

**Expert In Equipment and Products for Electronics**



**OUR SOLUTIONS**

- DEPOSIT**


- PICK & PLACE**


- REFLOW**


- CONTROL**


- REPAIR**


- FILTRATION**


- DEPANLING**


- BOARD HANDLING**


- SERVICES**



**PRODUCTION CATALOGUE**

ed. 2025.01

**WWW.CIF.FR**



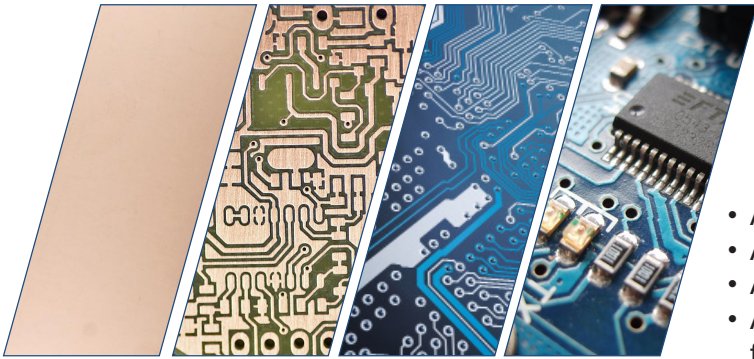
## IN THE BEGINNING

Since its creation in 1979, CIF – Circuit Imprimé Français has designed and manufactured equipment and products for the production of printed circuits.

This equipment is intended for design offices, technical education and small series.

In 2000, CIF merged with ATHELEC, which specialises in the marketing of assembly equipment. The customer can now find at CIF a complete range to realize an electronic board from A to Z.

## CIF ACTIVITIES TODAY



The range has evolved with the introduction of many new production equipment, products and associated services. This development required a new organisation to be put in place with the creations,

- A division for the laboratory and micro-series – CIF LAB
- A division for small series and production – CIF PROD
- A commercial website for small equipment and products
- Associated services: installation, start-up, maintenance, financial assistance

## AN ONLINE SHOP FOR GREATER REACTIVITY



Order on our e-shop a selection of our equipment and products

- Availability and choice
- Real-time stock updates
- Express delivery
- Secure payment
- CIF guarantee

<https://cif.fr/retail/en/>

# AND SERVICES FOR ELECTRONICS

## EQUIPMENT AND SOLUTIONS ADAPTED TO YOUR USE



### LABORATORY AND MICRO-SERIES EQUIPMENT

#### Production of the printed circuit board

- Chemical process
- Mechanical processing of your PCBs
- Laser processing of your PCBs

#### SMD equipment

- Dispensing and stencil printing
- Placement
- Soldering
- Hand soldering

#### Visual inspection, filtration of solder fumes and solvents



### EQUIPMENT FOR SMALL SERIES AND PRODUCTION

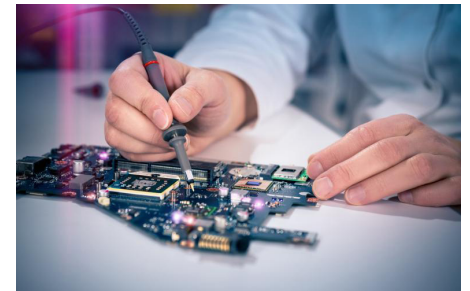
#### Production of the printed circuit board

- Mechanical processing of your PCBs
- Laser processing of your PCBs
- Routing

#### SMD equipment for complete automatic lines

- Stencil printing
- Pick & Place
- Reflow oven
- Loader, unloader, conveyor

#### Visual inspection, filtration of solder fumes and solvents

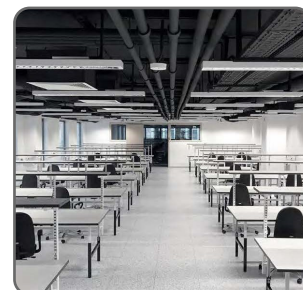
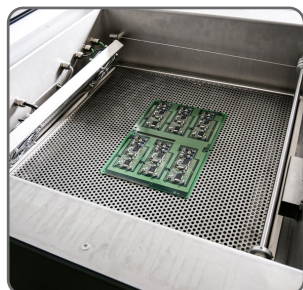
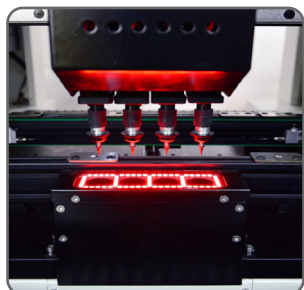


- Technical advice to determine your needs with you and accompany you in the choice of equipment, installation and training.
- Quality technical assistance

- Commercial and technical teams at your service
- Advice from our know-how and experience
- A complete range of products to offer you "turnkey" solutions
- A rigorous organisation
- CIF is an IPC member

- Drawing up the specifications for your projects
- Technical assistance at start-up (France and international)
- Maintenance of your equipment
- After-sales service
- Assistance in financing your project
- A dedicated space for demonstrations and tests

# SUMMARY



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# DEPOSIT

## SUMMARY

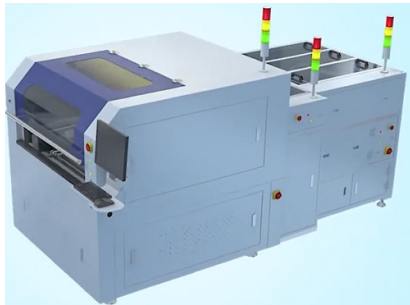
1. Laser system for stencils and precision parts ..... **p.6**
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# LASER SYSTEM FOR STENCILS AND PRECISION PARTS - DCT M3



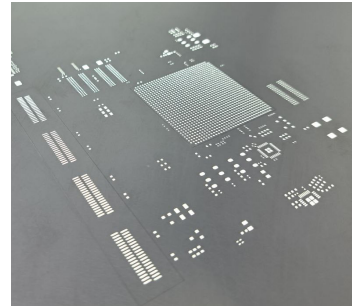
## System composed of

- Fiber laser
- Granite X/Y table, double gantry drive structure
- Vision system with high resolution camera
- Camera assisted positioning system with shot recognition
- X / Y axes driven by a linear motor
- Industrial control PC and monitor
- Data processing software: CircuitCAM 7 Pro
- Machine operating software: DreamCreaTor 3



✓ System for EMS

✓ System for Stencil Manufacturers



## TECHNICAL DATA

Model	DCT M3
Reference	V900041
Working area (X x Y)	800 x 600 mm
Max. frame size	740 x 950 x 40 mm
Max. size of steel sheet fixation	650 x 850 mm
Repeatability accuracy	± 2 µm
Laser wavelength	1,070 nm
Average laser output	200 W
X / Y / Z axis displacement resolution	X / Y / Z ≤ 0.1 µm
Cutting thickness	20 µm ~ 300 µm depending on the material
Dimensions of the machine cover (W x H x D)	1,713 x 1,480 x 1,585 mm
Weight	approx. 2,000 kg

## OPERATING CONDITIONS

Power supply	380 VAC / 50 Hz
Main power	3.0 kW
Ambient temperature	22 °C ± 2 °C

A cutting gas (oxygen or compressed air) is required! Inlet pressure ≥ 9 bar

Various models on request

# SEMI-AUTOMATIC SCREEN PRINTERS



Semi-automatic printer for applying solder paste on pads of printed circuit boards of various sizes.

## FEATURES

- Microcomputer control, touch screen
- Automatic height adjustment of squeegees relative to the stencil
- Pressure adjustment squeegee
- Adjust the speed of the squeegee
- Safe start of the printing process with two buttons
- Positioning of the PCB on the reference holes, or along the edges
- Printing modes: single pass, double pass
- Starting the printing process: semi-automatic, automatic

The machine is available in 4 versions according to the size of the board:

- The **KAYO 5088** can handle **400 x 320 mm** boards
- The **KAYO 5088C** can handle **600 x 320 mm** boards
- The **KAYO 5088XC** can handle **600 x 500 mm** boards
- The **KAYO 5088L** can handle **1,200 x 320 mm** boards

Model	KAYO 5088	KAYO 5088C	KAYO 5088XC	KAYO 5088L
Reference	<b>V900139</b>	<b>V900138</b>	<b>V900190</b>	<b>V900141</b>
Option squeegee set 400 mm	<b>V800083</b>	<b>V800084</b>		<b>V800085</b>
Max. PCB size	<b>400 x 320 mm</b>	<b>600 X 320 mm</b>	<b>600 x 500 mm</b>	<b>1,200 x 320 mm</b>
Print table size	<b>500 x 320 mm</b>	<b>700 x 320 mm</b>	<b>700 x 600 mm</b>	<b>1,250 x 320 mm</b>
Min. stencil size	<b>370 x 270 mm</b>	<b>370 x 270 mm</b>	<b>470 x 370 mm</b>	<b>370 x 270 mm</b>
Max. Stencil size	<b>600 x 320 mm</b>	<b>800 x 320 mm</b>	<b>950 x 736 mm</b>	<b>1,400 x 320 mm</b>
Printing speed	<b>0 - 100 mm/sec</b>			
Squeegee length	<b>200 mm standard (could be lengthen on request)</b>	<b>250 mm standard (Could be lengthen on request)</b>		
PCB thickness	<b>0.2 - 3.0 mm</b>			
Accuracy	<b>± 0.02 mm</b>			
Repeating accuracy	<b>± 0.02 mm</b>			
Print table stroke	<b>Front / Back ± 10 mm Left / Right ± 10 mm</b>			
PCB positioning system	<b>Manual</b>			
Pneumatic pressure	<b>4 - 7 Kg/cm<sup>2</sup></b>			
Power	<b>100 W</b>			
Power supply	<b>220 V 50/60 Hz</b>			
Machine dimensions (L x W x H)	<b>900 x 1,100 x 1,680 mm</b>			<b>1,800 x 900 x 1,680 mm</b>

# AUTOMATIC SCREEN PRINTERS



Automatic inline screen printer for applying solder paste to the pads of printed circuit boards.

## FEATURES

- Servo drive cam
- Servo drive X axis movement
- Monitoring and adjustment of pressure squeegee in real time
- Increased stencil cleaning system
- Print quality inspection and SPC analysis (statistical Process Control)
- Stencil aperture inspection (optional)
- Camera with a larger field of view (optional)

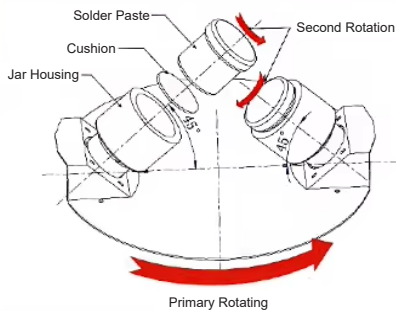
The machine is available in 2 versions according to the size of the board:

- The **KAYO 450** which can handle **450 x 350 mm** boards
- The **KAYO 600** which can handle **610 x 350 mm** board

Model	KAYO 450	KAYO 600
Reference	<b>V900143</b>	<b>V900144</b>
Max. PCB size	<b>450 x 350 mm</b>	<b>610 x 350 mm</b>
Min. PCB size	<b>50 x 50 mm</b>	
PCB thickness	<b>0.4 - 6 mm</b>	
Print repeat accuracy	<b>20 micron (6 sigma)</b>	<b>25 microns (6 sigma)</b>
Imaging horizon (FOV)	<b>6.4 x 4.8 mm</b>	<b>10.24 x 6.4 mm</b>
Table adjustment range	<b>7 mm en X/Y +/- 2 grade</b>	
Cycle time	<b>less than 7 secondes</b>	
Printing speed	<b>0 to 200 mm / sec</b>	
Transport speed	<b>0 to 1500 mm / sec</b>	
Printing pressure	<b>0.5 to 10 Kg / cm<sup>2</sup></b>	
Compressed air requirement	<b>4 - 6 Kg / cm<sup>2</sup></b>	
Transport height	<b>900 +/- 40 mm</b>	
Power	<b>3.3 Kw</b>	
Power supply	<b>220 V 50/60 Hz</b>	
Dimensions	<b>1,140 x 1,400 x 1,480 mm</b>	
Weight	<b>1,000 Kg</b>	<b>1,200 Kg</b>

# AUTOMATIC SOLDER PASTE MIXER - KAYO 500S

## Double rotation automatic solder paste mixer



Model	KAYO-500S
Reference	V900124
Speed	800 RPM
Motor rotational speed	1,350 RPM
Rotation around axis of mixer	400 RPM
Rotation around axis of can	300 RPM
Solder paste pot acceptance	Tank diameter $\Phi 60$ - $\Phi 64$ standard configuration (suitable for general 500g solder cream pot).
Operational capacity	0 - 1,000 g max. 2 cans
Time setting	0.01 s - 99H99 s
Display	LED digital display
Power	60 W
Electrical supply	220 V / 50 Hz
Weight	45 Kg

## SOLDER PASTE

Class 3  
Class 4  
Class 5  
Class 6



HIGH  
QUALITY  
ALLOY

### LEAD-FREE SMD SOLDER PASTE

Alloy Sn96.5Ag3Cu0.5 (96.5% tin, 3% silver and 0.5 copper)  
Melting temperature 217 °C  
Packaging in 10cc syringe with or without pusher, or in cartridge of 170cc (0.5 kg)  
12% no clean flux



### LEAD SMD SOLDER PASTE

Sn62Pb36Ag2 alloy (62% tin, 36% lead and 2% silver)  
Melting temperature 178 °C  
Packaging in 10cc syringe with or without pusher  
No cleaning flow at 12%



10 cc syringe, lead-free - Class 5	F42240
10 cc syringe + pusher, lead-free - Class 5	F42241
10 cc syringe + pusher, lead-free - Class 6	F42245
250 gr pot - Class 5	F42242

10 cc syringe alloy with lead - Class 5	F42210
10 cc syringe alloy with lead + pusher - Class 5	F42213
250 gr pot - Class 5	F42211
500 gr pot - Class 5	F42212

### LOW TEMPERATURE LEAD FREE SOLDER PASTE , SnCuAgBi, LIQUIDUS 189 °C

#### CLASS 4

#### CLASS 5

Jar of 500 g - Class 4	V800125
Syringe of 500 gr - Class 4	V800126

Syringe 10 cc - Class 5	V800241
Jar of 500 g - Class 5	V800224
Syringe of 500 gr - Class 5	V800240

# PLACEMENT

## SUMMARY

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# AUTOMATIC PICK & PLACE KAYO A8L

The KAYO A8L is an automatic SMD report station.

Compact it can accommodate **70** tape feeders as well as 10 placement and positioning cameras. The placement accuracy is **0.01 mm** for a placement capacity of **15,000 components per hour** (max.) for the A8L.

Quick to set up and easy to handle, the KAYO A8L Pick & Place is the ideal machine for the assembly of your SMD series.



Ref. **V900033**

## FEATURES

- The machine is delivered with 10 cameras: 1 for the detection of the sights, 8 cameras for the mounting nozzles and 1 high precision camera
- Camera refocusing & detection of rejection marks
- Installation capacity of 15,000 components / hour (max.) with an accuracy of  $\pm 0.01$  mm
- Works under Windows® environment
- The drivers have been optimized to guarantee quick component placement while improving precision and a low noise level
- An automatic board transit conveyor within the machine in three sections saves time and efficiency



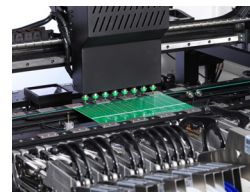
8 placement cameras + 1 high precision



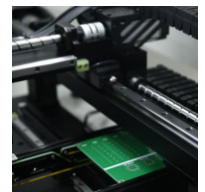
PANASONIC® Motor & servomotor



2 control monitors



Internal conveyor system



TBI precise linear guide

Model	<b>KAYO A8L</b>
Reference	<b>V900033</b>
Number of feeders (8 mm)	<b>70 (38 from the front, 32 from the back)</b>
Placement accuracy	<b>0.01 mm</b>
Max. axis movement Z	<b>20 mm</b>
Max. dimensions of the PCB	<b>650 x 380 mm</b>
Max. component height (Z)	<b>5,5 mm</b>
Feeder type	<b>CL 8 / 12 / 16 / 24 / 32 mm, vibratory feeders</b>
Monitors	<b>2 x 17-inch industrial control displays</b>
Operating system	<b>Windows®</b>
Video recognition	<b>Synchronous on 8 heads</b>
Power supply	<b>1 phase, 220 V, 50 Hz, 750 W</b>
Dimensions (L x W x H)	<b>1,500 x 1,280 x 1,410 mm</b>
Weight	<b>500 kg</b>

Components type	0201	0402	0603	0805	1206	LED	Diodes	Transistors	SOT	45 x 45 mm range pin pitch > 0.5 mm	QFP	BGA	And more
Compatibility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

# AUTOMATIC PICK & PLACE SMT MS4L 64 NX

The SMT MS4L 64 NX is an in-line SMD Pick & Place system.

It is the most **efficient** in its category in placement, programming speed and feeder capacity.

It can accommodate up to **64 NXT type feeders**.

The placement accuracy is 0.05 mm with a maximum capacity of **11,000 components per hour**, making it an ideal machine for producing small series.

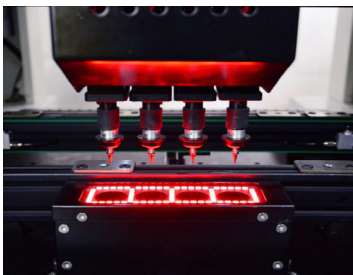
2 reels support trolleys are supplied with the machine

## HIGHLIGHTS

- **The software integrates a component library**
- **The software optimizes loading and routing automatically**
- Placement speed and feeder capacity
- The machine is supplied with 6 cameras: 1 for fiducial detection, 4 high-speed cameras for placement nozzles and a high-precision camera for chips
- Works under Windows® environment



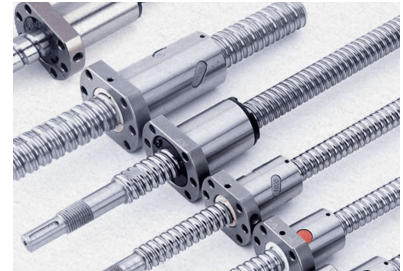
Ref. **V900204**



4 nozzles



2 control displays



Precision ball screws

Model	<b>SMT MS4L 64NX</b>
Reference	<b>V900204</b>
Number of feeder (8 mm)	<b>64</b>
Placement accuracy	<b>0.05 mm</b>
Repeatability Accuracy	<b>0.05 mm</b>
Placement area	<b>50 x 50 - 410 x 360 mm</b>
Max. component height	<b>≤ 20 mm</b>
Feeder type	<b>Electric feeders, vibrating feeders, IC trays, etc.</b>
Compatible feeder types	<b>NXT feeders</b>
Monitor	<b>17-inch industrial control display</b>
Operating system	<b>Windows®</b>
Recognition equipment	<b>1 fiducial positioning camera, 4 high-speed recognition cameras, 1 high-precision camera</b>
Power supply	<b>AC 220 V 50/60 Hz 600 W</b>
Dimensions (L x W x H)	<b>With packaging 1,260 x 1,450 x 1,640 mm Machine itself 1,160 x 1,340 x 1,450 mm</b>
Weight	<b>With packaging 780 Kg Machine itself 690 Kg</b>

Components type	0201	0402	0603	0805	1206	LED	Diodes	Transistors	SOT	45 x 45 mm range pin pitch ≥ 0.5 mm	QFP	BGA	And more
Compatibility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

# AUTOMATIC PICK & PLACE SMT MS8L 96 NX

The SMT MS8L 96 NX is an in-line SMD Pick & Place system.

It is the most **efficient** in its category in placement, programming speed and feeder capacity.

It can accommodate up to **96 NXT type feeders**.

The placement accuracy is 0.05 mm with a maximum capacity of **16,000 components per hour**, making it an ideal machine for producing small series.

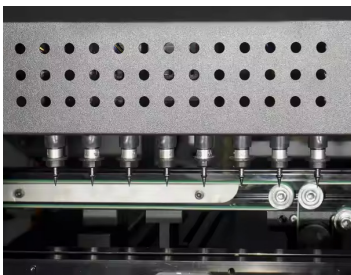
2 reels support trolleys are supplied with the machine

## HIGHLIGHTS

- **The software integrates a component library**
- **The software optimizes loading and routing automatically**
- Placement speed and feeder capacity
- The machine is supplied with 10 cameras: 1 for fiducial detection, 8 high-speed cameras for placement nozzles and a high-precision camera for chips
- Works under Windows® environment



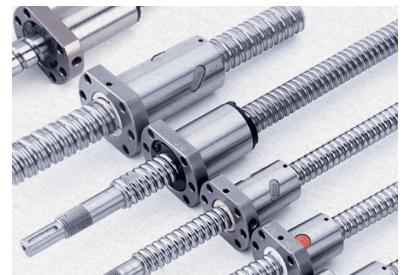
Ref. **V900208**



8 nozzles



2 control displays



Precision ball screws

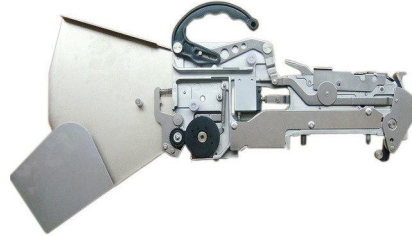
Model	<b>SMT MS8L 96NX</b>												
Reference	<b>V900208</b>												
Number of feeder (8 mm)	<b>96</b>												
Placement accuracy	<b>0.05 mm</b>												
Repeatability Accuracy	<b>0.05 mm</b>												
Placement area	<b>5460 x 350 mm without tray - 50 x 50 mm 460 x 233 mm with tray - 50 x 50 mm</b>												
Max. component height	<b>≤ 20 mm</b>												
Feeder type	<b>Electric feeders, vibrating feeders, IC trays, etc.</b>												
Compatible feeder types	<b>NXT feeders</b>												
Monitor	<b>17-inch industrial control display</b>												
Operating system	<b>Windows®</b>												
Recognition equipment	<b>1 fiducial positioning camera, 8 high-speed recognition cameras, 1 high-precision camera</b>												
Power supply	<b>AC 220 V 50/60 Hz 1,000 W</b>												
Dimensions (L x W x H)	<b>With packaging: 1,920 x 1,510 x 1,450 mm Machine itself: 1,470 x 1,480 x 1,640 mm</b>												
Weight	<b>With packaging: 1,300 Kg Machine itself: 850 Kg</b>												

Components type	0201	0402	0603	0805	1206	LED	Diodes	Transistors	SOT	45 x 45 mm range pin pitch ≥ 0.5 mm	QFP	BGA	And more
Compatibility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

# FEEDERS TYPE CL

## TAPE FEEDERS

Tape width	CL8X2MM	CL8X4MM	CL12MM	CL16MM	CL24MM	CL32MM
Reference	<b>V800062</b>	<b>V800063</b>	<b>V800064</b>	<b>V800065</b>	<b>V800066</b>	<b>V800067</b>



## VIBRANT FEEDERS

	3 Tracks vibrant feeders	5 tracks vibrant feeders
Reference	<b>V800068</b>	<b>V800069</b>



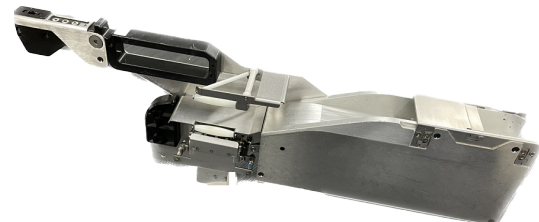
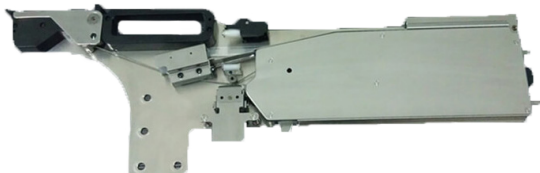
## ELECTRIC FEEDERS

Tape width	8 mm	12 mm	16 mm	24 mm
Reference	<b>V800073</b>	<b>V800074</b>	<b>V800075</b>	<b>V800076</b>



# FEEDERS TYPE NXT

Tape width	8 mm	12 mm (H: 6 mm)	12 mm (H: 20 mm)	16 mm (H: 6 mm)	16 mm (H: 20 mm)	24 mm	32 mm	44 mm	56 mm
Reference	<b>V800280</b>	<b>V800281</b>	<b>V800282</b>	<b>V800283</b>	<b>V800284</b>	<b>V800285</b>	<b>V800286</b>	<b>V800287</b>	<b>V800288</b>



# NOZZLES FOR PICK & PLACE MACHINES

## JUKI® TYPE PLACEMENT NOZZLES

Designation	Reference	Application	Dimensions (mm)	
KAYO-501-C	<b>V500134</b>	0201	0.5 x 0.8 mm	
KAYO-502	<b>V500111</b>	0402	0.8 mm	
KAYO-503	<b>V500112</b>	0603 - 0805	1.0 mm (out)	0.6 mm (in)
KAYO-504	<b>V500113</b>	0805 - 1206 - 1210 - 2010 - 3014	1.6 mm (out)	1.0 mm (in)
KAYO-505	<b>V500114</b>	3528 - 2835 - 5730 - 5050	3.7 mm (out)	1.6 mm (in)
KAYO-506	<b>V500110</b>	2010 - 3014	5 mm (out)	3.4 mm (in)
KAYO-507	<b>V500120</b>	Suitable for diodes, transistors, capacitors	7.6 mm (out)	5 mm (in)
KAYO-508	<b>V500121</b>	Suitable for diodes, transistors, capacitors	9.6 mm (out)	7.5 mm (in)
KAYO-510	<b>V500122</b>	For melf 1.6 < D < 3.5	3.5 mm (out)	1.6 mm (in)
KAYO-511	<b>V500123</b>	For melf 3.6 < D < 5.9	5.9 mm (out)	3.6 mm (in)



Recommended for KAYO & SMTix Pick & Place.

## PRODUCTS & ACCESSORIES

### YAMAHA TYPE FEEDER RACK IN TROLLEY - KAYO

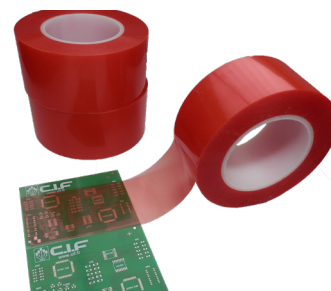


Suitable for Yamaha type feeders series:  
D/ C/ CL/ FS

- 80 slots in 2 layers
- Stainless steel
- Self-locking wheels included
- Dimensions: 800 x 600 x 1,100 mm
- Weight: about 18 Kg

**V500201**

### DOUBLE SIDE TRANSPARENT TAPE FOR TEST OF COMPONENT PLACEMENT ON PICK & PLACE



- Double-sided Clear Adhesive for Placement & Place Placement Test
- Ideal for calibration tests or learning to report of SMD components on PCB

**V700121**



# HIGH-QUALITY PICK AND PLACE SOLUTIONS



# SM482PLUS - PICK & PLACE MULTI-FUNCTIONAL



Ref. **V900236**

## DESCRIPTION

SM series models are the best selling products and have been proven by many customers worldwide.

- Adopts high-pixel vision system allowing accurate placement of IC components
- Easily registers complex shapes of components with the Polygon function
- Panorama function allows the recognition of components beyond the initial field of view of the camera

## TECHNICAL SPECIFICATIONS

Model	<b>SM482PLUS</b>
Reference	<b>V900236</b>
Speed	<b>30,000 CPH (Optimum)</b>
Structure	<b>1 gantry x 6 nozzles/gantry</b>
Accuracy	<b>±40 µm @ ± 3 σ/Chip - ±30 µm @ ± 3σ/QFP</b>
PCB size	<b>460 x 400 mm (Standard) - 1,200 x 510 mm (Option)</b>
PCB Thickness	<b>0.38 ~ 4.2 mm</b>
Number of feeders	<b>120 / 112 with Docking cart (8 mm)</b>
Air consumption	<b>0.5 ~ 0.7MPa (5.0 ~ 7.0 kgf/cm<sup>2</sup>) 180 Nℓ/min 50 Nℓ/min (Vacuum Pump)</b>
Power supply	<b>AC 200 / 208 / 220 / 240 / 380 / 415 V (50/60 Hz, 3 Phase) Max. 3.5 kVA</b>
External dimensions (L x D x H)	<b>1,650 x 1,680 x 1,530 mm</b>
Weight	<b>Approx. 1,575 Kg</b>

# SM471PLUS - PICK & PLACE - FAST CHIP SHOOTER



Ref. **V900234**

## DESCRIPTION

- High-performance chip shooter with a new fly camera
- World's highest speed of 78,000 CPH among chip shooters of the same class
- With two gantry dual-lane construction, supports various production modes

## TECHNICAL SPECIFICATIONS

Model	SM471PLUS
Reference	<b>V900234</b>
Speed	78,000 CPH (Optimum)
Structure	2 gantries x 10 nozzles/gantry
Components	0402(01005") ~ 14 mm (H12 mm)
Accuracy	±40 µm @ ±3 σ/Chip - ±50 µm @ ±3 σ/QFP
PCB size	510 x 460 mm (Standard - in 1-line configuration) 610 x 460 mm (Option - in 1-line configuration) 460x 250 mm (Standard - in 2-line configuration) 610 x 250 mm (Option - in 2-line configuration)
PCB thickness	0.38 ~ 4.2 mm
Number of feeders	120 / 112 with Docking cart (8 mm)
Air consumption	0.5 ~ 0.7 MPa (5.0 ~ 7.0 kgf/cm <sup>2</sup> ) - 350 Nℓ/min - 50 Nℓ/min (Vacuum Pump)
Power supply	AC 200 / 208 / 220 / 240 / 380 / 415 V (50/60 Hz, 3 Phase) Max. 5.0 kVA
External dimensions (L x D x H)	1,650 x 1,690 x 1,485 mm
Weight	Approx. 1,730 Kg

# SM481PLUS - FLEXIBLE PLACER



Ref. **V900235**

## DESCRIPTION

- Production speed and component coverage suitable for general-purpose high-speed placement
- Adopts high speed piano head with one gantry and ten nozzles

## FEATURES

**Performance:** One-Side Operation. With single gantry and single lane structures optimized for machine operation using only one side of the machine, the production area and manpower can be utilized efficiently.

**Flexible Production:** Applicable to 1,500 mm Long Board. Applicable up to 1,500 mm long-board mounting through two stepped placement using an extension conveyor.

**Easy Operation:** Panorama View Function. Merges the split component images to display them into one, allowing easy pickup and placement position adjustment of large components and irregular shaped SMD components.

## TECHNICAL SPECIFICATIONS

Model	SM481PLUS
Reference	<b>V900235</b>
Speed	40,000 CPH (Optimum)
Alignment	Fly Camera
Number of Spindles	10 Spindes x 1 Gantry
Placement Accuracy	$\pm 40 \mu\text{m} @ \pm 3\sigma$ (Chip) / $\pm 30 \mu\text{m} @ \pm 3\sigma$ (QFP)
Fly Camera	0402 mm (01005") ~ $\square$ 16 mm
PCB thickness	0.38 ~ 4.2 mm

# DECAN L2 - ADVANCED MULTI-FUNCTIONAL PLACER



Ref. **V900233**

## DESCRIPTION

The DECAN series models can handle a wide range of components and maximize productivity with various PCB transfer systems.

- Secures the applicability to components and conveyor flexibility
- Reduces production time by optimizing the motion sequence
- Reinforces odd-shape component recognition by applying 3D lighting system

## FEATURES

**High Reliability:** Optimized for the Placement of Odd-shape Components as well as LEDs and LED Lenses. Minimizes defective component placement by recognizing LED direction, different models, and projection position. Places a lens based on the lighting source by recognizing the LED lighting source (Patent registration No. 14742444).

**Flexible Production:** Machine Applicable to Large PCBs that Can be Modified on Site. Possible to modify the standard machine to the one applicable to large PCBs on site Applicable to Max. 1,200 x 460 mm PCBs.

**High Performance:** Reduces PCB Fiducial Mark Recognition Time. Optimizes the moving path for the recognition of the individual fiducial mark of the LED bar

**Productivity:** Reduces the Cycle Time by Sharing Bad Marks with Other Machines. Shares the information on the bad mark of the PCB recognized by the first machine with other machines in the line.

## SPECIFICATIONS

Model	DECAN L2
Reference	<b>V900233</b>
Number of Spindles	6 Spindles x 2 Gantry
Placement Speed	56,000 CPH (Optimum)
Placement Accuracy	$\pm 40 \mu\text{m}$ Cpk $\geq 1.0$ (0402 (01005 inch) chip) / $\pm 30 \mu\text{m}$ Cpk $\geq 1.0$ (IC, Stage Vision)
Fly Camera	0402 mm (01005") ~ $\square 21$ mm
Fix Camera	~ $\square 42$ mm (standard) / ~ $\square 55$ mm (MFOV) / ~ L75 mm Connector (MFOV).

# DECAN F2 - ADVANCED CHIP SHOOTER



Ref. **V900232**

## DESCRIPTION

The DECAN series models can handle a wide range of components and maximize productivity with various PCB transfer systems.

- Secures the applicability to components and conveyor flexibility
- Reduces production time by optimizing the motion sequence
- Reinforces odd-shape component recognition by applying 3D lighting system

## FEATURES

**Productivity:** Dual Lane PCB Transfer System. Realizes zero PCB loading/unloading time by loading the PCB on the opposite lane and having it stand by during operation (productivity increases by 15% compared to a single lane)

**Flexible Production:** Supporting Modular Conveyor System for Various Production Environments. Allows optimum combination of conveyor modules by applying a modular conveyor replaceable on site (Shuttle ↔ Dual).

**High Reliability:** Prevents Reverse Insertion by Recognizing the Polarity Mark at the Bottom Surface of a Component  
Recognizes the polarity mark at the bottom surface of a component using the 3-stepped 3D lighting.

## SPECIFICATIONS

Model	<b>DECAN F2</b>
Reference	<b>V900232</b>
Number of Spindles	<b>10 Spindles x 2 Gantry</b>
Placement Speed	<b>80,000 CPH (Optimum)</b>
Placement Accuracy	<b>± 40 µm Cpk ≥ 10 (0402 (01005")) / ± 30 µm Cpk ≥ 10 (IC, Stage Vision)</b>
Fly Camera	<b>0402 mm ( 01005") ~ □16 mm</b>
Fix Camera	<b>~ □42 mm (standard) / ~ □ 55 mm (MFOV) / ~ L75 mm Connector (MFOV)</b>

# ACCESSORIES

## HANWHA PLACEMENT NOZZLES

Model	CN020	CN030	CN040	CN065	CN140	CN220	CN400	CN400N	CN750	CN110
Reference	V800214	V800215	V800216	V800217	V800218	V800219	V800220	V800221	V800222	V800223

## HANWHA TAPE FEEDERS

### PNEUMATIC FEEDERS

#### SM NONIT FEEDER

Tape Width	12 mm	16 mm	24 mm	32 mm	44 mm	56 mm	72 mm	88 mm
Reference	V800148	V800149	V800150	V800151	V800152	V800153	V800154	V800155
Tape width	8mm2p	8mm2p Large reel			8mm4p	8mm4p Large reel		
Reference	V800144	V800145			V800146	V800147		

#### SM IT FEEDER

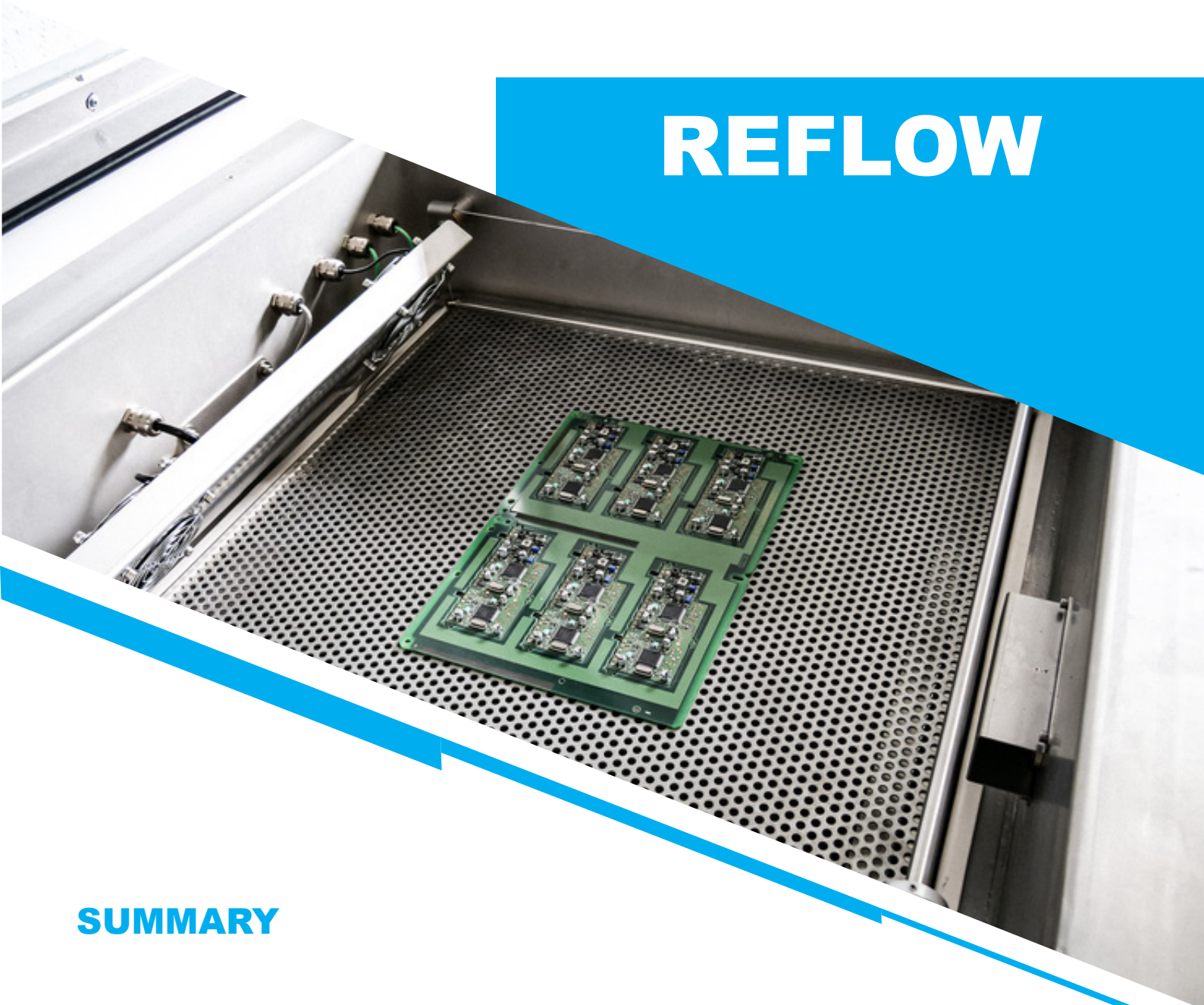
Tape Width	12 mm	16 mm	24 mm	32 mm	44 mm	56 mm	72 mm	88 mm
Reference	V800160	V800161	V800162	V800163	V800164	V800165	V800166	V800167
Tape width	8mm2p	8mm2p Large reel			8mm4p	8mm4p Large reel		
Reference	V800156	V800157			V800158	V800159		

Other feeders on request

### ELECTRIC FEEDERS

Tape width	8 mm	8 mm (0402)	12 mm	16 mm	24 mm	32 mm	44 mm	56 mm	72 mm	88 mm
Reference	V800169	V800181	V800170	V800171	V800172	V800173	V800174	V800175	V800176	V800177

# REFLOW



## SUMMARY

1. Vapor phase reflow oven ..... **p.24**
2. In-line conveyor reflow ovens ..... **p.26**
3. Datalogger 8 channels ..... **p.28**

# VAPOR PHASE REFLOW OVEN VS-500-V



MADE IN FRANCE

## Vapor phase soldering

The design of the machine allows to solder even the most complex boards with a format of max. **500 x 500 x 60 mm** while ensuring optimal quality thanks to:

- The inert atmosphere resulting from the fluid (medium) used
- Incomparable temperature homogeneity over the entire components
- No possible handling error during the cycle

The main applications relate to lead and lead-free soldering of all types of boards even the most complex, conductive adhesives and repair.

The concept of the vapor phase allows today:

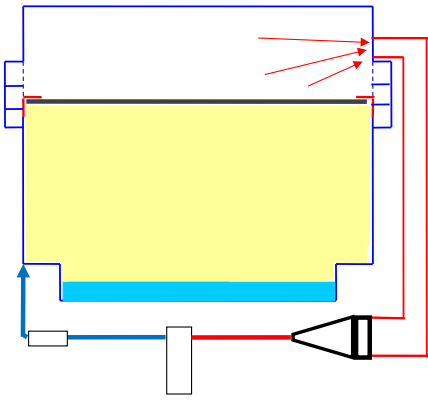
- Reducing fluid consumption (medium) using a unique vapor recovery system; this greatly reduces production costs
- Quick return on investment and high capacity for mixed productions
- Optimum soldering quality in inert atmosphere
- Compensation for pressure fluctuations in the tank
- Homogeneity of temperature incomparable to other technologies over the entire work area
- Reduced energy consumption
- Sub-assembly repair: desoldering and resoldering
- High reliability for all types of soldering
- Precision and repeatability



### Focus

- A high efficiency chiller included
- It can create up to 10 temperature levels
- ESD
- Real-time reflow profile displayed on the machine
- Light signal column
- 4 k thermocouple connections

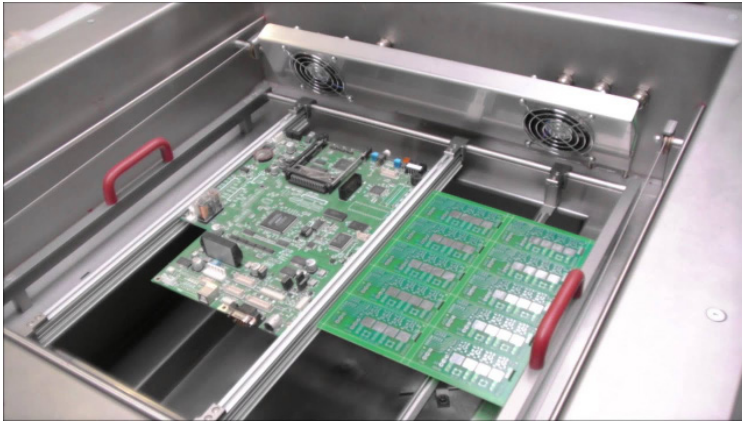
## Recover all vapor before opening the door



### BENEFITS

- Massive reduction in medium consumption
- Big fume reduction
- Reduced medium smell
- Reduced cycle time
- Reduced downtime

## HIGH RETURN ON INVESTMENT !

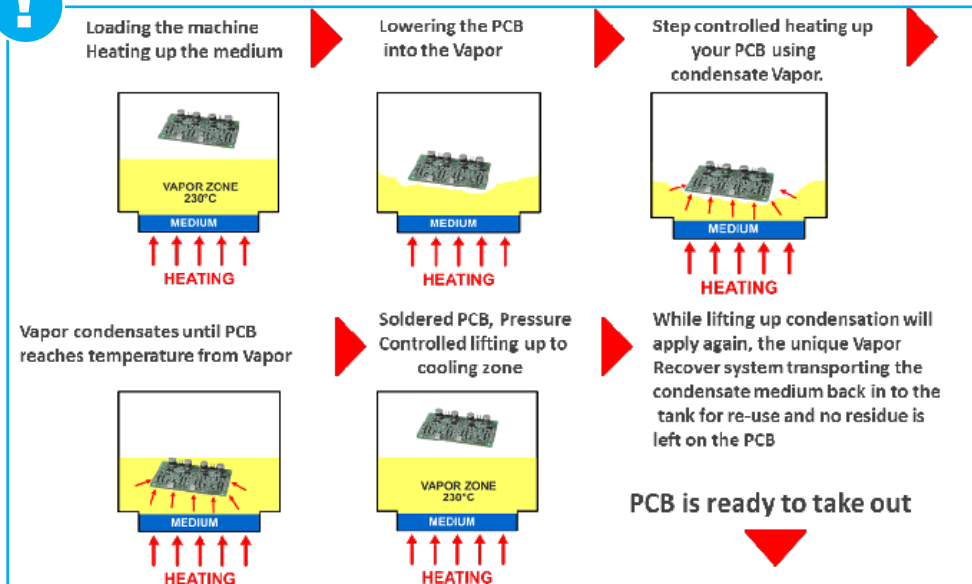


### TECHNICAL CHARACTERISTICS

Reference	<b>V900330</b>
Max. PCB dimensions	<b>500 x 500 x 60 mm</b>
Max. Load capacity	<b>2 Kg</b>
Medium capacity	<b>5 Kg</b>
Dimensions (L x W x H)	<b>830 x 775 x 1,140 mm</b>
Installed power	<b>7.5 Kw / H</b>
Power supply	<b>3 x 400 V + N / 50 Hz</b>

### OPTIONS AND ACCESSORIES

Medium (fluid) HS260 - 5 Kg	<b>V800093</b>
Medium (fluid) HS240 - 5 Kg	<b>V800094</b>
Medium (fluid) LS 230 - 5 Kg	<b>V800096</b>
Medium (fluid) LS 215 - 5 Kg	<b>V800117</b>
Medium (fluid) LS 200 - 5 Kg	<b>V800108</b>
Universal carrier (frame) for VS-500 HD	<b>V800100</b>
Set of 4 feet with wheels	<b>V800099</b>
Datalogger - <b>Datalog 8C</b>	<b>V900153</b>
Cleaning kit	<b>V700092</b>
Data connection via Ethernet	<b>V800103</b>



# INLINE CONVEYOR REFLOW OVENS - SMTix



**New range of forced convection reflow ovens with inline conveyor drive.**

They are designed for medium productions.

These ovens are available in 4 to 10-zone versions and in 300 or 400 mm widths.

SMTix ovens are suitable for all types of alloys in the temperature **range up to 350°C**. The upper and lower hot air convection zones are individually controlled.

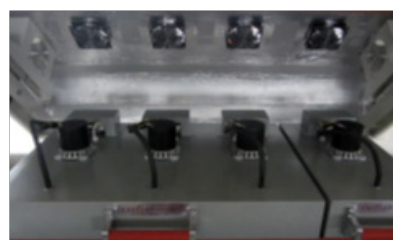
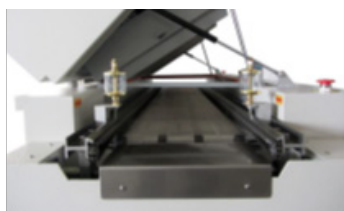
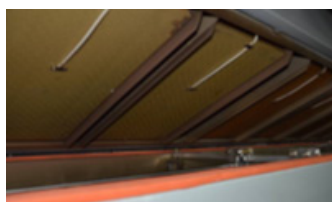
They are equipped with a stainless steel mesh and chain conveyor as standard. The rails, equipped with oilers, are treated to resist heat.

Touch screen with PLC controller that can store 50 thermal profiles and possibility of 2 additional ports for testing the profiles.

For connection to other equipment, SMTix ovens include a **SMEMA connector**.

The unique program design allows for automatic adjustment of power consumption at start-up and reduction of start-up current.

## Nitrogen inerting on request



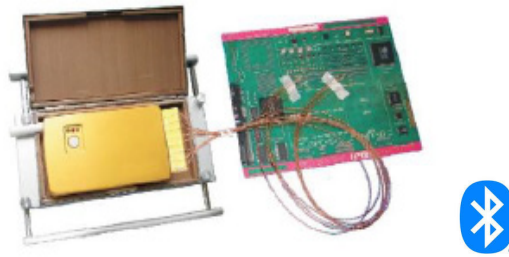
## FEATURES

- Touch screen and PLC for controlling system, English interface.
- Can stock 50 groups temperature parameters.
- Extra in built 2 thermocouple port, equipped with two thermocouple wire to test profile with touchscreen
- Upper 4 zones, bottom 4 zones, hot air convection , individual temperature controlling
- Stainless steel heating tunnel, corrosion and heat resistant
- PID temperature controls for each zone with an accuracy of  $\pm 1^{\circ}\text{C}$  Air cooling
- Conveyor with SUS mesh belt and pin chain
- Conveyor height 900 $\pm$ 20mm (pin chain height), standard SMEMA connector
- Conveyor width adjustable by crank manually
- Conveyor with lubrication oil cup
- Three color alarm light
- Standard power supply: 3 phase 380 v, 50 Hz

## TECHNICAL SPECIFICATIONS

Model	RF300-4	RF400-4	RF300-6	RF400-6	RF400-8	RF400-10
Reference	<b>V900170</b>	<b>V900172</b>	<b>V900171</b>	<b>V900173</b>	<b>V900192</b>	<b>V900193</b>
Heating zones	4 upper zones		6 upper zones		8 upper zones	
	4 lower zones		6 lower zones		8 lower zones	
General power	23 Kw		33 Kw		53 Kw	
Energy consumption	3 to 7 Kw		4 to 8 Kw		5 Kw to 9 Kw	
Initial heating time	15 minutes				25 minutes	
Type of control	Touch screen and PLC					
Heating method	Fully forced air convection					
Temperature control	Closed loop PID control, SSR drive					
Temperature range	From room temperature to 350°C					
Temperature accuracy	$\pm 1^{\circ}\text{C}$					
Uniform temperature	$\pm 2^{\circ}\text{C}$					
Cooling	One fan cooling zone				2 cooling zones: 1 zone with cooling blower 1 zone with air cooler	3 cooling zones, industrial chiller for cooling
Method of transport	Mesh and chain conveyor					
Conveyor height	900 $\pm$ 20 mm					
Width of the mesh band	330 mm	430 mm	330 mm	430 mm	450 mm	510 mm
Max. width of the PCB	300 mm	400 mm	300 mm	400 mm	400 mm	400 mm
Max. PCB height	30 mm					
Conveyor direction	From left to right					
Conveyor speed	0 - 900 mm/min				0 - 1,000 mm/min	
Opening of the cover	Manual, protected by cylinder				Electric	
Power supply	380 V, 3 ph, 50 Hz					
Weight	280 Kg	330 Kg	360 Kg	390 Kg	1,300 Kg	1,600 Kg

# DATA LOGGER 8 CHANNELS - SMTix DATALOG 8C



## GENERAL SPECIFICATIONS

Modele	Datalog 8C
Reference	<b>V900153</b>
Channel	<b>8 channels</b>
Thermo-couple	<b>K type</b>
Data transmission	<b>Bluetooth transmission/real time monitoring (Based on transmission status)</b>
Measurement precision	<b>± 1 °C</b>
Measurement range	<b>0 - 500 °C</b>
Sampling frequency	<b>Settable, 0.0625 s ~ 15.9375 s</b>
Records	<b>135,000</b>
Resolution	<b>0,1 °C</b>
Software's language	<b>English</b>
Battery	<b>Anti-explosion Lithium battery, 3.2 V, 800 mAH</b>
Over-heat protection	<b>Heat resistance of 100 °C, 75 °C automatic over-heat protection device</b>
Voltage	<b>3 V</b>
Dimensions (L x W x H)	<b>142 × 84 × 21 mm (Not including antenna)</b>

**Note :** Data is stored in Flash Memory. Even wireless transmission is interrupted, USB cable can be used to read the data.

## BLUETOOTH SPECIFICATIONS

Power	<b>20 dBm</b>
Transmission rate	<b>115,200 bps</b>
Transmission distance	<b>100 m (in an open area)</b>
Output impedance	<b>60 ohm</b>
Discrimination	<b>- 90 dBm</b>
Frequency	<b>2.4 GHz</b>

## CONTENT OF THE PACKAGE

- Profiler: **1 pc**
- Heat proof box: **1 pc**
- 5 V Power Adapter: **1 pc**
- USB cable: **1 pc**
- High temperature solder line: **3 m**
- High-temp tapes: **1 box**
- CD software: **1 pc**
- K type Thermo-couple wire: **8 pcs (length is 0.6m)**
- Bluetooth adapter: **1 pc**
- Manual: **1 pc**



# CONTROL

## SUMMARY

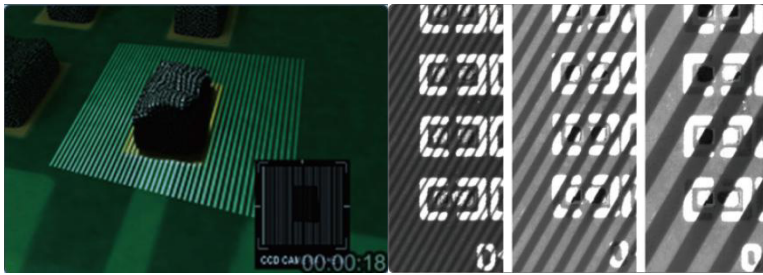
1. Inline 3D SPI SMTix 500ST ..... **p.30**
2. Videomicroscopes SANXO-SCOPE ..... **p.31**
3. Full HD Videomicroscopes - SANXO-SCOPE DUAL ..... **p.33**
4. DR AOI software for SANXO-SCOPE ..... **p.34**

# INLINE 3D SPI SMTix 500ST

Enhance the quality of your electronic assemblies with this 3D inline SPI inspection system.

Designed to accurately detect solder paste deposition defects, it ensures fast and reliable real-time inspection, improving yield and reducing rework costs.

A must-have solution for the modern electronics industry.



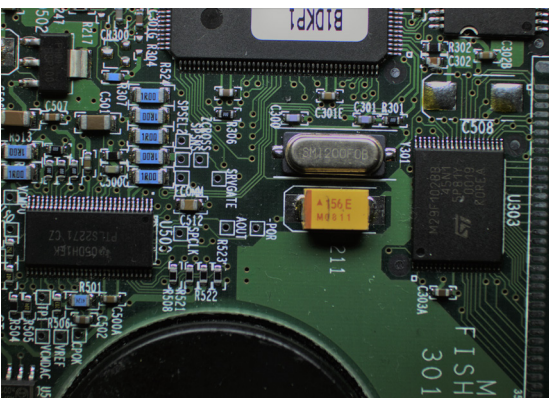
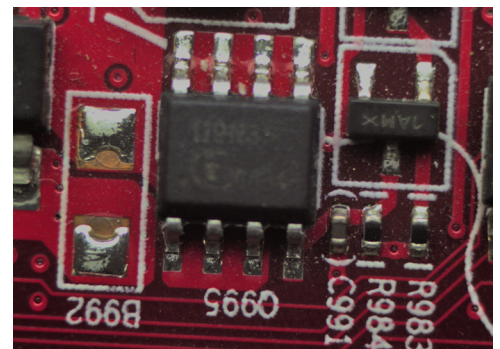
Model	500ST
Reference	W900102
Measurement principle	3D white light PSLM PMP (programmable spatial light modulation, phase measurement profilometry)
Measurements	Volume, acreage, height, XY offset, shape
Detection of non-performing types	Missing print, insufficient tin, excessive tin, bridging, offset mal-shapes, surface contamination
Lens resolution	4.5 μm /5 μm /6 μm /8 μm /10 μm /12 μm /15 μm /16 μm /18 μm /20 μm (optional for different camera models)
Accuracy	XY (Resolution): 10 μm
Repeatability	Height: ≤ 1 μm (4 sigma); volume/area: < 1% (4 sigma)
Inspection speed	0.35 sec/FOV - 0.5 /FOV, according to the actual configuration
Quality of inspection head	Standard 1, option 2, 3
Mark point detection time	0.3 sec/piece
Max. measuring head	± 550 μm (± 1,200 μm as option)
Max. measuring height pf PCB warp	± 5 mm
Min. pad spacing	100 μm (pad height is 150 μm pad as reference) 80 μm /100 μm /150 μm /200 μm (determined according to actual configuration)
Min. element	01005/03015/008004 (option)
Max. loading PCB size (X x Y)	470 x 500 mm
Conveyor setup	Front orbit (back orbit as option)
engineering statistics	Histogram; Xbar-R chart; CP&CPK; % gage reparability data spi daily/weekly/monthly reports
Gerber & CAD Data import	Support gerber format (274x, 274d), manual teach model CAD X/Y, Part No., Package Type input
Operating system support	Windows 10®
Equipment dimension (W x D x H)	1,000 x 1,174 x 1,550 mm
Weight	985 Kg

# VIDEOMICROSCOPES - SANXO-SCOPE



Range of digital video-microscopes conceived by Sanxo that offers a complete configuration with a close-up high quality image in direct inspection. They produce a frame rate from 25 to 150 FPS. It was initially conceived as a manual inspection workshop for electronic cards. It is robust, accessible and can be used for any other object.

The development was oriented towards opening the space above the work place; it allows the object to be moved and handled in an ergonomic working position. Adaptability, customization, and modularity were taken into account to adapt the set up considering your multiple uses.



## FAST FOCUSING IN MILLISECONDS

New much faster focus approach by applying the focusing method on the map. When the object is fixed, the algorithm calculates a map of the focused areas. While the user is moving the mouse's pointer on the screen, the focus is done in a couple of milliseconds.

## SUPER IMAGING

The tunable lens adds features for the user. The use of the stacking pictures method and the HDR (High Dynamic Range) for a great depth of field can be generated with those machines. SANXO-scopes are build with IDS Imaging cameras from 2.1 to 18 MPixel.

A 3D imaging of the surface is available on some models to give a better understanding and a clear visualization of the object.

Model	SANXO-scope DUAL	SANXO-scope HD U4 Express	SANXO-scope HD U3	SANXO-scope HD U5 Hyper	SANXO-scope HD U7	SANXO-scope HD U10	SANXO-scope HD U15	SANXO-scope HD U16
Reference	W900028	W900024	W900021	W900026	W900081	W900045	W900090	W900096
Camera	Two IDS Imaging 18 Mpixel cameras	IDS Imaging 18 Mpixel color camera	IDS Imaging 5 Mpixel color camera	IDS Imaging 2.3 Mpixel camera couleur Global shutter Limited digital zoom	IDS Imaging 6.3 Mpixel Color Camera digital zoom	IDS Imaging 20.5 Mpixel color camera with SONY 1-inch sensor	IDS Imaging 2.3 Mpixel color camera, global shutter limited digital zoom	IDS Imaging 12 Mpixel color camera
Included lens	Megapixel TAMRON 50mm ( magnification from x 25 to x 85) or 25mm ( magnification from x 20 to x 50 )							
Optionnal Lens	Megapixel TAMRON 75 mm ( magnification from x25 to x150 ). Fot magnifications from x150 to x220, consult us.							
Display	Full HD resolution 22"							
Camera stand	Adjustable and robust camera stand							
PC	INTEL NUC i7® 8GB RAM, 256GB SSD	INTEL NUC i7® 8GB RAM, 256 GB SSD	INTEL NUC i3® 4GB RAM, 60 GB SSD	INTEL NUC i7® 8GB RAM, 256 GB SSD	INTEL NUC i5® 8GB RAM 120GB SSD	INTEL NUC i5® 8GB RAM 240GB SSD	INTEL NUC i7® 8GB RAM, 256GB SSD	INTEL NUC i5® 8GB RAM, 120GB SSD
Autofocus	Not available	Available	Available	Available	Available	On request AF1060 only	optional/ supported, the appropriate AF lens is 10 - 30	optional/ supported, the appropriate AF lens is 10 - 30
3D imaging	Not available	Available	Not available	Available	Available	On request	optional/sup-ported	optional/sup-ported
Dimmable light source	40 W white light (12VDC)	20 W white light (12VDC, 700 mA) 209 x 98 x 20 mm					25 W white light (900 mA) 210 x 98 x 25 mm	20 W white light (700 mA) 210 x 98 x 25 mm
Framerate	25-60 FPS	45-70 FPS	38-62 FPS	100-150 FPS	35-70 FPS	30-70 FPS	36-166 FPS	33-70 FPS

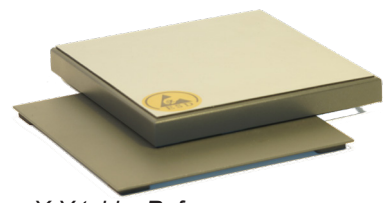
**Choice guide**

Through wiring			x	x	x	x	x	
SMD wiring	x		x		x	x	x	x
Wire inspection / through			x	x	x	x	x	x
SMD inspection finpitch	x	x	x			x	x	x
Other use (mechanical)		x	x		x	x	x	x

FPS : Frame Per Second



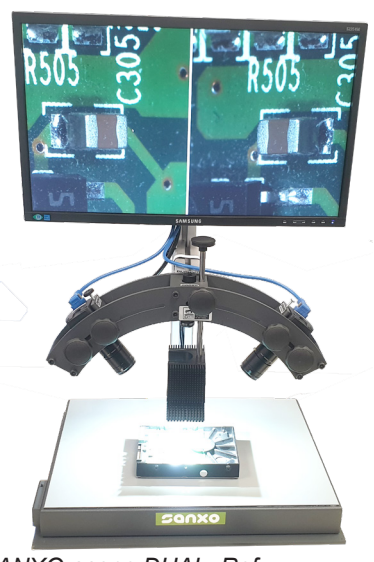
Tilting table Ø 200 mm with ESD mat cover, Ref. W700025



X-Y table, Ref. W700009, W700006

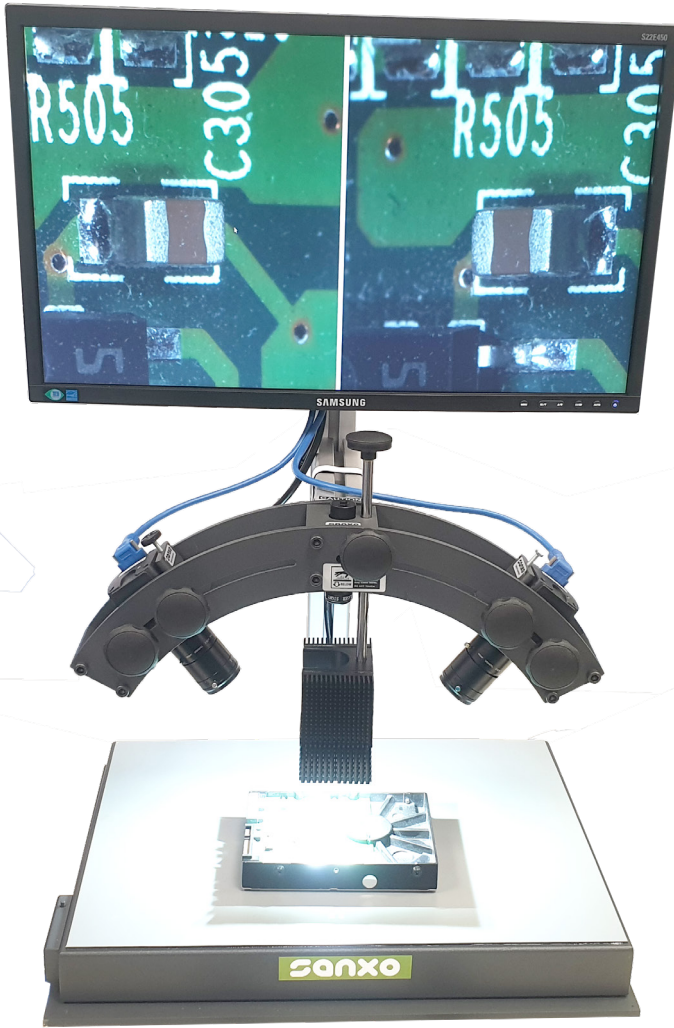
**OPTIONS AND ACCESSORIES**

W700008	Ultra high resolution calibration card on glass for SANXO SCOPES
W700025	Tilting table Ø 200 mm with ESD mat cover
W700009	ESD X-Y table, ft A2 lockable (400 x 305 x 40 mm) for SANXO-scope -to order with the machine
W700006	ESD X-Y table, ft A3 (204 x 204 x 30 mm)
W700001	Tunable lens
W700034	Autofocus 1640 for Sanxo Scope with controler and cable & 3D imaging
W700004	Extra lens F = 25 mm
W700007	Extra lens for Sanxo scope - F=50mm
W700003	Extra lens F = 75 mm
W700019	UV filter SV-GA305, new
W700017	20 mm extension ring
W700018	10 mm extension ring
W700032	Extension tube set of 5 rings : 0.5, 1, 5, 10, 20 mm for SANXO
W700020	Laser pointer for SANXO-Scope
W700002	Dual light source 14W
W700021	20 W light source for SANXO-scope non-dimmable without reflector - Standard
W700022	20 W light source for SANXO-scope non-dimmable with reflector
W700023	20 W light source for SANXO-scope dimmable without reflector
W700024	20 W light source for SANXO-scope dimmable with reflector



SANXO-scope DUAL, Ref. W900028

# FULL HD VIDEOMICROSCOPE - SANXO-SCOPE DUAL



The SANXO-Scope DUAL is ideal for PCB inspection. The view angle of both cameras are adjustable. Using smooth moving linear bearing XY-table the user can go through the whole PCB very quickly especially focusing on the soldering joints.

## BENEFIT

The quality inspection process can be shortened with the use of the two cameras. The users do not need to hold the Printed Circuit Board in hand under the camera and tilt it to get better view. The two different views of the same component on PCB ensures the high-quality inspection for the users.

## FEATURES

- Double image of the observed component
- Magnified sharp live image, high resolution
- ca. 50x - 200x magnification
- Large depth of field (DOF)
- Easy to use with a single mouse
- Dimmable LED light source
- Zooming with the use of 2 pcs of 18Mpix camera
- Image and Data saving on USB, SSD or on network drive
- Laser pointer for locating target component

## SIMPLE AND EFFICIENT

The SANXO-Scope DUAL microscope system provides two large depth of field live highframe magnified images using two 18Mpix quality German cameras. The view angles of the cameras are adjustable from 45 degree to 5 degree.

Model	<b>SANXO-scope DUAL</b>
Reference	<b>W900028</b>
Camera	<b>Two IDS Imaging 18 Mpixel cameras</b>
Included lens	<b>Megapixel TAMRON 50mm ( magnification from x 25 to x 85) or 25 mm ( magnification from x 20 to x 50 )</b>
Optionnal Lens	<b>Megapixel TAMRON 75 mm ( magnification from x25 to x150 ). For magnifications from x150 to x220, consult us.</b>
Display	<b>Full HD resolution 22"</b>
Camera stand	<b>Adjustable and robust camera stand</b>
PC	<b>INTEL NUC i7® 8GB RAM, 256GB SSD</b>
Light source	<b>Dimmable 40 W white illumination (12 VDC) 209 x 98 x 20 mm</b>
Framerate	<b>25 - 60 FPS</b>

# DR AOI SOFTWARE FOR SANXO SCOPE

Software for semi-automatic recognition for small PCB series.

**Requires constant and stable light environment.**  
Doctor - AOI is an automated optical inspection concept originally developed to respond to the quality control shortcomings of circuit board production lines. A wide selection of available features and the modular concept of Doctor AOI allow forming a custom tailored solution to augment the factory quality control.

## FEATURES

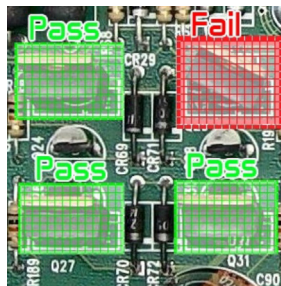
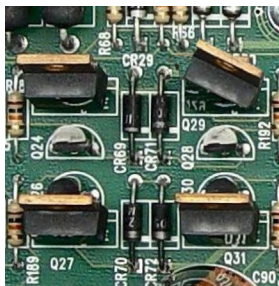
Dr. AOI is able to identify and solve common problems such as:

- Component presence
- Component position and alignment
- Solder quality, various defects such as stains, open/short circuits, thinning of solder etc.
- Barcode/datamatrix and text reading
- Factory automation and site network communication



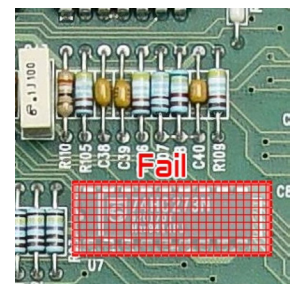
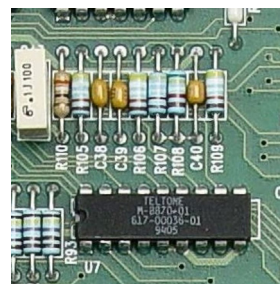
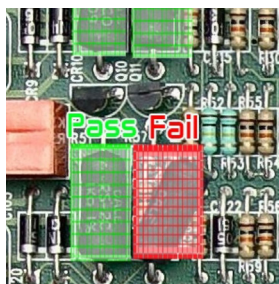
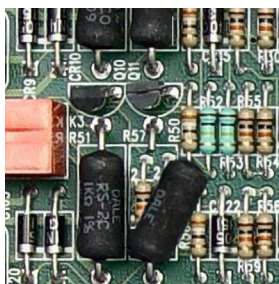
Ref. **W700031**

Doctor AOI can be customized to include any number of available features and implemented at the site both online and offline. The heart of the system, machine vision software Modular-X, enables rapid and flexible application development and the basic features range from presence/absence inspection, quality assessment, code/text reading to various measurement functions.



The ideal configuration consists of:

- SANXO-SCOPE HD U4 videomicroscope (ref **W900023**)
- Auto-FOCUS (ref **W700001**)
- 25 mm lens (ref **W700004**)



# SOLDERING & REPAIR

## SUMMARY

1. Offline selective soldering machine SASINNO Ant-i1 ..... **p.36**
2. Offline selective soldering machine SASINNO Ant-i2 ..... **p.38**
3. Inline selective soldering machine SASINNO FLEX-i2 ..... **p.40**
4. Inline selective soldering machine SASINNO NU-FLEX-i2 .. **p.42**
5. Inline selective soldering machine SASINNO MAS-i2 ..... **p.44**
6. BGA rework station RS-1000 ..... **p.46**
7. Manual soldering / repair - Metcal ..... **p.48**
8. Accessories for soldering systems ..... **p.50**
9. Tips ..... **p.51**
10. PCB holder ..... **p.52**

# OFFLINE SELECTIVE SOLDERING MACHINE SASINNO ANT-i1



## MACHINE OPERATING CONCEPT

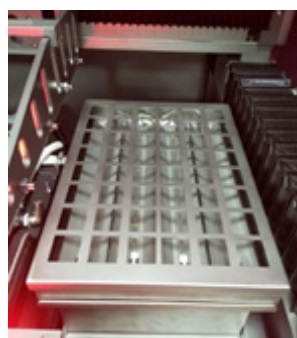
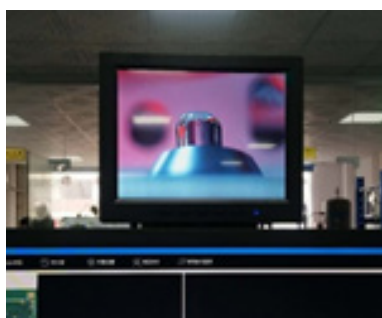
The PCB is mounted on a frame which is moved in X/Y by a servomotor. The solder pot also moves in Z via a servomotor. Standard equipment includes a drop jet fluxer, lower preheating, selective soldering pot, heating with nitrogen inerting, automatic wave height calibration, on-line display, English Windows 10® software.

## FEATURES

- Small footprint only 990 mm x 1,308 mm
- Max board 350 mm x 260 mm
- English Windows 10 interface
- 3 servo motors and servo drivers for motion
- Drop jet fluxer made in German
- Solder pot system with capacity 15 Kg
- Wave height calibration system
- Bottom IR preheating zone
- “on-time” liver camera to show soldering process
- Pre-maintenance count down function

## OPTIONS & ACCESSORIES

- Fiducial mark recognition function – ref. **V700388**
- Prity monitoring in machine - ref. **V700390**
- Flow monitoring in machine – ref. **V700391**
- Top preheating zone – ref. **V700392**
- Extra universal wave soldering carrier – ref. **V700393**
- 1 year consumable parts package – ref. **V700394**
- Offline programming software – ref. **V700389**
- Auto solder wire adding system (1set) – ref. **V700407**
- Flux flow quantity monitoring per pad - ref. **V700404**
- Set of 5 wet soldering nozzles – ref. **V700413**
- Set of 5 dry soldering nozzles - ref. **V700414**
- Nitrogen Generator – ref. **V800232**



## TECHNICAL SPECIFICATIONS

Reference	V900174
<b>PCB ROBOTIC PLATFORM</b>	
Axes of motion	X, Y, Z
Motion control	Servo motors for X,Y, Z
Position Accuracy	+ / - 0.05 mm
<b>SOLDER MANAGEMENT</b>	
Standard Solder Station	1
Solder Pot Capacity	15 Kg
Heat-Up Time	About 40 min
Max. temperature	380 °C
Solder Pot heater	1.2 Kw
<b>Solder Nozzles</b>	
Mini Wave Nozzles	Ø 3 / 4 / 5 / 6 / 8 mm
Customized nozzle	Available
Nozzle Material	Proprietary Alloy
<b>(N2) INERTION MANAGEMENT</b>	
	<u>Nitrogen Generator</u>
N2 heater	Standard Equipped
N2 Temp PID Control Range	0 - 300 °C
N2 Consumption per Nozzle	1.5 m3/H
Required N2 Purity	> 99.99%
<b>FLUX MANAGEMENT</b>	
Spray Flux Nozzle	Standard equipped with drop jet nozzle made in Germany
Flux Capacity	1 L
Flux Tank	Constant pressure tank
<b>PREHEAT</b>	
IR heater	2 Kw
<b>CONTROLLING SYSTEM</b>	
Industrial PC	Yes
Typical Program Time	10 Minutes
Programming method	Draw path on scanned picture of board
Controlling system	PC
<b>GENERAL</b>	
Operating power/Max power	4 Kw / 6.5 Kw
PCB dimension	50 x 50 - 350 x 260 mm
Air supply	3 - 5 bars
Exhausting required	200 M3/h
Power supply	1 PH 220 V 50 HZ MAX 30 A Equip 40 A contactor in factory
Machine dimension	990 x 1,308 x 171 mm
Net weight	400 Kg

# OFFLINE SELECTIVE SOLDERING MACHINE SASINNO ANT-i2



## MACHINE OPERATING CONCEPT

The PCB is mounted on a frame which is moved in X/Y by a servomotor. The solder pot also moves in Z via a servomotor. Standard equipment includes a drop jet fluxer, lower preheating, selective soldering pot, heating with nitrogen inerting, automatic wave height calibration, live display, English Windows 10® software.

## FEATURES

- Small footprint, only 1,260 x 1,640 mm
- Maximum board size of 350 x 450 mm
- Windows 10® interface
- Drop jet fluxer made in Germany
- 35 kg capacity solder pot system
- Infrared pre-heating system
- Real-time camera to show the soldering process
- Pre-maintenance countdown function (integrated CMMS function)

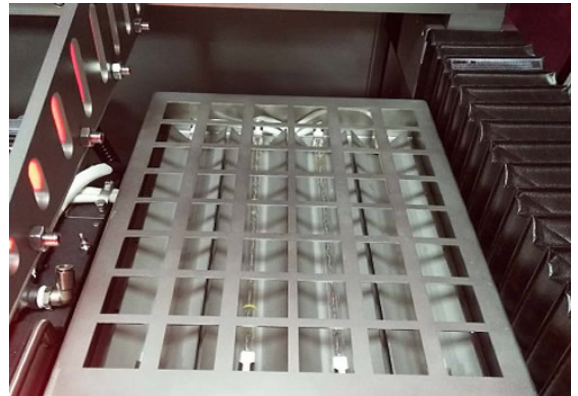
## OPTIONS & ACCESSORIES

- Fiducial mark recognition function – ref. **V700388**
- Purity monitoring in machine - ref. **V700390**
- Flow monitoring in machine – ref. **V700391**
- Top preheating zone – ref. **V700392**
- Extra universal wave soldering carrier – ref. **V700393**
- 1 year consumable parts package – ref. **V700394**
- Offline programming software – ref. **V700389**
- Auto solder wire adding system (1set) – ref. **V700407**
- Flux flow quantity monitoring per pad - ref. **V700404**
- Set of 5 wet soldering nozzles – ref. **V700413**
- Set of 5 dry soldering nozzles - ref. **V700414**
- Nitrogen Generator – ref. **V800232**

## TECHNICAL SPECIFICATIONS

Reference	V900175
<b>PCB ROBOTIC PLATFORM</b>	
Axes of motion	X, Y, Z
Motion control	Servo motors for X,Y, Z
Position Accuracy	+ / - 0,05 mm
<b>SOLDER MANAGEMENT</b>	
Standard Solder Station	1
Solder Pot Capacity	35 Kg
Solder Temperature Control	PID
Heat-Up Time	About 30 minutes
Max. temperature	380 °C
Solder Pot heater	2.4 Kw
<b>SOLDER NOZZLES</b>	
Mini Wave Nozzles	Ø 4, 6, 8, 10, 12 mm
Customized nozzle	Available
Nozzle Material	Proprietary Alloy
<b>(N2) INERTION MANAGEMENT</b>	
N2 heater	Nitrogen Generator Standard Equipped
N2 Temp PID Control Range	0 - 350 °C
N2 Consumption per Nozzle	1.5 m3/H Total need 3 m3/H (Selmate-4 N2 generator recommended)
Required N2 Purity	> 99.99%
<b>FLUX MANAGEMENT</b>	
Spray Flux Nozzle	Standard equipped with drop jet nozzle made in Germany
Flux nozzle number	2 sets
Flux Capacity	1 L
Flux Tank	Constant pressure tank
<b>PREHEAT</b>	
Bottom preheating	5 Kw IR standard preheating fitted
Top preheating	Optional
<b>CONTROLLING SYSTEM</b>	
Industrial PC	Yes
Typical Program Time	10 Minutes
Programming method	Draw path on scanned picture of board
Controlling system	PC
<b>GENERAL</b>	
Operating power / Max power	7 Kw / 13 Kw
PCB Dimensions	50 x 50 - 350 x 260 mm (When only one solder nozzle is used)
	50 x 50 - 350 x 215 mm (When two wave nozzles parallelly are used)
Available height on PCB	70 mm
Available height under PCB	40 mm
Max. load on PCB support	5 Kg
Air supply	3 - 5 bars
Exhausting required	200 M3/h
Power supply	3 PH 380 V 50 HZ MAX 34 A Equip 40 A contactor in factory
Machine dimension	1,260 x 1,640 x 1,895 mm
Net weight	550 Kg

# INLINE SELECTIVE SOLDERING MACHINE SASINNO FLEX-i2



## MACHINE OPERATING CONCEPT

This highly compact in-line model offers great flexibility for small board volumes and large production runs. The PCB is moved in X/Y direction by a servomotor. The solder pot is also moved in height (Z) by a servomotor. The machine is equipped as standard with a spray fluxer, an upper infrared (IR) preheater (and a lower one as an option), 2 solder pots, a nitrogen inerting device with gas heater, automatic wave height calibration, live visualisation and its Windows 10® control software. The system can solder PCBs from 50 x 50 to 457.2 x 508 mm (using 2 individual nozzles).

## FEATURES

- XY servo table for solder station, servo axis Z1 for solder pot 1, servo axis Z2 for solder pot 2. Optional with electro-magnetic pump made in Germany.
- Top preheating zone, option with bottom IR zone.
- Standard equipped live-on camera for both solder pot's soldering process.
- Standard equipped with wave height calibration.
- Windows 10 system English version.
- Drop jet fluxer made in German. Option to install double drop jet fluxer.

## OPTIONS & ACCESSORIES

- Fiducial mark recognition function – ref. **V700388**
- Offline programming software – ref. **V700389**
- Purity monitoring in machine - ref. **V700390**
- Flow monitoring in machine – ref. **V700391**
- Flux flow quantity monitoring per pad – ref. **V700404**
- 2nd flux nozzle with drop jet type- ref. **V700405**
- 2nd flux nozzle with MicroSpray type - ref. **V700406**
- Auto solder wire adding system (1set) – ref. **V700407**
- Set of 5 wet soldering nozzles - ref. **V700408**
- Set of 5 dry soldering nozzles - ref. **V700409**
- Extra universal wave soldering carrier – ref. **V700411**
- 1 year consumable parts package – ref. **V700402**
- Nitrogen Generator – ref. **V800232**

## TECHNICAL SPECIFICATIONS

Reference	<b>V900176</b>
<b>PCB ROBOTIC PLATFORM</b>	
Axes of motion	<b>X, Y, Z</b>
Motion control	<b>Servo motors for X,Y,Z</b>
Position Accuracy	<b>+ /- 0.05 mm</b>
<b>SOLDER MANAGEMENT</b>	
Standard Solder Station	<b>2</b>
Solder Pot Capacity	<b>15 Kg</b>
Solder Temperature Control	<b>PID</b>
Heat-Up Time	<b>About 40 minutes</b>
Solder Pot heater	<b>350 °C max.</b>
<b>SOLDER NOZZLES</b>	
Mini Wave Nozzles	<b>Ø 3 to 12 mm</b>
Customized nozzle	<b>Available</b>
<b>(N2) INERTION MANAGEMENT</b>	
	<b><u>Nitrogen Generator</u></b>
N2 Consumption per Nozzle	<b>4 m3/H</b>
Required N2 Purity	<b>&gt; 99.99%</b>
<b>FLUX MANAGEMENT</b>	
Flux Nozzle Type	<b>Drop jet fluxer made in Germany</b>
Flux Nozzle Quantity	<b>Standard equip 1 set, optional to equip another set</b>
Flux Tank Capacity	<b>1 L</b>
<b>PREHEAT</b>	
Preheating method	<b>Top IR preheat,option with bottom preheat</b>
<b>CONTROL SYSTEM</b>	
Industrial PC	<b>Yes</b>
Typical Program Time	<b>10 Minutes</b>
Programming method	<b>Draw path on scanned picture of board</b>
Controlling system	<b>PC</b>
<b>GENERAL</b>	
Operating power/Max power	<b>6 Kw / 16 Kw</b>
PCB dimension	<b>50 x 50 - 457.2 x 508 mm (Two nozzle solder individually)</b>
	<b>50 x 50 - 508 x 508 mm (Two nozzle solder parallel)</b>
Air supply	<b>3 - 5 bars</b>
Exhausting required	<b>800 M3/h</b>
Power supply	<b>3 PH 380 V 50 HZ</b>
Machine dimension	<b>1,420 x 1,725 x 1,700 mm</b>
Net weight	<b>900 Kg</b>

# INLINE SELECTIVE SOLDERING MACHINE SASINNO NU-FLEX-i2



## FEATURES

- XY servo table for solder station, servo axis Z1 for solder pot 1, servo axis Z2 for solder pot 2 Optional with electro-magnetic pump made in Germany
- Convection top preheating zone, IR bottom preheating zone
- Standard equipped live-on camera for both solder pot's soldering process
- Standard equipped with wave height calibration
- Windows 10 system English version
- Drop jet fluxer made in Germany

## TECHNICAL SPECIFICATIONS

Reference	<b>V900194</b>
<b>SOLDER MANAGEMENT</b>	
Standard Solder Station	<b>2</b>
Types of solder pot	<b>Fitted as standard with a mechanical pump, with the option of an electro-magnetic pump (made in Germany)</b>
Solder Pot Capacity	<b>15 Kg</b>
Solder Temperature Control	<b>PID</b>
Heat-Up Time	<b>About 30 mins</b>
Solder Pot heater	<b>380 °C max.</b>
Axes of Motion	<b>X, Y, Z1, Z2</b>
Position Accuracy	<b>+/- 0.05 mm</b>
<b>SOLDER NOZZLES</b>	
Mini Wave Nozzles	<b>Ø 4 to 12 mm</b>
Customized nozzle	<b>Available</b>
<b>(N2) INERTION MANAGEMENT</b>	
<b><u>Nitrogen Generator</u></b>	
N2 Consumption per Nozzle	<b>1.5 m3/H recommended to connect the system to 4m3/H N2 source</b>
Required N2 Purity	<b>&gt;99.99%</b>
<b>FLUX MANAGEMENT</b>	
Flux Nozzle Type	<b>Drop jet fluxer made in Germany</b>
Flux Nozzle Quantity	<b>2 sets as standard</b>
Flux Tank Capacity	<b>1 L</b>
Flux Tank Quantity	<b>2</b>
<b>PREHEAT</b>	
Preheating method	<b>Convection top preheating and bottom IR preheating</b>
<b>CONTROL SYSTEM</b>	
Industrial PC	<b>Yes</b>
Typical Program Time	<b>10 Minutes</b>
Programming method	<b>Draw path on scanned picture of board</b>
Controlling system	<b>PC</b>
<b>GENERAL</b>	
Operating power/Max power	<b>6 Kw / 16 Kw</b>
PCB dimension	<b>100 x 100 - 508 x 891 mm (when one conveyor section combined)</b>
	<b>100 x 100 - 508 x 350 mm (When two conveyor sections individually used)</b>
Air supply	<b>3 - 5 bars</b>
Exhausting required	<b>600 M3/h</b>
Power supply	<b>3 PH 380 V 50 HZ – (optional 3 PH 220 V 50 Hz)</b>
Machine dimension	<b>1,830 x 1,730 x 1,660 mm</b>
Net weight	<b>1,000 Kg</b>

# INLINE SELECTIVE SOLDERING MACHINE SASINNO MAS-i2



## MACHINE OPERATING CONCEPT

This in-line model offers great flexibility and productivity for mass production runs. It can be used for in-line soldering of boards with very high thermal inertias. The printed circuit board is moved in X/Y direction by a servomotor. The solder pot is also moved in the Z direction by a servomotor. The machine is equipped as standard with a spray fluxer, an upper infrared (IR) preheater (and a lower one as an option), 2 solder pots, a nitrogen inerting device with a gas heater, automatic wave height calibration, a live display and its Windows 10® control software. The system can solder PCBs from 50 x 50 to 457.2 x 508 mm (using 2 individual nozzles).

## FEATURES

- XY servo table for fluxing. Z1 for drop jet flux 1, optional with Z2 for drop jet flux 2. also optional distance between drop jet flux adjustable by software
- Top preheating zone, bottom IR zone
- Solder section both standard equipped with IR preheating zone at top
- XY servo table for solder station, servo axis Z1 for solder pot:
  - 1. servo axis Z2 for solder pot
  - 2. Optional with electro-magnetic pump made in Germany
- Standard equipped live-on camera for both solder pot's soldering process
- Standard equipped with wave height calibration
- Windows 10 system English version

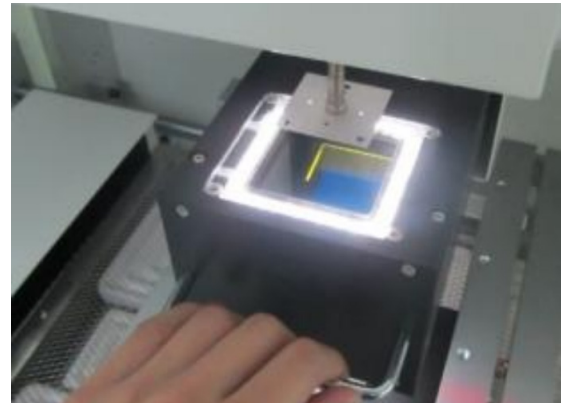
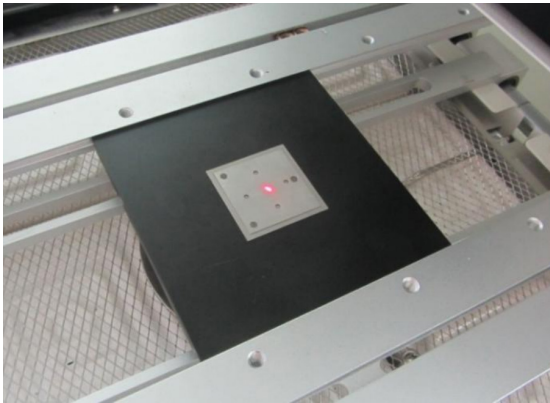
## OPTIONS ET ACCESSOIRES

- Fiducial mark recognition function – ref. **V700388**
- Offline programming software – ref. **V700389**
- Purity monitoring in machine - ref. **V700390**
- Flow monitoring in machine – ref. **V700391**
- Flux flow quantity monitoring per pad – ref. **V700404**
- 2nd flux nozzle with drop jet type- ref. **V700405**
- 2nd flux nozzle with MicroSpray type - ref. **V700406**
- Auto solder wire adding system (1set) – ref. **V700407**
- Set of 5 wet soldering nozzles - ref. **V700408**
- Set of 5 dry soldering nozzles - ref. **V700409**
- Extra universal wave soldering carrier – ref. **V700411**
- Extra universal wave soldering carrier – ref. **V700412**
- Auto flux nozzle distance adjustment – ref. **V700418**
- Upgrade to electro-megagnetic pump from mechanical pump (1set) – ref. **V700419**
- Upgrade 1 solder pot up to wider 30 Kg capacity with max. 100 mm nozzle – ref. **V700420**
- Wide wave solder nozzle 50 mm width (need option V700420) – ref. **V700421**
- Wide wave solder nozzle 75 mm width (need option V700420) – ref. **V700422**
- Wide wave solder nozzle 100 mm width (need option V700420) – ref. **V700423**
- 1 year consumable parts package – ref. **V700403**
- Nitrogen Generator – ref. **V800232**

## TECHNICAL SPECIFICATIONS

Reference	<b>V900177</b>
<b>PCB ROBOTIC PLATFORM</b>	
Axes of motion	<b>X, Y, Z</b>
Motion control	<b>Servo motors for X,Y,Z</b>
Position Accuracy	<b>+ /- 0.05 mm</b>
<b>SOLDER MANAGEMENT</b>	
Standard Solder Station	<b>2</b>
Solder Pot Capacity	<b>15 Kg</b>
Solder Temperature Control	<b>PID</b>
Heat-Up Time	<b>About 40 minutes</b>
Solder Pot heater	<b>350 °C max.</b>
<b>SOLDER NOZZLES</b>	
Mini Wave Nozzles	<b>Ø 3 to 12 mm</b>
Customized nozzle	<b>Available</b>
<b>(N2) INERTION MANAGEMENT</b>	
	<b><u>Nitrogen Generator</u></b>
N2 Consumption per Nozzle	<b>4 m3/H</b>
Required N2 Purity	<b>&gt; 99.99%</b>
<b>FLUX MANAGEMENT</b>	
Flux Nozzle Type	<b>Drop jet fluxer made in Germany</b>
Flux Nozzle Quantity	<b>Standard equip 1 set, optional to equip another set</b>
Flux Tank Capacity	<b>1 L</b>
<b>PREHEAT</b>	
Top preheating method	<b>Hot air</b>
Bottom preheating method	<b>IR</b>
<b>CONTROL SYSTEM</b>	
Industrial PC	<b>Yes</b>
Typical Program Time	<b>10 Minutes</b>
Program method	<b>Draw path in scanned picture of board</b>
Controlling system	<b>PC</b>
<b>GENERAL</b>	
Operating power/Max power	<b>6 Kw / 20 Kw</b>
PCB dimension	<b>80 x 100 - 457.2 x 508 mm (Two nozzle solder individually)</b>
	<b>80 x 100 - 508 x 508 mm (Two nozzle solder parallel)</b>
Air supply	<b>3 - 5 bars</b>
Exhausting required	<b>800 M3/h</b>
Power supply	<b>3 PH 380 V 50 HZ</b>
Machine dimension	<b>2,700 x 1,725 x 1,650 mm</b>
Net weight	<b>1,500 Kg</b>

# BGA REWORK STATION RS-1000 - SMTix



## OVERVIEW

- **Independent temperature control system:** Three temperature zones to heat up independently
- **IR PCB Preheater:** 415 x 360 mm IR Bottom Heater
- **Micrometer adjuster:** Micrometer is used to realize accurate X/Y axis and R-angle alignment with a precision of  $\pm 0.02$  mm
- **Fast cooling system:** High-power cross-current fan can cool PCBs and the bottom IR preheating zone rapidly
- **Vision Alignment:** High-definition optical alignment system (1080p)
- **Self-defined temperature curve unit:** 6 zones' temperatures are controlled. Excellent temperature controlling system can guarantee better soldering effect
- **Control system:** Touch Screen and PLC control, temperatures are displayed on touch screen in curves for instant curve analysis
- **2 working methods:** auto operation and manual operation, for more flexibility

## AVAILABLE OPTIONS

- Reball fixture
- BGA Preheating table
- Calibration block for Alignment system
- Side visual inspection system for solder joint viewing

TECHNICAL SPECIFICATIONS	
Model	<b>BGA RS-1000</b>
Reference	<b>V900044</b>
Power	<b>6,800 W</b>
Up heater power	<b>1,200 W</b>
Down heater power	<b>1,200 W</b>
IR heater power	<b>4,200 W (2,400 W area is independently control)</b>
Optics	<b>HD Split-vision system</b>
PCB Size	<b>Min: 50 × 50 mm Max: 500 × 450 mm</b>
Component size	<b>0.6 mm - 80 mm (Optional special designed picking nozzle for small chips)</b>
Thermo-couple Ports	<b>4 pcs</b>
PCB thickness	<b>1.0 - 5 mm</b>
Mounting precision	<b>± 0.01 mm</b>
Power supply (Single Phase)	<b>AC 230 V 50/60 Hz</b>
Size	<b>670 × 780 × 850 mm</b>
Weight	<b>About 90 Kg</b>

# MANUAL SOLDERING & REPAIR by METCAL™

## SOLDERING SYSTEM PS-900



- SmartHeat® temperature control
- Ergonomic, lightweight handle
- Rugged cast aluminum housing
- Added plating thickness to tips
- Low cost, quick-change heater coil

Model	PS-900
Reference	PS-900
Ambient Operating T°	10 - 40 °C
Max. Enclosure T°	65 °C
Input Line Voltage	50 / 60 Hz
Input Line Frequency	100 - 240 VAC
Power Consumption	90 W max.
Output Power	60 W
Output Frequency	450 KHz
Power Cord (3-wire)	183 cm 18/3 SJT
Dimensions W x D x H	80 x 160 x 115 mm

## SOLDERING SYSTEM MFR-1351



- Self-contained powerful pump
- 2 in 1 ergonomic and flexible hand-piece: pencil or pistol
- Collection chamber with larger capacity
- Smart collection chamber for quick and easy change
- Dual switchable output
- Powered by Smartheat® Technology

Model	MFR 1351
Reference	MFR-1351
Ambient Operating T°	10 - 40 °C
Max. Enclosure T°	65 °C
Input Line Voltage	50 / 60 Hz
Input Line Frequency	100 - 240 VAC
Power Consumption	110 W max.
Output Power	60 W max.
Output Frequency	450 KHz
Power Cord (3-wire)	1.830 mm
Dimensions W x D x H	80 x 160 x 115 mm

## SOLDERING SYSTEM MFR-1110



- SmartHeat® Technology provides exceptional power for high thermal demand applications.
- Four hand-pieces available for increased application solutions for soldering and rework on one system
- Each hand-piece has a comprehensive range of cartridges or tips for maximum flexibility
- Hand-pieces are ergonomic for operator safety and comfort
- Small Bench Top foot print
- Can be combined and locked with its brother the MFR-2200 dual output series for increased application solutions for soldering and rework

Model	MFR 1110
Reference	MFR-1110
Ambient Operating T°	10 - 40 °C
Max. Enclosure T°	55 °C
Input Line Voltage	50 / 60 Hz
Input Line Frequency	100 - 240 VAC
Power Consumption	70 W max.
Output Power	60 W max.
Output Frequency	450 KHz
Power Cord (3-wire)	183 cm 18/3 SJT
Dimensions W x D x H	90 x 142 x 197 mm

## SOLDERING SYSTEM MFR-2211



- SmartHeat® Technology provides exceptional power for high thermal demand applications
- Single or Dual simultaneous outputs allow for single or dual hand-piece use
- Four hand-pieces available for increased application solutions for soldering and rework on one system
- Each hand-piece has a comprehensive range of cartridges or tips for maximum flexibility
- Hand-pieces are ergonomic for operator safety and comfort

Model	MFR 2211
Reference	MFR-2211
Ambient Operating T°	10 - 40 °C
Max. Enclosure T°	55 °C
Input Line Voltage	50 / 60 Hz
Input Line Frequency	100 - 240 VAC
Power Consumption	130 W max.
Output Power	60 W
Output Frequency	450 KHz
Power Cord (3-wire)	183 cm 18/3 SJT
Dimensions W x D x H	170 x 200 x 152.5 mm

## SOLDERING SYSTEM GT90 / GT120



Soldering tips for GT90 and GT120 on request

The GT series applies Metcal's inductive heating technology to a temperature-controlled soldering station. This guarantees high performance thanks to :

- **Adjustable temperature**
- Reduced heating time
- Temperature stability
- Heat recovery
- **2 models: GT90 (90W) & GT120 (120W)**

Faster heat-up times and greater stability during the soldering process improve solder joint quality.

The GT90 and GT120 soldering stations offer the highest performance in their category.

Model	GT90 / GT120
Reference	GT90 / GT120
Soldering temperature	From 200 to 450°C
Free range tip temperature adjustment	Yes
Input frequency	50 / 60 Hz
Input line voltage	100 - 240 VAC
<b>Power input</b>	<b>90 W ou 120 W</b>
Tip temperature accuracy	Meets or exceeds IPC-J-STD
Iron connector	Prise DIN 8 broches
Power Cord (3-wire)	1.5 m, ESD safe
Dimensions W x D x H	86 x 191 x 83 mm

## SOLDERING SYSTEM MX-5210



- The Metcal Advanced™ iron is lightweight and provides a great sense of comfort for the operator
- The Metcal UltraFine™ iron features a new generation of extremely thin diameter cartridges and a contoured handle
- Precision pliers enable efficient removal of discrete and SOIC components
- The high-power desoldering iron is designed for desoldering through-hole components. Its non-slip handle ensures comfort and performance for the operator
- Dual output

Model	MX 5210
Reference	MX-5210
Operating T°	10 - 40 °C
Max. Enclosure T°	65 °C
Input Line Frequency	50 / 60 Hz
Input Line Voltage	100 - 240 VAC
Power Consumption	90 W max
Output power	60 W
Output frequency	450 KHz
Power Cord (3-wire)	183 cm 18/3 SJT
Dimensions W x D x H	86 x 191 x 83 mm

## SOLDERING SYSTEM CV-5210



- Patented Connection Validation (CV) intermetallic compound creation technology
- 2.8' colour touch screen
- Process traceability data communication software and firmware graphics
- Accurate display showing fault temperature
- Integrated power indicator and power graph
- Patented Chip-in-Cartridge technology
- Bi-directional closed loop communication
- Attribute logging of non-conforming faults
- Traceability information
- Protects power supply from non-compliant faults
- Backwards compatible with MX station power supplies

Model	CV-5210
Reference	CV-5210
Operating T°	10 - 40 °C
Power Consumption	125 W max
Type of air pump	Diaphragm pump
Output power	80 W
Input line voltage	100 - 240 VAC
Dimensions	121 x 130 x 235 mm
Weight	3.35 Kg

## HEATED AIR GENERATOR HCT-910



- Versatile 900 W rapid heating hot air tool for brazing and soldering applications
- Maximum temperature of 600°C
- Air flow in excess of 120 l/m (4.2 cfm)
- Digital control of temperature and airflow for greater precision
- Quick change of temperature and airflow in manual mode
- Illuminated start/stop button directly on the handle
- Tool-free nozzle change
- Complies with ESD standards
- CE and TUV approved

Model	HCT-900-10
Reference	HCT-900-10
Operating T°	100 - 500 °C
Air output	6 - 25 l / min
Type of air pump	Diaphragm pump
Power	320 W
Noise level	< 46 dBA
Voltage	230 V
Weight	4.7 Kg

## CONVECTION PRE-HEATING TABLE PCT-100



- Accelerates and enhances the lead-free SMT & through-hole rework process
- Temperature ramps up quickly, maximizing productivity
- Adjustable knob controls the required temperature to below 300°C
- Controlled cool-down eliminates thermal shock to PCB and components
- Thermocouple feedback temperature control regulates output temperature
- System safety feature automatically shuts off heating when fan is stopped
- ESD safe

Model	PCT-100
Reference	PCT-100-21
Power	450 W
Storage T°	-10°C - 60°C
Operating T°	0°C - 40°C
Air flow rate	10.2 CFM (280 l / min)
Temperature range	Up to 300°C
Surface resistivity	106 - 1,011 Ohms
Certifications	cTUVus, CE
Voltage	230 V
Dimensions	205 x 155 x 65 mm
Weight	1,6 Kg

# ACCESSORIES FOR SOLDERING SYSTEMS

## ACCESSORIES FOR HCT-900



### Straight nozzles

Designation	Reference
Nozzle Ø 2.5 mm	<b>H-D25</b>
Nozzle Ø 5.0 mm	<b>H-D50</b>
Nozzle Ø 12.0 mm	<b>H-D120</b>

### Heating element - replacement



Designation	Reference
Heating element	<b>HCT-HE-21</b>

## ACCESSORIES FOR SERIE MFR



**MFR-UK1**

Solder cartridge hand-piece (MFR-H1-SC + workstand WS1)



**MFR-UK4**

Tweezer cartridge hand-piece (MFR-H4-TW + workstand WSPT)



**MFR-DC10**

Disposable collection chamber for MFR-H5-DS, pack of 10



**MFR-HDCA**

Coil Assembly for MFR desolder hand piece

## ACCESSORIES FOR SERIE MX



**MX-H1-AV**

Metcal Advanced™ hand-piece with cord, soldering & rework, 3 grips included



**MX-PTZ**

Metcal precision tweezer, SMD rework



**MX-DS1**

Metcal desoldering hand-piece



**MX-UK1**

MX-H1-AV hand-piece + Metcal TipSaver™ MX-W1AV workstand



**MX-UK2**

MX-H1-AV hand-piece + Metcal TipSaver™ MX-W1AV workstand



**MX-UK4**

Metcal precision tweezer MX-PTZ + Metcal TipSaver™ MX-W4PT workstand



**MX-UK5**

Desoldering MX-DS1 hand-piece + Metcal TipSaver™ MX-W5DS workstand

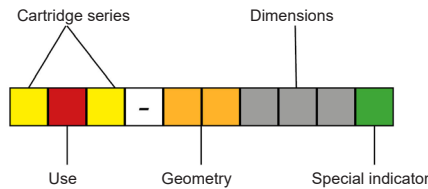
## DESOLDERING TIPS



Designation	A (mm)	B (mm)	Reference
Desoldering tip DFP-CN2	0.64	1.78	<b>DFP-CN2</b>
Desoldering tip DFP-CN3	0.76	2.03	<b>DFP-CN3</b>
Desoldering tip DFP-CN4	1.02	2.28	<b>DFP-CN4</b>
Desoldering tip DFP-CN6	1.52	2.84	<b>DFP-CN6</b>
Desoldering tip DFP-CN7	2.41	3.63	<b>DFP-CN7</b>
Desoldering tip DFP-CNL3 (long length)	0.76	2.03	<b>DFP-CNL3</b>
Desoldering tip DFP-CNL4 (long length)	1.02	2.28	<b>DFP-CNL4</b>



# TIPS



## Geometry

<b>BL</b>	Blade	<b>KN</b>	Knife
<b>BV</b>	Scissors	<b>MH</b>	Micro wave
<b>CH</b>	Screwdriver	<b>QD</b>	Quad
<b>CN</b>	Tapered	<b>SC</b>	Split cylindrical tip
<b>CP</b>	Concave	<b>SH</b>	Mass
<b>TN</b>	Tunnel	<b>SL</b>	Split
<b>HF</b>	Mini wave	<b>WV</b>	Wave
<b>HK</b>	Angled	<b>FB</b>	Flat blade
<b>HP</b>	Hot plate	<b>VC</b>	Chisel with slot
<b>HS</b>	Conductive heat	<b>PC</b>	Pin connector
<b>LG</b>	Long split series	<b>SK</b>	Socket

## Special indicator

<b>A</b>	Access	Additional length of one axis, >10 mm
<b>D</b>	Deep tapering	
<b>H</b>	Upper mass	Shape similar to another purlin geometry with increased thermal mass
<b>J</b>	Access with tapering	Extra length >10 mm with a change of axis, tapering
<b>L</b>	Longer product void time	Plating of an additional tip
<b>N</b>	Non-wettable	One or more non-wettable surfaces
<b>P</b>	Power	Reduced length of one axis, < 6.5 mm
<b>Q</b>	Square	Features / square end function for flat plate geometry
<b>R</b>	Access	Extra length > 10 mm with one axis change
<b>S</b>	Standard	
<b>T</b>	Tapering	Tapering with step
<b>U</b>	Round	Features / round tip function for flat blade geometry
<b>V</b>	Concave	
<b>W</b>	Wider wetting zone	

## Use

### Tips and cartridges for PS-900 & MFR-xxxx systems

F = FR4 Substrate Standard for most applications

T = Temperature sensitive

C = Ceramic or high load.

Example:

The SFV-CH10 cartridge is recommended for an FR4 substrate. The SCV-CH10 cartridge is recommended for a ceramic or high load

### Cartridges for MX-xxxx & CV5200 systems

5: 500 series

0: 600 series for temperature-sensitive applications

1 = 700 series for most applications

8 = 800 series for temperature-sensitive applications

Example:

The STTC-125 cartridge is recommended for most applications.

The STTC-82 5 cartridge is recommended for temperature-sensitive applications.

## Dimensions

Numerical value representing the main dimension of the geometry

### Desoldering tip SxV

Compatible systems PS-900, MFR-1120, MFR-2220 & MFR-2222 / Hand-piece PS-HC3 & MFR-H2-ST2 / Heating elements PS-CA3 et MFR-CA3

	<b>SFV-CH10A</b>
	<b>SFV-CH15AR</b>
	<b>SFV-CH18AR</b>
	<b>SFV-CH25AR</b>
	<b>SFV-CH50AR</b>
	<b>SFV-CNL10A</b>
	<b>SFV-CN-L10AR</b>
	<b>SFV-CNL10</b>

### Soldering & reparation cartridge

Compatible systems MFR-1110, MFR-1161, MFR1351, MFR2211 & MFR2241 / Hand-piece MFR-H1-SC

	<b>SFP-CH10</b>
	<b>SFP-CH15</b>
	<b>SFP-CHB15</b>
	<b>SFP-CH20</b>
	<b>SFP-CHL20</b>
	<b>SFP-CH25</b>
	<b>SFP-CH50</b>
	<b>SFP-CN04</b>
	<b>SFP-CNB04</b>
	<b>SFP-CNL04</b>
	<b>SFP-DRH05</b>
	<b>SFP-DRH610</b>

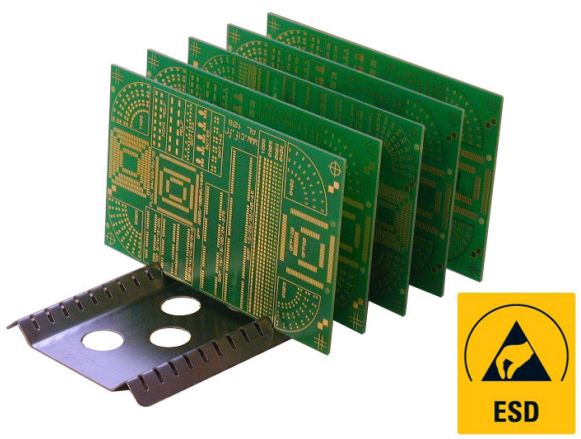
### Soldering cartridge

Compatible with stations: MX-500, MX5000 & MX-5200 / Hand-piece MX-RM3E & MX-H1-Av

	<b>STTC-125P</b>	<b>CVC-7CH0010P</b>
	<b>STTC-125</b>	<b>CVC-7CH0010S</b>
	<b>STTC-138P</b>	<b>CVC-7CH0014P</b>
	<b>STTC-138</b>	<b>CVC-7CH0015S</b>
	<b>STTC-137P</b>	<b>CVC-7CH0018P</b>
	<b>STTC-137</b>	<b>CVC-7CH0010S</b>
	<b>STTC-136P</b>	<b>CVC-7CH0025P</b>
	<b>STTC-136</b>	<b>CVC-7CH0025S</b>
	<b>STTC-117</b>	<b>CVC-7CH0050S</b>
	<b>STTC-145P</b>	<b>CVC-7CN0004P</b>
	<b>STTC-140</b>	<b>CVC-7CN1604R</b>
	<b>STTC-101P</b>	<b>CVC-7CN0010P</b>

# PCB HOLDER

## UNIVERSAL ESD PCB HOLDER



**SC25 - V800034**

For 25 PCB's: 2 x 15 m, step 7 mm

**SC35 - V800237**

For 35 PCB's: 2 x 15 m, step 7 mm

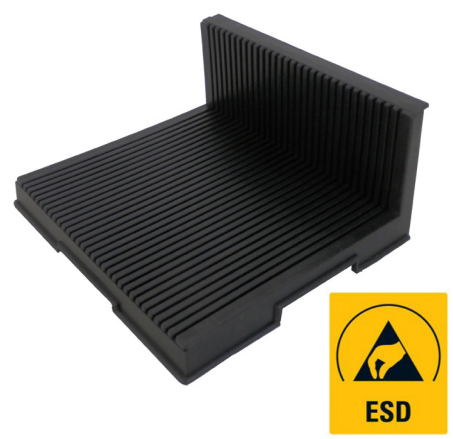
Compatible high T° until 300°C

Compatible for drying oven

ESD product

Recyclable

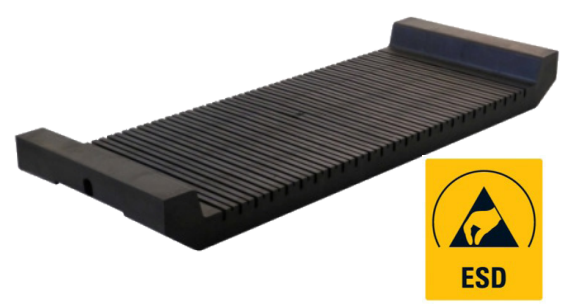
## L-SHAPED PCB HOLDER



- Conductive PCB Tray, L-shape
- Side handles
- Capacity - 30 PCB's
- Surface resistance 104 -106 Ω

**V800033**

## FLAT PCB HOLDER



- Conductive PCB Tray, flat type with handles
- Color black
- Capacity - 25 PCB's
- Surface resistance 104 - 106 Ω

**V800037**

# FILTRATION



## SUMMARY

- 1. The FILTRATEC by CIF Filtration ..... **p.54**
- 2. Laser extraction / filtration station ..... **p.57**

# FILTRATEC by CIF



**HACCP**

**REACH**

Standard remote control



## AUTONOMOUS FILTRATION UNITS

Discover the Filtratec® range, a range of high performance stations for the extraction and filtration of soldering fumes, acid and solvent vapors.

It has been developed for all applications in the field of electronics wiring as well as for etching machines using iron perchloride (Acids).

Each station includes a standard HEPA filter + Neutrafil 2 speeds and a powerful and very quiet turbine (<52 dbA).

A wireless remote on/off control is standard on all models.

**Class HEPA: ≥ H13\***

\* In accordance with UNE-EN 1822-1: 2020  
Filters 99.98% of MPPS particles between 0.12 and 0.25 µm



**ACIDES  
ACIDS**



**FUMES  
FUMES**

## TECHNICAL SPECIFICATIONS

Powerful turbine	255 m3/h
Microfilter efficiency (HEPA)	> 99.98 %
Gas filter efficiency (Neutrafil)	> 95 %
Standard on/off remote control	yes
2 suction speeds	standard
2 speeds of aspiration	< 52 dbA
Power	140 W
Power supply	230 V - 50/60 Hz
External dimensions L x W x H	307 x 307 x 410 mm
Net weight	10 Kg

## APPLICATIONS :

- Welding fumes
- Bacteria
- Pollen
- Tobacco fumes
- Asbestos dusts
- Household dusts
- Acids
- Solvents
- Deodorization
- Mechaptans
- NOX
- H2S
- SOx
- VOCs

# SERIES

# FILTRATION

Application	A-SERIES					F-SERIES			
	ACID & SOLVENT VAPORS					FOR WELDING FUMES & SOLVENTS			
Reference	I51065.1	I51023.1	I51062.1	I51024.1	I51024.2	I51024.2	I51061.2	I51101.2	I51102.1
Type of filter	A					F			
Variant	1 outlet (delivered without arm)	2 outlets (delivered without arm)	Station delivered with 1 connection kit for chemical etching machine	Station delivered with 1 arm	Station delivered with 2 arms	1 outlet (delivered without arm)	2 outlets (delivered without arm)	Station delivered with 1 arm	Station delivered with 2 arms
Pre-filter reference	X500013					X500013			
Main filter reference	I54060					I54061			
Cover reference	I51033 (Ø 75 mm)			I51036		I51036			



FILTRATION UNIT  
ACID VAPORS 1 OUTLET  
I51065.1



FILTRATION UNIT  
ACID VAPORS 2 OUTLETS  
I51023.1



STATION WITH 1  
CONNECTION KIT FOR  
CHEMICAL ETCHING  
MACHINE  
I51062.1



FILTRATION UNIT  
SOLDERING FUMES 1 OR 2  
OUTLETS  
I51024.2  
I51061.2



FILTRATION UNIT ACID  
VAPORS, SOLERING FUMES  
AND SOLVENTS WITH 1  
ARM  
I51024.1  
I51101.2



FILTRATION UNIT ACID  
VAPORS, SOLDERING  
FUMES AND SOLVENTS  
WITH 2 ARMS  
I51024.2  
I51102.1

## FT SERIES

Application	DESIGNED FOR BENCHTOP REFLOW OVENS		
	Reference	I51060.1	I51025.1
Type de filtre	F		
Variant	1 outlet (connecting pipe in option)	2 outlets (connecting pipe in option)	1 outlet including FT oven connection kit
Pre-filter reference	X500013		
Main filter HEPA reference	I54061		
Cover reference	I51033 (Ø 75 mm)		



## THE FILTRATEC FILTER



**HEPA\*  
H13  
FILTER**

\* According to UNE-EN 1822-1: 2020  
Filters 99.98% of MPPS particles between 0.12 and 0.25 µm

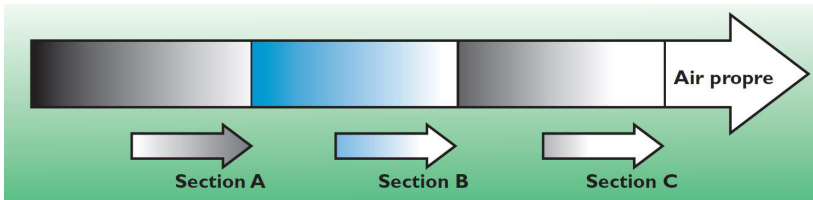
- HEPA filter, filters 99.98% of MPPS particles (between 0.12 and 0.25 µm)
- Very quiet < 52 dbA
- Quick change filter
- Versatile; fumes, solvents & acids
- For the treatment of 70 to 250 m<sup>3</sup>/h

### SIZE OF THE PARTICLES IN THE AIR

Welding fumes	0.3 - 0.001 µm
Bacteria	20 - 0.2 µm
Pollen	100 - 10 µm
Tobacco smoke	1.0 - 0.01 µm
Asbestos dust	10 - 0.3 µm
Household dust	20 - 0.001 µm

Note: the human eye only perceives particles whose size is between 2.0 and 100 µm

Filter	Reference
<b>Pre-filter</b>	<b>X500013</b>
<b>Acids and solvents vapors filter - type A</b>	<b>I54060</b>
<b>Fumes and solvents filter - type F</b>	<b>I54061</b>



#### Section A

The pre-filter cleans the polluted air of the largest particles

#### Section B

HEPA filter for fine particles such as soldering fumes (0.3 - 0.001 µm)

#### Section C

Filter composed of Neutrafil which is a mixture of activated carbon (50%) and potassium permanganate (50%). This mixture allows to capture and neutralize quickly even the finest chemical substances.

## BOOTH / CABIN



### Extraction booth CAB 8050

Great visibility of the chamber, removable transparent top visor. Connects with 1 outlet filtration stations.

Ref. I43510



**Kit, standard nozzle + self-supporting arm**

Ref. X700010



**Standard diamond-shaped nozzle**

Ref. X700009



**Self-supporting arm**

Ref. X700006

## ARMS AND NOZZLES

## CONNECTION KITS



**Filtratec connection kit for ovens FT03 / FT05 (without filtration)**

Ref. I43316



**Special acid connection kit for CIF etching machines (without filtration)**

Ref. I43213

# LASER EXTRACTION / FILTRATION STATION HPREMI 220-SMART

Laser extraction / filtration station unit for absorbing the laser emission with successful deposition of dust and smoke as well as absorption of gases and smells.

- PWM frequency conversion, precisely control the air volume
- LCD display
- Electronic control, remote start and stop



## TECHNICAL SPECIFICATIONS

Reference	<b>X900024</b>
Main filter	<b>HEPA-storage filter H13+ class</b>
Filtration	<b>Multiple filtration</b>
Turbine	<b>Continuously running</b>
Motor	<b>1.3 kW, 220 V, 50/60 Hz</b>
Maximum air volume	<b>220 m<sup>3</sup>/h</b>
Pressure	<b>27 kPa</b>
Filter efficient	<b>99.9 %</b>
Power consumption	<b>6.8 A</b>
Noise level	<b>&lt;68 dB (A)</b>
Dimensions	<b>365 x 510 x 805 mm</b>
Weight	<b>Approx. 50 Kg</b>

**Various models on request**



# DEPANELIZATION

## SUMMARY

1. SMTix PCB V-CUT-S30 ..... **p.59**
2. Automatic PCB depaneling systems ..... **p.60-62**
3. Inlign laser cutting system for depaneling DCT SA4 ..... **p.63**
4. Dust extractor systems ..... **p.64**

# PCB V-CUT-S30 - SMTix

## FEATURES

- Suitable for cutting PCB, LED aluminum and copper with V-groove
- Can cut PCB components of which the distance from the edge of the V-groove is greater than 0.2 mm
- It adopts cylinder pulling method for cutting, counting, automatic start and stop function safety
- The operator is safe to operate the machine, especially putting the PCB in the right direction to avoid damaging it
- The cutter adopts the plane of the cutting position, the cutting stress is less than 400, which will not cause the PCB component damage



## TECHNICAL SPECIFICATIONS

Model	V-CUT-S30	V-CUT-S40	V-CUT-S50
Reference	<b>V900201</b>	<b>V900202</b>	<b>V900203</b>
Shear-board thickness	0.3 - 3.5 mm		
Working area	0.5 - 0.7 MPA		
Cutting PCB thickness range	0.1 mm ~ 2.0 mm (with V-groove) 0.1 mm ~ 1.0 mm (without V-groove)		
Use scope	All SMD PCB with V-groove		
Valid cutting length	310 mm	430 mm	530 mm
Use voltage	AC 110 - 220 V		
Machine dimension	750 x 450 x 1,200 mm	980 x 500 x 1,250 mm	1,200 x 810 x 1,300 mm
Machine weight	160 Kg	300 Kg	450 Kg

Disc versions on request

# AUTOMATIC PCB DEPANELING SYSTEM DS200

## PRESENTATION

- Single worktable requires only small space. High flexibility in use
- Equipped with high-speed CCD auto vision calibration system
- Use high-speed spindle for cutting with auto tool-change function.  
Save a lot of time in tool change by hand
- Optional automatic upper cover plate, with robotic arm operation.
- Can choose upper dust collector or lower dust collector (upon order)



## TECHNICAL SPECIFICATIONS

Model	<b>DS200</b>
Reference	<b>V900239</b>
Valid cutting size	<b>350 x 300 mm</b>
Cutting function	<b>Tweening to straight line, line, L shape, U shape, Circle, Arc</b>
Process table	<b>Single table</b>
Repeat precision	<b>± 0.01 mm</b>
Cutting precision	<b>± 0.05 mm</b>
Max moving speed	<b>XY: 1000mm/sec / Z: 600 mm/sec</b>
Max moving trip	<b>X: 450 mm / Y: 480 mm / Z: 90 mm</b>
Spindle's speed	<b>MAX: 60,000 rpm Adjustable</b>
Tool change type	<b>Auto tool change</b>
Safety protection	<b>Safety light curtain</b>
Cutting speed	<b>1 - 100 mm/s Adjustable</b>
Operating system	<b>Windows 10®</b>
Program teaching mode	<b>Intuitive teaching by CDD colour image input</b>
Program backup	<b>USB data transfer</b>
Control method	<b>Precision multi-axis control system</b>
XYZ axis driving mode	<b>AC servo motor</b>
Size of milling tool	<b>Ø 0.8 - 3.0 mm</b>
Pneumatic pressure requirement	<b>0.6 Mpa, 50 L/min</b>
Dust collector	<b>TD300</b>
Voltage/power requirement	<b>AC 220 V 50/60 Hz 1.5 Kw</b>
Dimensions (W x D x H)	<b>840 x 1,208 x 1,530 mm</b>
Weight	<b>400 Kg</b>

# AUTOMATIC PCB DEPANELING SYSTEM DS300

## PRESENTATION

- Automatic high speed video alignment system
- Automatic tool changer
- Double work table that can be combined to provide a larger working area
- Dust vacuum possible from top or bottom (to be specified upon order)
- Off-line system



## TECHNICAL SPECIFICATIONS

Model	DS300	DS300L	DS300XL
Reference	<b>V900344</b>	<b>V900345</b>	<b>V900346</b>
Valid cutting size	<b>300 x 350 mm</b>	<b>450 x 500 mm</b>	<b>470 x 650 mm</b>
Cutting size when tables combined	<b>300 x 700 mm</b>	<b>900 x 500 mm</b>	<b>940 x 650 mm</b>
Cutting function	<b>Tweening to straight line, L shape, U shape, Circle, Arc</b>		
Process table	<b>Dual tables</b>		
Repeat precision	<b>± 0.01 mm</b>		
Cutting precision	<b>± 0.05 mm</b>		
Max. moving speed	<b>XY : 1,000 mm/sec / Z : 600 mm/sec</b>		
Max. moving trip X/Y/Z	<b>800 / 490 / 90 mm</b>	<b>1,090 / 690 / 90 mm</b>	<b>1,090 / 790 / 90 mm</b>
Spindle's speed	<b>Max. 60 000 rpm (adjustable)</b>		
Tool change type	<b>Auto tool change</b>		
Milling tool detection	<b>Automatic router bit detector</b>		
Cutting speed	<b>1 - 100 mm/s (adjustable)</b>		
Operating system	<b>Windows 10®</b>		
Program teaching mode	<b>Intuitive teaching by CCD color image input</b>		
Control method	<b>Precision multi-axis control system</b>		
XYZ axis driving mode	<b>AC Servo motor</b>		
Size of milling tool	<b>Ø 0.8 - 3.0 mm</b>		
Pneumatic pressure requirement	<b>0.6 MPa, 50 L/min</b>		
Recommended dust collector	<b>TD300</b>	<b>TD300L</b>	<b>TD300L</b>
Power supply	<b>220 V AC 50/60 HZ 2.2 Kw</b>		
Dimensions (W x D x H)	<b>1,220 x 1,150 x 1,458 mm</b>	<b>1,500 x 1,497 x 1,453 mm</b>	<b>1,510 x 1,650 x 1,453 mm</b>
Weight	<b>480 Kg</b>	<b>600 Kg</b>	<b>660 Kg</b>

# AUTOMATIC PCB DEPANELING SYSTEM DS500

## PRESENTATION

- Cutting is with clamp, without fixture demand.
- Suitable for PCB the high components on its top, and PCB weight is lower than 3 Kg
- Use CCD to do the vision positioning off-set and alignment which can ensure the precision in cutting
- Unloading can be setting between 0~180 degrees on placing in line then connect the equipment behind of it
- Loading by track; for unloading, there are 3 ways of conveyor, tracking and customized placing board on tray for customer's selection



## TECHNICAL SPECIFICATIONS

Model	DS500
Reference	V900240
Valid cutting size	500 x 450 mm
Loading method	Track delivery
Unloading method	Conveyer belt delivery or track delivery
Transfer method	The rotatable clamp for taking
Movement direction	Left to right or right to left
Cutting function	Tweening to straight line, line, L shape, U shape, Circle, Arc
PCB specification	Weight ≤ 3 Kg, edge width ≥ 3 mm, thickness 0.8 ~ 4 mm
Repeat precision	± 0.01 mm
Cutting precision	± 0.05 mm
Max moving speed	XY: 1,000mm/sec / Z: 800 mm/sec
Cutting speed	1 - 100 mm/s
Spindle's speed	MAX: 60,000 rpm Adjustable
Tool change type	Auto tool change
Broken knife check	Included
Operating system	Windows 10 ®
Program teaching mode	Intuitive teaching by CDD colour image input
Control method	Precision multi-axis control system
XYZ axis driving mode	AC servo motor
Size of milling tool	Ø 0.8 - 3.0 mm
Pneumatic pressure requirement	0.6 Mpa, 160 L/min
Dust collector	TD300L
Voltage/power requirement	AC 220 V 50/60 Hz 4 Kw
Dimensions (W x D x H)	1,252 x 1,859 x 1,735 mm
Weight	770 Kg

# INLINE LASER CUTTING SYSTEM FOR DEPANELING DCT - SA4

## PRESENTATION

Online laser cutting equipment is suitable for carrier-orbit transport cutting, easy integration into production lines, and is suitable for precision and rapid full cutting of various materials, including PCB outlines (including pre-assembled circuit boards), PCB breakpoint cutting; FPC outline cutting, cover film cutting, rigid-flex circuit board delidding and outline cutting.

It can also be used for LTCC/HTCC ceramic punching; direct processing of conductive patterns; removal of corrosion-resistant layers, removal of process leads and soldermask layer windowing; mature ceramic punching; and FPC micro-via processing.

System consisting of:

- Laser source (Specifications according to the version)
- Granite X/Y table
- Visionsystem with high resolution camera
- Camera supported positioning system with fiducial recognition
- X/Y axes driven by Linear motor
- Industrial control PC and display
- Data processing software: CircuitCAM7 Laser
- Machine operating software: DreamCreaTor 3
- Exhaust unit HPremi220



Model	SA4-UV20SP-N	SA4-GR40SP-N
Reference	V900052	V900053
Type	UV Laser Nanoseconde	Green Laser Nanoseconde
Wavelength	355 nm	532 nm
Power	20 W	40 W
Laser source Brand	Spectra Physics	Spectra Physics

## TECHNICAL DATA FOR LASER SYSTEM

Scanner resolution	1 $\mu$ m
Accuracy of repeatability	$\pm 3 \mu$ m
Z axis travel	40 mm
Loading and unloading method	Track in/out
Transfer direction	From left to right
Platform height	920 $\pm$ 30 mm
Loading and unloading conveyor speed	0 - 200 mm/s
Max. carrier size	350 mm $\times$ 350 mm
Max. carrier weight	4 Kg
Max. clamp plate thickness	5 mm
Power supply	220 VAC / 50 Hz / 2.5 kW
Machine hood dimensions (W x H x D)	1,750 x 940 x 1,650 mm
Machine weight	Approx. 1,500 kg

## TECHNICAL DATA FOR EXHAUST UNIT

Air flow rate	220 m <sup>3</sup> /h
Pressure	27,000 Pa
Rated power	1.3 Kw
Noise level	approx. 62 dB

# DUST EXTRACTOR SYSTEMS - SMTix

## TD300/TD300L SYSTEM

Model	TD300	TD300L
Reference	<b>X900027</b>	<b>X900028</b>
Output power	<b>3 Kw (4 HP)</b>	<b>4,5 Kw (6 HP)</b>
Air-intake flow volume	<b>144 m³/h</b>	<b>192 m³/h</b>
Air-intake speed	<b>20 m/s</b>	<b>29 m/s</b>
Air-intake caliber	<b>D 50 mm</b>	
Air-vent caliber	<b>D 125 mm</b>	
Bag filter material	<b>Polyester</b>	
Filter bag's material	<b>HEPA</b>	
Filter bag's size	<b>730 x 950 mm</b>	
Collector's capacity	<b>50 L</b>	
Dynamo protection grade	<b>IP55</b>	
Noise level	<b>&lt;76 db</b>	<b>&lt;78 db</b>
Power supply	<b>AC 380 V (220 V) 50/60 Hz 3 P</b>	
Dimensions	<b>1,051 x 538 x 969 mm</b>	
Weight	<b>115 Kg</b>	<b>120 Kg</b>



## TD200/TD200L SYSTEM

Model	TD200	TD200L
Reference	<b>X900029</b>	<b>X900030</b>
Output power	<b>2.2 Kw (3 HP)</b>	<b>3.7 Kw (5 HP)</b>
Air-intake flow volume	<b>2,400 m³/h</b>	<b>3,200 m³/h</b>
Air-intake speed	<b>42 m/s</b>	<b>56 m/s</b>
Air-intake caliber	<b>D 150 mm</b>	
Air-vent caliber	<b>D 200 mm</b>	
Bag filter material	<b>Polyester+PTFE</b>	
Filter tube permeability	<b>8 m³ / m²* min</b>	
Filter bag's size	<b>120 x 650 mm</b>	
Collector's capacity	<b>50 L</b>	
Dynamo protection grade	<b>IP55</b>	
Noise level	<b>&lt;70 db</b>	<b>&lt;75 db</b>
Power supply	<b>AC 380 V (220 V) 50/60 Hz 3 P</b>	
Dimensions	<b>738 x 744 x 1,764 mm</b>	<b>888 x 783 x 1,797 mm</b>
Weight	<b>180 Kg</b>	<b>220 Kg</b>





# BOARD HANDLING

## SUMMARY

1. Inline laser marking System DCT-T1 ..... **p.66**
2. Board handling ..... **p.67**
3. Nitrogen N2 generator ..... **p.68**
4. Air compressor ..... **p.68**

# INLINE LASER MARKING SYSTEM DCT-T1

## 3 versions available

Laser type	C02 laser	UV laser	Fiber laser
Reference	<b>U900209</b>	<b>U900210</b>	<b>U900211</b>
Power	5 W	5 W	20 W
Wave length	1,064 nm	355 nm	1,064 nm
Cooling	Air	Liquid	Air



## DETAILED SPECIFICATIONS

Model	DCT T1
References	<b>U900209 - U900210 - U900211</b>
Marking surface	<b>55 × 55 mm</b>
Marking speed	<b>250 characters/second</b>
Min. line width	<b>0.02 mm</b>
Min. character	<b>0.3 mm</b>
Repeatability	<b>± 10 µm</b>
Conveyor entry/exit speed	<b>0 - 200 mm/s</b>
X/Y movement speed	<b>0 - 500 mm/s</b>
Dimension QR Code	<b>1 mm × 1 mm - 6 mm × 6 mm</b>
Type of codes possible	<b>QR / DataMatrix</b>
X/Y range	<b>460 mm × 460 mm</b>
PCB size	<b>50 mm × 50 mm to 450 mm × 450 mm</b>
Thickness of parts to be marked	<b>0.5 - 4 mm</b>
Marking depth	<b>1 - 10 µm adjustable</b>
Conveyor height	<b>900 ± 20 mm</b>
Positioning system	<b>Mechanical and CCD camera positioning</b>
QR code reading function	<b>Standard - can identify a 2 to 6 mm QR code</b>
QR code recognition classification function	<b>Option</b>
Wrong test pattern detection function	<b>Standard</b>
Manual test pattern addition function	<b>Standard</b>
Manual addition of marking location function	<b>Standard</b>
File type for data import	<b>Supports import of lmd, dxf files</b>
Anti-deformation compression system for thin panels	<b>Supported</b>
Card input/output direction	<b>L/R or R/W</b>
Machine type	<b>On-line with SMEMA communication interface</b>
Air pressure	<b>0.4 - 0.6 Mpa</b>
Power	<b>220 VAC, 50/60 Hz, 1,800 Kw</b>
Dimensions	<b>1,400 × 810 × 1,500 mm</b>
Weight	<b>650 Kg</b>

# BOARD HANDLING

## AUTOMATIC LOADER - KAYO 50S



- The body of the system is made of aluminum
- The design of the lift ensures the stability of the store's delivery step
- Control via Panasonic PLC / user-friendly interface
- A choice of 4 steps for receiving / transmitting a printed circuit board
- Signal interface SMEMA
- Adjustable PCB transfer rate
- Reliable fixation of the store on the platform by 3 points

Model	KAYO-50S
Reference	V900133
PCB size	350 x 50 - 220 mm
Rack specifications	355 x 320 x 563 mm
Transmission height	900 +/- 20 mm
PCB Transmission Direction	Left to right (right to left optional)
Telecommunication type	SMEMA port
Main motor power	295 W
Air pressure supply	5 bars
Power supply	220 V 50/60 Hz
Dimensions	1,300 x 740 x 1,170 mm
Weight	200 Kg

## AUTOMATIC UNLOADER - KAYO 50P



- The body of the system is made of aluminum
- The design of the lift ensures the stability of the store's delivery step
- Control via Panasonic PLC / user-friendly interface
- A choice of 4 steps for receiving / transmitting a printed circuit board
- Signal interface SMEMA
- Adjustable PCB transfer rate
- Reliable fixation of the store on the platform by 3 points

Model	KAYO-50P
Reference	V900134
PCB size	350 x 50 - 220 mm
Rack specifications	355 x 320 x 563 mm
Transmission height	900 +/- 20 mm
PCB Transmission Direction	Left to right (right to left optional)
Telecommunication type	SMEMA port
Main motor power	295 W
Air pressure supply	5 bars
Power supply	220 V 50/60 Hz
Dimensions	1,430 x 800 x 1,600 mm
Weight	220 Kg

## INSPECTION CONVEYORS - KAYO IC SERIES



- 4 versions available
- Used to connect SMT production line, as well as PCB buffering, inspection, testing and inserting
- Adjustable rails width
- Stable conveyor
- Adjustable speed control
- Standard ESD platen and optional lighting device

Model	KAYO-IC06	KAYO-IC10	KAYO-IC12	KAYO-IC15
Reference	V900135	V900136	V900137	V900166
Rail length	600 mm	1,000 mm	1,200 mm	1,500 mm
Transmission speed	0.5 - 400 mm/min			
Transmission height	900 +/- 20 mm			
Transmission type	Antistatic flat belt			
Telecommunication type	SMEMA Compatible			
Power supply	220 V 50/60 Hz 100 W			

## PCB Output KAYO-300



- Speed can be adjusted, uniform, smooth, easy operation and low noise
- Standard equipped with 2 axial flow fan, cool the heat boards out from wave soldering adequately
- Thickened aluminum, firm structure
- PVC conveyor belt, anti-static, wear-resistance

Model	KAYO-300
Reference	V900145
Belt Width	300 mm
Transfer Speed	600 - 2,200 mm/min
PCB Transmission Direction	Left to right
Control Method	Speed Adjusting Motor
Cooling Fan	2 pcs
Track Material	Aluminum Alloy
Power supply	220 V 50/60 Hz, 60 W
Dimensions	1,200 x 380 x 1,000 mm
Weight	50 Kg

# NITROGEN N2 GENERATOR



## FEATURES

- Patented modular design
- Nitrogen purity could reach as high as 99.99%
- Every adsorption tower is installed with an advanced control system

Model	Nitrogen (N2) Generator - 4 m3	Nitrogen (N2) Generator - 8 m3
Reference	<b>V800232</b>	<b>V800236</b>
Flow rate	<b>4 m3/hr</b>	<b>8 m3/hr</b>
Purity	<b>99% to 99.99%</b>	
Input air flowrate	<b>24 m3/hr</b>	<b>46 m3/hr</b>
Air temp. In (min.)	<b>5°C</b>	
Air temp. In (max.)	<b>25°C</b>	
N2 press. Out	<b>0.75 Mpa</b>	
Air press. In	<b>0.75 ~ 0.8 Mpa</b>	
N2 dew point Out	<b>- 40°C</b>	
Ambient temp (max.)	<b>≤ 40°C</b>	
Type of controller	<b>PLC controller</b>	
Dimensions	<b>800 x 460 x 140 mm</b>	<b>1,050 x 650 x 1,950 mm</b>
Weight	<b>160 Kg</b>	<b>550 Kg</b>

# AIR COMPRESSOR

2.2 Kw 3 CV 10 bar 207 l/mn 400 V compressor package + 500 l galvanized vertical tank + automatic drain and air dryer.

Ultra-quiet oil-free model.

The most advanced technologies for high quality air.

High-precision processing technology is required to produce the components that make up a scroll compressor.

## FEATURES

- This air compressor is oil-free and ultra-quiet for laboratory or production use
- 8,000 hours maintenance-free operation (except suction filter)
- Very low noise and vibration levels
- Compact design
- On wheels, easy to move
- The air supplied is guaranteed oil-free
- Born of Japanese technology, it is robust and reliable
- The tank is deported, and can be replaced as an option for volumes from 100 to 1,000 L



Ref. **V900335**

**Other compressor models on request**

# TECHNICAL FURNITURE

## SUMMARY

1. ESD dry cabinet with LCD display ..... **p.70**
2. SMD components counter ..... **p.70**
3. Modular work stations ..... **p.71**

# ESD DRY CABINET WITH LCD DISPLAY

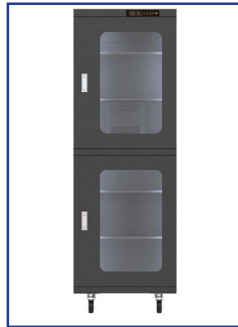
## OVERVIEW

- Humidity Range: 1-10% RH
- External Size (W x D x H): 1,200 x 710 x 1,920 mm
- Inner Size (W x D x H): 1,198 x 680 x 1,738 mm
- Max Capacity: 1,428 L
- Power Consumption (W/H): 0.5 - 47 W/H (MAX 370 W) (AC 220 V)
- Power Source AC110 - 115 V (50/60 HZ) or AC220 - 240 V (50/60 HZ)
- Removal Shelves: 5 (material: steel or stainless)
- Door Key Locks: 4
- Hygrometer
- Swivel Caster



Ref. **M900004**

### Various models on request



# SMD COMPONENTS COUNTER

## APPLICATION

- Suitable for extra-large SMD reel parts and non-SMD reel parts
- Reel diameter: assorted sizes are usable
- Reel Width: 8, 10,12, 16, 24, 32, 44 ,56 & 72 mm
- Reel Pitch: 2, 4, 8, 10, 12, 16, 24, 32, 44,56 & 72 mm



## OPTIONS

- Bar code printer
- Bar code printer scanner

## SPECIFICATIONS

Model	CC100	CC200
Reference	<b>V900333</b>	<b>V900334</b>
Empty slot detection (lost component)	<b>Not included</b>	<b>Included</b>
Count Capacity	<b>16,777,216 ~ 16,777,216 pc</b>	
Electric Load	<b>90 W</b>	
Electric Power	<b>AC 110 V (60 HZ) / AC 220 V (50 HZ)</b>	
Outer Dimension (L×W×H)	<b>490 x 280 x 280 mm</b>	
Weight	<b>10 Kg</b>	

# MODULAR WORK STATIONS - REECO



The REECO range offers the possibility to configure modular work stations adapted to all applications: wiring stations, repair, visual inspection, test and measurement, logistics (packaging reception), etc.

Installation and assembly services available.



**PREMIUM**

**ELECTRIC**

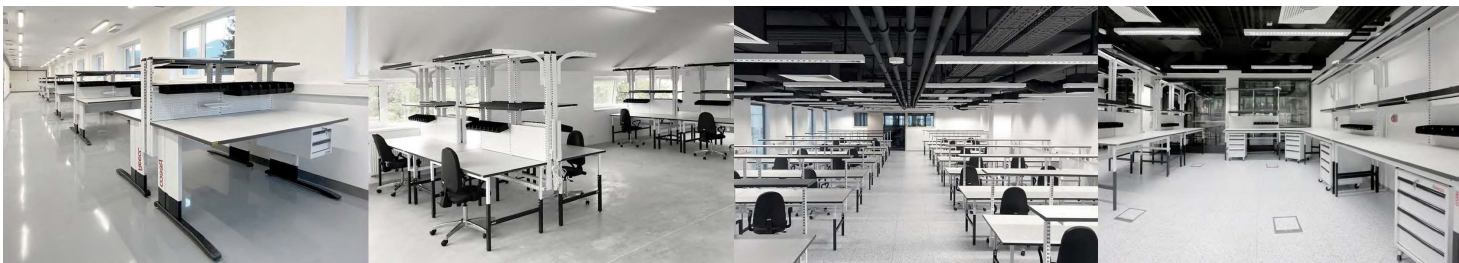
**CLASSIC**

**MOBILE**

**MODULAR**

**RACKS**

**Configure your own station with our 3D online configurator !**



<https://cif.reeco.info/>

# EXAMPLE OF TURNKEY SOLUTIONS

## Pick & Place Hanwha



## Semi-auto Stencil Printer | Auto Loader | Auto Conveyor | Pick & Place Auto | Auto Conveyor | Reflow Oven



## Semi-auto Stencil Printer | Auto Loader | Auto Conveyor | Pick & Place Auto | Auto Conveyor | Reflow Oven

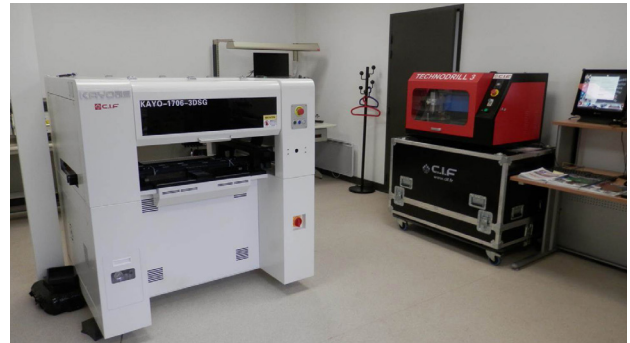


## Auto Loader | Auto Stencil Printer | Auto Conveyor | Pick & Place Auto | Auto Conveyor | Reflow Oven



# WHY SHOULD YOU CHOOSE OUR RANGE

- Choice
- Precision
- Reliability
- Quality
- Availability
- Excellent quality / price ratio
- Associated services



- Installation & commissioning
- Financing solutions
- European machine stock (Buc - France)
- Accessories and spare parts on stock
- Demonstration and test room

# THEY TRUST US



# GENERAL SALES CONDITIONS

## 1. APPLICABILITY OF CONDITIONS

1.1. The hereunder conditions constitute the whole contract between the parties save where varied in writing and signed by the director of the company. The buyer acknowledges that he has not entered into the contract as the result of any other representation made by or on behalf of the company whether or in writing.

## 2. QUOTATIONS & DRAWINGS

2.1. All estimates and quotations remain valid for thirty days unless otherwise stated at the time of the quotation. Quotations do not constitute any offer by the company and no order shall result in a binding contract until accepted by the company.

2.2. The acceptance of the company's quotation must be accompanied by sufficient information to enable the company to proceed forthwith (including without limitation Buyer's drawings if appropriate) and as appropriate information concerning any specific testing of the goods which may be required by the buyer. Otherwise the company shall be at liberty to amend the prices quoted to cover any increase in cost which has taken place after acceptance.

2.3. Unless otherwise specified in the company's quotation, all specifications, drawings, photographs, diagrams and particulars of weight and dimensions submitted with the quotation are approximate only.

## 3. DELIVERY

3.1. Save as otherwise expressly agreed in writing delivery shall be to the destination specified in the buyer's order or such other place as the parties may agree.

3.2. The company reserves the right to deliver goods by instalments and in such event each instalment shall be treated as a separate contract provided the deliveries of further instalments may be withheld until the goods comprised in earlier instalments have been paid for in full.

3.3. Any periods of time quoted or accepted by the company for dispatch delivery or completion of the order are to commence from dispatch of the company's acceptance of the buyer's order and receipt of all necessary information and drawings to enable the company to commence the work. Any such periods are to be treated as estimates only, not involving the company in any liability to the buyer in respect of loss suffered as a result of failure to dispatch, deliver or complete within such a period of time, and no delay shall entitle the buyer to cancel the order or refuse to accept delivery at any time.

3.4. The company shall not be liable to the buyer for any delay or failure to meet its obligation under the contract as a direct result of any force majeure including but not limited to strike, war or act of war, insurrection, riot or civil commotion, act of public enemy, fire, flood or other case caused beyond the control of the company.

## 4. CLAIMS

4.1. Notice of any claim relating to shortage or damage to the goods shall be made to the company and the carrier of the goods in writing within 8 days of receipt of the goods or such time period as may be required by the carrier's conditions is less.

4.2. Notice of any claim related to loss or non-delivery of goods shall be made to the company and the carrier of the goods in writing within 7 days in receiving the advice note in respect thereof or such other time period as may be required by the carrier's conditions is less.

4.3. The company will consider claims only if the above conditions are met and the claim is signed by the customer and accompanied by full particulars giving the invoice and buyer's order number, and as the case may be, the case number, the condition of the case or packing and the copy of the delivery note in respect of the goods.

4.4. The company's liability hereunder in respect of any shortage loss or damage to the goods shall be limited to the proportion of the price attributable to the goods undelivered lost or damaged.

## 5. SALES CONDITIONS

5.1. Unless otherwise stated, the prices in any quotations by the company is based on the current cost of material, labour, duties, taxes, exchange rates, and of conforming to statutory obligations ruling at the date of such quotation is subject to adjustment.

5.2. Prices contained in a quotation are subject to revision if the buyer shall have omitted to give instructions in sufficient details, or his requirements are for quantity or delivery schedules or other terms different from those against which the prices are quoted, including without limitation changes in local or national site working practices.

5.3. Minimum amount of the order is 380.00 €, otherwise administrative fee of 8.00 € will be invoiced.

5.4. For first order, payment must be before the delivery. For following orders and unless otherwise agreed in writing, payment shall be due in full thirty days from the date of delivery note or invoice issue.

5.5. Where only parts of the goods are dispatched, payment shall be made of the contract price attributable to that part.

5.6. In the event of any delay or delays in manufacture, dispatch or delivery which are attributable to the buyer's actions or failure to act, the buyer shall at the discretion of the company either make payment to the company in accordance with the above as if the goods have been delivered at the time at which but for such delay or delays would have taken place or make a partial payment to the company in accordance with the above based upon the proportion of the order completed at the date of and due from the date of which delay was notified.

## 6. LATE PAYMENT

6.1. The company reserves the right to charge interest on late payment of 2% per annum above the base rate quoted by "European bank" from time to time on the daily balance from the due date until payment is made.

6.2. If any payment falls into arrears the company shall have the right to cancel or postpone performance of any contract with the buyer wholly or in part and to be paid immediately for performance of such contract to date.

# GENERAL SALES CONDITIONS

## 7. RISK AND TITLE

7.1. Risk passes to the buyer on delivery of the goods.

7.2. Whilst risk in goods supplied to the buyer under the contract shall pass on delivery, legal and beneficial ownership of the goods shall remain with the company until such time as the company has received payment in full for all goods supplied to the buyer or until such time as the goods are sold to the buyer's customers by way of bona fide sale at full market (whichever shall be the earlier) and until such time the buyer shall keep such goods separate from its property and clearly identified as the property of the company.

7.3. Notwithstanding terms of payment specified herein or elsewhere payment for all goods supplied to the buyer shall become due immediately upon the commencement of any act or proceeding in which the buyer's solvency is involved or upon the appointment of a receiver over the whole of any part of the buyer's assets or undertaking and upon such occurrence the power of sale granted to the buyer shall automatically determine.

7.4. If payment for any goods is overdue whether in whole or in part and any goods have been delivered to the buyer, the company may without prejudice to any of its other rights enter upon the buyer's premises to recover the goods and/or resell the goods or such of them as the company in its absolute discretion may designate

7.5. Until the company is paid in full for all goods supplied, the buyer is and shall remain a fiduciary for the company in respect of the goods and if the buyer sells or allows to be sold the goods, the proceeds of sales shall be held in a separate clearly identifiable and the beneficial interest shall attach to the proceeds of sale and the company shall have the right to trace such proceeds of sale.

7.6. If any of the goods are incorporated or used in other products before full payment for all goods supplied under the contract has been made, title in such product shall be and remain with the company until full payment has been made or such products have been sold and all of the above provisions of this clause shall extend to such products.

## 8. INDUSTRIAL PROPERTY RIGHTS

8.1. The buyer shall indemnify the company in respect of, any infringement which is due to the company having followed a design or instruction furnished or given by the buyer, or the use of such goods in a manner or for a purpose or in a foreign country not specified by or disclosed to the company, or any infringement which is due of such goods in association or combination with any other goods not supplied by the company AND PROVIDED ALSO that this indemnity is conditional on the buyer giving to the company the earliest possible notice in writing of any claim being made or action threatened or brought against the buyer and on the buyer permitting the company at its own exclusive conduct of any litigation that may ensue and all negotiations for a settlement of claim. The buyer on its parts warrants that any design or instruction furnished or given by it shall not be such as will cause the company to infringe any Letter Patent, Registered Design, Trade or Service Mark, copyright or any other industrial property right of whatsoever nature owners or enjoyed by any third in the execution of the contract.

8.2. Any design and/or tooling charges charged to the customer does not constitute the transfer of ownership which at all times remains with C.I.F., unless agreed in writing between the parties concerned. ANY CONDITIONS on the customer in contrary to the above are not accepted.

## 9. CANCELLATION

9.1. The buyer may not vary or cancel the contract or any part thereof without the written consent of the company which, if given, shall be deemed to be on the express condition that the buyer shall indemnify the company against all loss, damage claims actions and loss of profit arising out of such cancellation unless otherwise agreed in writing.

9.2. The company may at its option cancel/suspend all further deliveries under the contract in the event of default by the buyer in making any payments due hereunder or and any other contract between the buyer and the company or shall die or become bankrupt or enter into liquidation or have a receiver appointed to all or any part of its undertaking or assets or shall offer to or enter into arrangement with his or its creditors or any of them or fail to comply with any statutory demand or do or suffer any similar act which evidences insolvency.

## 10. LAW

10.1. The contract shall be deemed to be a contract made in FRANCE and shall be construed according to the law of FRANCE. Any dispute shall be referred to the Tribunal of Commerce of Yvelines in Versailles (F-78).

# OUR SERVICES

## Installation



## Financing assistance



## Handling of the equipment



## Test and demonstration



## Maintenance



## Specifications Advice



## Rental



## Technical assistance



## EQUIPMENT AND SOLUTIONS ADAPTED TO YOUR USE



### SOLUTIONS FOR LABORATORY AND MICRO SERIES



### SOLUTIONS FOR SMALL SERIES AND PRODUCTION



DEMONSTRATION BY  
VISIO ON REQUEST

## WHERE TO FIND US



### CONTACT US

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+33 (0)1 39 66 96 83

cif@cif.fr

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