

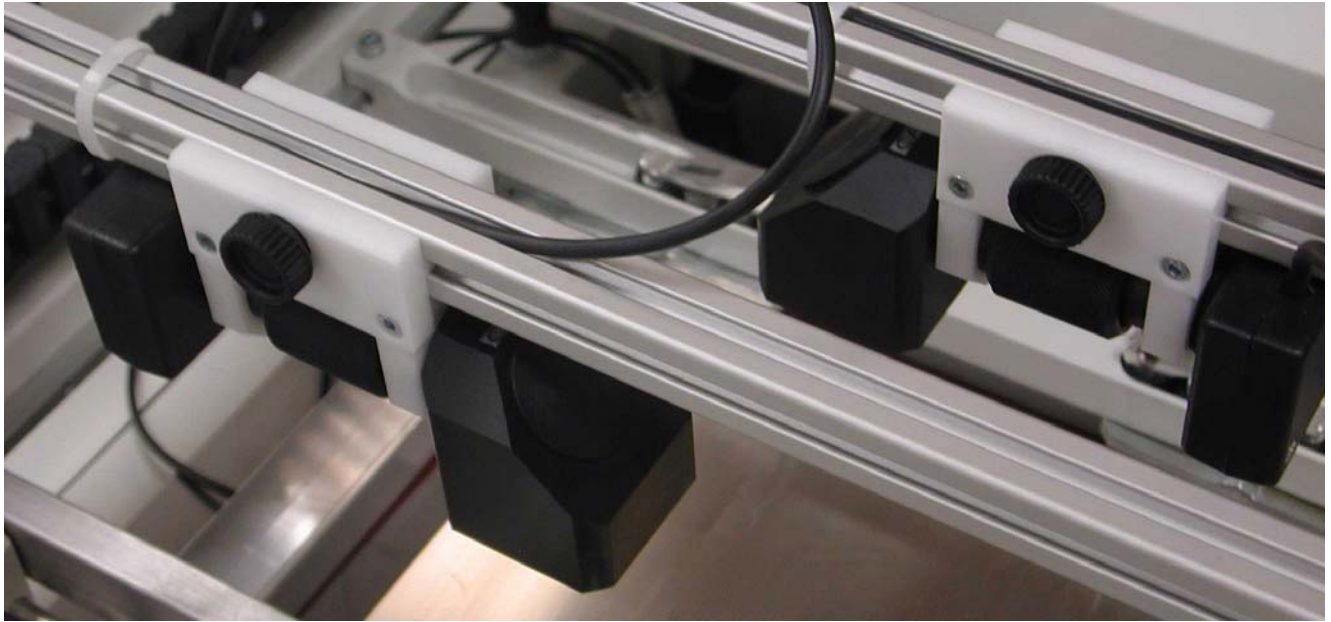
MOTOPRINT-AVS **automatic printing machine for SMT** **automatic interactive optical centring system** **side slide-in system for inserting of PCB substrates**

Automatic screen & stencil printer with semi-automatic interactive optical centring system for stencil substrates with side slide-in system of inserting PCB substrates. Slide-in solution more simplify inserting of PCB's to the machine for printing without necessity to lift up the upper frame with stencil tensioning frame, cameras-bridge and plastic cover. There is used no pneumatic valve and upper frame is manually lifted only for cleaning and service. **MOTOPRINT-AVS** printer is suitable for mid-size series of production with the highest requirements on precision and quality of printing process and exactly reliability and reproducibility.



The interactive optical centring system consists from more precise X, Y, Theta adjusting mechanism controlled by 3 motors with linear position, two CCD cameras with the magnification 10x on quad of screen and sophisticated software which covers this system.

The interactive centring system makes checking for coincidence over the mask (stencil) aperture. The exact centre point of the bigger solder pad under the smaller aperture of the stencil is calculated by software which makes a mathematical interpolation of this position based on scanning in X and Y direction. The possible indefinites of the non uniform glossy surface on the solder pad is suppressed by the means of the mathematical camera picture evaluation



The interactive centring system brings next advantages:

- Proper contact of stencil and PCB substrate can be checked
- Dust particles on PCB substrate and too high HAL can be observed
- Cleanliness of the stencil can be checked in the same time
- Completeness of print image can be checked
- Cleanliness of the upper stencil surface can be observed
- Additional checking of correct print parameters
- Control system works automatically or manually
- System assures exact positioning of solder pad centres under stencil aperture centres

MOTOPRIN-AVS runs in an automatically cycle and control system calls the operator

- only when great misalignment occurs with new PCB
- only in manual modus for checking of every PCB

Automatic screen & stencil printing according to program from practically unlimited number of possible programs. To assure constant printing conditions there are set to program positions of cameras for each PCB and it assures to decrease necessary time for re-setting of printer on new product.

Technical data:

Max. print frame size	600 x 600 mm
Print table size	460 x 500 mm
Max. print size	360 x 400 mm
Max. height of substrate	24 mm
Print table correction range X, Y (Theta)	+/- 5 mm (+/- 3°) from central table position
Print pressure range	10 – 120 N (1-3 N/cm with step of 0.1 N/cm)
Print speed range	10 – 99 cm/sec
Separation speed	0.5 - 5.0 mm/s with step of 0.1 mm/s
Print gap size	0 – 1.0 mm with step of 0.1 mm
Print modus	1 or 2 prints (print / print)
Number of print programs	no limit
Print cycle counter	0-999999
Dimension	1910 x 1030 x 1610 mm
Weight	200 kg
Air pressure input	0.60 - 0.80 MPa (oil-free air, filtered 2 micron)
Air pressure output	0.55 MPa
Power consumption	150 VA
Mains	230 V, 50 Hz
	circuit breaker D2A/1 on the machine
	(recommended mains circuit breaker 10 A)