

Handheld **Ultrasonic** Pneumatic Drill



- Empowered by **Ultrasonic Drilling**
- Applicable for Composites and Hard-to-Cut Metals
- Significant Hole Quality Improvement



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Product Highlights

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Ultrasonic amplitude from **0.5μm to 18μm**
Applicable to **a wide range of materials**
- 

Significant tool wear reduction
Longer tool life
- 

Minimized delamination and fiber pull-out
Hole quality improvement
- 

Ergonomic design for
more stable handheld drilling
- 

Reduced cutting force
Lower physical labor intensity
- 

Flexible for mobile operation
in limited space

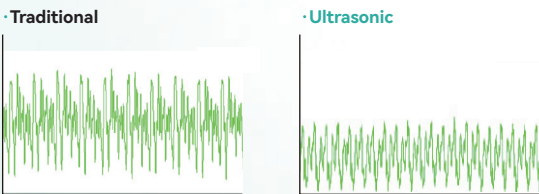
Applicable Materials

CFRP, GFRP, Titanium Alloy, Stainless Steel, Superalloy, Aluminum Alloy, etc.

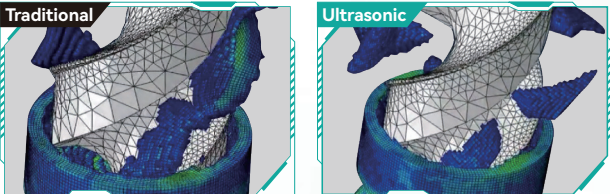
Ultrasonic Drilling and Milling

- The periodical separation between the drill bit and the workpiece generated by ultrasonic vibration effectively reduces the cutting force.
- Better chip breaking and evacuation facilitate heat dissipation and thus lower the cutting temperature.

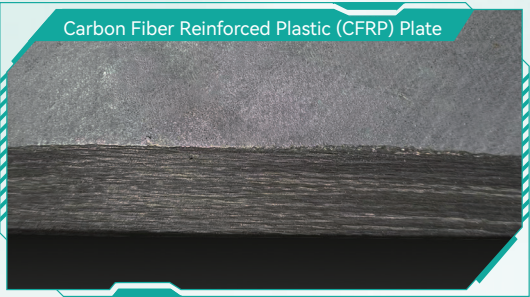
Comparison of Cutting Force



Comparison of Chip-Removing Performance



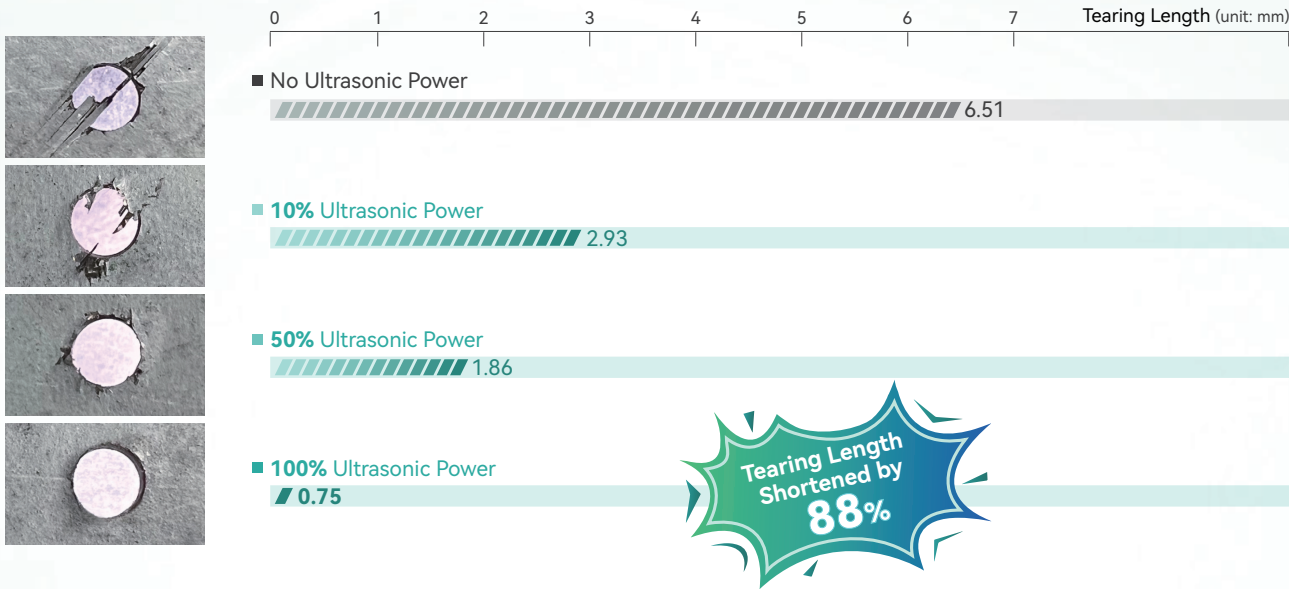
Application Case — Carbon Fiber Reinforced Plastic (CFRP) Plate Drilling



Dimension: 350 (L) × 260 (W) × 5 (T) mm

- **Traditional Drilling**
Fiber pull-out and delamination at the exit hole edges, with a tearing length of **6.51mm**
- **Ultrasonic Drilling**
Better hole quality with a tearing length of 0.75mm, an improvement of 88%

Comparison of Tearing Length under Different Ultrasonic Power Output Values



Technical Parameters

Item	Unit	Value
Ultrasonic Frequency	kHz	15-40
Amplitude	μm	12
Max. Speed	rpm	18,500
Max. Power	W	230
Clamping Range	mm	Φ1-Φ6
Customized Clamping Spec.	-	Quick Change Chuck
Air Pressure	Mpa	0.63
Operating Voltage	V	AC220
Ultrasonic Drill Dimension	mm	179 (L) ×47 (W) ×132 (H)
Ultrasonic Generator Dimension	mm	227 (L) ×350 (W) ×107.4 (H)

