

# DUAL WAVELENGTH Infrared Phase Interferometers

339irVIS – 4-inch aperture Fizeau

6339irVIS – 6-inch aperture Fizeau



*We sell metrology solutions!*



The 339irVIS and 6339irVIS are Dual Wavelength Phase-shifting Fizeau Interferometers that operate in two modes: Infrared or Visible—switch selectable. Other than size, the two interferometers are identical.

The instruments feature Zinc Selenide collimator with an integral reference flat ( $\lambda / 10$  at 635 nm). There are two separate Lasers: a Helium Neon Laser operating at 3392 nm and a single mode Diode Laser operating at 635 nm. Both sources are dithered to produce speckle-free live images on the computer monitor with excellent contrast. Two cameras are used – one with a focal plane array with sensitivity at 3392 nm, the other a high resolution CCD camera sensitive to visible light. The infrared camera provides a resolution of 320 x 240 pixels, while the visible wavelength camera provides resolution of 768 x 494 pixels.

Both Models utilize Durango Universal Interferometry Software together with Piezo-electric phase shifting to allow the operator to achieve highly accurate and repeatable measurements at both infrared and visible wavelengths. In typical usage of Dual Wavelength Interferometers, the operator can align the optical system and perform any necessary tip/tilt operations with the interferometer in VISIBLE MODE—greatly simplifying the procedure. Measurement of reflective surfaces may also be measured at 635 nm – providing higher accuracy. The operator has remote control of Zoom, Focus, Iris and Illumination at 635 nm wavelength, and focus control for fixed 75 mm lens at 3392 nm. Both Interferometers are equipped with a 2.2 GHz computer with Intel Dual-core processor, and 19-inch TFT flat screen monitor which displays live interferograms as well as computer graphics and measurement data. .

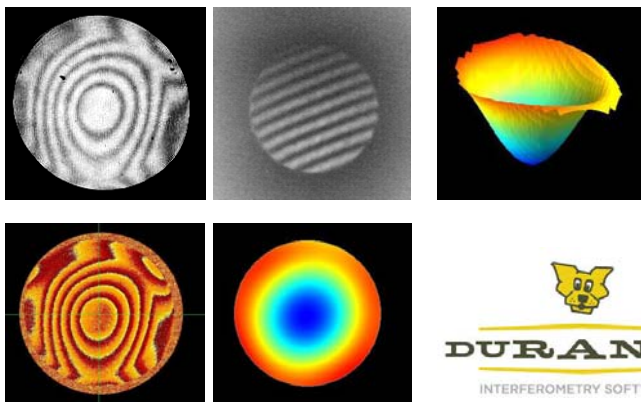
## SPECIFICATIONS FOR MODEL 339irVIS

Aperture 4.0 inches	[101.6 mm]
Imaging Lens for 3392 nm	75 mm fixed
Imaging Lens at 635 nm	5X ZOOM
Dimensions LxWxH	24 x 18 x 10 (in)
Weight	75 pounds [34 kg]

## SPECIFICATIONS FOR MODEL 6339irVIS

Aperture 6.0 inches	[152.4 mm]
Imaging Lens for 3392 nm	75 mm fixed
Imaging Lens at 635 nm	5X ZOOM
Dimensions LxWxH	32 x 22 x 10 (in)
Weight	110 pounds [50 kg]

## Typical IR Interferograms and Durango Graphics



Durango is a trademark of Diffraction International



## PROPERTIES COMMON TO BOTH INTERFEROMETERS

Accuracy [uncalibrated]	$\lambda / 50$ at 3392 nm	$\lambda / 10$ at 635 nm
Accuracy [calibrated]	$\lambda / 250$ at 1550 nm	$\lambda / 100$ at 635 nm
Repeatability	$\lambda / 300$ PV	$\lambda / 1000$ rms
Software	Durango Universal Interferometry Software	
Data Acquisition Time	30 milliseconds [typical]	
Data Reduction Time	<3seconds [typical]	
Computer	2.2 GHz with INTEL Dual Core Processor	
Monitor	19-inch TFT Flat Screen	
Power	117 / 240 Volts	60/50 Hz 2Amperes

FEATURE	BENEFIT
Dual Wavelength 3392 nm / 635 nm switch selectable.	Alignment of two wavelength optical path is coaxial
Integral reference flat ( $\lambda / 10$ at 635 nm)	Reference Flat better than $\lambda / 50$ at 3392 nm!
Zoom lens 5X at visible wavelength	Remote control of zoom, focus, iris and intensity
Two-spot alignment	Coaxial alignment for both wavelengths
Dithered Laser sources at both wavelengths	Speckle-free interferograms
CCD camera for 635 nm mode	768 x 494 pixels
Infrared camera with focal plane array for 3392 nm	320 x 240 pixels
Piezo-electric phase shifters	Phase shifts ~ 8 fringes at 3392 nm
Durango Universal Interferometry Software	Windows environment PV and rms in users choice of units High level of repeatability Excellent reproducibility Large choice of graphic displays Dynamic Sections 3-D OPD Plot Reference Subtraction MTF and PSF graphics and plots Zernike Polynomials available for all measurements Seidel Coefficients available
2.2 GHz computer with Intel Dual Core Processor	For high speed data reduction and phase shift control
Live interferogram on computer monitor	No need for separate video monitor
Repeatability Reproducibility	1/300 wave PV, 1/1000 wave rms Excellent!
Data Acquisition time 30 milliseconds (typical) Data reduction time ~3 seconds (typical)	Fast!
Dimensions: 339irVIS (L x W x H) 24 x 18 x 10 inches 6339irVIS (L x W x H) 32 x 22 x 10 inches	Small footprint
Solidly built	For high stability
Manual	Illustrated Operator's Manual
Power 115/240 Volts 50/60 Hz	Wired with proper plug for user's power system
Warranty	Standard two-year limited warranty against defective components or workmanship