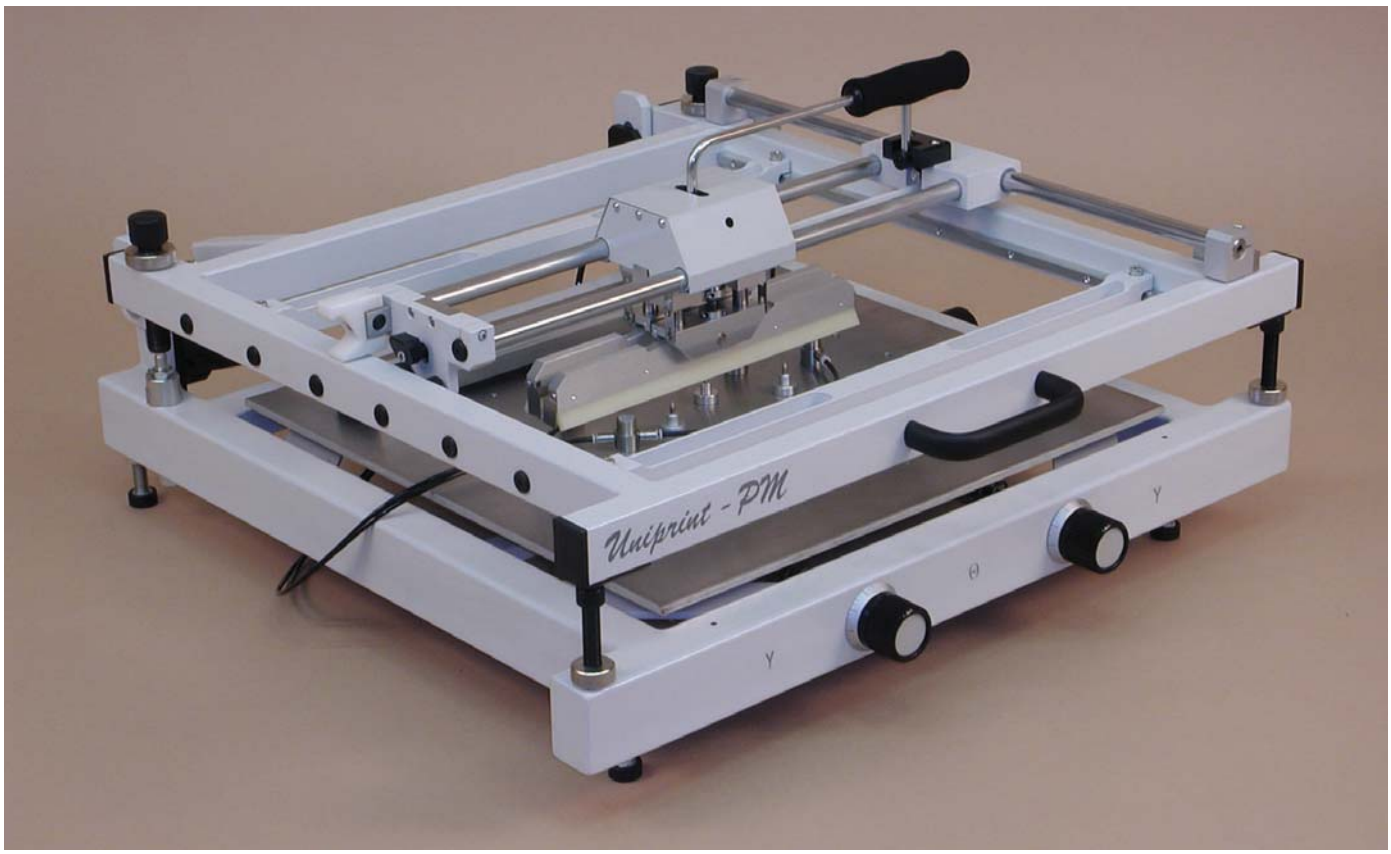
Machines for PC-Board Assembly
Equipment Manufacturing
Process consulting

UNIPRINT

Manual and semi-manual Stencil/Screen Printing Machines



High quality printing in two sizes: smaller UNIPRINT and larger UNIPRINT P.

- Small and large UNIPRINT machines are available in a modular design for the printing of solder paste, glues, solders masks and inks within the electronic production.
- Furthermore they can be used for precise printing tasks in the general engineering industry.
- Their high dimensional stability and rigid frame construction are the basis for a good result in the printing process.
- These features ensure a long life-time of the system.
- The modular design of the system meets all individual requirements.
- It can be upgraded from the basic level of hand printing to guided squeegee printing for different tasks.

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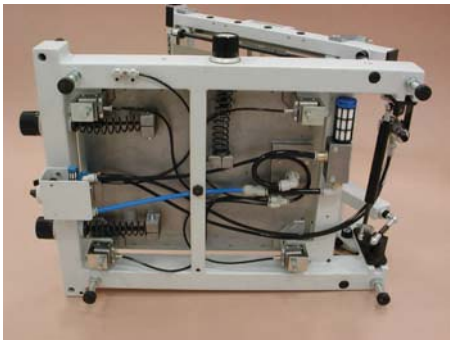
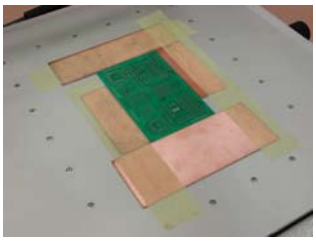
Technical description

- The machine has a table with X, Y and Theta adjustment.
- The special pre-loaded mechanism performs very precise adjustment within the range of +- 6 mm and +-2.5 ° rotation.
- The design of the upper frame enables setting with the free space of max 35 mm below the screen or stencil.
- The standard height of the stencil frame is 18, 25 and 30 mm.
- Optionally, a registration frame with Mylar foil that enables very precise and fast adjustment of the print position, can be supplied. After making the first print on this foil, you can move with the PCB/substrate fixed on the table and achieve the accuracy demanded by the electronic industry and for precise colour-print applications.
- Built-in vacuum channels in the print tables enable easy snap-off after printing. It is necessary to use a vacuum cleaner unit as a vacuum source for the V and G versions. The M version, however, has a built-in vacuum injector and compressed air is required.
- The upper frame is very precisely aligned to the lower frame by means of ball fitting in bush.
- The main shaft for openning the upper frame does not affect aligning of lower and upper frame. Precision of machine is not affected by any wearing.
- The upper frame is finely balanced with a gas-spring strut, the balancing forces of which can be easily adjusted.
- When changing the position of the upper frame (i.e. for different PCB/substrate thicknesses), the balancing forces remain the same.

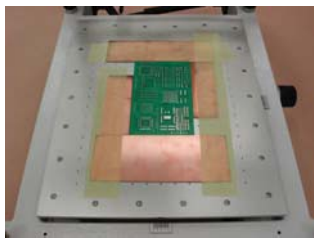


The small models of UNIPRINT * as well as the large models UNIPRINT P* can be supplied with:

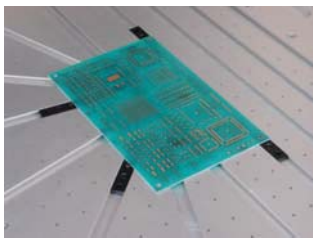
4 different print table types for PCB fixing



S version - flat table
PCB is centered with corner pieces or customized nest.



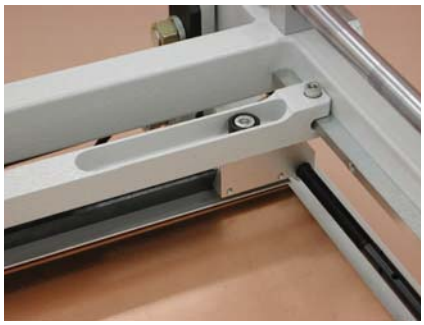
V version - flat table with vacuum holes
PCB is centered with corner pieces, and then straightened with vacuum (suitable for flex-boards).



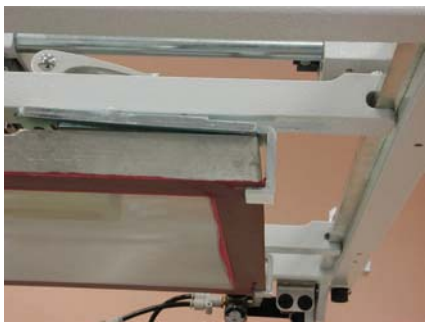
G version - grooved table with vacuum holes
PCB is centered with adjustable pins; vacuum for the precise snap-off.

M version - magnetic flat table
PCB is centered with pins, locked with vacuum and supported with free configured pins for double-sided SMD application.

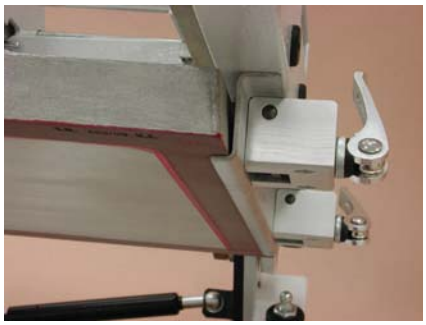
3 different clamping systems for printing frames



Clamping bar (2 pc/set)
Screw connection from upper side (4x M8 screws) with adjustable spacing in basic configuration.



Adjustable clamping adapter
Adapter for slide-in clamping with adjustable position.



Fast slide-in clamping of frame
Slide-in clamping with fixed width.

Guided squeegee assembly

This provides better uniformity eliminates influence of the operator and ensures a pre-defined print angle and print pressure (adjustable with a spring). The guided squeegee is necessary for fine pitch printing and can either be ordered together with the machine or can be retrofitted later by the customer. By pulling or pushing the handle, the squeegees are automatically set into the working position. When the handle is in the vertical position, then it prevents movement of the whole assembly.

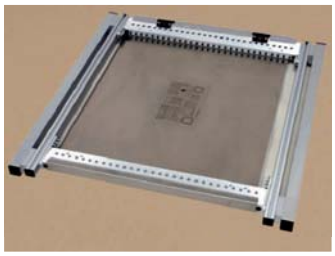
Main features of the guided squeegee are:

- Single-sided guide with glide bearing on one side and rollers on the other one.
- Print head with two vertical glides for two squeegee assemblies that enables double directional printing. Balanced squeegee for easy adjustment of printing pressure uniformity.
- Printing force adjustable in the range of 10-40 N or 10-60 N (independent for both squeegees).
- Integrated brake for the squeegee assembly stops guided squeegee when machine is open.

Squeegees

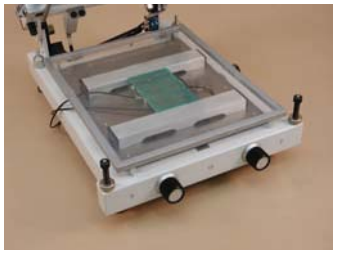
- Manual squeegees are manufactured in the length of 50, 100, 150, 200, 250, 300, 400 mm (only PU rubber with 75 mm SH).
- Guided squeegees are balanced out to obtain uniform pressure in the required lengths.
- Guided squeegees are manufactured in wide range of width: 130, 180, 220, 260, 300, 400 and 430 mm (PU rubber with 92 mm SH or metal blades).
- Guided squeegees are equipped with paste deflectors from both sides.

Stencil tensioning frames and registration frame



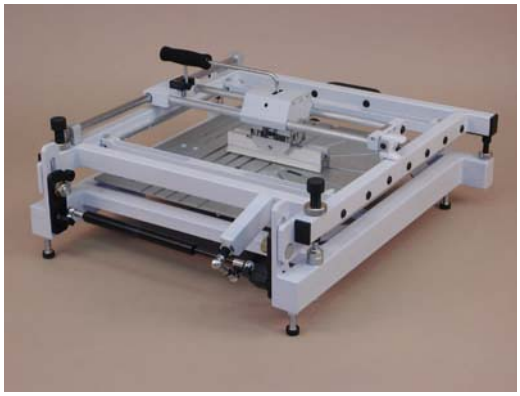
Apart from printing of stencils glued onto the Al frame, fast clamping tensioning frames for stencils are available in two types.

Registration frame increases the accuracy for print alignment and allows to produce assemblies with fine-pitch structures up to 0.4 mm.



Technical data

Machine size			UNIPRINT *	UNIPRINT P*
Size of print table	W x L	mm	340 x 420	510 x 510
Size of print frame - outer dimension (depends on clamping)	W	mm	310 - 438	380 - 608
	L	mm	480 - 497	600
Print size (motif) of stencil with guided squeegee (depends on squeegee)	W	mm	max 290	max 420
	L	mm	max 280	max 370
Max. height of printed parts	H	mm	29	29
Alignment range of table	X, Y axis	mm	+/-6	+/-6
	Theta	deg	+/-2.5°	+/-2.5°
Total positioning accuracy of system		micron	+/-20	+/-20
Guided squeegee adjustable force		N	10 - 50	10 - 50
Dimension of printer	W	mm	470	680
	L	mm	690	800
	H	mm	260	350
Weight of printer (Net)		kg	25	33
Weight of guided squeegee set (Net)		kg	5	6
Weight of standard packing wooden box (Tara)		kg	10	15



PBT local distributor

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