

Golden Gate™ - Supercritical Fluids Analyzer

A high temperature, high pressure, low volume FTIR accessory developed for the study of supercritical fluids and polymers.



The Supercritical Fluids Analyzer version of the Golden Gate™ Diamond ATR is designed for operation at extreme temperatures and pressures.

The diamond ATR element is high temperature metal bonded into a tungsten carbide disk, avoiding the use of adhesives or resins that may be dissolved or attacked by the chemical

aggressiveness of supercritical fluids. The sample chamber has been specially constructed using stainless steel and is capable of withstanding pressures up to 6000 p.s.i. and temperatures up to 300°C.

The high thermal conductivity of the diamond element is ideal for fast temperature equilibrium and accurate temperature measurement, reducing

Applications

- Supercritical and Near Supercritical fluids.
- Extreme condition analysis of polymers
- In-situ ATR studies at high temperatures and pressures

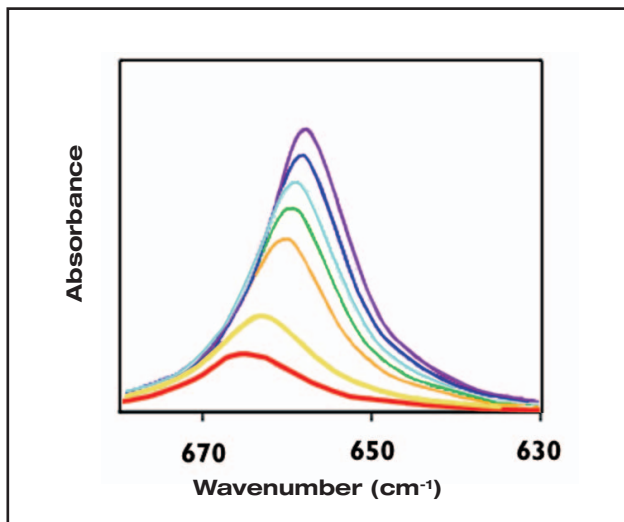
Specifications

- Pressures up to 6000 p.s.i.
- Temperature controlled to 300°C
- Low volume stainless steel sample cell, 28µl
- Standard 1/16th inch fittings
- CE marked
- Fits in standard FTIR instrument sample compartments

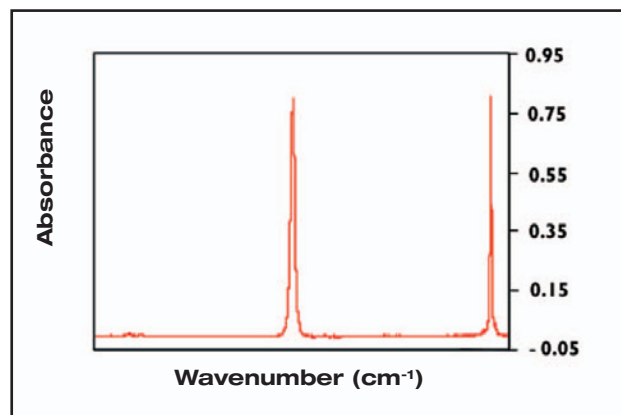
analysis time and increasing sample throughput. The analyzer is equipped with a thermal protection system to prevent thermal runaway.

- Illustrations, descriptions and specifications in this data sheet were correct at the time of going to press. However, Specac's policy is one of continuous product development and we reserve the right to change descriptions and specifications at any time. For the latest details please contact your local Specac office or representative.

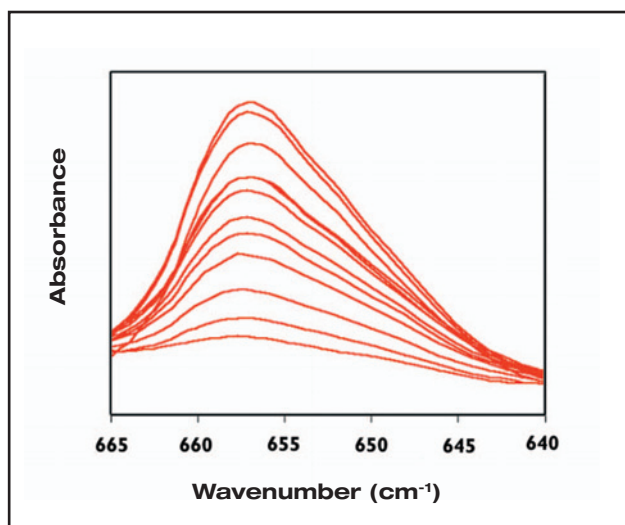
Spectra Samples



ATR spectra showing the effect of pressure of scCO₂ on the bending v₂ mode of CO₂



ATR spectrum of supercritical CO₂ at temperature 40°C and pressure 3350 p.s.i. obtained with single-reflection diamond ATR accessory



Time-resolved ATR spectra of diffusion of CO₂ into a syndiotactic polystyrene pellet subjected to scCO₂

Ordering Information

(Please specify instrument make and model - the temperature controller is supplied without any computer connection, if required, please specify RS232, RS485 or USB connection)

GS10586 Golden Gate™ supercritical fluids analyzer system.
Includes optics unit with Supercritical Fluids Analyzer diamond top plate, temperature controller, Benchmark™ Instrument Base-plate and purge bellows.

GS10585 Golden Gate™ supercritical fluids top-plate.
Includes Supercritical Fluids Analyzer diamond top plate and temperature controller.

Spares

GS10587 Graphite Gaskets (pkt of 10)
GS10504 Torque wrench (requires 10588)
GS10588 2.5mm hexagonal head bit for torque wrench

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