

[Information on Head Office Demonstration Room]

You can try an instrument which you are going to purchase.
Please do not hesitate to contact us.



[Information on Shonan Office Demonstration Room]

You can try an instrument which you are going to purchase.
Please do not hesitate to contact us.

Micro Support

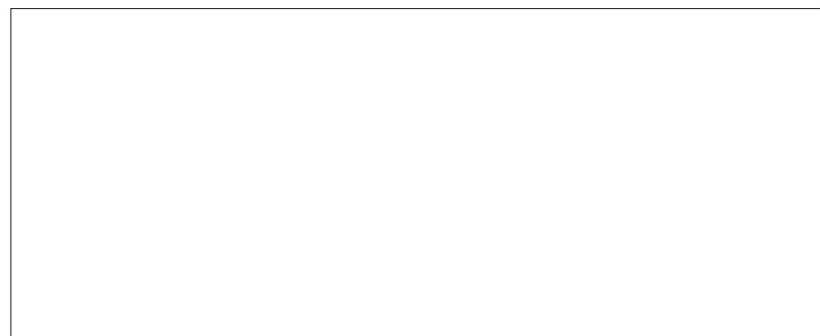
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PRODUCT CATALOG

FOR MICROANALYSIS

Micro Support

Micro Support Co.,Ltd.

Precise analysis requires precise sampling

Micro Support Co.,Ltd. is a sampling equipment manufacturer based in Japan, specializing in sample analysis pretreatment.

We offer micro-sampling solutions in various fields that require strict quality control or studies of advanced materials like high molecular compounds, petrochemicals, electronics, and semiconductors. We offer our clients flexible, easy-to-use hardware and software; in addition, we also offer extensive training to satisfy clients that need extra support. Our goal is to help our clients' research and operations contributing to increased efficiency and accuracy with our micro-sampling instruments.

I N D E X

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▶ Sampling Tools



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Sampling Equipment

Axis Pro

Quick Pro

Sampling Station

System Diagram of
Sampling Station

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Sampling Tools

Micro Tools /
Metal Probes

Micro Tools /
Knife Tools

Micro Tools /
Glass Tools

Micro Tools /
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Microscopes and
Peripherals

Setup depending
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Axis Pro

AP



The Axis Pro is sampling equipment that enables the collection of μm -size objects and processing of samples in a target area with precise motion control. The Axis Pro offers an accurate solution for micro-sampling.

Special features of the Axis Pro

- ▶ **All-in-one type manipulating system**
Axis Pro is combined with electric zoom microscope, manipulator, controller, PC, display and others.
- ▶ **Easy operations by PC-mouse**
All operations such as focusing sample and manipulating objects are controlled by PC-mouse. No need to touch the sample after placement on the sample stage.
- ▶ **Various tools**
Various tools available based on sampling need.

Typical Application Areas

- Electronic component
- Liquid crystal
- Semiconductor
- Medicine
- Food
- Functional material
- Chemical product
- University
- Research organization
- Other industries

Axis Pro helps support a variety of processes

- Separation of foreign substances
- Extraction of sample from certain materials using optional milling accessory
- FIB lift-out (collection and delivery after extracting)
- Pinpoint marking
- Cutting samples
- Micro-liquid handling

Attachable Tools

- Tungsten probe (All items)
- Tungsten carbide tool (All items)
- Micro knife (All items)
- Ruby knife (All items)
- Vacuum absorption tool set
- Microinjector
- Micro scissors
- Microtweezer tool set
- Milling Pro
- Electrode holder
- Other tools also available

Absorption and delivery of micro substances



Micropipette of inside diameter 5 μm

Absorbing a foreign substance of 8 μm

Delivery to a KBr disk

Cutting and collection of an embedded foreign substance



PMMA

Polyimide

Polycarbonate

Film trimming



Cutting film

Rotating the film and cutting it again

Picking it up

Sampling Equipment

Axis Pro

Quick Pro

Sampling Station

System Diagram of Sampling Station

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Micro Tools Specification Table

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Observation and Recording Tools

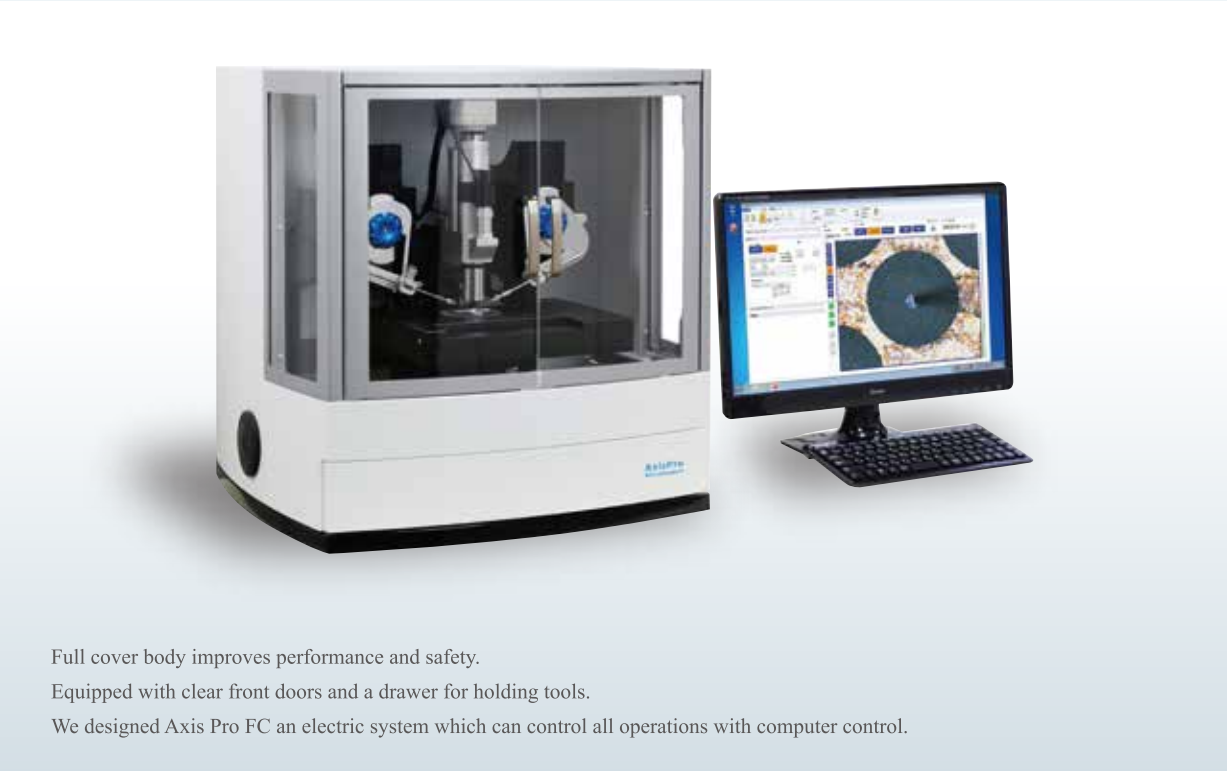
Microscopes and Peripherals

Setup depending on application

Sampling Equipment

Sampling Equipment

Axis Pro FC



Full cover body improves performance and safety.
Equipped with clear front doors and a drawer for holding tools.
We designed Axis Pro FC an electric system which can control all operations with computer control.

Full cover all electric system

- ▶ Handles 5μm-size object with precise motion
- ▶ Full cover improves performance and safety
- ▶ Just move PC mouse after attaching sample
- ▶ Equipped with electric transfer stage
- ▶ Precise sample transfer by program control
- ▶ Equipped with a drawer for holding tools
- ▶ Easy setting with angle fixing arms

Axis Pro FC exclusive specifications

Hold a handle case in storage space

Great view by clear panels

Equipped with convenient drawer

Equipped with electric sample stage (standard) X50:Y50mm

Common specifications

High-performance electric zoom microscope

Angle fixing arm

Electric transfer stage

Easy operation by software

PC mouse control

Windows® Software

Total monitor magnification : 200 ~ 2500 × (objective lens 5X) , 60 ~ 800 × (objective lens 1.5X)

Axis Pro SS



Designed for custom applications – ability to select only one arm, manual stage, etc.
Suitable for tall samples as entire upper microscope moves up and down.

Custom-designed electric system

- ▶ Handles 5μm-size object with precise motion
- ▶ Adjust for various samples
- ▶ Flexibility for custom-designed samplings
- ▶ Just moves PC mouse after attaching sample
- ▶ Precise sample transfer by program control
- ▶ Easy setting with angle fixing arms

Axis Pro SS exclusive specifications

Choose one-arm type

Configure a system for specially shaped samples

Adjust for tall sample by up/down motion of stage

Equipped with electric sample stage (option) X100:Y50mm

Sampling Equipment

Axis Pro

Quick Pro

Sampling Station

System Diagram of Sampling Station

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Micro Sampling Equipment Specification Table

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Micro Tools / Specialty Tools

Micro Tools Specification Table

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Microscopes and Peripherals

Setup depending on application

Sampling Equipment

Axis Pro F



Axis Pro FC without cover
Suitable for sampling inside glove box.

All electric system without cover

- ▶ Handles 5μm-size object with precise motion
- ▶ Just move PC mouse after attaching sample
- ▶ Equipped with electric transfer stage
- ▶ Precise sample transfer by program control
- ▶ Easy setting with angle fixing arms

Most operations of manipulator can be remotely controlled by mouse, making it possible to install it within a glove box.

※Micro Support provides glove box feedthrough.

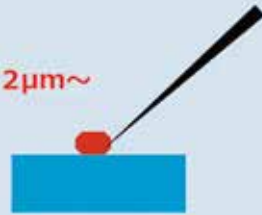


Axis Pro

Axis Pro Applications

- Pick up substance on a surface

2μm~



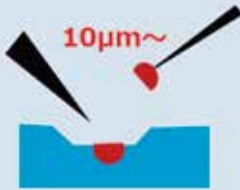
- Surface exposed
- Foreign substance removal

10μm~



- Dig buried substance
- Detach and transfer

10μm~



- Pick up substance in a tiny hole

5μm~



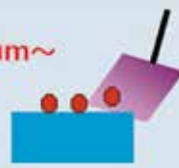
- Pick up and release pico-liter volumes of liquid

5μm~



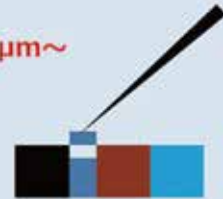
- Collect few μm-size substances

1μm~



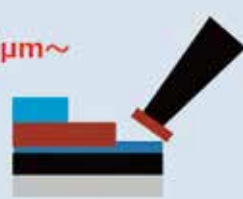
- Pick up material from one layer of a multilayer structure

5μm~



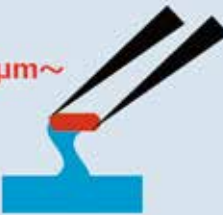
- Cut to depth direction (degradation)

5μm~



- Pick up substance in adhesive substrate

20μm~



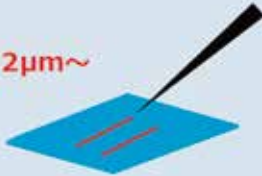
- FIB lift-out
- Orientation control and transfer

10μm~



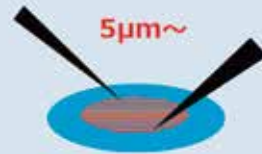
- Mark on hard material

2μm~



- Electrical probing
- Probe spot size 1μm
- Distance between probes 5μm or grater
- Handles 5μm-size wiring

5μm~



Sampling Equipment

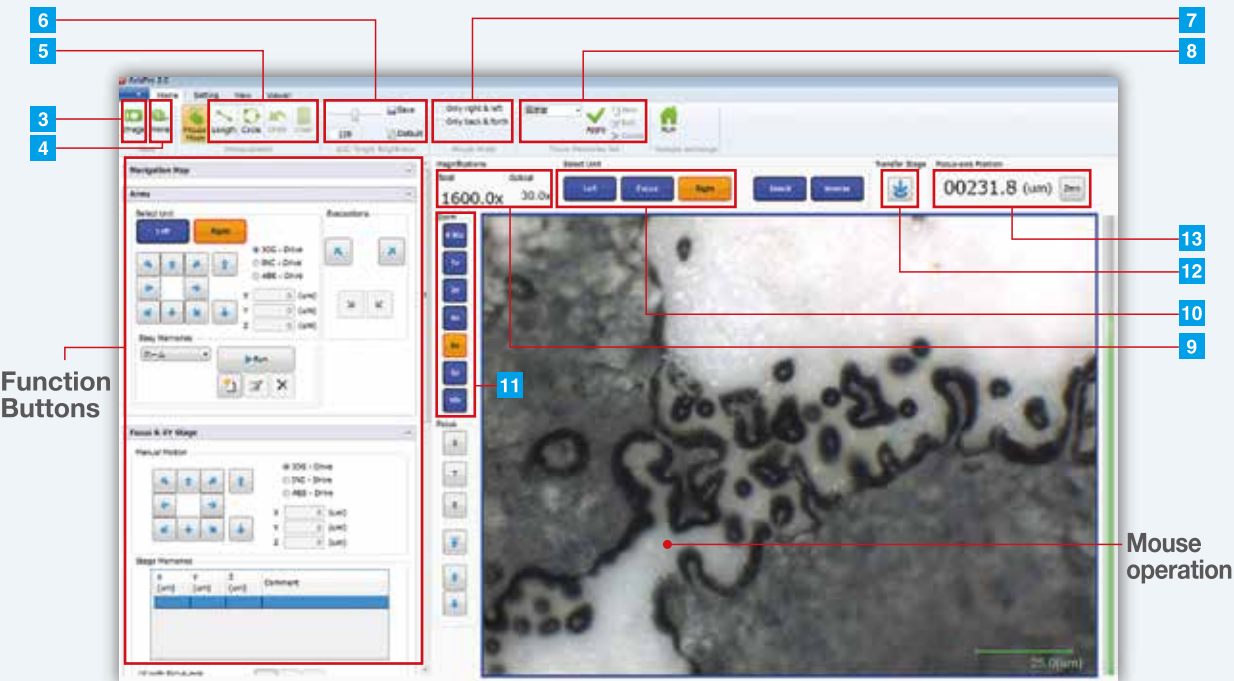
Axis Pro

Software main function

[Setting tab]



[Home tab]



Function
Buttons

Mouse
operation

- | | | |
|----|------------------------------------|---|
| 1 | Origin return | Calibration control |
| 2 | Coordinate monitor | Display the position of arms and stage |
| 3 | Image recording | Record image as Jpeg or Bitmap |
| 4 | Movie capture | Real time capture with AVI |
| 5 | Measurement | Measure distance between two points or diameter of circle |
| 6 | Camera exposure correction | Adjust light level on camera |
| 7 | Motion control | Restrict arm motion to X or Y |
| 8 | Position memory | Memorize sample position, transfer position and evacuation position |
| 9 | Magnification monitor | Display optical magnification and total magnification |
| 10 | Motion unit selection | Choose microscope or left-arm or right-arm for mouse control |
| 11 | Change of microscope magnification | Switch optical magnification by button |
| 12 | Transfer stage | Move transfer stage in or out with button |
| 13 | Height measurement monitor | Measure height by microscope focusing |

New capabilities in Ver.3



[Navigation map]

- Tiling function provides wide area image
- Tiling automatically by motorized stage
- Record a picture of large image
- Move to a designated position by mouse-click



[Arm position memory function]

- Memorize each position depending on each tool
- Record and load positions
- Arm temporary evacuation function



[Stage position memory function]

- Memorize stage positions in three dimensions
- Record and load positions
- Transfer between positions repeatedly
- Safety operation by automatic evacuation program



[Automatic movement function]

- Scrape on wide area and depth direction semi-automatically with Milling Pro
- Unit choice: choose left-arm or right-arm
- Direction: move to center from edge with Milling Pro
- Direction: move to edge from center with knife
- Movement: Input number of times to repeat motion
- Speed: change speed depending on situation



[Image for focus stacking function]

- Can easily produce a focused image by using image synthesis software like WinROOF2013 Lite
- Can obtain depth information by depth measurement function

Micro Sampling Machines

Specifications

Axis Pro

Axis Pro Electric motion control (Mouse operation)

Product structure	Axis Pro F/FC		Axis Pro SS
	Setup example (Table is not included)		
Main body	Body	Opening and shutting full cover (FC model)	Without cover
	Focus (electric) range	70mm (up and down stage)	70mm (up and down main body)
	Arm (electric) range	X:20mm Y:20mm Z:30mm (left, right)	
	Microscope (electric zoom)	Mainbody zoom 0.9~10x	
	Objective lens	5x working distance:14mm, 1.5x (option) working distance:46mm 3x (option) working distance:35mm	
	CCD color camera	USB digital (movie•picture XGA output)	
	Total magnification	200~2500x	
	Sample transfer function	Equipped with electric transfer disk	
	Sample stage	Electric (standard)	Mechanical (electric,option)
	Illumination function	WhiteLED (reflection, transmission)	
PC	PC specification	CPU:Pentium DUALCore G850 2.90GH/ 3 MB 2 C/ 2 T storage:2GB HD:500GB S-ATA DVD super multirive	
	OS	Windows7 Pro Embedded 32bit English	
	Display	21.5inch liquid crystal display (full HD)	
	Control software	Axis Pro Ver.3 (Windows7 dedicated)	
	Operation procedures	Click and drag by PC mouse	
Others	Power source	AC100V~240V 50/60Hzsinglephase, electricity consumption 700W	
	Equipment space	Width 1500mm×length 700mm	Width 1400mm×length 700mm

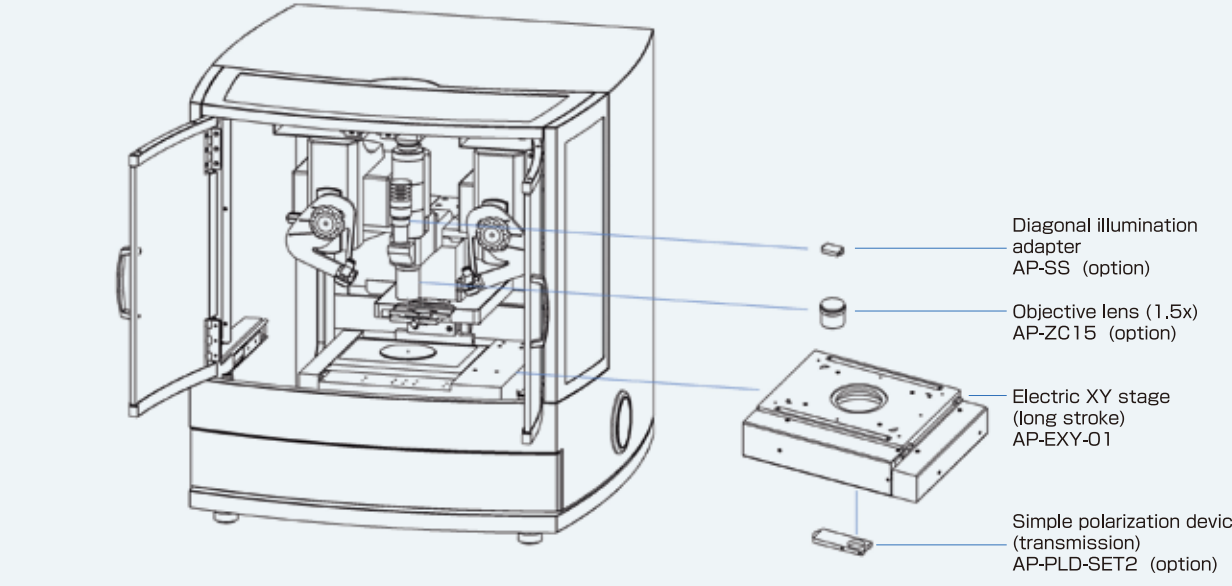
Micro Sampling Machines

System Diagram

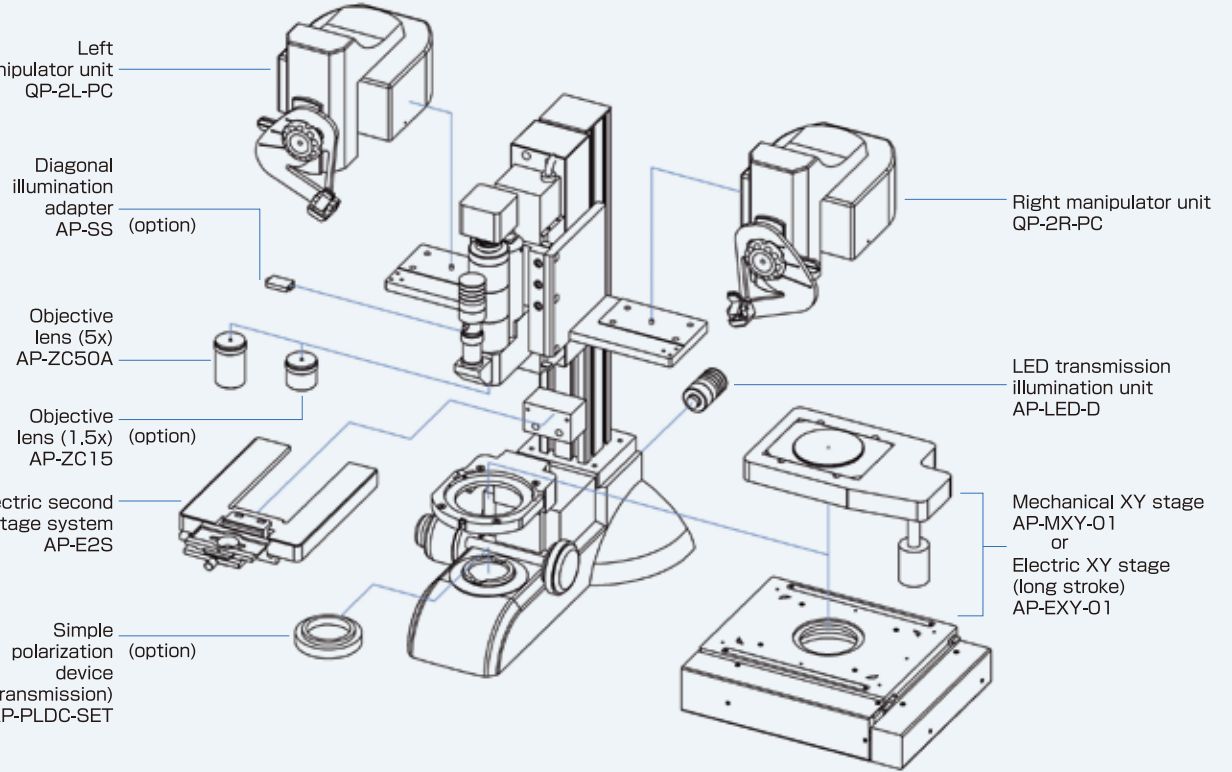
Axis Pro

Axis Pro Electric motion control (Mouse operation)

<Axis Pro FC> Full cover all electric system



<Axis Pro SS> Custom-designed electric system



Sampling Equipment

Sampling Equipment

Quick Pro

QP



- Independent micromanipulator arms that can be added to any microscope. This allows the microscope to function as a micromanipulator.
- Arm motions of Quick Pro are identical to those in Axis Pro, providing for fine, precise, and stress-free microsampling.
- Touch panel interface controls arm motion and allows for programming of motions. Up to 10 positions can be memorized – very useful for repetitive motions!
- You can choose among Right arm, Left arm, and Both arms. System can easily be extended in future, so the user has the flexibility to expand the system capabilities depending on budget and purpose.
- Micromanipulator software (with mouse control of arm motion) can also be used.

Configurations

Right arm set	Left arm set	Both arms set	Both arms + Electric XY stage set
QP-3RH <ul style="list-style-type: none">•Quick Pro (for right arm) main part•Touch panel unit•Controller x 1 set•Magnet stand x 1•Mouse•Probe handle x 1	QP-3LH <ul style="list-style-type: none">•Quick Pro (for left arm) main part•Touch panel unit•Controller x 1 set•Magnet stand x 1•Mouse•Probe handle x 1	QP-3RLH <ul style="list-style-type: none">•Quick Pro (for both arms) main part•Touch panel unit•Controller x 2 set•Magnet stand x 2•Mouse•Probe handle x 2	QP-3RLH-EXY <ul style="list-style-type: none">•Quick Pro (for both arms) main part•Electric XY stage•Touch panel unit•Controller x 3 set•Magnet stand x 2•Mouse•Probe handle x 2

Specifications

Operation display unit	Operation interface unit	Electric manipulator unit
<ul style="list-style-type: none">•Touch panel screen•Control of probe motion speed•Position memory function (up to 10 positions)•Incremental movement, Origin-return•Evacuation function•Set limit on axis motion (X-axis or Y-axis)•Confirmation of position information, zero setting of coordinates	<ul style="list-style-type: none">•PC mouse (XYZ-axis operation)•Touch panel (Incremental movement of XYZ direction)	<ul style="list-style-type: none">•Right arm and left arm: Range of motion X:20 Y:20 Z:30mm•Probe handle included
	Stand	Electric XY stage unit
	<ul style="list-style-type: none">•Magnet stand base•□100mm steel plate is attached. Ensures arm stability during motion.	<ul style="list-style-type: none">•Range of motion: X-axis:100mmY-axis:50mm
		Power requirements
		<ul style="list-style-type: none">•AC100-240V,50/60HZ, single phase 120W

Sampling Equipment

Sampling Equipment

Micro Sampling Machines

User selectable combinations of Quick Pro depending on sampling situation with

Zoom microscope



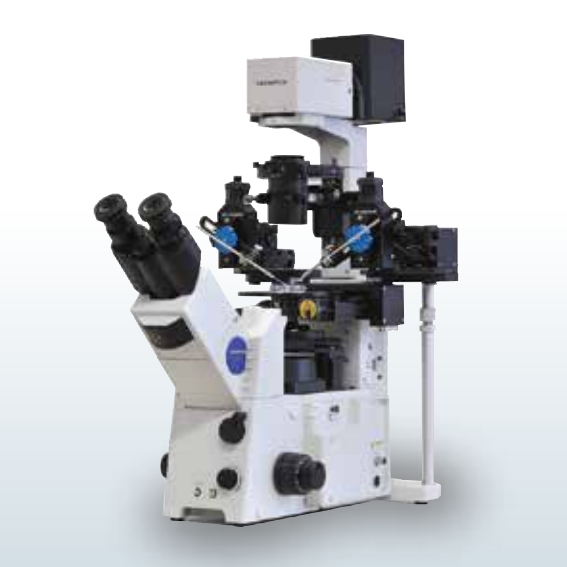
Stereo microscope



Upright microscope



Inverted microscope



Attachable Tools

- Tungsten probe (All items)
- Tungsten carbide tool (All items)
- Micro knife (All items)
- Ruby knife (All items)
- Vacuum absorption tool set
- Microinjector
- Microtweezer tool set
- Other tools also available
- Milling Pro
- Electrode holder
- Micro scissors

Sampling Equipment

Sampling Equipment

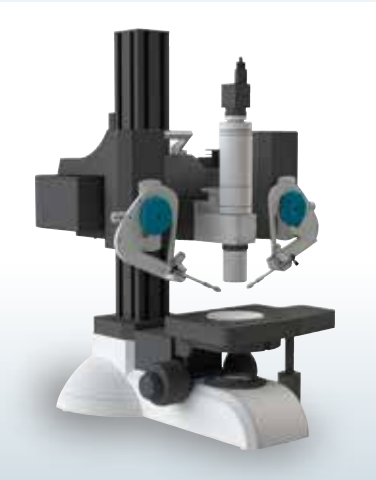
Sampling Station SS

Simple microscope system suitable for micro sampling

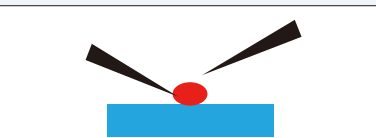
- Simple specification based on manual operation with cost-effective price.
- Observation (camera, monitor and microscope) is same as Axis Pro.
- Vertical motion sample stage can pick up objects and transfer them easily.
- Each unit is set up with optimal positions.
- Available with one or both arms.
- Most tools can be equipped with system meeting various sampling needs.

Examples of configurations

Standard



- Sampling Station standard set
- Electric micromanipulator (Right & Left)
- USB camera
- PC, Controller
- Full HD display
- Angle fixing arm (Right & Left)



Milling Pro (Ultrasonic scraping /cutting)



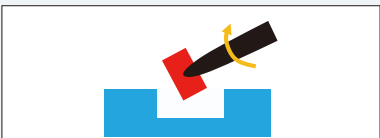
- Sampling Station standard set
- Electric micromanipulator (Left)
- USB camera
- PC, Controller
- Full HD display
- Milling Pro (Left)



FIB lift-out



- Sampling Station standard set
- Electric micromanipulator (Right)
- USB camera
- PC, Controller
- Full HD display
- Super fine pitch rotator (Right)



Specifications

Microscope

- Base unit with vertical motion sample stage (range 30mm)
- Manual zoom microscope (Zoom:0.8~10x)
- Objective lens 5x(WD=14mm)
- LED Coaxial reflection illumination unit
- XY mechanical stage corresponding to transmission illumination (range X75mm:Y50mm)
- Dedicated USB digital camera

Micromanipulator arms

- X-axis:20mm Y-axis:20mm, Z-axis:30mm
- 4mm diameter handle included
- Angle fixing arm (15°,22.5°,32°)

Arm option

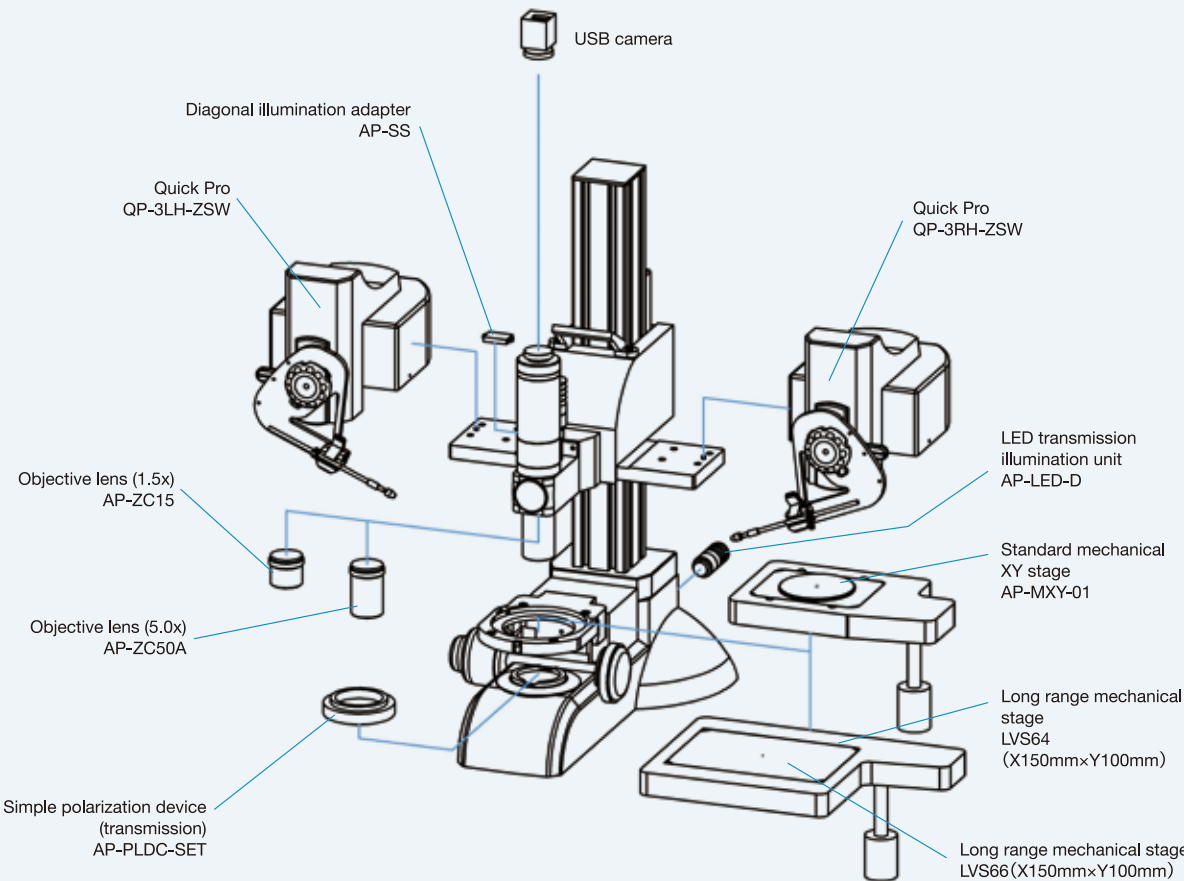
- Universal arm (free adjustment of angle)

Sampling Equipment

Sampling Equipment

Sampling Station SS

System Diagram (with options)



Specifications



<Control part> QP-3PCUG

- 21.5 inch LCD display
- Dedicated USB digital camera
- Dedicated PC
- Dedicated controller (1-2 pcs depending on configuration)

<Example of customized part>

- Microscope tilting structure
- XY transferred structure on microscope
- Extension of post of microscope
- Large base available (for withstanding heavy load)
- Designed jigs for fixing sample

<Option>

- Long range stage corresponding to transmission illumination (X150mm:Y100mm)
- Long range stage exclusive for reflection illumination (X150mm:Y150mm)
- Objective lens 1.5x(WD=46mm)
- LED transmission illumination unit
- Simple polarization illumination unit (for transmission)
- Diagonal illumination adaptor

Sampling Equipment

Axis Pro

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Setup depending
on application

Setup depending on application

Setup depending on application

Axis Pro for Semiautomatic Milling

- The milling area and depth can be controlled by automatic function of Axis Pro software.
- Depth measurement function enables you to confirm location of embedded substances in a range of materials
- Most operations can be controlled freely by mouse control while browsing on computer monitor

Applications	Foreign substance analysis mixed in a film and functional materials Extraction of each layer in a multilayer-structure sample
Object size	1-300μm deep
Base Set	Axis Pro + Electric XY Stage + MIL-1



Probe Station

- Easy to contact small area (1μm~) with mouse driven control.
- X, Y, Z movement and zoom function of microscope can easily find targets.
- Standard with 2 probe arms, but can be customized with 3 or more arms.



Setup depending on application

Setup depending on application

Axis Pro for Glove Box

- Most operations of manipulator can be remotely controlled by mouse, making it possible to install it within a globe box.
- No need to worry about contamination.
- Navigation function enables direct transfer to designated point with mouse click while confirming locations of all objects.



Sample size	2μm ~ and larger
Base Set	Axis Pro F + Electric XY stage + Feedthrough

Collection Pro : Automatic System for Collection and Sorting of Micro-Grains

- Automated grain sorting and collection reduces separation burden on researchers.
- Combination of imaging processing technology and Axis Pro, Micro Support micromanipulator can observe, classify, separate and collect objects by automatic program.
- Screening test for contamination on wafer, glass and membrane filter can be operated as contamination analyzer.
(Image processing, separation, data acquisition, collection of coordinates and pictures)

Target Industry	Mineralogy, Geology
Applications	Separation and collection of classified objects in mineral Separation and collection of classified contamination in powder Separation and collection of designated size objects in particles
Object size	>30μm~ (depending on sample situation)
Base set	Axis Pro + Dedicated software + Vacuum Absorption with electromagnetic valve



Sampling Equipment

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Sampling Tools

Sampling tools

Micro Tools

Tungsten Probe

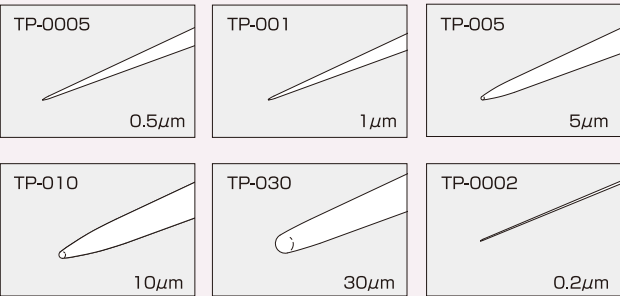
Metal probe

Manual

AP

QP

SS



Lineup

- Needle shaped

Application

- Poking, rubbing, shaving, peeling, cutting, picking up, carrying

Notes for choosing tools

- Please choose smaller tip size than sample size.

Pickup and delivery of 5-micrometer particles



Size	Quantity	Part number
0.2μm	10	TP-0002
0.5μm	25	TP-0005
1μm	25	TP-001
5μm	25	TP-005
10μm	25	TP-010
30μm	25	TP-030
0.5, 1, 10, 30μm	3 each	TP-SET

Tungsten Carbide Tools

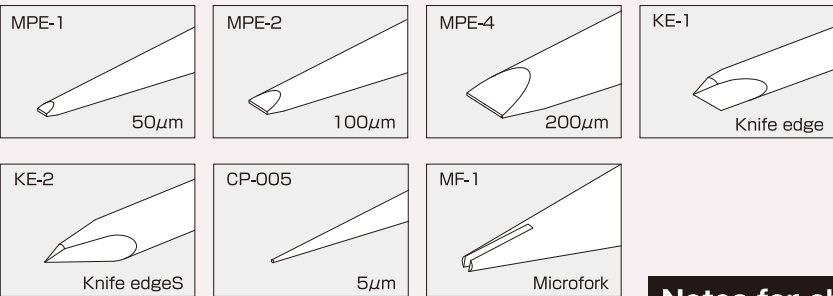
Super hard tools

Manual

AP

QP

SS



Lineup

- Flat-head screw driver shaped
- Knife edge shaped
- Probe shaped
- Fork shaped

Application

- Poking, rubbing, shaving, peeling, cutting, crashing, carrying
- Pickup fiber in adhesive

Notes for choosing tools

- Most suitable for excision of exposed substances in hard materials.
- Probe is recommended for hard resin, crystal, soft material surface, etc.
- KE series recommended for excision from soft material.

Plane cutting of surface of 10-micrometer cellulose



Size	Quantity	Part number	Size	Quantity	Part number
Peeler 50μm	3	MPE-1	Probe 5μm	1 each	HT-SET
Peeler 100μm	3	MPE-2	Peeler 50μm		
Peeler 200μm	3	MPE-4	Knife edge		
Knife edge	3	KE-1	Peeler 50μm	1 each	MPE-SET
Knife edgeS	3	KE-2	Peeler 100μm		
Probe 5μm	5	CP-005	Peeler 200μm		
Fork 30μm	2	MF-1			

Sampling Tools

Sampling tools

Micro Tools

Micro Knife(SUS)

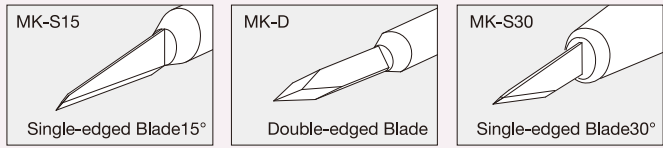
Knife tools

Manual

AP

QP

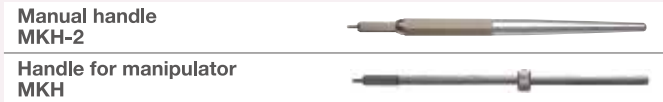
SS



Extraction of a 20-micrometer foreign substance



Size	Quantity	Part number
Single-edged Blade15°	5	MK-S15
Single-edged Blade30°	5	MK-S30
Double-edged Blade	5	MK-D



Ruby Knife

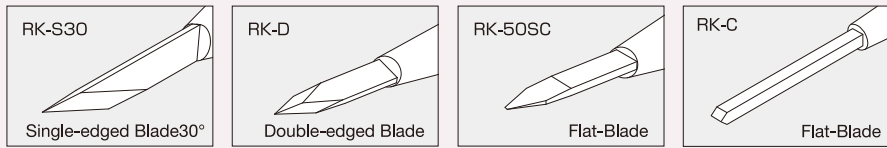
Knife tools

Manual

AP

QP

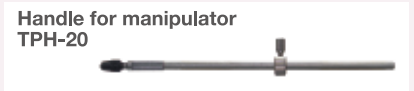
SS



Extracting a protruding micro target of 30μm



Size	Quantity	Part number
Single-edged Blade30°	1	RK-S30
Double-edged Blade	1	RK-D
Flat-Blade	1	RK-50SC
Flat-Blade 500μm	1	RK-C



Lineup

- Designed knife edges
- Flat-head screw driver shaped

Application

- Cutting, disconnecting, rubbing, engraving, picking up and peeling

Notes for choosing tools

- When there is a need to use blade vertically, choose single-edged blade
- For engraving materials such as resin, choose double-edged blade
- Sample is visible through tool.

Probe Bender PB-1 Accessory for bending tungsten probe by specific angle



Main specifications

- Accepts tungsten probe manufactured by Micro Support

- Size of tungsten probe:length 40mm×outside diameter 0.6mm
- Set 15° or 30°(adjustment by shim, too)
- Bend position:~3mm or ~5mm from tip
- Capable of bending 2 tungsten probes at the same time

Sampling Equipment

Axis Pro

Quick Pro

Sampling Station

System Diagram of Sampling Station

Micro Sampling Equipment Comparison Table

Micro Sampling Equipment Specification Table

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Micro Tools / Metal Probes

Micro Tools / Knife Tools

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Microscopes and Peripherals

Setup depending on application

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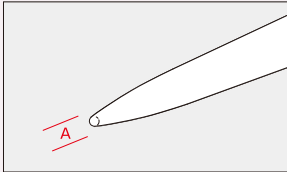
Micro Tools

Micro Tools Specification Sheet

Tungsten Probe

Base Size: Outside-diameter of attachment axis; \varnothing 0.6mm \times 40mm

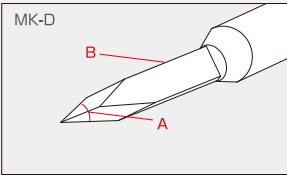
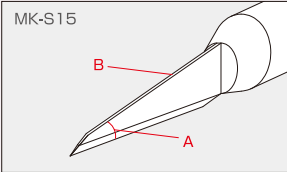
Part Number	Outside Diameter (A)
TP-0002	0.2 μ m
TP-0005	0.5 μ m
TP-001	1 μ m
TP-005	5 μ m
TP-010	10 μ m
TP-030	30 μ m



Micro Knife

Base Size: Attached to handle with M2 Male screw \times 5mm

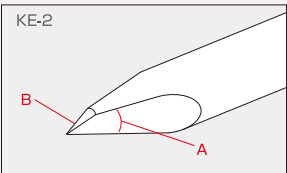
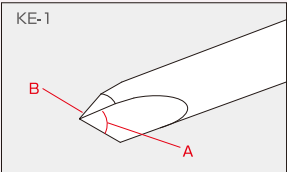
Part Number	Angle (A)	Thickness (B)
MK-S15	15°	150 μ m
MK-S30	30°	150 μ m
MK-D	40°	300 μ m



Knife Edge

Base Size: Outside-diameter of attachment axis; \varnothing 0.8mm \times 40mm

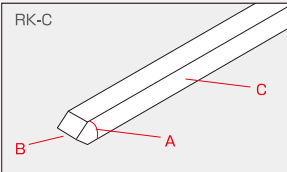
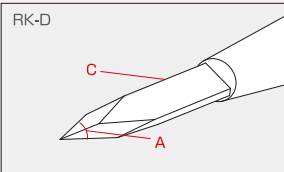
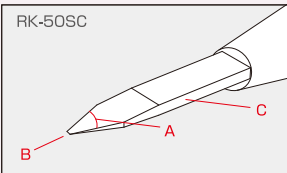
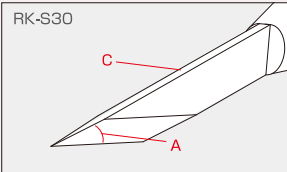
Part number	Angle (A)	Angle (B)
KE-1	50°	20°
KE-2	18°	10°



Ruby Knife

Base Size: Outside-diameter of attachment axis; \varnothing 2.0mm

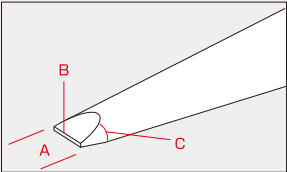
Part number	Angle (A)	Width (B)	Width (C)
RK-S30	30°	-	500 μ m
RK-50SC	25°	50 μ m	500 μ m
RK-D	40°	-	500 μ m
RK-C	40°	500 μ m	500 μ m



Micro Peeler

Base Size: Outside-diameter of attachment axis; \varnothing 0.8mm \times 40mm

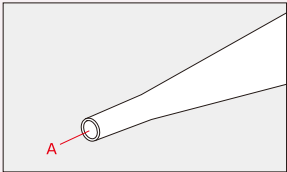
Part number	Width (A)	Thickness (B)	Angle (C)
MPE-1	50 μ m	15 μ m	30°
MPE-2	100 μ m	15 μ m	30°
MPE-4	200 μ m	15 μ m	30°



Micropipette

Base Size: Outside-diameter of attachment axis; \varnothing 1.0mm \times 55mm

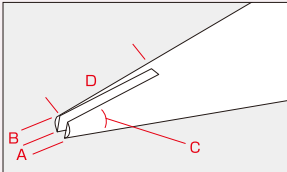
Part number	I.D.(A)
MP-001	1 μ m
MP-005	5 μ m
MP-010	10 μ m
MP-020	20 μ m



Micro Fork

Base size: Outside-diameter of attachment axis; \varnothing 0.8mm \times 40mm

Part number	Groove width (A)	Thickness (B)	Angle (C)	Groove depth (D)
MF-1	30 μ m	30 μ m	30°	200 μ m



※Please understand that tools may have tolerant dimension errors.

Sampling Tools

Sampling tools

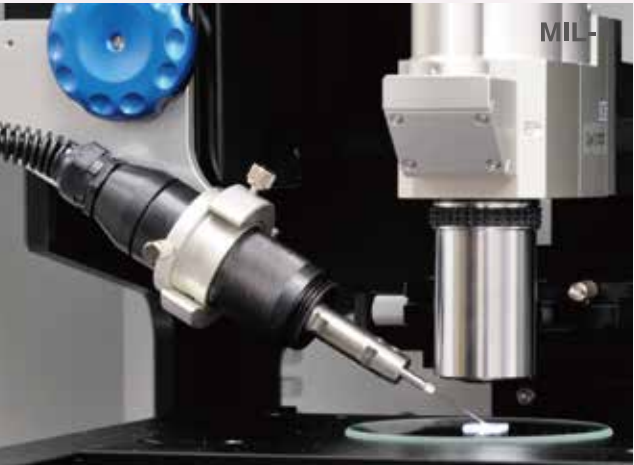
Sampling Accessories

Milling Pro MIL-1

AP

QP

SS



- Milling Pro is an attachment that allows access to embedded substances in resins and other materials easily and quickly.
- It is possible to extract a foreign substance buried 2 to 300 μ m below the surface with visual confirmation on a PC monitor.
- The milling area and depth can be controlled though selection of the appropriate milling tool.

Applications

- Extract embedded foreign substance from resin material (IR microscopy, Raman microscopy, thinning, etc.).
- Planar cutting to extract a part of a buried foreign substance (for ATR microscopy)
- Wide range plane cutting by fixed depth (50 μ m \sim)
- Marking of glass, wafer, or a metal sample (for FIB processing)
- Sample pretreatment for FTIR degradation test from outer to inner layer (Sample pretreatment and pinpoint cutting lines are OK)
- Contact with an internal defect (e.g. sample pretreatment for X-ray microscopy or ruler drawing on an IC chip).

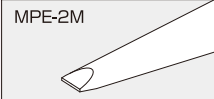
Semiautomatic milling is available in combination with Axis Pro

Difficult sample removal can be semi-automated if performed with the Axis Pro for repetitive milling to gain access to a foreign substance.

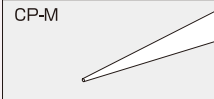
Equipment supplied



50 μ m Tungsten carbide



100 μ m Tungsten carbide



5 μ m Tungsten carbide



0.5 μ m Tungsten

Option



Knife edgesS

Applications

Surface Milling



PMMA



Polyimide



Polycarbonate



Ink on paper

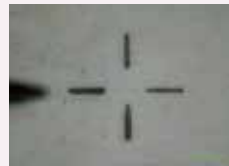


Marking on metal surface



Marking on a silicon wafer with deep engraving

Marking on hard material



Marking on metal surface



Marking on a silicon wafer with deep engraving

Sampling Equipment

Axis Pro

Quick Pro

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Sampling Accessories

Vacuum Absorption Tool Set VP-SET2

AP

QP

SS



- Vacuum system equipped with absorption and discharge functions for transfer of particles. (Discharge pressure adjustment built-in)
- Pipettes available with I.D. from 1-20μm
- Micropipette Sets (I.D.5μm,10μm,20μm each 2pcs) are included
- Particles may be picked up and transferred easily.
- Contact us for details on other tip nozzles that may be available.

Applications

Handling a minute substance by absorption



Microinjector MI-B

AP

QP

SS



- Liquid can be absorbed and delivered in picoliter volumes
- Highly effective for sampling of a small volume of liquid or in a small hole
- Microinjector can also be filled with liquid for delivery to a location
- Applications include solvent delivery to dissolve a base material or collecting liquid from an area of sample.

Applications

Collecting traces of liquid



Sampling Tools

Sampling tools

Sampling Accessories

Microtweezer Tool Set MTW-1

AP

QP

SS



- Tweezers can be smoothly opened and closed. A series of micro sampling actions including gripping, collection, handling, and delivering of materials can also be performed.
- You can firmly grip a sample without hand or machine-induced vibration.
- Collect and deliver substances over 20μm or several micron-thick films with visual confirmation on the PC monitor.
- Contact us for more details of tip configurations that are available.

Applications

Gripping and collecting a 30μm foreign substance from inside an adhesive material.



Precision Tweezers TW-5050 / 2525 / 1515



- Precision tweezers composed of SUS with tip dimensions less than 50x50μm
- Very useful for micro-sampling with repeatable performance after passing Micro Support's in-house quality testing.
- Easy to control.

TW-5050 Tip dimensions 50x50μm
TW-2525 Tip dimensions 25x25μm
TW-1515 Tip dimensions 15x15μm

Micro Scissors MSC-2

AP

QP

SS



- Scissors can be remotely opened and closed
- Highly effective for cutting tiny objects of soft fiber
- Scissors may be easily demounted for cleaning and replacement

Horizontal direction~



Vertical direction~



Sampling Equipment

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Quick Pro

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Sampling Accessories

Electrode Holder

Electrode Holder L
AP-DH-L

Electrode Holder LL
AP-DH-LL

Electrode Cable
DH-BNC-1

AP

QP

SS



- Works with Micro Support Tungsten Probe
- Useful for electrical probing
- Enables a range of electrical measurements including DC measurement, cable checking, resistance measurement, etc.
- Surface is plated with gold. We have L type and LL type.
- A flat spring on the tip enables a soft touch for contacting the sample. A BNC cable can be connected with the end of the electrode.



Applications

- The probe is directly attachable to electric micromanipulator system "Axis Pro".

Super Fine Pitch Rotator

HPR-2

AP

QP

SS



- Precise rotation of probe around the probe axis
- Very useful for lifting out of a foil made by FIB or particle isolation
- Samples and foil may be easily released because of the three axis control of the manipulator and the rotation of the probe
- Glass tools may be used for lift-out. Tungsten and super hard probes can also be used with the tool.
- Tool is available with manual rotation and electric rotation for remote control operation

Diamond EX-Press

Window 2mm
STJ-0194

Window 1.6mm
STJ-0195

Manual

AP

QP

SS



Set to Second Stage

- High pressure diamond press for FT-IR transmission measurements on solid samples without ATR or KBr pellets
- Combines well with use of Axis Pro for measurements on particles in a complex matrix
- Diamond windows may be aggressively cleaned – suitable for “dirty” samples

P/N STJ-0194 【Diamond EX-Press/2mm】 P/N STJ-0195 【Diamond EX-Press/1.6mm】 Welding pressure【100Mpa（10.2kgf/mm2）】 Main part size【76×51×11mm】 More than 5.5mm WD(working distance)is needed

Sampling Tools

Sampling tools

Sampling Accessories

Sphere Vice

sv-1

Manual

AP

QP

SS



- Sphere-shaped vice can change the angle of the sample easily
- Base made of rubber for immobilization on microscope stage
- Handle for opening and closing the vice is detachable, allowing for easy access to other samples on stage.

Vice maximum opening width: 17mm

Grip depth: Approx. 8mm

Weight: Approx. 95g

Pocket Vice

PV-1

Manual

AP

QP

SS



- Cube-shaped vice that can hold samples horizontally and vertically
- Can be fixed to larger holders
- Handle for opening and closing the vice is detachable, allowing for easy access to other samples on stage.

Vice maximum opening width: 17mm

Grip depth: Approx. 8mm

Weight: Approx. 100g

Micro Vice

STJ-0116

Manual

AP

QP

SS



- Holder for various FT-IR microscopy samples. Direct measurement is possible while the samples are held.
- Can hold an irregularly shaped sample, compensate for angle, and pull a sample
- Contact us for various adapters for FT-IR microscopy measurement

Case for handles

TC-02

Manual

AP

QP

SS



- Useful case to hold micro tools
- Can hold up to 8 handles
- Prevents contamination of handles

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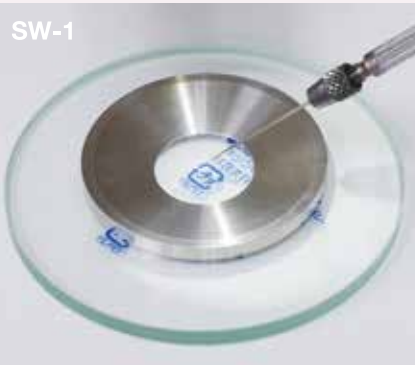
Sampling Tools

Sampling tools

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Specimen Weight sw-1

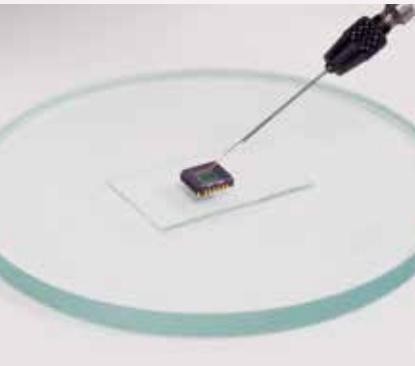
Manual AP QP SS



- Convenient for sampling from sheet-like samples such as nonwoven fabric or soft films
- Suitable for samples difficult to affix to surface by other means
- Applicable to a wide range of uses from sampling a minute foreign substance with the manipulator to manual work under a stereomicroscope
- Two pieces are included in each set. For example, use one for fixing a film sample to cut. Use the other to pull a wrinkled sample such as nonwoven fabric.

Grip Sheet Standard HG50-58 Hard HG70-58

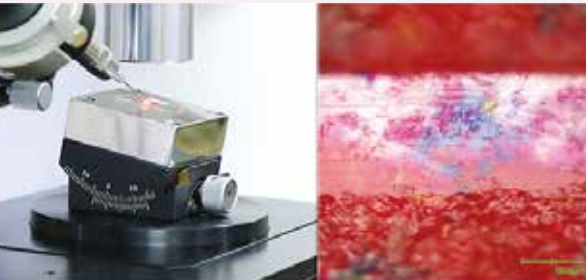
Manual AP QP SS



- Thin adhesive film useful for fixing a sample on a microscope stage
- Especially useful to fix a sample such as glass, wafer, substrate, film, and metallic mirror-finished surface.
- Samples are not contaminated by grip sheet (no adhesive used)
- Grip sheet is transparent for unobstructed illumination from below sample
- With moderate elasticity absorbing impact, operator can softly contact a target while preventing damage to hard tools.
- Very useful for cleaning tools

Tilted Unit TIL-1

AP QP SS



- Sample holder for mounting thin samples on edge
- Useful for thickness measurements or analysis of each layer in a multilaminar
- Samples can be mounted $\pm 20^\circ$ in 0.2° steps
- Can cut samples at an angle by using Milling Pro tool.
- Designed so that sample drift is minimized.
- Rotation may be enabled by mounting on a circular plate of the Axis Pro.

MEMO Also effective for observation of within some structure or a minute hole with a microscope.

Sampling Tools

Sampling tools

Sampling Accessories

Trinocular Stereomicroscope MS-ZMS1

Manual AP QP SS



- Compact and high performance
- Suitable for sample handling with Quick Pro, stand-alone micromanipulator.
- Observable magnification is 7x-45x. Magnification can be expanded to 14x-90x if used with an auxiliary objective lens
- Camera may be installed through C-mount at top of microscope.

Accessories

XY mechanical stage

It is very useful to position a sample on the stage and move a sample in case of cutting operation. XY Operation is very easy, because of single shaft operation. Stroke : X70mm/Y60mm

Digital camera (USB 2.0)

Recommended CCD digital camera with USB 2.0 connection to PC. Includes viewing software which allows for viewing and saving of images

Attachment objective lens (2x)

Allows for magnification of up to 90X on stereomicroscope Working distance : 30mm Easily attached and removed.

LED ring illumination equipment

White ring illuminator allows for flat illumination of objects.

Applications



- Sample manipulation may be observed through the monitor.
- Viewer software with digital camera can be used to view and save images on PC
- Highly effect for supporting manual operations in combination with manipulators.

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