

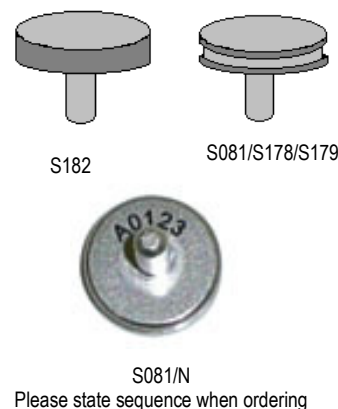
## SEM Specimen Stubs

### Short Pin Type

#### Aluminium

1/2" Ø (12.7mm) with 3.2mm Ø x 8mm long pin, with groove for **Cambridge/LEO, Philips, Etec** etc instruments.

<b>S081</b>	1/2" Pin type stub (with groove)	pack of 100
<b>S081/N</b>	As above with alpha/numeric numbering	min pack of 100
<b>S081/1</b>	1/2" Pin type stub (with groove)	pack of 1000
<b>S081/HP</b>	1/2" Pin type stub (with groove) high purity Al for analysis apps	pack of 100
<b>S182</b>	1/2" Pin type stub (without groove)	pack of 100
<b>S433</b>	1/2" Pin type stub (with groove) Pin 3.2mm Ø x 6mm long for LEO	pack of 100
<b>S434</b>	1/2" Pin type stub (no groove) Pin 3.2mm Ø x 6mm long for LEO	pack of 100



#### Brass

<b>S178</b>	1/2" Pin type stub (with groove)	pack of 10
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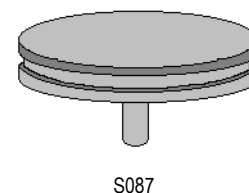


#### Copper

<b>S179</b>	1/2" Pin type stub (with groove)	pack of 10
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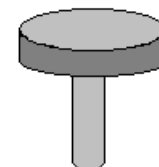
**1" Ø (25.4mm)** Aluminium Short Pin type stub with 3.2mm Ø pin for **Cambridge/LEO** and **Philips** instruments.

<b>S087</b>	1" Pin type stub	pack of 50
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**32mm Ø** Aluminium Short Pin type stub with 3.2mm Ø pin for **Camscan**

<b>S181</b>	32mm Ø pin type stub	pack of 50
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### Long Pin Type

Aluminium 1/2" Ø (12.7mm) with 3.2mm Ø pin for **Amray**

<b>S180</b>	1/2" Amray pin stub	pack of 50
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### Re-entry Type

32mm (1 1/4") Ø re-entry (dish) type stub for **Cambridge/LEO**

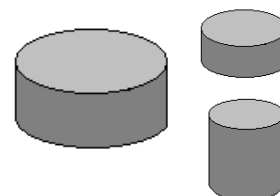
<b>S091</b>	32mm (1 1/4") Ø Aluminium re-entry type stub	pack of 50
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### Cylinder Type

Plain cylindrical aluminium stubs for **JEOL** instruments

<b>S183</b>	10mm Ø x 3.5mm high	pck of 50	<b>S084</b>	15mm Ø x 5mm high	pck of 50
<b>S082</b>	10mm Ø x 5mm high	pck of 50	<b>S085</b>	15mm Ø x 10mm high	pck of 50
<b>S083</b>	10mm Ø x 10mm high	pck of 50	<b>S086</b>	15mm Ø x 15mm high	pck of 50
<b>S184</b>	10mm Ø x 12.5mm high	pck of 50	<b>S089</b>	32mm Ø x 5mm high	pck of 50
<b>S185</b>	12.7mm Ø x 5mm high	pck of 50	<b>S090</b>	32mm Ø x 10mm high	pck of 50
<b>S186</b>	12.7mm Ø x 10mm high	pck of 50	<b>S188</b>	32mm Ø x 20mm high	pck of 50
<b>S187</b>	12.7mm Ø x 15mm high	pck of 50	<b>S189</b>	50mm Ø x 10mm high	pck of 50

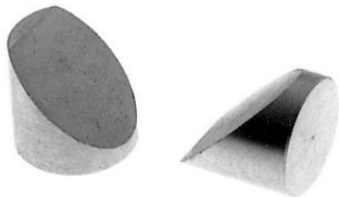


### Re-entry Type Stub Adapter

A simple, effective adapter to convert 12.7mm (1/2") pin stubs to allow 32mm (1.5") Ø re-entry dish type stubs to be used on 1/8" stage. The ball catch gives a trouble free, quick solution to a difficult problem.

<b>S261</b>	SEM stub adapter - re-entry stub
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### Chamfered Type

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

<b>S127</b>	Angled stub 10mm Ø	pack of 10
<b>S190</b>	Angled stub 12.7mm Ø	pack of 10
<b>S126</b>	Angled stub 15mm Ø	pack of 10

### Threaded Type

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

<b>S128</b>	Threaded stub 15mm Ø x 6mm high	pack of 50
<b>S191</b>	Threaded stub 25mm Ø x 6mm high	pack of 50
<b>S192</b>	Threaded stub 32mm Ø x 2mm high	pack of 50
<b>S193</b>	Threaded stub 32mm Ø x 10mm high	pack of 50

### 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.

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

### Slotted Specimen Stubs

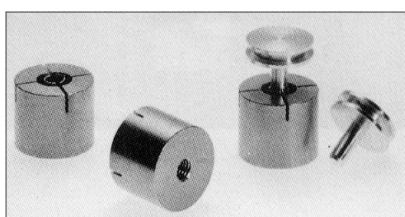
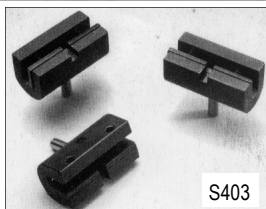
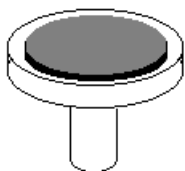
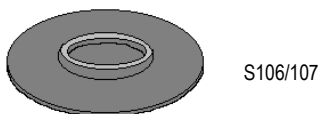
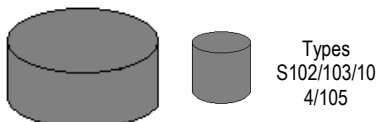
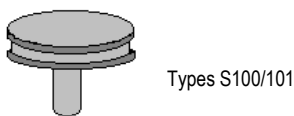
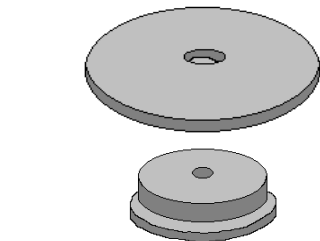
**S402** A 12.5mm slotted aluminium pin stub with two Allen screws allowing the specimen to be securely clamped for examination. Allen key supplied.

**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.

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

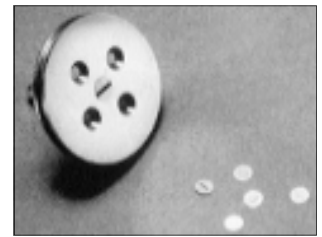


## Specialised SEM Specimen Stubs

### 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

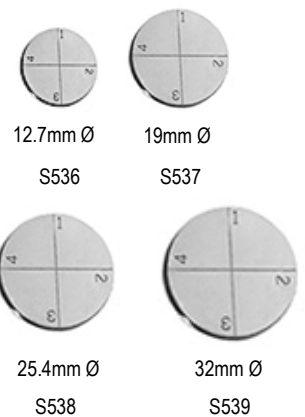


### Pin Stubs with Engraved Divisions

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



### 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  |



### 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       |



## Angled Pin Stubs cont..



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

## SEM Pin Stubs with Extra Height



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

## SEM Pin Stubs Low Profile



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

## Dish top Pin Stub

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

## Specialised JEOL SEM Stubs

<b>S564</b>	JEOL 9.5mm Ø x 9.5mm angled SEM stub with 45° and 90° Al	pack of 10
<b>S564/1</b>	JEOL 9.5mm Ø x 9.5mm angled SEM stub with 45° and 90° Al	pack of 50
<b>S565</b>	JEOL 12.2mm Ø x 10mm angled SEM stub with 45° and 90° Al	pack of 10
<b>S565/1</b>	JEOL 12.2mm Ø x 10mm angled SEM stub with 45° and 90° Al	pack of 50
<b>S566</b>	JEOL 25mm Ø x 16mm angled SEM sample stub with 45° Al	pack of 5
<b>S566/1</b>	JEOL 25mm Ø x 16mm angled SEM sample stub with 45° Al	pack of 10
<b>S567</b>	JEOL 25mm Ø x 16mm SEM sample stub with 45° & 90° angles Al	each
<b>S567/1</b>	JEOL 25mm Ø x 16mm SEM sample stub with 45° & 90° angles Al	pack of 5
<b>S568</b>	JEOL 25mm Ø x 16mm SEM sample stub with double 90° Al	each
<b>S568/1</b>	JEOL 25mm Ø x 16mm SEM sample stub with double 90° Al	pack of 5
<b>S569</b>	JEOL Dish stub, 12.2mm Ø x 10mm with 1.5mm dish depth Al	pack of 10
<b>S569/1</b>	JEOL Dish stub, 12.2mm Ø x 10mm with 1.5mm dish depth Al	pack of 50
<b>S5646</b>	Swivel mount sample holder with 1 clip on 15mm Ø plate on 12.2mm Ø JEOL stub	each

## Specialised Hitachi SEM Stubs

<b>S570</b>	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45° Al	each
<b>S570/1</b>	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45° Al	pack of 10
<b>S571</b>	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45° Al	each
<b>S571/1</b>	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45° Al	pack of 10
<b>S572</b>	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45° & 90° Al	each
<b>S572/1</b>	Hitachi 15mm Ø x 10mm M4 angled SEM sample stub 45° & 90° Al	pack of 10
<b>S573</b>	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45° & 90° Al	each
<b>S573/1</b>	Hitachi 25mm Ø x 16mm M4 angled SEM sample stub 45° & 90° Al	pack of 10
<b>S574</b>	Hitachi 25mm Ø x 16mm M4 angled SEM stub, double 90° Al	each
<b>S574/1</b>	Hitachi 25mm Ø x 16mm M4 angled SEM stub, double 90° Al	pack of 10
<b>S575</b>	Hitachi 32mm Ø x 12mm M4 angled SEM sample stub 45° & 90° Al	each
<b>S575/1</b>	Hitachi 32mm Ø x 12mm M4 angled SEM sample stub 45° & 90° Al	pack of 10
<b>S576</b>	Hitachi 15mm Ø x 10mm M4 dish SEM sample stub, Al	pack of 5
<b>S576/1</b>	Hitachi 15mm Ø x 10mm M4 dish SEM sample stub, Al	pack of 10
<b>S576/2</b>	Hitachi 15mm Ø x 10mm M4 dish SEM sample stub, Al	pack of 50
<b>S689</b>	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:

38mm stub diameter is suitable for 1" (25.4mm) wafers; 63mm 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.

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

Shorter version

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

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

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

