Vacuum Chamber Plugging VCP 5000-1

This machine is designed to fill holes in printed circuit boards with conductive or non-conductive paste. The hole filling can be performed with through-hole vias and blind vias. The filling of blind holes is possible in a double side mode in one step. The machine is equipped with a glass cover for visual quality control on both panel sides.

max. Aspect Ratio 1:40

Surface ground with MASS SV 100

Function:
Once the printed circuit board has been hanged upon pins in vertical position, the door is closed and the vacuum process started. The vacuum will be built up after about 20 seconds. The filling process begins with the paste by piston being pressed out of a cartridge into the cavity of the via filling head or heads, while the filling heads are being moved over the printed circuit board. Both the contact pressure of the filling heads to the printed circuit board and paste pressure are adjustable. The vertical motion is realized by an adjustable servomotor.

If there are still some hole voids, the operator can replug the same printed circuit board. This is one significant advantage when “plugging under vacuum”. The paste is kept in refillable cartridges.

Subject to the printed circuit format, different via fill head sizes are available.

Automatic Scavenger System
This machine is designed for doctoring excess plugging paste from the surface of the printed circuit board. For doing so, the plugged panel is placed into the Automatic Scavenger System by hanging it on tooling pins and then the automatic process of squeegee blades wiping off the excess paste material on both sides of the panel is conducted.

Assembly
The modular frame work allows a later expansion for Capacity reason’s. All connections are already prepared in the base machine.

The Capacity depends on:
- AR (Aspect Ratio)
- Panel thickness
- Viscosity of the plugging material

Capacity
VCP 5000-1 : 40-60 panels per hour, with vacuum
VCP 1000 : 120-140 panels per hour, no vacuum
VCP 5000 : 80-120 panels per hour with vacuum

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Abmessungen / dimension (wxdxh): 2500 x 630 x 2100 mm
Freiraum / free space around approx.: 800 mm
Panelmaße / panelsize (wxh): 610 x 700mm
Paneldicke / panel thickness: 0.1 - 7.5 mm
Anschluß / power requirements: 3x480 V /PE, 60 Hz, 5 kW, 8 kW for VCP5000
Exhaust approx. 600 m³/h, 354 CFM

PC

max. panelsize
24" x 30"

Steuerung / control:
Siemens SPS 57 300, PC VISU

Druckluft / compressed air:
6 bar (88psi), 30 NL per Panel

Gewicht / weight:
950 kg

Raumtemperatur/ room temp.:
22\degree C ± 2\degree C

rel. Luftfeuchtigkeit/ rel. humidity: 50\% ± 10\%