SHIMADZU
Excellence in Science

Simultaneous TG/DTA

# DTG-60 Series

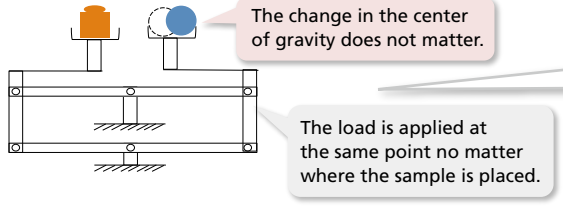
This instrument varies the sample temperature in accordance with a program, and simultaneously measures the change in mass of the sample (TG) and the temperature difference between the sample and a standard substance (DTA).

Melting | Glass transition | Crystallization | Hardening Polymerization Reaction | Sublimation Evaporation Dehydration | Thermal decomposition | Thermal expansion Thermal contraction | Investigation of thermal history | Specific heat

## High-Sensitivity and High-Accuracy Measurement

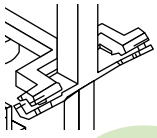
### High-accuracy Roberval mechanism top-loading balance system

The Roberval mechanism has been adopted, so that the sensitivity does not change due to changes in the center of gravity of the sample caused by melting, etc.



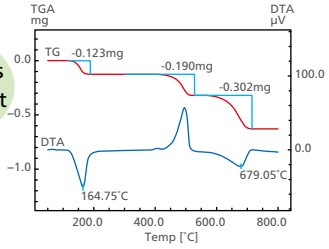

Regardless of where the sample is placed in the detector pan, the sensitivity of the balance remains constant.
The sensitivity does not change due to changes in the center of gravity of the sample caused by melting or expansion due to heating.

### Light Fulcrum



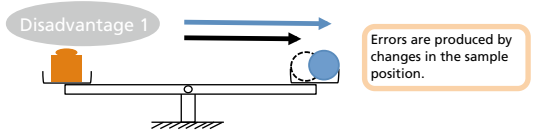
The fulcrum is a thin alloy band with a very small temperature coefficient, configured into an X-shape. This fulcrum is lightweight and has very little friction and resistance, enabling the construction of a high-sensitivity balance, which is also very resistant to vibrations.

Supports this measurement

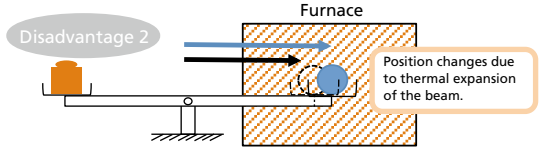



Measurement of small quantities (1 mg) of calcium oxalate

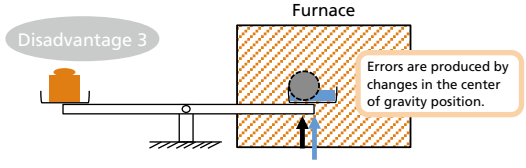
## With a simple balance




The measurement varies depending on the position in which the sample is placed.
There is a possibility that the result will change every measurement, so the reproducibility is low.




When the beam is heated in the furnace the distance between the fulcrum and the sample changes due to thermal expansion, so the measurement changes.




If the center of gravity of the sample varies during measurement due to melting or expansion caused by heating, then the measurement will change.

## Supports Various Types of Measurement

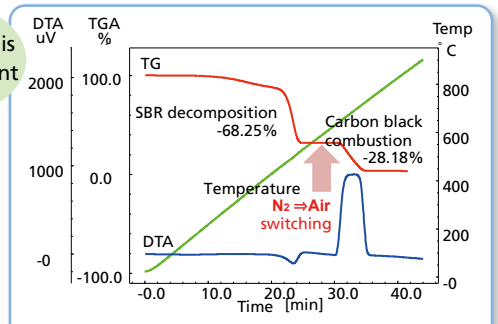
### Flow channels for reaction gas provided

With TG/DTA measurement, qualitative and quantitative analysis, study of reaction mechanisms, and evaluation of thermal resistance can be carried out by observation of various types of reactions and interactions between the sample and special atmosphere gases.
With the DTG-60 Series, various applications are supported by configuring individual flow channels. There is one gas inlet, so the gas can be led directly to the sample, and time is not required for the reaction.

### Wide range of thermogravimetric measurement

The thermogravimetric (TG) measurement range is broad at ±500 mg, with a weighing capacity of 1 g (including tare weight), so it can be used for diverse measurements.

Supports this measurement

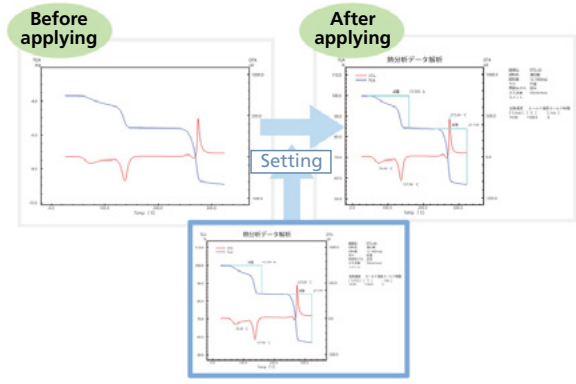



Quantitative determination of carbon black in SBR

# Automated Functions Increase Throughput

## Analysis is simple with the automatic analysis function: "Template Function"

Corrections, analysis, and layout setting of reports can be carried out automatically using the unique "Template Function."
This can be used not only during analysis, but also prior to measurement. It will be automatically applied when measurement is completed, and saved.



Template file

## Shorter analysis wait time

The built-in furnace cooling fan starts automatically after measurement is complete.
Also, it is possible to stop the fan at a predetermined temperature (setting can be varied), so the next measurement can be started immediately.

# Complies with Analysis Laboratory Regulations

This product complies with various guidelines involving analytical laboratories, such as the "Guideline on Management of Computerized Systems" from the Japanese Ministry of Health, Labour and Welfare, the PIC/S GMP guidelines, and electronic record/electronic signature (ER/ES) regulations, including US FDA 21 CFR Part 11.
We have extensive installation experience, so you can rely on us with confidence.

# Compact Design

We have achieved a compact design with the industry's smallest level of footprint (W367 × D650 × H453 mm).
There is no change in size even with the autosampler model.

## Example of System Configuration

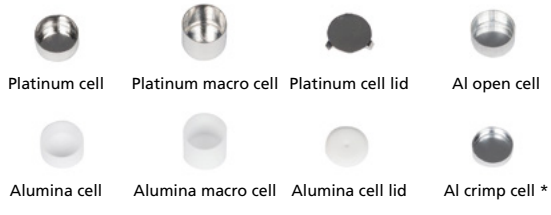

For automatic measurement

## Autosampler Model

### DTG-60A

- Autosampler is built into the main unit
- Enables 24 automatic measurements
- Enables automatic analysis and output after completion of measurement
- Normal measurement can be performed during autosampler operation by interruption


**Sample Cell** Various cells are available.
The cell can be selected in accordance with the use.




* Cannot be used with the autosampler

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