

Full Auto LED Wafer Breaker

# BW 600FA

## LED WAFER BREAKER

*Full View and Top  
CCD grabbing vision*

*Double Axes/Double CCDs*

### Patent

- Pressing Mechanism
- Lighting
- Breaking Mode

### Specification

- Multi-Hammers
- Variable Pressing Mechanism
- Light Source Under Support Table
- PC/PLC: LCD touch screen
- Advanced Image Processing System
- Double Axes/ Double CCDs: Enhance yield
- Full View and Top CCD recognize Full/ Lack Wafer
- Servo-Stepping Motor used
- High Pixel/ Big Aperture
- Ergonomic Machine





# BW600FA

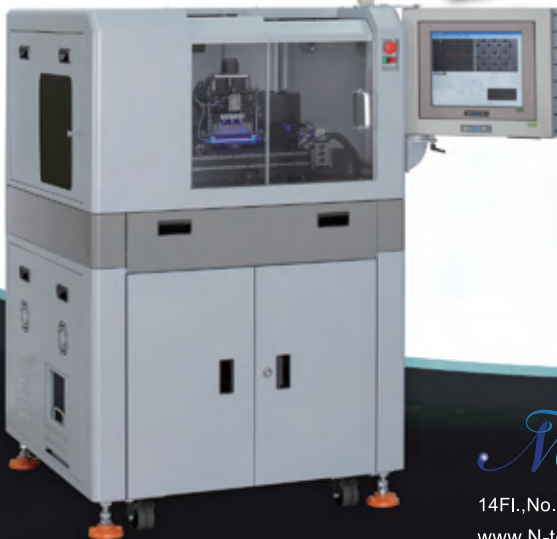
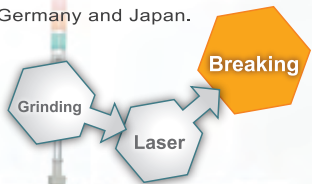
## LED WAFER BREAKER

### Applied Range of Equipment:

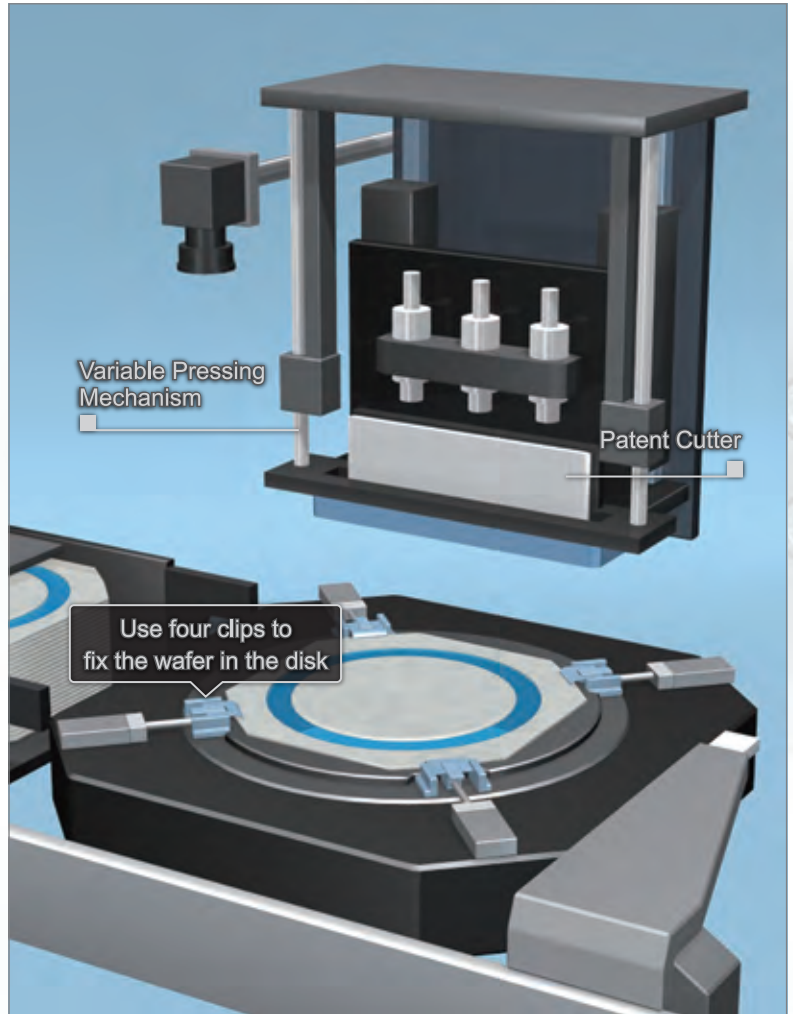
		Unit	BW600FA
X-axis	Single CCD-axis Route	mm	X1/X2 : 220/135
	Max Feeding Speed	mm/sec	100
	Resolution	mm	0.02
θ-axis	Rotation	°	0°±20°, 90°±20°
	Resolution	°	0.002°
Y-axis	Base of Wafer Movement	-	
	Max Feeding Speed	mm/sec	50
	Resolution	mm	0.001
YS1-axis	Control Support Gap	mm	0~5
YS2-axis	Control Support Gap	mm	0~5
Z-axis	Cutter-axis Route	mm	45
	Max Feeding Speed	mm/sec	60
	Resolution	mm	0.001
Loader-axis	Cassette Up/ Down	-	
	Cassette Capacity	pc/c	25
	Max Feeding Speed	mm/sec	25
	Resolution	mm	0.05
Transfer-axis	Wafer Load/ Unload	-	
	Max Feeding Speed	mm/sec	300
	Resolution	mm	0.1
Other Spec.	Power AC 1000W	V	220V/4.5A (110V/9A )
	Air	kgf/cm <sup>2</sup>	5 / φ 6 Tube
	Machine Size (W x D x H)	mm	1350 x 1120 x 1800 Monitor & Signal Light
	Machine Weight	kg	700
Wafer Diameter	inch		2~6
Wafer Thickness	μm		Under 300(max.)
Laser Depth	μm		20 min. above
Chip Size	mils		7x7 ~ 60x60 (max.)
Frame Ring Size	inch		8
Frame Ring Thickness	mm		1.0~1.3

Critical Parts: bearings, slide rails, balls, screws, motors, PLC and joystick imported from Germany and Japan.

### Manufacturing Process:



### Z-axis and θ-axis for BW600FA Diagram:



According to characteristics of wafers, users break wafers by different breaking modes. Also, N-TEC takes some patents on mechanisms. The breaker controls the quality of breaking, reduces extrusion phenomenon, diagonal breakage, beveled cut, chip disintegration, and pair chips, and increases yield.

### High-tech Functions and Patents:

- Recipe can be copied to other breakers that can reduce setting time of recipe.
- Image setting: Derived only one image for each side.
- Location Sensor (make sure the ring is in the right position)
- Starting at auto breaking mode and adjusting the level have been double checked to make sure the level is correct.
- Y-axis aligns automatically. (set each cut or any cut to align once)
- θ-axis calibration and Y-axis alignment. ( set each cut or any cut to align once)
- Search edge of wafer automatically.
- OP can operate the breaker by manual mode.

### Advantages of Breaker:

- Provide customized cutter, software, and hardware.
- Cooperate with customer to make the project with new products.

- 2 inch Wafer 7 x 7 mil
- 4 inch Wafer 8 x 15 mils
- Break the wafer by different characteristics and modes.
- Several top companies use the auto breakers over four years.
- SD, Rough, Back side mirror, and Silicon Products.

■ Vision Recognized:

1. Pattern
2. Pattern and scribing line at the same time
3. Scribing Line (Corresponding to SD laser, rough and back side mirror)
4. Characteristic point and special pattern
5. Other special image processing method.

