

Diamond Compression Cell

DC-500

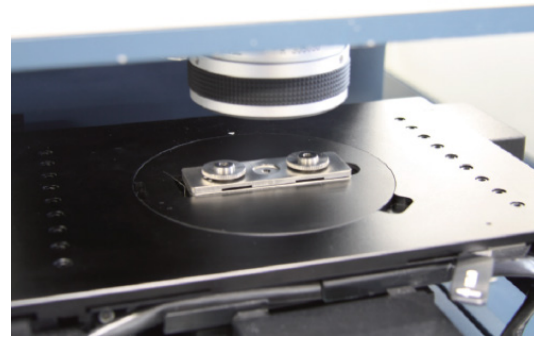


JASCO

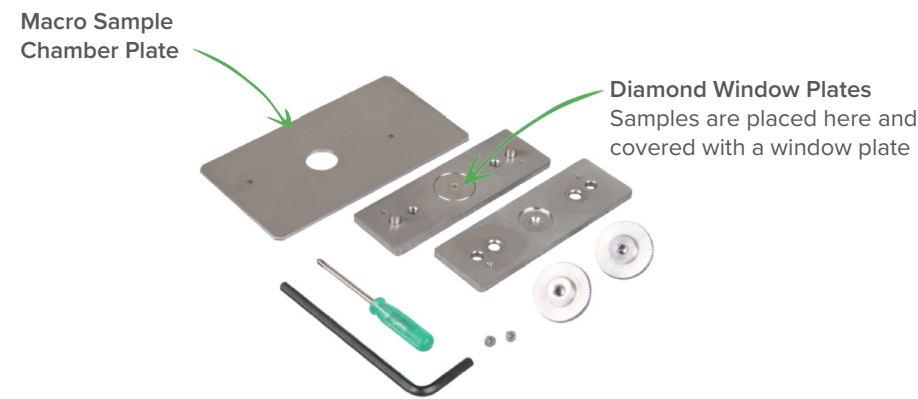
Performance
Innovation
Reliability

Overview

- Micro sample (approximately 20 μm) for measurement of solid samples
- Macro and Microscopic measurement with transparent chamber
- Requires only two screws to compress the sample
- Excellent corrosion resistance and a non-adhesive, can be easily cleaned with organic solvents such as acetone
- Hard surface with a high level of precision, so grinding and rolling are possible for easy sample observation



Microscopic transmission measurement images



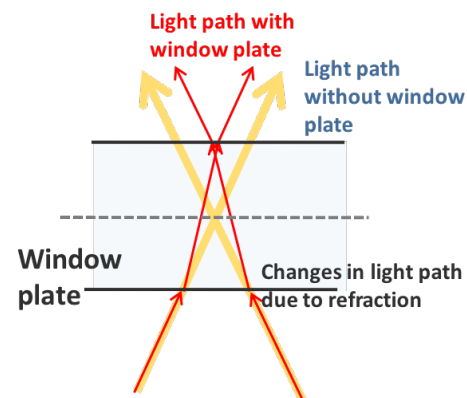
Using the Diamond Cell

Measurement Conditions

The focal position is changed due to refraction of light in the sample or window plates, so the height under the cassegrain (transparency focus) must be adjusted.

Notes:

- S/N is reduced in the wavenumber region 2500-1700 cm^{-1} due to diamond absorption.
- When the sample refractive index is high ($n=2.4$), the diamond anvil cell is measured by combining two window plates, interference from internal reflection may be generated in the spectrum.
- When the window plate is peeled off after compression in the diamond cell, the sample surface may be roughened, if the sample is measured, the light is scattered and the baseline may be distorted.

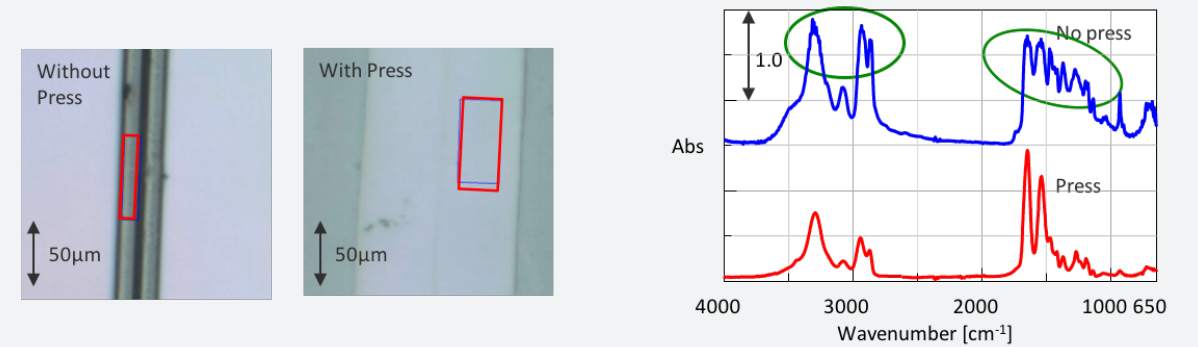


Sample Measurement

Applications

- Compression of thick samples
- To smooth uneven samples for measurement
- Small particles can be collected and placed on the transparent smooth cell for measurement

Example of microscopic transmission measurement of nylon 66 fibers



A high quality spectrum without saturation of the absorption or fluctuation in the baseline can be obtained with compression.

Measurement Recommendation

When using the compression cell with fibers, even when the sample surface is not rough after removing the window plate after compression, in order to prevent interference, it is recommended that measurement is made leaving a single window plate on the sample.

Specifications

Diamond Compression Cell		
Size of Diamond	Diameter 2.5 mm; Thickness 1.0 mm	
Sample Contact Area	Diameter 2.5 mm	
Valid Analysis Area	Diameter 2.0 mm	
Pressurization Method	Fastening the screws by hand or hexagonal wrench	
Measurement Wavenumber	10000 - 2500, 1800 - 300 cm^{-1}	
Specifications of Diamond	Refractive Index	2.4
	Solubility to Water	Insoluble
	Properties	High mechanical strength and acid resistance
	Measurement of	Acid, solvent or oxidation catalyst, etc.



JASCO INTERNATIONAL CO., LTD.

4-21, Sennin-cho 2-chome, Hachioji, Tokyo 193-0835, Japan
Tel: +81-42-666-1322 Fax: +81-42-665-6512 Web: www.jascoint.co.jp/english/
Australia, China, Hong Kong, India, Indonesia, Iran, Japan, Korea, Malaysia, New Zealand, Pakistan, Philippines,
Russia, Singapore, South Africa, Taiwan, Thailand

JASCO, INCORPORATED

28600 Mary's Court, Easton, Maryland 21601, U.S.A.
Tel: +1-410-822-1220 Fax: +1-410-822-7526 Web: www.jascoinc.com
Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Mexico, Paraguay, Peru, Puerto Rico,
United States of America, Uruguay, Venezuela

JASCO EUROPE S.R.L.

Via Luigi Cadorna 1, 23894 Cremella (LC), Italy
Tel: +39-039-9215811 Fax: +39-039-9215835 Web: www.jascoeurope.com
JASCO Deutschland www.jasco.de | **JASCO UK** www.jasco.co.uk | **JASCO France** www.jasco.fr
JASCO Benelux www.jasco.nl | **JASCO Spain** www.jasco-spain.com

Algeria, Austria, Belgium, Cyprus, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Israel, Jordan,
Kuwait, Lebanon, Luxembourg, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Saudi Arabia, Spain,
Sweden Switzerland, Syria, Tunisia, Turkey, United Arab Emirates, United Kingdom, Yemen

JASCO CHINA (SHANGHAI) CO., LTD.

Room No.D, 10F, World Plaza, 855 Pudong South Road, Pudong New Area, Shanghai, China
Tel: +86-21-6888-7871 Fax: +86-21-6888-7879 Web: www.jasco-global.com



Products described herein are
designed and manufactured by
ISO-9001- and ISO-14001-certified
JASCO Corporation