



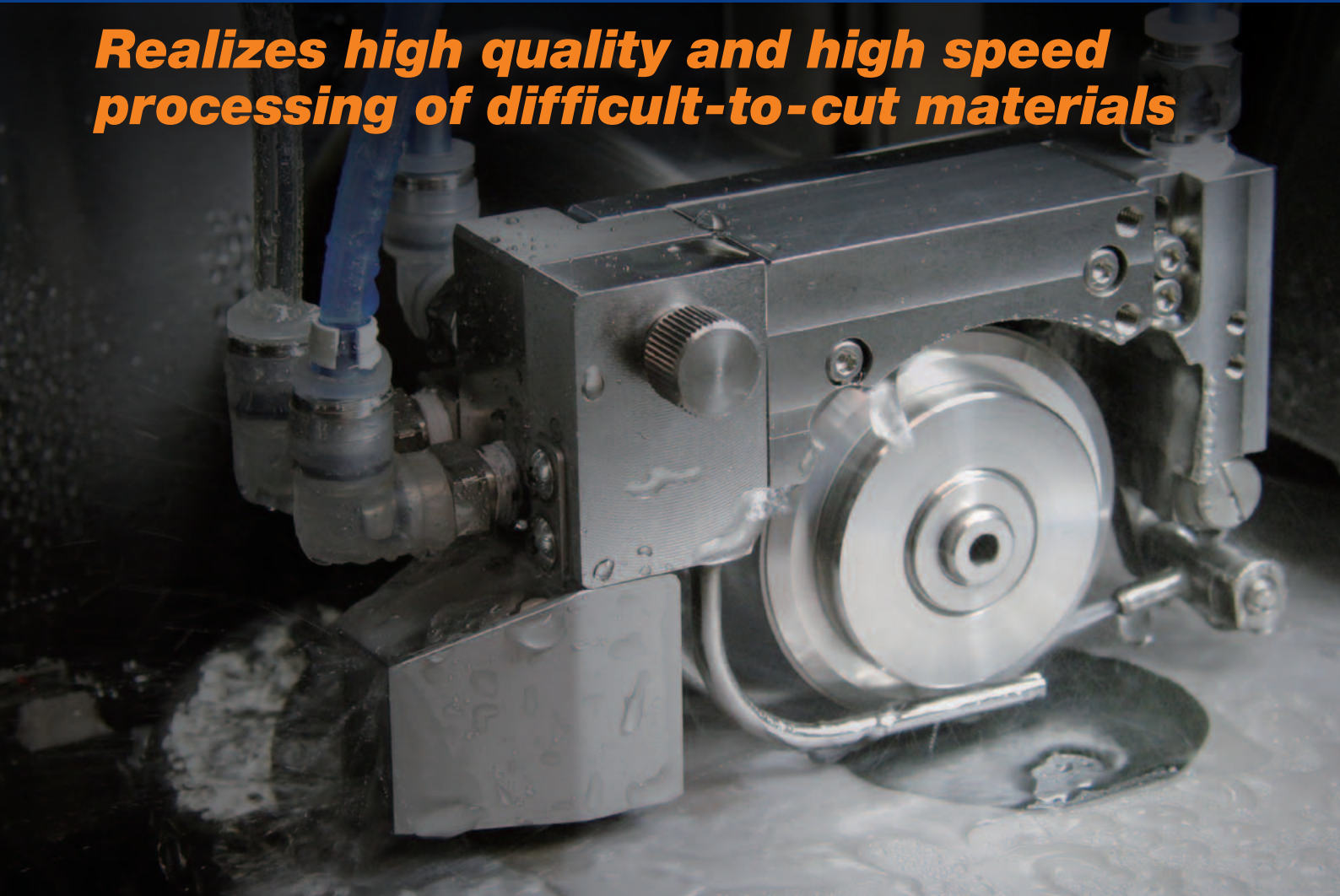
DISCO

Kiru · Kezuru · Migaku Technologies



Ultrasonic-wave Dicing Unit

Realizes high quality and high speed processing of difficult-to-cut materials



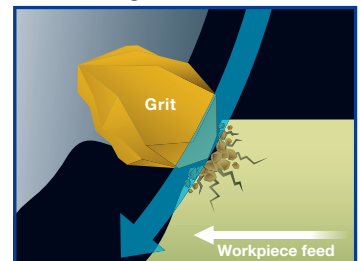
Targets for ultrasonic-wave processing

Good processing quality and high speed dicing of difficult-to-cut materials as typified by SiC (silicon carbide), glass and alumina ceramics can be realized.

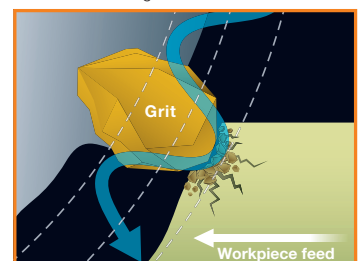
Features of ultrasonic-wave processing

Transmitting ultrasonic-wave oscillation to the blade improves water circulation at the processing point (elimination of clogging by the cutting dust discharge effect, cooled processing point) and promotes self-sharpening of the blade (elimination of blade glazing). Thus, a normal blade condition can be maintained and process load can be reduced. Thus, highly efficient dicing is possible.

Blade edge movement



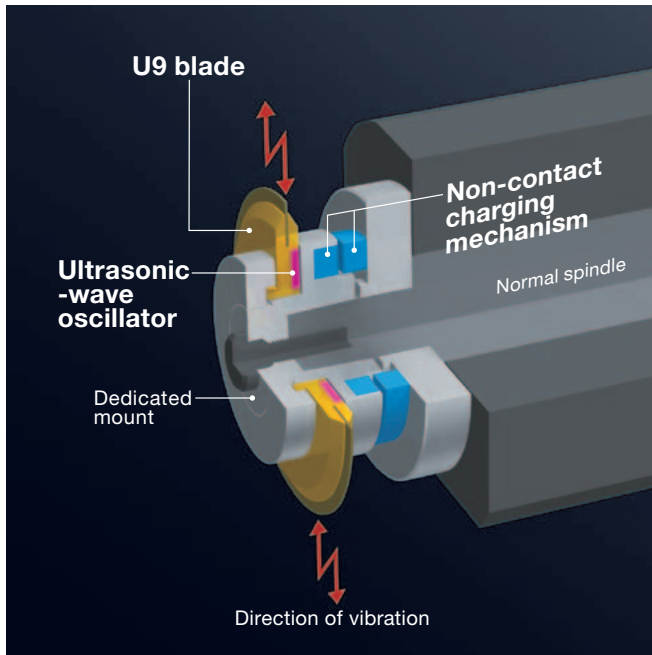
Conventional dicing



Dicing using ultrasonic waves

Ultrasonic-wave Dicing Unit

Ultrasonic-wave oscillation mechanism



Unit configuration

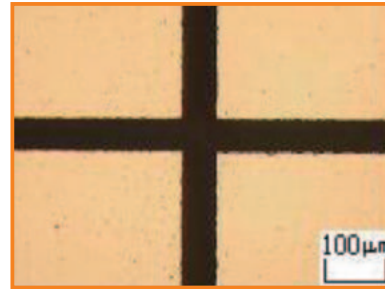
- Ultrasonic-wave amplitude generation power unit
- Dedicated mount, dedicated blade
- Ultrasonic-wave oscillation measurement sensor
- Software

Retrofit available

Since this unit can be retrofitted to the already-installed dicing saw, the introduction of ultrasonic-wave application will be easy. In addition, normal blades can be used even after the retrofit.

Application example: SiC wafer

High feed speed and good processing quality realized



Ultrasonic wave on

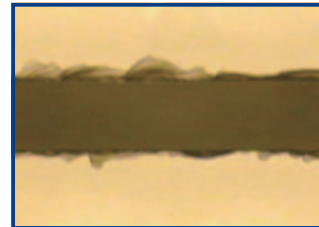
Workpiece: 0.35 mm thick 4H-SiC wafer

Blade: 50 μm thick U09ZA- SD1500

Feed speed: 10 mm/s 1Pass

Application example: Glass

Greatly improved chipping and reduced street width are realized by using the #2000 grit size not previously possible.



Ultrasonic wave off



Ultrasonic wave on

Workpiece: 0.3 mm thick borosilicate glass

Blade: 50 μm thick U09ZD- SD2000

Feed speed: 3 mm/s 1Pass

Blade for ultrasonic-wave dicing unit

U09SERIES

Type	Grit size	Bond	Concentration	O.D.	Thickness	Type of base	Others
U09Z	NBC-Z						
U09ZA	Z05						
U09ZP	ZP07						
U09ZD	Z09						
U09M	B1A						
U09R	P1A						
U09RA	R07						
U09RB	P08						

U09ZD - SD2000 - Y1 - 60 58 × 0.05AS × 6F - L

