

Carbon (CFRP).



Examples of materials applicable to SONOFILE®



NR sponge



Corrugated elbow



Wide-mouthed bottles



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ULTRASONIC CUTTER

SONOFILE®

SH-3510 / SF-3441 / SF-3400 / SF-653 / SF-60 / SF-30



SONOFILE®

Ultrasonic cutters do not emit noise and smoke and cause air contamination. Thus, ultrasonic cutting is an environment-friendly processing method.

Our ultrasonic cutters can smoothly cut difficult-to-cut materials. They are small in size and do not require large installation areas. Special equipment is not required for the installation. They are small enough to be hand-held for many operations. They can also be attached to automated machinery arms. Although they may not be familiar to you, they play an active role in the manufacturing processes of various industrial products which we use daily.



SH-3510



SF-3441



SF-3400 II

Please try our test cutting.

We will select the oscillator and transducer combination for you, which is optimized for the materials to be cut and the cutting conditions.

SONOTEC, famous for its ultrasonic technologies, can suggest an ultrasonic cutter that is suitable for each of our customers. See the effectiveness of the ultrasonic cutter for yourself by test cutting.



SF-653



SF-60



SF-30



Blade-holding method is patented. (Patent No.: 3462118)

ULTRASONIC POWER

SONOFILE SH-3510

SH-8700RR/HG-110/SF-8541RR
SF-3110/SF-8500RR/SF-3140

High-power ultrasonic cutter with maximum power output of 500 W.

Oscillator with maximum power output of 500 W enables powerful cutting of difficult-to-cut and extra-tough materials. Abrasion resistant carbide blade with 1 mm thickness can be used. Signals for on/off, emergency stop, change of output level, and other features with automated machinery or industrial robots can be performed.

Features

- Ⓞ High-power ultrasonic cutter with maximum power output of 500 W is compatible with materials needing high-power cutting.
- Ⓞ Takes carbide and large blades.
- Ⓞ Mountable on automated machinery/industrial robots.

Oscillator SH-3510



Applicable materials

- Ⓞ Carbon (CFRP).
- Ⓞ A range of prepregs (boron, Kevlar, polyethylene fiber, etc.).
- Ⓞ Rubber (vulcanized latex, non-vulcanized latex, sheeting material, sealing material, and tube).
- Ⓞ Thermoplastics (board, sheeting material, film, and laminated material).

Specification

Frequency adjustment	Auto-tracking type
Maximum power output	500 W
Power output adjustment	Infinitive adjustment
Power supply	AC 200 V 50/60 Hz
Electricity consumption	1000 VA
Outer dimension	300 W × 400 D × 200 H (mm)
Weight	10 kg

SONOFILE SF-3441

SF-8541RR/SF-3110/SF-8500RR

High-power ultrasonic cutter with maximum power output of 300 W.

Ultrasonic controller that enables signal communication for on/off, emergency stop, reset, and other features with the body of the machine such as automated machinery, industrial robots, plotters, etc.

Features

- Ⓞ High-power ultrasonic cutter with maximum amplitude of 60 micron and power output of 300W.
- Ⓞ Automated machinery/plotter-mountable
- Ⓞ Overload relay

Oscillator SF-3441



Applicable materials

- Ⓞ A range of prepregs (boron, Kevlar, polyethylene fiber, etc.).
- Ⓞ Rubber (vulcanized latex, non-vulcanized latex, sheeting material, sealing material, and tube)
- Ⓞ Leather (natural and artificial).
- Ⓞ Thermoplastics (board, sheeting material, film, laminated material, and floor cover).
- Ⓞ Cloth, nonwoven fabric and paper (specially treated paper and coated paper).

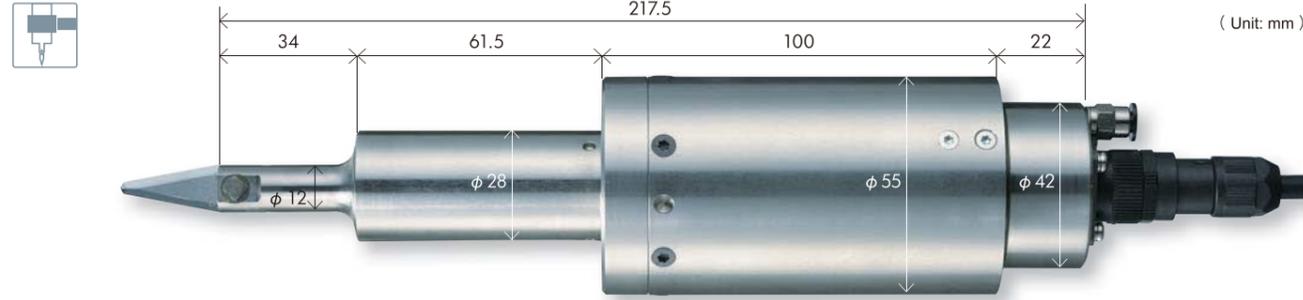
Specification

Frequency adjustment	Auto-tracking type
Maximum power output	300 W
Power output adjustment	Infinitive adjustment
Power supply	AC200V 50/60Hz
Electricity consumption	500 VA
Outer dimension	230W x 330D x 150H (mm)
Weight	5.5 kg

for SH-3510

SH-8700RR

Generates powerful and stable vibrations for high-power cuttings, and is designed to allow for extended continuous use.



Standard tool



Specification

Frequency	30 kHz
Vibration element	PZT piezoelectric transducer
Housing material	SUS 303
Outer dimensions	φ12/φ28/φ55 × 179.5 L (mm)
Weight	1100 g
Blade thickness	1.0 mm

HG-110

Displays a remarkable performance on gate-cutting of fabricated products containing glass or carbon fiber. It can be mounted on guillotine-type machines.



Optional tool

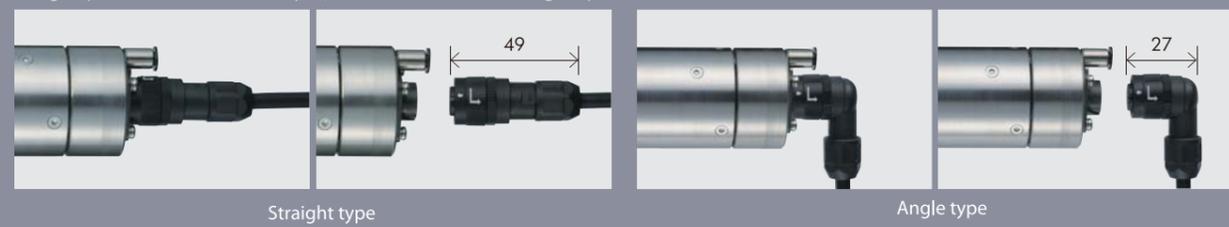


Specification

Frequency	20 kHz
Vibration element	PZT piezoelectric transducer
Tool attachment screw	M8
Cord length	4 m (maximum extension is 10 m)
Housing material	Aluminum alloy
Outer dimensions	φ20/φ45/φ60 × 259 L (mm)
Weight	1400 g

The new method to which it can easily detach it is adopted.

The main body end part of model RR was built the connector of the rotary type and the entire code into the main body, and adopted the new method to which it was able to detach it easily. As a result, it is easy to wire when installing it in the robot, and, in addition, maintenance has improved. Please choose either of a straight type angle types to be shape of the socket. It is possible to change though it is the standard 4m that the code length. (When the old model is hoped, we will do for custom-designed.)

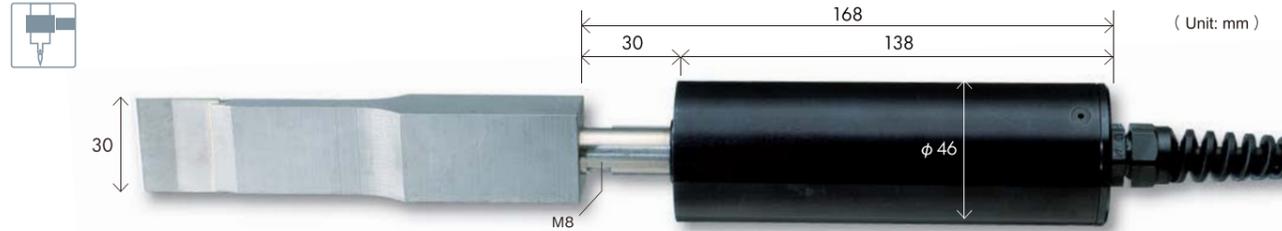


* The tool that best meets your application can be selected from our wide range in stock. Special tools can also be designed and manufactured. Specifications are subject to change without notice due to continual improvements. Please confirm when placing your order.

for SH-3510/SF-3441

SF-3110

The main body of the transducer consists of a cylindrical duralumin case that can be easily installed in automated machinery. The blade width can be selected according to its use. This cutter is ideal for up-and-down push cutting (guillotine system) and punching.



Optional tool

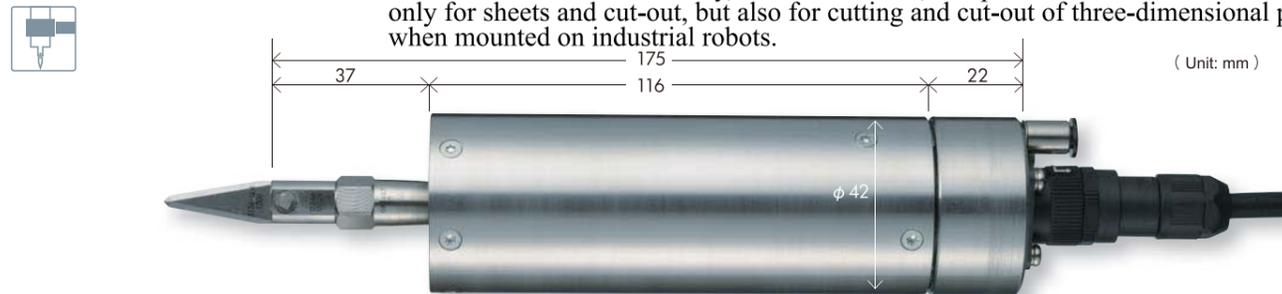


Specification

Frequency	20 kHz
Vibration element	PZT piezoelectric transducer
Tool attachment screw	M8
Cord length	4 m (maximum extension is 10 m)
Housing material	Aluminum alloy
Outer dimensions	φ16/φ46 × 168 L (mm)
Weight	800 g (excluding the cord)

SF-8500RR

The blade vibration amplitude of this model is remarkably larger than that of the conventional model. This model, with a 42 mm diameter cylindrical shape, is easy to install in automated machinery, industrial robots, and plotters. This model is ideal not only for sheets and cut-out, but also for cutting and cut-out of three-dimensional parts when mounted on industrial robots.



Standard tool



*Various vice-gripping-type tool holders are available.

Specification

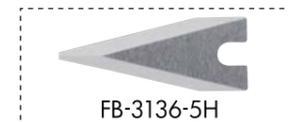
Frequency	22 kHz
Vibration element	PZT piezoelectric transducer
Tool attachment screw	M6
Housing material	SUS303
Outer dimensions, Weight	φ11 / φ42 × 175 L (mm) , 560g
Blade thickness	0.6mm (a blade suitable for your application can be manufactured from 0.4 mm and up in thickness).

SF-8541RR

An even more compact and powerful high frequency ultrasonic cutter than previous models results in a sharper cut. User-friendly design fully utilizes the robot's operation area. A forced cooling system with air inlet enables extended continuous use.



Standard tool



Specification

Frequency	40 kHz
Vibration element	PZT piezoelectric transducer
Housing material	SUS303
Outer dimensions	φ10 / φ26 / φ42 × 175 L (mm)
Weight	660g (excluding the cord)
Blade thickness	0.6mm

SONOFILE SF-653

HP-653

Applicable to a wide range of materials with low processing pressure, a sharp cutting edge, and little dust

A wide range of materials, including newly-developed composite materials, rubber, and leather, can be cut freely with low processing pressure, a sharp cutting edge, and little dust.

A wide range of materials, including newly-developed composite materials, rubber, and leather, can be cut freely with low processing pressure. Simplified and secure installation of the tool can be performed with a special square-headed screw and driver.

Features

- ◎ Stable vibrations with a maximum amplitude of 30 microns ensure remarkable cutting performance.
- ◎ Our unique development prevents the transducer from overheating, allowing for extended continuous use.

Applicable materials

- ◎ A range of prepregs (boron, Kevlar, polyethylene fiber, etc.).
- ◎ Rubber (vulcanized latex, non-vulcanized latex, sheeting material, sealing material, and tube)
- ◎ Leather (natural and artificial).
- ◎ Thermoplastics (board, sheeting material, film, laminated material, and floor covers).
- ◎ Cloth, nonwoven fabric, and paper (specially treated paper and coated paper).

Specification : oscillator

Frequency adjustment	40kHz Auto-tracking type
Maximum power output	100 W
Power output adjustment	Infinite adjustment
Power supply	AC 200 V 50/60 Hz 1φ
Electricity consumption	300 VA
Outer dimension	230 W × 232 D × 140 H (mm)
External I/O	ON/OFF, Emergency stop
Weight	5.0 kg



Transducers HP-653



Standard tool



Specification : transducer

Vibration element	PZT piezoelectric transducer
Cord length	4 m
Housing material	SUS 303
Outer dimensions	φ 12 / φ 30 × 10 L (mm)
Weight	270 g
Blade thickness	0.6mm (standard)

SONOFILE SF-60

SF-9400 / SF-6000RR

Exercises its power on fine work with a light touch!

Ultrasonic power output of 45 W. Ideal for cutting, cutting-out, and window work on thin sheet materials, as well as gate-cutting and deburring of small plastic parts. Just a light touch is all it takes to polish the work surface, with very little hand vibration.

Features

- ◎ Desktop-type ultrasonic cutter that is compact and lightweight.

Applicable materials

- ◎ Thin sheet material (specially-treated paper, cloth, etc.)
- ◎ Rubber sheets.
- ◎ Plastic sheets.

Oscillator SF-60



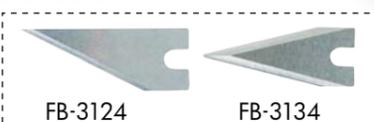
Specification : oscillator

Frequency adjustment	25kHz Auto-tracking type
Maximum power output	45 W
Power output adjustment	Infinite adjustment
Power supply	AC 100 V 50/60 Hz 1φ
Electricity consumption	135 VA
Outer dimension	145 W × 180 D × 125 H (mm)
Weight	1.9 kg

* 200 V version is also available

Transducers SF-9400

Standard tool



* Various options available for blade thickness and shape. Please contact us for details.

Transducers SF-6000RR



Specification : transducer SF-9400

Vibration element	PZT piezoelectric transducer
Tool attachment screw	M6
Cord length	0.6-meter curled cord (extended to 2.5 m)
Housing material	Polyoxymethylene (Duracon)
Outer dimensions	(as shown in the drawing)
Weight	130 g (excluding tool and cord)
Blade thickness	0.4 mm

Specification : transducer SF-6000RR

Vibration element	PZT piezoelectric transducer
Tool attachment screw	M6
Housing material	Polyoxymethylene (Duracon)
Outer dimensions	φ 11.5 / φ 28 × 144 L (mm)
Weight	150 g (excluding cord)
Blade thickness	0.4 mm

* The tool that best meets your application can be selected from our wide range in stock. Special tools can also be designed and manufactured. Specifications are subject to change without notice due to continual improvements. Please confirm when placing your order.

Clear cut with low processing pressure assists manual operations

High-power ultrasonic cutter with ultrasonic power output of 220 W. The tool's ultrasonic vibrations at a frequency of 22 kHz (22,000 vibrations per second) greatly reduce cutting resistance. A variety of materials can be cut even more quickly and cleanly with lower processing pressure.

Features

- ⊙ Infinite adjustment of power output between minimum and maximum.
- ⊙ Amplitude control circuit ensures stable vibration amplitude at all times.
- ⊙ Equipped with overload-control relay and protection circuit.

Applicable materials

- ⊙ Food processing
- ⊙ Stripping exterior walls of buildings
- ⊙ Rust removal
- ⊙ A range of prepregs
- ⊙ Leather (natural and artificial)
- ⊙ Rubber (Vulcanized/Unvulcanized)
- ⊙ Cloth/Fabric, Bonded textile
- ⊙ Paper, Cardboard

Specification : oscillator

Frequency adjustment	Auto-tracking type
Maximum power output	220 W
Power output adjustment	Infinite adjustment
Power supply	AC 100 V 50/60 Hz
Electricity consumption	500 VA
Outer dimension	143 W × 294 D × 262 H (Main body 212H) (mm)
Weight	4.5 kg

Oscillator SF-3400 II



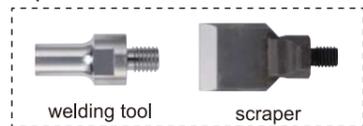
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Transducers SF-7400



Manual-operation type transducer is compatible with large tools, such as chisel and knife shapes, to assist high-power manual operations, including food processing, stripping exterior building walls, and rust removal.

Optional tool



Transducers SF-3140



Highly-versatile hand tool compatible with small and large blades depending on each application. Equipped with an air inlet to enable forced cooling.

Standard tool



Specification : transducer SF-7400

Vibration element	PZT piezoelectric transducer
Tool attachment screw	M8
Cord length	4 m (maximum extension is 10 m)
Housing material	Polyoxymethylene (Duracon)
Outer dimensions	φ 22/ φ 40 × 150L (mm)
Weight	305 g (excluding cord)
Handy switch	Push-button type

Specification : transducer SF-3140

Vibration element	PZT piezoelectric transducer
Tool attachment screw	M6
Cord length	4 m (maximum extension is 10 m)
Housing material	Aluminum alloy
Outer dimensions	φ 12/ φ 27/ φ 40 × 245L (mm)
Weight	560 g (excluding cord)
Blade thickness	0.6 mm *

*A blade suitable for your application can be manufactured from 0.4 mm and up in thickness.

Gives you the freedom of high-speed, microscopic ultrasonic vibrations

High-frequency ultrasonic cutter with a vibration frequency of 40 kHz (40,000 vibrations per second) and an amplitude of 30 microns maximizes the effect of ultrasonic vibrations that are high-speed and microscopic. A wide range of materials, including newly-developed composite materials, rubber, and leather can be cut freely with low processing pressure, a sharp cutting edge, and little dust.

Features

- ⊙ Stable vibrations with a maximum amplitude of 30 microns ensure remarkable cutting performance

Applicable materials

- ⊙ A range of prepregs (boron, Kevlar, polyethylene fiber, etc.)
- ⊙ Rubber (vulcanized latex, non-vulcanized latex, sheeting material, sealing material, and tube)
- ⊙ Leather (natural and artificial)
- ⊙ Thermoplastics (board, sheeting material, film, laminated material, and floor cover)
- ⊙ Cloth, nonwoven fabric and paper (specially treated paper and coated paper)

Oscillator SF-30



Specification : oscillator

Frequency adjustment	Auto-tracking type
Maximum power output	45 W
Power output adjustment	two-stage (High / Low)
Power supply	AC 100 V 50/60 Hz
Electricity consumption	100 VA
Outer dimension	170 W × 180 D × 70 H (mm)
Weight	1.5 kg

Transducers HP-660



protective cap

Standard tool



Specification : transducer

Vibration element	PZT piezoelectric transducer
Cord length	4 m
Housing material	Polyoxymethylene (Duracon)
Outer dimensions	(as shown in the drawing)
Weight	145 g (excluding cord)
Blade thickness	Sole use for 0.4 mm (can be manufactured for 0.5 mm and 0.6 mm use)

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