

microPRO™ RTP

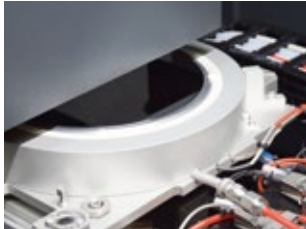
Selective laser annealing system for magnet sensor formation

Combining a state-of-the-art laser optic module with 3D-Micromac's highly modular semiconductor platform, the compact microPRO™ RTP provides selective annealing with high repeatability and high throughput. The system features a selective step-and-repeat spot for magnet sensor formation. The microPRO™ RTP provides numerous advantages compared to existing annealing methods, including:

- High precision in both X and Y directions
- Excellent selectivity for different sensor types,
- Multiple options for pulse energy and exposure area geometry
- Free programmable magnetic field strength and orientation
- Very high energy homogeneity
- Integrated process monitoring



microPRO™ RTP - System Configuration



The microPRO™ RTP standard system configuration consists of:

- Laser module
- Alignment system
- Integrated process monitor
- Heated chuck
- Magnet unit

Available options:

- Fully automated cassette wafer handling (open, FOUP)
- Wafer pre-aligner
- ID Reader for wafer and/or cassette
- SECS/GEM interface
- Filter fan unit

Wafer size	<ul style="list-style-type: none"> ▪ Up to 300 mm (12") wafer size
Laser sources	<ul style="list-style-type: none"> ▪ NIR Laser for GMR sensor formation (other laser sources on request) ▪ Integrated laser power monitoring ▪ Dimension of exposure area controlled by recipe
Magnet unit	<ul style="list-style-type: none"> ▪ Recipe based programming of: <ul style="list-style-type: none"> ▪ Magnetic field strength ▪ Orientation of magnetic field
Positioning system	<ul style="list-style-type: none"> ▪ High precision X/Y/Z stage ▪ Rotation axis with vacuum chuck ▪ X/Y accuracy: < 8 μm
Wafer chuck	<ul style="list-style-type: none"> ▪ Vacuum chuck up to 300 mm wafer size (tape and frame) ▪ Vacuum hot chuck with lift pins (up to 200°C) ▪ Temperature homogeneity ± 2°C
Software microMMI	<ul style="list-style-type: none"> ▪ Control of all components and parameters ▪ Different user levels supported (administrator, supervisor, operator) ▪ Interface for fab integration (SECS/GEM)
Standards	<ul style="list-style-type: none"> ▪ Compatible with common SEMI standards ▪ Laser safety class 1 ▪ Clean room class 5
Consumables	<ul style="list-style-type: none"> ▪ Cooling water, compressed air, electrical power
Machine dimensions	<ul style="list-style-type: none"> ▪ 2716 X 1642 X 2308 mm³