

MP-100

Pick & Place

Dimensions Modulo

Base l.w.h.off-line 2150 x 1700 x 1500mm +500 for signal light
in-line 1750 x 1300 x 1500mm +500 for signal light

Board thickness-size

min. 0.5mm - max. 4.5 mm thick
min. 30 x 30mm - off-line max. 380 x 500mm
in-line max. 310 x 500mm

For larger circuit boards contact DIMA

Maximum Warpage

0.5mm up - 1mm down

Component Height

Top max. 16mm - bottom max. 30mm

Placement Accuracy

±50µm using 1µm Encoders

Placement Rate

1 pipette 3000 cph IPC rated with 2 pipettes and 2 camera's up to 4800 cph IPC rated 6000 cph based on tact time

Components

Chip, MELF, SOT, SOIC, TSOP, TNT, PLCC, QFP, BGA, LCC, µBGA, etc. Smallest pitch 0.4mm (with second camera)

Component Size

0402 up to QFP208, field of view 42 x 42mm. Upgradeable to 0201 with second component alignment camera

Motion

X and Y, AC / DC servo motors with Linear encoder and digital motion controller

Control

Integrated microprocessor controller with CAN interface combined with PC running on Windows®

Axis Characteristics	X	Y	Z	Theta
Increment	0.001mm	0.001mm	0.02mm	0.045 degr.
Maximum Speed	1.8 m/s	1.8 m/s	1.75 m/s	-
Maximum Acceleration	1.5G	1.5G	-	-

Specifications

Interface

Fully SMEMA compatible as option
Conveyor height 865 to 970mm

Feeder Characteristics

Intelligent feeders, in-line 30 expandable to 120 / off-line 30 expandable to 180 - 8 or 12mm tapes, 240 / 360 - plastic sticks, number of trays depending on PCB size, tape feeders from 8 to 44mm, plastic stick up to 50mm wide, tray 335 x 185mm

Vision System

ESI Correctplace®, Automatic board alignment - full vision component alignment and analysis by vision system. Test on lead pitch, sqew angle, BGA bal size and number of balls

Cameras

1 Fiducial and 1 component align camera with CCD chip
Second component alignment camera is optional

Power-Air Requirement

220 Vac / 50 - 60Hz / 2500 Watt
6 Bar / 85 PSI / 80 L/Min.

Operating Temperature

18 - 30° Celsius

Noise Level

Noise emission during operation < 70 dB(A)

Weight

700kg without feeders
950kg with feeders



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Your Distributor

Specifications are subject to change without prior notice. MP100 0810E

MP-100

Pick & Place



Modular pick & place machine Modulo.
Built for growth. Think modular.
Configure now and upgrade later.



To improve your productivity

“Modulo”, the most modular pick & place machine

Creating a growth concept was the goal when DIMA developed the Modulo. This growth concept needed to be realised without losing DIMA's most important features like precision, flexibility and user friendly less. The Modulo is designed so that you put in only the modules that you need to create your ideal configuration. When in a later stadium your needs change, you change the specification of your machine by adding or changing a few modules. This way you invest in what you need when you need it. *Invest smart, think modular!*

Basic Machine configuration

By Ordering the MP-100 you can almost start assembling circuit boards. To get a working configuration you only need to order a PCB holder (in-line or stand-alone) and some feeders. The basic machine is equipped with one feeder bank for 30 feeders, one pick & place pipette, one fiducial alignment camera and one component alignment camera. If you want to place more than 30 feeders there is the option to add more feeder banks, if you want to process smaller components you can add a camera and if you want to increase speed you there is the possibility to add a camera and a pick & place pipette. The machine can be upgraded in the field.

Key Features

- Modular built for growth
- 120 8/12mm feeder positions in-line or 180 feeders off-line (360 stick feeders)
- Standard with full vision alignment (no laser alignment)
- No feeder reduction for 12mm feeder
- 4800 CPH (IPC rated)
- Dual placement pipettes (option)
- Intelligent feeders
- Dimasoft® one key operation software
- Linear encoders with 0.001mm resolution
- Easy width adjust pass-through conveyor
- Off-line programming and optimization
- In-line or off-line available

PCB Transport Unit

The in-line machine fully complies with the SMEMA standard. Dual direction of transport is available enabling integration with global peripheral equipment. Stand-alone units have the added facility for IN/OUT at the same side if required.



photo: MP-100 with in line transport, one extra feederbank installed and optional feeders

Dual Placement Head

Incorporated 1 individual Z axis-programmable pipette offering full vision alignment for all components. A large CCD camera for placement of fine pitch components from 0402 up to QFP208 is part of the standard features. A small camera (12 x 12mm) for chip components down to 0201 is optional available. The vision system checks all components on dimensions, number of leads, tolerance of leadspace and coplanarity.

High Speed Fiducial Camera

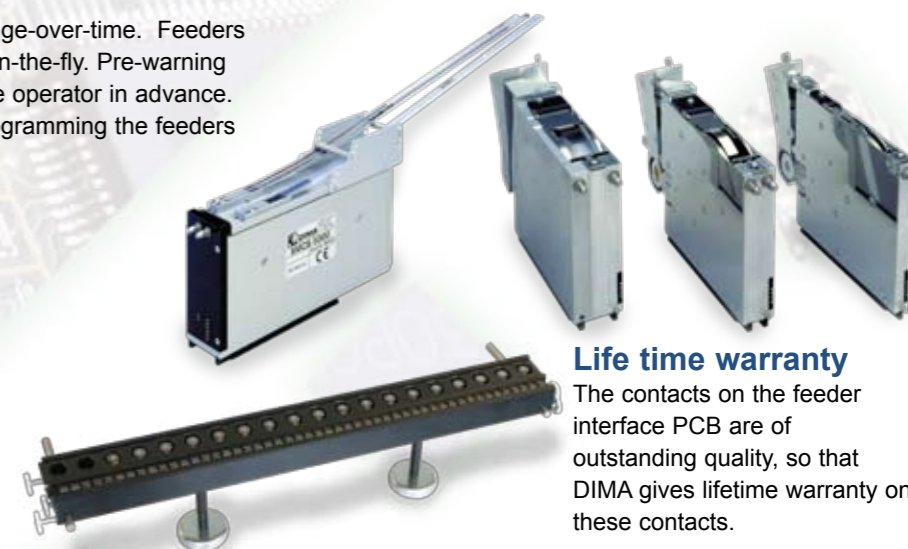
Dedicated to fiducial marks and teach in only. Not only an extremely fast reaction time, but also the ability to read practically any mark offered for correction are the key features of the fiducial alignment camera.

Ergonomics prevail

The Modulo is extremely easy to access. No heavy sliding doors or doors that make you step back when opening the machine. The modulo is equipped with vertically rising doors making the entire front or back free for easy access.

Quick Feeder Change

All feeders easily accessed, reducing feeder change-over-time. Feeders can be prepared prior to loading and exchanged on-the-fly. Pre-warning indication is highlighted on the monitor warning the operator in advance. An off-line programming station is available for programming the feeders outside of the machine.



Life time warranty

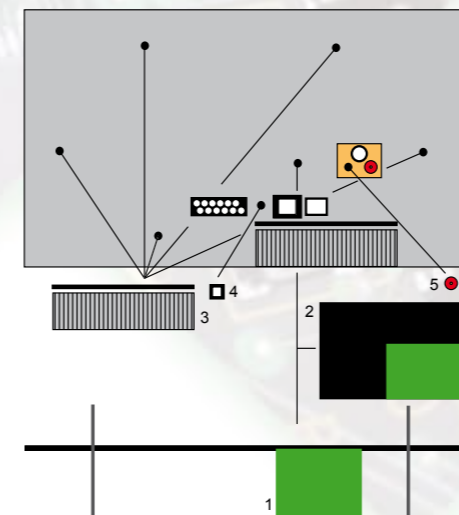
The contacts on the feeder interface PCB are of outstanding quality, so that DIMA gives lifetime warranty on these contacts.

Real Intelligent Feeders

DIMA is now offering her fourth generation tape feeders. The feeders contain a fully programmable micro processor offering a high level of management information, component counting, part number information, component name, component value, pitch requirements, operator warning for component depletion. Unlike other systems this information is stored into the feeder so that the machine data base is not required to determine what product is in the feeder. The DIMA feeders are equipped with the unique quick loading mechanism allowing you to change tapes within 40 seconds. For small strips of SMD tape DIMA offers a tape strip feeder that can be adjusted to any width of tape. DIMA also offers a broad selection of feeders for tray components.

Machine configuration

Starting with the MP-100 you get a basic machine including: 1 pick & place pipette, 1 fiducial camera, 1 component alignment camera, 1 tool changer, 1 set of tools, 1 trash bin, 1 feeder bank (for 30 feeders) and all software with controls necessary to run the machine.



You need to add:
A PCB fixture Nr 1 or 2 (in line or off-line) and feeders. You are now ready to start. Want more feeders, than you add feeder banks Nr 3. Want more speed, add an extra pick & place pipette Nr 5. Want more precision and some extra speed add an extra camera Nr 4.



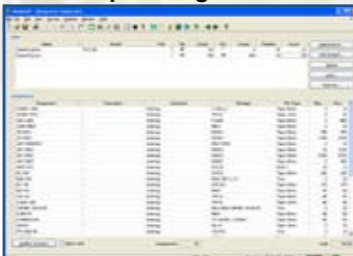
DIMAsoft® Windows®

Be flexible is the keyword for DIMA software making DIMAsoft one of the most advanced easy to use interfaces available in the market today. Its unique capabilities offer quick, informative one key operations, drastically reducing programming time. Material planning, management information, Remote diagnostics, output analysis and optimization are together with loads of other features standard available in the software. Software for CAD conversion, stock control and batch traceability are also available from DIMA. For off-line programming or diagnosis of management information you can install the pick & place software free of charge on a desktop PC.

Production



Material planning



Vision test



CAD conversion

