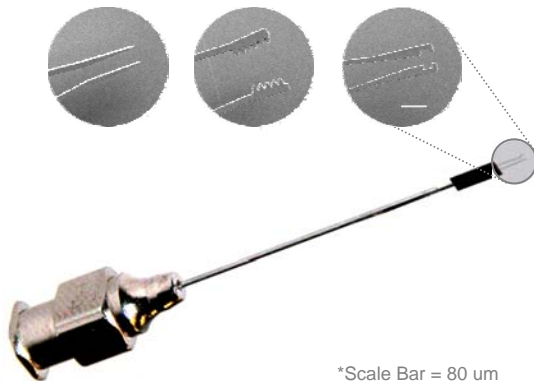


NICKEL MICROTOOLS (0 – 1000 μm) SUB MICRON TIP CONTROL



*Scale Bar = 80 μm

- 0 to 1000 μm tip-to-tip opening
- Ultra high-resolution tip control
- Strong, robust metal microtips
- Precise tip alignment
- MEMS and biological applications

Description

The Signatone SP170X features a suite of exceptionally strong, high-resolution microtools. The actuating mechanism consists of a proprietary micro cam-drive¹ that moves axially across the nickel microtool to rigidly and precisely position the tool tips.

This elegant and simple actuation precludes the need for electrostatic or electrothermal forces to provide the gripping strength. The SP-170X series is ideally suited for applications that require long-lasting tips and high-resolution control for grasping, manipulating, and excising microscale objects.

Features

- Straight, serrated, and piercing tips
- Microfabricated Ni metal tips
- 500 nm resolution tip control
- Large grasping range: 0 to 1mm
- Continuous 360° axial rotation
- -40 to +150 ($^{\circ}\text{C}$) operating Temp
- Custom application specific geometries and materials available

Applications

MEMS

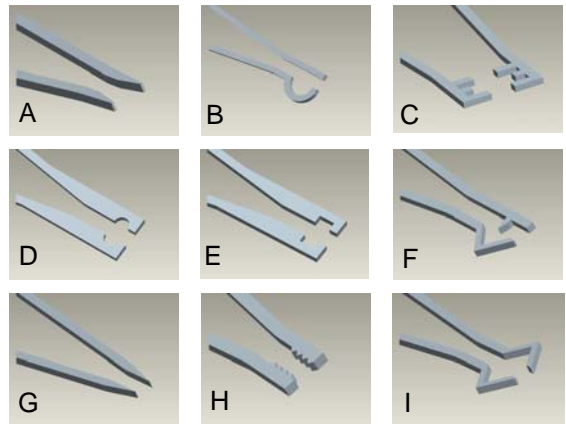
- MEMS Micro-assembly
- Fiber optic positioning
- Stiction release

Life Sciences

- Acute cellular manipulations
- Micro-dissection
- Microscopy sample positioning

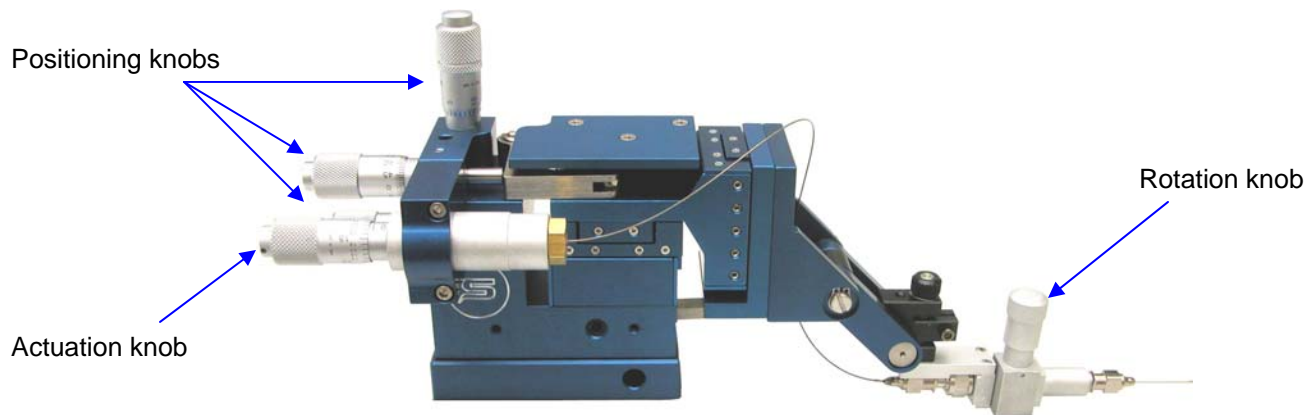
Tip Styles

Fig.	Microtool Name	Part No.
A	Outsloped-forceps	TM7001
B	Scoop Tip	TM7002
C	Multi-prong Tip	TM7003
D	Circle Notch Tip	TM7004
E	Square Notch Tip	TM7005
F	Piercing Tip	TM7006
G	Micro-forceps	TM7007
H	Serrated Tip	TM7008
I	Square Tip	TM7009



TM70## [Max Tip Width]-[Beam Cross Section]; Max Tip Width = 80, 320, 1000 μm . Beam Cross Section = 40 x 20 μm .

SP170X System

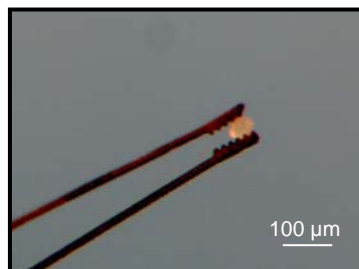


The SP170X system couples the precise control of Signatone's SP-100 in-line Micropositioner with Teneo's high-resolution microtool actuation assembly. The (3) axis knobs control the x, y, and z location of the tweezer. A (4th) actuation knob regulates the opening and closing of the tip. Additionally, a (5th) rotation knob enables 360° of continuous rotation. (includes tip # TM7001)

Sample Applications



Positioning MEMS stator



Manipulation of crystals



Micro-dissection of Aplysia Ganglia