Precision screwdrivers *slot*

Order code	Esd order code	tip	Dimensions (mm)	Total length (mm)	Blade (Ømm)
PG1-0	**PG1-0 D**		1.2x60	160	2.5
PG1-1	**PG1-1 D**		1.5x60	160	2.5
PG1-2	**PG1-2 D**		1.8x60	160	2.5
PG1-3	**PG1-3 D**		2.5x75	175	2.5
PG1-4	**PG1-4 D**		3.0x100	200	3.0
PG1-5	**PG1-5 D**		3.0x150	250	3.0

Precision screwdrivers *phillips*

Order code	Esd order code	tip	Dimensions (mm)	Total length (mm)	Blade (Ømm)
PG2-0	**PG2-0 D**		PH-000 2.5x60	160	2.5
PG2-1	**PG2-1 D**		PH-00 2.5x60	160	2.5
PG2-1/75	**PG2-1/75 D**		PH-00 2.5x75	175	2.5
PG2-2	**PG2-2 D**		PH-0 3.0x60	160	3.0
PG2-2/75	**PG2-2/75 D**		PH-0 3.0x75	175	3.0
PG2-2/100	**PG2-2/100 D**		PH-0 3.0x100	200	3.0
PG2-2/150	**PG2-2/150 D**		PH-0 3.0x150	250	3.0

Precision screwdrivers *pozdriv*

Order code	Esd order code	tip	Dimensions (mm)	Total length (mm)	Blade (Ømm)
PG3-0	**PG3-0 D**		PZ-0 3.0x60	160	3.0

Precision screwdrivers *torx*

Order code	Esd order code	tip	Dimensions (mm)	Total length (mm)	Blade (Ømm)
PG4-0X	**PG4-0X D**		T5x50	150	3.5
PG4-0	**PG4-0 D**		T6x50	150	3.5
PG4-1	**PG4-1 D**		T7x50	150	3.5
PG4-2	**PG4-2 D**		T8x60	160	3.5
PG4-3	**PG4-3 D**		T9x60	160	3.5
PG4-4	**PG4-4 D**		T10x60	160	3.5
PG4-5	**PG4-5 D**		T15x60	160	3.5

Precision screwdrivers *tamper resistant*

Order code	Esd order code	tip	Dimensions (mm)	Total length (mm)	Blade (Ømm)
PG5-0X	**PG5-0X D**		TR5x50	150	3.5
PG5-0	**PG5-0 D**		TR6x50	150	3.5
PG5-1	**PG5-1 D**		TR7x50	150	3.5

PG5-2	**PG5-2 D**	TR8x60	160	3.5
PG5-3	**PG5-3 D**	TR9x60	160	3.5
PG5-4	**PG5-4 D**	TR10x60	160	3.5
PG5-5	**PG5-5 D**	TR15x60	160	3.5

ESD VERSION

ESD

All screwdrivers can be supplied both in the normal or ESD version. Different colour of handles available as well according on customer's request.

Precision screwdrivers *displayers*

ESP 42

ESP 42: Carton displayer containing 42 screwdrivers

(PG2-0; PG2-1; PG2-2; PG3-0; PG4-0; PG4-1; PG4-2)

ESP 36

ESP 36: Carton displayer containing 36 screwdrivers

(IT CONTAINS items: PG1-0/1/2/3/4/5).

BPG7-1

BPG7-1: Wallet for 7 screwdrivers up to customer choice.

Dimensions 22 x 28 cm.

BPG7-2

BPG7-2: Wallet for 7 screwdrivers up to customer choice.

Dimensions 28 x 28 cm.

Suitable also for longer screwdrivers such as PG1-5
or PG 2-2/100.

BPG6-1

BPG6-1: Wallet for 6 screwdrivers up to customer choice

BLISTERPACK FOR SCREWDRIVERS

BLISTERPACK: blisterpack for 7 precision screwdrivers at customer choice.

APGIR

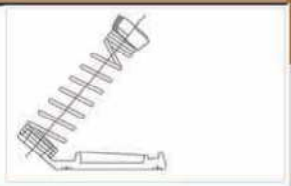
APGIR: Plastic hook for single screwdriver; different colours available

Soldering and desoldering accessories

PS..M..GR..

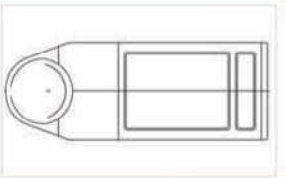
Soldering iron support comprising base (PS), spring (M..) and ferrule (GR..)

With sponge included.

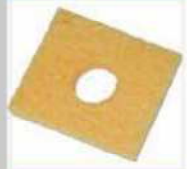


PS

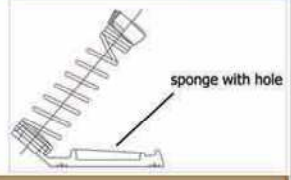
Universal alluminium base. Tip cleaning sponge included.



SNPFPS

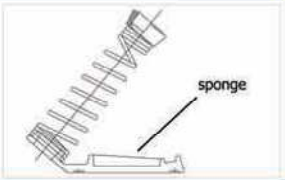


Cleaning sponge with hole for alluminium base PS
Standard: dimensions 60x50mm
Extra: dimensions 70x54mm



SNPPS

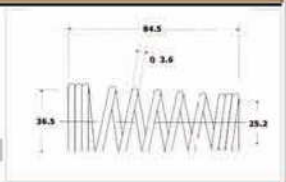
Cleaning sponge for alluminium base PS
Standard: dimensions 60x50mm
Extra: dimensions 70x54mm



MCC

very short black phosphated spring.

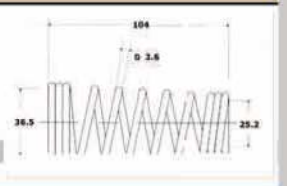
Length (mm)	Large side dameter (mm)	Small side dameter (mm)	Wire(Ø mm)
84.5	36.5	25.2	3.6



MC

short black phosphated spring.

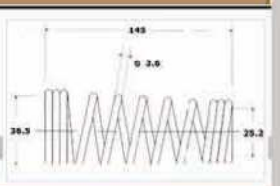
Length (mm)	Large side dameter (mm)	Small side dameter (mm)	Wire(Ø mm)
104	36.5	25.2	3.6



ML

long black phosphated spring.

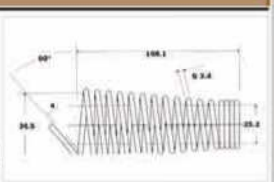
Length (mm)	Large side dameter (mm)	Small side dameter (mm)	Wire(Ø mm)
145	36.5	25.2	3.6



MG

nickel-plated spring with hook.

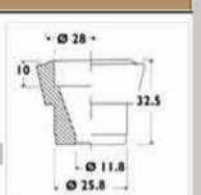
Length (mm)	Large side dameter (mm)	Small side dameter (mm)	Wire(Ø mm)
108.1	36.5	25.2	3.4



GR1

ferrule for soldering iron support.

Height	Upper hole (Ø mm)	Lower hole (Ø mm)	Lower edge(Ø mm)	Upper edge height (mm)
32.5	28	11.8	25.8	10



GR2

ferrule for soldering iron support.

Height	Upper hole (Ø mm)	Lower hole (Ø mm)	Lower edge(Ø mm)	Upper edge height (mm)
32.5	30	11.8	25.8	12

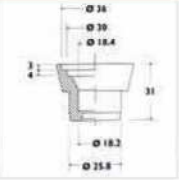
GR3

ferrule for soldering iron support.

Height	Upper hole (Ø mm)	Lower hole (Ø mm)	Lower edge(Ø mm)	Upper edge height (mm)
31	30-36	18.2	25.8	3-4

GR4

ferrule for soldering iron support.



Height	Upper hole (Ø mm)	Lower hole (Ø mm)	Lower edge(Ø mm)	Upper edge height (mm)
31	18.4-30-36	18.2	25.8	3-4

GR5

ferrule for soldering iron support.

Height	Upper hole (Ø mm)	Lower hole (Ø mm)	Lower edge(Ø mm)	Upper edge height (mm)
31	33	11.8	25.8	12

PD UNIVERSAL

a tool for sucking away the residual solder during desoldering operations; (length 215mm)

PD UNIVERSAL D

ESD tool for sucking away the residual solder during desoldering operations; (length 215mm)

PD 03

a tool for sucking away the residual solder during desoldering operations; same as PD UNIVERSAL D but shorter; (length 201mm)

PD 03 D

ESD tool for sucking away the residual solder during desoldering operations; same as PD UNIVERSAL but shorter; (length 201mm)

DS 2500

Solder dispenser with guiding tube that keeps the working area tidy and reduces solder waste. It is possible to add a second reel using the optional device DS-2500-AB.
In the back of the dispenser it is possible to insert different hand tools to be used by the operator while soldering (such as soldering pump, tweezers, pliers or screwdrivers)

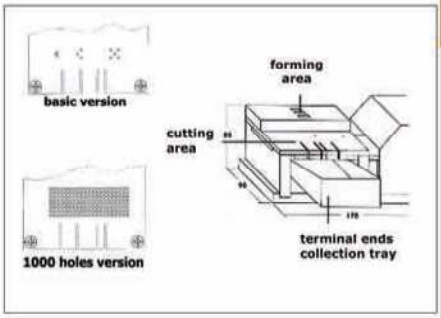
Forming systems

2000 S STANDARD VERSION

2000S is a pneumatic machine for the forming and cutting(standard height 3mm) of untaped electronic component terminals.
2000 S is supplied with a further cutting mask (1.5mm height).
Several forming masks are available on request.

Holes diameter: 1.2

Eyelet diameter: 1.0



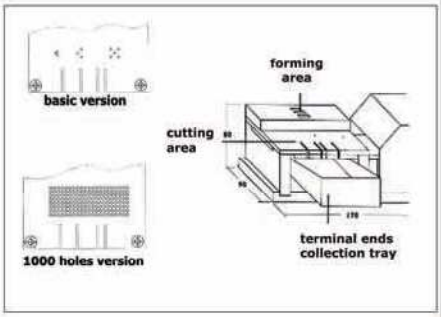
Order code	Cutting capacity comp/h	Holes diameter Ø mm	Eyelet diameter Ø mm	Weight (gr)	Dimensions
2000S STANDARD VERSION	1000-1500	1.2	1.0	4.0	170x90x80

2000 S 1000 HOLES VERSION

2000S is a pneumatic machine for the forming and cutting(standard height 3mm) of untaped electronic component terminals.
2000 S is supplied with a further cutting mask (1.5mm height).
Several forming masks are available on request.

Holes diameter: 1.2

Eyelet diameter: 1.0



Order code	Cutting capacity comp/h	Holes diameter Ø mm	Eyelet diameter Ø mm	Weight (gr)	Dimensions
2000S 1000 HOLES VERSION	1000-1500	1.2	1.0	4.0	170x90x80

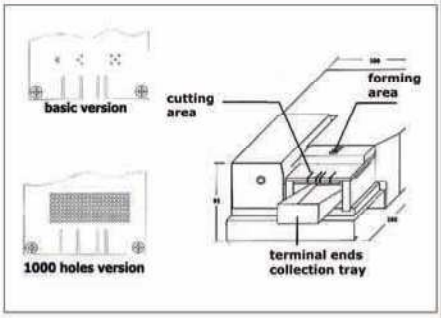
2000 SE STANDARD VERSION

2000 SE is an electric machine for the forming and cutting(standard height 3mm) of untaped electronic component terminals.
2000 SE is supplied with a further cutting mask (1.5mm height).
Several forming masks are available on request.

Holes diameter: 1.2
Eyelet diameter: 1.0

Go to forming masks

This system is supplied with a IP 220V plug - plug adaptor with GP 220V/240V plug type.



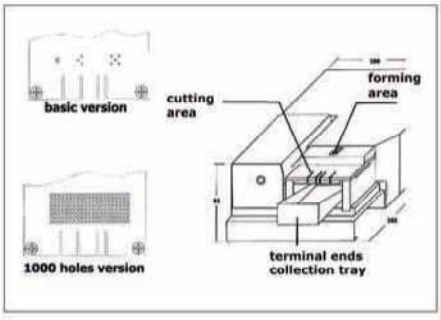
Order code	Cutting capacity comp/h	Holes diameter Ø mm	Eyelet diameter Ø mm	Weight (gr)	Dimensions
2000SE STANDARD VERSION	1300-1800	1.2	1.0	10.0	200x280x95

2000 SE 1000HOLES VERSION

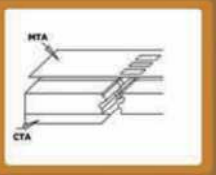
2000 SE is an electric machine for the forming and cutting(standard height 3mm) of untaped electronic component terminals.
2000 SE is supplied with a further cutting mask (1.5mm height).
Several forming masks are available on request.
Holes diameter: 1.2
Eyelet diameter: 1.0

Go to forming masks

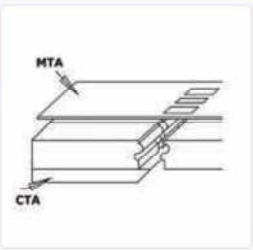
This system is supplied with a IP 220V plug - plug adaptor with GP 220V/240V plug type.



Order code	Cutting capacity comp/h	Holes diameter Ø mm	Eyelet diameter Ø mm	Weight (gr)	Dimensions
2000SE 1000 HOLES VERSION	1300-1800	1.2	1.0	10.0	200x280x95

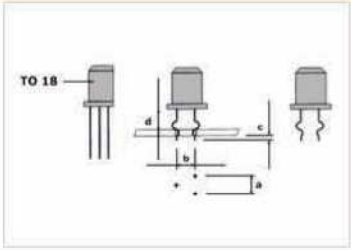


PREF A - TO 18



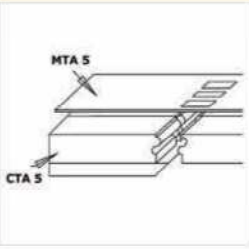
It forms and cuts 2.54 pitch transistors. It is possible to increase the D measure by spacing the MTA mask

* The "c" value is referred to boards of 1.5mm thickness



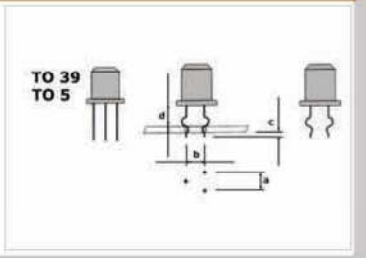
Order code	a (mm)	b (mm)	c* (mm)	d(mm)
PREF A - TO 18	2.54	1.27	1.40	4.00

PREF A5 - TO 39 - TO5



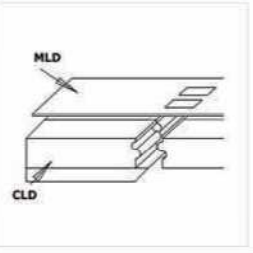
It forms and cuts 5.08 pitch transistors. It is possible to increase the D measure by spacing the MTA5 mask

* The "c" value is referred to boards of 1.5mm thickness



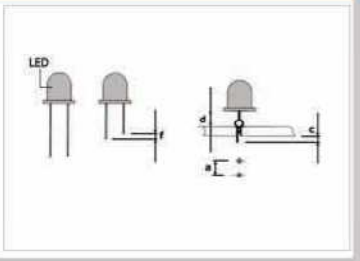
Order code	a (mm)	b (mm)	c* (mm)	d(mm)
PREF A5 - TO 39 -TO5	5.08	2.54	1.40	4.00

PREF B - LED



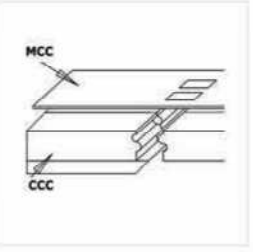
It forms and cuts 2.54 pitch led with the MLD mask, or 5.08 pitch led with the MCC mask. It is possible to increase the D measure by spacing the MLD or the MCC masks

* The "c" value is referred to boards of 1.5mm thickness



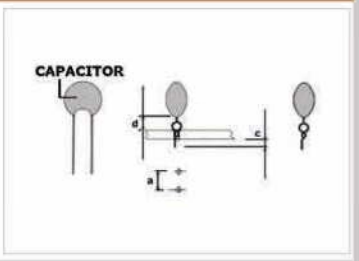
Order code	a (mm)	c *(mm)	d (mm)	f (mm)
PREF B - LED	2.54 - 5.08	1.40 short side	3.50	0.60

PREF C - CAPACITOR



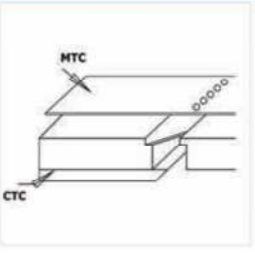
It forms and cuts the leds of 5.08 pitch capacitors. It is possible to increase the D measure by spacing the MCC mask

* The "c" value is referred to boards of 1.5mm thickness



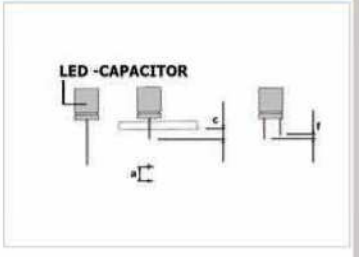
Order code	a (mm)	c* (mm)	d (mm)
PREF C-CAPACITOR	5.08	2.00	3.50

PREF D - LED/CAPACITOR



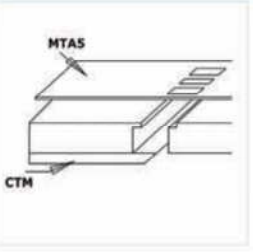
For cutting leds and capacitors when polarity needs to be distinguished. It is possible to increase the C measure by spacing the MTC mask

* The "c" value is referred to boards of 1.5mm thickness



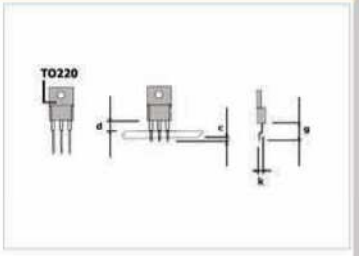
Order code	a (mm)	c* (mm)	d (mm)
PREF D-LED/CAPACITOR	2.54	1.50-4.50 short side	0.6

PREF E - TO220



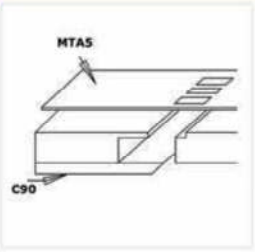
It forms and cuts the leds of TO 220 components. It is possible to increase the D and the G measures by spacing the MTA5 mask

* The "c" value is referred to boards of 1.5mm thickness



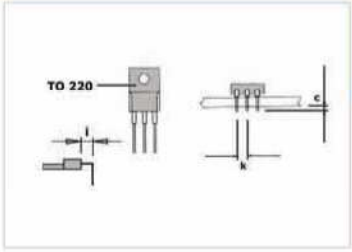
Order code	c* (mm)	d (mm)	k (mm)	g (mm)
PREF E-TO220	1.50	4.00	2.54	7.00

PREF F - TO220



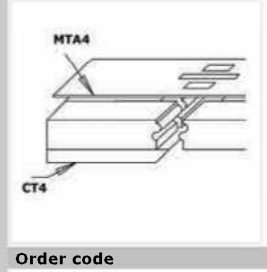
It forms at 90°angle and cuts the leds of TO 220 components, leds and capacitors. It is possible to increase the I measure by spacing the MTA5 mask

* The "c" value is referred to boards of 1.5mm thickness



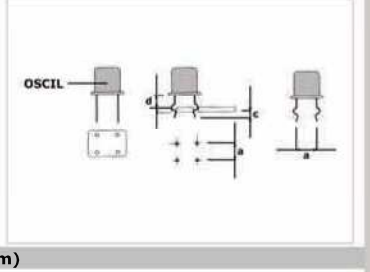
Order code	c* (mm)	i (mm)	k (mm)
PREF F - TO220	1.50	2.50	2.54

PREF G - OSCILLATOR



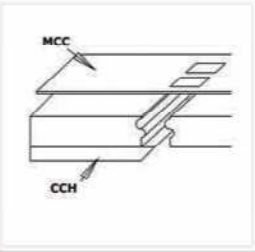
It forms and cuts oscillators. It is possible to increase the D measure by spacing the MTA4 mask

* The "c" value is referred to boards of 1.5mm thickness



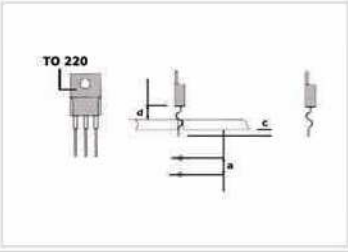
Order code	a (mm)	c* (mm)	d (mm)
PREF G - OSCILLATOR	5.08-7.62	1.50	4.00

PREF H - TO220 / CAPACITOR/LED



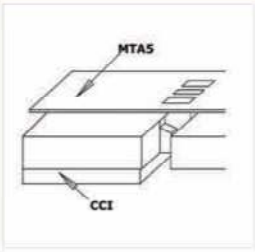
It forms and cuts 2.54 pitch led with the MLD mask, or 5.08 pitch led with the MCC mask. It is possible to increase the D measure by spacing the MLD or the MCC masks

* The "c" value is referred to boards of 1.5mm thickness

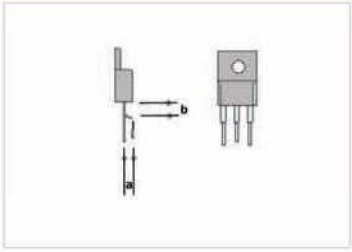


Order code	a (mm)	c *(mm)	d (mm)
PREF H-TO220/CAPACITOR/LED	TO 220 conden led	1.40	4.00

PREF I - TO220

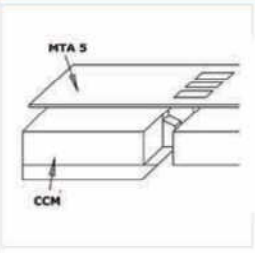


Special forming mask for the forming of TO 220 and TO 247. 2.54mm pitch of the central lead



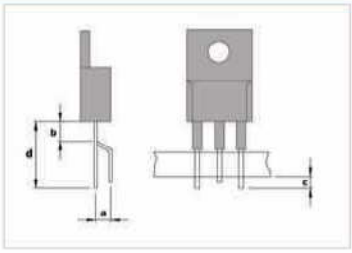
Order code	a (mm)	b (mm)
PREF I - TO220	2.54	3.00

PREF M - TO220



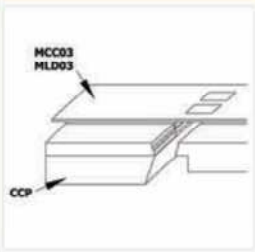
Special forming mask for the forming of TO 220. 2.54mm shift of the centre lead

* The "c" value is referred to boards of 1.5mm thickness



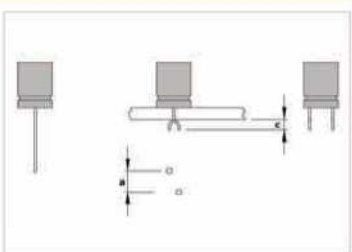
Order code	a (mm)	b (mm)	c* (mm)	d (mm)
PREF M - TO220	2.54	3.00	2.00	7.50

PREF P - LED OR CAPACITOR



It forms and cuts leds and capacitors, 2.54 pitch with MLD03 mask or 5.08 pitch with MCC03 mask

* The "c" value is referred to boards of 1.5mm thickness

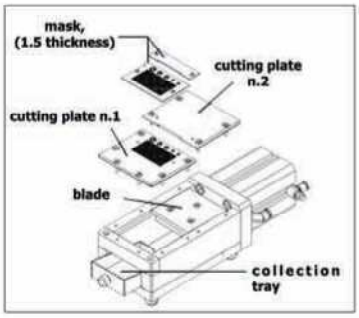


Order code	a (mm)	c* (mm)
PREF P - LED OR CAPACITOR	2.54-5.08	1.50

Cutting equipment

MMP10

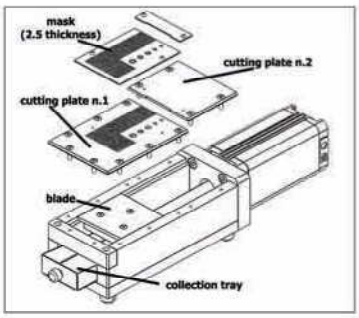
MMP 10 is a pneumatic machine designed to cut different untaped components (transistor, led, capacitor, resistor, etc.)
Standard cut is 3mm, but it can be modified increasing the thickness by means of the mask included (1.5 mm height).
Diameter of components leads the machine can cut goes from 0.3 to 1.3mm for a maximum number of 60 leads at the same time.
It can cut diameters up to 2.5mm with a customized mask.
Cutting capacity comp/hour 3000



Order code	dimensions (LxDxH) cm	weight (kg)	working area
MMP10	28x10x7.8	6.5	51x43

MMP15

MMP 15 is a pneumatic machine designed to cut different untaped components (transistor, led, capacitor, resistor, etc.). Similar to MMP10 but with a bigger run.
Standard cut is 3mm, but it can be modified increasing the thickness by means of the mask included (height 1.5mm).
Diameter of components leads the machine can cut goes from 0.3 to 1.3mm for a maximum number of 60 leads at the same time.
It can cut diameters up to 2.5mm with a customized mask.
Cutting capacity comp/hour 3000.



Order code	dimensions (LxDxH) cm	weight (kg)	working area
MMP15	38x10x7.8	7.8	51x93

Crimping equipment

MMP 20

The MMP20 is an electric machine, CE approved, designed for the crimping of several STOCKO terminals

MTL1 6670 terminal	from 1 to 12 path
MTL1 6690 terminal	from 1 to 12 path
MTL1 6710 terminal	from 1 to 12 path
MFMP 9290 terminal	from 2 to 12 path
MFMP 9261 terminal	from 2 to 12 path
MFMP 9271 terminal	from 2 to 12 path

Order code	dimensions (LxDxH) cm	weight (kg)
MMP20	305x325x120	9.5

MMP 25

The MMP25 is an electric machine, CE approved, designed for the crimping of several STOCKO terminals

Connector RFK 25-RAST 2.5	with 2.5mm pitch
Connector MFMP 7234	from 2 to 20 path
Connector MFMP 7236	from 2 to 20 path
Connector MFMP 7238	from 2 to 20 path
Connector MFMP 7239	from 2 to 20 path
Connector RAST 2.5	with 5mm pitch
Connector MFMP 7260	from 2 to 12 path
Connector MFMP 7262	from 2 to 12 path

Order code	dimensions (LxDxH) cm	weight (kg)
MMP25	305x325x120	9.5

Depaneling-scoring systems

DP SERIES: manual depaneling pliers

A manual depaneling tool to separate larger sheets of multiple PCB panels in a quick, economic and safe way, leaving well finished cut surfaces; maximum length of the isthmus (tab) must not exceed 2.5 mm.
ESD-safe handles version available.
Maximum PCB thickness 2mm; minimum distance isthmus 16mm; maximum cutting force 7kg

order code	ESD order code	blade thickness mm (")	cutting force (kg)
DP 15 N	DP 15 N D	1.5 (.059")	3
DP 18 N	DP 18 N D	1.8 (.070")	3
DP 20 N	DP 20 N D	2.0 (.078")	3
DP 23 N	DP 23 N D	2.3 (.090")	7
DP 24 N	DP 24 N D	2.4 (.094")	7
DP 25 N	DP 25 N D	2.5 (.098")	7

DPP SERIES: pneumatic depaneling tools

Pneumatic depaneling tool. The DPP is suitable for the quick, economic and secure separation of PCBs, leaving the cut edges well finished. The interchangeability of the blades, made from special steel in various thicknesses, enable it to satisfy all customer requirements. (Isthmus lenght 1÷3 mm)
Maximum PCB thickness 1,6mm; minimum distance isthmus 11mm; maximum cutting force 80kg

order code	ESD order code	blade thickness mm (")	Spare part - central blade
DPP 20 N	DPP 20 N D	2.0 (.078")	L20 - 2.0 mm (.078")
DPP 23 N	DPP 23 N D	2.3 (.090")	L23 - 2.3 mm (.090")
DPP 24 N	DPP 24 N D	2.4 (.094")	L24 - 2.4 mm (.094")
DPP 25 N	DPP 25 N D	2.5 (.098")	L25 - 2.5 mm (.098")

SDP

"DPP TANDEM" Depaneling system from 1 to 5 pneumatic heads and blades of: 2-2.3-2.4-2.5 mm
PCB specifications when you use DPP TANDEM:
MAX PCB THICKNESS: 1.6mm
BLADE THICKNESS: 2.5 – 2.4 –2.3- 2 mm
ISTHMUS: 1÷3 mm – Tol. 0 +0.1 mm
MAX N° OF HEADS: 5
MIN DISTANCE BETWEEN TWO HEADS: 55 mm
MAX DISTANCE BETWEEN TWO HEADS: 425 mm

How to order: SDP-...-ST-... SDP - heads number (from 1 to 5) - ST - blade thickness (2.5; 2.4; 2.3; 2)
it is possible to use also the "T" blade: Cutting force 140 kg

DPB

"DPP MONO" Depaneling system with 1 pneumatic head
PCB specifications when you use DPP MONO:
MAX PCB THICKNESS: 1.6mm
BLADE THICKNESS: 2.5 – 2.4 –2.3- 2 mm
ISTHMUS: 1÷3 mm
Cutting force 190 kg
minimum distance isthmus 13mm;
To change the cutting blade, it is needed to change only the single blade: SDP-...LT.. or SDP-...LTT
How to order:
DPB-1-ST... blade thickness (2.5; 2.4; 2.3; 2) specifying also the type of blade.
The DPB is supplied with the "L" blade but it is possible to order also the "T" blade as shown in the picture.

Depaneling-scoring systems

DPF

The DPF is a manual depanelling system able to solve needs of depanellizing of small series where the use of an hand-tools could aggravate the product of an excessive labour and where the use of an automatic depanellizing would not justify the cost of amortization.

- doesn't submit mounted components (not even those mounted close to isthmus) to any stress
- very easy to manage also for not trained workers
- low manual strength is needed
- suitable to be used even with boards mounting components sensitive to electrostatic charges
- vacuum system makes perfectly clean the whole depanelling operation

SMA 10

SMA10 is a machine designed to separate Printed Circuit Boards previously scored. It works either on traditional materials like CEM1 and FR4 as well as on Aluminium substrates (MCPCB). SMA10 can depanel both short and long boards bare or populated (maximum component heigth is 32 mm). The alignement system allows three degrees of regulation. The heigth of the reference plan in relation to the cutting tool. Then a sharp guide allows to easily position the scored line aligned with the cutting tool and finally a mechanical reference assures the correct positioning of the panel. The sharp guide can be easily adjusted to compensate different scoring depth. After the separation, the separated panel remains on a different plane also adjustable in height to allow a good positioning even in case of panels with components on both sides. The cutting tools have a diameter of 125 mm and the lower tool is motorized with controlled speed adjustable from 0 to 100 rpm. The upper tool can be controlled in height, thus controlling the distance from the lower tool and adapt to different material thicknesses.

DPA 100

DPA100 is a semi-automatic depaneling system.
Using a vertical milling cutter this system allows to cut isthmus in any direction, following linear or circular lines. DPA100 functioning is performed by a Personal Computer which manages: PLC which manages machine's digital input and output spindle positioning control system an high resolution USB camera for the self learing of jobs and other activities PC works on Microsoft Windows XP (or higher) using therefore and user friendly interface. DPA100 allows to pass to a new job in a quick and easy thanks to the simple self learning software.

DPA 1000

DPA1000 is an automatic depaneling system. Using a vertical milling cutter this system allows to cut isthmus in any direction, following linear or circular lines. DPA1000 functioning is performed by a Personal Computer which manages:

- PLC which manages machine's digital input and output
- spindle positioning control system
- an Inverter for cutting speed control
- an high resolution USB camera for the self learing of jobs and other activities

PC works on Microsoft Windows XP (or higher) using therefore and user friendly interface. DPA1000 allows to pass to a new job in a quick and easy thanks to the simple self learning software. Furthermore, thanks to the double work table, it is possible to reduce the circuits upload and download time increasing productivity. For small production, this feature allows to work on different circuits at the same time.