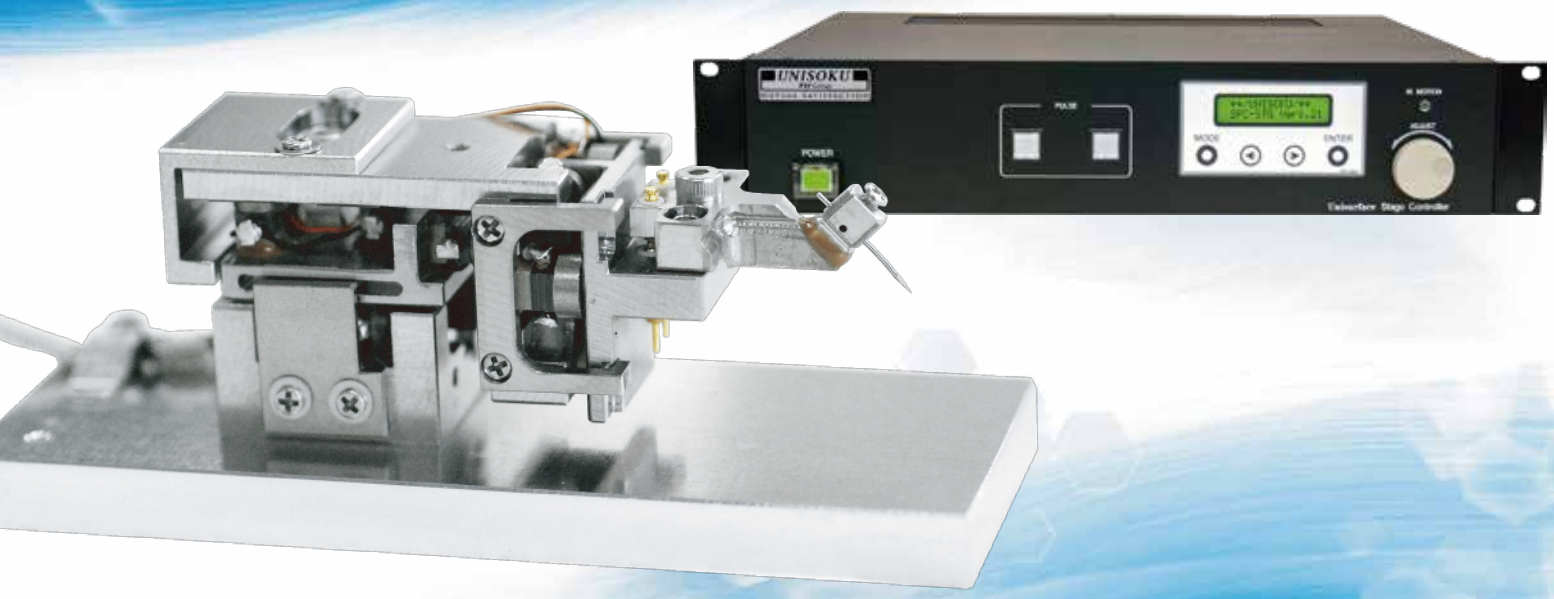
UNISOKU
TTI Group

XYZ 3-Axis Nano-Manipulator / Prober

UMP-1000

UMP-1000 is a manipulator that can travel in the X, Y, and Z axes at nanometer level. In combination with SEM/FIB/optical microscopes that are on the market, it can be used in a variety of ways such as manipulating/probing on a micrometer /nanometer scale.



Accurate and Easy Operation

Compatible with Windows PC. You can position things quickly and accurately by switching between the coarse (pulse mode) and fine (DC mode) travel settings.

Works in a wide range of operating environments

This device can be used in a wide range if operation/measurement environments, from atmospheric pressure to ultrahigh vacuum, and from room temperature to low temperatures.

High Cost Performance

High functionality/high performance and low cost are both achieved.

Many Uses

This device can be used for various applications, such as nano-manipulation with a single unit and/or probing with multiple units.

- Nano-manipulation
- Probing (IV measurement of semi-conductor nano-devices, resistance measurement, EBIC measurement)
- Wide range of applications on a micrometer / nanometer scale

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Configuration

1. Main Unit	1 Unit
2. Controller	1 Unit
3. Accessories	1 Set
4. Windows Laptop (Optional)	1 Unit

Specifications

1. Main Unit

Maximun Travel Distance	
Pulse (Coarse) Mode	X and Y axes : 5mm
	Z axis : 3mm
DC (FIne) Mode	X and Y axes : 1μm
	Z axis : 1μm
Minimun Travel Distance	**(Resolution)**
Pulse (Coarse) Mode	150nm or less (XYZ axes)
DC (Fine) Mode	0.5nm or less (XYZ axes)
Operating Environment	
Temperature	4K to 310K, baking temperature : 373K or less
Pressure	Near atmospheric pressure or 10^{-2}Pa ~ 10^{-8}Pa
(Due to discharge from piezoelectric elements, this device cannot be used in certain vacuum environment ranges.)	
Connection Cable (Output)	Standard control terminal (Dsub-15) 2m / 1 set
*Works in ultrahigh vacuum / low temperature (job order production) 2m / 1 set	
Body Dimentions	
(approximate, including	25mm(H) x 50mm(D) x 20mm(W)
protrusion)	Main body (without probes)
	less than 60g
Body Weight	Main body (without the attachment base)

2. Controller

Input Voltage	100VAC (50/60Hz) (another input voltage: option)
Power Consumption	100VA or less
Temperature Range	+5℃ to +40℃
Humidity Range	15% ~ 80%
Input / Output	Control terminal (Dsub-15)
Dimentions	480mm(W) x 100mm(H) x 460mm(D)
Weight	less than 6kg

3. Accessories

Standard Control Software CD-ROM	1
Connection Cable (USB)	
Windows PC / Controller (3m)	1
Connection Cables	
Controller (5m)	1 (connectors are separate)
AC Cable (1.5m)	1

4. Windows Laptop (Optional)

Specifications	
OS	Windows 7 or 10
Interface	USB (this device uses 1 port)
CD-ROM Drive	1
Memory	1GB(32Bit),2GB(64Bit) or more
HDD	10 GB or more

Note:

Please contact us directly for questions about compatible SEM / FIB types.

Instrumental components are subject to change without prior notice for improvement in performance.

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