

INKJET PRINTER

SUSS JETx platform

MASS PRODUCTION INKJET PRINTER FOR ELECTRONICS
MANUFACTURING





INKJET PRINTER

SUSS JETx

PRODUCTION PRINTER FOR VARIOUS APPLICATION

The JETx mass production inkjet printer is SUSS MicroTec's most advanced platform for printing functional materials. It has a modular architecture and can be configured for a wide range of applications such as printed electronics, photo voltaic, PCB solder masking, semiconductor packaging and chemical machining. The JETx is designed for 24/7 fully automated production, and is typically configured for processing large volumes of customer specific products.

The JETx systems have a granite base for superior stability and extremely high stage accuracy and printing precision, combined with high throughput and lowest cost of ownership. It is based on three standard platforms, the JETx-P, -S, and SM, each system targeting specific application areas and product sizes.





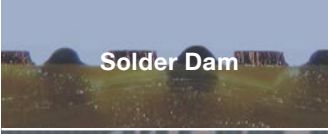


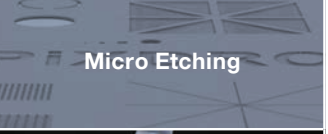
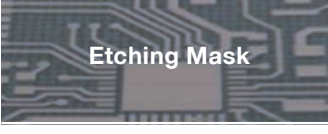

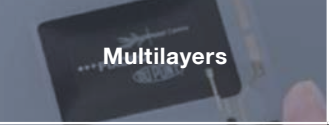
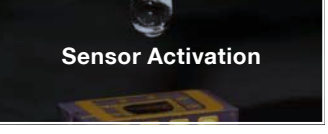


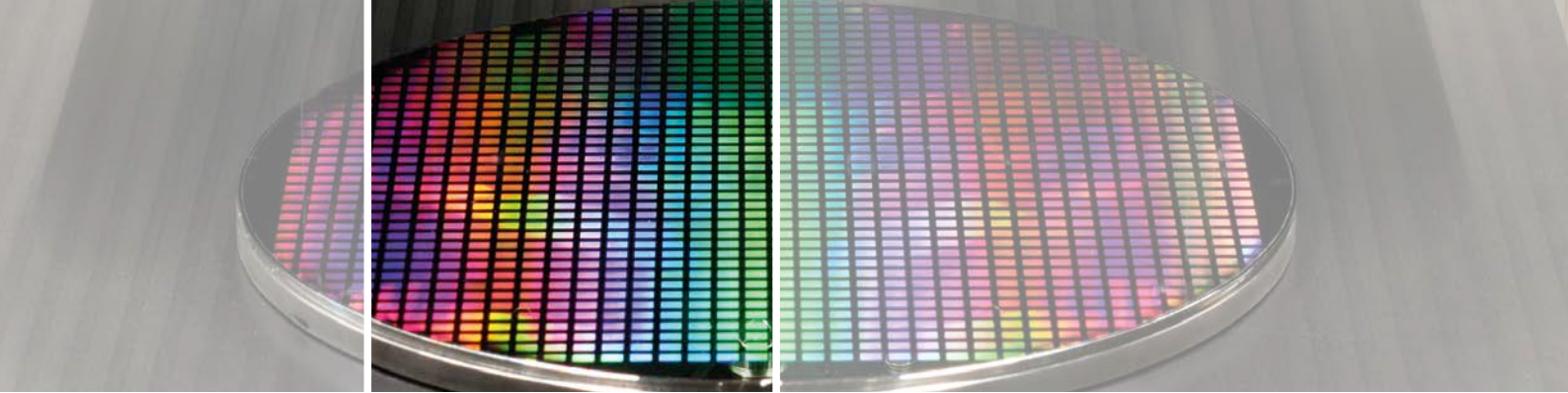
SUSS JETx HIGHLIGHTS

- + Mass production inkjet printer for functional materials
- + Configurable design for various applications
- + Accurate motion systems
- + Low cost of ownership
- + High productivity

ENABLING FUTURE TECHNOLOGIES

INKJET APPLICATION EXAMPLES

Printed Circuit Board (PCB)	Semiconductor	Printed Electronics (PE)	Others
 Solder Mask	 Passivation	 Metallization	 Pharma
 Solder Dam	 Photo Resist	 Encapsulation	 Micro Etching
 Etching Mask	 Leadframe Coating	 Multilayers	 Sensor Activation



VERSATILE INKJET PRINTING PLATFORM

KEY FEATURES

Base Platform

- + Small footprint and stable base frame
- + Granite and metal based motion systems
- + Customized vacuum chuck for various substrates
- + Inert and cleanroom enclosures

Print Engine

- + Choice of printhead configurations
- + Multiple, recirculation and bulk ink supplies
- + Integrated UV pinning
- + Printhead maintenance and fast nozzle scan



Auxiliary Functions

- + Advanced substrate alignment
- + Automated substrate handling
- + UV/Near infrared (NIR) curing
- + Substrate identification and print inspection
- + Fab automation and integration

Software Features

- + User friendly HMI
- + Advanced print strategies
- + Flexible process flow editor
- + Data logging and MES interface



SUSS JETx

TECHNICAL DATA

	JETx-P	JETx-S	JETxSM
Max. Substrate Size	150x150mm	300x400mm	610x762mm (24x30inch)
Max. Substrate Thickness	10mm	20mm	10mm
Substrate Clamping	Vacuum	Vacuum	Vacuum (option mechanical assist)
Base Frame	Steel	Granite	Granite
Stage Accuracy	± 15µm (3σ)	± 3µm (3σ)	± 5µm (3σ)
Stage Precision	± 3µm (3σ)	± 1µm (3σ)	± 2µm (3σ)
Motion	X, Y, Z, Rz	X, Y, Z, Rz	X, Y, Z (Rz optional)
Print Speed	Up to 1000mm/s		
Printheads	128–2048 nozzles per head; 2-80pL dropsize		
Printhead Exchange Time	< 15minutes, automatic calibration		
Maintenance (option)	Fast nozzle scan, spitting, capping, wiping		
Vision Systems (option)	Drop view, print image view, pattern inspection		
User Interface	Intuitive touch screen (according to SEMI E10)		
Image Formats	Gerber, TIFF, postscript, PDF, Dynamic Process Format (DPF), ODB++, Bitmap		
Ink Types	Solvent based, nanoparticle, aqueous, hotmelt, UV-curable		
Ink Viscosity	2-20cP		
Ink Supply	Uninterrupted supply with bulk ink tanks (static or recirculating)		
Integrated Post Processing	UV pinning, UV curing, NIR curing		
Footprint (W x D x H)	Depending on configuration	1.2x1.7x2.0m	1.5x2.0x2.0m
Weight (stand-alone)	1.2–1.8t	1.2t	1.8t

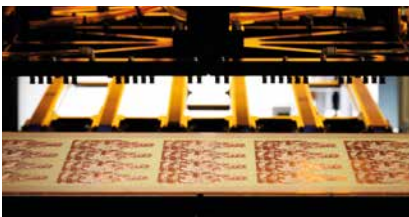
Data, design and specification depend on individual process conditions and can vary according to equipment configurations. Not all specifications may be valid simultaneously. Illustrations, photos and specifications in this brochure are not legally binding. SUSS MicroTec reserves the right to change machine specifications without prior notice.



SUSS JETx MAIN FEATURES

Inkjet Printer Model	Applications and Key Feature	Maximum Substrate Size
JETxSM	PCB, Display, Printed Electronics, Chemical Machining High stage accuracy ($\pm 5\mu\text{m}$)	610 x 762 mm (24 x 30 inch)
JETx-S	Semiconductor, Printed Electronics Very high stage accuracy ($\pm 3\mu\text{m}$)	300 x 400 mm
JETx-P	Photovoltaics Extremely high throughput (1200 wafers/hour)	

JETxSM



Applications:

Solder mask for PCB, etching mask on panels, encapsulation layers

Throughput:

Up to 60 sides/hour

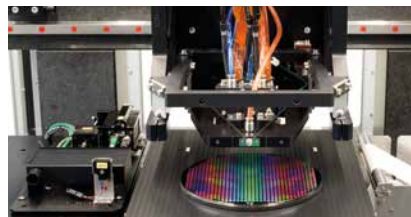
Feature size:

Down to 75/75 μm Line/Space

Layer thickness:

5–100 μm

JETx-S



Applications:

Dielectric, conductive, adhesive, masking resist for semiconductor back-end and packaging

Throughput:

Up to 120 substrates/hour

Feature size:

Down to 40 μm

Layer thickness:

0.5–100 μm

JETx-P



Applications:

Masking layers for solar wafers

Throughput:

Up to 1200 wafers/hour

Feature size:

Down to 20 μm

Wafer breakage:

<0.01 %

NORTH AMERICA

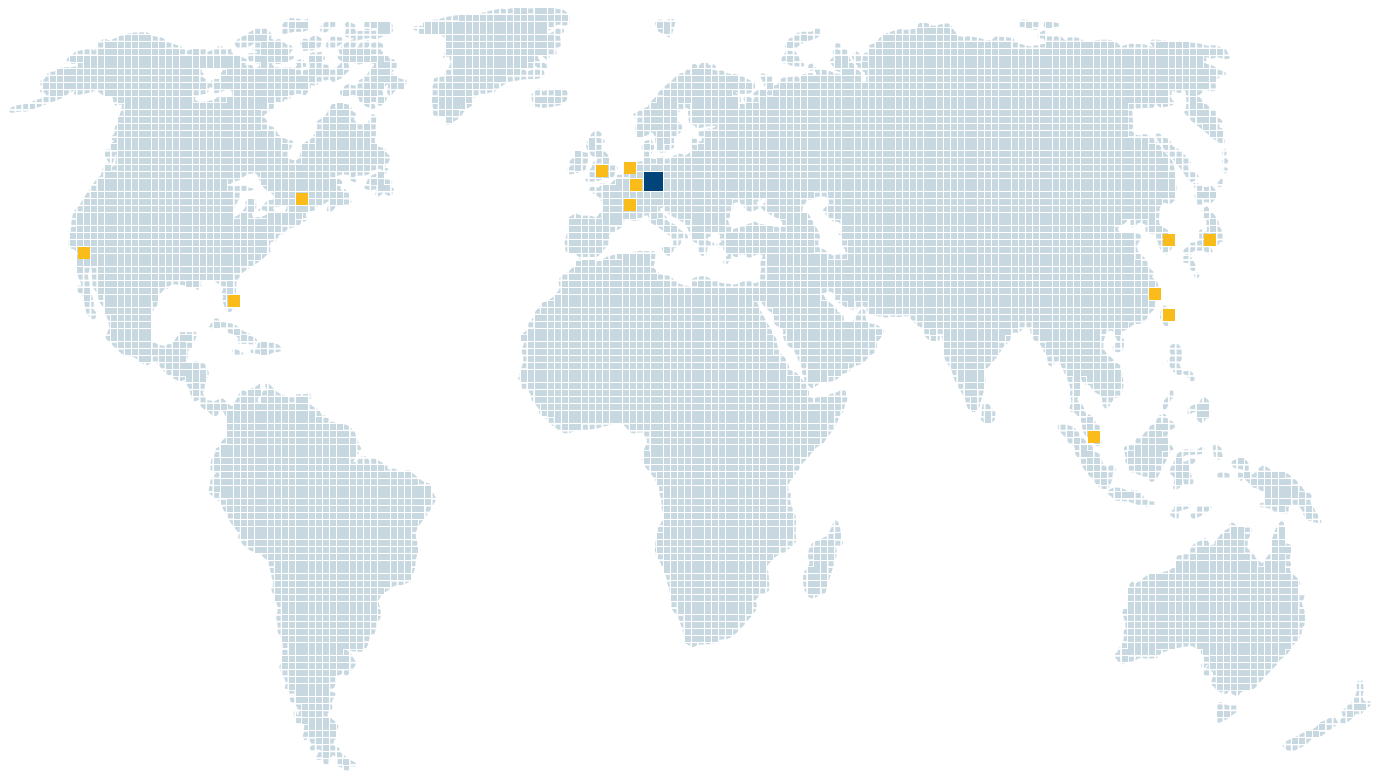
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