

Opti-Probe 5240



The Therma-Wave Opti-Probe 5240 integrates five separate technologies into one tool to enable stable measurements of all thick and thin films and film stacks in advanced 150 mm - 200 mm fabs. The tool is simple to use and includes an entire suite of pre-developed applications for all fab modules. By combining wavelength-based and angle-based technologies, the Opti-Probe 5240 provides a robust solution for production situations where film thickness and material characteristics vary.

The Opti-Probe 5240 adds a single-wavelength ellipsometer and a spectroscopic ellipsometer to the technologies already present in earlier-generation Opti-Probe systems to provide more precise measurements of extremely thin films and more accurate analysis of complex films and film stacks. The Opti-Probe supports Beam Profile Reflectometry (BPR) and Beam Profile Ellipsometry (BPE) modes to provide accurate feedback for CMP process control. Other supported measurement modes include Spectroscopic Ellipsometry (SE) for new materials characterization, Absolute Ellipsometry (AE) to accurately measure thin dielectrics and Broadband Spectrometry where wavelengths from 190 nm to 840 nm are collected simultaneously for higher-speed scanning.

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For Therma-Wave refurbished metrology equipment:
info@entrepix.com

For Therma-Wave metrology spare parts:
parts@entrepix.com

For Therma-Wave service or maintenance:
service@entrepix.com

Or Call:
602-426-8677 (Sales)

Options:

- DUV: adds DUV Spectroscopy: 210 to 850nm
- Opti-Probe 670 nm Fiber Optic Laser Upgrade Kit: extend the life of laser and ease of change out
- Opti-Probe N2 Purge Kit: prevent contamination build up on optics

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In BPR/BPE mode, a 675 nm thermoelectrically cooled diode laser is used to establish the optical parameter, and in spectrometry mode a visible 450 to 840 nm tungsten halogen lamp is used.

- Supports the full range of thick and thin film, refractive indexes, extinction coefficient and reflectivity measurements
- Multi-layer and multi-parameter measurements on thin ONO and OPO film stacks
- Small micro-ellipsometer spot size (0.9 micron) eliminates under- and over-polishing
- Enables control of polish rate and detection of polish slopes on areas as small as 7 micron x 7 micron
- Single recipes are robust enough to provide correct results over large variations in post-CMP thicknesses
- Spectrometer light source is can be changed in 15 minutes without any optics recalibration
- Long-life light sources eliminate frequent changes and requalification

Preventative Maintenance Program

Overview

- Pre-PM Verification
- Hard Disk Maintenance
- Electrical Checks
- Facilities Checks
- Motor System Inspection
- Wafer Handling
- Auto Focus System
- Spectrometer
- System General
- System Close-up
- Post-PM Measurements