

## Golden Gate™ - In-situ reaction cell

A high temperature high pressure FTIR reaction chamber (with optional stirring function)



The Golden Gate in-situ reaction cell allows in compartment reaction monitoring over a broad range of extreme conditions.

The Reaction Cell Top Plate is essentially a pressure vessel with heating capability that seals over a standard single reflection Type IIa diamond in a tungsten carbide disc. The cell can be pressurised to 3000psi and heated to 200°C and is constructed either of stainless steel or Hastalloy depending on the reactions to be monitored. A cooling water jacket is fitted to the Reaction Cell Top Plate to remove any excess heat from the Golden Gate optical base unit and to minimise heating of the sample compartment.

The unrivalled strength and durability of the diamond element makes it ideal for withstanding combinations of aggressive chemical contact at high temperatures and pressures.

### Key Sampling Benefits

- Controlled temperatures to 200°C
- Pressures to 3000 psi
- Variable Speed Stirring
- Low Voltage (30V)
- Cell volume 22ml
- Water jacket to prevent overheating
- Choice of construction materials
- Sapphire stirring shaft
- Pressure energised shaft rotor seal
- Complies with European Pressure Equipment Directives (1999)
- Fully CE compliant to stringent European Standards

### Applications

- In-situ Chemical reaction analysis under extreme conditions
- Caustic solutions
- Slurries and abrasive particulates
- Acidic reactions
- Optimization of process parameters
- Blending / mixing analysis

For ultimate flexibility the top-plate can be fitted to any Golden Gate optical base, or supplied as a complete unit of top plate and base. In addition, a stirring unit can be supplied when thorough mixing of reaction chamber contents is required.

### Ordering Information

**GS10525** Golden Gate™ - In-situ reaction cell  
Includes: Optics unit with a choice of ZnSe or KRS-5 lenses, reaction cell diamond top plate with temperature controller and Benchmark™ instrument base plate.

**GS10507** Golden Gate™ In-Situ Reaction Cell Top Plate  
Includes: Reaction cell diamond top plate with temperature controller

**GS10513** Stirring Unit for Golden Gate™ In-Situ Reaction Cell  
Includes: Pressure cap and controller.

*(Please specify spectrometer make and model, voltage, choice of lenses and choice of stainless steel or Hastalloy reaction chamber). The temperature controller is supplied without any computer connection, if required, please specify RS232, RS485 or USB connection.*

SPECAC LTD.,  
River House, 97 Cray Ave, St. Mary Cray, Orpington,  
Kent, BR5 4HE UK  
T : +44 (0)1689 873134 F : +44 (0)1689 878527  
E : sales@specac.co.uk Registered in England No. 1008689

SPECAC INC.,  
50 Sharpe Drive, Cranston, RI 02920 USA  
T : Toll Free +1 800 447 2558  
E : sales@specac.co.uk W : www.specac.com  
Specac is part of Smiths Group plc