

Application Memo

Moisture in Bio Diesel Fuel (BDF)

Industry	:	Petrochemicals
Instrument	:	Karl Fischer Moisture Titrator
Measurement method	:	Coulometric titration /Direct method
Standards	:	JIS K 0113, JIS K 0068, JIS K 2275 ASTM D 1533, ASTM D 1744, ISO 760

1. Overview

Moisture titration using Karl Fischer reagent is popularly practiced water determination worldwide as the most reliable method. The procedure is adopted in many official standards as test method specified in ISO, ASTM, DIN, BS and JIS.

The test conducted this time is an example of coulometric moisture titration according to JIS K-2275-1996 for measurement of water content in bio diesel fuel.

2. Apparatus

Main unit	:	Karl Fischer moisture titration coulometric system
Electrode	:	Electrolysis electrode Twin platinum electrode M-713 for KF titration

3. Reagents

Annolyte	:	Hydranal Coulomat AG-H (for oil) (Riedel de Haen)
Catholyte	:	Hydranal Coulomat CG (Riedel de Haen)

4. Example

—Measurement results—

	Sample (g)	Drift level ($\mu\text{g/s}$)	Moisture (μg)	Conc. (%)
1	0.4625	0.01	565.1	0.1222
2	0.3923	0.05	485.8	0.1238
3	0.4469	0.06	542.3	0.1213
Average				0.1224
SD				0.0013
RSD(%)				1.0342

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<Contact> Kyoto Electronics Manufacturing Co., Ltd.
Overseas Sales & Marketing Sect.

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