

## Application Memo Moisture in PET

Industry	Plastic, Rubber
Instrument	Karl Fischer moisture titrator
Measurement method	Coulometric titration (Evaporation method)
Standards	JIS K 0113, ISO 760

### 1. Overview

Moisture titration with Karl Fischer reagent is the most reliable moisture measurement method in the world. The procedure is adopted in many official standards as test method specified in ISO, ASTM, DIN, BS and JIS.

PET (Polyethylene terephthalate) is generally hard to dissolve in KF solvent, and therefore, the indirect method using the evaporator is generally practiced. The test sample is first heated in the evaporator, and the evaporated moisture is transferred to the cell by carrier gas where moisture titration is performed.

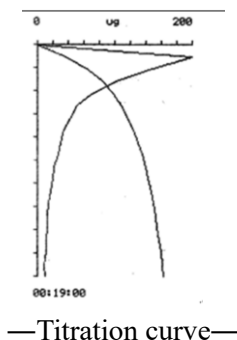
### 2. Apparatus

Main unit	Karl Fischer moisture titration volumetric system Evaporator
Electrode	Twin platinum electrode 1 Component inner burette

### 3. Reagents

Anolyte	HYDRANAL™ Coulomat AG-H
Catholyte	HYDRANAL™ Coulomat CG
Carrier gas	Nitrogen gas (99.99%)

### 4. Example



—Measurement results—

	Sample (g)	Moisture ( $\mu\text{g}$ )	Concentration (ppm)
1	0.3008	164.2	545.9
2	0.3116	163.3	524.1
3	0.3006	178.8	594.8
Average			554.9
SD			36.2
RSD(%)			6.53

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