

# What samples can I analyze using a DC3?

The DC3 diamond compression cell P/N GS02555 enables samples to be compressed to an ideal thickness for transmission experiments. It uses two type IIIa diamond windows, each mounted into a hastlloy plate.



The clear aperture of 1.5 mm diameter offered by the hastalloy plate allows for a good transmission throughput signal when placed at the sampling focus of an FTIR spectrophotometer using an MCT detector. For optimum performance with a DTGS detector, the Microfocus Beam Condenser P/N GS02560 (with ZnSe lenses) or P/N GS02561 (with KRS-5 lenses) is recommended to be used with the DC-3 in order to obtain high quality spectra.

As a kit of parts the DC3 and ZnSe microfocus beam condenser are available as P/N GS02556. As a kit of parts the DC3 and KRS-5 microfocus beam condenser are available as P/N GS02557.

The DC3 is for use with small compressible samples. It is not suitable for crushing large samples such as whole polymer pellets. These should be pre-crushed in a die, or a small fragment should be cut off prior to compression between the DC3 diamond windows.

The DC3 should also not be used for crushing or compressing extremely hard samples. Care should be taken that the sample does not contain any hard particles (for example, some sand) that could cause failure of the thin diamond windows through "point" loading.

The DC3, because of its small size and shape can also be used with Infrared Microscopes, where the large aperture allows for more than one sample to be loaded and compressed at one time. Each individual sample could then be selectively moved into the light beam from the IR microscope, saving on the time needed to mount and prepare each sample between analyses.

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