Fully Automatic Grinder

DFG8640

Pursuing high-precision grinding of various workpieces

Achieves high-precision grinding

High-precision grinding has been required for power devices and some sensors because thickness variations between wafers and within one wafer after grinding have an impact on product characteristics. The DFG8640 achieves high-precision grinding through the optimization of the processing point layout and installation of various mechanisms.

Available for various workpieces up to ø8 inches

DFG8640 is a fully automatic grinder installed with two spindles, three chuck tables, and one turntable. This equipment supports various workpieces up to ø8 inches, including Si (silicon), LiTaO3 (LT/lithium tantalate), LiNbO3 (LN/lithium niobate), and SiC (silicon carbide).

DFG8640

Mechanisms for high-precision grinding

A spindle axis with high rigidity, low vibration, and less rotation speed fluctuation was developed to achieve high-precision and high-quality processing. For the chuck table axis, an air bearing unit with high rigidity, low vibration, low heat expansion, and less rotation speed fluctuation has been installed.

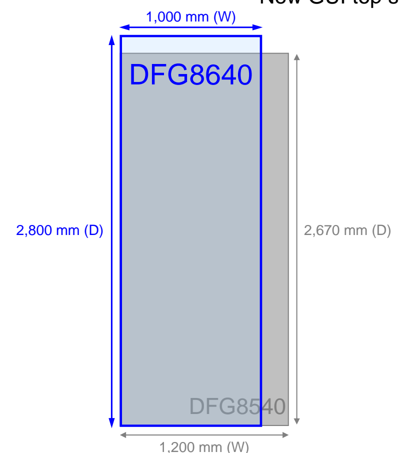
Improved usability

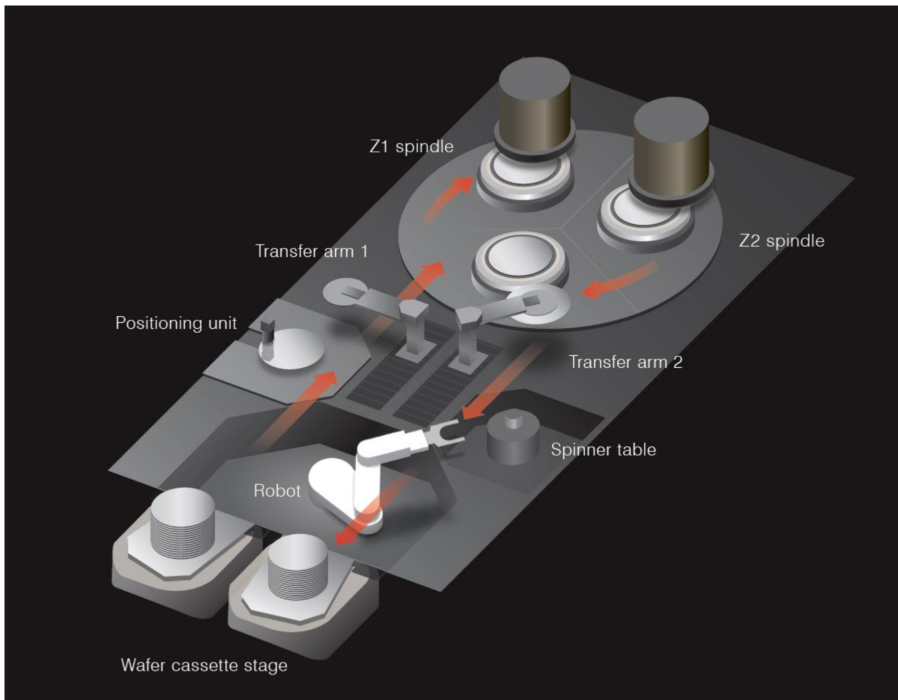
The new GUI (graphical user interface), which enables intuitive operations such as tapping and swiping in the same manner as smartphones and tablet devices, offers quick operation from one screen to the target screen without going through other screens.

New GUI top screen

Improved space productivity

The footprint is approx. 13% smaller than DFG8540. In addition, more than 1.2 times as many wafers as DFG8540 can be transferred by reducing the cleaning mechanism operation time and redesigning the transferring arm.





[1] The robot pick removes the workpiece from the cassette and places it on the positioning table, where centering takes place.
[2] Transfer arm 1 positions the workpiece on the chuck table.
[3] The workpieces are ground at Z1 and Z2.
[4] Transfer arm 2 removes the workpiece from the chuck table and positions it on the spinner table.
[5] Cleaning and drying
[6] The robot pick returns the workpiece to the cassette.

Specifications

Specification		Unit	DFG8640
Wafer diameter		-	ø8”
Grinding method		-	In-feed grinding with wafer rotation
Grinding wheel		mm	ø8”
Spindle	Rated output	kW	6
	Revolution speed	min-1	1,000 – 7,000
Machine dimensions (W x D x H)		mm	1,000 x 2,800 x 1,800
Machine weight		kg	3,500

■Environmental conditions

• Use clean, oil-free air at a dew point of -15°C or less. (Residual oil: 0.1 ppm. Filtration rating: 0.01 µm / 99.5% or more).
• Keep room temperature within ±1°C of the specified value. (Specified value should be between 20 – 25°C.)
• Keep grinding water 0 – 2°C above room temperature (fluctuations within 1°C over one hour).
• Keep spindle cooling water temperature between 20 and 25°C (fluctuations within 2°C over one hour).
• Machines should be used in an environment free from external vibration. Do not install machines near a ventilation opening, heat generating equipment, or oil mist generating parts.
• This machine uses water. Due to the risk of water leakage, please install the machine on a floor with sufficient waterproofing and drainage measures.

*All the pressures are described using gauge pressure.
*The above specifications may change due to technical modifications. Please confirm when placing your order.
*For further information please contact your local sales representatives.