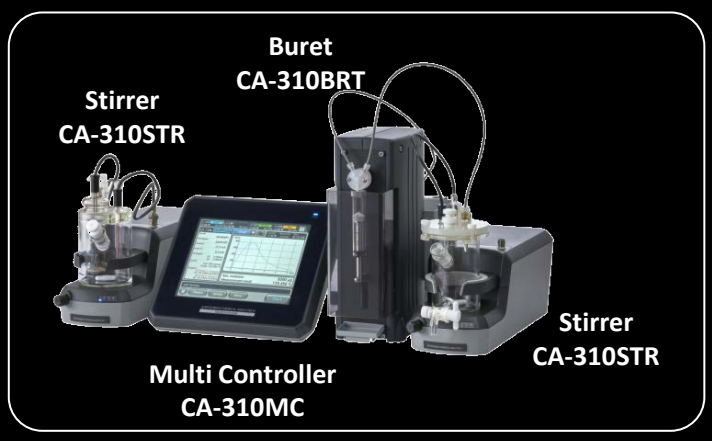
Optimal temperature of unknown sample can be determined by step heating function.

Software supporting data integrity

CA-310 software fully supports GMP/GLP, FDA 21 CFR part 11 requirements for data integrity. Audit trails such as data traceability and verification functions are fully integrated into the system.

Moisture Meter Model CA-310 Coulometric setup Specifications	
Method	Coulometric Karl Fischer Titration 4 channel simultaneous measurement (Optional)
Titration control	Constant Current Pulse Timer Control
End point detection	Constant current polarization Potential
Electrolysis Current	430 mA
Titration Speed	average 2.2mg H_2O/min (36 µg H_2O / sec)
Background	Automatic correction, Constant Display Background level at start of measurement is displayed
Measurement range	5µg – 999.9999 mg H_2O 5µg lower limit subject to ambient conditions
Sensitivity	0.1 µg H_2O
Repeatability	< 0.3 % RSD at 1 mg or more H_2O (n=10)
Stirring method	Magnetic Stirrer
Titration Cell	150 ml reagent volume
Display	8.4 inch Color LCD Touch panel
File memory	Method parameters: 99 Schedules: 99
Calculation	Concentration calculation, statistical calculation, recalculation, reanalysis of titration curve
Printer (Optional)	Thermal printer, impact printer
Connectable Vaporizers	VA-300, VA-200, VA-210, VA-230, VA-236S, VA-121, VA-122, VG-200 (Step Up Temperature Control available on all models)
External I/O	Balance: Automatic transfer of weight USB x 4, LAN x 1 Import/Export of measurement data, Backup/Restore function for all settings
Additional functions	Data Integrity (GLP/GMP compliance), troubleshooting, electrode conditioning
Operating conditions	Temperature: 15 – 40 °C Relative humidity: below 85% (with no condensation of moisture)
Power supply	AC100/115/230/240V (50/60Hz)
Max power consumption	AC100/115V: 80VA, 230/240V: 310VA
External dimensions	CA-310MC: 244(W)x161(D)x215(H)mm CA-310STR: 120(W)x342(D)x135(H)mm
Weight	CA-310MC: Approx. 2kg CA-310STR: Approx. 2.5kg

Moisture Meter Model CA-310 Volumetric setup Specifications	
Method	Volumetric Karl Fischer Titration 4 channel simultaneous measurement (Optional)
Titration Control	Proportional Polarization Potential Comparator
Detection	Constant Current polarization Potential
Measurement range	0.1 mg – 999.999 mg H_2O
Stirrer	Magnetic Stirrer
Flask	150 ml reagent volume
Display	8.4 inch color LCD touch panel
File memory	Method parameters: 99 Reagent factors: 99 Schedules: 99
Calculation	concentration calculation, statistical calculation, recalculation, reanalysis of titration curve
Printer (Optional)	thermal printer, impact printer
Connectable Vaporizers	VA-300, VA-200, VA-210, VA-230, VA-236S, VA-121, VA-122, VG-200 (Step Up Temperature Control available on all models)
Buret	Syringe type Volume: 10 ml (Optional 25 ml) Dosing speed: 1 ml / 1.5 sec Intake speed: 1 ml / 1.5 sec
External I/O	Balance: Automatic transfer of weight USB x 4, LAN x 1 Import/Export of measurement data, Backup/Restore function for all settings
Additional functions	Data Integrity (GLP/GMP compliance), troubleshooting, electrode conditioning
Operating conditions	Temperature: 15 – 40 °C Relative humidity: below 85% (with no condensation of moisture)
Power supply	AC100/115/230/240V (50/60Hz)
Max power consumption	AC100/115V: 80VA, 230/240V: 310VA
External dimensions	CA-310MC: 244(W)x161(D)x215(H)mm CA-310STR: 120(W)x342(D)x135(H)mm CA-310BRT: 108(W)x320(D)x135(H)mm
Weight	CA-310MC: Approx. 2kg CA-310STR: Approx. 2.5kg CA-310BRT: Approx. 3.5kg



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