7200 Series

Specifications

	ProDice	MegaDice	GigaDice
Workpiece Size	Ø200 mm	Ø200 mm Package singulation – up to ⊠ 212 x 142 mm	Ø200 mm
	Ø300 mm	Ø300 mm Package singulation – up to ⊠ 245 x 234 mm	Ø300 mm
Blade Size	2" – 3"		4" – 5"
Spindle	**1.2 kW**, Air bearing DC-brushless 60 krpm	**2.4 kW**, Air bearing DC-brushless 60 krpm	**2.5 kW**, Air bearing DC-brushless 30 krpm
Indexing Axis (Y)			
Drive	Ball bearing lead screw with stepper motor		
Control	Linear encoder		
Resolution	0.2 µm		
Cumulative accuracy (Ø200)	1.5 µm		
Cumulative accuracy (Ø300)	3 µm		
Indexing accuracy	1.0 µm		
Feed Axis (X)			
Drive	Ball bearing lead screw with DC-brushless motor		
Feed rate	Up to 600 mm/sec		
Cut Depth Axis (Z)			
Drive	Ball bearing lead screw with stepper motor		
Resolution	0.2 µm		
Accuracy	2.0 µm		
Repeatability	1.0 µm		
Rotary Axis (T)			
Drive	Closed-loop, Direct-drive, DC-brushless		
Accuracy	4 arc-sec (0.001 deg.)		
Repeatability	4 arc-sec (0.001 deg.)		
Stroke	350°		
Vision system	Digital camera High bright LED illumination (vertical & oblique) Continuous Digital Magnification from x70 to x280 or, from x35 to x140 (optional)		
Cleaning Station	Full rinse and dry cycle		
Spinning speed	100-2000 RPM		
High pressure	Up to 10 MPa Atomized cleaning capabilities		
Wafer Handling system	Slot to slot integrity Dress cassette Inspection drawer BBD (Broken Blade Detector) ESD (Electrostatic Discharge) kit (optional) UV curing station (optional) Barcode reader (optional) Dress station (optional) SECS-GEM host communication (optional)		
User Interface	Flat 15" touch screen GUI (Graphical User Interface) Multilanguage support Keyboard & Mouse		
Utilities*			
Electrical	200-240 V AC, 50/60 Hz, Single phase		
Air / N2	700 L/min @ 5.5 bar 500 L/min compressed air, 200 L/min process air/ N2		
Spindle coolant	1.1 L/min		
Process water (DI)	Blade/process coolant – Up to 7 L/min High pressure cleaning – Up to 5 L/min		
Atomized cleaning	Up to 0.15 L/min		
High pressure cleaning	Up to 5 L/min (optional)		
* pending model and application			
Dimensions (WxDxH)			
Ø200	965 x 1460 x 1700 mm		
Ø300	1100 x 1785 x 1700 mm		
Weight			
Ø200	1,200 kg		
Ø300	1,350 kg		

Specifications may change without notice.

Design: Studio Rosinger

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BRINGING YOUR PROCESS TO PRODUCTION

7200 Series

Fully Automatic Dicing System

A Comprehensive Dicing Solution

- Silicon Wafers
- Package Arrays
- Hard Materials

Series Highlights

- Advanced Automation
- High Flexibility
- Small Footprint

WX3
Wafer Handling System

ADT = Dicing
Advanced Dicing Technologies

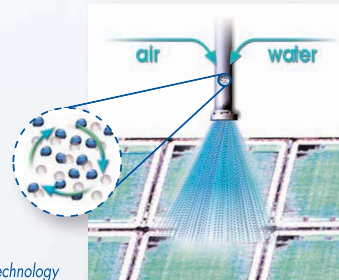
BRINGING YOUR PROCESS TO PRODU

7200 Series

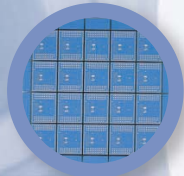
Fully Automatic Dicing System

Semiconductor manufacturers face new production challenges as they struggle to improve dicing quality and throughput while minimizing cost. At ADT, we strive to be fully tuned in to our customers' requirements. Hence, our new 7200 fully automatic system comes with innovative and exciting features that set new industry standards for automation, productivity, ease-of-use and affordability.

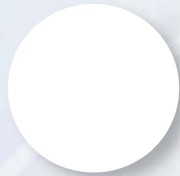
The 7200 system offers a wide range of advanced automation and process monitoring options to meet the throughput & quality requirements of your most challenging dicing applications: Silicon, Glass on Silicon and GaAs wafers, BGA & QFN packages, LTCC, PCB and other hard material applications.



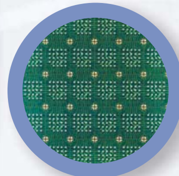
Atomized Cleaning Technology



LTCC Substrate



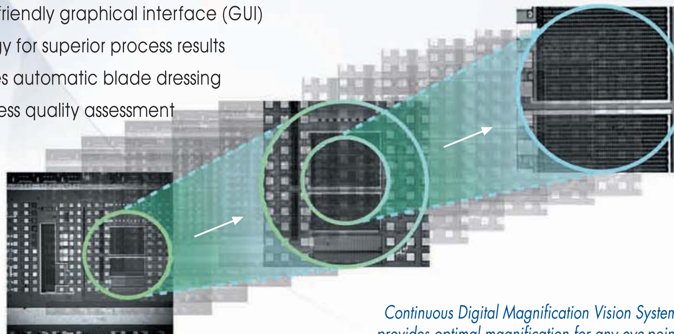
BGA Substrate



Silicon Wafer

Features & Benefits

- Unique WX3 Wafer Handling System streamlines wafer flow for greater productivity
- Continuous Digital Magnification Vision System provides fast and accurate alignment of wafers for maximum throughput
- Special Algorithm predicts blade wear rates to reduce height measurement time and increase UPH
- Touch Panel Display supports a user-friendly graphical interface (GUI)
- Atomized Wafer Cleaning Technology for superior process results
- Dedicated Dressing Cassette enables automatic blade dressing
- Built-in Inspection Tray allows in-process quality assessment
- Small footprint



Continuous Digital Magnification Vision System, provides optimal magnification for any eye-point, from x70 to x280 or, from x35 to x140

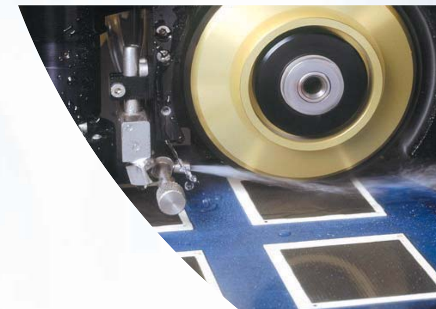
7200 Models

ProDice

2"-3", DC-brushless, Air-bearing, 1.2 kW, 60 krpm Spindle, optimized for IC applications.

MegaDice

2"-3" High-torque, DC-brushless, Air-bearing, 2.4 kW, 60 krpm Spindle, optimized for package singulation and IC applications.



GigaDice

4"-5" High-torque, DC-brushless, Air-bearing, 2.5 kW, 30 krpm Spindle, optimized for automated dicing of hard materials.

7200 Series

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High Flexibility

Special 7200 System for Processing Large Workpieces

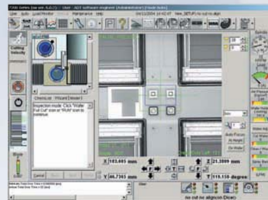
Load port standard (Semi-E15.1) for automated wafer handling

A Wide Variety of Spindle Configurations

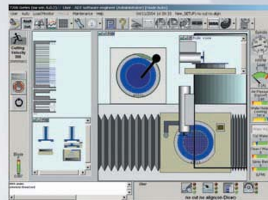
2", 2" High Torque, 4" High Torque

- Front-mounted spindle reduces vibrations and thermal expansion effects
- DC-brushless, direct drive motor provides closed-loop speed control
- Compatible with 2"-3" hub and annular blades
- Flat torque curve guarantees consistent results

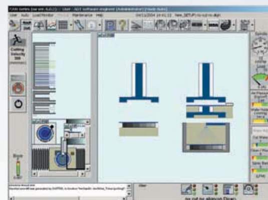
User-Friendly Interface



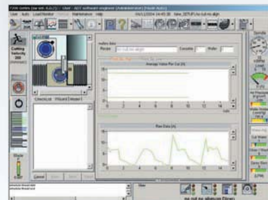
Vision Screen



Main Screen (General View)



Main Screen (Automation View)



Load Monitor

WX3

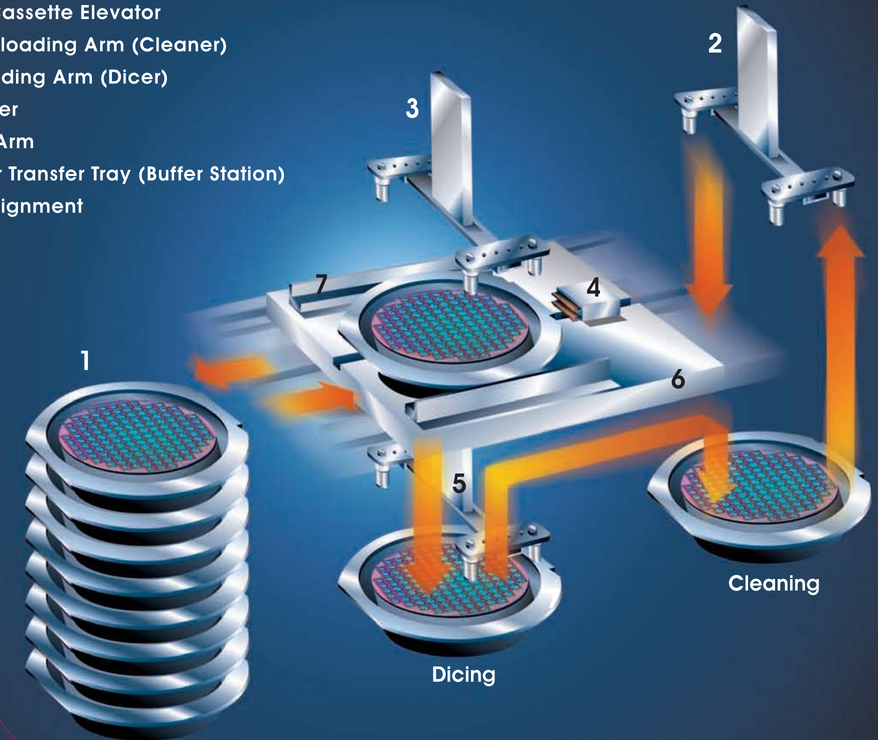
WX3

Wafer Handling System

Simultaneous wafer processing via three coordinated wafer stations to avoid bottleneck slowdown

- Finger extracts wafer from cassette, loading arm (Dicer) loads wafer to dicing chuck → Dicing
- Wet arm moves wafer from dicer to cleaner → Cleaning
- Unloading arm (Cleaner) returns wafer back to cassette (through transfer tray)

1. Cassette Elevator
2. Unloading Arm (Cleaner)
3. Loading Arm (Dicer)
4. Finger
5. Wet Arm
6. Wafer Transfer Tray (Buffer Station)
7. Pre-alignment



- Reduces cost
- Increases UPH