Manual Fine-Pitch Stencil printer
LPKF ProtoPrint® S

LPKF
Laser & Electronics
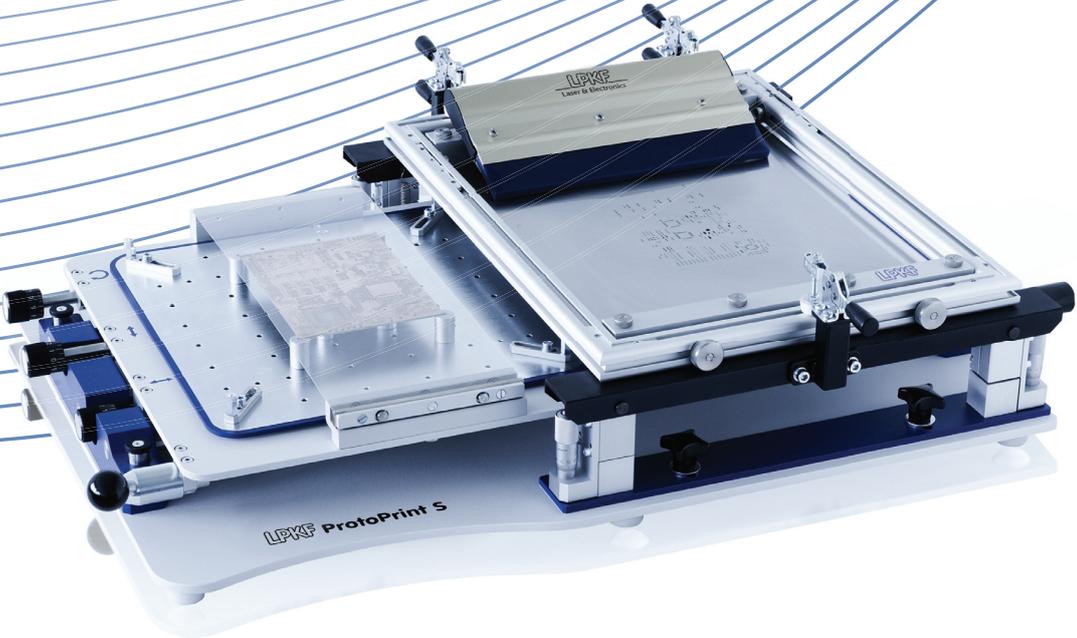
LPKF ProtoPrint S

Manual stencil printer for precise solder paste SMT printing

- On-contact fine-pitch printing
- Unique parallel stencil separation
- Screen printing
- Printing of double-side boards
- Test print screen included
- Vacuum table available as option
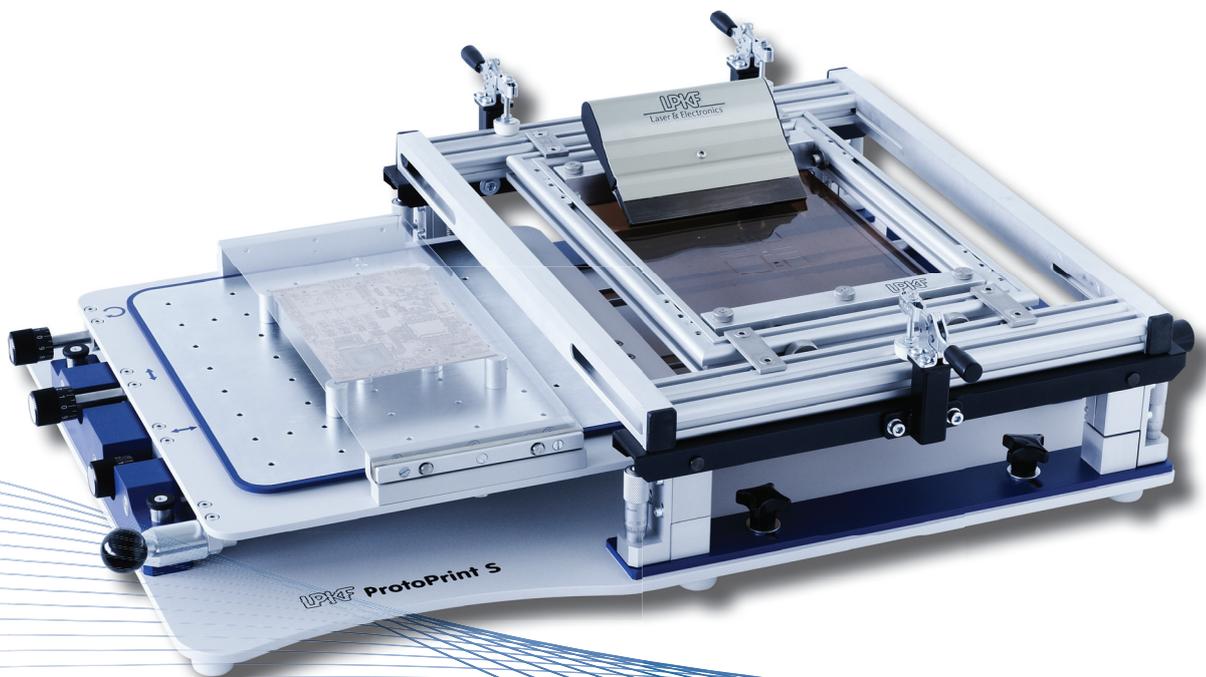
Fine-pitch printing

Desk-top LPKF ProtoPrint S manual stencil printer is ideal for PCB prototypes and small batches of fine pitch SMT boards. On-contact printing with precise vertical separation provides superb printing results down to 0,3 mm (12 mil) pitch (ultra-fine-pitch).

Excellent positioning and precise adjustment

ProtoPrint S enables superior printing results with precise three-dimensional (X, Y, rotation) adjustment of the stencil and micrometer screws for clearance. Excellent positioning accuracy and a specially designed parallel separation between the PCB and stencil, make ultra-fine-pitch printing possible.

PCB Clamping

Freely adjustable, high clearance PCB nesting pins allow boards populated on one side to be printed on the other. Adjustable supports and a clamp with height and length adjustment offer the possibility of easily mounting different frames including LPKF ZelFlex frames.

Polymer stencil for rapid PCB prototyping

ProtoPrint S design enables the use of milled polymer stencils down to pitch 0,625 mm (25 mil) produced on LPKF ProtoMat machines. Milled polymer stencils reduce costs and increase efficiency in PCB prototyping.

Test print screen

The test print screen is a unique but simple solution for fast set up of a new print job. Fine adjustment of the printing plate is easier and faster after having made a test print onto the test foil. The test print screen can be also used to acquire experience in major print parameters (pressure, angle and speed).

Vacuum table

A vacuum table for printing on flex and rigid PCBs is available as an option. The table with a mounted PCB can be easily and freely moved from printer to pick & place equipment for further component assembly. The vacuum table requires compressed air.

Squeegees

LPKF offers different types of squeegees for application on the ProtoPrint S. You can select between rubber and metal type squeegees in two different sizes: 150 mm (5.9") and 260 mm (10.2").

LPKF ZelFlex frames for ProtoPrint S

LPKF offers two types of stretching frames appropriate for ProtoPrint S: mechanical ZelFlex QR and pneumatic ZelFlex Z4P. The ZelFlex QR is suitable for both plastic and metal stencils; ZelFlex Z4P with patented stretching system uses compressed air for perfect tensioning all across the working area.
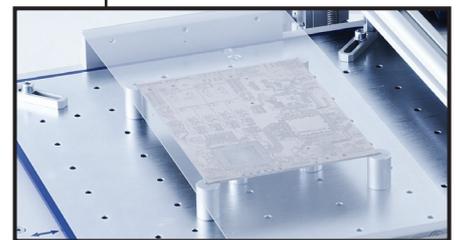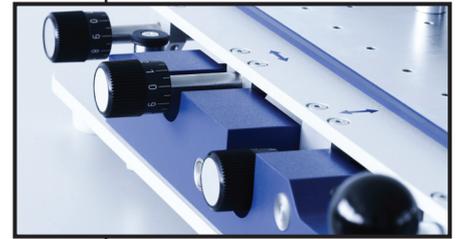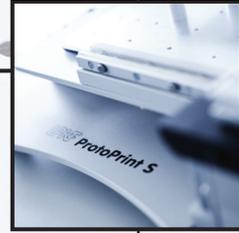
Technical data: LPKF ProtoPrint S

Frame dimensions	Width up to 430 mm (16.9") Length adjustable from 420 to 520 mm (16.5" to 20.5") Height adjustable from 20 to 40 mm (0.8" to 1.6")
Max. printing area	300 x 300 mm (11.8" x 11.8")
Print stroke	Manual
Print table adjustment	X and Y ±10 mm (0.4"/400 mil), ±5°
Max. PCB thickness	5 mm (0.2"), optionally more
Accuracy (machine)	±0,025 mm (±1 mil)
Double sided printing	Max. height of components 15 mm (0.6")
Dimensions (W x H x D)	850 x 180 x 530 mm
Weight	30 kg (66 lbs)
Ambient conditions	Temperature: 15 – 35 °C Humidity: 30 - 80 %

Configurations (additional to ProtoPrint S specifications):

ProtoPrint S System	**ProtoPrint S RP**
ZelFlex QR 362x480 print area approx: 260 x 330 mm (10.2" x 13") / Hand squeegee, rubber, 260 mm	ZelFlex QR 266x380 print area approx: 164 x 230 mm (6.5" x 9.1") Adapter for QR 266x380 frame Hand squeegee, metal, 150 mm

Options:

Vacuum table (for flex and rigid boards, requires compressed air)
Quick release stretching frames:
   Mechanical, double-sided ZelFlex QR 362x480 (inc. within ProtoPrint S System)
   Mechanical, double-sided ZelFlex QR 266x380 (inc. within ProtoPrint S RP)
   Pneumatic 4-sided ZelFlex Z4P 406x508x25 Slim (print area 306x408mm)

Squeegees:
   Hand squeegee, rubber, 150 mm (5.9")
   Hand squeegee, rubber, 260 mm (10.2") , incl. with delivery of ProtoPrint S System
   Hand squeegee, Permalex, 150 mm (5.9")
   Hand squeegee, Permalex, 260 mm (10.2")
   Hand squeegee, metal, 150 mm (5.9"), incl. with delivery of ProtoPrint S RP
   Hand squeegee, metal, 260 mm (10.2")

Test print screen (width 150 mm), included with delivery of ProtoPrint S
Magnetic support pin 4x
Magnetic edge support 4x
Positioning pin 4x
Set of 5 Polyimide Foils 210 x 297 mm (thickness 0,125 mm)