

S-100

AUTOMATIC SCRIBE & BREAK SYSTEM

The S100 combines programmable scribing, precision vision alignment and automated breaking technology to deliver accurate separation of delicate dies, laser bars, wafers and semiconductor components with minimal stress and contamination.



SCRIBE & BREAK

VISION ALIGNMENT

THETA ADJUSTMENT

AUTOMATIC
BREAKING

Flexible by design

The S100 combines automated scribing, precision vision alignment and controlled die breaking in a compact production platform. Designed for semiconductor manufacturing, R&D and low-volume production, it enables accurate processing of wafers, laser bars and fragile components while minimizing mechanical stress and contamination.

KEY BENEFITS

- Automated scribe & break process
- High-resolution vision alignment system
- Programmable scribing parameter
- Micrometric theta adjustment
- Clean and low-stress die separation
- Suitable for silicon, GaAs and laser devices

Explore the possibilities

Contact Micronnect for configuration advice, a demonstration, training and service.

Technology and configuration

Designed for high-precision scribing and alignment, the MS combines true vertical motion, digital vision and micrometric positioning for accurate processing of wafers, ceramics, glass and substrates.

01 Precision Scribing

Adjustable diamond tool, programmable force control and motorized Z-motion ensure accurate and repeatable scribing performance.

02 Advanced Vision

High-definition camera, programmable alignment and digital zoom provide precise targeting and positioning.

03 Flexible Wafer Handling

Supports wafers up to 4", substrates and fragile components with micrometric theta adjustment.

04 Controlled Breaking

Integrated breaking system minimizes die damage while maintaining clean and consistent separation results.

TECHNICAL DATA

Wafer Size	Up to 4"
Wafer Thickness	50 µm and up
Die Size	100 µm to 10 x10 mm
XY resolution	0.23 µm
Scribe Speed	0.1 - 20 mm/s
Vision System	Ultra-High_Definition Color Camera
Dimensions	650 × 820 ×130 mm
Weight	70kg

Specifications are based on the supplied product information. Final execution may vary by configuration.

OPTIONS

- External Hand Breaking Tooling
- Custom Workholding Solutions
- HD Side Inspection Camera
- External Vacuum Pump
- Custom Wafer Holders

The integrated rotary table allows precise angular alignment of wafers, substrates and ceramic parts, improving scribing accuracy and process repeatability

Find the right configuration for your process

CONTACT

Contact us for technical advice or a demonstration.

Scribing & Breaking Systems

Precision-controlled mechanisms for clean, repeatable component separation



SCRIBE HEAD & DIAMOND ANGLE SETTING

ADJUSTABLE SCRIBE HEAD

The diamond tool angle and scribe force can be adjusted to match the material and application. A mechanical zero-angle reference supports consistent tool setup.

- Adjustable scribe force
- Visual diamond-angle verification
- Mechanical zero-angle reference



CONTROLLED BREAKING MECHANISM

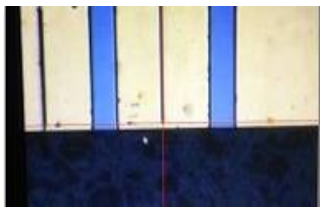
PROGRAMMABLE BREAKING SYSTEM

After scribing, the component is separated using the controlled interaction between the rubber pusher and the programmable breaker blade.

- Programmable breaker blade position
- Controlled rubber-pusher support
- Designed for clean component separation

From Scribe Line to Clean Facet

S100 process results for precise laser-bar separation and downstream handling



PROCESS OUTPUT

Following controlled scribing and breaking, the separated parts can be transferred to a sorting process. The resulting facets can then be inspected for process quality.

SCRIBE > BREAK > SORT > INSPECT

