

# SONOFILE SF-3410

for SF-3410

Machine/robot-mounted transducer  
SF-3110

Machine/robot-mounted high-amplitude transducer  
SF-8500

Plotting cuttermounted-type large amplitude transducer  
SF-8500R



## Automated machinery-mounted-type. Reduced resistance for a quicker and cleaner cut!

High-power ultrasonic cutter with ultrasonic power output of 220W. Remarkable oscillator consistency. This cutter enables signals for on/off, emergency stop, reset, and other features with automated machinery. The tool's ultrasonic vibrations have a frequency of 22 kHz (22,000 vibrations per second), greatly reducing cutting resistance. Select the one that best suits your application from the three combinations available for SF-3410.

### Features

- ◎ Infinitive adjustment of power output between minimum and maximum.
- ◎ Amplitude control circuit ensures stable vibration amplitude at all times.
- ◎ External connection terminals are compatible with your automatic operation system/plotting cutter.
- ◎ Equipped with overload-control relay and protection circuit.

Oscillator SF-3410



### Specification

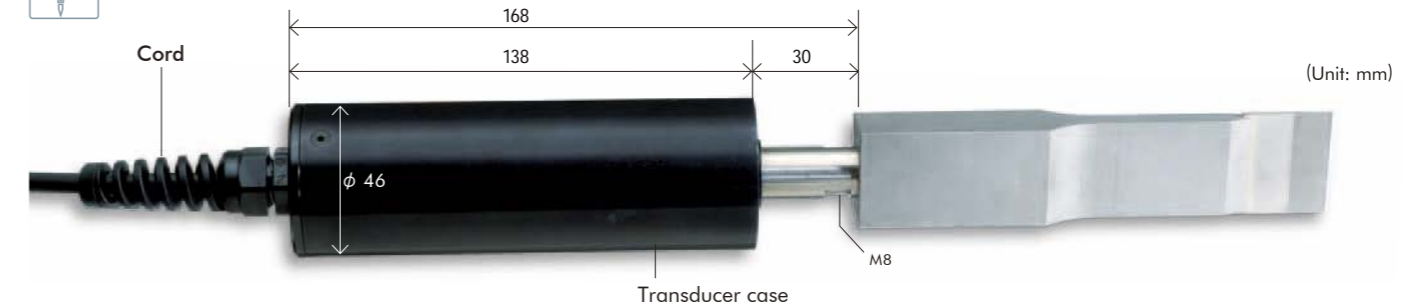
Frequency	22KHz
Frequency adjustment	Auto-tracking type
Maximum power output	220 W
Power output adjustment	Infinitive adjustment
Power supply	AC200V 50/60Hz 1φ
Electricity consumption	500 VA
Outer dimension	143W x 294D x 262H (mm) ( Exclusive of the handgrip : 212H )
Weight	4.5 kg

\* 100 V version can also be manufactured.  
\* The transducer is designed for use with the oscillator SF-3410. Select a transducer for your application and intended purpose.

## SF-3110



The main body of the transducer consists of a cylindrical duralumin case that can be easily installed in automated machinery. Since a horn suitable for your application is selectable, a blade that best suits your work requirements can be designed. This cutter is ideal for up-and-down push cutting (guillotine system) and punching.



### Applicable materials

- ◎ Bread, cakes, frozen food
- ◎ Rubber, plastic
- ◎ A range of materials, gate-cutting, punching, etc.

### Specification

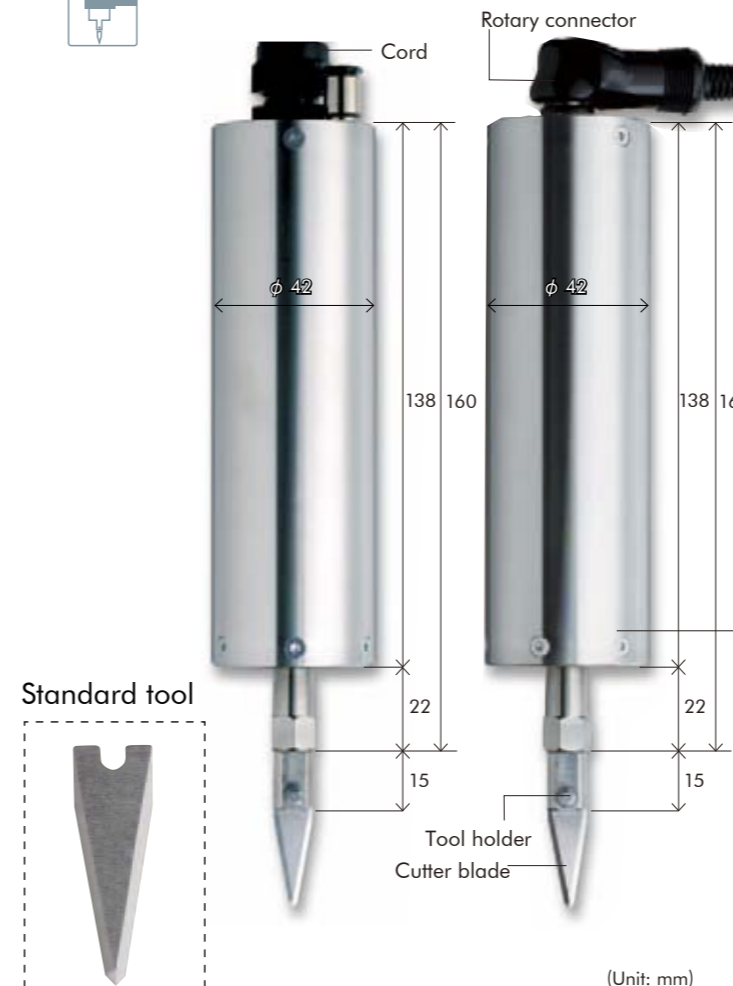
Vibration element	PZT piezoelectric transducer
Screw thread	M8
Cord length	4m (maximum extension is 10 m.)
Housing material	Aluminum alloy
Outer dimension	φ 16 / φ 46 × 168L (mm)
Weight	800g (Exclusive of the cord)

\* The tool that best meets your application can be selected from our wide range in stock. Special tools can also be designed and manufactured.

## SF-8500/SF-8500R



Large vibration amplitude of the blade with increased amplitude compared with the conventional model. Easy to install in automated machinery, industrial robots, and plotters with 42φ cylindrical shape. Ideal not only for sheets and cutout, but also for cutting and cutout of three-dimensional parts by mounting on industrial robots.



### Features

- ◎ High-rigidity stainless steel SUS 303 is used for the housing material.
- ◎ High-durability robot cable 7.5 mm in diameter is used for the oscillator and transducer connection cable.

### Applicable materials

- ◎ Composite materials include a range of prepregs, Kevlar and glass wool.
- ◎ Rubber, leather, and a range of thermoplastic materials.
- ◎ A range of car industry synthetic floor covers and sealing materials.



### Specification

Vibration element	PZT piezoelectric transducer
Screw thread	M6
Cord length	4 m (maximum extension is 10 m.)
Housing material	SUS 303
Outer dimension	φ 11 / φ 42 × 160L (mm)
Weight	560g
Blade thickness	0.6mm (a blade suitable for your application can be manufactured from 0.4 mm and up in thickness).

\* Specifications are subject to change without notice due to continual improvements. Please confirm when placing your order.

### Standard tool



FB-3136-6L4

A range of tool holders is available for the vice-grip blade.

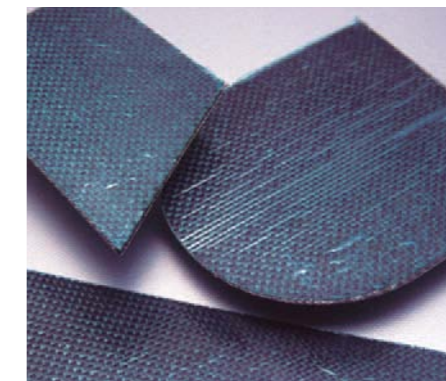
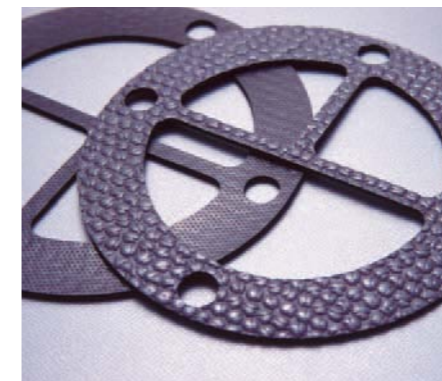
Specification

	Oscillator	SH-3510		SF-3441		SF-3410			SF-3400		SF-650	SF-651	SF-60		
	Transducer	SH-8700	SG-110	SF-8541	SF-8541R	SF-8500	SF-8500R	SF-3110	SF-7400	SF-3140	HP-650	HP-651	SF-9400	SF-6100	SF-6000
Oscillator	Frequency	30kHz		40kHz		22kHz			22kHz		40kHz		25kHz		
	Maximum output power	500W		300W		220W			220W		45W		45W		
	Power supply voltage <sup>*1</sup>	200V		200V		200V			100V		100V		100V		
	Maximum amplitude <sup>*2</sup>	80 μ	-	60 μ		60 μ			-	60 μ	30 μ		10 μ		
Transducer	Automated machinery-mounted-type	○	○	○	○	○	○	○				○		○	○
	Manual-operation type								○	○	○		○		
	Rotary connector	(○) <sup>*3</sup>			○		○								○
	Forced air cooling (for extended continuous use)	○		○	○	○	○			○		○			
	Vice-gripping blade	○		○	○	○	○			○	○	○	○	○	○
	Carbide blade	○	○			○	○			○					
	Exclusive tool <sup>*4</sup>		○					○	○						
	Robot code	○	○	○	○	○	○	○	○	○		△ <sup>*5</sup>			○
	Curled code										○		○		
	Straight code													○	
	Standard code length <sup>*6</sup>	4m		4m		4m			4m		2m	4m	2.5m	4m	
	Weight	1200g	1400g	550g	660g	560g	560g	800g	305g	560g	145g	270g	130g	150g	150g
External switch	External connection	○		○		○						○			
	DIN connector													○	○
	Foot switch								Hand switch	○	○		○		
Applicable material <sup>*7</sup>	Carbon	○													
	Range of prepregs	○		△		○				○	△				
	Composite materials	○		○		○				○	△				
	Rubber	○	○	○		○	○	○		○	○				
	Thermoplastics	○	○	△		○	○			○	△				
	Cloth, paper, and corrugated cardboard	○		○		○			△	○	○			○	
	Sponge and foaming materials	○		○		△				△	○				
	Exterior walls of buildings		○					○	○						
	Foods (frozen foods, cakes, and breads)	○	○	△		△		○	○	△	△				
Sheeting materials	○	○	○		○		△		○	○				○	

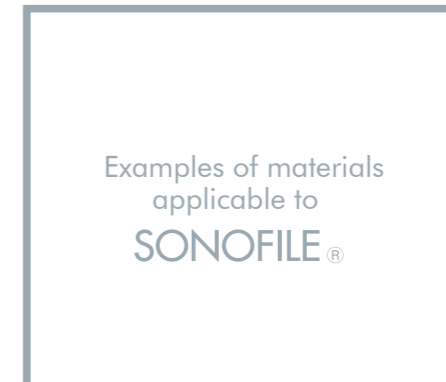
\*1 Power supply voltage can be changed. \*2 The maximum amplitude changes according to the tool to be used. \*3 Rotary type can also be manufactured. \*4 It is a built-to-order item (variable price). \*5 The code near the transducer is a straight code, and it changes to a robot code afterwards. \*6 The robot code can be extended to 10 m. Please specify the transducer's code length when placing your order. \*7 Please consider the applicable materials as standards. Since the ideal model may vary depending on the shape and other conditions, please confirm the performance by a test cut or using a demonstration machine.

## Recommendation of our Test Cut

The model and blade shapes you should choose vary depending on your material, its thickness, and the application. We will provide a free test cut if you send us a sample piece. You will be able to see the actual result of the machining performance. In case you have your own special blade manufactured, however, the extra cost will be applied.



Carbon (CFRP)



NR Sponge

Corrugated elbow

Wide-mouthed bottles