
Notice for Surface Area Analyzer

The required sample amount for the surface area analyzer may vary depending on the BET of the sample.

Sample Amount Based on Surface Area

- **Low surface area samples ($\leq 1 \text{ m}^2/\text{g}$):** 1–2g or more is required.
- **Medium surface area samples (10–100 m^2/g):** About 0.1–0.5g is sufficient.
- **High surface area samples ($\geq 1000 \text{ m}^2/\text{g}$, e.g., activated carbon):** 0.05–0.1g is sufficient.

Providing a small amount of the sample may result in an incomplete adsorption/desorption graph.

If you wish to measure samples with less than the recommended amount, please fill out the attached **Consent Form** and submit it along with your samples.

The following measurements are available with the surface area analyzer:

1. Gas Adsorption/Desorption Isotherm

- Shows the volume of nitrogen adsorbed by the sample under varying pressures.
- Adsorption isotherm: 0–0.99
- Desorption isotherm: 0.99–0.1 (If analysis is required up to 0.01, please specify when applying.)

BET Specific Surface Area

- Unit: m^2/g (Surface area occupied by 1g of the sample)
- For surface area analysis only (excluding pore size distribution): adsorption isotherm analysis is conducted up to $P/P_0 \sim 0.3$ by default.
If full-range adsorption/desorption isotherm analysis (0–0.99) is required, please make a separate request.

Total Pore Volume

- Unit: cm^3/g (Pore volume per 1g of sample)

Pore Size Distribution

- Determines the size of the pores in the sample.
- Classification by pore size:
 - **Micropores:** $\leq 2 \text{ nm}$ (e.g., activated carbon, zeolites)
 - **Mesopores:** 2–50 nm (e.g., TiO_2 , Al_2O_3)
 - **Macropores:** $\geq 50 \text{ nm}$ (e.g., porous carbon structures, silicon)

Various types of analysis plots are available based on the analysis range:

- **BJH plot:** 2–180 nm (meso/macropores)
- **MP plot:** 0.4–2 nm (micropores)
- **HK plot:** 0.4–4 nm (micropores)
- **NLDFT plot:** 0.4–460 nm (micro/meso/macro)

Please indicate the required plot type on the analysis request form.

If you are uncertain or have no specific requirements, the BJH plot will be provided by default.
