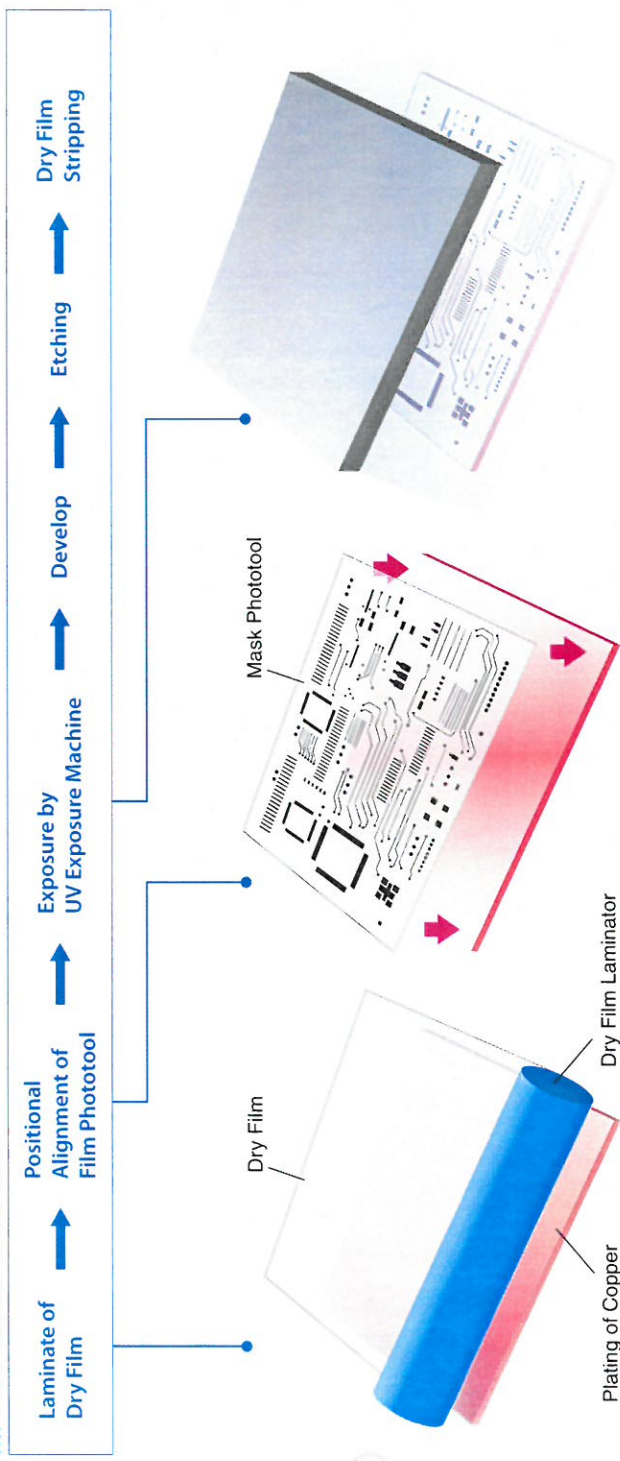


Print on Demand Ink Jet Printing of Etch Resist, Soldermask UV Blocking and Nomenclature (Legend) is here! With high speed and accuracy just a push button away, you are now in control of production and costs.

Digital process

Print on Demand Ink Jet Printing significantly reduces process cost by eliminating Film Tools, Stencils, High Talent Labor and Wasted Inks. MicroCraft has the right machine for both small lot proto-types, to high volume production.

Etch Resist until now



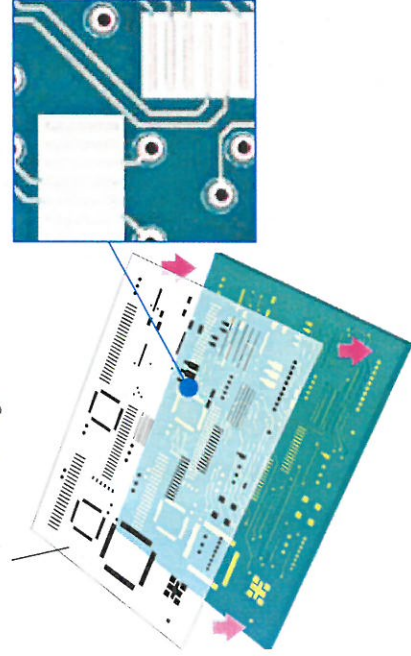
Currently mask registration has relied on the Phototools aligned manually.

With Soldermask accuracies becoming more acute, current Phototools cannot meet today's requirements. Print on Demand UV Blocking allows you to print directly on Soldermask giving you the accuracy you require without the cost and inaccuracies of Phototools, Light Leakage and other issues using a fixed Phototool.

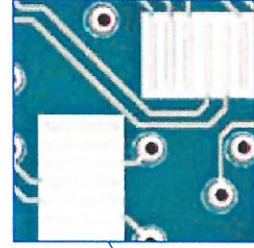
Formation of Solder Resist until now



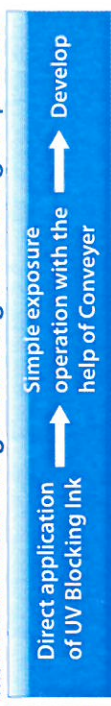
Mask File (After visual Alignment)



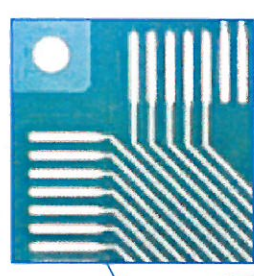
QFP Pitch until now



Soldermask Image resulting from a digital process



Digitally processed QFP pitch



The elimination of positional displacement of Mask Film is related to the limitation imposed by human hand.

The solder mask formation as regard to the QFP-section of the Fine pitch board still remains as an unresolved area to ponder about.

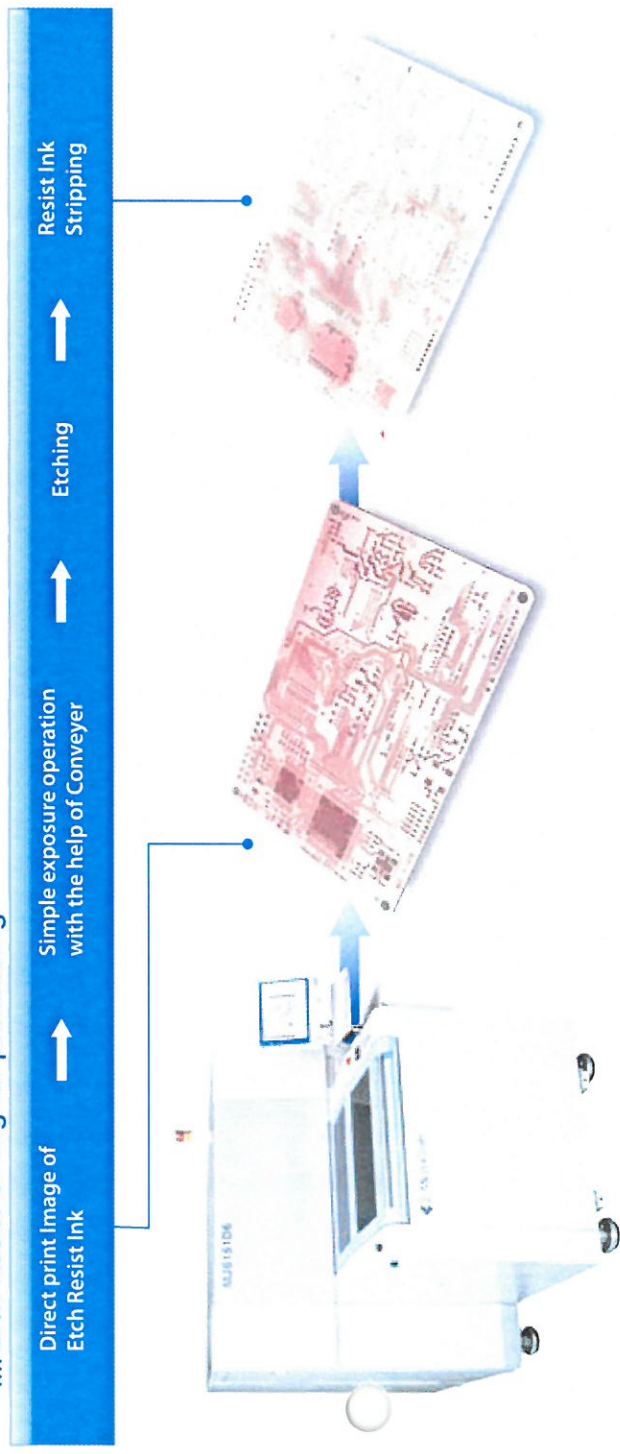
JetPrint directly images UV blocking ink on locations that later will be resolved openings in the mask.

Accurate openings on QFP, Fine Pitch and resulting mask Dams are now accomplished easily.

JetPrint

On-Demand InkJet Printing System

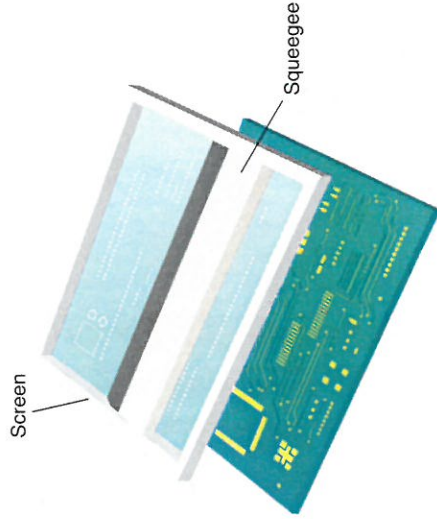
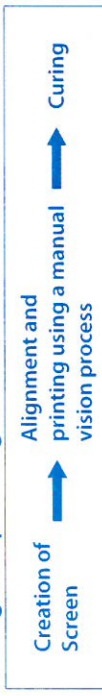
Etch Resist of Digital processing



JetPrint directly Images Etch Resist ink on Copper Clad and Plated panels.

With direct print and etch, Cost and time reductions are realized by the elimination of Dryfilm, Laminators, High End Exposure Printers, Developer equipment and associated process steps.

Legend printing until now

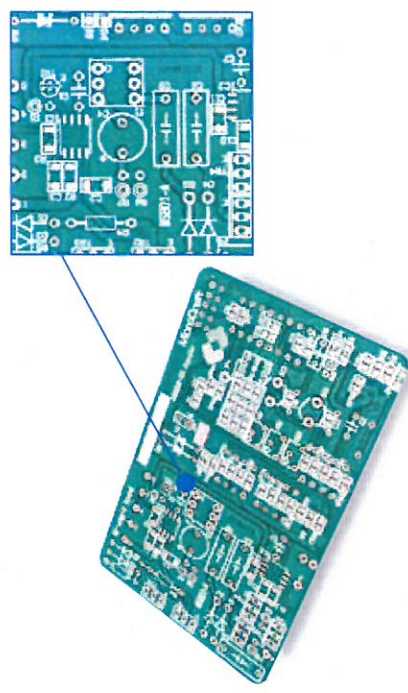


Current legend process requiring highly skilled operators, screen and squeegee tools has been required to achieve basic Legend printing. Problems faced by manual printing are Image Registration, Serialization, and Barcode printing. The cost of Phototools to generate Stencils, Stencils and other in process steps adds to the cost of each job. Storage of these tools is also cumbersome and expensive.

Legend printing using a digital process



Precision line lines and nomenclature are now possible.



Digital printing with JetPrint, all issues with Alignment, Data Revisions, Barcode and Serialization are all done immediately without Phototools. Thus reducing cycle time and cost.

JetPrint

On-Demand InkJet Printing System

K SERIES

MJP K Series

"K" series printers are designed for UV Pinning type inks.

With Spot UV light sources mounted on both sides of the print array, bi-directional printing is possible for high speed and resolution.



MJP6151KS/KM MJP7861KS/KM

Max. Printing Size:
510x610mm

Max. Printing Size:
610x780mm



"K" Series support on board curing (UV Pinning) type inks.

"K" series printers with UV cure lamps mounted directly on the print arrays allows real time curing of inks and supports a bi-direction print mode.

Features 1024 individually controlled Nozzles.

"K" printers with 1024 nozzles and dual ink reservoirs, provide the customer with the ultimate in speed and flexibility of UV pinning type inks.

2 Models matched to the specification of the Ink

MicroCraft's "K" series printer is designed for Low Viscosity inks. This series is available with either 14pl or 4pl arrays.

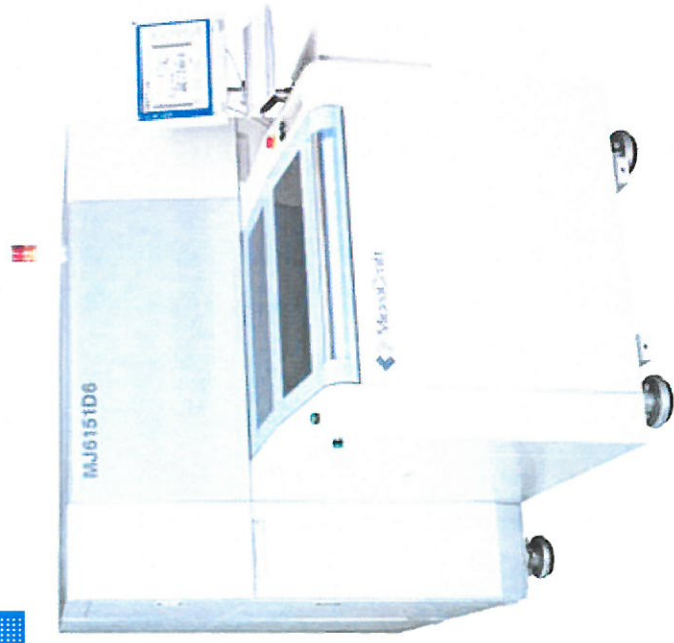
Selection of Optimum Resolution

"K" series model gives the customer the capability of (360/720/1440) DPI print ranges. Giving complete flexibility to the customer of speed and print quality.

D SERIES

MJ D series

"D" Series printers from MicroCraft are the fastest printers in PCB world.



MJ6151D3/D6

Max. Printing Size:
610x610mm



"D" series offers flexibility of Colors, Inks and quantity of print arrays

MicroCrafts "D" series lineup features D3 – 3 Print Arrays and D6 – 6 Print Arrays.

"D" series printers give the customer flexibility of multi-color and different ink types.

It is possible to implement simultaneously different types (multi-color, different variety) of ink (There is limitation in possible combination for simultaneous implementation)

"D6" flexibility includes all 6 arrays 1 color, 3-3(2color), 2-2-2(3color), 3-2-1(3color) / For D3: 3(one color), 2-1(2color), 1-1-1(3color)

High Accuracy(Theta) Rotating table as standard feature

MicroCraft has developed a Rotating table to improve print quality. Because of the day to day registration issues, MicroCrafts high resolution camera and the combination of rotating table and image alignment result in the highest quality of print.

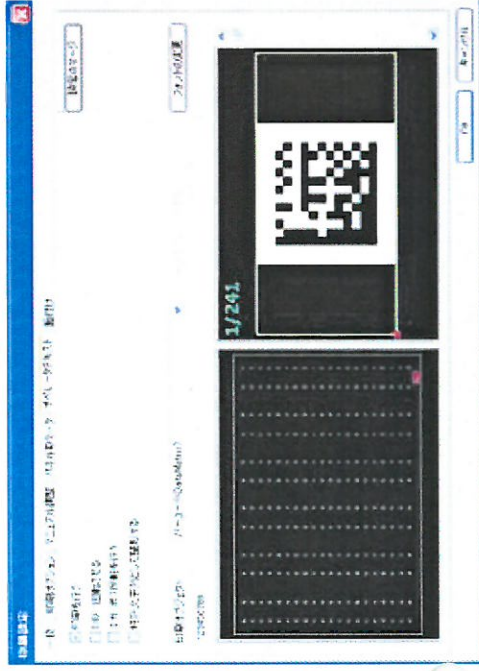


Ink is liquid at room temperature, solidifies with UV exposure.

Please contact our sales regarding Ink.

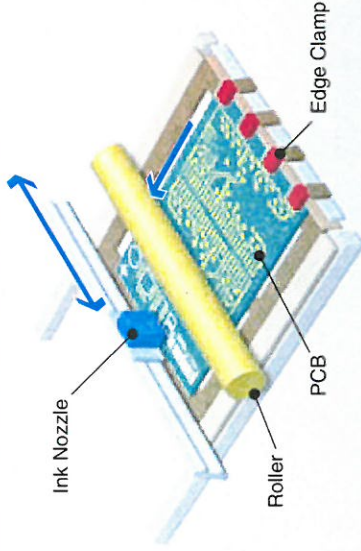
As for JetPrint, in addition to the function allowing highly detailed printing, the operation further is enriched with a convenient function to improve the throughput too.

Auto numbering



Today's information age will require PCBs to be Serialized in both Man readable and Barcode systems. MicroCraft gives the customer complete flexibility in Serialization, Date Codes, Lot Codes, Code 39 and 2D barcodes etc.

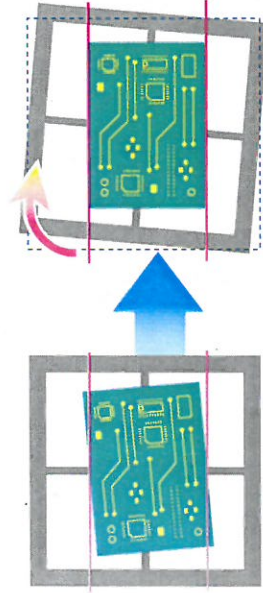
PCB Warpage Removal System



JetPrint includes a Vacuum Table, Onboard Pinch Roller and Edge clamping system to eliminate PCB warpage. With all three processes in place, accurate printing is assured.

θ (Theta) Correction Table

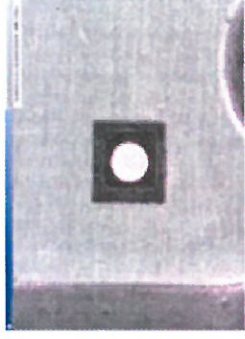
Standard feature for D Series.



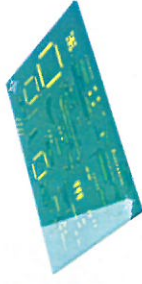
Even when the board is set in a slanted manner, the table rotates and corrects the displacement

Table Rotating mechanism for correcting the extremely small displacement that may take place during Board setting. It computes the inclination of each X and Y-axis during alignment of the board, and turns the table as required to perform accurate printing.

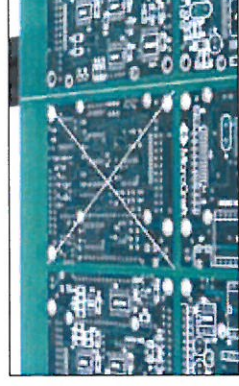
Auto alignment



Alignment is performed at a maximum of 4 points and the stretches along each X and Y-axes are precisely remedied.

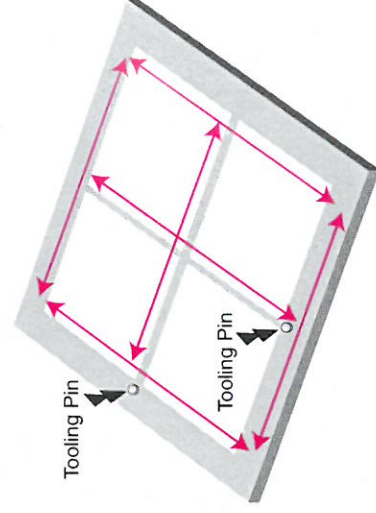


X-out function



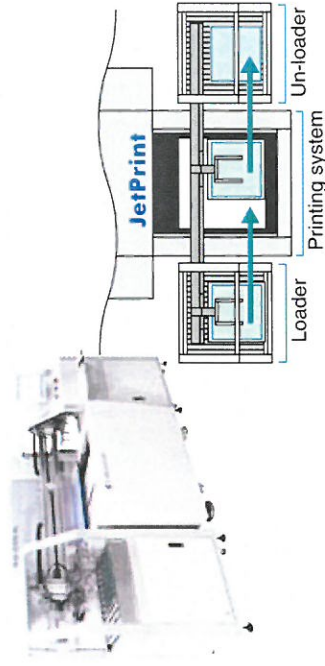
Integrating Test information with JetPrint printers allows the printer to print Legend on only the PASS boards while having X print on the bad boards. This also allows you to print Test Stamp and other information only on GOOD boards. Manufacturing management also becomes lot easier.

Tooling Pin



It is the pin for positioning boards that can be arranged in the segments configured by the structure 田. on the top of the Shuttle. Several pin sizes can be selected and hence any board can be positioned individually.

Loader/Un-loader



High Volume applications can take advantage of MicroCrafts loader/Unloader system. Systems can be placed inline with other processes to reduce handling and improve quality.

JetPrint

On-Demand InkJet Printing System

2500000191

Specifications

JetPrint General Specification

Board Thickness	0.004" to 0.4" (0.1-10mm)
Board Securing Method	Vacuum-style or Tooling Pin
Warpage Removal System	Warpage Correction Roller, Edge Clamp
Alignment	CCID Camera
Monitor	LCD Monitor
Software	Windows base Operation Software
Data Input Format	RS274X
Optional Input Format	RS274D, ODB++, DPE, DXF

Vacuum Pump (silent box)

Power Supply	3 phases AC200V 10A 50/60Hz, AC220V 10A 60Hz
Air Volume Displacement	152gal (575ℓ)/min(50Hz), 181gal (685ℓ)/min(60Hz)
Air Coupler Size	RC 3/4
Weight	220lbs(100Kg)

Operating Conditions:
 70-75°F (21-24°C), 30 - 70% relative humidity
 non-condensing, no dust, no vibration, no corrosive gas.

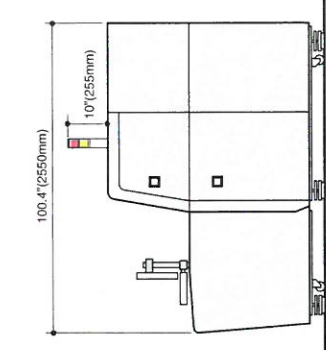
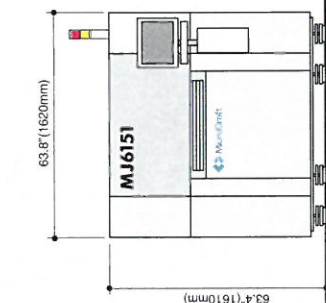
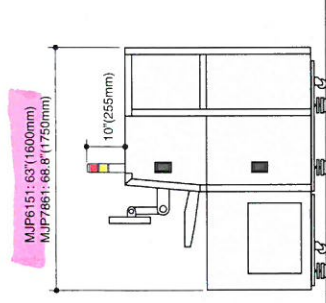
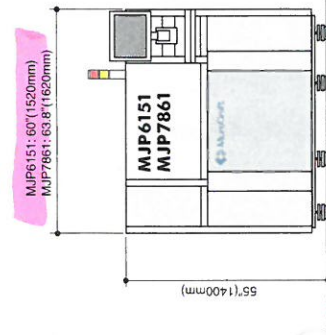
Curing Requirements: Conditions vary depending on ink style.
 Please consult with our technical staff for more details.



Detail Specification	C SERIES		K SERIES		D SERIES	
	MJP6151Q4 MJP7861Q4	MJP6151Q2 MJP7861Q2	MJP6151S4 MJP7861S4	MJP6151S2 MJP7861S2	MJP6151KM MJP7861KM	MJP6151DK MJP7861DK

Max. Printing Size	MJP6151: 20x24" (510x610mm) / MJP7861: 24x30.7" (610x780mm)					
	10pl	30pl	10pl	30pl	14pl	4pl
Droplet size	1024(256x4)	512(128x4)	512(256x2)	256(128x2)	1024(512x2)	1536(256x6)
Number of nozzles	1200dpi *1 (up to 2400dpi)	600dpi *2 (up to 2400dpi)	1000dpi *2 (up to 2400dpi)	600dpi *3 (up to 2400dpi)	720dpi *4	600dpi
Standard resolution	60-80µm	60-80µm	60-80µm	90-110µm	70-90µm	90-110µm
Min. line width *5	31 seconds	60 seconds	47 seconds	89 seconds	32 seconds	17 seconds
17x22.8" (430x580mm)	37 seconds	70 seconds	55 seconds	104 seconds	44 seconds	20 seconds
20x24" (510x610mm)	52 seconds *7	99 seconds *7	77 seconds *7	149 seconds *7	58 seconds *7	115 seconds *7
24x30.7" (610x780mm)	2	1	2	1	1	6
Number of ink tank (Support multi ink)	-	●(Option) *8	-	●(Option) *8	●	-
Support on-head UV (Pin-cure type ink)	●	●	●	●	●	●(Option) *8
Support hot melt ink	-	-	-	-	-	-
Power supply	Single phase 200V 20A 50/60Hz					
Air supply:Pressure	0.5MPa	0.5MPa	0.5MPa	0.5MPa	0.5MPa	3 phase200V 15A 50/60Hz
:Consumption	50ℓ/min	50ℓ/min	50ℓ/min	50ℓ/min	50ℓ/min	160ℓ/min
Weight	950kg	950kg	950kg	950kg	950kg	1800kg

*1 Changeable 400dpi steps (Horizontal/Vertical) *2 Changeable 200dpi steps (Horizontal/Vertical) *3 Changeable 100dpi steps (Horizontal/Vertical) *4 Selectable 360dpi/720dpi/1440dpi (Horizontal/Vertical) *5 depending ink *6 While using pin-cure type ink, speed spec will be changed according to required UV energy. *7 Printing speed of MJP7861 *8 Only support single direction printing





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