

Specac

Golden Gate™

nothing touches it



**The world's
most versatile
and sensitive
IR sampling
system**

smiths
A part of Smiths Group plc

www.specac.com

**THE SOLUTION IS SPECAC
WHAT'S THE PROBLEM?**

A world standard



Specac's success and reputation as a leading supplier of ATR sampling solutions has been built on one clear proposition: *to provide our customers with the most cost effective, technically innovative sampling solution to their problem.*

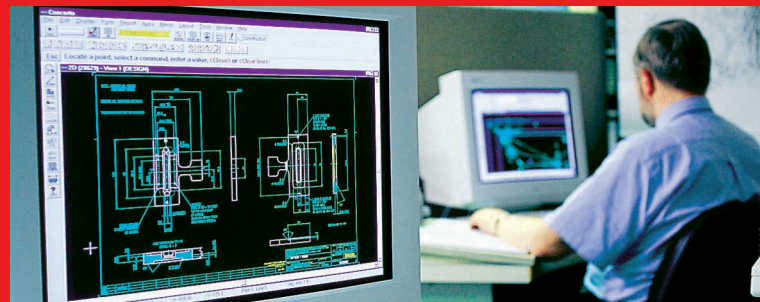
The result is the Golden Gate™ - *the world standard.* The Golden Gate is the world's most versatile and sensitive IR sampling system. This is achieved by using high pressure contact against a type IIa diamond (selected for its unparalleled sensitivity as a single reflection ATR element together with its unique physical and chemical stability). The Golden Gate™ can be used to analyze a wide range of samples from single particles and fibers to corrosive liquids - the large working area sample platform is also ideal for macro sampling. The diamond is high temperature bonded into its tungsten carbide mount, giving performance and strength to withstand the high pressures required for maximum optical contact with hard samples. The quick lock and release bridge allows for fast sample change around and the built-in pressure control mechanism means reproducible results are obtainable without the need for a torque tool.

Now you know why we say;

THE SOLUTION IS SPECAC. WHAT'S THE PROBLEM?

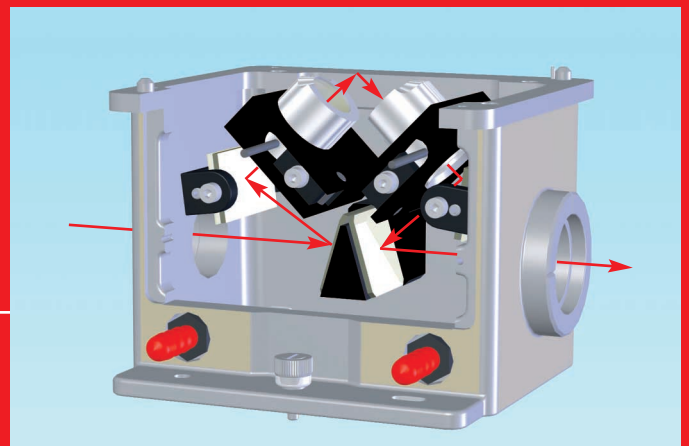
Design and Manufacture

From our purpose built 25,000 sq. ft. facility, our team of optical and mechanical engineers use the latest in 3D CAD systems and optical design software to produce the most innovative and cost-effective solution for your requirements. Our expertise in infrared optics, mechanical and electrical design, are combined with quality componentry and precision manufacturing, to ensure the highest possible performance and reliability.



The inside story

The Top-plates of the Golden Gate Single Reflection ATR Series are supplied on an optical unit which contains mirrors and a choice of beam condensing optics (ZnSe or KRS-5). All Top-plates are interchangeable with the optical unit. A schematic is shown below of the beam path through the Golden Gate optical system, with the path from left-to-right. The symmetrical arrangement means that a Golden Gate ATR can also be used with a right-to-left beam system.



Product Range

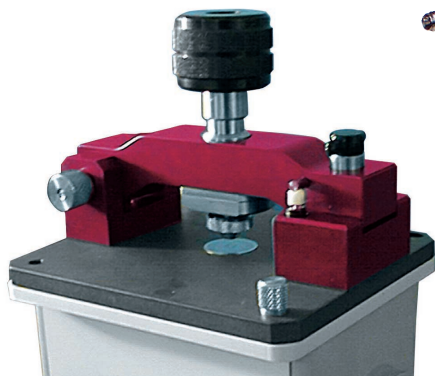


Golden Gate™ ATR MkII

Need the most accurate, sensitive IR readings? You need the Golden Gate™

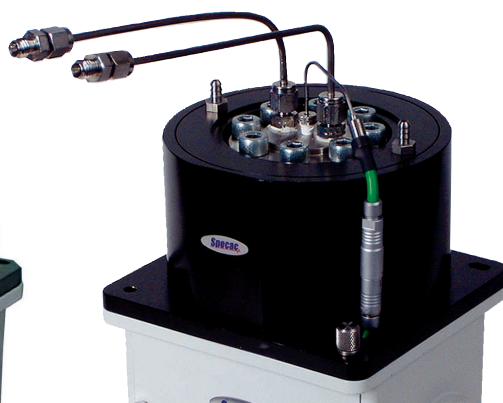
The Golden Gate™ is the world's most sensitive, robust and versatile infrared accessory designed for all the latest high performance FT-IR spectrometers.

It can analyze all sample types from hard solids to corrosive liquids, and operate under a wide range of conditions from 300°C to near liquid nitrogen temperatures and from ambient pressure to 6000psi, via a whole host of optional top plates.



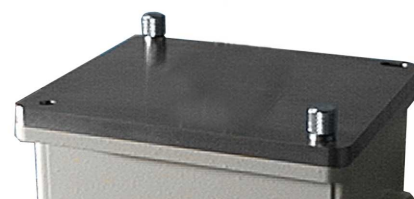
Heated Top-Plate

A high temperature top plate option allowing sample heating from ambient temp. to 200°C



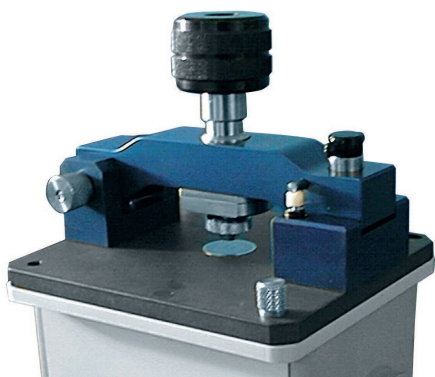
Reaction Cell Top-Plate

A high temperature / high pressure (to 3000psi) FTIR reaction chamber with optional integrated stirring function



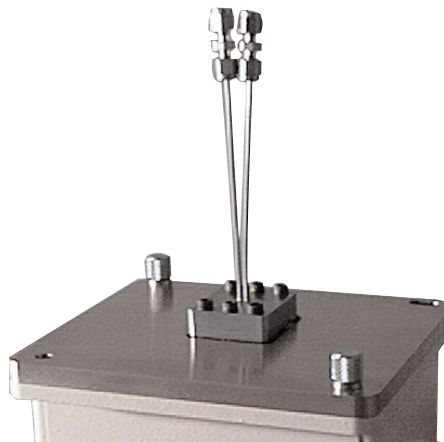
Specular Reflectance

A high performance quality assurance and research grade reflectance accessory for FT-IR analysis



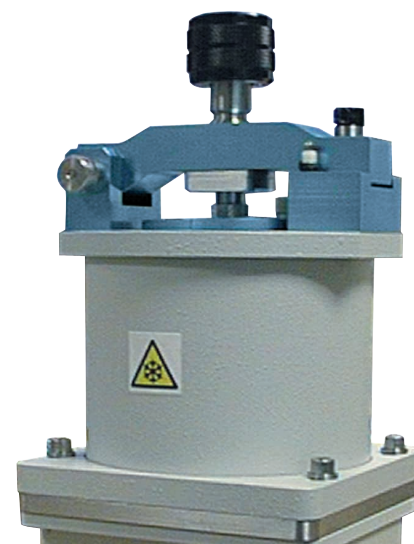
Germanium Top-Plate

The ideal choice for samples such as those containing high concentrations of carbon black



Super Critical Top Plate

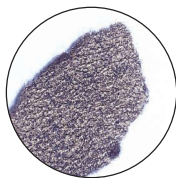
A high temp. (to 300°) high pressure, (to 6000psi) low volume accessory for supercritical fluids and polymers.



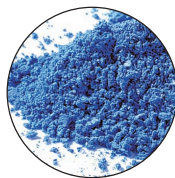
Low Temp. Top Plate

ATR accessory for measurement of solids and liquids from ambient to near liquid nitrogen temperatures.

General specifications



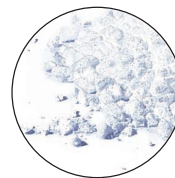
Polymorphism Studies Due to Temperature



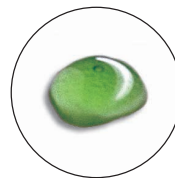
Polymerisation Processes



Phase Change Studies (Solids To Liquids)



Kinetic Studies of Chemical Reactions



Degradation And Decomposition Studies

Golden Gate Systems (All Top Plates can be purchased Individually)

Part Number	Crystal / Top Plate Type	Lenses	Temperature Range	Pressure Range
10500	Diamond / Standard	ZnSe	Ambient	Ambient
10515	Diamond / Standard	KRS-5	Ambient	Ambient
10516	Germanium / Standard	ZnSe	Ambient	Ambient
10523	No Crystal / Micro Specular	ZnSe	Ambient	Ambient
10524	Diamond/ Wire Holder	ZnSe	Ambient	Ambient
10542	Diamond / Heated	ZnSe	Ambient to 200°C	Ambient
10586	Diamond / Super Critical Fluid	ZnSe	Ambient to 300°C	Up to 6000psi
10592	Diamond / Low Temperature	ZnSe	+80°C to Near Liquid Nitrogen	Ambient
10525	Diamond / Reaction Cell	ZnSe	Ambient to 200°C	Up to 3000psi



Pharmaceutical Industry



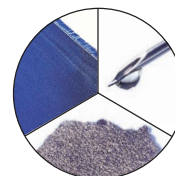
Chemical Industry



Electronics Industry



Mining & Construction Industry



Forensics

If you would like to see how Specac can provide a solution to your problem, or receive detailed Data Sheets on any of our Golden Gate products please call your local sales office, or email sales@specac.co.uk