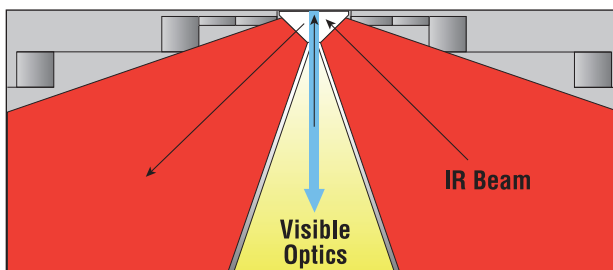


GladiATR Vision – Diamond ATR with Sample View



FEATURES OF THE GLADIATR VISION

- View through diamond crystal – easily find sample point
- 110X magnification – find and position small sample areas
- Optional USB image capture – document sample image
- Diamond crystal design – cannot scratch or fracture
- Highest energy throughput design – for excellent quality FTIR spectra and minimum scan time
- All reflective optics – full spectral range for mid-IR and far-IR analysis
- Optional heated, viewing crystal plate
- Compatible with most FTIR spectrometers



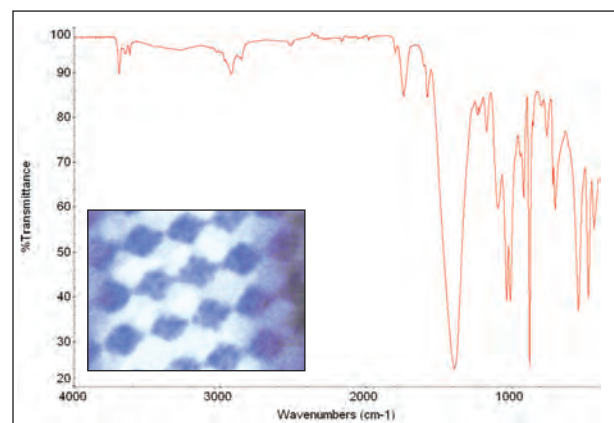
Diamond crystal plate of the GladiATR Vision accessory. IR beam and visible illumination meet at the sample position.

The GladiATR Vision™ is a novel sampling tool which couples small area infrared analysis with simultaneous viewing. Samples are placed face down and positioned on the diamond crystal while its image is projected in real-time on the LCD screen. Finding and optimizing the sample placement for specific analysis areas is easy and fast! Analysis of thick or non-transparent samples is no problem because viewing is through the diamond crystal.

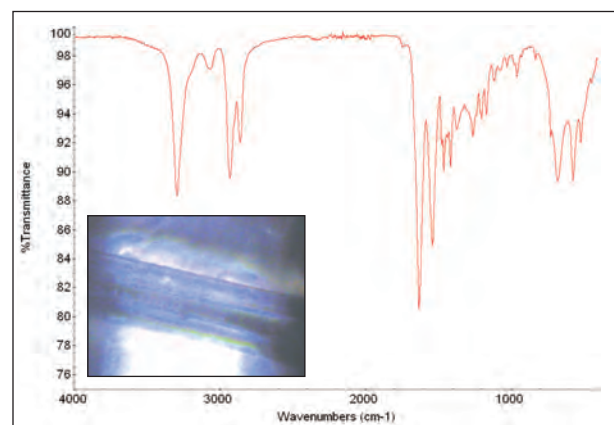
The GladiATR Vision accessory utilizes an innovative optical design with IR beam and visible optical image converging at the sample position – ensuring that “What you see is what you sample!” The 110X magnification of the sample image enables the positioning of even relatively small samples into the center of the diamond crystal for optimized analysis. Analysis of samples as small as 50 microns in size is doable with the GladiATR Vision accessory. Visible images from the GladiATR Vision are of highest quality color rendition because its refractive optics are fully transparent.

The GladiATR Vision optical design is all reflective, preserving the full spectral range inherent to diamond. For standard mid-IR FTIR spectrometers, the spectral range available with the GladiATR Vision will be 4000–400 cm^{-1} . For FTIR spectrometers equipped with far-IR optics, the spectral range is extended to less than 50 cm^{-1} .

The GladiATR Vision diamond ATR is available in configurations to fit most FTIR spectrometers.



ATR/FTIR spectrum of print area on paper run on GladiATR Vision with diamond crystal. Image of the analysis area is shown in the inset. Spectral range is 4000–400 cm^{-1} with standard FTIR optics.



ATR / FTIR spectrum of 200 micron fiber run on GladiATR Vision with diamond crystal. Compressed fiber image is shown with the spectrum.

GLADIATR VISION ACCESSORY SPECIFICATIONS

ATR Crystal Choices	Diamond, germanium (non-viewing)
Crystal Plate Mounting	User changeable plates
Crystal Type	Monolithic
Diamond Mounting	Brazed
Crystal Plate Mounts	Stainless steel
Angle of Incidence	45 degrees, nominal
Crystal Dimensions, Surface Optics	3.0 mm diameter All reflective
Pressure Device	Rotating, continuously variable pressure; click stop at maximum
Digital Force Adapter (option)	Load cell sensor for precise and reproducible pressure control. Attaches directly to GladiATR clamp. Digital readout.
Maximum Pressure	30,000 psi
Sample Access	80 mm, ATR crystal to pressure mount
Spectral Range, Diamond	4000 to 30 cm ⁻¹ (IR optics dependent)
Viewing Optics	Integrated 4" LCD
Magnification	110X magnification
View Area	770 x 590 microns
Optional Image Save	USB image capture
Viewing Mode	Through diamond crystal
Input Voltage	100–240 V, auto setting, external power supply
Operating Voltage, Wattage	12 VDC, 18 W maximum
Heating Options	Diamond, 210 °C maximum
Accuracy	+/- 0.5%
Sensor Type	3 wire Pt RTD (low drift, high stability)
Temperature Control	Digital or digital with PC control (up to 10 ramps, automated data collection, USB interface)
Input Voltage	100–240 VAC, auto setting, external power supply
Operating Voltage	4A/24 VDC, 100 W
Specular Reflection Option	Optional, 45 degree nominal angle of incidence
Purge Sealing	Purge tubes and purge line connector included
Accessory Dimensions (W x D x H)	140 x 225 x 340 mm (excludes FTIR baseplate and mount)
FTIR Compatibility	Most, specify model and type

ORDERING INFORMATION

GladiATR Vision Base Optics (must select one, insert spectrometer model for XX)

PART NUMBER DESCRIPTION

026-19XX	GladiATR Vision Base Optics
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Notes: GladiATR Vision Base Optics versions include purge tubes, illumination power supply, purge kit and spectrometer base mount. Please see the FTIR instrument code sheet. USB interface software enables image capture on your PC.

GladiATR Stainless Top (must select one or more)

PART NUMBER DESCRIPTION

026-2004	GladiATR Vision Stainless Top
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026-2005	GladiATR Vision Heated Stainless Top
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026-2006	GladiATR Vision Liquid Jacketed Stainless Top
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GladiATR Vision Crystal Plates (must select one or more)

PART NUMBER DESCRIPTION

026-2102	GladiATR Vision Diamond Crystal Plate
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026-2050	Ge Crystal Plate (non-viewing)
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026-2200	Specular Reflection Plate (non-viewing)
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026-2202	Specular Reflection Plate (viewing)
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Notes: GladiATR Crystal Plates are pre-aligned and pinned-in-place. Changing crystal plates is easy and fast to optimize sampling results. Only the GladiATR Vision Diamond Crystal Plate is compatible with sample viewing.

GladiATR Vision High-Pressure Clamp (must select for solid or powdered samples)

PART NUMBER DESCRIPTION

026-3020	High-Pressure Clamp
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076-6026	Digital Force Adapter for High-Pressure Clamp
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Notes: The High-Pressure Clamp is required for analysis of solids, powders and use of liquids retainer and/or Digital Force Adapter (Digital Force Adapter cannot be used heated crystal plates). Pressure clamp includes a flat tip, a swivel tip and a concave tip.

GladiATR Vision Temperature Controlled Crystal Plate

PART NUMBER DESCRIPTION

026-4101	Heated Diamond Crystal Plate, 210 °C, Vision
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026-4050	Heated Ge Crystal Plate, 130 °C (non-viewing)
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026-4112	Liquid Jacketed Diamond Crystal Plate
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076-1220	Digital Temperature Control Module
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076-1420	Digital Temperature Control Module, PC Control
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Notes: Digital temperature controller, PC control includes PIKE TempPRO software.

GladiATR Vision Sampling Options

PART NUMBER DESCRIPTION

026-5012	Flow-Through Attachment, sample volume 100 µL
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026-5013	Liquids Retainer and Volatiles Cover Set
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026-5010	Liquids Retainer for Performance Plates, 260 °C
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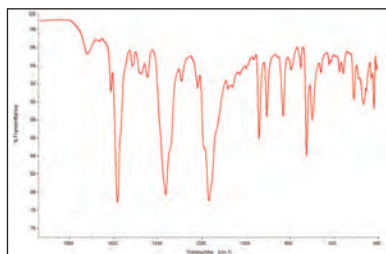
026-3051	Volatiles Cover for Performance Plates
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Notes: Flow-Through Attachment, Liquids Retainer and Volatiles Cover are compatible with all crystal offerings (require High-Pressure Clamp).

Dedicated GladiATR and GladiATR Vision Sampling Tools – More Options to Address Your Specific Application Requirements

Expanded Range Ge Crystal Plate

Due to the compact crystal size and the all-reflective optics of the GladiATR platform, the Ge Crystal Plate offers an expanded spectral range from 4000–450 cm^{-1} . A Ge ATR crystal is used to measure samples with a high refractive index. Types of high refractive materials that would benefit from sampling on the expanded range Ge ATR crystal are carbon black filled samples and inorganic materials such as oxides, aluminas, titania, and minerals. The Ge crystal plate (non-viewing) may be fitted for the GladiATR or GladiATR Vision. Crystal plates are easily interchangeable. A heated version is available.



Spectrum of malachite green oxalate collected using the GladiATR with Ge crystal plate

Specular Reflection Plate

The GladiATR may be converted from an ATR accessory to a specular reflection accessory by using the Specular Reflection Plate. A viewing Specular Reflection Plate is available for the GladiATR Vision. The angle of incidence is 45 degrees, and plate is easily interchangeable with ATR plates.



GladiATR Specular Reflection Plate

Digital Force Adapter for High-Pressure Clamp

The Digital Force Adapter attaches directly to the clamping assembly to precisely measure the applied force by using an embedded load cell that exhibits high linearity and exceptional accuracy. The magnitude of applied force is displayed on an external easy-to-read LCD readout. The digital clamp is ideal for applications that require controlled and reproducible pressure.



GladiATR with Digital Force Adapter

Flow-Through Attachment

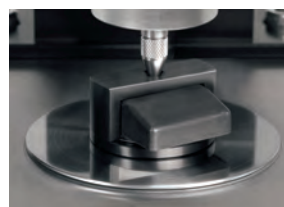
The Flow-Through Attachment is used for continuous monitoring or handling samples that pose a hazard from ambient exposure. Samples are introduced using the Luer-Lok fitting by connecting a syringe or a flow line. The High-Pressure Clamp is required.



Flow-Through Attachment

Liquids Retainer and Volatiles Cover

The Liquids Retainer offers a trough configuration for GladiATR and GladiATR Vision. The volatiles cover reduces the amount of evaporation of a highly volatile liquid sample on the surface of the crystal. The High-Pressure Clamp is required.



Liquids Retainer and Volatiles Cover Set

ORDERING INFORMATION

GladiATR Options

PART NUMBER	DESCRIPTION
026-2050	Ge Crystal Plate (non-viewing)
026-4050	Ge Crystal Plate, 130 °C (non-viewing)
076-1220	Digital Temperature Control Module
076-1420	Digital Temperature Control Module, PC control
026-2200	Specular Reflection Plate (non-viewing)
026-2202	Specular Reflection Plate (viewing)
076-6026	Digital Force Adapter for High-Pressure Clamp
026-5012	Flow-Through Attachment, 210 °C, sample volume 100 μL
026-5014	Flow-Through Attachment, 300 °C, sample volume 100 μL
026-5013	Liquids Retainer and Volatiles Cover Set
026-5015	Liquids Retainer and Volatiles Cover Set, 300 °C
026-5010	Liquids Retainer for Performance Plates
026-3051	Volatiles Cover for Performance Plates

Note: The heated Ge crystal plate requires a temperature control module.