

# ULTRAFORM Series

## ▶ ULTRAFORM UF-0103

ULTRAFORM UF-0103 is the Ultrasonic Polishing Machine which is very powerful. As the main features, you can feel the very strong ultrasonic function with the aggressive polishing power and the powerful DC motor hand piece with the amazing torque output. On the other hand, the ultra-fine polishing and the manual delicate work can be made comfortably. The delicate polishing work that was possible only by hand work can be very easily done with UF-0103.



UF-0103 (Standard item)

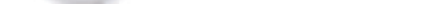
PHP35 (Standard item)



UF-9705 (Standard item)



UF-7405 (Optional item)



### Highly Powerful Polishing with Output of 100W

The control function of the Oscillator (Controller) has been improved, and by using a large-sized transducer (optional item UF-7405), a wide surface can be rough-grinding with ultrasonic waves at once. The standard supplied DC motor handpiece (PHP35) can maintain a higher level of rotational torque than the conventional model.



Conventional machine  
45W

POWER UP



UF-0103  
100W

# ULTRAFORM Series

## ▶ ULTRAFORM UF-0103

### Features and Advantages

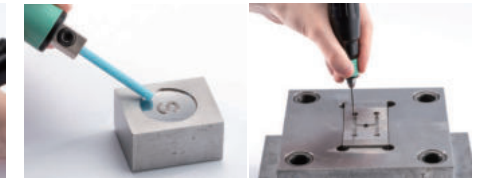
UF-0103 supports your works such as rough polishing, grinding, removing the machined deformation layer due to EDM, ultra fine polishing, delicate and finishing works in the Mold & Die field.

#### Polishing Mode (Hard Mode & Soft Mode)

Hard Mode keeps vibration constantly against the processing pressure and powerful polishing can be made. Soft Mode automatically weakens vibration according to the processing pressure to prevent damage to the workpiece.

#### NANO Function

Ultra-fine vibration under 1 μm of amplitude in NANO Function makes the ultrasonic polishing up to the finishing process which was not possible until now and shorten the work time drastically.



#### TOUCH Function

TOUCH Function ultrasonically vibrates with extremely small amplitude, and when the tip tool comes into contact with the workpiece, it amplifies to the specified amplitude. Also, when the tip tool moves away from the workpiece, it returns to its extremely small amplitude. It prevents damage due to unexpected contact during machining.



#### User-Friendly LCD Window

The settings and work status are displayed on LCD Window in real time.



#### Continuous operation

By supplying the cooling air to the transducer when working for a long time or under heavy load, the heat generation is suppressed and continuous operation can be done.

\* Use dry air that does not contain oil.

#### 2 types of transducers with different characteristics

Small-sized transducer UF-9705 (standard item) has the advantage of operability and versatility. Large-sized transducer UF-7405 (optional item) can aggressively grind and polish in the wide range.



# ULTRAFORM Series

## ▶ ULTRAFORM UF-0103

### UF-0103 Oscillator (Controller)



Front side



Rear side

Power supply	Single phase AC100-120V AC200-240V 50/60 Hz
Max. Output	100W (Ultrasonic) DC30V 4A (DC Motor)
Power consumption	300VA
Frequency	17-31Hz
Amplitude adjustment	99 steps (Ultrasonic) 30 steps (DC Motor)
Dimensions	W: 180 mm D: 252 mm H: 215 mm
Weight	5.3 kgs

### PHP35 DC Motor Hand piece (Standard supplied item)



Rotation speed	0 - 35,000 rpm max.
Torque output	6.5 Ncm
Motor cord length	1.5 M
Dimensions	φ 26mm x L150mm
Weight	200 grams

### UF-9705 Ultrasonic transducer (Standard supplied item)



Dimensions	φ 28mm x L128.5mm
Weight	260 grams
Cable length	1.7 M
Screw thread	M6 (with M6-M4 Adaptor)

### UF-7405 Ultrasonic transducer (Optional item)



Dimensions	φ 40mm x L150mm
Weight	450 grams
Cable length	1.7 M
Screw thread	M8

### No. UF-7116

On / Off Foot switch (Optional item)



This is the Foot switch that can be switched on and off in the ultrasonic function.

### VC90

Variable Foot controller (Optional item)



This is the Foot controller that can control the strength of the output according to the degree of stepping on. In the DC motor function,

### Auto Cruise Function



Auto Cruise Function constantly controls the rotation speed of DC motor hand piece in the use of VC90 to reduce the burden on your feet.

# ULTRAFORM Series

## ▶ STANDARD TOOLS and ACCESSORIES FOR UF-0103

### For UF-9705 Standard Transducer



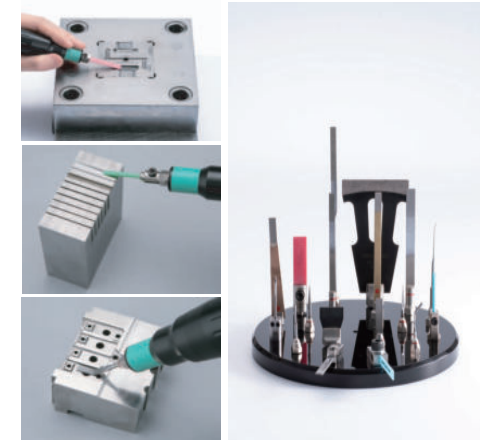
### For UF-7405 Large-sized Transducer



- ① SE-8851 Diamond file Flat Square 1.0t x 5w x 124L #200 (M4)
- ② SE-5845 Diamond file Flat Square 0.8-0.3t x 4w #200 (M4)
- ③ SE-7841 Diamond file Flat with angle 1.0t x 4w 45° #200 (M4)
- ④ SE-6803 Diamond file Cone 3.0 dia. #200 (M4)
- ⑤ SE-3803 Diamond file Trigonal pyramid 3.0Δ #200 (M4)
- ⑥ SD-1802 Diamond stone Cylinder 2.0 dia. #200 (M4)
- ⑦ SE-9801 Diamond file Cylinder 1.0 dia. #200 (M4)
- ⑧ SD-4862 Diamond stone Flat Square 1.5t x 6w #200 (M4)
- ⑨ MD-8862-C1 Diamond file Flat Square 1.5t x 5w x 81L #200 (M4)
- ⑩ MX-1030 Tool clamps For 3.0 dia. (M6)
- ⑪ MX-4010 Tool clamps For 1.0t (M6)
- ⑫ NSP106F Ceramic stone Flat 1.0t x 6w x 40L #600
- ⑬ NSB106F Ceramic stone Flat 1.0t x 6w x 40L #800 Blue
- ⑭ NSPD3F Ceramic stone Round 3.0 dia. #600 Brown
- ⑮ NSBD3F Ceramic stone Round 3.0 dia. #800 Blue

- ① LD-0721 Diamond stone 1.0t x 20w #320 (M8)
- ② LX-4020-1 Tool clamps For 2.0t (M8)
- ③ LD-0762 Diamond stone 2.5t x 60w #320 (M8)
- ④ NSP212F Ceramic stone Flat 2.0t x 12w #600 Brown
- ⑤ NSB212F Ceramic stone Flat 2.0t x 12w #800 Blue

\* Unit in Size : mm



# ULTRAFORM Series

## ▶ ULTRAFORM UF-0103

### With MAXIMA EX Series

As the additional items, why not try using MAXIMA EX Series with UF-0103 ? The various kinds of the hand pieces are prepared in MAXIMA EX Series.



### Straight Rotary Hand piece (EX051, EX121, EX131, EX201, EX211, EX231)



EX051	EX121	EX131	EX201	EX211	EX231
■ Max.RPM : 55,000	■ 20,000	■ 35,000	■ 8,000	■ 15,000	■ 30,000
■ Max.Torque : 3.6Ncm	■ 6.4Ncm	■ 5.4Ncm	■ 9.8Ncm	■ 8.8Ncm	■ 6.8Ncm
■ Weight : 190g	■ 220g	■ 220g	■ 276g	■ 276g	■ 276g

### 90 ° Angle Rotary Hand piece (EX216)



- Max.RPM : 15,000
- Max.Torque : 8.8Ncm
- Weight : 386g

### 120 ° Angle Rotary Hand piece (EX217)



- Max.RPM : 15,000
- Max.Torque : 8.8Ncm
- Weight : 386g

### Swingfile (EX208)



- Stroke : 0 ~ 1.6mm
- Reciprocating stroke : 0~8,000 times/min.
- Allowable tool size :  $\phi 2 \sim 4.7\text{mm}$
- Weight : 316g

# ULTRAFORM Series

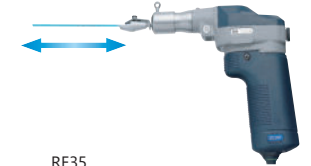
## ▶ ULTRAFORM UF-0103

### With MAXIMA EX Series

RE35 and RE55 are the back and forth reciprocating type handpiece with adjustable stroke, which is exactly the tool required for mold polishing.



### Recipprofile (RE35, RE55)



- RE35
- Stroke : 0 ~ 6 mm
  - Frequency : 0 ~ 4,200 stroke/min.
  - Allowable tool size :  $\phi 2 \sim 6.35\text{mm}$
  - Weight : 675g

- RE55
- Stroke : 0 ~ 2 mm
  - Frequency : 0 ~ 7,000 stroke/min.
  - Allowable tool size :  $\phi 2 \sim 6.35\text{mm}$
  - Weight : 675g

BS33 is suitable for deburring work on flat and curved surfaces and rotating round bar-shaped workpieces for lapping work.



### Belt Sander (BS33)



- BS33
- Belt Speed : 5 ~ 12m/sec.
  - Standard Belt Arm : BS1-100-2
  - Cord length : 150mm
  - Weight : 400g

# ULTRAFORM Series

## ► SONOFILE SF-355

### SF-355 Oscillator (Controller)



Power supply	Single phase AC100-120V AC200-240V 50/60 Hz
Max. Output	45W (Ultrasonic)
Power consumption	150VA
Frequency	20-24Hz
Amplitude adjustment	Continuous variable control
Dimensions	W: 130 mm D : 250 mm H : 230 mm
Weight	2.6 kgs

### UF-7083

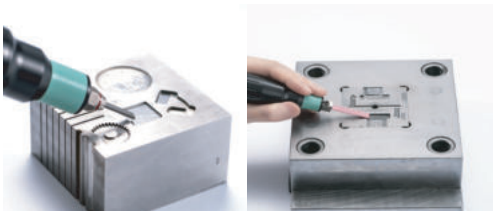
On / Off Foot switch (Optional item)



### HP-9706 Ultrasonic transducer (Standard supplied item)



Dimensions	φ 28mm x L128.0mm
Weight	150 grams
Screw thread	M6 (with M6-M4 Adaptor)



SF-355 is the small-sized but the rough polishing and fine polishing can be done. It can easily polish the portion where is hard to polish by hand or the narrow grooves finished by EDM.



### Continuous operation for SF-355/ST-360

By supplying the cooling air to the transducer when working for a long time or under heavy load, the heat generation is suppressed and continuous operation can be done.

\* Use dry air that does not contain oil.

# ULTRAFORM Series

## ► SonoCraft ST-360

### ST-360 Oscillator (Controller)



Power supply	Single phase AC100-120V AC200-240V 50/60 Hz
Max. Output	45W (Ultrasonic)
Power consumption	150VA
Frequency	20-24Hz
Amplitude adjustment	Continuous variable control
Dimensions	W: 130 mm D : 250 mm H : 230 mm
Weight	2.6 kgs

### UF-7083

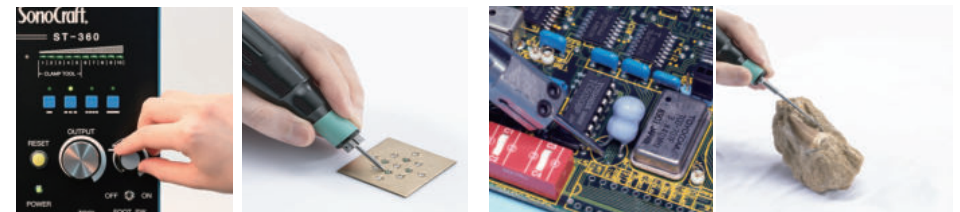
On / Off Foot switch (Optional item)



### HP-9706 Ultrasonic transducer (Standard supplied item)



Dimensions	φ 28mm x L128.0mm
Weight	150 grams
Screw thread	M6 (with M6-M4 Adaptor)



### Patterns of Oscillation Intervals

Hammering work can be made by the various oscillation pattern (single, intermittent, continuous). The metal engraving works such as stone setting, scraper, blowhole treatment, hammered mark etc., can be also made.

ST-360 can attach the special tool and can be used for pattern cutting with a line spacing of 0.1 mm for PCB modification and for removal of resist film, and is used for multiple purposes such as fossil cleaning and cutting of strata.

# ULTRAFORM Series

## TOOLS & ACCESSORIES


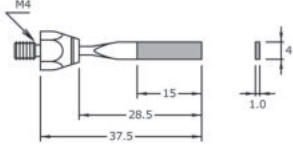
### Diamond Files

- This is the electroplated diamond files exclusively for ultrasonic polishing, which was developed with an emphasis on electrodeposition strength and grinding power.
  - It can be used for rough grinding and deburring of the machined deformation layer due to EDM.
  - Various shapes suitable for narrow portion such as rib grooves and small holes are available.
- Grain size : #200 (Red), #320 (Black), #600 (White)

Please note that although the grinding power is large, deep scratches may remain.


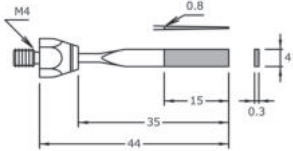
● = Screw thread unit : mm

Flat Square


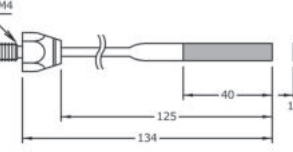
Tool No.	Grain size
SE-4841	● 200
SE-4741	● 320
SE-4541	○ 600

Flat Square / Taper


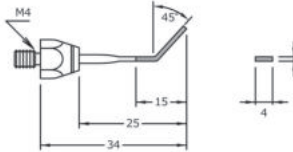
Tool No.	Grain size
SE-5845	● 200
SE-5745	● 320
SE-5545	○ 600

Flat Square / Long shank

Tool No.	Grain size
SE-8851	● 200
SE-8751	● 320
SE-8551	○ 600

Flat Square / With angle


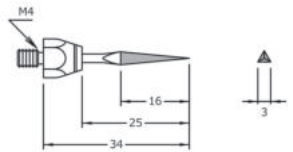



Tool No.	Grain size
SE-7841	● 200
SE-7741	● 320
SE-7541	○ 600

# ULTRAFORM Series


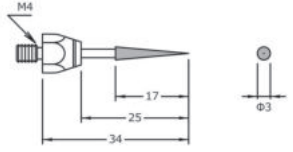
## TOOLS & ACCESSORIES

Trigonal pyramid


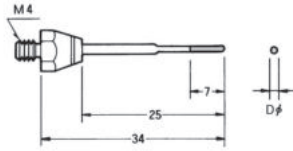
Tool No.	Grain size
SE-3803	● 200
SE-3703	● 320
SE-3503	○ 600

Cone


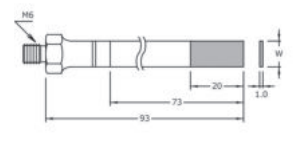
Tool No.	Grain size
SE-6803	● 200
SE-6703	● 320
SE-6503	○ 600

Cylinder

Tool No.	Grain size	D
SE-9801	● 200	1
SE-9701	● 320	1
SE-9501	○ 600	1
SE-9802	● 200	2
SE-9702	● 320	2
SE-9502	○ 600	2

Flat Square

Tool No.	Grain size	D
ME-9851	● 200	5
ME-9751	● 320	5
ME-9551	○ 600	5
ME-9881	● 200	8
ME-9781	● 320	8
ME-9581	○ 600	8




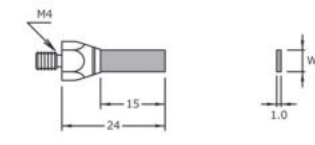

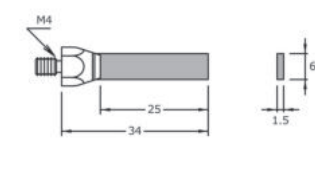

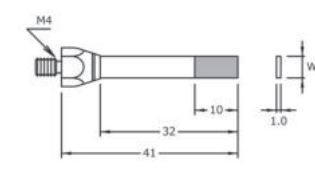

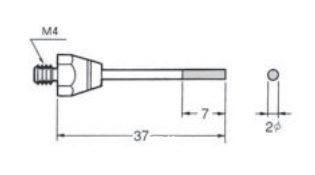
# ULTRAFORM Series

## TOOLS & ACCESSORIES

### Diamond Stones (Metal bonded)

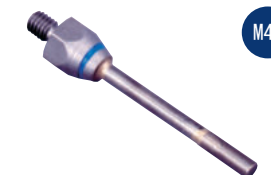
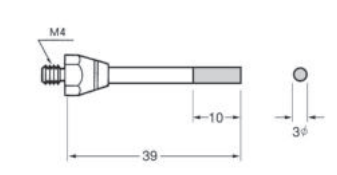
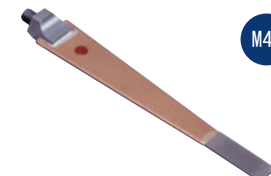
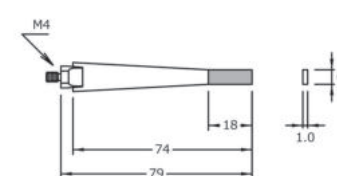

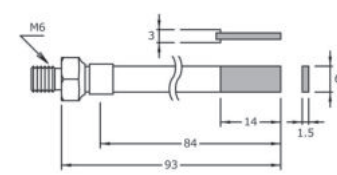

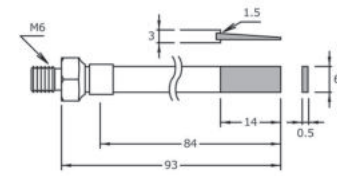
- This is the special tool made by molding and sintering metal powder and diamond particles.
  - Since it can be used not only on the surface but also inside, it has a longer life than a diamond file.
  - The tip shape can be machined with a GC grinder or diamond file.
- Grain size : #200 (Red), #320 (Black), #500 (Blue), #1000 (Green)
- Since thin tools are easy to break, please use with modest machining pressure and amplitude.


● = Screw thread unit : mm

Flat Square		Tool No.	Grain size	W		
		SD-4831	● 200	3		
		SD-4731	● 320	3		
		SD-4631	● 500	3		
		SD-4331	● 1000	3		
		SD-4851	● 200	5		
		SD-4862	● 200	3		
		SD-4762	● 320	3		
		SD-4662	● 500	3		
		SD-4362	● 1000	3		
		SD-5831	● 200	5		
		SD-5731	● 320	3		
		SD-5851	● 200	5		
		SD-5751	● 320	5		
				SD-1802	● 200	
				SD-1702	● 320	
SD-1602	● 500					
SD-1302	● 1000					

# ULTRAFORM Series

## TOOLS & ACCESSORIES


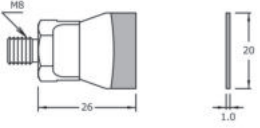

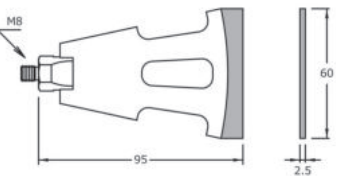
Cylinder		Tool No.	Grain size
		SD-1803	● 200
		SD-1703	● 320
		SD-1603	● 500
		SD-1303	● 1000
		SD-5861	● 200
		SD-5761	● 320
			
MD-8762-C1	● 320		
		MD-9865-C1	● 200
		MD-9765-C1	● 320



# ULTRAFORM Series

## TOOLS & ACCESSORIES



### Diamond Stones (Metal bonded)

Flat Square		Tool No.	Grain size
		LD-0721	● 320
		LD-0762	● 320

### Ceramic Stones

- This is the composite material of Alumina fibers and Thermosetting resin.
  - It shows high grinding power using alumina fibers with good ultrasonic vibration characteristics.
  - The tip shape can be molded with a file or sander.
  - It can finish smoothly even on fine surfaces and delicate portions.
- Grain size : #80 (Violet), #120 (Emerald), #180 (Gold), #300 (Light Brown), #400 (Orange), #600 (Brown), #800 (Blue), #1000 (White), #1200 (Red)


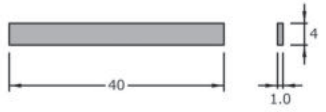
● =Screw thread ■ =Thickness unit : mm

Round type		Tool No.	Grain size
		NSVD3F	■ 80
		NSED3F	■ 120
		NSGD3F	■ 180
		NSLD3F	■ 300
		NSOD3F	■ 400
		NSPD3F	■ 600
		NSBD3F	■ 800
		NSWD3F	□ 1000
		NSRD3F	■ 1200

# ULTRAFORM Series

## TOOLS & ACCESSORIES

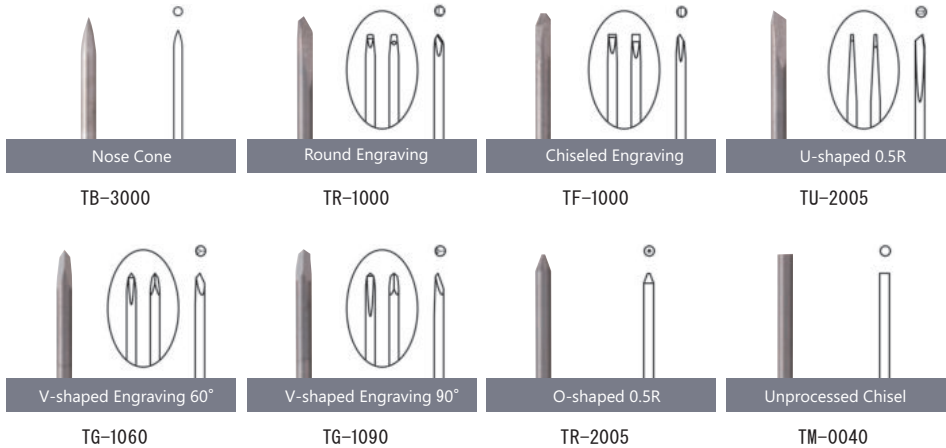
● =Screw thread ■ =Thickness unit : mm

Flat type		Tool No.	Grain size
		NSV206F	■ 80
		NSE206F	■ 120
		NSG206F	■ 180
		NSL206F	■ 300
		NSO206F	■ 400
		NSP206F	■ 600
		NSB206F	■ 800
		NSW206F	□ 1000
		NSR206F	■ 1200
		Flat type	
		NSV212F	■ 80
		NSE212F	■ 120
		NSG212F	■ 180
		NSL212F	■ 300
		NSO212F	■ 400
		NSP212F	■ 600
		NSB212F	■ 800
		NSW212F	□ 1000
		NSR212F	■ 1200
		Flat type	
		NSV084F	■ 80
		NSE084F	■ 120
		NSG084F	■ 180
		NSL084F	■ 300
		NSO084F	■ 400
		NSP084F	■ 600
		NSB084F	■ 800
		NSW084F	□ 1000
		NSR084F	■ 1200
		Flat type	
		NSV104F	■ 80
		NSE104F	■ 120
		NSG104F	■ 180
		NSL104F	■ 300
		NSO104F	■ 400
		NSP104F	■ 600
		NSB104F	■ 800
		NSW104F	□ 1000
		NSR104F	■ 1200

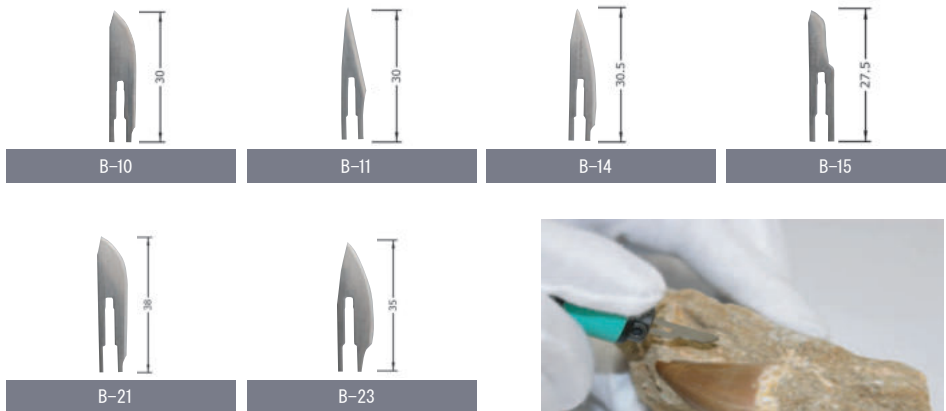
# ULTRAFORM Series

## SPECIAL TOOLS FOR ST-360

### Tungsten Chisel series L40 $\phi$ 2.0



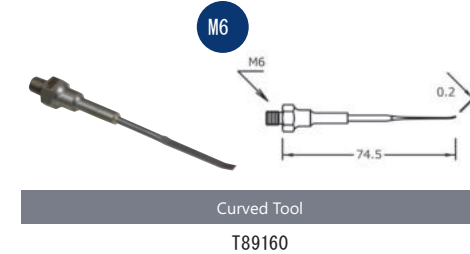
### Blade series



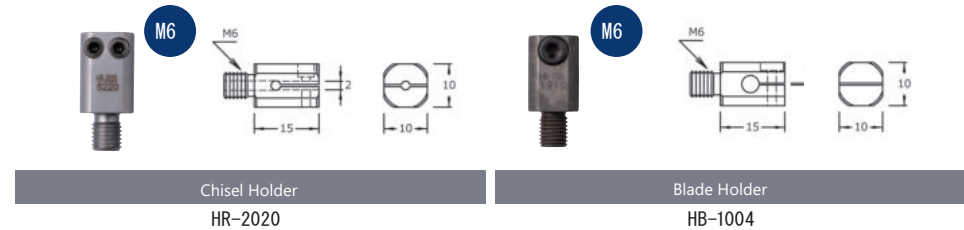
# ULTRAFORM Series

## SPECIAL TOOLS FOR ST-360

### Archaeological series



### Holders



ST-360

Front panel of ST-360








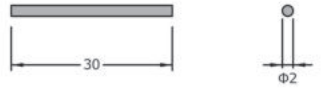




# ULTRAFORM Series

## TOOLS & ACCESSORIES

### Ceramic Stones

● =Screw thread ■ =Thickness unit : mm

Flat type		Tool No.	Grain size
		NSV086F	■ 80
		NSE086F	■ 120
		NSG086F	■ 180
		NSL086F	■ 300
		NSO086F	■ 400
		NSP086F	■ 600
		NSB086F	■ 800
		NSW086F	□ 1000
		NSR086F	■ 1200
		Flat type	
		NSV106F	■ 80
		NSE106F	■ 120
		NSG106F	■ 180
		NSL106F	■ 300
		NSO106F	■ 400
		NSP106F	■ 600
		NSB106F	■ 800
		NSR106F	■ 1200
Round type		Tool No.	Grain size
		CS-8120	■ 800
Flat type (Pointed tip)		Tool No.	Grain size
		CS-8168	■ 800
		CS-1168	□ 1000
		CS-1568	■ 1200

# ULTRAFORM Series


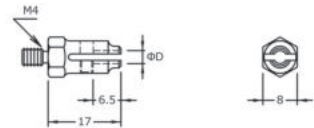

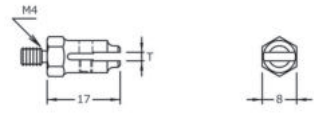

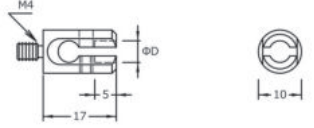



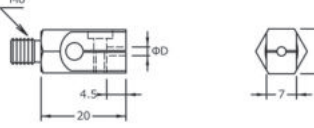
## TOOLS & ACCESSORIES

### Tool Clamp / Adaptor

- A tool holder for attaching and using marketed tools in addition to ULTRAFORM standard tools.
- Typical sizes are available for both cylindrical and flat tools.
- Check the tool screw diameter of the transducer and the screw diameter of the Tool Clamps.

※ Since the clamp tool is easily damaged by heat generation, set the ultrasonic output to clamp mode.  
(For SF-355 / ST-360, reduce the output to less than half)

● =Tool screw diameter unit : mm

For cylindrical tools		Part No.	D
		SX-1002	2
		SX-1024	2.4
		SX-1003	3.0
		SX-1033	3.2
For flat tools		Part No.	T
		SX-4012	2.0
For cylindrical tools		Part No.	D
		SX-1004	4.0
		SX-1005	5.0
		SX-1006	6.0
		For flat tools	
		SX-4008	0.8
		SX-4011	1.0
		SX-4021	2.0
		SX-4031	3.0
		SX-4033	3.2
For cylindrical tools		Part No.	D
		MX-1020	2.0
		MX-1024	2.4
		MX-1030	3.0
		MX-1033	3.3

# ULTRAFORM Series

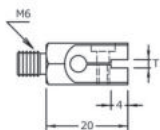
## ► TOOLS & ACCESSORIES

### Tool Clamp / Adaptor

● = Tool screw diameter unit : mm



M6

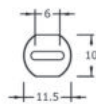
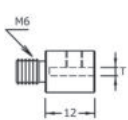


Part No.	T
MX-4008	0.8
MX-4010	1.0
MX-4020	2.0
MX-4030	3.0
MX-4033	3.3

For flat tools



M6



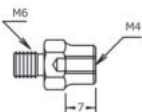
Part No.	T
SMAX-2680	0.1~1.5

For flat tools

※ Use the metal shim attached.



M6

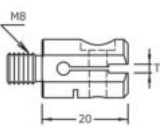


Part No.  
MS-0064

M6-M4 conversion adapter



M8



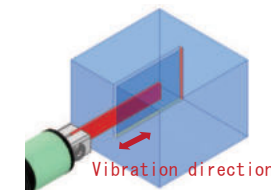
Part No.	T
LX-4020-1	2.0

For flat tools

# ULTRAFORM Series

## ► New concept for polishing fine grooves (Rib grooves)

Conventional ultrasonic vibrations are good at polishing the sides of ribs by applying vibrations back and forth, but they could not polish the bottom surface. therefore, we have developed a tool with a new concept and applied vibrations in the thickness and width directions so that the bottom surface, which was difficult to work with until now, can be polished.



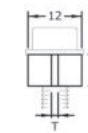
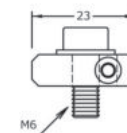
The back surface (bottom surface) could not be polished by the vibration in the longitudinal direction.

● = Tool screw diameter unit : mm

NEW

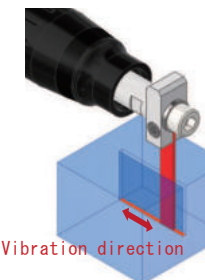


M6



Part No.	T
MX-4010-W	1.0
MX-4015-W	1.5

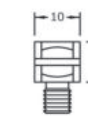
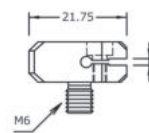
For flat tools



NEW

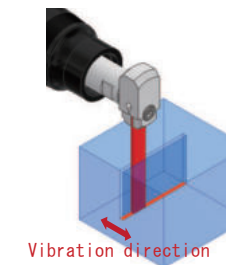


M6



Part No.	T
MX-4010-T	1.0
MX-4015-T	1.5

For flat tools



# ULTRAFORM Series

## ▶ OPTIONAL ITEMS



Protector sleeve

A standard protector sleeve that can secure a wide handle. Screw type

No.UF-7024



Protector sleeve

Protector sleeve for thin tools (chisel) that can secure a wide handle.

No.UF-7046



Protector sleeve

Large-sized protector sleeve that can secure a wide handle. Insert type

No.UF-7025



Foot switch

It is a foot switch to switch over On/Off of ultrasonic oscillation. It turns On while you are stepping on it.

Part No.UF-7083: For SF-355, ST-360  
Part No.UF-7085: For UF-0101



Foot switch

It is a foot switch to switch over On/Off of ultrasonic oscillation. It turns On while you are stepping on it.

Part No.UF-7116: For UF-0103



Foot controller

The rotation speed of the DC motor handpiece can be adjusted. The strength is controlled depending on the degree of depressing the foot controller. (Do not use for ultrasonic control)

Part No.VC90: For UF-0103



Transducer cord

This is the cord can connect the transducer and oscillator.

Part No.UF-7055

Applicable oscillator: UF-0103/UF-0101  
Applicable transducer: UF-9701/UF-7401



Wrench

Part No.UF-7302: 8 mm  
Part No.UF-7305: 10 mm  
Part No.UF-7318: 12 mm  
Part No.UF-7312: 14 mm



Clamp horn key

Part No.UF-7006: M2.5  
Part No.UF-7003: M3  
Part No.UF-7005: M4

# ULTRAFORM Series

## ▶ OPTIONAL ITEMS



Tool extractor

This is the jig that fixes the transducer and assists in attaching and detaching tools. It can be used for transducer with widths of 10mm and 13 mm.

No.UF-7015



Handpiece rest

Hand piece rest made of rubber that allows you to safely place the transducer and DC motor hand piece.

No.UF-7502

Power cord



5 types of power cord are available depending on various plug socket shapes.

Part No.	Main using area	Applicable voltage	Plug socket shape
UF-7100	Japan	100 - 120V	
UF-7101	USA	100 - 120V	
UF-7102	EU	200 - 240V	
UF-7103	Australia	200 - 240V	
UF-7107	UK	200 - 240V	