

# SD360-U

(SP1260 UM1)

STENCIL PRINTER

## User manual

Version 2.10.B



**SPIDÉ**

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## IMPORTANT SAFETY INSTRUCTIONS



### Machine location:

***Do not use the printer outdoors!** The printer is developed to be installed on a flat, dry surface. This surface or table must be capable of carrying a weight of at least 15 Kg (excl. The force used to spread the paste). The printer should be used with temperatures between 15 and 25 degrees Celsius.*

***Only use the printer in well ventilated rooms.** During the printing process the flux will release some gasses. These gasses released by the flux can be unhealthy, **please follow the safety instructions of your paste supplier.***



### Regular use:

*The printer is developed for printing paste on PCBs only. Do not use the printer for printing on food, animals or any other materials. You will void the warranty if you do not follow these instructions. **When used for anything other than printing paste on PCBs you will void the warranty!***

## Introduction

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### Remark

*Pictures in this manual can be different than the actual model you've purchased. They are only meant to explain the printers' use and function.*

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The SD360-U stencil printer is designed to put solder paste on PCBs with a stencil. A stencil is a thin metal sheet which has holes matching the position of the pads located on the PCBs.

Unlike other stencil printer brands, the SD360-U has unique features for user friendly handling of stencils and PCBs.

*Some of the features included:*

- *Lifting the stencil horizontally before opening the frame*
- *Stencils do not require mounting holes.*
- *Fixing a stencil is fast, easy and requires no heating of the stencil.*
- *Positioning of PCBs is simple but effective.*
- *You may use the stencil printer for single, as well as double sided PCBs. Even if there are already components on one side!*

## Setting up the stencil printer

This machine is produced and packed with special care to deliver you the best quality product possible. However we still advice you to use extra care while unpacking the machine. After unpacking make sure to look for any damage to the machine and immediately report it to the transport company.

**If you do not make any remarks of transport damage on the freight papers, you will lose your right to any insurance claims!**

Carefully unpack the stencil printer and save the original packaging in case you need to ship the unit. Please make sure the following items are packed with your stencil printer:

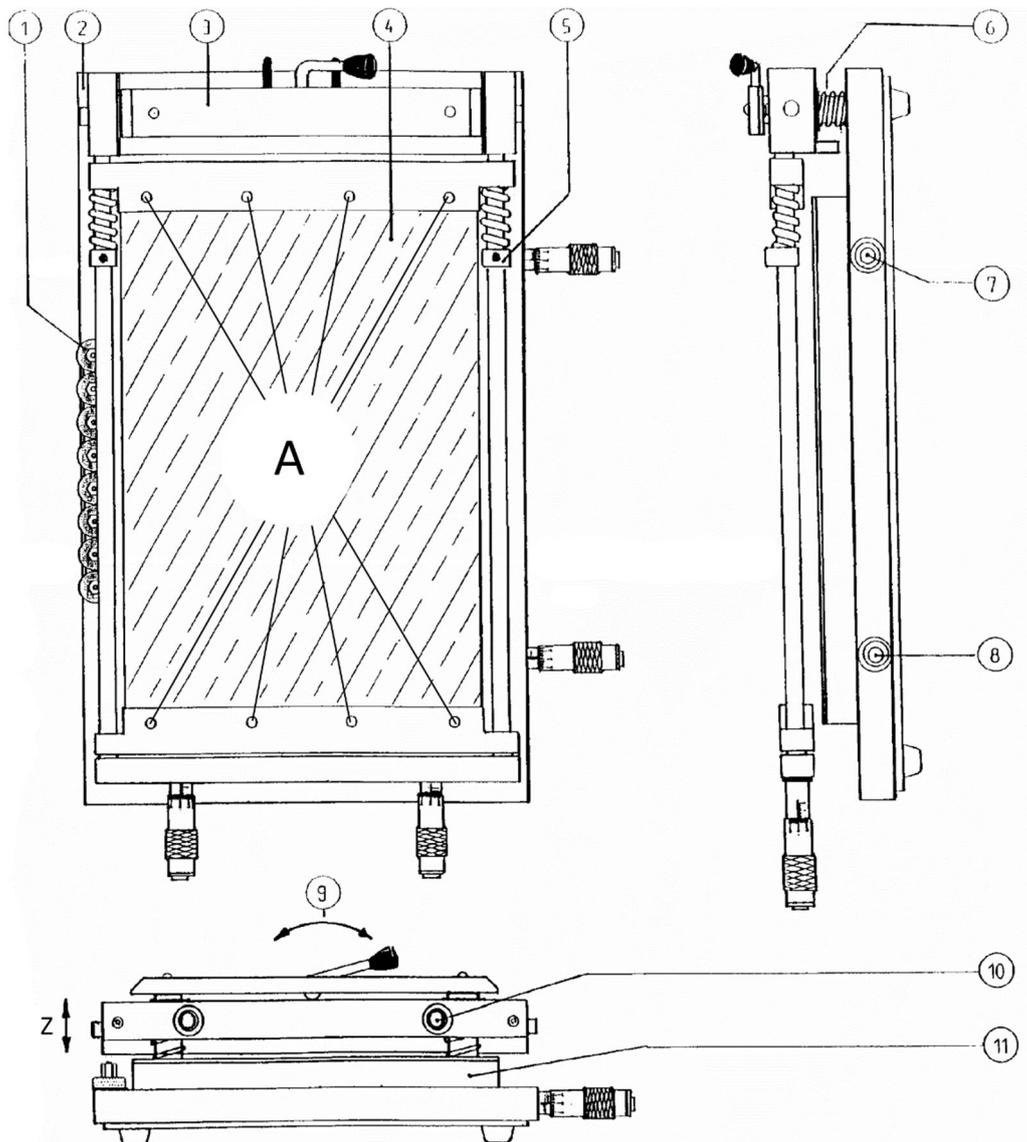
- *1 stencil printer SD360-U*
- *3 Allen Keys, metric sizes*
- *1 non-permanent fine liner marker pen*
- *6 magnetic placeholders for PCBs*
- *2 magnetic points of support PCBs*
- *1 transparent outline sheet to define PCB position*
- *1 squeegee*

## Placement of the stencil printer

Place the stencil printer on a clean, flat, and stable surface. This surface should be capable of carrying the weight of the machine as well as the pressure you add while spreading the paste.

Leave a 10 cm gap on each side of the machine for easy access to the X-axis, Y-axis and height adjustments.

## The SD360-U overview



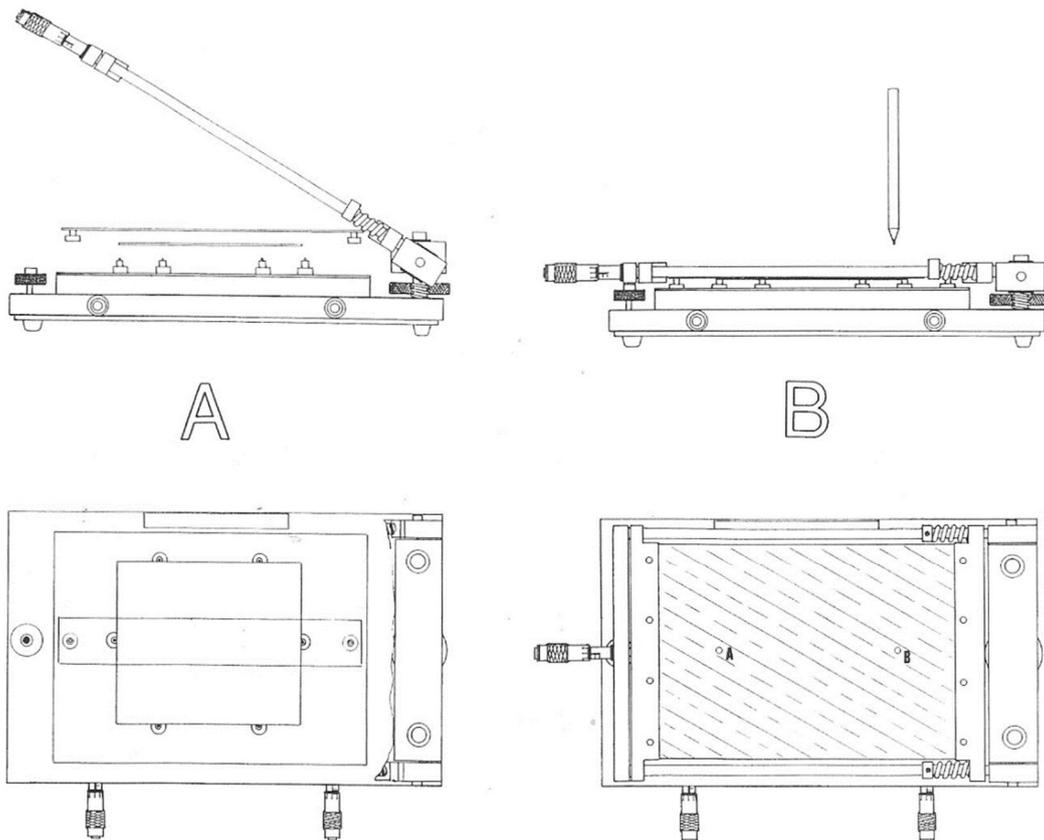
1. Storage place for magnets.
2. Base plate
3. Stencil frame
4. Stencil
5. Stencil size adjustment
6. Top height adjustment of stencil
7. X-axis alignment top
8. X-axis alignment bottom
9. Z-axis elevator lever.
10. Y-axis alignment and stencil tensioner
11. PCB table

## Getting started

### Installing the stencil

1. Set the Z-axis elevator lever (9) to the UP position.
2. Loosen the Y-axis alignment or stencil tensioner. (10)
3. Loosen the stencil size adjustment. (5)
4. Unscrew the eight screws of the stencil frame. (A)
5. Place the stencil in the first stencil holder (near the Y-axis alignments.) (10)
6. Tighten the four screws.
7. Shift the upper stencil holder to the lower stencil holder so the stencil will fit.
8. Tighten the four screws.
9. Press the stencil size adjustments against the upper stencil holder and tighten the screws.
10. Tighten the stencil tensioner up to the half of the length. (10)
11. Lift up the stencil frame.

### Installing the first PCB



1. Open the printer. (picture A)
2. Place the PCB roughly in its position with 4 to 6 magnetic placeholders.
3. For large boards use the two magnetic points and place them in the middle of the PCB.
4. Place the transparent outline sheet over the PCB and close the printer. (picture B)
5. Set the Z-axis elevator lever (9) to the DOWN position.
6. Search two easy to identify holes in the stencil which are on top of the outline sheet. Then use the marker pen to place a dot on the outline sheet through the previously picked holes. After this open the printer. (picture A)

7. Adjust the PCB until the PCB pads match the marker dots made during step 6.
8. Remove the outline sheet without moving the PCB and close the printer. (picture B)
9. Use the bottom and top height controls (6) to bring the stencil just above the PCB. The less space between the stencil and PCB, the better.
10. Use the X- and Y-axis for small adjustments to align the stencil holes and PCB pads.
11. Set the Z-axis elevator lever (9) to the UP position.
12. Your printer is now ready for printing!

## Operating the stencil printer

Once the installation has been completed following the steps described above, it is easy to place successive PCBs on the magnetic placeholders.

### **BUT BE CAREFULL**

Due to the fact that no PCB is exactly the same, it is advisable to check if the PCB pads still exactly match the stencil holes before each print.

Let's get started!

1. Place a PCB on the magnetic place holders and close the printer as described before. Check if the holes and pads are still aligned. Fix any alignment issues as needed and continue with step 2.
2. Bring the Z-axis elevator lever (9) to the DOWN position.
3. Put the solder paste on the far side of the stencil with a spatula. Make sure the solder paste is applied over the full width of the stencil cut-outs.
4. Place the squeegee behind the solder paste under a 45-60 degree angle and in a zigzagging motion while applying a little pressure, move the squeegee to the near side of the stencil. Make sure that all the holes in the stencil are filled with solder paste.
5. Remove the remaining paste at the end of the stencil with the squeegee.
6. Bring the Z-axis elevator lever (9) to the UP position.
7. Carefully open the printer and remove the PCB. It is now ready for assembly!
8. For successive printing repeat from step 1.

## Maintenance and care

Use the SD360-U only in a dry, clean location and strictly avoid aggressive environmental conditions such as etching equipment. After using the machine, clean the machine with a solvent that only removes paste and has no aggressive elements in it that could affect the machine or the stencil.

### **Note:**

*To prevent corrosion, slightly oil all metal surfaces twice or several times a year with resin and acid free machine oil or PTFE. No further lubrication is needed or advised.*

## Product specifications

Dimensions	600 x 380 x 125 mm
Max. PCB size	350 x 250 mm
Max. Stencil size	360 x 260 mm
Weight	max. 14 Kg

## Warranty

Like all of our other products the SD360-U has a one year warranty against faults in materials or production.

Any defective parts under this warranty will be repaired or replaced at our costs. The part in question, or the whole unit, has to be returned to us, together with a detailed description of the fault. Transportation cost are the responsibility of the customer.

Defects due to normal wear, as well as defects due to wrong use or lack of maintenance and care are not covered under this warranty.