Processing examples using Sonofile Ultrasonic Filing Equipment
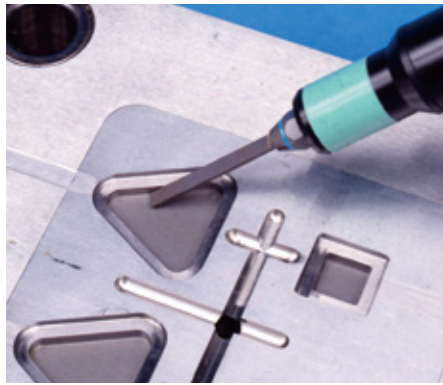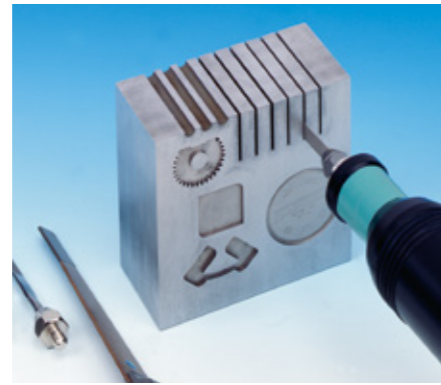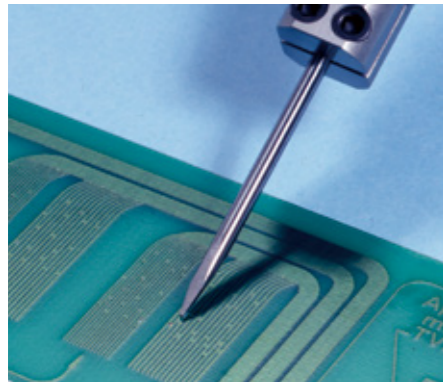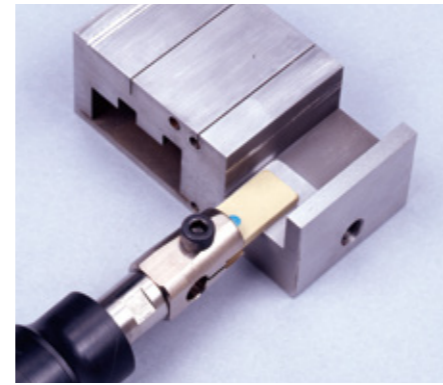

Printed circuit board repair processing example

Chasing metal processing example
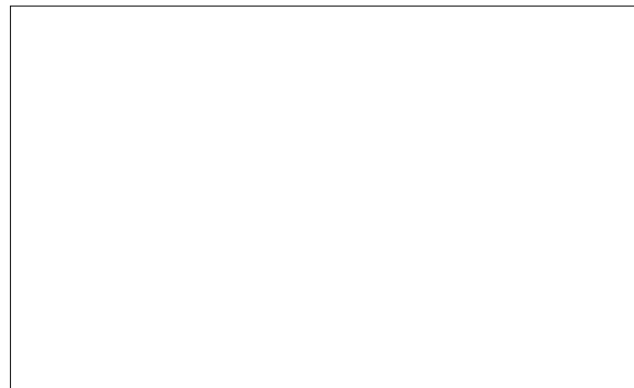
Attachment tools example

Special processing example —Fossil cleaning—

Ultrasonic processing machines are used not only for metal molds, printed circuit boards and chasing metal, but also to clean fossils and carve strata.
For more information about attachable tools (special blade, etc.), please contact SONOTEC or one of our distributors.

Sales agents

SONOTEC Co., Ltd.

5-4-1 Shinsaku, Takatsu, Kawasaki, Kanagawa 213-0014 Japan

TEL:+81-44-877-8311 FAX:+81-44-877-8312
e-mail:info@sonotec.com

www.sonotec.com

Single-phase 200V is available for each oscillator. Please inquire in advance. Please note that specifications may change for improvement purposes without prior notice.

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SONOFILE®

SF-0101　SF-5600　SF-1000　SP-1000　ST-60

Meeting various needs
Ultrasonic Filing, Printed circuit repair, Chasing Metal

ULTRASONIC HAND-TOOLS
SONOTEC

SONOFILE SF-0101 + HP-7401 / HP-9701

ULTRASONIC HAND-TOOLS
SONOTEC

From ultra-precision finishing to rough cutting with a single unit. Equipped with Nanomode for ultrafine processing, and maximum output. 100 W high power filing.

～ A new world of Ultrasonic Filing ～

High-power Ultrasonic Filing
SF-0101 （ Oscillator ）

- Powerful, hard filing, and gentle soft filing with a single unit.
- 99 steps enable to make precise amplitude adjustments.
- New feature Nanomode enable to perform high precise filling.
- Users can use large tools with maximum high power 100 W.
- LCD monitor displays the vibration state, setting, and error condition.
- Various modes are selectable according to operations.
- If the oscillator heats up during operation, output is reduced automatically and operation can be continuously performed.
- Automatic power off function is provided to prevent leaving the equipment on.
- Equipped with a memory mode that can save the output value that corresponds with an operation's content.
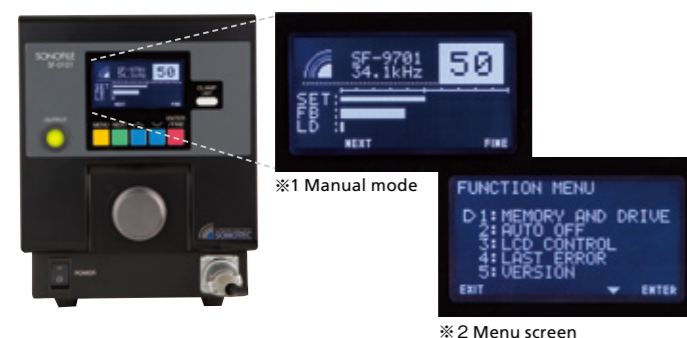
Specifications: Oscillator

SF-0101	
Frequency	17–31 kHz Automatic feedback
Maximum output	100W
Amplitude adjustment	99 steps
Power supply	Single phase AC 100 V 50/60 Hz
Power consumption	300VA
Outer dimensions	226W×252D×180H (mm)
Weight	5.2kg

Option
Foot switch

HP-7401 （ Ultrasonic handpiece ）

Optimum large handpiece for powerful operations. The handpiece can remove thick metal layers by electrical discharge.
A wide and large size tool can be used stably.

Standard Attachment Tools

Set contents
① Diamond Stone (Width: 60)
② Diamond Stone (Width: 20)
③ Tool Clamp (For flat type use)
④ Ceramic Stone (Flat type)

Specifications: Handpiece

HP-7401	
Tool screw diameter	M8
Cord	1.7 m detachable curly cord
Outer dimensions	φ40×150L (mm)
Weight	350g

HP-9701 （ Ultrasonic handpiece ）

This small, light transducer fits in the user's hand. It is optimized for delicate tasks and for long periods of operation.

Standard Attachment Tools
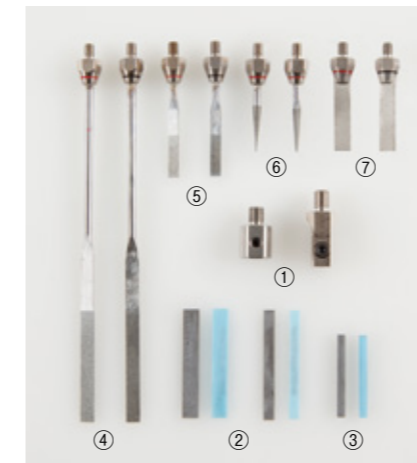
Set contents
① Tool Clamp
　　(For flat or cylindricaltype use)
② Ceramic Stone (Flat type)
③ Ceramic Stone (Round type)
④ Diamond File (Long)
⑤ Diamond File
⑥ Diamond File (Tapered end)
⑦ Diamond Stone

Specifications: Handpiece

HP-9701	
Tool screw diameter	M6 (Comes with M4 adapter)
Cord	1.7 m detachable curly cord
Outer dimensions	φ28×118.5L (mm)
Weight	150g

Operation Screen

Displays information about equipment status, frequency and output.※1 Saving the output value during memory mode as well as setting the filing mode and automatic power off feature, etc., are performed on the menu screen.※2
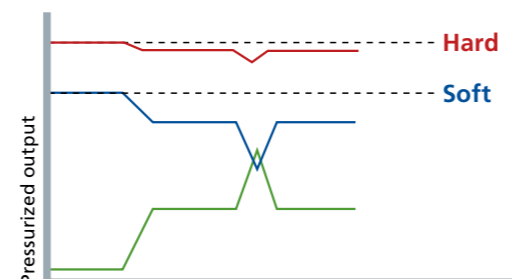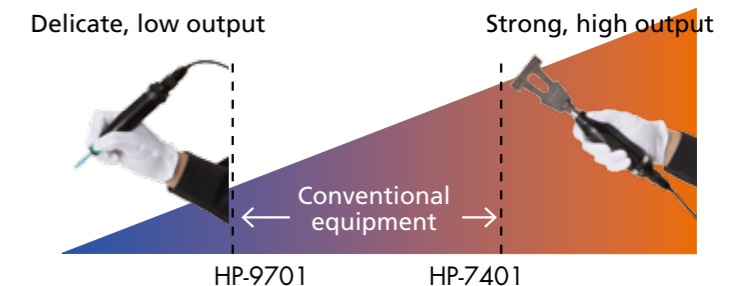
※1 Manual mode

※2 Menu screen

Filing Mode (Hard / Soft)

In hard mode, the machine maintains a fixed vibration in response to pressure processing, and can file with high power. Conversely, in soft mode, the machine automatically lowers vibration in response to pressure processing, which prevents accidentally filing too much.

Hard

Soft

Pressurized output

Nanomode

Features the new "Nanomode" function, which allows for ultrasmall amplitude control. Extremely delicate filing that was previously only possible by hand can now be achieved with ultrasonic waves.

Handpiece with Different Characteristics

A single oscillator can be used with two handpiece types and for various functions.
A wide range of filing makes possible to reduce operation time. Opens the door to a new world of ultrasonic filing.

Delicate, low output

Strong, high output

Conventional equipment

HP-9701　　HP-7401

SONOFILE SF-5600 + SF-9700/SF-3500

SONOFILE SF-1000 + SF-1600

Ultrasonics + Brush Motor

SF-5600 (Oscillator)

Trusted, Reliable Long Time Best Seller

- Maximum ultrasonic output of 45 W.
- Clamp tool mode prevents heating of ceramic stones, etc.
- Simple 15 steps output.
- Output is displayed on an LED bar.
- A reliable DC 30 V, 35,000 rpm brush motor is installed.

* The SF-3500 and SF-9700 cannot be used at the same time.
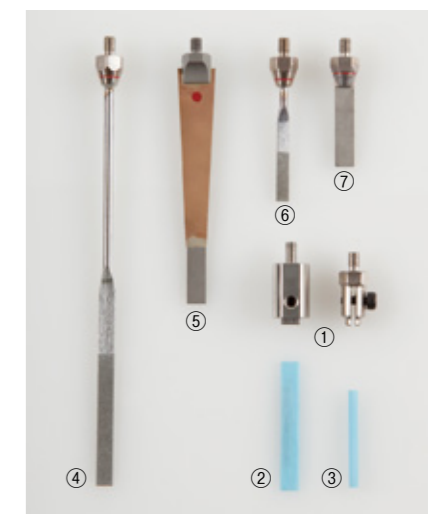
Simple Ultrasonic Filing

SF-1000 (Oscillator)

Compact and Cost Efficient

- Maximum output of 30 W.
- Output adjustment can be done step-less and continuously.
- Simple to operate, with only a power switch and an output adjustment knob.
- The operator can adjust the vibration at will, using powerful vibration to grind rough surfaces, and weaker vibration for delicate finishing.
- Only a single wrench is required to affix or remove tools.

SF-3500
(Motor handpiece)

The handpiece can be used at low and high speeds from 2,000 to 35,000 rpm with low noise and low vibration. Rotational speed can be adjusted at will with the foot controller.

SF-9700
(Ultrasonic handpiece)

Covers a diverse range of tools, from small to medium sized. This small handpiece is easy to use, comfortable grip and well-balanced weight with curly cord.

SF-1600 (Ultrasonic handpiece)

Options
① Foot switch
② Foot controller

① ②

Standard Accessories Tools

⑥ ⑦
①
⑤
④ ② ③

Set contents
1. Tool Clamp (For flat or cylindrical type) 2. Ceramic Stone (Flat type) 3. Ceramic Stone (Cylindrical type) 4. Diamond File (Longitudinal type) 5. Diamond Stone (Longitudinal type) 6. Diamond File 7. Diamond Stone

Standard Accessories Tools

⑦
⑥
⑤ ①
④ ② ③

Set contents
1. Tool Clamp (For flat or cylindrical type) 2. Ceramic Stone (Flat type) 3. Ceramic Stone (Cylindrical type) 4. Diamond File (Longitudinal type) 5. Diamond Stone (Longitudinal type), 6. Diamond File 7. Diamond Stone

Specifications: Oscillator

SF-5600	
Frequency	25 kHz Automatic feedback
Maximum output	45W
Amplitude adjustment	15 steps
Power supply	Single phase AC 100 V　50/60 Hz
Power consumption	200VA
Outer dimensions	162W×280D×210H (mm)
Weight	3.7 kg

Specifications: (Ultrasonic handpiece)

SF-9700		
Tool screw diameter	M6	Comes with M4 conversion adapter
Cord	2.5 m curly cord	
Outer dimensions	φ28×128L (mm)	
Weight	130g	

Specifications: Motor handpiece

SF-3500	
Input	DC30V
Number of revolution	35000rpm Max.
Collet chuck	φ3.0 / φ2.35 (mm)
Cord	1.5 m curly cable
Outer dimensions	φ15 / φ24.5×148.5L (mm)
Weight	190g

Specifications: Oscillator

SF-1000	
Frequency	24 kHz Automatic feedback
Maximum output	30W
Amplitude adjustment	Continuous variable control
Power supply	Single phase AC 100 V　50/60 Hz
Power consumption	100VA
Outer dimensions	142W×200D×130H (mm)
Weight	1.9g

Specifications: (Ultrasonic handpiece)

SF-1600	
Tool screw diameter	M4
Cord	2.5 m curly cord
Outer dimensions	φ27×128.5L (mm)
Weight	150g

Split-V SP-1000 + SP-9600

SonoCtaft ST-60 + SR-9500

ULTRASONIC HAND-TOOLS
SONOTEC

Printed Substrate Pattern Repair

SP-1000 （ Oscillator ）

Versatile for Printed Circuit Repair

■ The specialized tools are designed to meet the needs of an operation, enabling accurate, quick and clean performance.
■ Pattern cutting of 0.1 mm distance.
■ Solder bridge removal.
■ Pattern cutting after mounting components.
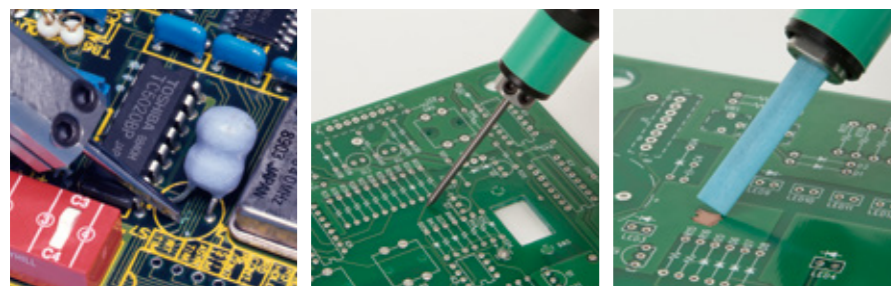■ Partial removal of resist film.

Ultrasonic Machine for Jewelry Use

ST-60 （ Oscillator ）

Chasing Metal, Stone Setting, Spatula Filing

■ Ultrasonic vibrations can be used as a hammer.
■ Oscillation mode can be selected from 4 modes: Single (──) , intermittent (─── or ----) or continuous (──) .
■ Not only amplitude, but also oscillation intervals can be adjusted at will.
■ The machine can conduct not only simple engraving processes, but in intermittent mode, creates the same chasing metal marks as when chasing metal by hand (Luster).
■ Stone setting can be made with pawl pliers.
■ The machine can deal with a wide range of troublesome small spots.
　■ Intricate details processing with spatula can be made.

SP-9600
（Ultrasonic handpiece）

Options
① Blade FB-3134
② Tool holder TH-02442

SR-9500
（Ultrasonic handpiece）

Foot switch

Standard Accessories

Printed Circuit Board Processing Examples

Standard Accessories Tools

① ② ③ ④ ⑤ ⑥

Set contents
1. Spatula (V type) 2. Spatula (O type) 3. Spatula (U type) 4. Ceramic Abrasive Stone (Flat type) 5. Ceramic Abrasive Stone (Round type) 6. Tool Holder

Processing Examples

Standard Accessories Tools

① ② ③ ④ ⑤ ⑥

Set contents
1. Spatula (V type 60°) 2. Spatula (V type 90°) 3. Spatula (Diagonal blade) 4. Spatula (Round chisel) 5. Spatula (Cone bulge) 6. Tool Holder
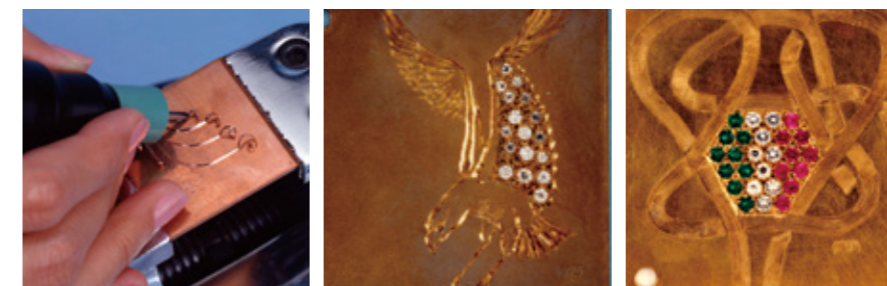
Specifications: Oscillator

SP-1000	
Frequency	25 kHz Automatic feedback
Maximum output	20W
Amplitude adjustment	Continuous variable control
Power supply	Single phase AC 100 V　50/60 Hz
Power consumption	60VA
Outer dimensions	142W×200D×130H (mm)
Weight	1.9kg

Specifications: Handpiece

SP-9600	
Cord	2.5 m curly cord
Outer dimensions	φ28×128L (mm)
Weight	130g

Specifications: Oscillator

ST-60	
Frequency	25 kHz Automatic feedback
Maximum output	40W
Amplitude adjustment	Continuous variable control
Power supply	Single phase AC 100 V　50/60 Hz
Power consumption	120VA
Outer dimensions	145W×180D×125H (mm)
Weight	2.0kg

Specifications: (Handpiece)

SR-9500	
Cord	2.5 m curly cord
Outer dimensions output	φ28×128L (mm)
Weight	130g