

NEW ! Hybrid Karl Fischer Moisture Titrator 「MKH-700」



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Overview of MKH-700

NEW



Volumetric &
Coulometric

World's first features:

- ◆ **High-speed and high-precision measurement
by Hybrid method**
- ◆ **Factor measurements by electrolysis
does not to require pure water**

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New function!

Hybrid method

&

Factor measurement of reagent by electrolysis

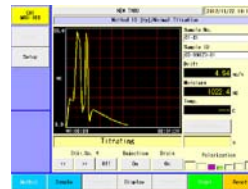
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Features of Hybrid method

Can measure sample of high moisture and trace moisture with high accuracy in a short period of time.

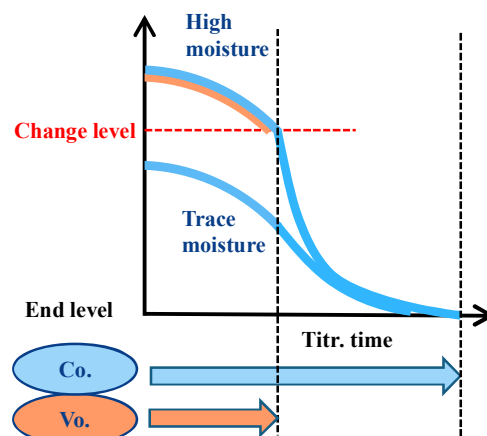
- ◆ Volumetric method is suitable for high moisture samples (1% or more)
- ◆ Coulometric method is suitable for trace moisture samples (ppm order)

⇒ **Hybrid method highlights advantages of both methods and covers disadvantages.**



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Principle of Hybrid method (Patent pending)



Hybrid method swiftly performs both Volumetric and Coulometric methods in parallel until the moisture content reaches a certain level. Once the moisture content goes below a certain level, measurement will be performed with Coulometric method.

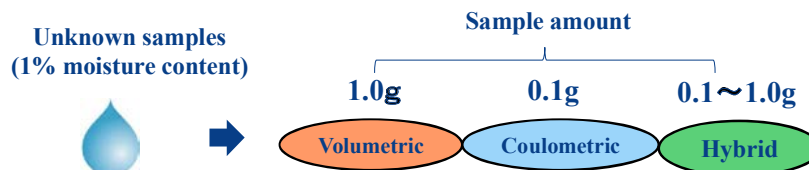
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Advantage of Hybrid method

No worry about sample volume with "Hybrid method"

According to the amount of moisture, the method automatically switches from the parallel measurement of Volumetric and Coulometric methods.

⇒ 「Hybrid method」



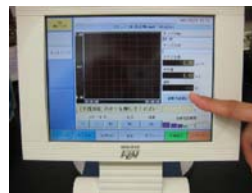
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Features of Factor measurement of reagent by electrolysis

No need to use pure water, factor measured easily by pressing a button.

Factor measurement of Karl Fischer reagents is performed with water standard in the "Volumetric method".

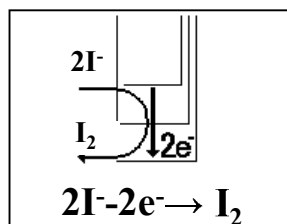
⇒ You can automatically perform factor measurements by electrolysis without using pure water.



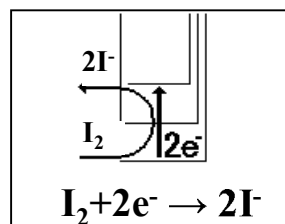
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Principle of Factor measurement of reagent by electrolysis (Patent pending)

Coulometric titration



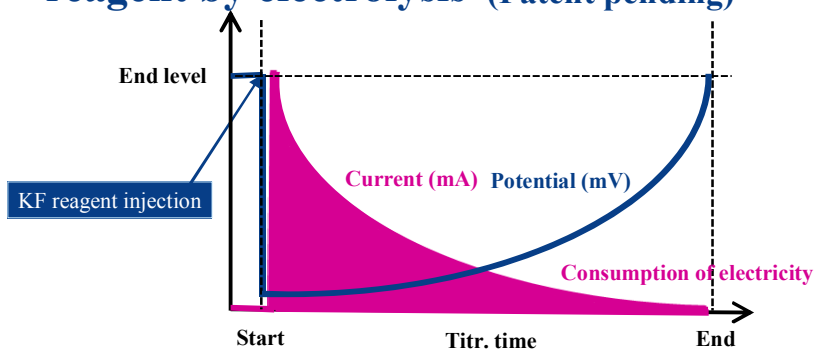
Back Coulometric titration



The current flow in a direction opposite of the Coulometric titration, generates the iodine ion from iodine in the analyte.

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Principle of Factor measurement of reagent by electrolysis (Patent pending)



The factor of the KF reagent is injected, can be determined from the amount of electricity used for Back Coulometric titration. \Rightarrow Automatic

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Advantage of Factor measurement of reagent by electrolysis

You can automatically perform factor measurements by electrolysis without pure water.

Avoid errors due to weighing operation, since not to use pure water.

Reducing the work effort by Automatic measurement by pressing a button.

\Rightarrow **Factor measurement of reagent by electrolysis**

pure water



Weighing



Work

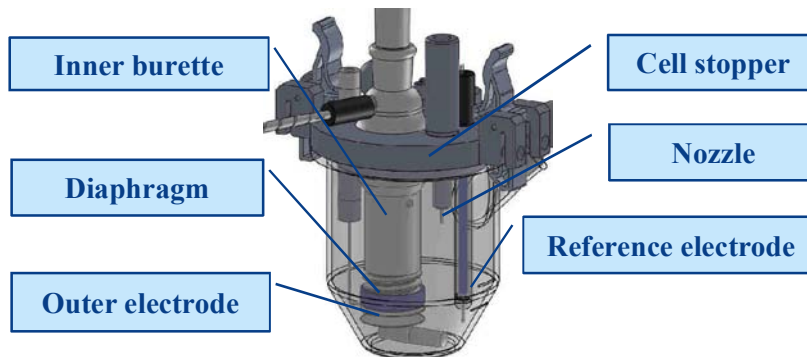


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New titration cell

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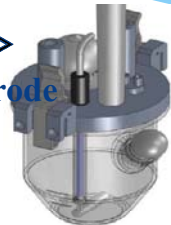
Structure of integrated titration cell of Coulometric & Volumetric methods



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<Volumetric>

- Reference electrode
- Nozzle



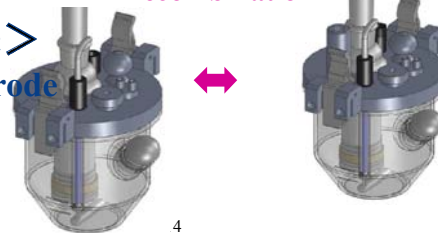
<Hybrid>

- Reference electrode
- Inner burette
- Outer electrode
- Nozzle

Possible recombination

<Coulometric>

- Reference electrode
- Inner burette
- Outer electrode



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Advantage of new titration cell

The titration cell can be easily cleaned, there is high airtightness

You can separate the flask and stopper.

“Hybrid titration cell” enables you to perform measurement by either method of “Coulometric” or “Volumetric”.

⇒ The titration cell that is integrated “Coulometric” & “Volumetric methods”



Separated structure

High airtightness

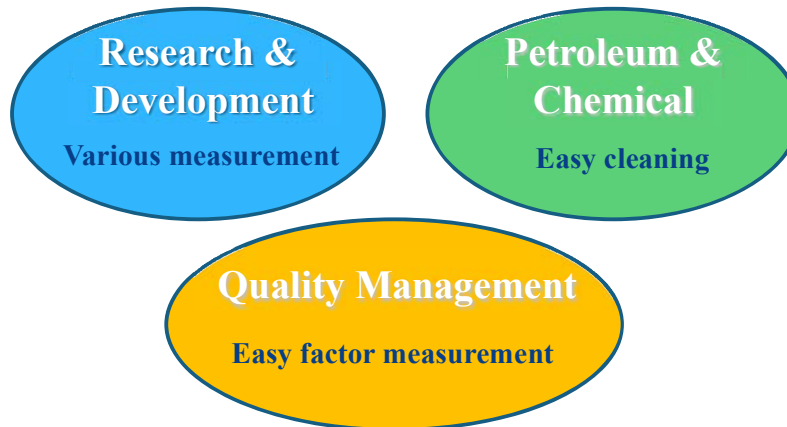
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Specification of MKH-700

Coulometric	Range	Water content	10 μ g ~ 300mgH ₂ O
	Precision	RSD	less than 0.3%
		Display resolution	0.1 μ g
Volumetric	Range	Water content	100 μ g~500mgH ₂ O
	Burette precision	Volume	10mL
		Discharge precision	0.015mL
Hybrid	Range	Water content	10 μ g ~ 500mgH ₂ O
	Precision	RSD	less than 0.3%
		Display resolution	0.1 μ g
Electrolysis factor	Range	KF Reagent	Reagent factor from 1 to 5
	Precision	RSD	less than 1.0%

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Applications



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Thank you

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