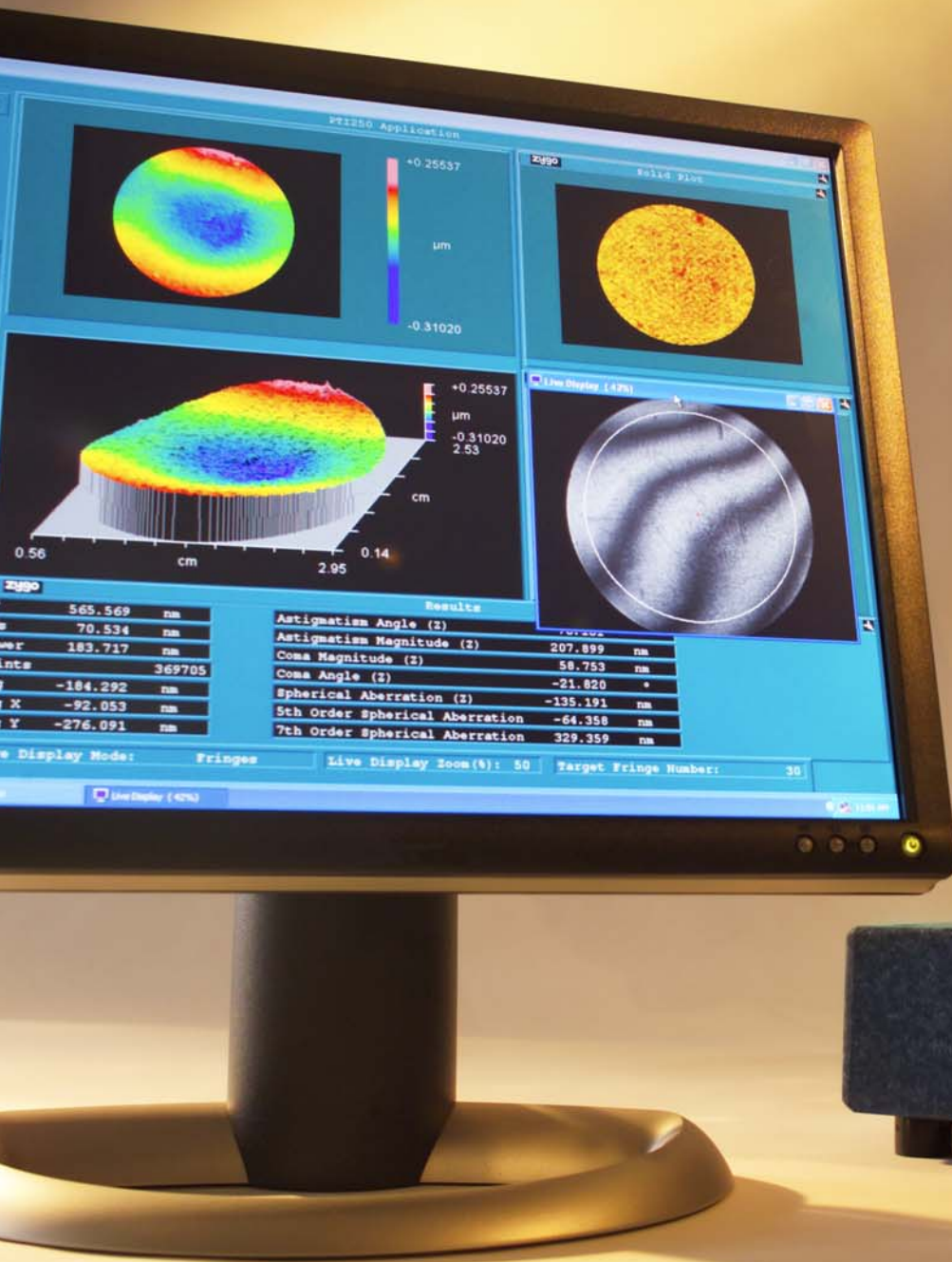


PTI 250™



zygo®

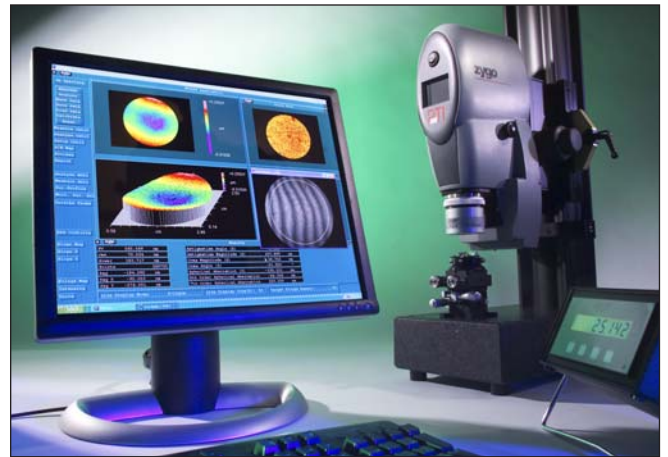
First in Interferometry

ZYGO CORPORATION'S

PTI 250™ Interferometer Line

Zygo Corporation's leading edge set of solutions for process control of lens and lens system metrology.

Control of optical surfaces and radii has become more critical and more difficult as increasing production volumes and performance demands, have emerged. Optics for DVD players, cell phones, CD ROM, endoscopes, digital cameras, and other high volume products are all experiencing rapid growth and tightening performance specifications. However, the decreasing size of these components have made it more difficult to control their performance at each production step. Optical metrology challenges include monitoring surface form, surface radius and transmitted wavefront of spherical and aspheric elements, and multi-lens optical systems. Manufacturers must also minimize yield-limiting issues that occur from over or under polishing, wear in lens molds, material variations and assembly tolerances.



PTI 250RS™ system running MetroPro™ and equipped with Radius of Curvature option.

High Performance Lens Metrology

The PTI 250™ is a robust, easy-to-use, family of interferometers that provides full 3D surface and wavefront maps and radius of curvature of lenses and lens systems. They are the first small optics interferometer systems built whose measurement results directly correlate to ZYGO interferometers, the worldwide standard. PTI 250™ systems are true ZYGO interferometers, trusted metrology that is easy to use, reliable and an excellent return on your investment. Perfect for process control in high volume production and the demanding researcher in R&D labs.

Standard Features

- 25 mm aperture interferometer
- A full line of optical accessories to cover a broad range of applications and parts
- Live fringe alignment system for increased ease of use and speed of operation
- Manual aperture focus to minimize edge diffraction, enhancing performance
- Manual Z stage with 300 mm of coarse and 30 mm fine adjustment
- Direct correlation to the world standard ZYGO GPI™ and VeriFire™ interferometers
- Temperature stabilized laser, for higher accuracy, reliability and ease of use
- Available on a vertical test stand or in a horizontal or upward configuration
- Upgradeable features and accessories allowing easy future product enhancement

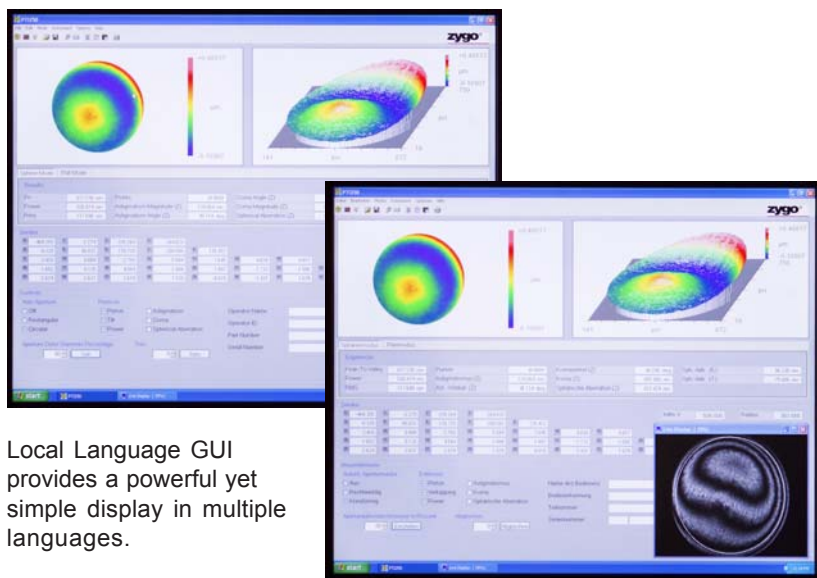
Software

The PTI 250™ family offers several Graphical User Interfaces (GUI) to meet your exact needs. Two basic GUIs are available. The most flexible GUI for research and quality control is Zygo Corporation's standard MetroPro™. For production environments the Local Language GUI provides a powerful yet simple display in multiple languages.

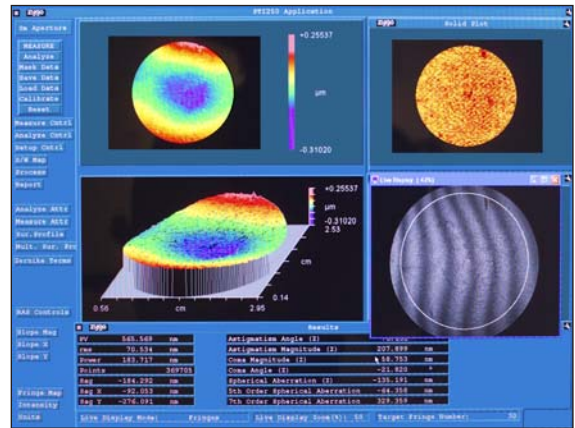
MetroPro™

The PTI 250RS™ is equipped with the ZYGO MetroPro™ GUI. MetroPro™ provides the industry standard point-and-click analysis software right out of the box, simple yet powerful. MetroPro™ is the industry standard, worldwide.

As your needs change and experience grows, call on MetroPro's advanced features. Add move, delete, and resize plots, link off-line analysis through standard Microsoft™ tools and create scripts to run automated test procedures. Interactively slice the surface with linear, circular, radial, or multiple cursors to visualize and measure features of interest. Add, move, and delete any result. Change its font, format, units or color flag as GO/NO-GO. MetroPro™ matches your application whether simple or complex.



Local Language GUI provides a powerful yet simple display in multiple languages.



Standard MetroPro™ screen

Local Language – Production Version

The PTI 250P™ and PTI 250F™ features a fixed production GUI format in the local language of choice. Languages that are presently available are Japanese, Simplified Chinese, Traditional Chinese, German, and English. Other languages are available on request. P-V, RMS, Coma, Astigmatism, and a full set of Zernike polynomials are all displayed, along with a full 3D color surface map and live video image. All these results are based on MetroPro™ analysis for accuracy and correlation.

NEW!

**FLASH
PHASE
ENABLED**

FlashPhase™ is a new data acquisition method offered on ZYGO interferometers that allows phase measurement in non-ideal environments. Instead of using traditional phase shifting technology, FlashPhase™ determines phase from a single frame of intensity. This dramatically speeds up the acquisition time and effectively cancels environmental noise. Now FlashPhase™ enabled systems such as the PTI 250RS™ and PTI 250F™ can be deployed on the production floor, and provide full phase measurement capability.

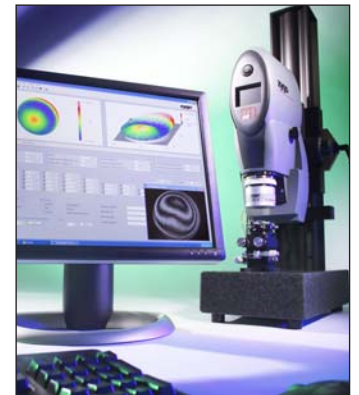
PTI 250RS™

- The power and flexibility required in a research grade interferometer
- Less than two-seconds to quantitative 3D surface maps of greater than 300,000 points
- Phase measuring interferometry for $\lambda/100$ uncertainty
- FlashPhase™ data acquisition for robust measurements in turbulent and vibrating environments
- ZYGO standard MetroPro™ GUI, the world's standard of interferometric analysis.
- Radius of curvature measurement (optional)



PTI 250P™

- Economical production phase shifting interferometer
- Quantitative surface maps of greater than 300,000 points
- Phase measuring interferometry for $\lambda/100$ uncertainty
- Local Language Graphic User Interface, based on standard ZYGO MetroPro™ algorithms
- Radius of curvature measurement (optional)



PTI 250F™

- Most economical production phase shifting interferometer
- FlashPhase™ data acquisition for robust measurements in noisy production environments
- Quantitative surface maps of greater than 300,000 points
- Phase measuring interferometry, using ZYGO FlashPhase™
- Local Language Graphic User Interface, based on standard ZYGO MetroPro™ algorithms
- Radius of curvature measurement (optional)



Feature Comparison of PTI 250™ Models

Feature	PTI 250RS™	PTI 250P™	PTI 250F™
Interferometer	Fizeau	Fizeau	Fizeau
Instrument Type	Phase measuring with advanced analysis capability	Phase measuring, production line	Phase measuring, production line, vibration tolerant
Data Acquisition	PZT	PZT	FlashPhase™
Light Source	655 nm laser diode	655 nm laser diode	655 nm laser diode
Laser Class	Class 1	Class 1	Class 1
Aperture	25 mm	25 mm	25 mm
Aperture Focus	± 250 mm	± 250 mm	± 250 mm
Camera Array	640x480 pixels	640x480 pixels	640x480 pixels
Part Alignment	Twin Spot with integrated LCD	Twin Spot with integrated LCD	Twin Spot with integrated LCD
Part Viewing	Software Live Video Display	Software Live Video Display	Software Live Video Display
Part Stage	Manual tip-tilt, x-y stage	Manual tip-tilt, x-y stage	Manual tip-tilt, x-y stage
Measurable Surfaces	Plano and Spherical	Plano and Spherical	Plano and Spherical
RMS Repeatability	$\lambda/6000$ (1 σ)	$\lambda/6000$ (1 σ)	$\lambda/2000$ (1 σ)
Computer	High-performance PC with LCD monitor	High-performance PC with LCD monitor	High-performance PC with LCD monitor
Analysis Software	ZYGO MetroPro™	ZYGO PTI 250™	ZYGO PTI 250™
Software Languages	English	English, Japanese, Simplified Chinese, Traditional Chinese, German	English, Japanese, Simplified Chinese, Traditional Chinese, German
Vibration Isolation	Required to isolate vibration from 1 Hz to 120 Hz	Required to isolate vibration from 1 Hz to 120 Hz	Not required for most applications

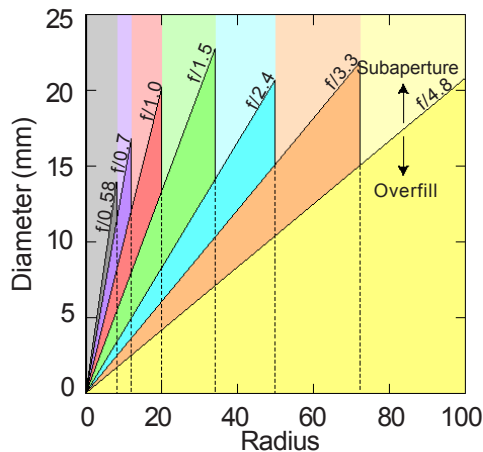


Accessories

The PTI 250™ optical accessories are designed for high performance at an economical price. Transmitted wavefront, ghost reflections, focus, and most importantly reference surface quality have all been optimized to assure top performance. The broad range of transmission spheres provides excellent surface coverage over a wide range of surface diameters and radii. A 25 mm transmission flat, 25 mm to 6 mm aperture converter, and integrated transmission flat are utilized in transmitted wavefront applications.



Full line of accessories available; transmission spheres, element holders, and more.



25 mm Transmission Sphere Coverage

A simple and positive locking bayonet mounts all the PTI 250™ accessories.

Surface radius of curvature is often a key parameter. The PTI 250™ has an optional digital radius kit with 30 mm of travel and 1 μm resolution for accurate radius measurement.

Setting up your test lens and lens systems must be quick and precise. The ZYGO PTI 250™ set of mounting accessories provides an excellent foundation. Tip/tilt stages, XY translation stages, a self-centering element holder, and a lens nest kit provide all the functions to get you started. Production fixturing is often unique. Custom fixturing can mount to access points in the PTI 250™ base to accommodate unique setups.

ZYGO Service and Technical Support Protects Your Investment

Zygo Corporation continues to be a world leader in optical interferometry for over 30 years. With over 3000 optical interferometers in the field ZYGO leads with innovation and support for our customers through unexcelled service and technical assistance.

The PTI 250™ is one of a growing family of surface and wavefront interferometers. ZYGO's GPI™ interferometer line is the backbone of optical manufacturing, while the VeriFire™ line of interferometers provides state-of-the-art performance through ZYGO patent pending technologies. All are supported by worldwide sales and service and ZYGO's unique custom application solutions. Please contact Zygo Corporation for information on any and all of these products and services.

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Covered by the following US patents: 6,788,422.
Other US and foreign patents pending.

Data subject to change without notice.

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