DISCO
Kiru·Kezuru·Migaku Technologies

Kiru Kezuru Migaku

Fully Automatic Dicing Saw

DFD6240

Reduced-Footprint Advanced-Function Single-Spindle Dicing Saw

Fully Automatic Dicing Saw, Among the World's Smallest

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

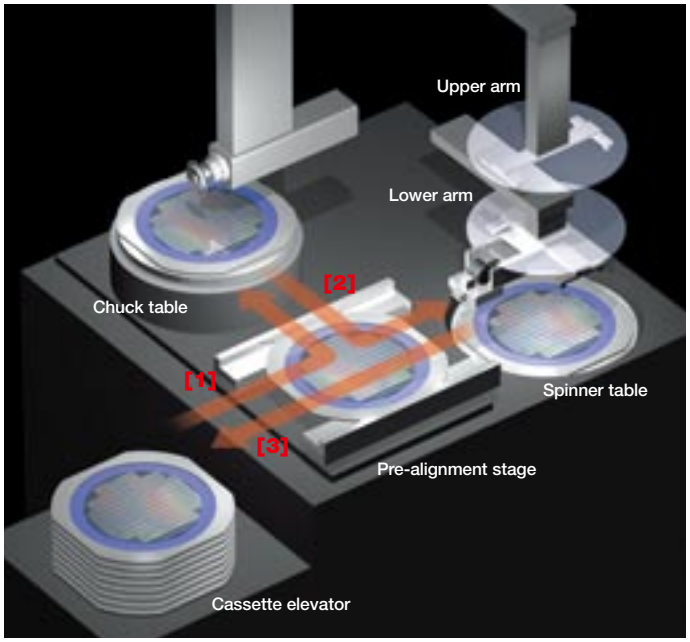
Factory-Friendly Design

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

CE

Fully Automatic Dicing Saw

DFD6240



DFD6240 Work flow

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

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

[3] Lower arm returns workpiece to cassette

Improved Usability

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

Higher Throughput

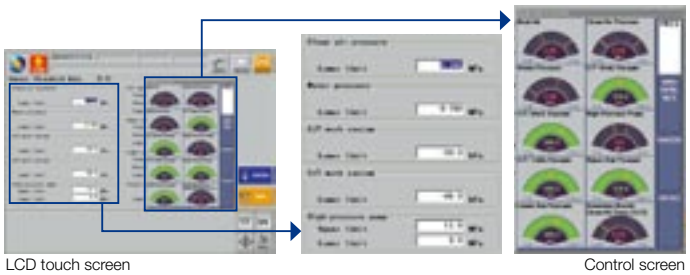
Increased speed ranges and return speeds for machine axes contribute to improved dicing throughput.

Improved Cut Quality

DFD6240 offers highly consistent and dependable cut quality through the new Synchro Spindle™ featuring 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 USA, Japan, and other countries) is available for the wheel cover, where it effectively reduces particle adhesion, as well as for 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 gives 1.8 kW spindle (option, uses 2" blades) and 2.2 kW spindle (option, uses 3" blades) extra rigidity for processing glasses, ceramics, and other high-load materials.



LCD touch screen　　Control screen

DFD6240 Specifications

Workpiece Size		-	ø8"
X-axis	Cutting range	mm	210
	Max. cutting speed	mm/s	0.1 - 600
Y-axis	Cutting range	mm	210
	Index step	mm	0.0001
	Index positioning accuracy	mm mm	0.003/210 (Single error) 0.002 or less/5
	Scale resolution	mm	0.0001
Z-axis	Max. stroke	mm	19.22 (for ø2" blade)
	Moving resolution	mm	0.00005
	Repeatablity accuracy	mm	0.001
	Max. blade size	mm	ø58
θ-axis	Max. rotating angle	deg	380
Spindle	Output	kW	1.2 at 60,000 min^{-1}
	Rated torque	N·m	0.19
	Revolution speed range	min^{-1}	6,000 - 60,000
Applicable Tape Frame		-	2-8-1
Utilities	Power supply	-	200 ~ 240 V AC±10 %, 3-phase (50/60 Hz) For other than the above voltages, a transformer is necessary.
	Power consumption		
	When processing	kW	1.5 (for reference)
	During warm-up	kW	1.0 (for reference)
	Air pressure	MPa	0.5 - 0.8
	Average air consumption during operation	L/min(ANR)	110.0 (for reference)
	Clean air pressure	MPa	0.5 - 0.8
	Average clean air consumption during operation	L/min(ANR)	70.0 (for reference)
	Cutting water, spinner cleaning water, water curtain		
	Water pressure	MPa	0.2 - 0.4
	Max. consumption flow rate	L/min	Cutting water: 6 Water curtain: 1 Other: 1
	Cooling water		
	Water pressure	MPa	0.2 - 0.4
	Consumption flow rate	L/min	1.5 at 0.3 MPa
	Exhaust duct capacity	m^3/min	5.0
	Machine dimensions (W x D x H)	mm	900 x 1,190 x 1,800
	Machine weight	kg	Approx. 1,200 (without transformer for overseas use) Approx. 1,280 (with transformer for overseas use)

Environmental conditions

- Use clean, oil-free air at a dew point of -15 °C or less. (Use a residual oil: 0.1 ppm. Filtration rating: 0.01 µm/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).
- Keep spindle cooling water the same as room temperature between 20 - 25 °C (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.**

DISCO

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