

FOGALE nanotech

LENSMAP system

Lens thickness & airgap automated measurement

Mobile phone camera lens

Molded lens assembly

Micro-lens array

Wafer level optics



Thickness and gap after assembly in one shot

High accuracy

High throughput

Best in class repeatability

Fully automated solution



LENSMAP

Lens assembly thickness & airgap automated measurement



Using a patented optical head, LENS MAP can address critical microlens manufacturing process steps by selecting the corresponding recipe for each application and providing feedback into the production flow for increased yields

PROCESS FLOW

Lens injection molding

Lens thickness control

Multi lens / barrel assembly

Multi lens thickness and airgap control

Measurement: Patented ultra high precision center thickness and position measurement in microlens assemblies.

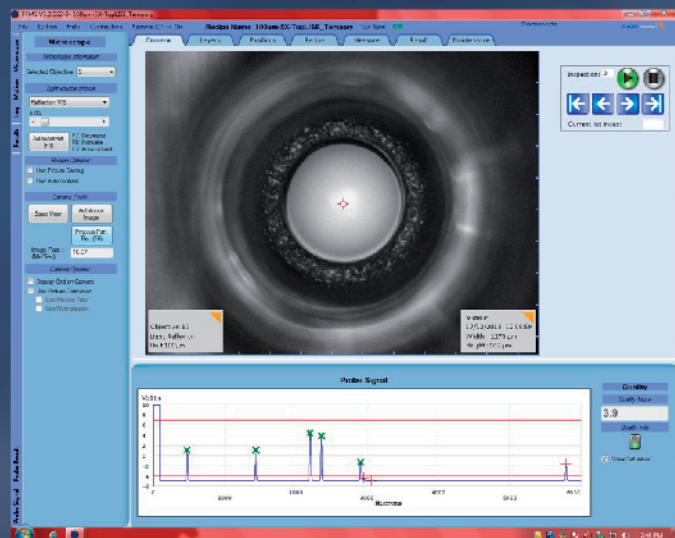
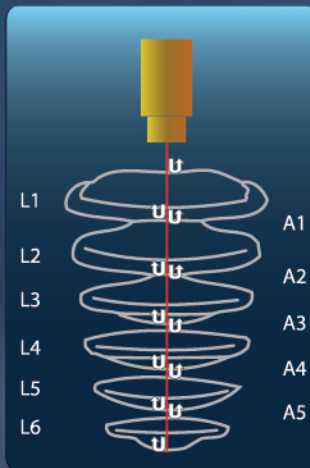
Throughput: The 300mm x,y stage, automated pattern recognition for spot centering, and 50 Hz temporal mode interferometer allow the user to measure at high speed a large number of lenses by running only one recipe.

Reliability and maintainability: LENS MAP is designed to meet high reliability level. IR SLD lifetime is 100 times longer than classical sources.

Data management: Capability to export data through customer network in manual or automatic mode.

Metrology control: In situ metrology process control with embedded reference standards and statistical process control software.

Single or multi-layers measurement



Technical specifications

Maximum number of stacked lenses	10 lenses (expandable)
Number of microlenses per pass	unlimited
Thickness accuracy	0.07 μm
Thickness / Gap repeatability (3 sigma) *	< 0.2 μm
Thickness / Gap reproducibility (3 sigma) **	< 0.5 μm
Minimum airgap	30 μm - (option: down to 15 μm)
Scanning range (optical path)	5 mm - (option: 40 mm)
Spot size	< 80 μm
Measurement time	< 1 sec
Throughput (with spot centering)	4 sec per microlens assembly

* Static repeatability, results obtained on microlens assembly units

** Stage load / unload between measurements, results obtained on microlens assembly units

<http://www.fogale.com>



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