

DTX Scribe and Break

Dynatex International has a 60 year history in die singulation and is the leading developer and manufacturer of innovative dry dicing Diamond Scribe and Break machines.

Functionality:

- High precision production and R&D tool
- Automatic Mode for simple vision assist/controlled processing
- Interactive/Semi-Automatic mode for operator controlled sequencing/processing
- User friendly GUI with touch screen operation for ease of 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)



DTX Scribe and Break Features:

- Full Automatic Processing; or Operator Driven Processing
- Integrated Scribe and Break Stages
- Up to 200 mm Wafer, and Small Piece Processing
- Multiple Break Types/Assemblies Available



Platform

Wafer Size	Up to 200 mm
Base Plate Material	Granite
X Y Theta Actuators	Linear motors
X Y Stage Resolution	0.2 microns 1 micron minimum step (accuracy)
Theta Stage Resolution	0.001 degree
Positioning System Feedback Mechanism	Optical encoder
Axis Controllers	Dedicated controller per axis
Stability	Vibration free mounts
System Remote Access	RJ45 LAN – 100 MB/s Ethernet Allows for fastest MTTR, remote support/service and diagnostics, and process assistance
Operator Interface	Single touch screen monitor for fast and easy operation
Enclosure	Corrosion resistant steel
Internal Access	Lift off covers
Safety	Mechanically operated interlock switches
Footprint	1.8m ²
PM Schedule	6 months

Process Modules

Diamond Type	V-4-64 Four facet diamond tool: Heel/Toe
Scribe Angle	28 to 40 degrees Can be set to sub –toe angles: 24 to 28 degrees
Scribe Force	Programmable force range: 2 grams to 200 grams
Break Cycle Time	>750 ms
Z Axis Actuator	Brushless DC servo motor

Software

Operating System	Windows 7 64 Bit, SSD hard drive standard
Operator Interface/Processing	GUI-based: Fully programmable process setup; Automatic and Interactive process modes
Process Monitor	Provides current process status
Data Mining	Move distance for servos, scribes, breaks, event logs, and calibrations performed
Step Compensation	Automatic realignment of scribe and break actions Compensates for tape stretch, and part movement during processing
Theta Alignment	Automatic wafer/piece alignment for each axis Pattern recognition vision system
First Street Set	Automatic set using vision
Recipe Editor	All process parameters are stored in the recipe file or remotely via network

Facilities

Power	120 VAC 20 amp 50/60 Hz 220 VAC 13 amp 50/60 Hz
Power Input	IEC 320
Vacuum	15-27 in Hg, 0.5 CFM 381-686 torr, 234 cm ³ /sec
Air	CDA, 0.4 - 0.6 MPA 60-85 PSI
Environment	60 – 80 deg. Fahrenheit 15 – 27 deg. Celsius
Humidity	40 – 60 % Relative humidity (non – condensing)
Footprint	57" wide, 50" deep, 78" High



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