



Simple and High quality series

# Karl Fischer Moisture Titrator

## MKS-500/MKC-500/MKC-500-S



**MKS-500**



**MKC-500**



**MKC-500-S**



Volumetric method

## Karl Fischer Moisture Titrator

### MKS-500

The MKS-500 is the simple and high quality Karl Fischer Moisture Titrator. Other than ordinary liquid sample, this new titrator can also perform moisture measurement of solid sample that can be dissolved in solvent as well as powder samples. When connected to the optional evaporator, water content of samples like plastic pellet or solid chemicals can also be measured.

#### Features

Moisture measurement by simple and easy key operation.

By the endpoint detection method of liquid resistance compensation, highly precise measurement of various samples is possible.



**MKS-500**

Fully GLP/GMP conformed report can be printed out by the optional printer.

Safety and EMC features conforming to CE marking declaration.

MLC-500 Solvent exchanger is available.

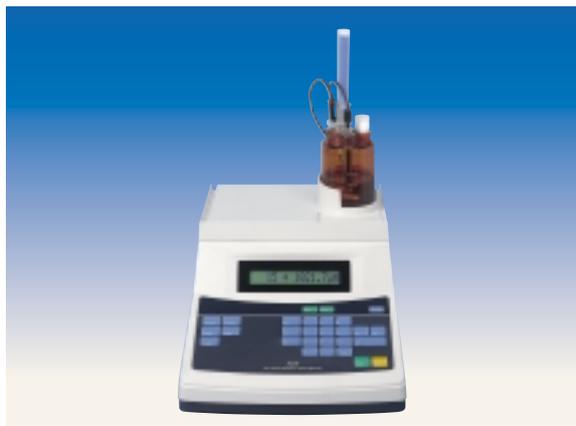
## Specification of MKS-500

Model name	MKS-500 Karl Fischer Moisture Titrator	Piston burette	1) Burette cylinder with piston ..... 1
Measurement method	Volumetric titration method		2) Automatic switching valve for suction/dose... 1
Measuring range	1) 0.1mg to 500mg H <sub>2</sub> O , 10ppm to 100% H <sub>2</sub> O 2) 0.005mL to 100mL	Solvent	3) Backlash mechanism
Control method	Titration control, EP detection and concentration calculation by microcomputer		4) Dispense speed: 0.5mL/sec.
Endpoint detection	Two-pin platinum electrode detects liquid resistance compensated polarized potential	External control	1) Minimum 30mL (for S-type vessel)
Endpoint wait time	1) 1 to 99 sec. programmable 2) Potential stat which maintains EP status can be set up.		2) Maximum 100mL (for S-type vessel)
Titration form	Normal titration	Ambient condition	RS-232C
Special functions	1) Titration speed controlled by three steps 2) Automatic drift off by dehydrating titration vessel 3) Start time delayed 0 to 9999 sec.		Power
		Dimension	
Display	1) 16 digits x 2 lines LCD with backlight 2) Displays: (1) Measured water content (2) Processed data (3) Dialog messages		Weight
		Method	
Indication of endpoint	Electronic beep		Printer
		Calculation	
Error messages	Erroneous key entry or settings on max. volume, abnormal polar potential or liquid resistance, etc.		Printer
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		Error messages	

Coulometric method

## Karl Fischer Moisture Titrator

### MKC-500



MKC-500

The MKC-500 Coulometric Karl Fischer moisture titrator is the result of KEM's many years of experience. The MKC-500 which combines the latest technology and advanced engineering with KEM's vast experience in instrumentation, are the finest coulometric Karl Fischer titrator available today.

The MKC-500 is widely used for Karl Fischer titration throughout the world. Karl Fischer titration is the most reliable method for the determination of moisture content. It titrates for quantitative analysis for moisture in solids, liquids and gases.

The MKC-500 as a 2-component cell (Diaphragm cell) coulometric titrator are one of the best instruments to accurately measure very low levels of moisture in samples in a short span of time.

Coulometric method

## Karl Fischer Moisture Titrator

### MKC-500-S



MKC-500-S

The MKC-500-S Coulometric Karl Fischer moisture titrator uses 1-component electrolytic cell (Diaphragmless cell), and with the MLC-500 Solvent Exchanger.

Easy maintenance in replacing reagent.

Substantial cuts in maintenance of reagents and running costs.

Diaphragmless cell does not cause clogging usually observed in titration for such as petroleum products.

The MLC-500 Solvent exchanger allows an operator to replace reagents without being exposed to air.

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Cautions on MKC-500-S use :

- 1) Sample which can not be measured with 2-component cell can not be measured even with 1-component cell.
- 2) For some samples, there may be a discrepancy in measurement results between 1-component cell and 2-component cell

## Options

**KEM** is committed to supplying end users with a strong lineup of options in order to measure more accurate moisture in various samples.

**IDP-100** Impact dot Printer (Ink ribbon type ; including connectable cable)

**SOFT-CAP<sub>E</sub>** Data Capture Software (for personal computer)

**ADP-511S** Evaporator (for plastic pellets, powders and solids)

**ADP-513** Evaporator (for fats and oils) : CE non-conforming

**KHM-510** Homogenizer for KF titrator (Exclusive to Volumetric titrator) : CE non-conforming

## Specifications of MKC-500 and MKC-500-S

Model name	MKC-500 Karl Fischer moisture titrator	MKC-500-S Karl Fischer moisture titrator	Drift compensation	Compensation can be switched to auto calib. /manual calib. /cancel calibration		
Measurement method	Coulometric method		External control	RS-232C out put		
Measuring range	10 $\mu$ g to 100mg H <sub>2</sub> O			1) for Printer		
Detection sensitivity	0.1 $\mu$ g H <sub>2</sub> O			2) for Electronic balance		
Control method	Constant current pulse control			3) for External computer		
Endpoint detection	Two-pin platinum electrode detects polar potential and endpoint is sensed by coulomb consumed for electrolysis		Ambient condition	Temperature : 5 to 35 , Humidity : less than 85% RH		
Precision	RSD below 0.3% ( Water-methanol of 1mg H <sub>2</sub> O is measured 10 times )		Power	AC 100, 120, 200, 220, 230, 240 V 50/60 Hz 50 W		
Titration cell	Capacity 100mL (max. 150mL)		Dimension	Approx. : 274(w) x 400(D) x 235(H) mm		
Drift value	Constantly displayed		Weight	Approx. 7.5kg		
Required reagent	1)Analyte: 100mL 2)Catholyte: 5mL	Analyte: 100mL (only)	Standard components And parts	(1) MKC-500 Main unit	MKC-500-S Main unit	
Calculation	1) Concentration, Statistics (mean value, RSD, SD) 2) Recalculation			(2) Titration cell unit	Titration cell unit	
Display	1) 16 digits x 1 line LCD 2) Displays : (1) Pre-titr. :Excessive moisture (2) Ready :Measurement possible (3) Stable :Stable drift			(3) Operation manual	Operation manual	
Indication of Endpoint	Electronic beep			(4) Power cord	Power cord	
Printer	Optional (Recommended printer: IDP-100)		(5) Stirrer rotor (35mm)	Stirrer rotor (35mm)		
Error message	Erroneous key entry, reagent life due, abnormal electrolyte current, overtitr., etc.		(6) Desiccant tube (A)	Desiccant tube (A)		
			Standard accessories	(7) MLC-500		
				(1) Grease		
				(2) Anode electrode adjusting tool		
				(3) Drain bottle (Polyethylene)		
				(4) Funnel		
				(5) Power fuse	2	
				(6) Septum for syringe inlet port	10	
			(7) Ground wire	1		

## Applications

### Organic compounds and raw materials:

Organic acid / Alcohol / Ester / Acetal / Ether / Hydrocarbon / Acid anhydride / Acyl chloride / Acid chloride / Nitrogen compound / Halogen compound / Sulphur compound / Peroxide / Carbonyl compound / Hydrate organic salt / Organic acid, etc.

### Inorganic compounds and raw materials:

Hydrate inorganic salt / Inorganic salt / Acid anhydride / Base anhydride / Inorganic acid / Inorganic peroxide, etc.

### Natural products and industrial products:

Medicines / Body tissues / Alkaloid / Capsules / Fertilizer / Agricultural chemicals / Wood / Pulp fibers / Wools / Textiles / Leathers / Cellophane tapes / Synthetic detergents / Soaps / Cosmetics milk / Butter / Cheese / Oils / Fats / Fatty acid / Dehydrated foods / Starches / Grains / Sugars / Caramels / Chocolates / Teas / Coffees / Citric powder / Spices / Gelatin / Seasonings / Alginic acid / Fish meals / Coals / Coal tars / Heavy oils / Petrol / Kerosene / Transformer oils / Lubricants /

Greases / Silicon oils / Fluxes / Benzine / Gases / Liquefied petroleum gases / Freon gases / Vinyl-chloride monomer / Plastics powder / Plastics chip / Ion-exchange resin / Rubbers / Adhesive pigments / Paints / Inks / Dyes / Carbon blacks / Toners / Liquid crystal materials / Photo materials / Ferrites / Metal powders / Desiccants / Ores / Clays / Cement, etc.



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