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Gefördert durch:



Bundesministerium
für Wirtschaft
und Energie

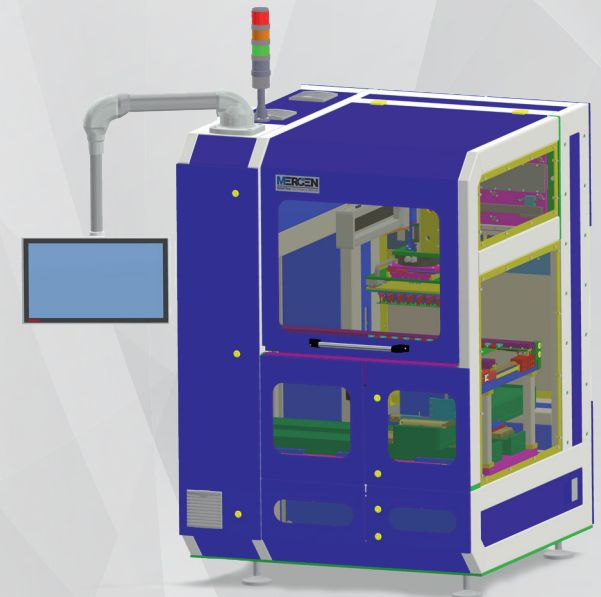
aufgrund eines Beschlusses
des Deutschen Bundestages



...we meet your expectations

MDM1250

„MERGEN Depaneling Machine 1250“



The Innovative Printed Circuit Board
(PCB) Depaneling Machine



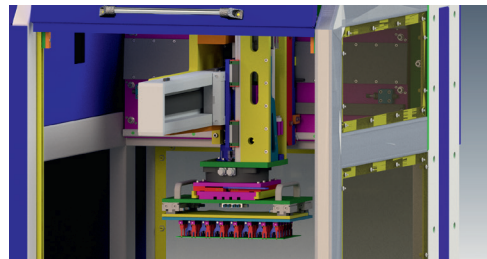
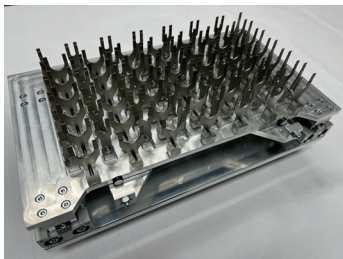
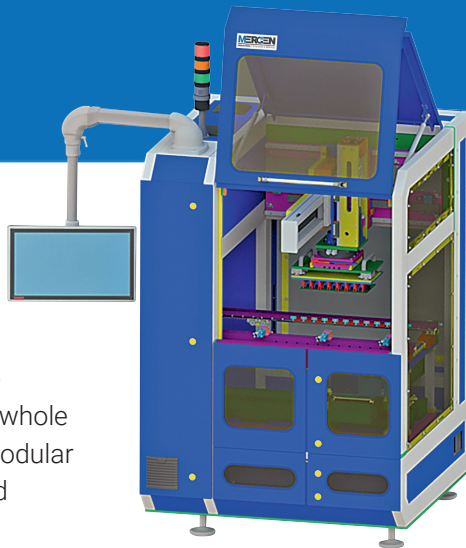
The MERGEN Depaneling machines are developed, to separate PCB's of different materials, stress free and almost dust free and without any damage, either mechanically or through electrostatic discharge.

Depending on the requirements, sawing or milling process will be available. The MERGEN depaneling machines with their highly dynamic linear motor axes have been developed for special requirements with very strict tolerance limits. The separation of PCB's can be realized with tolerances of less than $\pm 0.05\text{mm}$. Also frameless products can be separated with the MDM1250.

During the entire process, the wear of the milling tool is compensated and monitored to realize the high quality and long tool life time.

Advantages of the MERGEN „MDM1250“ – Depaneling Machine:

The new developed MDM1250 meets the future-oriented, high requirements of the whole electronic industry. The machine has a modular design and can be expanded and adapted according to the requirements in form of many additional options. All components of the machine are ESD safe.



Additional Advantages:

- High speed process, up to 50mm/sec with minimal stress on the PCB and virtually dust free
- Linear motor technology for precise path control in the range of $\pm 10\mu\text{m}$
- Special design of machine bed and tube frame to absorb and reduce vibrations
- Tool monitoring with automatic tool change as option
- Utilization of the entire tool surface by adjusting the immersion depth
- Developed for In- and Off-Line using as well as corner module
- High precision milling with a high repeatability of ≥ 5 Sigma quality
- Connection to the customers control system possible
- Quick change system for all customized grippers
- Transport system also for frameless PCB's
- Manual or automatic width adjustment available
- Permanent supply of ionized air to avoid electrostatic discharges in the process range
- Multiple grippers up to 40 grippers available with a special developed plate technology

Key Data MDM1250:

- Developed and manufactured acc. to SMEMA-9851 or Hermes-9852 Standard
- CE-Standard
- Automatic transport by segmented transport or by servo driven pushers
 - First segment as waiting position, second segment in separation position
- Removal of the waste frames via segment transport or with the gripper system
- Handling of the milled circuit boards with the manipulator
- Grippers are supplied adapted to the PCB shapes and dimensions and exchanged by a quick-change system
- The path control are realized by a NCI control – PLC are Beckhoff
- Any geometric form, including circles and curves can be realized with the tolerance accuracy
- Modification and adaptations of the path can be carry out by own personnel at any time, no knowledge of programming is necessary
- Creation of a milling program with CAD data or via HMI possible
- PCB thickness from 0,8mm until 4,0mm with material: CEM1 / FR2 / FR3 / FR4 / FR4 -05 / FR5 und Isola 117 (Standard pcb's)
- Max. PCB dimension 500x320mm
- Milling of aluminium or other materials are also possible
- Assembled pcb hight can be handled on the milling side within 7mm, on the gripper side within 40mm

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