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Focus FE - III

The Rudolph FE III Focus Ellipsometer is designed to provide precision film thickness measurements with simplicity of use. The system's long-life HeNe laser provides high signal to noise ratio for repeatability and the wavelength accuracy of an atomic transition. Using the same first principle measurement technique used by NIST to calibrate thickness reference standards, Rudolph Technology's FE III provides accurate and repeatable results on applications throughout the fab.

The FE III-D's advanced Focused Beam™ system uses dual wavelength technology to directly measure the sample with a small spot at multiple angles of incidence and at multiple wavelengths. This allows the system to define more variables, increasing the certainty of the results on complex multi-layer films. The FE III provides fast reliable data across a wide range of applications. Typical applications include measuring sub 30 Angstrom gates, thick polyimide, ILD on ARC, or small-spot multi-parameter processes.

For Rudolph refurbished equipment:
info@entrepix.com

For Rudolph spare parts and upgrades:
parts@entrepix.com

For Rudolph equipment service or maintenance:
service@entrepix.com

Or Call:
602-426-8677 (Sales)

Options:

- Robot Exchange
- Stage Exchange
- Measurement Standards
- Dual Wavelength
- Pentium Upgrade from 486

Focus FE - III

Focus FE III Series Features:

- A mature, advanced - technology metrology system
- Inherent accuracy for easy system matching
- Available dual wavelength for absolute order resolution
- High throughput wafer transport for up to 29 wafers per hour
- Robust pattern recognition
- Queued loading for simultaneous measurement, set-up and data review
- Fast, accurate flat/notch wafer aligner
- Powerful, intuitive, easy to use software
- GEM/ SECS II compliant software

Specifications:
System: The Rudolph FE III series is a focused beam ellipsometer for simultaneous multi-angle measurements. In addition, multi-wavelength measurement capabilities are available using the optional second light source on the Rudolph FE III-D.

Light Source:
632.8 nm HeNe Laser, 780 nm laser diode (optional second light source)

Spot Size:
12X24 um test site: de-skew only 125 um, site by site 50 um

Pattern Recognition:
Optional pattern recognition, edge or gray scale detection, manual or auto de-skew, re-teach

Wafer Handling:
3-axis robot with random access to three cassettes for 100 mm, 150 mm, and 200 mm wafers

Pre-aligner:
Virtual flat/ notch finder, x, y, centering +/-50 um, theta +/-0.1 deg., de-skew +/-5 um

Stage:
Accuracy: 7um over 200 mm, repeatability: +/-1 um

Preventative Maintenance Program

Overview

- Baseline evaluation to determine configuration and software revision
- Back up recipes and configuration data files
- Review error logs and address accordingly
- Verify vacuum levels with and without wafers
- Handling test with wafers and cassettes
- Clean and lubricate both the stage and robot lead screws
- Check “stage center offset,” “orthogonality,” and “eccentricity”
- Check flat/notch findler lamp, replace if necessary
- Test intensity motors (for belt slip), replace belts if necessary
- Test HeNe laser intensity and IR laser intensity
- Clean dust and particles from the lenses
- Check microscope lamp uniformity, replace if necessary
- System to system matching (if applicable)
- Calibrate all wavelengths to a traceable standards

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