MAPE CNC-1

AUTOMATIC

DRILLING- &

ROUTING

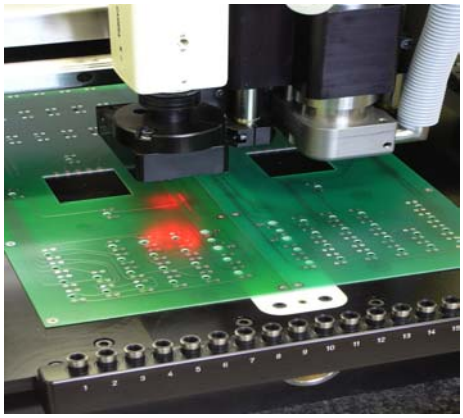
MACHINE

The design:
The CNC-1 is a modular, highly flexible production module for the drilling and routing of Printed Circuit Boards.
It has been designed to minimize the dilemma between the massive variation in batch-sizes, increased hole density and cost pressures.
The technologies used in the CNC-1 design are advanced, but with a sound, no-nonsense approach which ensures minimum maintenance cost, simple operation and easy trouble-shooting.

The machine has an ultra stable 3-foot design, based on an unique granite/steel composite construction, that does not demand any levelling or alignment.
Due to the high mechanical rigidity of the machine, it can anytime, be moved and placed exactly where required, without having to worry about changes in the machine's basic accuracy.

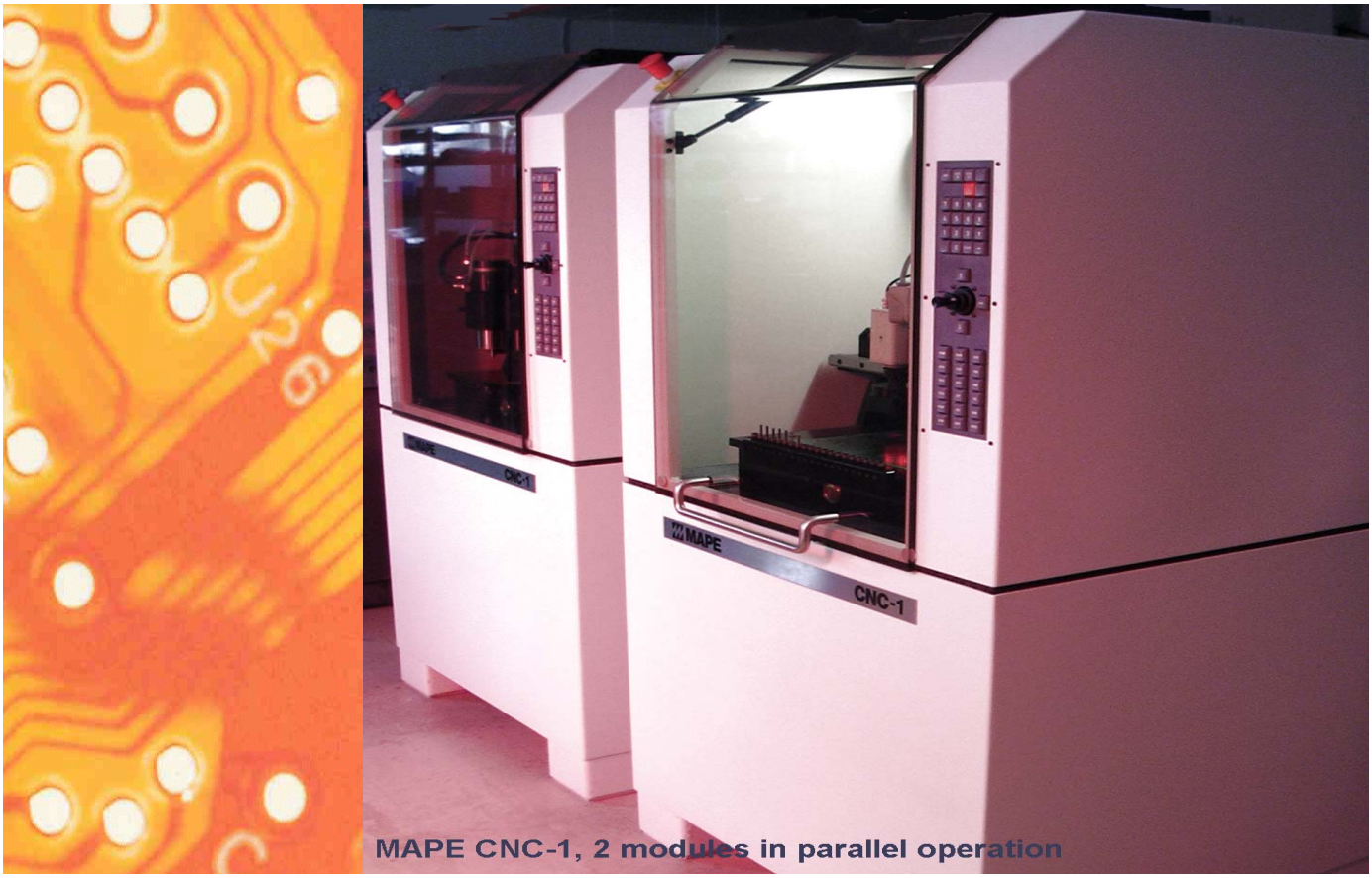
Versatility in application:
The CNC-1 can be used for a large variety of applications due to it's fully CNC-controlled Z-axis movement and wide working area:

-Precision Solder Carrier milling,
-Precision test jig manufacturing,
-Milling of "populated boards",
-Programming/multispindle machines,
-Engraving,
-Other specialized niche-products.



Production speed:
The new Mape CNC-1 is one the most productive 1-spindle drilling machines.
Each working hour, the CNC-1 will give you 50.000 holes or 180 meters of routed tracks for a typical PCB job.
This *guaranteed* performance has made the CNC-1 very popular among PCB-manufacturers, -as a true workhorse.

Value for money:
In addition to the high productivity, you get the essence of a good Mape design: User-friendliness, simple operation, excellent service back-up and the possibility to expand your production capacity whenever you need it, at *reasonable* cost.
Bottom line is, that CNC-1 produces quality holes and routing-tracks at the lowest costs in the industry.
We shall be happy to prove this.



MAPE CNC-1, 2 modules in parallel operation

CNC-1 specifications:

Worktable size: 820x460mm (32”x18”).
Working area net.: 625x458mm (24”x18”).
Max. Work height: 45mm (1.8”).
X-travel: 655mm (25.8”)
Y-travel: 460mm (18”).
Z-travel: 45mm (1.8”)
Production capacity: 40-50.000 holes per hour typ.
Routing capacity: 175-230 meters per hour typ.
Workpiece height: 42mm max (allowing fixtures).
Axis speed: Up to 24M/min.
Acceleration: Up to 20M/s/s.
Decelleration: Up to 30M/s/s.
Spindle speed range: 0-60.000RPM (Ballbearings).
Spindle speed range: 0-150.000RPM (Airbearings).
Spindle drive: Mape Dynatorque 2.2kVA.
Spindle cooling: 450kCal (Airbearings only).
Position accuracy: 0.010mm+/-.
Drilled hole accuracy: 0.015mm+/-.
Drill-range: Ø0.1-6.4mm.
Router range: Ø0.8-2.4mm.
Tool magazine: 20 tools, aut. error detection.
Memory capacity: 10.000 blocks.
Back-up retention: 10 years.
Tooling system: Ø3.00mm std. (1/8”- 4mm).
Collet diameter: Ø3.175mm (1/8”) special: Ø3.0mm.
Clamping foot: 8 kgs.
Data Entry: Via RS232 (all CAD formats).
Data formats CAD: Excellon, Gerber, Sieb+Meyer
Dust extraction: 1.5” hose outlet, CNC-contrl.
Shipping weight: Approx. 1.250 kgs.
Machine size: 85W x 155H x 100D cm.
Services required: 1x230V, 50-60Hz, 16Amps.
Air@5.5-6.0 bar: 1 L/min., dry/clean (Ballbearing).
Air@5.5-6.0 bar: 60 L/min., dry/clean (Airbearing).

CNC-1 OPTIONS:

Extended bed size:
Extended working area of 24”x20” (or larger) on request.

CCD Video programming system:
Optional on-board CCD state-of-the-art video programming system, used for creating CNC-programs (routing typically).

Vacuum extraction unit: 1.2kW, dual chamber system.

Front end system: Mape ProgramBank version 3.X.

Ringsetter: For applications of tool-rings.

Note: Specifications are subject to change without notice.
Mape CNC-1 is supplied ready for production. It need only be connected to a single phase mains supply, compressed air and a suitable vacuum extraction unit.

The CNC-1 is covered by Mape’s one-year warranty covering both parts and labour, and we provide guaranteed service within 24 hours.
Mape machines are manufactured in the EU.

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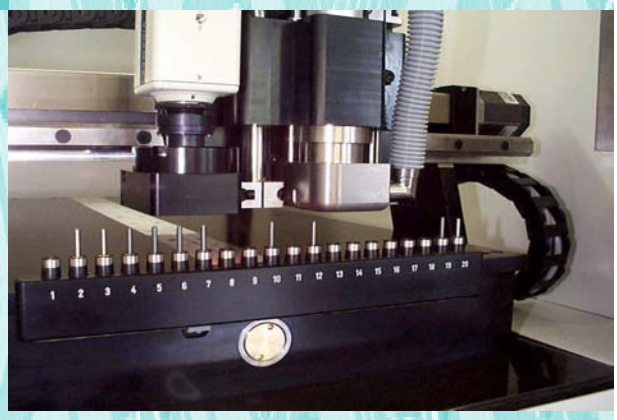
Mape Dynatorque HF-Spindle converter with extreme torque and high load capacity. Used for ball and airbearing spindles.

The basic idea of the modular design is, that this concept ensures higher performance compared to a conventional multi-spindle machine, while offering increased flexibility and higher production safety.

Comparison between a conventional multispindle machine and the CNC-1 production cells, running in 5 shift-production, would result in an annual gain of 200.000.000 holes per year due to the asynchronous loading/offloading of the modular machines.
In addition, you get added f l e x l b l l l t y and security.

3 sets of CNC-1’s in parallel operation. An infinite number of CNC-1’s can be linked together for flexible mass production.



Mape CNC-1 optionally fitted with CCD video camera system for manual programming. Optics magnification 20X for accurate digitizing and zeroing of the machine.