

## THERMOGRAVIMETRIC/DIFFERENTIAL THERMAL ANALYSER (TG-DTA)



### Descriptions

TG-DTA is an instrument that is used to simultaneously characterize multiple thermal properties of a sample in a single experiment for the study of physical or chemical processes such as melting, crystallization, glass transitions temperature, polymorphis and kinetic studies. It measures the changes in sample weight by varying the temperature and measuring (1) the change in mass (TG) and (2) the temperature difference between the sample and a standard substance (DTA). This ensures that the sample is exposed to identical thermal treatment and environment as well as allows one to determine whether the weight loss is an endothermic or exothermic transition in contrast to a melting or crystallization process. The information that is obtained is useful for analyzing polymers, food, nanomaterials, metals, and oil, among other materials.

### Further Information

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### Brand-Model

SHIMADZU, DTG-60H

### Basic Specifications

Balance principle: Parallel guide differential top pan type

Temperature range: Ambient to 1500°C

Measurable range (TG):  $\pm 500\text{mg}$

Measurable range (DTA):  $\pm 1000\mu\text{V}$

Weight readability:  $0.1\mu\text{g}$

Sample quantity: 1g Max. in gross weight

Atmosphere: Air and inert gas

### Equipment Website/ Product Brochure

<https://www.ssi.shimadzu.com/products/thermal-analysis/dtg-60.html>

### Types of samples

Bulk / powder / liquid

### Location

Material Characterization Laboratory  
(T05, 03-01-10)

### Operator

- Mrs Nor Syahidah Ahmad Shah
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- Ms Rahizah Binti Abd Rahman
- E-mail : [rahizah.ar@utm.my](mailto:rahizah.ar@utm.my)

<b>Brand-Model</b>	
FluoroMax-4, HORIBA	

## Descriptions

**Short description of fungsi dan spec (apa yang special?)**

**Service Offer??**

**Type of samples??**

Water Raman signal-to-noise ratio: 10,000:1 (FSD method)

Photon Counting for Ultimate Sensitivity

Fast Scanning capability - up to 80 nm/second

## Specifications

Slit: Continuously variable from 0 to 30nm

Minimum step: 0.0525nm

Monochromators: All reflective optics, Czerny-Turner spectrometers

Accuracy: 0.5nm

## Service location

03-01-10 *Material Characterization Laboratory*

Block: T05

## Further Information

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## Operator

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**Notes:**

