

GREEN CERAMIC SHEET PUNCHING MACHINE PAM-4S & PAM-8S



- Punches green ceramic tapes with or without carrier film
- High speed and high flexibility
- Easy CAD-CAM programming
- Pin detection breakage control and holes quality inspection
- Quick pin or bushing exchange
- Wide range of punching tools and automation possibilities

Specially designed for all kind of LTCC tapes

Machine is designed to punch holes in to green ceramic tapes. Both types of sheets either with or without carrier can be used. Punching is done by single pin punching tool or optional grid type punching tool for higher productivity. Up to four (PAM-4S) or up to eight (PAM-8S) different tools can be installed, to punch four or eight different holes diameters.

Machine is suitable for punching small to medium production volumes with high flexibility.

Main units:

X, Y punching table:

High-speed servomotors drive punching table, via high precision ball screws, with high-resolution table position control. A vacuum frame holds the sheet during punching.

Individual punching units:

Several different punching units are available like: single pin round, grid type up to eight pins, single pin square or rectangle type, registration holes punching unit. No any adjustment is needed at pin replacement. Pins are pneumatically driven. Upper and bottom pin position is detected by sensor for reliable operation and shorter cycle time.

CCD visual inspection:

Is standard included, it automatically detects pin brakeage and checks punching quality. CCD camera serves also for tool offset adjustment.

Sheets loading system:

Three different sheet loading system are available, depend of required process automation.

- Manual - individual sheet loading/ unloading
- Automatic loading and unloading from cassette and to cassette
- Individual sheets are automatically cut from a roll, automatic unloading to the cassette

TECHNICAL SPECIFICATION:

Punching area: up to 200 x 200mm (8x8")

Average punching speed: 13 holes/s, at 1mm holes distance and single pin punching unit

Hole diameter: min 0.08mm, max 5mm

Number of punching units:

1. Variant up to 4,
2. Variant up to 8

Control: PC

Way of programming: CAD-CAM via DXF or NCdrill file
Manual entering of hole x,y position.

Positioning resolution: 1µm/1pulse (X,Y axis)

Tool offset setting: by CCD camera

Pin breckage detection: vision pin brake detection software in combination with CCD camera.

Work holder: vacuum, holding frame compatible with Keko printers and stackers or according to customer request.

Safety: All movable parts covered, door with safety switches, CE compliant

Power: 1x 220V, 50/60Hz, 10A (or custom)

Air source: 0,6Mpa, 300l/min

Vacuum: vacuum pump installed

Dimensions: PAM-4S, without reel feeder

L = 1100mm

W= 1030mm

H= 1680mm

Weight: 600kg

Options:



KEKO EQUIPMENT

- Grid type punching tools
- Square and rectangular holes punching tools
- Automatic tape feeding systems

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