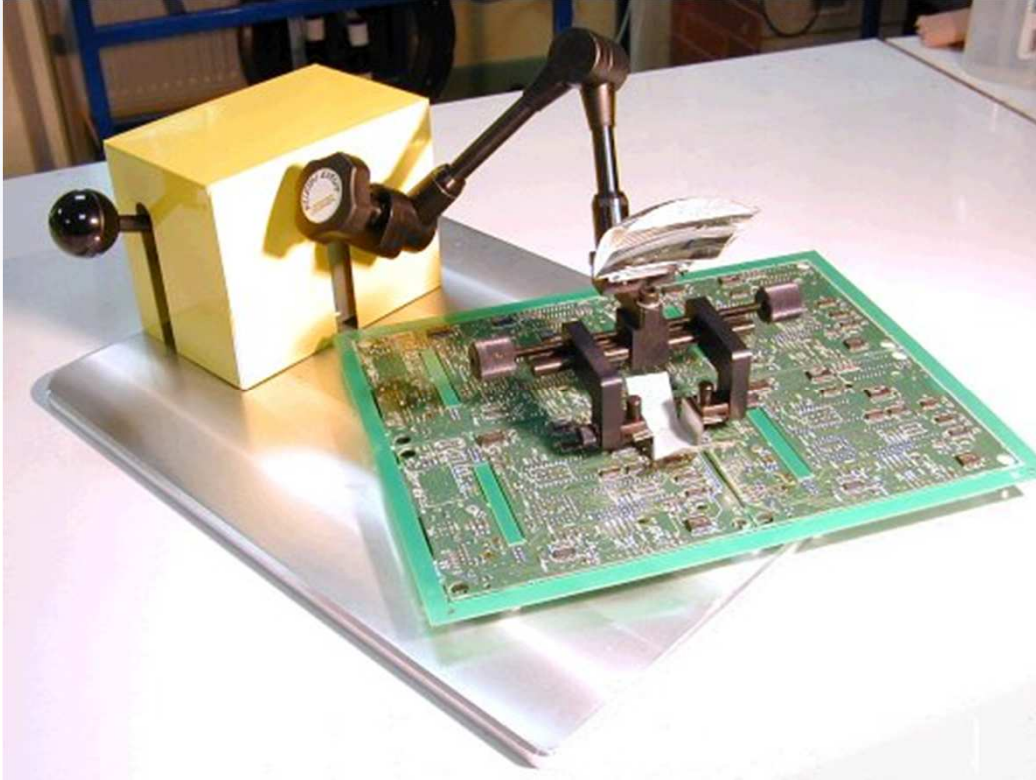


SPIDER PRINTER

SELECTIVE PRINTING SYSTEM FOR SOLDER PASTE

The selective printing is at last endowed with an industrial system for the deposit of solder paste or tacky flux.



THE **SPIDER PRINTER** * (patent application) is a new concept of selective printing applied to populated printed circuit boards.

THE **SPIDER PRINTER** * brings a major evolution in terms of speed, ease of use and quality of the deposits.

FIELD OF USE

The **SPIDER PRINTER** * can be used :

- ↗ on assembly lines to complete the printed circuits boards,
- ↗ to rework PCB's after assembly,
- ↗ In after sales services.

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A

NOVATEC[®]
Electronic Assembly Process

Technology

STPELECTRONICS
INNOVATING SOLUTIONS

The **SPIDER PRINTER** * can be split to the following parts :

- ⇒ an universal arm
- ⇒ **spider stencils** * (patent application) which are adaptable on the arm
- ⇒ special squeegees (patent application)
- ⇒ a support plate or a support device to fix the arm on the rework table.

THE UNIVERSAL ARM :

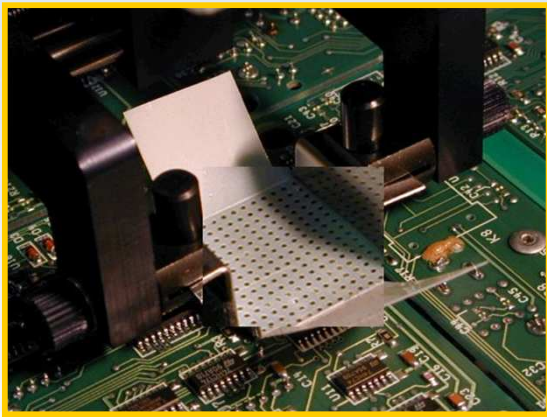
Allows it to place the spider stencil* * in any position in the space and to maintain it in this specific position during the printing operation. An hydraulic system is used to jam the arm movements in only one operation. The arm's mobility makes it possible to print boards without dismantling them from their sub-assembly. When the printing operation is completed, the Z axis gives the possibility to achieve a progressive demolding of the deposits.

The universal arm ends on the one hand with a system to tension the micro stencils, the tension being absolutely necessary to achieve a good print quality and on the other hand, with a magnifying glass to make the alignment between the micro stencil and the pads easy especially for fine pitch components.

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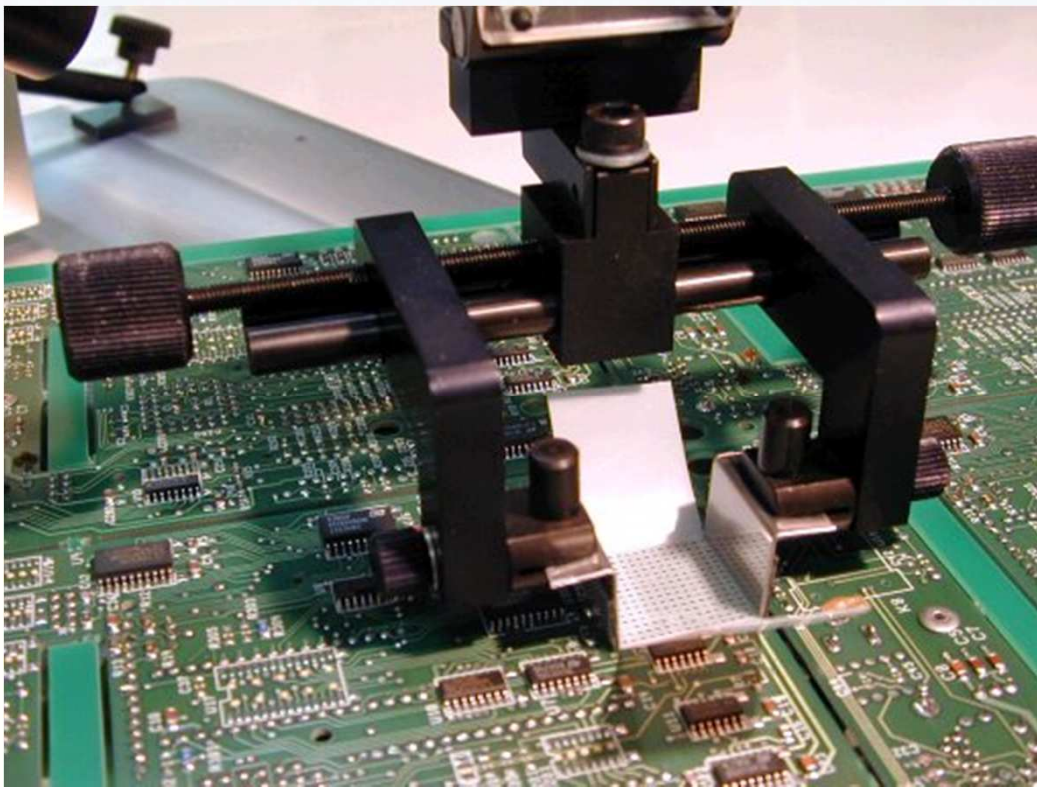
THE SPIDER STENCIL *



THE SPIDER STENCIL*

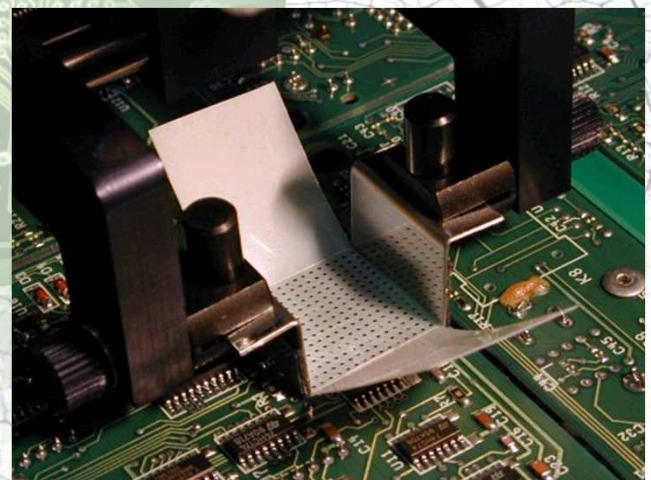
Consists of a pliable and semi-transparent material and is equipped with two fixing devices. The pliable material gives the possibility to achieve a perfect sealing between the substrate and the micro-stencil even if the substrate is warped or not flat. The semi-transparent material makes the alignment of the apertures with the pads very easy. The fixing devices allows a quick mounting of the spider stencil on the universal arm with enough stand-off to avoid

any interference with the other components around the printing area, and are used to maintain the stencil tension for a good print quality.



Moreover, the spider stencils are provided with two overflowing limitations, one in the front and one in the back, to avoid any pollution of the printed circuit board.

The design of the spider stencils gives an optimum accessibility to the pads with a dead zone around the pads which is smaller than 2 mm and can be as small as 0,5 mm on two sides.



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SPECIAL SQUEEGEES : (patent application)

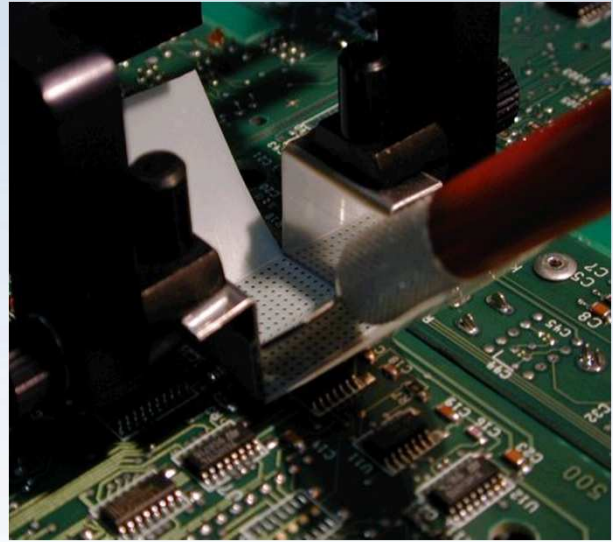
The width of the squeegee is adapted to each stencil. It consists to an assembly of a metallic support blade and a synthetic pliable squeegee. This kind of squeegee makes it possible to print each component in one stroke with a minimum pressure.

SUPPORT DEVICE

The UNIVERSAL ARM can be fixed either on a plate equipped with an antistatic layer or directly on a rework table by a special clamping device.

OPTION

An ultrasonic tray for the cleaning of the spider stencils is an optional extra with the system.

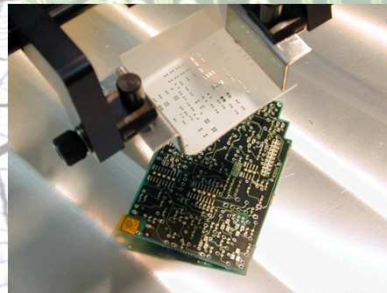
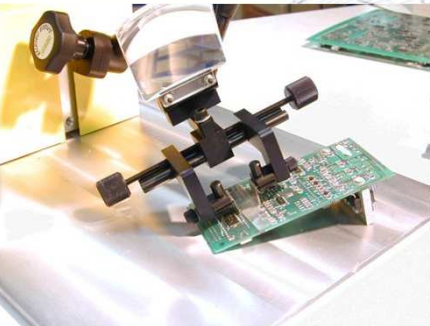
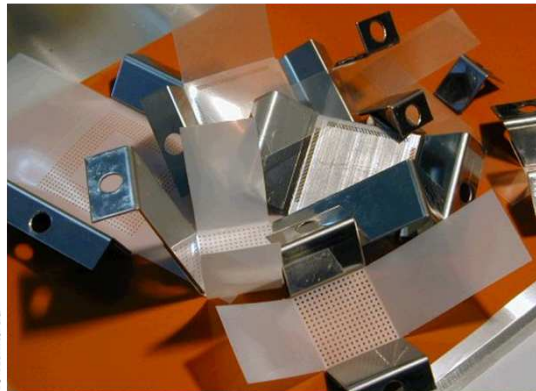


SPIDER STENCILS ORDERING

The spiders stencils are characterized by the design rules used to define the apertures, the thickness of the stencil material and the stand off distance. For the main components standard stencils are available but if necessary specific stencils can be produced.

Main standard stencils which are available :

SOIC's	(from SO8 to SO36)
PLCC's	(from PLCC28 to PLCC84)
QFP's	(from QFP44 to QFP208 till pitch 0,5 mm)
BGA's	(All BGA's and μ BGA's till pitch 0,5 mm)



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