



Fully Automatic Dicing Saw DFD6240

Next generation single spindle dicing saw

Among the world's smallest fully automatic dicing saws

The DFD6240 features the advanced functions and spindle lineup of the DISCO 6000 series, which has been proven at facilities around the globe. By optimizing the frame structure and handling section layout, it has a footprint on par with that of a semi-automatic unit (DISCO's DAD3350), even though it is equipped with all the functions of a fully automatic saw (size reduced by about 20% from the DFD641). The high power spindle supports the processing of not only silicon but also ceramic, glass and other materials difficult-to-cut materials characterized by their high cutting load.

Factory-friendly design

- Reduced energy and air consumption contribute to lower running costs and environmental impact.
- Condition monitor relays processing status and key machine information in real time for use in machine inspections and process management.



Improved usability

- Spindle shaft-lock feature and auto-open/close wheel cover (accessible from the machine front) make blade changes easy and quick.
- Touch-panel display supports an easy-to-use graphical user interface.

Higher throughput

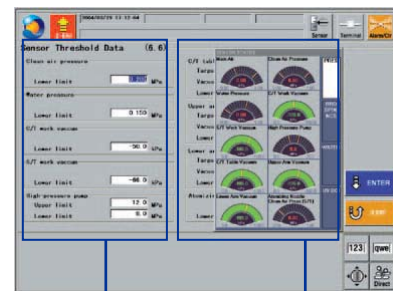
Increased speed ranges and return speeds for the equipment axes contributes to improved dicing throughput.

Improved cut quality

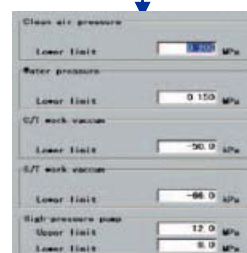
DFD6240 offers highly consistent and dependable cut quality through the new Synchro Spindle™ for superior radial rigidity. The cutting water flow rate controller, programmable via the touch-panel display, sets the flow rate for each process recipe. Atomizing nozzle technology (option, patented in the USA, Japan, and other countries) is available for the wheel cover, where it effectively reduces particle adhesion, and the spinner cleaning unit, where it yields exceptionally clean wafers after dicing.

Spindle Lineup

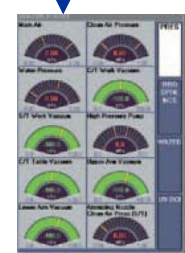
- 1.2 kW spindle (standard) features superior rigidity.
- Center thrust design adds support for high processing load workpieces including glasses, ceramics, and other materials when selecting the 1.8 kW spindle (option, uses 2" blades) or 2.2 kW spindle (option, uses 3" blades)



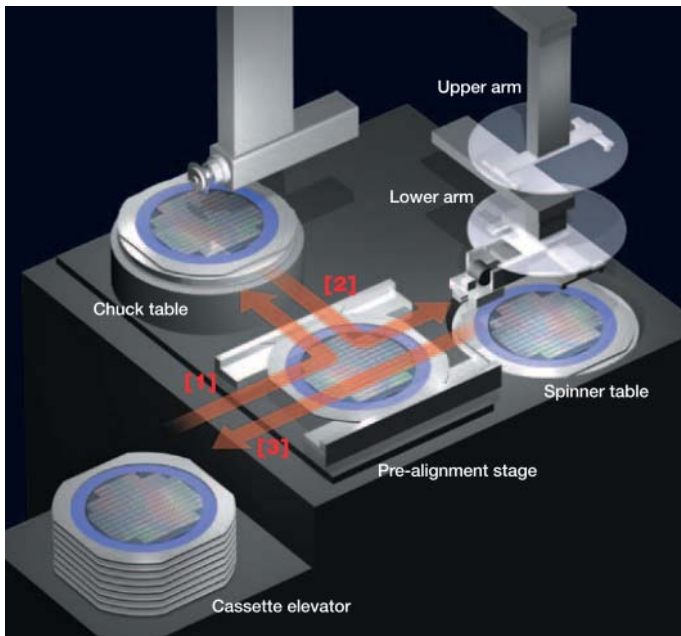
LCD touch screen



Control screen



Condition monitor screen



DFD6240 Operation flow

- [1] Lower arm moves the workpiece from cassette to the pre-alignment stage.
 Lower arm moves the workpiece to the chuck table → **dicing** →
- [2] Upper arm moves the workpiece to the spinner table
 → **cleaning and drying** →
- [3] Lower arm returns the workpiece to cassette

Specifications

Specification		Unit	1.2, 1.8 kW	2.2 kW
Workpiece size		-	φ 8"	
X-axis	Cutting range	mm	210	
	Cutting speed	mm/sec	0.1 - 600	
Y-axis	Cutting range	mm	210	
	Index step	mm	0.0001	
	Positioning accuracy	mm	0.003/210 (Single error)0.002/5	
Z-axis	Max. stroke	mm	19.22 (For φ 2" blade)	19.9 (For φ 3" blade)
	Moving resolution	mm	0.00005	
	Repeatability accuracy	mm	0.001	
θ-axis	Max. rotating angle	deg	380	
Spindle	Output	N·m	0.19(1.2 kW)	0.7
	Revolution speed range	min ⁻¹	6,000 - 60,000	3,000 - 30,000
Machine dimensions (W×D×H)		mm	900 × 1,190 × 1,800	
Machine weight		kg	Approx.1,200	

Environmental Conditions

- Use clean, oil-free air (dew point between -10 - -20 , residual oil: 0.1 ppm, and filtration rating: 0.01 μ m/99.5 % or more).
 - Keep room temperature fluctuations within ±1°C of the set value. (Set value should be between 20 - 25 °C).
 - Keep cutting water and cleaning water 2 °C above room temperature (fluctuations within ±1 °C).
 - 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.