

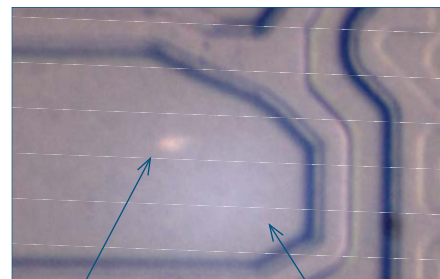
Slider Heads: Thin DLC on AlTiC

M-2000VF

Spectral Range: 390 wavelengths, 370-1000nm

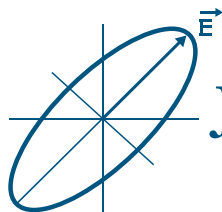
M-2000VF spectroscopic ellipsometer has been specially designed for measuring optical constants (n and k) of slider heads at fly height tester wavelengths (any wavelength from 370nm to 1000nm). The n and k values at wavelengths of interest can easily be plugged into fly height testers. M-2000VF advantages over other spectroscopic ellipsometers for slider application:

- **Focused Beam:** The M-2000VF uses a focused beam so the spot easily fits on the small measurement locations.
- **Adjustable Spot Size:** The user can choose from 5 different focused spot sizes (25 μ m by 60 μ m, 50 μ m by 120 μ m, 75 μ m by 180 μ m, 125 μ m by 300 μ m, and 175 μ m by 420 μ m). The reason for a variable spot size is so the user has the flexibility to obtain a spot small enough to fit on the measurement pad and still get consistent results. Individual grain sizes of AlTiC substrates are quite large (on the order of a micron), thus sampling over a large enough area so many grains are contained within the beam is important to get consistent results.
- **Camera:** A CCD camera is provided so that the spot can easily be positioned on the slider.
- **Normal Incidence Alignment System:** A special alignment system was developed for samples such as slider heads that do not lie flat. This insures proper tilt adjustment for individual sliders, row bars, and head gimble assemblies (HGAs).
- **Automatic Measurements:** The acquisition and analysis software is completely automated so that the user does not have to be an ellipsometry expert to run the instrument. The software guides the user through the measurement process, returns n and k values at wavelengths of interest, and calculates fly height shift.
- **Rotating Compensator CCD Array Technology:** The system is based around proven M-2000 technology which combines a rotating compensator optical design with a CCD array detection system. This provides the highest accuracy with an extremely fast acquisition time (Maximum: 0.1 second, Typical: 5 seconds). The M-2000VF acquires 390 wavelengths from 370nm to 1000nm.



Ellipsometer Light Beam

Slider



J.A. Woollam Co., Inc.

Ellipsometry SolutionsSM