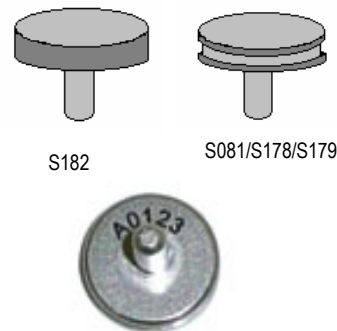## SEM Specimen Stubs

Short Pin Type

Aluminium

½" Ø (12.7mm) with 3.2mm Ø x *8mm long* pin, *with groove* for **Cambridge/LEO**, **Philips**, **Etec** etc instruments.

S081	½" Pin type stub (with groove)	pack of 100
S081/N	As above with alpha/numeric numbering	min pack of 100
S081/1	½" Pin type stub (with groove)	pack of 1000
S081/HP	½" Pin type stub (with groove) high purity Al for analysis apps	pack of 100
S182	½" Pin type stub (without groove)	pack of 100
S433	½" Pin type stub (with groove) Pin 3.2mm Ø x *6mm long* for LEO	pack of 100
S434	½" Pin type stub (no groove) Pin 3.2mm Ø x *6mm long* for LEO	pack of 100

Brass
S178 ½" Pin type stub (with groove) pack of 10

Copper
S179 ½" Pin type stub (with groove) pack of 10

1" Ø (25.4mm)
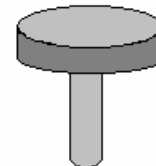Aluminium Short Pin type stub with 3.2mm Ø pin for **Cambridge/LEO** and **Philips** instruments.
S087 1" Pin type stub pack of 50

32mm Ø
Aluminium Short Pin type stub with 3.2mm Ø pin for **Camscan**
S181 32mm Ø pin type stub pack of 50
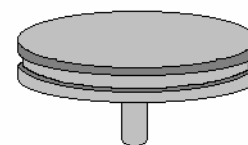
Long Pin Type

Aluminium ½" Ø (12.7mm) with 3.2mm Ø pin for **Amray**
**S180** ½" Amray pin stub pack of 50

Re-entry Type

32mm (1¼") Ø re-entry (dish) type stub for **Cambridge/LEO**
S091 32mm (1¼") Ø Aluminium re-entry type stub pack of 50

Cylinder Type

Plain cylindrical aluminium stubs for **JEOL** instruments

S183	10mm Ø x 3.5mm high	pck of 50	**S084**	15mm Ø x 5mm high	pck of 50
S082	10mm Ø x 5mm high	pck of 50	**S085**	15mm Ø x 10mm high	pck of 50
S083	10mm Ø x 10mm high	pck of 50	**S086**	15mm Ø x 15mm high	pck of 50
S184	10mm Ø x 12.5mm high	pck of 50	**S089**	32mm Ø x 5mm high	pck of 50
S185	12.7mm Ø x 5mm high	pck of 50	**S090**	32mm Ø x 10mm high	pck of 50
S186	12.7mm Ø x 10mm high	pck of 50	**S188**	32mm Ø x 20mm high	pck of 50
S187	12.7mm Ø x 15mm high	pck of 50	**S189**	50mm Ø x 10mm high	pck of 50
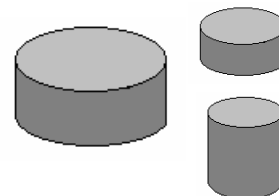
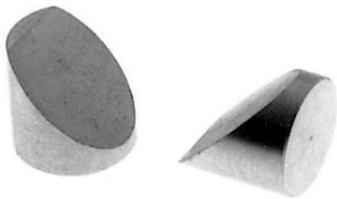### Re-entry Type Stub Adapter

A simple, effective adapter to convert 12.7mm (½") pin stubs to allow 32mm (1.5") Ø re-entry dish type stubs to be used on ⅛" stage. The ball catch gives a trouble free, quick solution to a difficult problem.
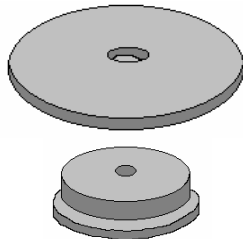**S261** SEM stub adapter - re-entry stub

S182

S081/S178/S179

S081/N
Please state sequence when ordering

S433

S087

S180

S091

S261

Chamfered Type

Aluminium stubs with a chamfered angle of 45° suitable for **JEOL** or **ISI instruments** where fitting stages are not available.

S127	Angled stub 10mm Ø	pack of 10
S190	Angled stub 12.7mm Ø	pack of 10
S126	Angled stub 15mm Ø	pack of 10

Threaded Type

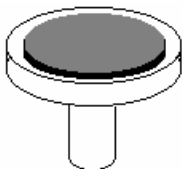Aluminium stubs threaded with M4 female thread in base for **Hitachi** instruments.

S128	Threaded stub 15mm Ø x 6mm high	pack of 50
S191	Threaded stub 25mm Ø x 6mm high	pack of 50
S192	Threaded stub 32mm Ø x 2mm high	pack of 50
S193	Threaded stub 32mm Ø x 10mm high	pack of 50
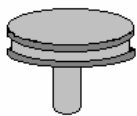
Types S100/101
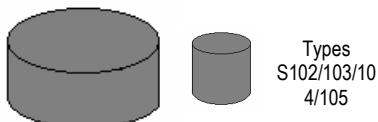
Types S102/103/104/105
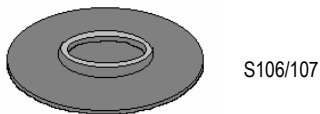
S106/107

Carbon Stubs

Where the background radiation from the specimen stub is troublesome, a specimen stub manufactured from spectroscopic carbon may be used. Stubs for **Cambridge/LEO, JEOL** and **ISI** microscopes are available. They can have a *standard* finish or an *ultra smooth* finish for small particles or fibres.

S100	Carbon stub for Cambridge/LEO standard finish	each
S101	Carbon stub for Cambridge/LEO *ultra smooth* finish	each
S102	Carbon stub for JEOL (10mm Ø x 10mm H) standard	each
S103	Carbon stub for JEOL (10mm Ø x 10mm H) *ultra smooth*	each
S104	Carbon stub for ISI (15mm Ø x 10mm H) standard	each
S105	Carbon stub for ISI (15mm Ø x 10mm H) *ultra smooth*	each
S106	Carbon stub for Cambridge microanalysis stage std	each
S107	Carbon stub for Cambridge m/analysis stage *u/smooth*	each

Carbon Disc on Stub

This is an economical solution to the need for a light element surface for mounting specimens that are to be used for microanalysis. The carbon disc is 3mm thick and is glued to a standard ½" (12.7mm) stub.
Supplied in batches of 8 stubs in a stub storage box.

S111 Box of 8 carbon covered ½" (12.7mm) stubs

S402
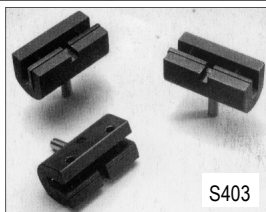
S403

Slotted Specimen Stubs

S402   A 12.5mm slotted aluminium pin stub with two Allen screws allowing the specimen to be securely clamped for examination. Allen key supplied.

S403   A gripping pin stub with slot and single screw to allow specimens to be mounted edge-on for examination (designed at the University of Leicester).

Stub Adapters

These adapters allow JEOL, ISI/ABT and Hitachi users to accommodate the standard pin stubs of the European and American manufacturers. The conversion cylinder contains a clip to hold the pin stub.

S367	Converter for JEOL, 10mm Ø cylinder
S367/1	Converter for JEOL, 12.5mm Ø cylinder
S367/2	Converter for ISI/ABT, 15mm Ø cylinder
S367/3	Converter for Hitachi, 15mm Ø cylinder with M4 internal thread

Specialised SEM Specimen Stubs

Stub for TEM Grids

In some applications (e.g. some SEM/EDX) results are improved if particulate samples are mounted on thin films deposited onto TEM grids. This pin-type aluminium stub allows four grids to be held securely for SEM work. There is a hole under each grid to reduce the backscatter component in electron collection and prevent extraneous X-ray collection.

S400   SEM stub aluminium (pin-type) for TEM grids
S401   SEM stub copper (pin-type) for TEM grids for cryo applications

Pin Stubs with Engraved Divisions

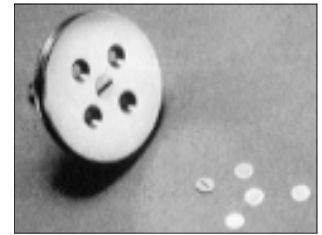Aluminium SEM **pin** mounts with *engraved and numbered* divisions for multiple smaller samples to fit FEI/Philips, ZEISS/LEO, Cambridge, Leica, Amray, Tescan and Camscan SEMs. Pin is 3.2mm (1/8") and 9mm (3/8") long. Quality machined smooth surface.

S536	12.7mm Ø pin mount with 4 divisions	each
S536/1	12.7mm Ø pin mount with 4 divisions	pack of 10
S537	19mm Ø pin mount with 4 divisions	each
S537/1	19mm Ø pin mount with 4 divisions	pack of 10
S538	25.4mm Ø pin mount with 12 divisions	each
S538/1	25.4mm Ø pin mount with 12 divisions	pack of 10
S539	32mm Ø pin mount with 12 divisions	each
S539/1	32mm Ø pin mount with 12 divisions	pack of 10

Pin Stubs

12.7mm Ø   19mm Ø
S536   S537

25.4mm Ø   32mm Ø
S538   S539
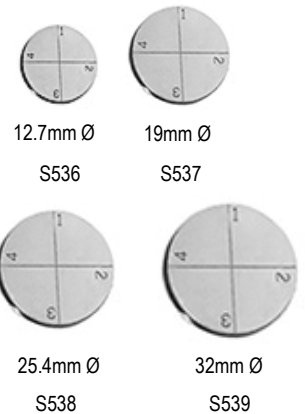
Special Size Aluminium Pin Stubs

S540	SEM pin stub 6.4mm Ø diameter, standard pin	pack of 50
S540/1	SEM pin stub 6.4mm Ø diameter, standard pin	pack of 100
S541	SEM pin stub 12.7mm Ø with *Flat on side*	pack of 10
S541/1	SEM pin stub 12.7mm Ø with *Flat on side*	pack of 50
S541/2	SEM pin stub 12.7mm Ø with *Flat on side*	pack of 100
S542	SEM pin stub 38mm Ø with standard pin	each
S542/1	SEM pin stub 38mm Ø with standard pin	pack of 10
S543	SEM pin stub 50mm Ø with standard pin	each
S543/1	SEM pin stub 50mm Ø with standard pin	pack of 10
S544	SEM pin stub 63mm Ø with standard pin	each
S544/1	SEM pin stub 63mm Ø with standard pin	pack of 10
S545	SEM pin stub 100mm Ø with standard pin	each
S545/1	SEM pin stub 100mm Ø with standard pin	pack of 10

S540
6.4mm Ø

With Flat   S541

38mm Ø   63mm Ø
S542   S544 & S545   100mm Ø

Angled Pin Stubs

S546	Pin stub **swivel mount**,15mm Ø, 15mm pin	each
S547	45° angled *high* profile Al SEM pin stub 12.7mm Ø standard pin	pack of 5
S548	45/90° angled *high* profile SEM pin stub 12.7mm Ø standard pin	each
S548/1	45/90° angled *high* profile SEM pin stub 12.7mm Ø standard pin	pack of 5
S548/2	45/90° angled *high* profile SEM pin stub 12.7mm Ø standard pin	pack of 10
S549	45° angled *standard* profile SEM pin stub 12.7mm Ø std pin	each
S549/1	45° angled *standard* profile SEM pin stub 12.7mm Ø std pin	pack of 5
S549/2	45° angled *standard* profile SEM pin stub 12.7mm Ø std pin	pack of 10
S550	45° angled standard profile SEM pin stub 25.4mm mm Ø std pin	each
S550/1	45° angled standard profile SEM pin stub 25.4mm Ø std pin	pack of 5
S550/2	45° angled standard profile SEM pin stub 25.4mm Ø std pin	pack of 10
S551	45/90° angled standard profile SEM pin stub 25.4mm Ø std pin	each
S551/1	45/90° angled standard profile SEM pin stub 25.4mm Ø std pin	pack of 5
S551/2	45/90° angled standard profile SEM pin stub 25.4mm Ø std pin	pack of 10
S660	TV12 mini variable 0-90° angle tilt sample holder 11x12mm, std pin	each
S661	TV25 variable 0-90° angle tilt holder for stubs up 38mm Ø, std pin	each

S546   S547

S548   S549   S551

S660   S661

S552

S553

S554

S555

Angled Pin Stubs cont..

S552	Double 45/90°angled SEM pin stub 25.4mm Ø standard Al pin	each
S552/1	Double 45/90°angled SEM pin stub 25.4mm Ø standard Al pin	pack of 5
S553	Double 90° SEM pin stub 25.4mm Ø standard pin Al pin	each
S553/1	Double 90° SEM pin stub 25.4mm Ø standard pin Al pin	pack of 5
S554	45/90° SEM pin stub 32mm Ø standard pin Al	each
S554/1	45/90° SEM pin stub 32mm Ø standard pin Al	pack of 5
S555	Double 90° SEM pin stub 32mm Ø standard pin Al pin	each
S555/1	Double 90° SEM pin stub 32mm Ø standard pin Al pin	pack of 5

SEM Pin Stubs with Extra Height

S556

S557

S559

S556	Pin stub extender 12.7mm Ø x 22.7mm (10mm extra height)	each
S557	Pin stub 12.7mm Ø 4mm extra height std pin Al	pack of 5
S557/1	Pin stub 12.7mm Ø 4mm extra height std pin Al	pack of 10
S557/2	Pin stub 12.7mm Ø 4mm extra height std pin Al	pack of 50
S558	Pin stub 12.7mm Ø 6mm extra height std pin Al	pack of 5
S558/1	Pin stub 12.7mm Ø 6mm extra height std pin Al	pack of 10
S558/2	Pin stub 12.7mm Ø 6mm extra height std pin Al	pack of 50
S559	Pin stub 25.4mm Ø 4mm extra height std pin Al	pack of 5
S559/1	Pin stub 25.4mm Ø 4mm extra height std pin Al	pack of 10
S559/2	Pin stub 25.4mm Ø 4mm extra height std pin Al	pack of 50

SEM Pin Stubs Low Profile

S560

S561

S562

S563

S560	Low profile SEM pin stub 12.7mm Ø with 1mm height, Al	pack of 5
S560/1	Low profile SEM pin stub 12.7mm Ø with 1mm height, Al	pack of 10
S560/2	Low profile SEM pin stub 12.7mm Ø with 1mm height, Al	pack of 50
S561	Low profile pin stub 12.7mm Ø with 35° for Tescan, FIB x SEM	pack of 5
S561/1	Low profile pin stub 12.7mm Ø with 35° for Tescan, FIB x SEM	pack of 10
S561/2	Low profile pin stub 12.7mm Ø with 35° for Tescan, FIB x SEM	pack of 50
S562	Low profile pin stub 12.7mm Ø with 90° Al	pack of 5
S562/1	Low profile pin stub 12.7mm Ø with 90° Al	pack of 10
S562/2	Low profile pin stub 12.7mm Ø with 90° Al	pack of 50

Dish top Pin Stub

S563	SEM Dish pin stub, 12.7mm Ø x 7mm with 1.5mm dish depth Al	each
S563/1	SEM Dish pin stub, 12.7mm Ø x 7mm with 1.5mm dish depth Al	pack of 5
S563/2	SEM Dish pin stub, 12.7mm Ø x 7mm with 1.5mm dish depth Al	pack of 10

Specialised JEOL SEM Stubs

S564

S565

S566

S567

S568

S569

S646

S564	JEOL 9.5mm Ø x 9.5mm angled SEM stub with 45º and 90º Al	pack of 10
S564/1	JEOL 9.5mm Ø x 9.5mm angled SEM stub with 45º and 90º Al	pack of 50
S565	JEOL 12.2mm Ø x 10mm angled SEM stub with 45º and 90º Al	pack of 10
S565/1	JEOL 12.2mm Ø x 10mm angled SEM stub with 45º and 90º Al	pack of 50
S566	JEOL 25mm Ø x 16mm angled SEM sample stub with 45º Al	pack of 5
S566/1	JEOL 25mm Ø x 16mm angled SEM sample stub with 45º Al	pack of 10
S567	JEOL 25mm Ø x 16mm SEM sample stub with 45º & 90º angles Al	each
S567/1	JEOL 25mm Ø x 16mm SEM sample stub with 45º & 90º angles Al	pack of 5
S568	JEOL 25mm Ø x 16mm SEM sample stub with double 90º Al	each
S568/1	JEOL 25mm Ø x 16mm SEM sample stub with double 90º Al	pack of 5
S569	JEOL Dish stub, 12.2mm Ø x 10mm with 1.5mm dish depth Al	pack of 10
S569/1	JEOL Dish stub, 12.2mm Ø x 10mm with 1.5mm dish depth Al	pack of 50
S646	Swivel mount sample holder with 1 clip on 15mm Ø plate on 12.2mm Ø JEOL stub	each

Specialised Hitachi SEM Stubs

S570	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45º Al	each
S570/1	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45º Al	pack of 10
S571	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45º Al	each
S571/1	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45º Al	pack of 10
S572	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45º & 90º Al	each
S572/1	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45º & 90º Al	pack of 10
S573	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45º & 90º Al	each
S573/1	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45º & 90º Al	pack of 10
S574	Hitachi 25mm Ø x 16mm M4 angled SEM stub, double 90º Al	each
S574/1	Hitachi 25mm Ø x 16mm M4 angled SEM stub, double 90º Al	pack of 10
S575	Hitachi 32mm Ø x 12mm M4 angled SEM sample stub 45º & 90º Al	each
S575/1	Hitachi 32mm Ø x 12mm M4 angled SEM sample stub 45º & 90º Al	pack of 10
S576	Hitachi 15mm Ø x 10mm M4 dish SEM sample stub, Al	pack of 5
S576/1	Hitachi 15mm Ø x 10mm M4 dish SEM sample stub, Al	pack of 10
S576/2	Hitachi 15mm Ø x 10mm M4 dish SEM sample stub, Al	pack of 50
S689	Hitachi stub swivel mount M4 15mm Ø x 30mm ± 90° Al/brass	each

Pin Stubs with SEM Sample Clips

The S-Clip sample holders comprise one or more spring loaded sample clips either on an SEM sample stub or holder. The spring loaded S-clips are specifically designed to hold thin specimens up to 2mm. Optional elevating (blocks) pillars are available to accommodate thicker samples. Washers can also be used to increase the clamping height.

The S-clips are made from conductive spring grade copper alloy mounted with a small M2 screw which allows the clip to rotate. Samples are clamped securely without the need for adhesives or conductive pastes. Sample changing is quick, easy and clean; contamination issues due to adhesives or glues are eliminated. They are ideal to hold Si chips and other thin samples. The S-Clip sample holders are available to hold samples horizontal (flat), at 45° or at 90°. The 45° and 90° are useful for holding cross sections of thin samples and wafer pieces. S-Clip sample holders are a cost effective alternative for the 1"-3" wafer holders. They can hold the smaller 1" (25.4mm), 2" (51mm) and 3"(76mm) wafers if it is allowed to hold the wafer down with clips:
38m stub diameter is suitable for 1" (25.4mm) wafers: 63m stub diameter is suitable for 2" (51mm) wafers and 100mm stub diameter is suitable for 3" (76mm) wafers.
The S-Clips are also separately available to enable customers to make their own custom made sample clip holders. Dimensions are 12.8mm long, tip is 1.6mm wide, height is 1.5mm with a 2.2mm Ø hole for mounting with an M2 screw. Made from 0.25mm thin spring grade copper alloy. Included with the S-clips are the M2 (x3) mounting screws.

S587	19mm Ø standard pin stub with 1 x S-Clip for FEI/Philips, LEO etc	
S588	19mm Ø short (6mm) pin stub with 1 x S-Clip for Zeiss	
S577/1	25mm Ø x 9mm pin stub with 1 clip for FEI/Philips, ZEISS/LEO, Cambridge,	each
S577/2	25mm Ø x 9mm pin stub with 2 clips for FEI/Philips, ZEISS/LEO, Cambridge,	each
S577/3	25mm Ø x 9mm pin stub with 3 clips for FEI/Philips, ZEISS/LEO, Cambridge,	each

Shorter version
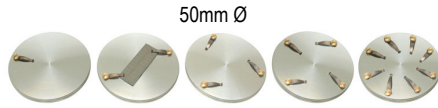
S578/1	25mm Ø x 6mm pin stub with 1 clip for ZEISS/LEO, SEM, FIBs	each
S578/2	25mm Ø x 6mm pin stub with 2 clips for ZEISS/LEO, SEM, FIBs	each
S578/3	25mm Ø x 6mm pin stub with 3 clips for ZEISS/LEO, SEM, FIBs	each

S579/1	32mm Ø x 9mm pin stub with 1 clip for FEI/Philips, ZEISS/LEO, Cambridge,	each
S579/2	32mm Ø x 9mm pin stub with 2 clips for FEI/Philips, ZEISS/LEO, Cambridge,	each
S579/3	32mm Ø x 9mm pin stub with 3 clips for FEI/Philips, ZEISS/LEO, Cambridge,	each

S580/1	38mm Ø x 9mm pin stub with 1 clip for FEI/Philips, ZEISS/LEO, Cambridge,	each
S580/2	38mm Ø x 9mm pin stub with 2 clips for FEI/Philips, ZEISS/LEO, Cambridge,	each
S580/3	38mm Ø x 9mm pin stub with 3 clip for FEI/Philips, ZEISS/LEO, Cambridge,	each

50mm Ø

63mm Ø can hold a 2" (51mm) wafer

S582

100mm Ø

S589   S590

S592   S591

S595

S594   S593

S597

S598   S598/2   S598/3

32mm Ø

S599   S599/2   S599/3

S630

S630/2   S630/3

50mm Ø

S630/4

63mm Ø

100mm Ø

Pin Stubs with Sample Clips cont...

S581/1 50mm Ø x std pin stub with 1 clip for FEI/Philips, ZEISS/LEO, Cambridge   each
S581/2 50mm Ø x std pin stub with 2 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S581/3 50mm Ø x std pin stub with 3 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S581/4 50mm Ø x std pin stub with 4 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S581/8 50mm Ø x std pin stub with 8 clips for FEI/Philips, ZEISS/LEO, Cambridge   each

S582/1 63mm Ø x std pin stub with 1 clip for FEI/Philips, ZEISS/LEO, Cambridge   each
S582/2 63mm Ø x std pin stub with 2 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S582/3 63mm Ø x std pin stub with 3 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S582/4 63mm Ø x std pin stub with 4 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S582/8 63mm Ø x std pin stub with 8 clips for FEI/Philips, ZEISS/LEO, Cambridge   each

S583/1 100mm Ø x std pin stub with 1 clip for FEI/Philips, ZEISS/LEO, Cambridge   each
S583/2 100mm Ø x std pin stub with 2 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S583/3 100mm Ø x std pin stub with 3 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S583/4 100mm Ø x std pin stub with 4 clips for FEI/Philips, ZEISS/LEO, Cambridge   each
S583/8 100mm Ø x std pin stub with 8 clips for FEI/Philips, ZEISS/LEO, Cambridge   each

S-Clips 45° & 90° on 25.4mm Ø & 12.7mm Ø Pin Stubs

S589 S-Clip sample holder with I clip 45° on 25.4mm Ø pin stub   each
S590 S-Clip sample holder swivel mount with 1 S-Clip on 25.4mm Ø pin stub   each
S591 S-Clip sample holder with 2x S-Clips 45°/90° on 25.4 m Ø pin stub   each
S592 S-Clip sample holder with 2x S-Clips double 90° on 25.4mm Ø pin stub   each
S593 S-Clip sample holder with 1x S-Clip at 90° on 12.7mm Ø pin stub   each
S594 S-Clip sample holder with 4x S-Clips at 90° on 12.7mm Ø pin stub   each
S595 S-Clip sample holder with 4x S-Clips at 45° & 90° on pin stub   each
S596 S-Clip sample holder with 10x S-Clips at 90° on 10 x 50mm pin stub   each

S-Clips on M4 Hitachi Stubs

S597   S-Clip sample holder with 1x S-Clip on 15mm Ø x 10mm stub, M4   each
S598   S-Clip sample holder with 1x S-Clip on 25mm Ø x 10mm stub, M4   each
S598/2 S-Clip sample holder with 2x S-Clip on 25mm Ø x 10mm stub, M4   each
S598/3 S-Clip sample holder with 3x S-Clip on 25mm Ø x 10mm stub, M4   each

S599   S-Clip sample holder with 1x S-Clip on 32mm Ø x 10mm stub, M4   each
S599/2 S-Clip sample holder with 2x S-Clip on 32mm Ø x 10mm stub, M4   each
S599/3 S-Clip sample holder with 3x S-Clip on 32mm Ø x 10mm stub, M4   each

S630   S-Clip sample holder with 1x S-Clip on 50mm Ø x 6mm stub, M4   each
S630/2 S-Clip sample holder with 2x S-Clip on 50mm Ø x 6mm stub, M4   each
S630/3 S-Clip sample holder with 3x S-Clip on 50mm Ø x 6mm stub, M4   each
S630/4 S-Clip sample holder with 4x S-Clip on 50mm Ø x 6mm stub, M4   each

S631   S-Clip sample holder with 1x S-Clip on 63mm Ø x 6mm stub, M4   each
S631/2 S-Clip sample holder with 2x S-Clip on 63mm Ø x 6mm stub, M4   each
S631/3 S-Clip sample holder with 3x S-Clip on 63mm Ø x 6mm stub, M4   each
S631/4 S-Clip sample holder with 4x S-Clip on 63mm Ø x 6mm stub, M4   each
S631/8 S-Clip sample holder with 8x S-Clip on 63mm Ø x 6mm stub, M4   each

S632   S-Clip sample holder with 1x S-Clip on 100mm Ø x 6mm stub, M4   each
S632/2 S-Clip sample holder with 2x S-Clip on 100mm Ø x 6mm stub, M4   each
S632/3 S-Clip sample holder with 3x S-Clip on 100mm Ø x 6mm stub, M4   each
S632/4 S-Clip sample holder with 4x S-Clip on 100mm Ø x 6mm stub, M4   each
S632/8 S-Clip sample holder with 8x S-Clip on 100mm Ø x 6mm stub, M4   each

S-Clips on M4 Hitachi Stubs 45° & 90°

S633 S-Clip sample holder 45° with 1x S-Clip on 25mm Ø stub M4   each
S634 S-Clip sample holder 45°/90° with 2x S-Clip on 25mm Ø stub M4   each
S634/A S-Clip sample holder double 90° with 2x S-Clip on 25mm stub M4   each
S635 S-Clip sample holder 90° with 4x S-Clip on 12.7x12.7mm Ø stub M4   each
S636 S-Clip sample holder with 4x S-Clips at 45° & 4xS-Clips at 90°, M4   each
S637 S-Clip sample holder with 10x S-Clips at 90°, 10x50mm,stub M4   each

Spare S-Clip Screws & Elevating Blocks

S638 5 Copper alloy S-Clips with 5 each brass M2 x 3mm screws   set
S639 6 each S-Clip elevating pillars, 4mm height, M2 x3mm male/female   set

S-Clips on Flat JEOL Specimen Stubs

S640   S-Clip sample holder with 1x S-Clip on 25mm Ø x 10mm JEOL SEM stub   each
S640/2 S-Clip sample holder with 2x S-Clip on 25mm Ø x 10mm JEOL SEM stub   each
S640/3 S-Clip sample holder with 3x S-Clip on 25mm Ø x 10mm JEOL SEM stub   each

S641 S-Clip sample holder with 1x S-Clip on 32mm Ø x 10mm JEOL SEM stub   each
S641/2 S-Clip sample holder with 2x S-Clip on 32mm Ø x 10mm JEOL SEM stub   each
S641/3 S-Clip sample holder with 3x S-Clip on 32mm Ø x 10mm JEOL SEM stub   each

S642 S-Clip sample holder with 1x S-Clip on 50mm Ø x 10mm JEOL SEM stub   each
S642/2 S-Clip sample holder with 2x S-Clip on 50mm Ø x 10mm JEOL SEM stub   each
S642/3 S-Clip sample holder with 3x S-Clip on 50mm Ø x 10mm JEOL SEM stub   each
S642/4 S-Clip sample holder with 4x S-Clip on 50mm Ø x 10mm JEOL SEM stub   each
S646   Swivel mount sample holder with 1 clip on 15mm Ø plate on 12.2mm Ø
           JEOL stub   each

S-Clips on 45° & 90° JEOL Stubs

S643 S-Clip sample holder with 1x S-Clip on 45° x 25mm Ø JEOL stub   each
S644 S-Clip sample holder with 2x S-Clips at 45° & 90° on 25mm Ø JEOL stub   each
S645 S-Clip sample holder with 2x S-Clips double 90° on 25mm Ø JEOL stub   each

Stub Gripper Tweezers

The EM-Tec SEM stub tweezers securely grip SEM stubs and mounts to avoid touching them by hand to eliminate contamination issues. They are made from *anti-magnetic stainless steel* and are clean room compatible. They are excellent quality at an affordable price **and are available for:**

All **grooved pin stubs** *with 12.7, 19, 25.4 and 32mm head diameters (45° handle angle)*
T600 anti-magnetic S/S tweezers for grooved pin stubs 12.7mm Ø 120mm long   each
T601 anti-magnetic S/S tweezers for grooved pin stubs 19mm Ø   120mm long   each
T602 anti-magnetic S/S tweezers for grooved pin stubs 25.4mm Ø 120mm long   each
T603 anti-magnetic S/S tweezers for grooved pin stubs 32mm Ø   115mm long   each
JEOL cylinder stubs *with 9.5, 12.2, 25.4 and 32mm head diameters (30° handle angle)*
T604 anti-mag S/S grippers for 9.5mm Ø JEOL cylinder stubs   114mm long   each
T605 anti-mag S/S grippers for 12.2mm Ø JEOL cylinder stubs   120mm long   each
T606 anti-mag S/S grippers for 15mm Ø JEOL cylinder stubs   120mm long   each
T607 anti-mag S/S grippers for 25mm Ø JEOL cylinder stubs   115mm long   each
T608 anti-mag S/S grippers for 32mm Ø JEOL cylinder stubs   115mm long   each
Hitachi cylinder stubs *with 15, 25 and 32mm head diameters (30° handle angle)*
T609 anti-mag S/S grippers for 15mm Ø Hitachi & ISI cylinder stubs 120mm long   each
T610 anti-mag S/S grippers for 25mm Ø Hitachi & ISI cylinder stubs 120mm long   each
T611 anti-mag S/S grippers for 32mm Ø Hitachi & ISI cylinder stubs 120mm long   each

SEM Sample Stub Adapters

Em-Tec SEM stub adapters enable the use of all common types of SEM stubs or mounts in your SEM. The advantages are:

- sample mounting independent of SEM platform
- time saved with no need to re-mount samples
- use of calibration and resolution standards mounted on different stubs
- no need to risk sample integrity
- enables collaborative investigation of samples
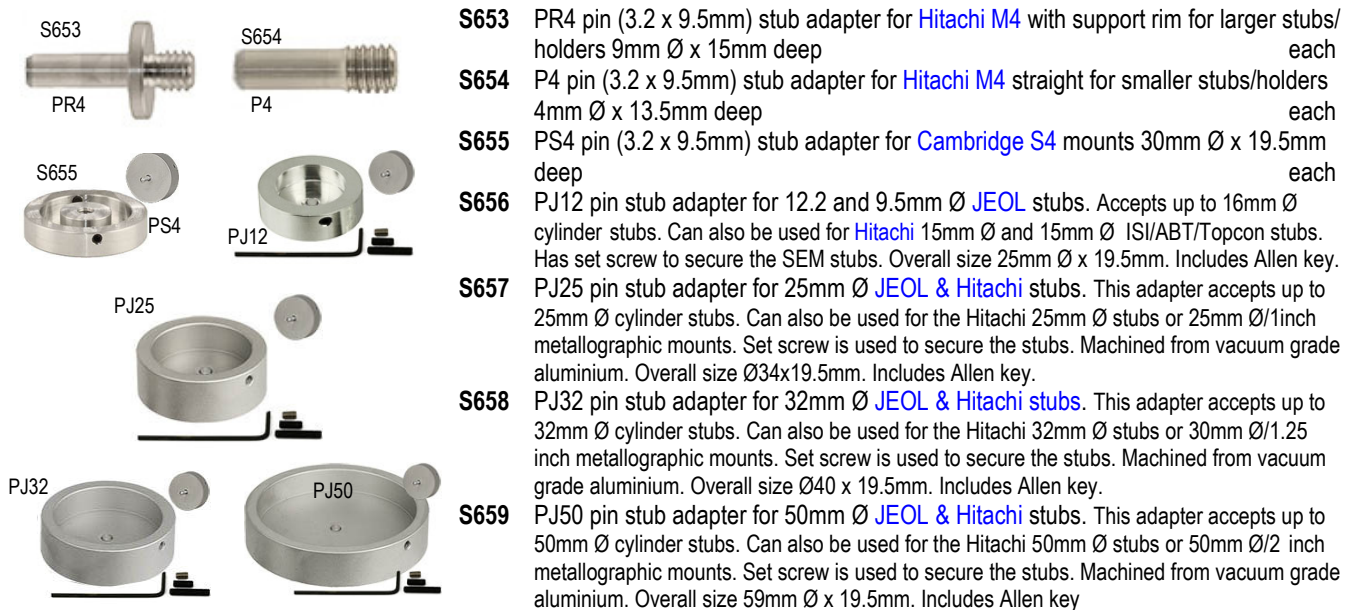
There are basically 5 common types of SEM sample stubs:

- Standard pin stubs with standard 9.5mm long pin used on FEI, Philips, Tescan, Phenom, Aspex, RJ Lee, Cambridge Instruments, Leica, Cam-Scan, ETEC and Novascan SEMs and SEM/FIB systems
- Zeiss pin stubs with short 6mm pin for Zeiss and LEO SEMs, CrossBeams and SEM/FIB systems
- Plain cylinder stubs for JEOL SEMs and SEM/FIB systems
- Hitachi cylinder stubs with M4 threaded base for Hitachi SEMs and FIBs
- Plain cylinder stubs for ISI, ABT, Topcon SEMs

For each of the above type mentioned SEM stubs there are EM-Tec SEM stub adapters available. The stub adapters are essentially made with the base of one type of an SEM stub and a top compatible with another type of SEM sample stub. All adaptors are all constructed from vacuum grade aluminium and made to original manufacturers specifications. The Hitachi stub extensions are made from self-lubricating brass with aluminium locking ring. Stub adapters are available as:

- Pin stub adapters for using other SEM stubs in pin type SEMs such as FEI, Philips, Tescan, Phenom, Aspex, Cambridge Instruments, Leica, etc. These can be used in Amray systems as well.
- Short pin stub adapters for using other SEM stubs in Zeiss and LEO SEMs
- JEOL stub adapters for using other pin stubs and Hitachi stubs in JEOL SEMs
- Hitachi M4 stub adapters for using pin stubs and JEOL stubs in Hitachi SEMs
- Other SEM stub adapters for less common SEMs such as ISI/ABT/Topcon and Agilent/Keysight
- Metal slide adapter to accommodate pin stubs on reflected light microscopes

For labs with multiple SEM platforms or for those who are regularly using different brands of SEMs, we offer the EM-Tec universal SEM stub adapter set.. This universal SEM stub adapter set includes pin stub adapters, JEOL stub adapters (up to 25mm) and Hitachi stub adapters, all both ways. If you can't find the SEM stub or mount adapter you are looking for, please contact us. We might be able to offer a different solution or can manufacture custom SEM stub adapters.

Pin stub adapters for using different SEM stubs in pin type SEMs such as FEI, Philips, Tescan, Phenom, Aspex, Cambridge Instruments, Leica, etc.

S653 PR4 pin (3.2 x 9.5mm) stub adapter for Hitachi M4 with support rim for larger stubs/holders 9mm Ø x 15mm deep   each

S654 P4 pin (3.2 x 9.5mm) stub adapter for Hitachi M4 straight for smaller stubs/holders 4mm Ø x 13.5mm deep   each

S655 PS4 pin (3.2 x 9.5mm) stub adapter for Cambridge S4 mounts 30mm Ø x 19.5mm deep   each

S656 PJ12 pin stub adapter for 12.2 and 9.5mm Ø JEOL stubs. Accepts up to 16mm Ø cylinder stubs. Can also be used for Hitachi 15mm Ø and 15mm Ø ISI/ABT/Topcon stubs. Has set screw to secure the SEM stubs. Overall size 25mm Ø x 19.5mm. Includes Allen key.

S657 PJ25 pin stub adapter for 25mm Ø JEOL & Hitachi stubs. This adapter accepts up to 25mm Ø cylinder stubs. Can also be used for the Hitachi 25mm Ø stubs or 25mm Ø/1inch metallographic mounts. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size Ø34x19.5mm. Includes Allen key.

S658 PJ32 pin stub adapter for 32mm Ø JEOL & Hitachi stubs. This adapter accepts up to 32mm Ø cylinder stubs. Can also be used for the Hitachi 32mm Ø stubs or 30mm Ø/1.25 inch metallographic mounts. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size Ø40 x 19.5mm. Includes Allen key.

S659 PJ50 pin stub adapter for 50mm Ø JEOL & Hitachi stubs. This adapter accepts up to 50mm Ø cylinder stubs. Can also be used for the Hitachi 50mm Ø stubs or 50mm Ø/2 inch metallographic mounts. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size 59mm Ø x 19.5mm. Includes Allen key


Zeiss short pin stub adapters for using different SEM stubs in Zeiss and LEO SEMs.
Pin stub adapters with the longer pin can be easily modified for use on Zeiss & LEO SEMs.

S647   ZR4 Zeiss pin stub adapter for Hitachi M4 with support rim. Suitable for larger SEM stubs and larger SEM holders with M4 thread. Used on Zeiss and LEO SEMs. Pin is standard 3.2mm Ø and 6mm long. The support rim has a 9mm Ø to give extra stability for larger SEM stubs and holders. Machined from vacuum grade aluminium. Overall size is 9mm Ø x11.5mm.

S648   Z4 Zeiss pin stub adapter to Hitachi M4 for smaller SEM stubs and SEM holders with M4 thread. Used on Zeiss and LEO SEMS. Pin is standard 3.2mm diameter and 6mm long. Small design where the head of the adapter fits in the M4 thread. Machined from vacuum grade aluminium. Overall size is 4mm Ø x10mm.
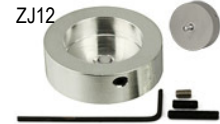
S649   ZJ12 Zeiss pin stub adapter for 12.2mm and 9.5mm Ø JEOL stubs. This stub adapter accepts up to 16mm Ø cylinder stubs. Can also be used for the Hitachi and ISI/ABT/Topcon 15mm Ø stubs. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size Ø25x16mm. Includes Allen key.

S650   ZJ25 Zeiss pin stub adapter for 25mm Ø JEOL stubs. This stub adapter accepts up to 25mm Ø cylinder stubs. Can also be used for the Hitachi 25mm/1" Ø stubs or 25mm Ø/1" metallographic mounts.. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size Ø34x16mm. Includes Allen key.

S651   ZJ32 Zeiss pin stub adapter for 32mm Ø JEOL stubs. This stub adapter accepts up to 32mm Ø cylinder stubs. Can also be used for the Hitachi 32mm/1" Ø stubs or 30mm Ø/1.25" metallographic mounts.. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size Ø34x16mm. Includes Allen key.

S652   ZJ50 Zeiss pin stub adapter for 50mm Ø JEOL stubs. This stub adapter accepts up to 50mm Ø cylinder stubs. Can also be used for the 50 mm/2" Ø stubs or 30mm Ø/2" metallographic mounts.. Set screw is used to secure the stubs. Machined from vacuum grade aluminium. Overall size Ø34x16mm. Includes Allen key

Other Pin Stub Adapters

These adapters allow JEOL, ISI/ABT and Hitachi users to accommodate the standard pin stubs of the European and American manufacturers. The conversion cylinder contains a clip to hold the pin stub.
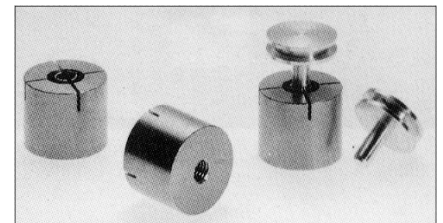
S367   Converter for JEOL, 10mm Ø cylinder
S367/1   Converter for JEOL, 12.5mm Ø cylinder
S367/2   Converter for ISI/ABT, 15mm Ø cylinder
S367/3   Converter for Hitachi, 15mm Ø cylinder with M4 internal thread

Gatan 3View sample pin stubs, tweezers and storage box

G311 Gatan 3View system SEM pin stubs with standard 1.4mm Ø flat, 2mm Ø pin
x12.5mm H, aluminium   pack of 10

G311/1 Gatan 3View system SEM pin stubs with standard 1.4mm Ø flat, 2mm Ø pin
x12.5mm H, aluminium   pack of 50

G213 Gatan 3View system SEM pin stubs with large 2.4mm Ø flat, 2mm Ø pin
x12.5mm H, aluminium   pack of 10

G312/1 Gatan 3View system SEM pin stubs with large 2.4mm Ø flat, 2mm Ø pin
x12.5mm H, aluminium   pack of 50

T612   Gatan 3View stub handling tweezers, 118mm, anti-magnetic S/S   each

B581 PS28 storage box for 28 Gatan 3View pin stubs   each
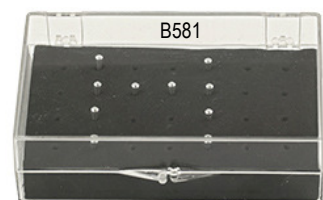
SEM Multiple Stub Holders

Our multiple pin stub holders are an efficient and cost-effective way to load multiple pin stubs with specimens in the SEM. Saves time, allows multi sample processing or quick comparison between samples. Intended for holding the standard 12.7mm (1/2") pin stubs, although the larger 25.4mm (1") pin stubs can be used on the holders for 6 pin stubs or more. All the positions on the holders for 6 pin stubs or more are numbered for easy identification and stubs are securely held with small M3 stainless steel set screws for the multi pin stub holders up to 12 pin stubs; an Allen key is included. On the 29 and 49 multi pin stub holders, the pin stubs are held with an integrated stainless steel spring. The 6 and 8 multi pin holders comprise engraved crossed lines to assist with directional navigation. They are all made from vacuum grade aluminium and have undergone a final cleaning step which results in a satin surface finish. Available with standard pin to fit FEI, Philips, Tescan, Phenom, Aspex, RJLee, AmRay, Cambridge Instruments, Leica, CamScan, Aspex, ETEC and Novascan SEMs.

M4 threaded hole compatible with Hitachi SEMs, FESEMs and table top SEMs and 32mm JEOL SEM stub format compatible with 32mm stub holders on JEOL SEMs. Additionally there are two 45° degrees pre-tilt multi-pin holders available:

S662/4 S662/6 S662/8 S662/12 S662/29 S662/49

SEM Multi Pin Stub Holders on Standard Pin Base

Flat - Pin stubs 12.7 & 25.4mm Ø

S662/4 P4 multi pin stub holder for **4** pin stubs, 31.5 mm Ø x 10.5mm, std pin   each
S662/6 P6 multi pin stub holder for **6** pin stubs, 43mm Ø x 10.5mm, std pin   each
S662/8 P8 multi pin stub holder for **8** pin stubs, 50mm Ø x 10.5mm, std pin   each
S662/12 P12 multi pin stub holder for **12** pin stubs, 62mm Ø x 10.5mm, std pin   each
S662/29 P29 multi pin stub holder for **29** pin stubs, 90mm Ø x 7mm, std pin   each
S662/49 P49 multi pin stub holder for **49** pin stubs, 117mm Ø x 7mm, std pin   each
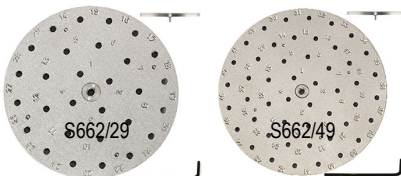
S663 P7 multi pin stub holder for **7** pin stubs 25.4mm Ø, 78mm Ø x 15mm, std pin   each
    (No image)

Angled

S664/3 P3/45 multi pin stub holder 45° for 3 pin stubs, 25mm Ø x14mm, std pin   each
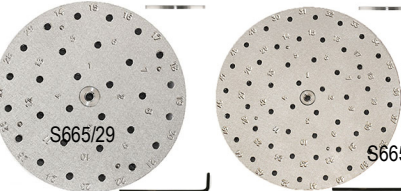**S664/6** P6/45 multi pin stub holder 45° for 6 pin stubs, 35mm Ø x14mm, std pin   each

S664/3 S664/6

SEM Multiple Pin Stub Holders on M4 Hitachi Base

Flat - Pin stubs 12.7 & 25.4mm Ø

S665/4 P4 multi pin stub holder for 4 pin stubs on M4 base 31mm Ø x 10.5mm   each
S665/6 P6 multi pin stub holder for 6 pin stubs on M4 base 43mm Ø x 10.5mm   each
S665/8 P8 multi pin stub holder for 8 pin stubs on M4 base 50mm Ø x 10.5mm   each
S665/12 P12 multi pin stub holder for 12 pin stubs on M4 base 62mm Ø x 10.5mm   each
S665/29 P29 multi pin stub holder for 29 pin stubs on M4 base 90mm Ø x 7mm   each
S665/49 P49 multi pin stub holder for 49 pin stubs on M4 base 117mm Ø x 7mm   each

S666/7 P7 multi pin stub holder for 7 x 25.4mm Ø pin stubs, 78mm Ø 15mm M4 base   each

Angled

S667/3 P3/45° multi pin stub holder for 3 pin stubs, 25mm Ø x 14mm M4 base   each
S667/6 P6/45° multi pin stub holder for 6 pin stubs, 35mm Ø x 14mm M4 base   each

S668 Flat multi pin holder for 4 pin stubs 31.5mm Ø x 10.5mm on **JEOL** base   each

S665/4 S665/6 S665/8 S665/12 S665/29 S665/49

S666/7 S667/3 S667/6 S668

Phone: +44 (0) 118 981 7775   Fax: +44 (0) 118 981 7881   E-mail: sales@taab.co.uk

SEM, TEM, STM Supplies | 10

Multiple Stub Holders for M4 Hitachi Stubs

Our multiple stub holders are an economical and simple way to load multiple Hitachi sample stubs with specimens in the SEM. Using multiple stub holders saves time, allows multi sample processing or allows quick comparison of samples. The horizontal multi stub holders are based on the 25mm Ø x 6mm x M4 and the 50mm Ø x 6mm x M4 Hitachi stubs to hold multiple stubs on M4 screws. The 45° multiple holders allow for a 45° pre-tilt which is beneficial for table top SEMs w/o a stage tilt or to quickly image under 45° w/o having to tilt the SEM stage. 45° tilted imaging tends to give a higher SE signal and reveals more of the topography of the specimen surface. The 45° multi stub holders are offered in two versions:

- Fixed M4 threaded screws to hold the Hitachi stubs
- Adjustable rotation M4 threaded screws for individual rotation of the Hitachi stubs to optimize viewing angle for the sample area

Flat

S669 Multi stub holder for 3x15mm Ø M4 stubs, 25mm Øx6mm, 3.2mm Ø stage pin   each
S670 Multi stub holder for 3x15mm Ø M4 stubs, 25mm Øx6mm with M4 thread   each
S671 Multi stub holder for 3x25mm Ø M4 stubs, 50mm Øx6mm, 3.2mm Ø stage pin   each
S672 Multi stub holder for 3x25mm Ø M4 stubs, 50mm Øx6mm with M4 thread   each
S669/6 Multi stub holder for 6x15mm Ø M4 stubs, 50mm Øx6mm, 3.2mm Ø stage pin   each
S670/6 Multi stub holder for 6x15mm Ø M4 stubs, 50mm Øx6mm with M4 thread   each

Angled 45°

S673 Multi holder 45° for 3x15mm Ø M4 stubs 25mm Ø x14mm, 3.2mm Ø stage pin   each
S674 Multi stub holder for 3x15mm Ø M4 stubs, 25mm Øx14mm with M4 thread   each
S673/6 Multi stub holder for 6x15mm Ø M4 stubs, 50mm Øx6mm, 3.2mm Ø stage pin   each
S674/6 Multi stub holder for 6x15mm Ø M4 stubs, 50mm Øx6mm, with M4 thread   each

45° Angled Stub Holders with *Individual Rotation (IR)*
Each M4 stub can be individually rotated to optimise the viewing angle for the sample area

S675 Multi holder 45° IR for 3x15mm Ø M4 stubs, 25mm Øx14mm, std stage pin   each
S676 Multi holder 45° IR for 3x15mm Ø M4 stubs, 25mm Øx14mm, M4 thread   each
S675/6 Multi holder 45° IR for 6x15mm Ø M4 stubs, 35mm Øx14mm, std stage pin   each
S676/6 Multi holder 45° IR for 6x15mm Ø M4 stubs, 35mm Øx14mm, M4 thread   each

JEOL Multiple Cylinder Stub Holders

S677 Multi stub holder for 4x 9.5mm Ø cylinder stubs 31.5mm Ø x 10mm deep   each
S678 Multi stub holder for 3x 12.2mm Ø cylinder stubs 31.5mm Ø x 10mm deep   each

JEOL multiple cylinder stub holders on standard (3.2mm Ø) pin base

S679 Multi stub holder for 4x 9.5mm Ø cylinder stubs 31.5mm Ø x 10mm on std pin   each
S680 Multi stub holder for 3x 12.2mm Ø cylinder stubs 31.5mm Ø x 10mm on std pin   each
S681 Multi stub holder for 6x 12.2mm Ø cylinder stubs 50mm Ø x 10mm on std pin   each

JEOL multiple cylinder stub holders on Hitachi M4 base

S682 Multi stub holder for 4x 9.5mm Ø cylinder stubs 31.5mm Ø x 10mm M4   each
S683 Multi stub holder for 3x 12.2mm Ø cylinder stubs 31.5mm Ø x 10mm M4   each
S684 Multi stub holder for 6x 12.2mm Ø cylinder stubs 50mm Ø x 10mm M4   each

Gold Series SEM Sample Holders and Pin Stub Adapters

Our gold series SEM sample holders comprise a selection of compact holders, all made from brass and plated with 1µm of pure gold. Brass is chosen for greater strength and is fully non-magnetic. The gold plating assists in keeping the sample holders clean during handling. The superior chemical resistance of the gold plating facilitates the use of cleaning solutions or plasma cleaning. Clean sample holders surfaces will also greatly reduce contamination transfer to the samples. Intended for use with table top SEMs, laboratory grade SEMs and FESEMs.

Rectangular type bulk sample holder with pin (or M4) and two side brackets for sample thickness up to 16mm. Made from brass, 1µm thick gold plated. Ideal for smaller samples and smaller SEMs. Provided with 4 set screws.

S690   Bulk sample holder for up 16mm, gold plated brass, Pin mount   each
S691   Bulk sample holder for up 16mm, gold plated brass, M4 mount   each

Mini pin stub tube/needle clamp. Capacity up to 2mm Ø, the needle is secured with a small set screw. This holder is ideal for probes, needles, wire and thin tubes. Holder size is 6mm Ø x4mm. Made from brass and plated with 1µm of pure gold.

S692   Needle/tube sample holder for up to 2 mm Ø, gold plated brass, pin   each

A swivel vice which covers a full 180° angle and can also be rotated with the stub. This is the ultimate holder for imaging cross sections at any desired angle. The swivel head size without clamping screws is only 16 x16 x 14mm. The sample is clamped with the two knurled clamping screws; the swivel head can be locked in place with the tilt clamping screw. Made from brass and plated with 1µm of pure gold.

S693   Swivel head sample holder for up 10mm samples, gold plated brass, pin   each

Round type bulk sample holder with three brackets for round and awkwardly shaped samples up to 20mm Ø . Made from brass, 1µm thick gold plated. Ideal for smaller samples and smaller SEMs. Provided with 6 set screws.

S694   Bulk sample holder for up to 20mm Ø, gilded brass, Pin mount   each
S695   Bulk sample holder for up to 20mm Ø, gilded brass, M4 mount   each

Lightweight, spider like holder for awkwardly shaped samples up to 25mm Ø . Samples are supported by the three threaded legs and clamped by the flanges on the clamping nuts. Made from brass and plated with 1µm of pure gold.

S696   Spider type bulk sample holder for up to 25mm Ø, gold plated brass, pin   each

Lightweight, spider like holder for awkwardly shaped samples up to 45mm Ø. Samples are supported by the three threaded legs and clamped by the flanges on the clamping nuts. Made from brass and plated with 1µm of pure gold. .

S697   Spider type bulk sample holder for up to 45mm Ø, gold plated brass, pin   each

Compact Zeiss pin stub adapter with M4 threaded head to convert stubs and sample holders with an M4 threaded hole to a Zeiss pin stub. Pin is 3.2mm diameter and 6mm long. Made from brass and plated with 1µm of pure gold.

S698   Compact Zeiss pin stub adapter with M4 thread, Au plated brass, short Zeiss pin each

Compact standard pin stub adapter with M4 threaded head to convert stubs and samples **hold**ers with an M4 threaded hole to a *standard pin stub*. Pin is 3.2mm diameter and 9.5mm long. Made from brass and plated with 1µm of pure gold.

S699   Compact standard pin stub adapter with M4 thread, gold plated brass, pin   each

Universal SEM Sample Holder and SEM Stub Adapter Kit

The universal SEM sample holder and SEM stub adapter kit has been created to hold a wide variety of SEM samples up to 42mm. The samples can be flat, round, block or awkwardly shaped. Also included is a useful selection of SEM stub adapters which enables the kit to be used on virtually any SEM. Fully compatible with FEI/Philips, JEOL, Hitachi, Tescan, Zeiss/LEO and other brands of SEMs.

Ideally suited for:

- multi-user environments
- labs with different brands of SEMs
- labs with a large and changing variety of samples
- service labs to cope with different sample stubs
- portability between SEM platforms

The selection of SEM sample holders all include an M4 threaded hole. Fully compatible with the SEM stub adapters provided in this universal sample holder kit and with Hitachi SEMs.

Included SEM stub adapters in the kit are:

- pin stub adapters for FEI/Philips, Zeiss/LEO, Tescan, Amray
- a 12.2mm JEOL stub adapter with M4 screw
- a 12.2mm JEOL stub adapter for pin stubs
- Multi pin holder doubles as pin stub adapter for Hitachi SEMs.

List of included items: Compact vice clamp 0.22mm, Mini vice clamp 0.6mm, Multi holder for 4 pin stubs, Universal spring loaded vice holder up to 42mm, Bulk sample holder up to 32mm Ø, 3x S clip on 25mm Ø M4 stub, 2x S clip on 45/90° 25mm Ø M4 stub, Short pin stub adaptor with rim to M4, Std pin stub adaptor with rim to M4, Long pin stub adaptor with rim to M4, JEOL 12.2mm Ø stub to pin, JEOL 12.2mm Ø stub to M4.

The complete kit is presented in a high quality wooden box with all the SEM sample holder and adapters neatly arranged in a hard plastic insert. This kit can also be used to convert SEM sample stubs up to 32mm diameter to fit other SEM brands.

S475 Universal SEM sample holder and stub adapter kit in wooden box, complete with insert.

V113

Details overleaf
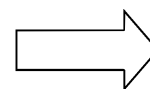
Vacu-Storr High Vacuum SEM Sample Storage
Protect Sensitive Samples & Calibration Standards

Dimensions & Capacities of Vacu-Storr

Container	Vacu-Store Small	Vacu-Storr Medium	Vacu-Storr Large	Vacu-Storr X-large
Inside diameter	41mm	76mm	76mm	140mm
Outside diameter	54mm	85mm	90mm	153mm
Volume	40cc	320cc	680cc	3800cc
Top opening diameter	40mm	75mm	75mm	75mm
Inside useable height	30mm	71mm	150mm	305mm
Total height	95mm	140mm	190mm	350mm

Modules can be stacked

V108

V109

V110

EM-Storr Vacuum Storage & Shipping Container for FIB, SEM, TEM, & Calibration Specimens

The EM-Storr vacuum sample storage container has been specifically developed to store and protect SEM/FIB/TEM samples and calibration standards under vacuum. It protects valuable samples from air, moisture and dust. The superior EM-Storr vacuum container is constructed to the highest standards using high vacuum compatible materials, vacuum grade aluminium, a hardened safety glass lid, NBR O-ring and an all metal high vacuum valve with PTFE shaft seal. The outside of the aluminium container is hard anodised for protection. To reduce outgassing and to hold vacuum for extended periods, the inside surface is machined vacuum grade aluminium with a hardened glass lid. The EM-Storr vacuum desiccator is capable of reaching vacuum in the 10^{-4} mbar range. The vacuum connection for pump-down is a 6mm (1/4") barbed hose fitting – compatible with 6mm thick wall silicon vacuum hose. The EM-Storr vacuum containers are stackable and the octagonal design is optimised for handling, strength and weight.

Features

- Protects oxygen sensitive and/or moisture sensitive samples
- Protects samples and calibration standards against contamination
- Designed for SEM pin stubs and/or Hitachi M4 stubs
- Ideal for storing and transporting sensitive samples
- Clear hardened glass lid provides excellent vacuum seal
- Easy sample location through clear glass lid
- Sturdy, space-saving stackable and octagonal design

V106 EM-Storr vacuum sample storage container for 19 x 12.7mm Ø pin stubs

V107 EM-Storr vacuum sample storage container for 19 x 15mm Ø Hitachi stubs

V108 EM-Storr vacuum sample storage container for 60 TEM grids

V109 EM-Storr vacuum sample storage container for 100 FIB lift-out grids in box

V110 Replacement glass lid for EM-Storr vacuum sample container, 100mm Ø x 10mm

Vacu-Storr High Vacuum EM Sample Storage Containers
Protect Sensitive Samples & Calibration Standards

V111

V112

V113

V114

The Vacu-Storr high vacuum glass storage container have been especially developed for protecting materials and samples which are sensitive to dust, moisture, oxygen or other gases found in the environment. The containers consists of a soda lime glass jar, nickel plated aluminium lid, Viton O-ring seal and a metal sealed high vacuum valve. The high vacuum valve has a 6mm (1/4") barbed hose fitting to connect the hose to a vacuum pump or vacuum pumping system. The Vacu-Storr desiccators are capable of reaching a vacuum level of 10^{-4} mbar and expect to have an estimated vacuum holding time of 5 years to 100mbar. There are 4 sizes available, all supplied with a protective plastic netting and a protective polymer coating on the outside to prevent damage.

V111 Vacu-Storr Small   Capacity 40ml
V112 Vacu-Storr Medium   Capacity 320ml
V113 Vacu_Storr Large   Capacity 680ml
V114 Vacu-Storr Xtra Large   Capacity 3800ml

Wafer Holders for SEM
Compatible with wafers with or without a notch

These wafer holders are specially designed to hold semi-conductor wafers in sizes of 100mm, 150mm and 200mm diameter (4 inch, 6 inch and 8 inch). They are compatible with wafers with either a flat or with a notch. The unique locking slide is adjustable to cope with non-standard wafers.

Unique features:
- low profile, weight balanced support disc
- square cut-outs for wafer tweezers
- adjustable spring tension
- adjustable for non-standard wafers
- self lubricating locking slide
- compatible with either wafers with a notch or wafers with a flat
- compatible with our stage adapters for all SEM platforms

Available with:
Standard pin to fit on SEMs FEI, Philips, Zeiss, LEO, Leica, Tescan, Aspex, R J Lee, AmRay, Cambridge Instruments, CamScan, ETEC and Novascan.

M4 threaded hole; compatible with Hitachi SEMs, FESEMs and table top SEMs **and** with the our versatile SEM stage adapters.

W106	Standard pin Wafer Holder for 100mm Ø (4")
W106/1	M4 threaded hole Wafer Holder 100mm Ø (4")

Dimensions without pin 106mm Ø x 16mm

W107	Standard pin Wafer Holder for 150mm Ø (6")
W107/1	M4 threaded hole Wafer Holder 150mm Ø (6")

Dimensions without pin 156mm Ø x 16mm

W108	Standard pin Wafer Holder for 200mm Ø (8")
W108/1	M4 threaded hole Wafer Holder 200mm Ø (8")

Dimensions without pin 206mm Ø x 16mm

Low profile, weight balanced support disc

square cut-outs for wafer tweezers

self lubricating locking slide

clip fits flat

removeable pin fits a notch

Spring tension ajustment

slide ajustment

detail: self lubricating locking slide
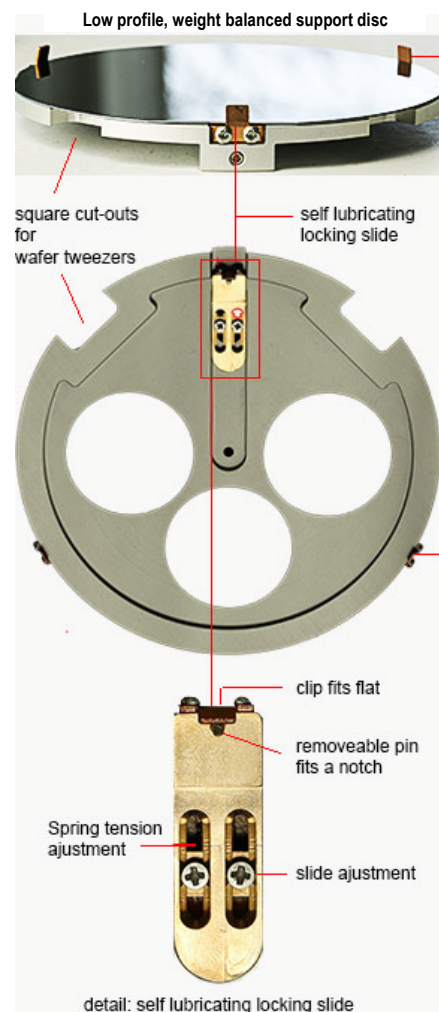
W106

W107

W108

Compact & Universal Vice Type SEM Sample Holders

with jaws

with dowel pins

extra height with double set of jaws
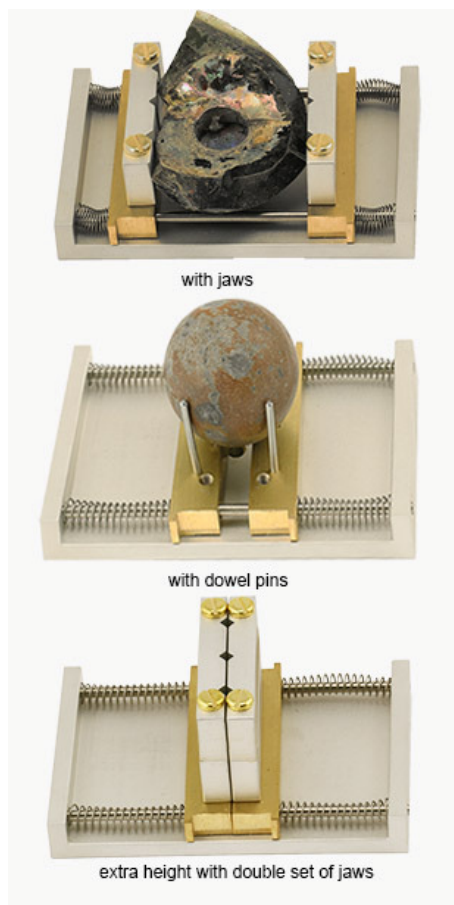
Vice type sample holders with a standard pin or M4 threaded hole are quick and easy to use holding the sample by clamping it between the moving jaws. They are especially useful when similar samples or a series of the same sample need to be examined. A vice clamps the sample and provides the rigidity needed for high resolution imaging and is a better alternative to adhesives or glue. All vice clamps are made from vacuum grade aluminium. Currently available items are:

1)   Compact cost-effective vice sample holder for sample sizes up to 22mm using one fixed jaw and a spindle driven moving jaw. Can be used in both standard and table top SEMs. Brass spindle and stainless steel screws.
.
2)   Single action spring-loaded vice for samples with a maximum clamping size of 12mm. The vice is opened by pushing the moving jaw with a push rod. The rod can be removed when the holder is loaded in the SEM. Dowel pins can be inserted in the fixed and moving jaws to increase the opening to a sample size up to 18mm diameter or to hold awkwardly shaped samples; 4 dowel pins are included. Stainless steel rods and springs.

3)   Compact double action spring-loaded vice for samples with a maximum clamping size of 26mm. Due to the double sided spring, this vice acts as a centreing vice. The jaws are opened by push rods which can be removed when the sample holder is loaded in the SEM. Dowel pins can be inserted in the jaws to increase the opening to a sample size up to 34mm diameter or to hold irregular shaped samples; 4 dowel pins are included. Stainless steel rods and springs.

4)   Universal double sided spring-loaded larger vice for samples with a maximum size of 42mm. Different types of jaws can be mounted on this universal vice. Opens by pulling the jaws. Dowel pins can be inserted in the brass slider to extend the opening size and to hold awkwardly shaped samples. With the dowel pins a disc of up 50mm diameter can be held; 4 dowel pins are included. Includes triple grooved/smooth vice jaws. Additional optionally available vice jaws are:

Jaw with a single 120° large groove for round samples
Standard jaw with triple grooved/smooth side. vice jaws can be stacked to increase the jaw height from 12 to 24mm. Brass sliders and stainless steel rods and springs.
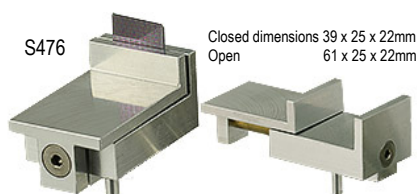
S476   Pin Vice clamp - includes a 2.5mm Allen key to operate the spindle screw for opening and closing this compact clamp for samples up to **22mm Ø.** Very thin samples can be securely held in this holder. For delicate samples, consider lining the jaws with conductive soft material (S480).
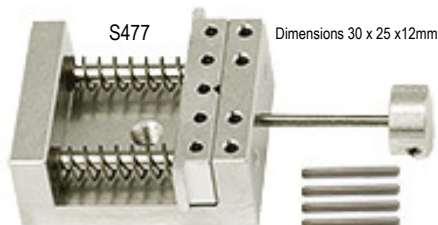
S476/1 As S476 but with M4 threaded hole

S477   Pin single action spring-loaded vice clamp includes one removable push rod and four dowel pins which fit into the top of the jaws. The maximum clamping capacity between the vice jaws is **12mm.** Clamping size increases to **18mm** with dowel pins.

S477/1 As S477 but with M4 threaded hole
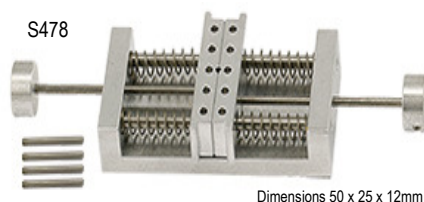
S478   Pin base dual action spring-loaded vice clamp includes two removable push rods and four dowel pins which fit into the top of the jaws. The maximum clamping capacity between the vice jaws is **26mm.** Clamping size increases to **34mm** with dowel pins.

S478/1 As S478 with M4 threaded hole

S476   Closed dimensions 39 x 25 x 22mm
        Open   61 x 25 x 22mm

S477   Dimensions 30 x 25 x12mm

S478

Dimensions 50 x 25 x 12mm

S479 Pin base dual action spring-loaded vice clamp includes two removable push rods and four dowel pins which fit into the top of the jaws. The maximum clamping capacity between the jaws is **42mm.** The aluminium vice plates have reversible jaws with a smooth side and a side with three small grooves. The grooves are more suitable for small round samples or to hold samples with a rough sides. Maximum sample capacity between dowel pins is **50mm**.
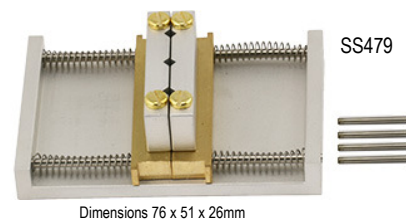
S479/1 As S479 with M4 threaded hole

S479/T Standard triple groove/smooth vice jaw, 12 x 40 x 6mm, each

S479/S Single large groove/smooth vice jaw, 12 x 40 x 6mm, each

SS479

Dimensions 76 x 51 x 26mm

S479/T

S479/S

Conductive soft jaw lining kit for vice type SEM sample holders Comprises a conductive neoprene rubber sheet with a conductive adhesive layer on one side. It is intended to hold more delicate samples and to prevent damage to sensitive surfaces. The conductive medium soft rubber provides both a soft grip and a path to earth. This kit has been designed for use on all vice type holders. It comes as one piece and can be cut to size as required. After use it can be easily replaced or removed from the vice jaws (use acetone/isopropanol for cleaning). Supplied as a sheet which holds enough material to cut 5-6 sets of soft jaw linings.

S480 Conductive soft jaw lining kit for vice type SEM sample holders, 50x120mm sheet

S480

S480
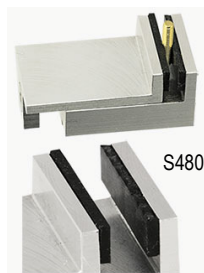
Large Versatile Vice Clamp Sample Holders

These holders are large vice clamps with movable jaws and can accommodate **large, heavy or multiple samples**. They are designed for SEMs with large sample stages. The holders consist of a base plate with two parallel rows of holes to position the vice jaws at 10mm intervals for optimum sample compatibility. Made from vacuum grade aluminium with brass mounting screws and steel clamping screws. The sample can be adequately held using the clamping screws. Two sets of 3 screws with 10mm and 16mm length are provided with each vice clamp plate. The holders are freely configurable. There are two models to fit various sample sizes:

- V80 versatile vice clamp holder - for samples up to 80mm
- V120 versatile vice clamp holder – for samples up to 120mm.
  Additional jaws can be added to mount multiple samples in the same holder. Currently , there are three types of vice clamps available:

- standard vice clamp plates with 12mm height
- optional grooved vice clamp plates with 16mm height
- height extension clamp plates with 12mm height. Mount one or two additional extension clamps to increase the height to 24mm or even 36mm. The standard and height extension vice clamp plates can be mounted either way to optimise the height of the set screws.
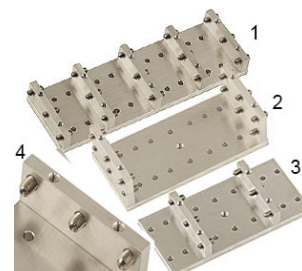
S700 Versatile vice clamp sample holder for up to 80mm pin stub
S701 Versatile vice clamp sample holder for up to 80mm M4 threaded hole

S700
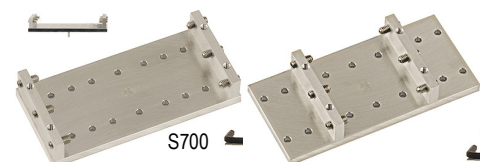
S702 Versatile vice clamp sample holder for up to 120mm pin stub
S703 Versatile vice clamp sample holder for up to 120mm M4 threaded hole

S702

With extra clamp plates (not included)

S704

Additional Clamping Jaws for Large Versatile Specimen Clamps

S704 VC12 standard vice jaw plate 12 x 44 x 5mm incl. set screws.

The vice jaw plates can be mounted either way to optimise the height of the clamping screws. When the plates are attached in the standard position, the clamping screws are in a higher position. Attach the plates upside down, and the clamping screw will be in a lower position.
Multiple vice clamps can be used on one vice base plate. The jaw plates can be mounted on the base plate at 10mm intervals maximise sample size compatibility.

Clamp plates attached in standard position with set screws in a higher location

Clamp plates attached upside down with set screws in a lower location

S705 VC16 grooved jaw plate 16 x 44 x 5mm incl. set screws

The grooved vice clamping plates can be mounted either way to optimise the height of the clamping screws. When the grooved vice clamping plates are attached in the standard position, the clamping screws are in a higher position. Attach the grooved clamping plates upside down and the clamping screw will be in a lower position.
Multiple vice clamping plates can be used on one vice base plate. The vice clamping plates can be mounted on the base plate in 10mm intervals to maximise sample size.

S705

S706 VH12 height extension clamping plate for VC12 with mounting screws, incl. set screws
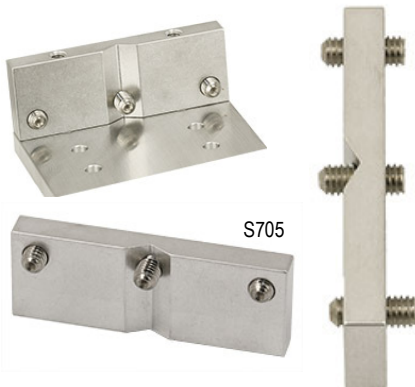
S706

Shown with base plate (not included)

Height extension vice clamp with 12mm height and 3 set screws. Can be mounted op top of the standard or grooved vice clamps to increase the clamp height to 24 or even 30mm. The vice clamps can be mounted either way to optimize the height of the set screws.
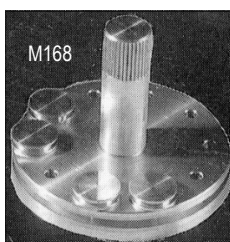
M168

Preparation Stand for SEM Specimens

A cylindrical aluminium block for holding up to 10 specimen mounts for attachment of, or manipulation of samples. A rubber 'O' ring retains the mounts.
M168   Mounting block - pin stubs   each
M169   Mounting block - 10mm cylinders   each

T137
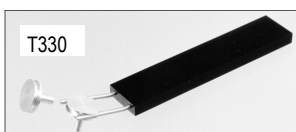
Tweezers for Stubs

Tweezers specially designed for handling ½" **specimen stubs** commonly used in SEM.
T137   Tweezer for ½" stubs   each
T330   SEM stub handling tool - A simple robust tool to fit 12.5mm pin stubs as an alternative to T137 suitably angled to allow convenient handling of the stubs in confined areas. The beryllium copper prongs allow a firm grip to be repeatedly achieved without loss of spring tension.

T330

Tweezer for Hitachi Stubs
T329   Special tweezer for handling 15mm Ø Hitachi stubs   each
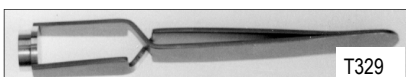
T329

Large Capacity Stub Boxes

Two high capacity **wooden boxes** for storage of light sensitive specimens .

B585   Holds 176 standard 12.7mm Ø pin stubs or 40 x 25.4mm Ø stubs. Pin stubs up to 100mm can be stored in this box. Made from *clear coated beech and birch* with 2 brass plated hinges and clasps. Max. specimen height of 22mm. Dimensions 276 x 189 x 46mm.

B586   Holds 77 x 12.7mm Ø pin stubs or 20 x 25.4mm Ø stubs. Construction as BXXX but with single clasp. Dimensions 189 x 138 x 46mm.

Two high capacity **clear styrene** boxes.

B587   Holds 153 x 12.7mm Ø pin stubs or 40 x 25.4mm Ø stubs. Can store stubs up to 100mm Ø. Dimensions 274 x 160 57mm. Maximum specimen height 34.5mm

B588   Holds 28 x 12.7mm pin stubs. Can store stubs up to 50mm Ø. Maximum specimen height 13.5mm. Dimensions 120 x 84 x 36mm.

Storage Boxes for SEM Stubs

We offer a range of boxes that will accept specimen mounts in common use. They consist of a transparent plastic box with a *white plastic insert*. The specimen mounts are a push fit into the appropriate holes and do not shake loose during transportation. There is sufficient height above the specimen (approx. 12mm) to permit the storage of very thick mounted specimens. An identification label is enclosed to record specimens.

B098	Storage box for 8 x ½" pin type mounts	each
B157	Storage box for 8 x 10mm Ø JEOLmounts	each
B099	Storage box for 8 x 15mm Ø JEOL mounts	each
B158	Storage box for 3 x 32mm dish type mounts	each
B576	Storage box for up to **9 mounting stubs** of either 1" (25mm) in diameter or a stub with 1/8" (3.2mm) diameter pin. Insert made from a *soft silicone base* with 9 holes each 1" (25mm) in diameter and ¼" (6mm) deep. Overall measurements 4¾" L x 3⅝" W x 1.2" H (12 x 9 x 3cm)	

Wooden Box
B097	Storage box for 54 x ½" pin type mounts	each

SEM-STOR Economical Storage
Sem-Stor is the answer to economical storage of SEM specimens. It is made from cardboard and has a fold-up insert that takes 8 specimen mounts of the ½" pin type. The front lip of the box is cut away for convenient observation and handling of stubs. Shipped flat, makes up into a 7 x 3.8 x 3.5cm high box.

|		
B135	Sem-Stor cardboard storage box for ½" mounts	each
B135/1	Sem-Stor cardboard storage box for ½" mounts	per 100

Single Stub Storage Tubes

For storage or transportation. The SEM stub pin is a tight push fit inside the cap that is then placed in the clear acrylic tube. A secure and effective method for post or pocket.

|		
T350	Single SEM pin stub storage tube for ½" (12.5mm) stub	pack of 5
T350/1	Single SEM pin stub storage tube for ½" (12.5mm) stub	pack of 25
B421	White cardboard storage box for 10 T350 tubes	1
B422	White cardboard storage box *with* 10 T350 tubes	1
T570	Single SEM pin stub storage tube for stubs up to 38mm Ø	pack of 10
T571	Single SEM stub storage tube for Hitachi M4 up to 38mm Ø	pack of 10

B585
B586

B587
B588
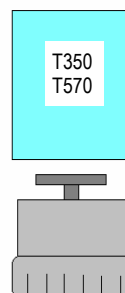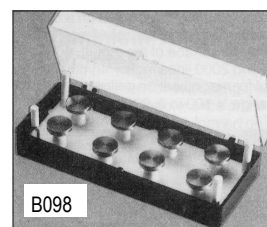
B098

B576

B097

B135

T350
T570

B421
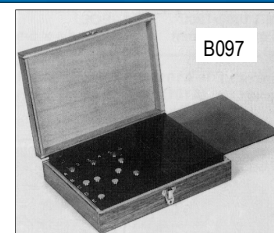
SEM Specimen/Stub Adhesives

A listing of many different adhesive methods for attaching specimens to SEM mounts.

Colloidal Graphite

A suspension of pure, fine colloidal graphite in water or in isopropanol based solution. To form a conducting dry film of graphite on a variety of materials.

C107	Colloidal graphite - aqueous base	500g
C126	Colloidal graphite - isopropanol base	500g

Silver Paint

An air drying paint containing silver flakes. Dries to form a conducting film that is ideal for sample mounting.

S269	Silver paint	10g
S270	Silver paint	50g

Silver Paint Thinners

A thinner to reduce the thickness of our silver paint S066 to make thin conductive tracks on the specimen for microprobe work.

S271/1	Silver Paint Thinners	25ml
S271	Silver paint thinners	100ml

Silver Epoxy Adhesive

A two part silver filled epoxy adhesive providing a conducting joint and bond. *Silver content 70%.* Information sheet provided with each pack.

S055	Silver epoxy adhesive	pack of 10g

Conducting Carbon Cement (Leit-C)

A suspension of very fine carbon particles in a volatile carrier. Suitable for forming a conducting film bond between specimen or carbon disc to stub.

C198	Carbon cement (Leit-C)	30g
C198/1	Thinners for Leit-C	30ml

Leit-C Plast

A plasticine like material with low outgassing properties suitable for use in the high vacuum of the SEM. Leit-C Plast is a conductive material requiring no additional coating and is suitable for many applications in specimen preparation.

C199	Leit-C-Plast	15g

Tempfix

A thermoplastic adhesive that when applied to a heated stub at approximately +40°C yields a sticky surface suitable for holding specimens. It dries quickly to a very smooth surface and remains stable under the SEM.

T328	Tempfix	set

Microstik

A clear adhesive for mounting small particles. Provides an ultrathin base when applied to the SEM specimen mount. Dries quickly and is non-conductive
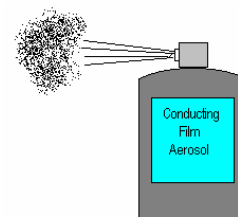
M167	Microstik solution	14ml
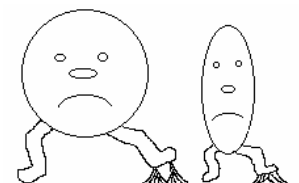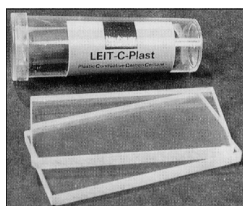
Conducting Film Aerosol

A rapid method of spraying a conductive film onto SEM specimens such as pieces of biological tissue. Effects are not permanent so it is ideal for rapid examination in the SEM.
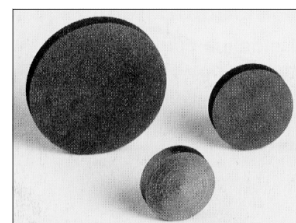
C212   Conducting film aerosol   397ml can

Carbon Discs

A range of discs 3mm thick with diameters of 12.5mm, 15mm or 25mm for mounting specimens in the SEM.

C304/10 Carbon discs 12.5mm Ø pack of 10   **C305** Carbon disc 15mm Ø
C305/10 Carbon discs 15mm Ø pack of 10   **C306** Carbon disc 25mm Ø
C306/10 Carbon discs 25mm Ø pack of 10

Conductive Carbon Adhesive Discs

For SEM stubs. An improvement on double sided tape. These new doubly adhesive carbon based discs ensure good electrical connection whilst retaining the benefits of a quick mounting method.
C263/N   9mm Ø   pack of 100
C249/N   12mm Ø   pack of 100
C252/N   25mm Ø   pack of 51

Sulphur-Free Conductive Carbon Discs

Adhesive discs with low background for microanalysis
C272   Sulphur-free conductive carbon tabs 12mm Ø   pack of 120

Double Sided Sticky Carbon Tape

Highly conductive tape for SEM and EDS applications The double adhesive and conductive design permits quick mounting of samples without using liquid or colloidal adhesives. The tape is relatively solid and non-porous and does not absorb small samples. Thickness is 0.16mm.
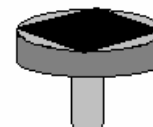**C261**   Carbon tape 8mm x 20m long   each
C277   Carbon tape 12mm x 20m long   each
C278   Carbon tape 50mm x 20m long   each
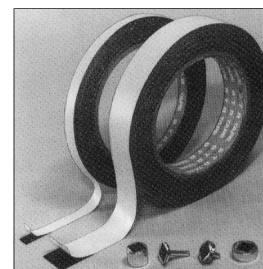
Conductive Carbon Adhesive Sheet

For SEM or EDS we have available double sided carbon sheet for eliminating background X-rays. When cut to size it is easy to place on SEM stubs and is contaminant free.

C206   Carbon conductive adhesive sheet 5 x 12cm   pack of 10

Sticky Tabs

Sticky tabs maybe affixed to most types of stubs. Once affixed to the top of a stub simply remove the peel-off tab to leave a ½" (12.7mm) Ø layer of adhesive to which small specimens can be fixed, or impressions such as fingerprints can be made in the adhesive for examination. Non conducting and the strong silicone adhesive does not outgas in the vacuum. The adhesive can be removed with acetone.

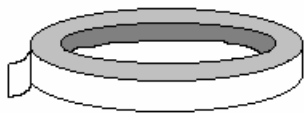**T199**   Sticky tabs   pack of 100
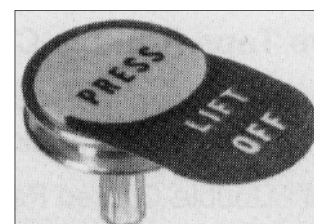
10 SEM, TEM, STM Supplies

Copper Tape

Copper strip with pressure sensitive adhesive backing. Ideal for static charging problems etc.

T188   Copper tape 12mm x 16m   per roll
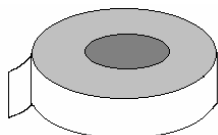
Aluminium Tape

Two sizes of aluminium strip with pressure sensitive adhesive backing. Ideal for conductive connections etc.

T189 Al tape 12mm x 55m x 0.09mm per roll   **T189/1** As T189 but 0.13mm thick
T190 Al tape 25mm x 55m x 0.09mm   per roll   **T190/1** As T190 but 0.13mm thick

Magic Tape

This 3M tape is transparent when affixed to objects and makes amending and updating documents easy. It is ideal for making small labels being easy to type or write on and is invisible on photocopies.

T191   Magic tape 12mm x 66m   per roll
T523   Magic tape 25mm x 66m   per roll
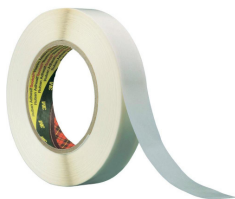
Double Sided Tape

A thin double sided sticky tape in two widths suitable for mounting specimens and for general SEM work.

T063   Double sided tape 12mm x 66m   per roll
T064   Double sided tape 38mm x 66m   per roll
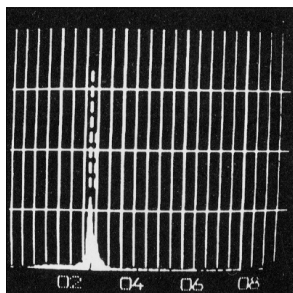
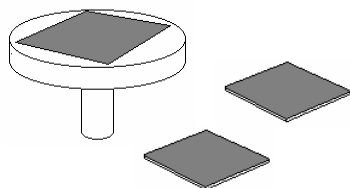EDS spectrum of silver sheet S331

Silver Conducting Adhesive Sheet

Highly electrically conductive sheet 5 x 12 x 0.16cm thick suitable for cutting and sizing to samples for SEM.

• Little outgassing under vacuum
• Doesn't absorb or penetrate specimens

S331   Silver conductive sheet   pack of 5

Silicon Chip Specimen Supports

Si-chips are opaque, of low electrical resistance and have surface properties equal to glass. They are chemically inert and make good substrates for growing or mounting cells or ferritin particles. They are useful for determining resolution and contrast capabilities of the "in-the-lens" SEMs equipped with high brightness electron emitters. Si-chips are precleaned before packing

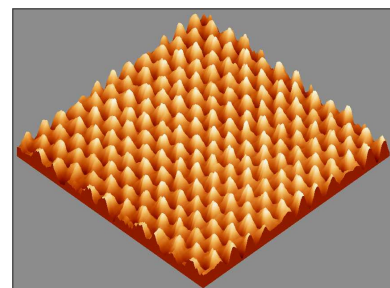**S332**   4" (10cm) silicon wafer diced into approx. 270 chips 5 x 5mm

AFM/STM/SPM Accessories

Highly Orientated Pyrolytic Graphite

H.O.P.G is widely used as a substrate for AFM/STM specimens. It can also be used as a calibration specimen.

G260 H.O.P.G.   piece approx. 10 x 10 x 2mm
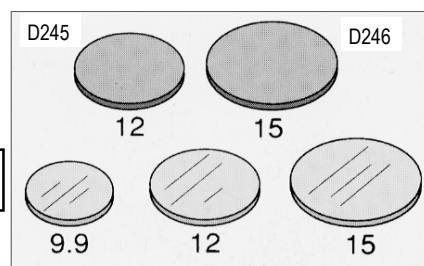
SPM Metal Specimen Discs

These high quality discs for SPM are manufactured with smooth edges and consistently flat surfaces.

D245   SPM specimen discs, 12mm Ø, pack of 50
D246   SPM specimen discs, 15mm Ø, pack of 50

Mica Mounting Discs and Glass Coverslips

An alternative to metal discs for certain applications.

M406   Mica discs 9.9mm Ø, 0.2-0.22mm thick pack of 10
M407   Mica discs 14mm Ø, 0.1mm thick pack of 10
**C302**   Round glass coverslips, 12mm Ø, box of 100
C303   Round glass coverslips, 15mm Ø, box of 100

SPM Dispenser for Discs

An easy and clean way to store and dispense SPM discs. The plastic package containing the discs is inserted into the dispenser and a single disc can be dispensed with a simple turn of the cylinder. This can then be picked up using the disc gripper. The dispenser is suitable for 12 or 15mm Ø discs.
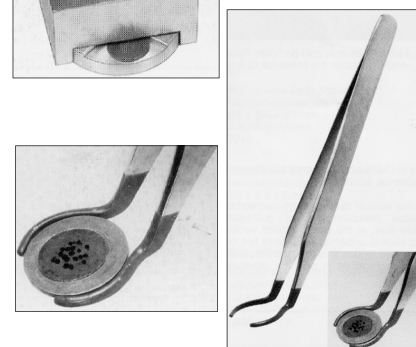
D247   SPM disc dispenser
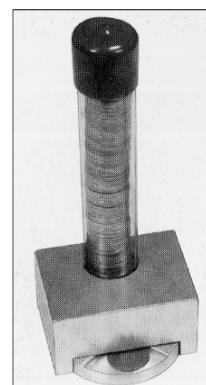
Disc Gripper

A gripper specially designed to pick up discs from a flat surface without damage due to the rubber coated tips.

G199/12   Gripper for 12mm Ø discs
G199/15   Gripper for 15mm Ø discs

Disc Carrier/Storage

A practical and dust-free way to store 12mm and 15mm Ø discs. Discs are placed face down in a stepped cavity that prevents damage to the specimen, The sliding cover secures the disc in position.
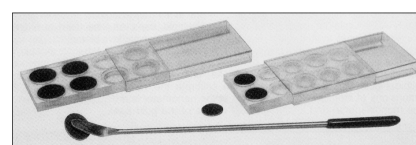
D248   Disc carrier to take ten (10) 12mm Ø discs
D249   Disc carrier to take eight (8) 15mm Ø discs

Disc carrier

Magnetic Pick-up Tool

A convenient magnetic tool for for picking up and manoeuvring discs without damage to the specimen.

T543   Magnetic pick-up tool

Magnetic Pick-up Tool

M-Bond™ 610 Adhesive

A non-conductive two-component, solvent-thinned, epoxy-phenolic adhesive for high performance applications. Chemically resistant providing a thin layer of glue with good ion milling properties. Has low viscosity with minimum creep, hysteresis and linearity problems. Solids content is 22%. It is an excellent adhesive for mounting samples for TEM dimpling and bonding of samples to TEM grids for imaging or FIB. Operating temperature range short term is
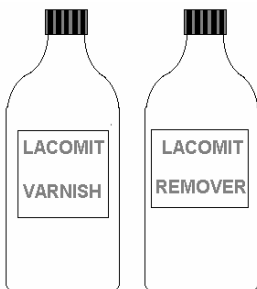 -269° to +370°C; long term, -269° to +260°C.
This may be the widest temperature range general-purpose adhesive that is available.
Kit contains: Resin (4 bottles 14g each) Curing Agent (4 bottles 11g each), 4 brush caps for dispensing mixed adhesives, 4 disposable mixing funnels and instructions.

AXXX

Lacomit Varnish and Remover

For those who wish to prepare thinned TEM specimens by one of the 'window' techniques, Lacomit is a peelable varnish for blanking off the portions of the specimen that are not to be polished. A solvent remover is also available. Both reagents are flammable and special transportation and limitations apply for shipping overseas.

L063   Lacomit varnish 500ml
L064   Lacomit remover 500ml

SEM Finder Grid
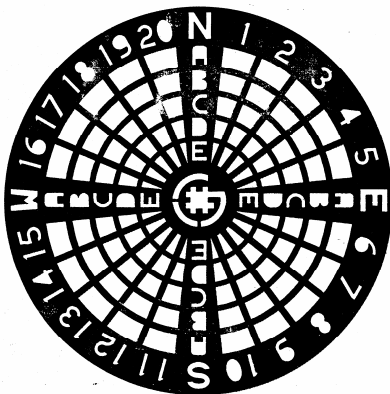
This finder grid incorporates several easy location features for the identification of areas of special interest. Grid available in copper, nickel or gold.
- The annular ring identifies North, East, South and West
- The four quadrant markers are tapered towards the centre
- 100 radial sectors are easily identified by reference to decimal numbers in the annular rim and alphabet letters in the four quadrants
- A matt surface on one side is for correct positioning - matt side up

Overall diameter   10mm
Thickness   50µm

G198/C SEM finder grid *copper (10)*   **G198/N** SEM finder grid *nickel (10)*
G198/G SEM finder grid *gold (5)*
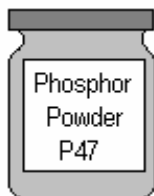
Phosphor Powder

For those wishing to prepare their own scintillator discs, TAAB offers a P47 phosphor powder to a specification recommended for scintillator coating.
P065   Phosphor powder P47   25g

Scintillator Discs

Plano P47 Scintillator Discs

These discs are highly recommended for routine use, being coated with a very uniform layer of carefully selected P47 phosphor. They have a high signal output and a good working life. They should not normally be coated with aluminium unless cathodoluminescence studies are envisaged. An aluminium coating reduces the efficiency by some 20%. Discs are available for all principal types of microscopes. Special sizes are available on request.

YAG Single Crystal Scintillator Discs

Yttrium Aluminium Garnet has a very fast response time of 50-60 ns and unlike plastic or most phosphor scintillators they do not degrade when bombarded by electrons or ions. They are very suitable for high current operations and have a very long lifetime. Light emission peaks about 560nm, response time below 5kV is better with YAG than for P47. The crystal should be coated with 50nm of aluminium before use. If the layer becomes damaged it can be removed with sodium hydroxide without damaging the surface of the crystal. The crystal is mounted with the matt surface in contact with the light pipe as this has been shown to increase efficiency.
The discs are all 1mm thick unless otherwise specified.

YAP Single Crystal Scintillator Discs

Yttrium Aluminium Perouskite crystals are more efficient in light output than YAG (see graph). Also the emission spectrum peaks at about 378nm which corresponds closely to the maximum sensitivity of the S11 photo multiplier that is in general use in most electron microscopes. There is therefore a significant improvement in signal by using the YAP crystal rather than the YAG. The decay time of YAP crystals is 40ns compared with YAG of 80ns, so overall performance of YAP is superior to YAG.
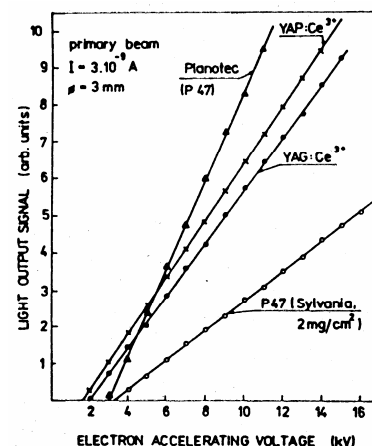
Usage Chart

Diameter	Instrument	P47	YAG	YAP
7.7mm	ISI Mini SEM	S214	S214/G	S214/P
8.8 x 2mm	JEOL, JSM, T20, T200, 840	S215	S215/G	S215/P
9.0 x 3mm	ETEC	S216	S216/G	S216/P
10.0mm	Cambridge/LEO (except S600), AMR1200	S217	S217/G	S217/P
12.0mm	Cambridge S600	S218	S218/G	S218/P
12.0 x 0.17mm	Zeiss SEM	S219	S219/G	S219/p
12.4 x 3.2mm	Cameca	S220	S220/G	S220/P
13.7mm	ISI, JEOL	S221	S221/G	S221/P
16.4 x 0.17mm	Zeiss, Novascan, Semco/Zeiss	S222	S222/G	S222/P
18 .0mm	Camscan/Balscan	S223	S223/G	S223/P
19.8mm	Hitachi with metal ring	S224	S224/G	S224/P
20.0mm	JEOL except JSM T20, T200, 840, AMR1000, 1400, 1600, 1700	S225	S225/G	S225/P
20.0 x 2mm	Philips	S226	S226/G	S226/P