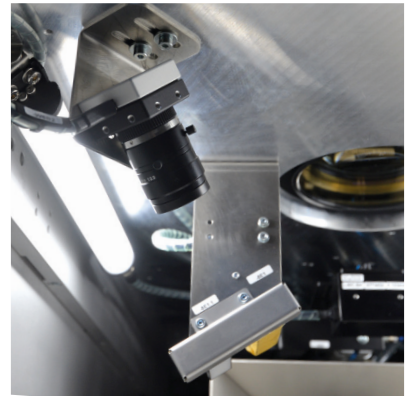
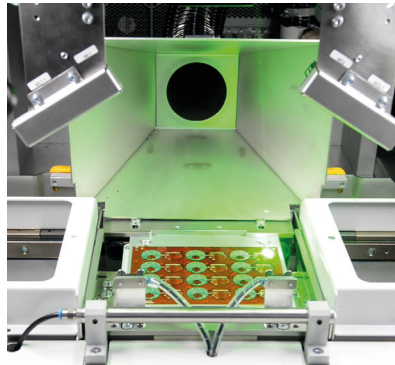


POLYPHOS DP 9000 Series



Description

The POLYPHOS DP 9000 Series is a cost-effective machine platform for laser depaneling of rigid and flex PCBs at high throughput.

The system uses a diode pumped solid state laser with green wavelength, developed for laser depaneling of rigid FR4 substrates.

The system is available as fully automated inline and requires only a small footprint. To automate the inline operation various product specific carrier transport and fixture systems are available. The panels are preferably fixed by a vacuum chuck during process.

To achieve very high throughput the POLYPHOS DP 9000 is able to be integrated in the ASYS Productivity Concept.

The camera vision used for machine calibration and offset correction by fiducials is ASYS IP.

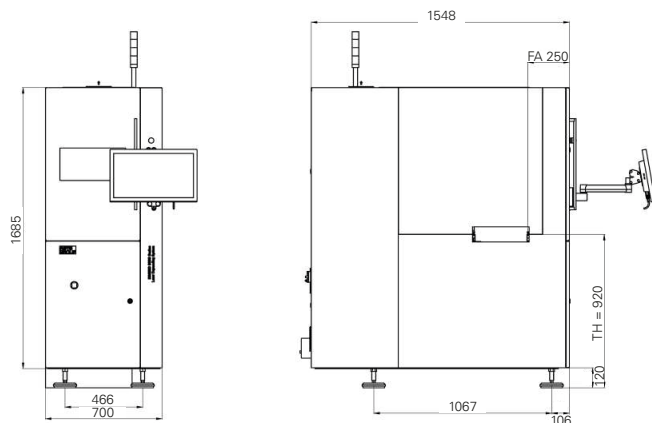
The system uses a digitally controlled galvo scanner to achieve high speed and dynamics optimizing throughput and accuracy.

Features

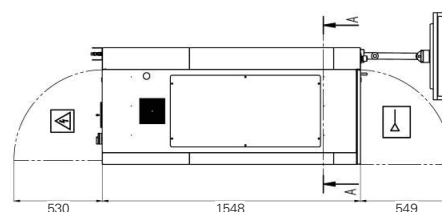
- _ Dust free and stress free depaneling of flexible and rigid PCBs to meet the Technical Cleanliness requirements of VDA 19 ISO 16232 standards
- _ High positioning accuracy
- _ Laser job based cutting recipes
- _ Integrated camera vision
- _ State of the art beam sources and optics for improved cutting result

Options

- _ 30 W DPSS Laser for cutting FPCBA and FR4
- _ 40 W DPSS Laser for higher throughput
- _ Focus shift for thicker PCBs and to match carrier height
- _ Laser power measurement
- _ Laser power calibration
- _ Exhaust and filter system
- _ Inline transport on workpiece carriers
- _ Workpiece carrier return system
- _ 3-segment inline parallel transport for lowest auxiliary process time
- _ MES connection



Top View:



POLYPHOS DP 9000 Series

| | POLYPHOS DP 9000 Type 1 | POLYPHOS DP 9000 Type 2 | POLYPHOS DP 9000 Type 3 |
|-------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| Maschine Configuration | | | |
| Transport Height | 950mm ±50mm | 950mm ±50mm | 950mm ±50mm |
| Transport Width | max. 320mm | max. 320mm | max. 320mm |
| Operating Side | Front | Front | Front |
| Scan Field | 180 x 180mm | 245 x 245mm | 285 x 285 mm |
| Working Area | Extension in X on request | Extension in X on request | Extension in X on request |
| Panel Dimensions | | | |
| Panel width | < 320mm | < 320mm | < 320mm |
| Panel length | see working area | see working area | see working area |
| Panel thickness | from 0,1 to 1,6mm (2,0mm) from 4 to 63 mils | from 0,1 to 1,6mm (2,0mm) from 4 to 63 mils | from 0,1 to 1,6mm (2,0mm) from 4 to 63 mils |
| Panel weight incl. WPC max. | 1,5kg | 1,5kg | 1,5kg |
| Component clearance | +40mm / 0mm (options on request) | +40mm / 0mm (options on request) | +40mm / 0mm (options on request) |
| Facility Requirements | | | |
| Power supply | 3/N/PE AC 400/230V 50Hz 3/N/PE AC 208/120V 60 Hz | 3/N/PE AC 400/230V 50Hz 3/N/PE AC 208/120V 60 Hz | 3/N/PE AC 400/230V 50Hz 3/N/PE AC 208/120V 60 Hz |
| Power consumption | 2,7kW | 2,7kW | 2,7kW |
| CDA supply | 6 bar | 6 bar | 6 bar |
| CDA consumption | 20 slm, oil- and water free | 20 slm, oil- and water free | 20 slm, oil- and water free |
| Water cooling | External standing AW-chiller comprised | External standing AW-chiller comprised | External standing AW-chiller comprised |
| Excess heat | 500 W – 30 W Laser 600 W – 40 W Laser | 500 W – 30 W Laser 600 W – 40 W Laser | 500 W – 30 W Laser 600 W – 40 W Laser |
| Ambient Temperature | 22°C ±1°C | 22°C ±1°C | 22°C ±1°C |
| Humidity | 50% ±20% (non cond.) | 50% ±20% (non cond.) | 50% ±20% (non cond.) |
| Machine Description | | | |
| Length x width x height | 700 x 1548 x 1685 mm | 700 x 1548 x 1685 mm | 700 x 1548 x 1685 mm |
| Clearance at back side | 530 mm | 530 mm | 530 mm |
| Laser type | DPSS-Laser 532nm | DPSS-Laser 532nm | DPSS-Laser 532nm |
| Laser-class | 1 | 1 | 1 |
| Positioning accuracy | ±25µm @ 5σ | ±35 µm 5σ ¹ | ±40 µm 5σ ¹ |
| Repeatability accuracy | ±10µm @ 5σ | ±14 µm 5σ ¹ | ±16 µm 5σ ¹ |
| Cutting accuracy | ±50µm @ 5σ | ±70 µm 5σ ¹ | ±89 µm 5σ ¹ |
| Fiducial camera | FoV 25 x 18mm | FoV 32 x 23mm ¹ | FoV 40 x 30mm ¹ |
| Weight | approx. 690kg | ca. 690kg | ca. 690kg |
| Color | Basic Light, RAL 7015, RAL 4010 < 75dB(A) | Basic Light, RAL 7015, RAL 4010 < 75dB(A) | Basic Light, RAL 7015, RAL 4010 < 75dB(A) |
| Noise Level | | | |

¹ Preliminary data