

Mitsubishi Portable
Karl Fischer
Moisture Meter
CA-21, KF-21



Analysis for Solution

 MITSUBISHI CHEMICAL ANALYTECH CO., LTD.
Instruments Division

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.

CA-21 Coulometric Karl Fisher Moisture Meter

Simplicity

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

Portability

The above simplicity combined with the portability of the unit allows you to monitor moisture meter 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 (μg) 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

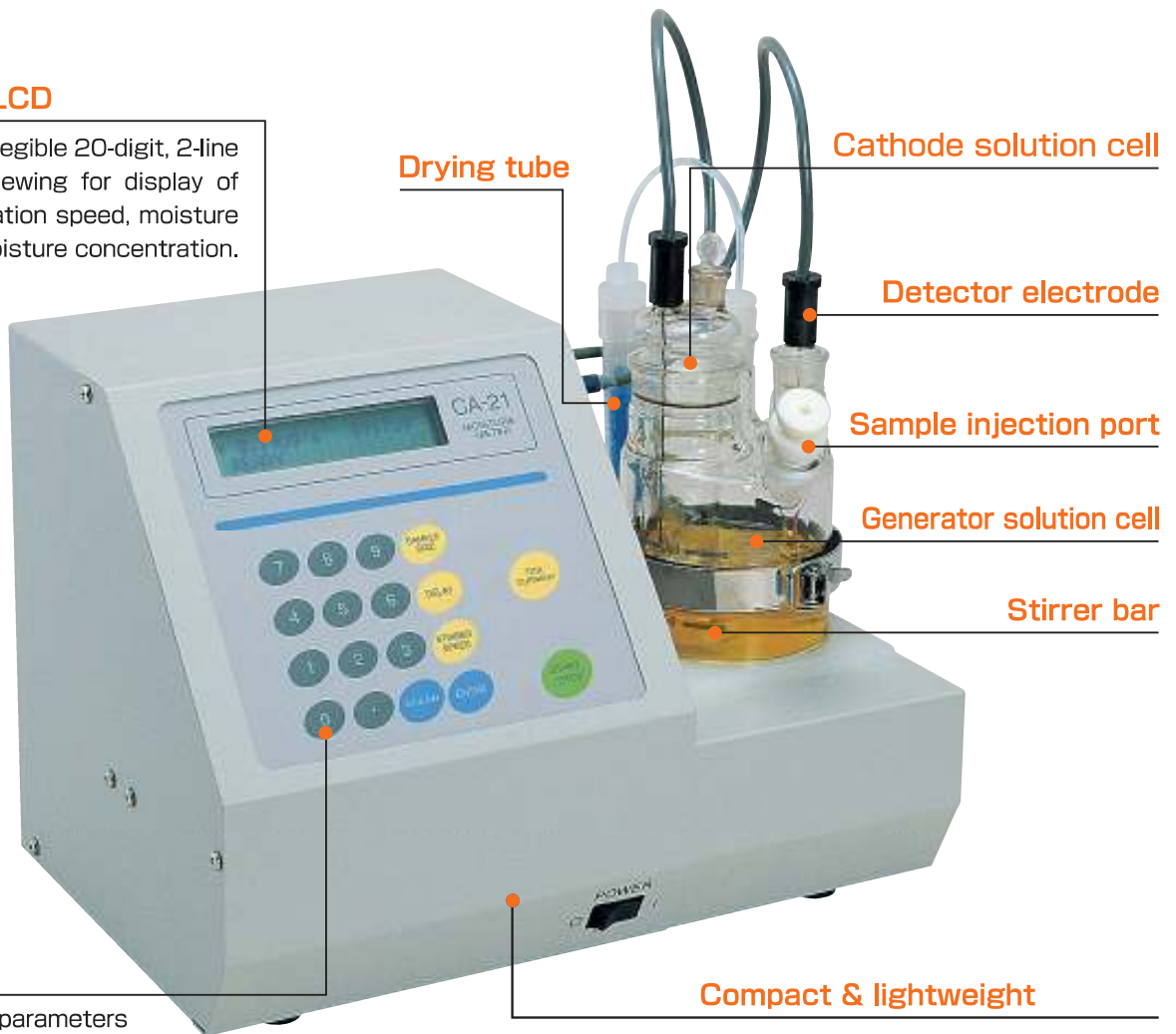
Light weight of approx. 4.5kg* facilitates easy carrying.

*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.

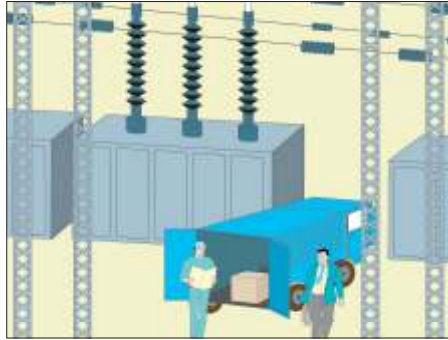
*Battery unit is available as an option.



Applications



Routine analysis...



Electrical power industry
(moisture in transformer oil)



Measurement of moisture in various hydrocarbons

KF-21 Volumetric Karl Fisher Moisture Meter

Features

- **Simplicity & Small foot-print**
- **Reagent despensor in standard**
Supplying Dehydrated Solvent and draining by one button
- **Detection Electrode Conditioning function**
Maintenance for contaminated electrode will be refreshed by automated conditioning function

Applications

n=3

Sample	Reagents	Sample Size	Results (ppm)	RSD (%)
Ethanol	SS-Z 3mg/GEX	5ml	477	1.4
Isopropanol	SS-Z 3mg/GEX	5ml	368	1.3
Ethylene glycol	SS-Z 3mg/GEX	2ml	0.110%	1.6
Propylene glycol	SS-Z 3mg/GEX	5ml	245	1.1
Acetone	SS-Z 3mg/KTX*	2ml	0.180%	0.7
Methyl ethyl ketone	SS-Z 3mg/KTX*	1ml	834	1.4
Methyl isobutyl ketone	SS-Z 3mg/KTX*	1ml	0.127%	0.95
Salad Oil	SS-Z 3mg/OLX	5	502	0.87

*Set the End m V for 400mV.

■ Volumetric Moisture Measurement System



KF-21 with Mini Printer (Option)

Options



Battery unit CA-21

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



Carrying case CA-21

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 CA-21

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

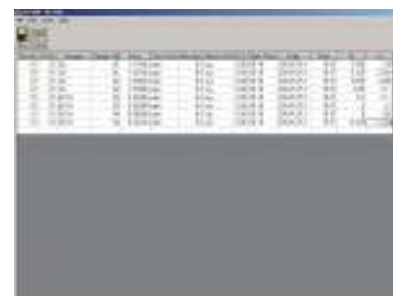


Portable printer CA-21, KF-21

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

Data Collection Software Datacome DC-100 CA-21, KF-21

By connecting a PC measurement data can be exported to a Microsoft® Excel® file or saved in CSV format.



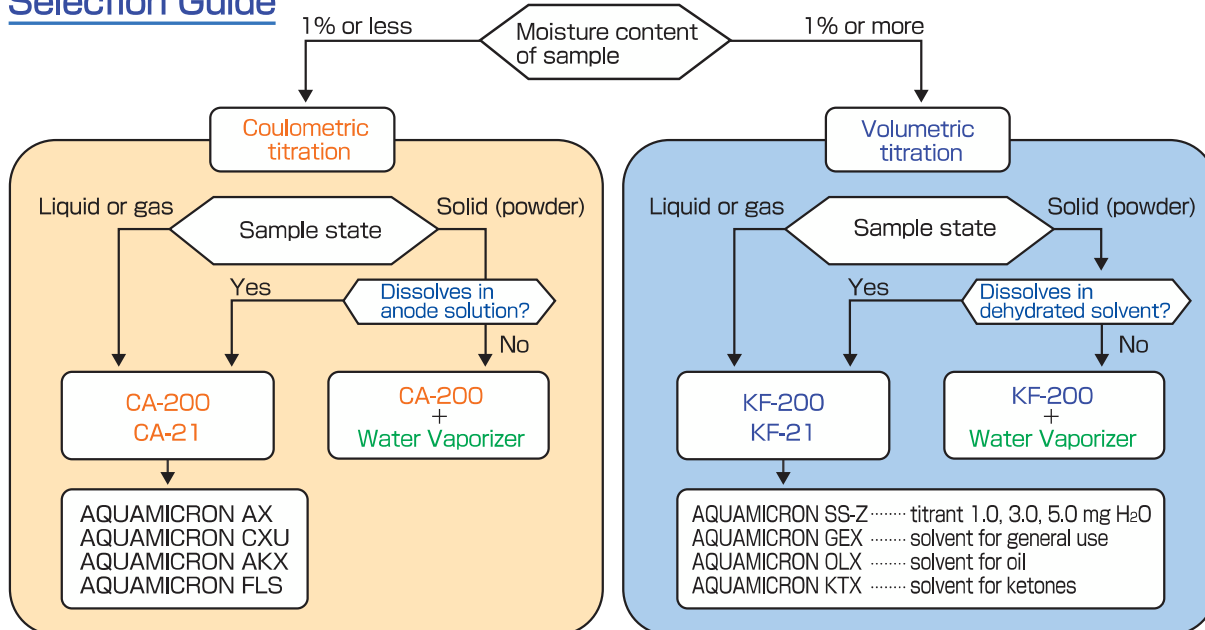
Model CA-21 Specifications

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. 2.1 mg H ₂ O/min
Background	Automatic correction (μg/sec)
Measuring range	10μg - 100mg H ₂ O
Sensitivity	0.1 μg H ₂ O
Titration cell	150ml
Display	2-line, 20-digit liquid crystal display Moisture amount, concentration, titration speed, background, message, measurement time and measurement concentration
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.
Interface	1 port of RS232c for printer, PC, balance.
Temperature	5°C-40°C
Humidity	80% or less, no condensation
Power supply	AC 100/115/230/240V, 50/60Hz, 30VA
Dimensions	Main Unit (excluding cell & battery unit): 280(W) x 180(D) x 200(H)mm
Weight	Main Unit: 4.5kg Main Unit with battery unit: 6.3kg

Model KF-21 Specifications

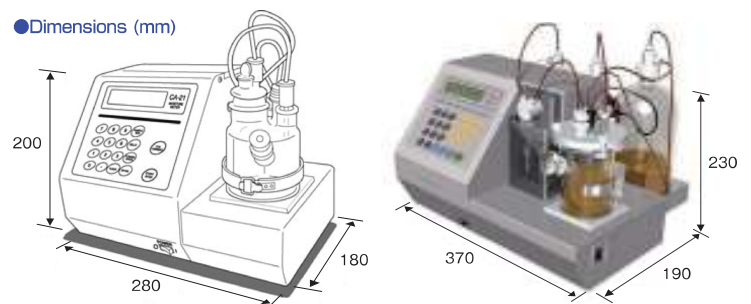
Measuring Method	Volumetric Karl Fischer Titration
Detection Method	Constant Current Polarization Method
Titration Control	Electric Potential Proportional Control
Measuring Range	0.1 mg ~ 999mgH ₂ O
Stirrer	Magnetic Stirrer
Titration Flask	150ml
Display	Liquid Crystal Display (2lines, 20digit) File No., Measurement No., Moisture amount, Concentration, Message, Measuring Time and Transmitted Sample Size to a Balance
End Signal	Message display and electric buzzer
File	1 factor file and 3 sample files
Data	store latest 20 results
Calculating Functions	Concentration, Statistical calculation and Recalculation
Automatic Burette	Syringe Burette (5ml) Repeatability: ±0.005ml for 4ml injection
Interface	1 port of RS232c for printer, PC, balance.
Added functions	Reagent desensor Automatic conditioning for Electrode
Ambient Temperature	15 - 40°C
Ambient Humidity	80% or less, no condensation
Power Supply	AC100/120/220/240V 50/60Hz, 60VA
Dimensions	370(W) x 190(D) x 230(H) mm
Weight	7kg

Selection Guide



*Some substances may not be applicable to the process flow shown above.

●Dimensions (mm)



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