

# GSX Series Scribe and Break

The GSX Series of scribe breaker tools are factory refurbished GST systems. The GSX receives a new set of controllers, and amplifiers, and runs on the highly advanced software of our flagship DTX Automatic Scribe Breaker platform. The GSX is a cost effective way to extend and increase the life and performance of existing GST systems, or to get started using advanced dry dicing solutions for your R&D, pilot, and production programs.

## Functionality:

- High precision production and R&D tool
- Automatic Mode processing (vision system controlled)
- Interactive/Semi-Automatic mode for operator controlled sequencing/processing
- User friendly GUI for ease of process setup/use

## Applications:

- RFICs
- Si-Photonics III-V chips
- Laser Diode Cleaving and Matrix Bar-to-Die separation
- OptoElectronics Devices (Photodiodes, Modulators, etc.)
- MEMS and BioMedical devices with sensitive structures/coatings
- LED separation (typically Break Only application)
- Borosilicate/Glass/Quartz based devices/slides



## GSX Scribe and Break Features:

- Full Automatic Processing; or Operator Driven Processing
- Integrated Scribe and Break Stages
- Up to 150 mm Wafer/Small Piece Processing
- Remote System Access for Diagnostics/Issue Remediation/Training



## Platform

<b>Wafer Size</b>	100 mm / 150 mm dia.
<b>X Y Stage Resolution</b>	0.25 microns (High Resolution System) +/- 2 micron minimum step (accuracy)
<b>Theta Stage Resolution</b>	0.001 degree
<b>Axis Controllers</b>	Galil Multi-Axis Controller Set
<b>System Remote Access</b>	RJ45 LAN – 100 MB/s Ethernet Allows for remote support/service, diagnostics, and process assistance
<b>Operator Interface</b>	GUI with Keyboard/Mouse Input, Live Video Monitor Operator Control - Monitor #1 Live Wafer/Process View - Monitor #2
<b>Safety</b>	Locking Hood, EMO Switch
<b>PM Schedule</b>	6 months (Bi-Annual)

## Process Modules

<b>Diamond Type</b>	V-4-64 (4-Facet Heel/Toe) - Multiple Diamond Types Available
<b>Scribe Angle</b>	Programmable: 28 to 40 degrees
<b>Scribe Force</b>	Programmable force range: 2 grams to 200 grams
<b>Impulse with LVC</b>	LVC (Local Vacuum Chuck) holds wafer No topside contact on wafer
<b>Impulse with Anvil</b>	Urethane Break Anvil(s) Can break down to 2:1 aspect ratio
<b>Matrix - Laser Bar</b>	Break of N x M Bar Array Efficient Laser Bar-to-Die Separation

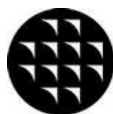
## Software

<b>Operating System</b>	Microsoft XP / Windows 7
<b>Operator Interface/Processing</b>	GUI-based: Fully programmable process setup; automatic and Interactive process modes allows for automatic processing; or Interactive/Semi-Automatic operator guided processing
<b>Wafer Profiling</b>	Vision system mapping of wafer for automatic processing Wafer profiling dynamically controls scribe start and stop points per wafer contour – this increases through-put
<b>Step Compensation</b>	Automatic realignment of scribe and break actions Compensates for tape stretch, and part movement during processing
<b>Theta Alignment</b>	Automatic wafer/piece alignment for each axis

<b>First Street Set</b>	Automatic set using vision
<b>Recipe Editor</b>	All process parameters are stored in the Recipe file Once a recipe is created and saved, the recipe is available for "load" and run

## Facilities

<b>Power</b>	120 VAC 20 amp 50/60 Hz 220 VAC 13 amp 50/60 Hz
<b>Vacuum Air</b>	15-28 in Hg, 0.5 CFM 60 – 85 PSI Gauge 381-711 torr, 234 cm3/sec
<b>Environment</b>	60 – 80 deg. Fahrenheit 15 – 27 deg. Celsius
<b>Humidity</b>	40 – 60 % Relative Humidity (non – condensing)
<b>Footprint</b>	32" W X 43 " D X 71" H Allow 24" Front/Side Clearance



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