



Automatic Dicing Saw

DAD3221/3231

Evolutionary Compact Dicing Saws for ø6-inch Workpieces

A Diverse Lineup for a Variety of Processing Applications

DAD3221 and 3231 are single-spindle dicing saws capable of supporting a maximum ø6-inch workpieces. DAD3221 is the standard model of semi-automatic dicing saws for ø6-inch workpieces and has a space-saving design of 490 mm x 870 mm (width x depth), achieving the world's smallest footprint.

DAD3231, designed for high performance and expandability, just like the conventional DAD3230, satisfies a wide range of needs, including electronic component materials such as glasses and ceramics. DAD3231 is also capable of handling workpieces up to a maximum of ø8 inches through optional specification, allowing it to flexibly support the processing of special-size workpieces.

Combining Miniaturization with Higher Axis and Communication Speeds

Footprints smaller than the conventional equipment have been achieved in both DAD3221 and 3231. In addition, there have been improvements not only in the return speed of the processing axes, but also in the acceleration and deceleration characteristics. Furthermore, by employing a high-speed communication method, reduced cutting time has also achieved.

As with conventional equipment, automatic alignment, automatic focusing, automatic kerf checking, and other image recognition functions have been installed as the standard functions, minimizing operator man-hours. The high-torque 2.0 kW spindle is standard on every model, and the 1.8 kW spindle with a high-speed rotation is also available as an optional specification.

Special Features of Each Model

- DAD3221 is extremely compact with the world's smallest footprint (According research by DISCO Corporation).
- DAD3231 features an expandable design, making it ideal for customization.



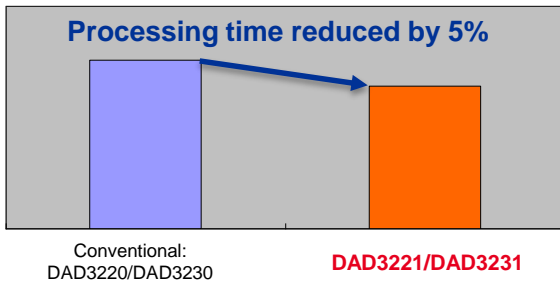
DAD3221



DAD3231

5% Reduced Cutting Time Compared to Conventional Equipment

By improving the return speed of each processing axis (X, Y, and Z) and employing a high-speed communication method, the processing time of DAD3221 and DAD3231 has been reduced by 5% compared to conventional equipment.



Measurement conditions

- Processed workpiece: ϕ 6-inch silicon wafers
- Cutting speed: 100 mm/sec
- Index: 5 mm (CH1 & CH2)
- Alignment operation used

Specifications

Specification		Unit	DAD3221	DAD3231	
Workpiece size		-	ϕ 6" (Square die 6 inch Special Spec)	ϕ 6" (Square die 8 inch Special Spec)	ϕ 8" (Option)
X-axis	Cutting range	mm	160	210	
	Cutting speed	mm/s	0.1 - 800		
Y-axis	Cutting range	mm	160	210	
	Index step	mm	0.0001		
	Index positioning accuracy	mm	0.005/160 (Single error) 0.003/5	0.002/210 (Single error) 0.002/5	
Z-axis	Max. stroke	mm	32.2 (ϕ 2" blades)		
	Moving resolution	mm	0.00002		
	Repeatability accuracy	mm	0.001		
θ -axis	Max. rotating angle	deg	320		
Spindle	Layout	-	Single		
	Rated output	kW	2.0 at 40,000 min ⁻¹	1.8 at 60,000 min ⁻¹	
	Rated torque	N·m	0.48	0.29	
	Revolution speed range	min ⁻¹	3,000 - 40,000	6,000 - 60,000	
Machine dimensions		mm	490 × 870 × 1,670	650 × 950 × 1,670	
Machine weight		kg	420	550	

Environmental Conditions

- Use clean, oil-free air (dew point between -10 to -20, residual oil: 0.1 ppm, and filtration rating: 0.01 μ m/ 99.5% or more).
- Keep room temperature fluctuations within $\pm 1^{\circ}\text{C}$ of the set value. (Set value should be between 20 and 25 $^{\circ}\text{C}$).
- Keep cutting water and cleaning water 2 $^{\circ}\text{C}$ above room temperature (fluctuations within $\pm 1^{\circ}\text{C}$).
- The machine should be used in an environment free from external vibration. Do not install the machine near a ventilation opening, heat-generating equipment, or oil mist generating parts.
- This machine uses water. In case of water leakage, please install the machine on a floor with sufficient waterproofing and drainage treatments.
- * All pressures specified above are gauge pressures.
- * The above specification may change due to technical modifications. Please confirm when placing your order.
- * For further information, please contact your local DISCO sales representative.