

Mitsubishi Portable Karl Fischer Moisture Meter Model CA-21



JQA-0764 DIA INSTRUMENTS CO., LTD. CHIGASAKI PLANT
A SUBSIDIARY OF MITSUBISHI CHEMICAL CORPORATION



Ideal for routine moisture analysis in the field or laboratory. The Model CA-21 is a lightweight, compact instrument that can easily be converted to a portable unit by addition of the optional carrying case and rechargeable battery.

Simplicity

Just press the start button, inject your sample and read the result in ppm or % H₂O.

Portability

The above simplicity combined with the portability of the unit allows you to monitor moisture content in the field.

20-digit, 2-line LCD

The use of a bright, legible 20-digit, 2-line LCD allows easy viewing for display of titration status, titration speed, moisture amount (μ g) and moisture concentration.

Drying tube

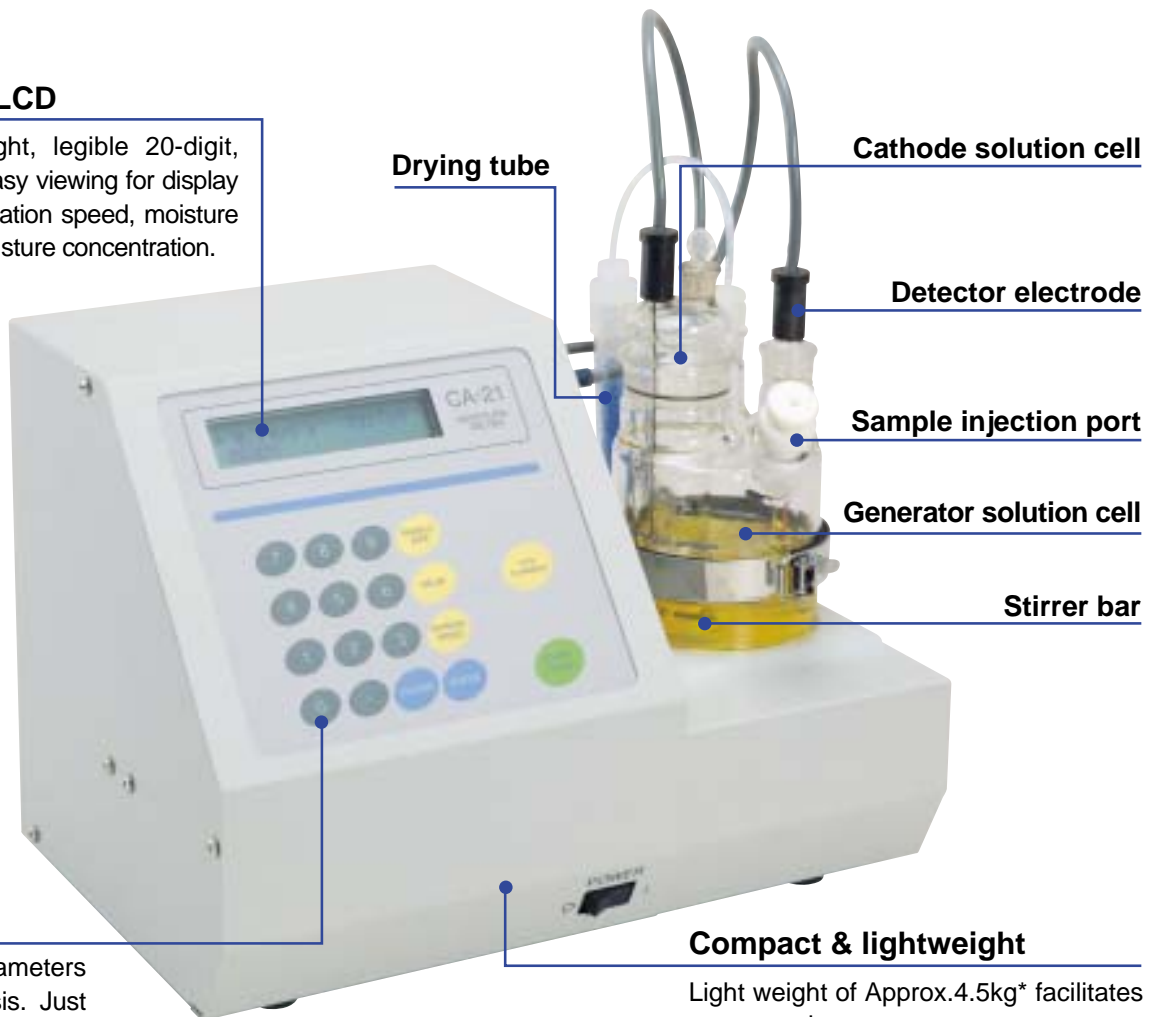
Cathode solution cell

Detector electrode

Sample injection port

Generator solution cell

Stirrer bar



Keypad

There are no parameters required for analysis. Just turn the power on then after blanking, simply press the start key.

Compact & lightweight

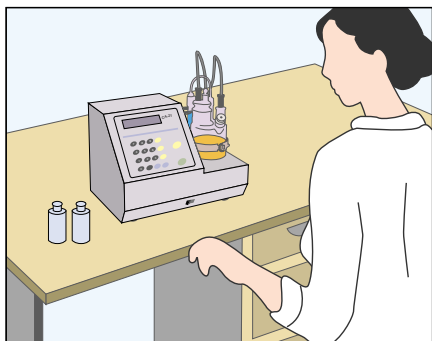
Light weight of Approx.4.5kg* facilitates easy carrying.
*excluding battery unit



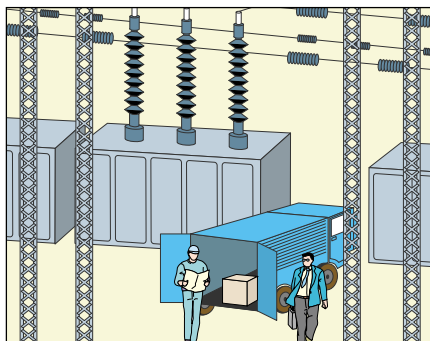
Powerful rechargeable battery

An optional rechargeable battery results in portability and easy use. Up to 350mg of H₂O can be measured with a single charge.
*Battery unit is available as an option.

Applications



Routine analysis...



Electrical power industry
(moisture in transformer oil)



Measurement of moisture in
various hydrocarbons

Options Various options meet to your needs.

Battery unit for CA-21 CA21EB

CA-21 can easily be converted to a portable unit with the battery unit.



Carrying case for CA-21 CA21CC

Lightweight aluminum carrying case is available as an option. It can house the CA-21, all accessories, two reagent bottles, syringes and the operation manual.

Fritless cathode solution cell CAMCES

Using an electrode not requiring an diaphragm allows the use of the single type reagent.



Portable printer for CA-21 CA20PB(115V) CA20PC(250V)

Connecting to the RS-232C port of the Model CA-21 enables to print out the results of analysis.

Karl Fischer Reagents

Coulometric Reagents

There are two types of coulometric reagents: the anolyte (generating solution), which is placed in the anode chamber of the electrolysis cell, and the catholyte (counter-electrolyte), which is placed in the cathode chamber. These coulometric reagents can be used in coulometric moisture measurement systems sold by various companies, and they have gained a worldwide reputation for excellent performance. In addition to reagents for general moisture measurement, there are also special types for use with ketones, lower carboxylic acids and silicone oils. The AQUAMICRON® series catholyte CXU can be used for both.

AQUAMICRON® Series

Grade	Product Name	Package	Use
For General use	AQAMICRON® AX	500ml glass bottle	Organic solvents, inorganic chemicals, petroleum products, various kinds of gases, etc.
	AQAMICRON® CXU	5ml ampule, 10 ampules/case	
For Ketones	AQUAMICRON® AKX	500ml glass bottle	Ketones, silicone oils, lower carboxylic acids, etc.
	AQUAMICRON® CXU	5ml ampule, 10 ampules/case	

When using AQUAMICRON® AX in a water vaporization system, replenish the vaporized amount with methanol.

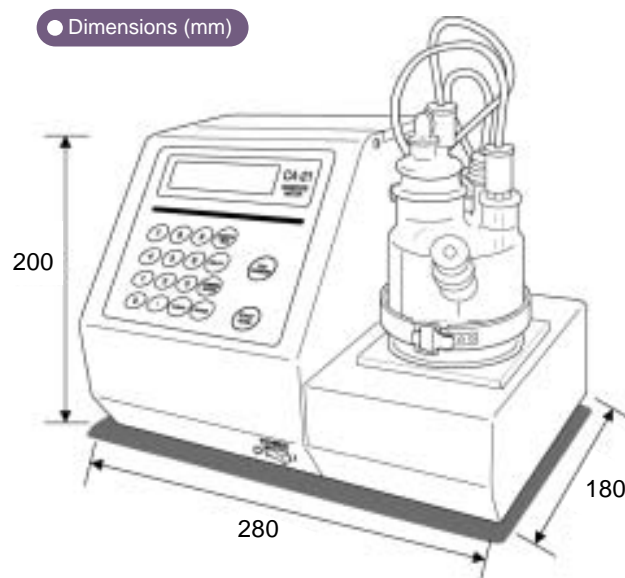
Single type	AQUAMICRON® FLS*①	500ml glass bottle	Organic solvents
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*① Measurement may not be possible depending on the sample type.

Model CA-21 Standard Specifications

Method	Coulometric Karl Fischer Titration
End Point Detection	Constant current polarization detection
Electrolysis control	Pulse electrolysis current control
Electrolysis current	Max. 400mA
Titration rate	Max. 2.1mgH ₂ O/min
Background	Automatic correction(μ g/sec)
Measuring range	10 μ g ~ 100mgH ₂ O
Repeatability standard deviation	Within $\pm 5 \mu$ g for 10 μ g ~ 1mgH ₂ O Within 0.5% of RSD value for 1mgH ₂ O or more
Sensitivity	0.1 μ gH ₂ O
Display	2-line, 20-digit liquid crystal display Moisture amount, concentration, titration speed, background, message, measurement time, and measurement concentration
Optional function	Connections for printer, computer, or balance
End signal	Message display and electric buzzer
Delayed titration	Set in minutes
Calculation function	Calculation of concentration in M/W (W is inputted in grams "g.") (%. ppm) The unit display of moisture concentration changes to % automatically when moisture exceeds 1000ppm.
Temperature	5°C ~ 40°C
Humidity	Under 80%, No moisture condensation
Power supply	AC 100/115/230/240V, 50/50Hz, 30VA
Dimensions	Main Unit (excluding cell & battery unit): Approx.280(W)x180(D)x200(H)mm
Weight	Main Unit : Approx.4.5 kg Main Unit with battery unit : Approx.6.3kg

● Dimensions (mm)



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