Kiru Kezuru Migaku

DISCO

Fully Automatic Dicing Saw

DFD6450

Next generation parallel dual dicing saw

Parallel dual dicing saw with 6000 Series features

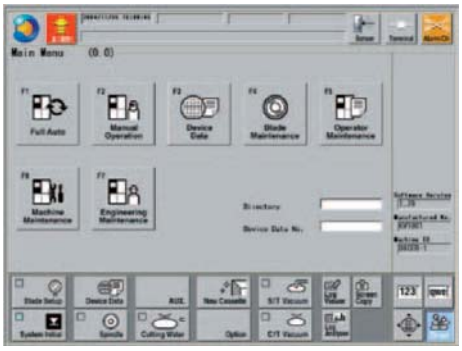
Featuring parallel dual-spindles, DFD6450 combines the best aspects of its predecessor, the DFD651, with the superior usability and process quality of the DFD6000 Series Dicing Saws. Designed to handle a wide range of dicing and grooving applications, the DFD6450 processes silicon, compound semiconductor wafers, ceramics and other materials used for electronic component applications. In addition, the DFD6450 also processes glass and other materials used for optical component applications.

A parallel dual design unique to DISCO

The DFD6450's parallel dual spindle design is unique to DISCO and offers several benefits. As the spindles are supported from the rear of the machine, they are easily accessible from the front for blade changes and other maintenance work. The design also supports specialized applications such as mounting multiple blades on each spindle for package singulation.

Improved usability

- The 5-inch LCD touch panel with a Graphical User Interface allows for easy and intuitive operation.
- Shaft lock feature makes blade changes easy and quick.
- Cutting water flow rate controller is programmable via the touch panel for each individual device data.



Control screen

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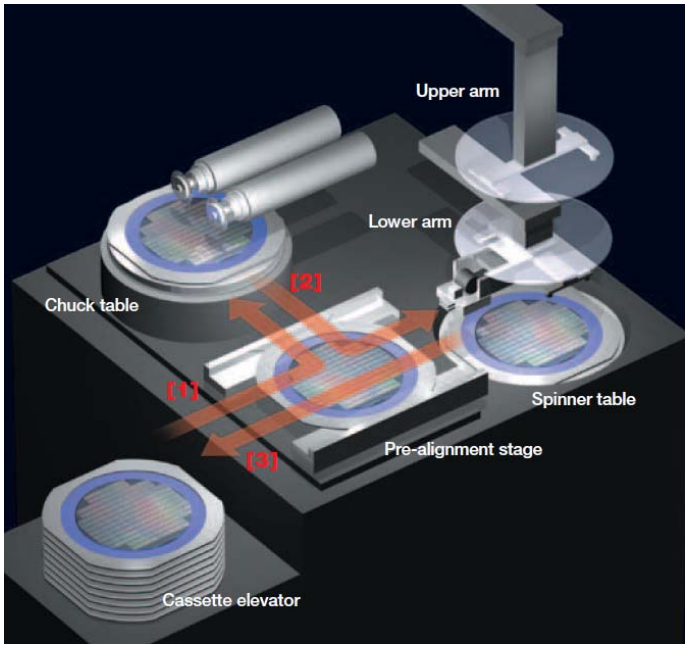

DFD6450 Operation flow

[1] Lower arm moves the workpiece from the cassette to the pre-alignment stage. Lower arm moves the workpiece to the chuck table → **cutting** →

[2] Upper arm moves the workpiece to the spinner table → **cleaning and drying** → **table** → **cutting** →

[3] Lower arm returns the workpiece to the cassette →

Spindle lineup

A range of spindles supports diverse workpieces and applications.

Standard

1.0 kW air spindle

(uses 2" blades, rated torque: 0.16 N·m).

[Options]

1.0 kW air spindle with higher torque

(uses 2" blades, rated torque: 0.24 N·m)

2.2 kW air spindle

(uses 3" blades, rated torque: 0.7N·m)

Advanced options

- A transformer/UPS, a CO_2 injector, and a booster pump can be installed internally. Yet, due to the DFD6450's advanced design, the footprint is similar to that of the DFD651.
- Atomizing nozzle technology (Japan patent no. 3410385) for the spinner table yields extremely clean workpieces after processing.
- An ionizer prevents electrostatic build up during workpiece transport.

Specifications

Specification		Unit	1.0kW	2.2 kW
Workpiece size		mm	φ8″	
X-axis	Cutting range	mm	250	
	Cutting speed	mm/sec	0.1 - 600	
Y1-axis	Cutting range	mm	250	
	Index step	mm	0.0001	
	Index positioning accuracy	mm	0.003/250 (Single error) 0.002/5	
Y2-axis	Cutting range	mm	30	
	Index step	mm	0.0001	
	Index positioning accuracy	mm	0.002/30	
Z-axis	Max. stroke	mm	35.2	
	Moving resolution	mm	0.00005	
	Repeatability accuracy	mm	0.001	
θ-axis	Max. rotating angle	deg	380	
Spindle	Rated output	kW	1.0	2.2
	Rated torque	N・m	0.16, 0.24(higher torque)	0.7
	Revolution speed range	min^{-1}	6,000-60,000、 3,000-40,000 (higher torque)	3,000 - 30,000
Machine dimensions(W×D×H)		mm	1,120 x 1,500 x 1,600	
Machine weight		kg	Approx. 1,400	

Environmental Conditions

- Use clean, oil-free air (dew point between -10 - -20 , residual oil: 0.1 ppm, and filtration rating: 0.01 μm/99.5 % or more).
- Keep room temperature fluctuations within ±1℃ of the set value. (Set value should be between 20 - 25 ℃).
- Keep cutting water and cleaning water 2 ℃ above room temperature (fluctuations within ±1 ℃).
- The machines should be used in an environment, free from external vibration. Do not install machine near a ventilation opening, heat generation equipment or oil mist generating parts.
- This machine uses water. In case of water leakage, please install the machine on the floor with sufficient waterproofing and drainage treatments.

* All pressures specified above are gauge pressures.
* As the above specification may change due to technical modifications. Please confirm when placing your order.
* For further information, please contact your local sales representative.

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