KOKI TEC is a company

with the environmant

in mind.

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Information in this document is subject to change without notice. 2010. 9

KOKI TEC CORP. CATALOG

For current and future soldering technology, --- KOKI TEC

KOKI TEC has been developing “soldering” techniques and manufacturing and selling soldering machines to support the ongoing computerization of society.
When small surface-mounted components, a class of devices manufactured for miniaturized electronic products, appeared on the market in the 1980s, KOKI TEC began developing and selling a lineup of bonding agents and bonding agent hardening machines to fix chip components temporarily. Later we established our double-wave flow soldering method, and developed and sold flow soldering machines for mixed-mounted chip components using KOKI-made flux, an outstanding flux that reliably maintains high soldering quality.
At about the same time, we began providing support for higher-density mounted components by developing reflow soldering techniques on solder paste and developing reflow soldering machines with high heat efficiency. In the fast-changing computerized market of the times, we established a host of new soldering and mounting techniques in the electronics industry.

With the rise of environmental protection in the 1990s, new mounting techniques harmless to the environment were demanded. In order to meet the environmental requirements, we developed a solder flow method suitable for no-clean flux and began selling HCFC cleaning machines capable of non-CFC cleaning.
To meet the demand for lead-free soldering that arose in 1998, KOKI TEC developed a series of lead-free flow soldering machines and lead-free reflow soldering machines capable of soldering with the same levels of reliability attained by tin and lead soldering methods.

Outline

Company Name:	KOKI TEC CORP.
Head Office:	10-7-6, Tajima, Sakura-ku, Saitama-shi, Saitama 338-0837 Japan Tel: +81-48-862-8040 Fax: +81-48-862-3337
Establishment Date:	November, 1986
Paid-in Capital:	80 Million Yen
Directors:	President: Eiji Mori Director: Yuji Hirota Director: Tadashi Shimizu Corporate Auditor: Sueji Furuta
Financing Banks:	Saitama Resona Bank, Urawa-Chuo BO Sumitomo Mitsui Banking Corp., Shinbashi BO Bank of Tokyo-Mitsubishi UFJ, Ginzadori BO
Type of Business:	Manufacturing and sales of automatic soldering systems such as flow machines, reflow machines and spray fluxers.
Number of Employees:	40
Nagoya Branch:	#301 Harashina Haitsu, 4-16-4, Kozoji-cho, Kasugai -city, Aichi 487-0013 Japan Tel: +81-568-29-7075 Fax: +81-568-29-7076
Osaka Branch:	#301 Minoh Ekimae Bldg, 1-2-6, Minoh, Minoh-city, Osaka 562-0001 Japan Tel: +81-72-722-7737 Fax: +81-72-720-7772
KOKI TEC (SHENZHEN) CO., LTD.	#A, 4th Fl., Laifu Bldg, Left Side Of 2 Fuyong Subdistrict Office, Baoan District, Shenzhen, Guangdong Province, China Tel: +86-755-27380950 Fax: +86-755-27332202

History

March, 1984	KOKI Engineering established as a maintenance service company to support the development section of KOKI Company Limited.
November, 1986	Received an influx of investment for capital participation from KOKI Company Limited. Renamed KOKI Engineering Corporation and entrusted to assist the development section of KOKI Company Limited.
July, 1991	Renamed KOKI Techno Corporation.
December, 1991	Merged with the manufacturing section of KOKI Company Limited and took charge of its manufacturing business.
March, 2002	Increased capital to 10 million yen.
April, 2002	Renamed KOKI TEC CORP. Merged with the sales section of KOKI Company Limited and consolidated the sales and manufacturing sections. Increased capital to 80 million yen.

Experiments, evaluation, and commercialization of advanced technologies. We provide soldering machines well suited for the rapid change and progress of the times.

We provide highly reliable soldering machines that meet the requirements of advanced technologies.

KOKI TEC is developing, manufacturing, and selling a wide selection of soldeing machines designed for minimal environmental impact. “Soldering” is a mounting technique that joins electric components and PCB circuits by initiating chemical reactions with solder and flux. The applications require highly reliable, long-term, and stable techniques both in wave soldering and selective soldering.
To meet these requirements, we provide soldering machines produced by KOKI TEC together with chemical products produced by KOKI. In every endeavor KOKI TEC tackles, customer saticfaction comes before everything else.

KOKI Company Limited

KOKI TEC CORP.

ORGANIZATION

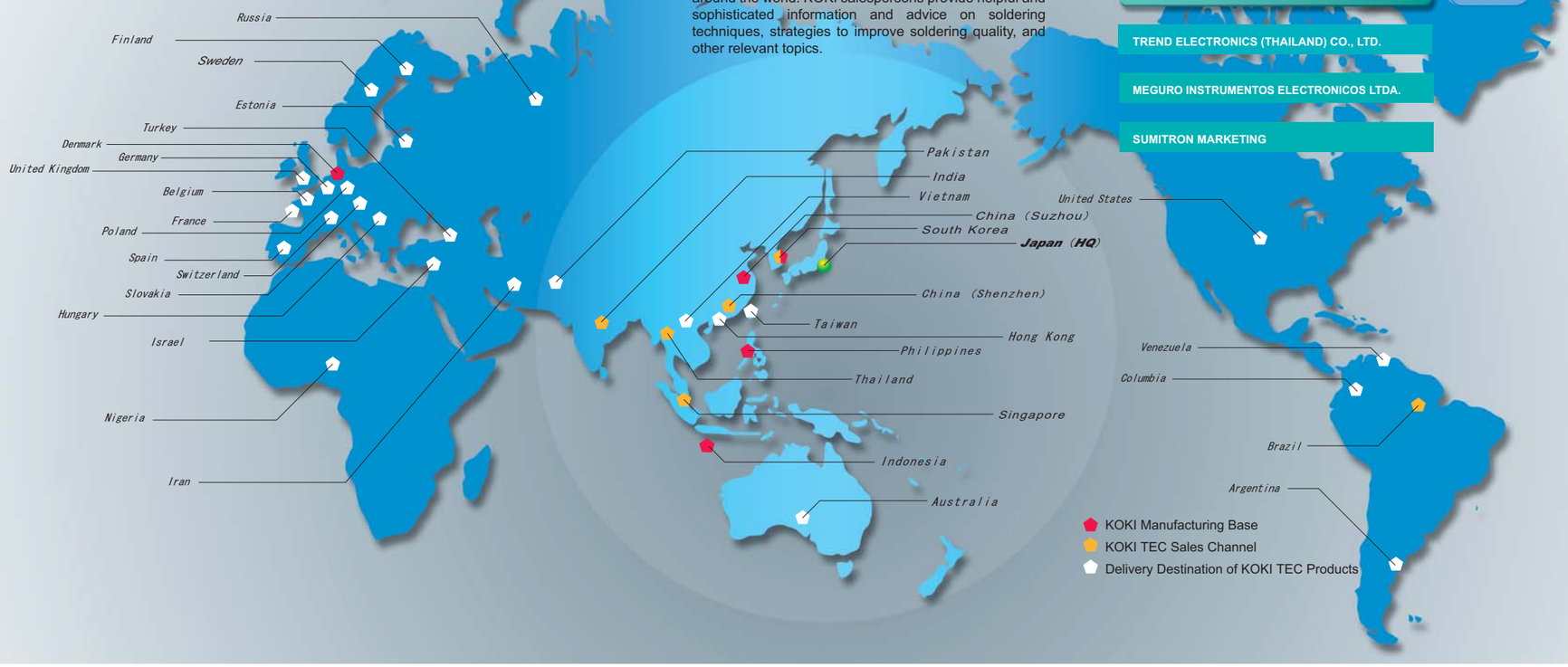
- Engineering Dept. Designing Sec.
- Engineering Dept. Manufacturing Sec.
- Engineering Dept. Material Management Sec.
- Engineering Dept. Customer Service Sec.
- Management Dept.
- Sales Dept.

SALES CHANNEL

- HEAD OFFICE (SAITAMA PREF.)
- NAGOYA BRANCH OFFICE
- OSAKA BRANCH OFFICE
- FA SHINKA TECHNOLOGY CO., LTD.
- NAGANO KOKI CO., LTD.
- KOKI TEC (SHENZHEN) CO., LTD.
- KOKI TEC KOREA
- KOKI SINGAPORE PTE LTD.
- TREND ELECTRONICS (THAILAND) CO., LTD.
- MEGURO INSTRUMENTOS ELECTRONICOS LTDA.
- SUMITRON MARKETING

The KOKI Network is expanding rapidly in Asia and supplying its technologies all over the world.

KOKI-made soldering sub-materials are delivered all around the world. KOKI salespersons provide helpful and sophisticated information and advice on soldering techniques, strategies to improve soldering quality, and other relevant topics.



Reflow Soldering System

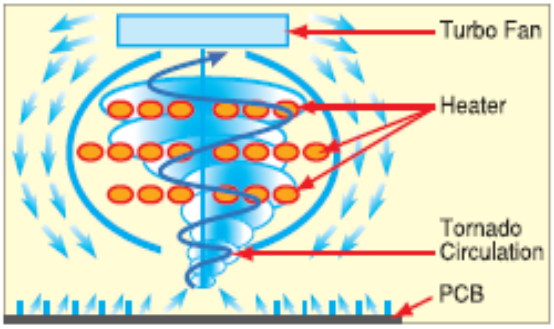
ECOR-4077B
ECOR-4099A

Available for Lead-free Soldering

- **High-thermal efficiency convection heating method realized by "Newly-designed hot air circulation system"**
- **Electricity consumption reduced by more than 40% due to energy-saving design (compared to our existing products)**

1 "Tornado Circulation System"

Hot air emitted from the turbo fan is absorbed into the center of all the heaters and sent upward. We named this hot airflow movement "Tornado Circulation", which minimizes energy loss out of the oven and also improves circulation efficiency inside it. Working environment is also made more comfortable by reduction of hot air flowing out of the oven inlet and outlet.



2 Electricity consumption greatly reduced!

ECOR	Existing Model
6.1 kW/h	10.8 kW/h

Power consumption during 3-hour operation (Measured at 6m/s wind velocity)

Our unique "Tornado circulation system" has saved more than 40% evergy (compared to our existing models), which also leads to cost reduction.

3 PC and UPS fitted as standard equipment

Parameter settings and operating conditions can be all centrally controlled on the PC monitor. An UPS is mounted in case of power failure, when only the PCB conveyor continues working for 5 more minutes to eject the PCBs.

4 Fully-open oven for easy maintenance!

Equipped with a cover which fully opens to ensure your fast and easy maintenance work.

5 Overall PCB Warp Prevention Unit (Option)

An optional overall PCB warp prevention unit is available for double-sided reflow process.

Standard Equipment

♦ PC Control System ♦ UPS

Optional Equipment

♦ Overall PCB Warp Prevention Unit ♦ Mist Collection Unit
♦ Automatic Width Adjustment Unit

N2 Reflow Soldering System

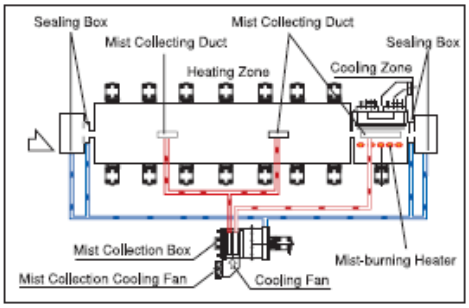
ECOR-4077NA
ECOR-4099NA

Available for Lead-free Soldering

- **Best-quality soldering of even minimal components ensured by minimized wind velocity reflow heating method**
- **Clean working environment preserved by Mist Collection System**

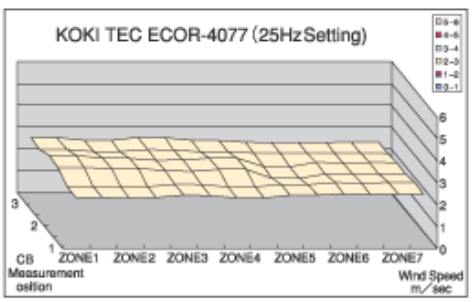
1 Advanced and environmentally-friendly Mist Collection System

Mist collection method has been further improved by independent mist collecting units which are mounted between two adjacnet zones inside the oven, whose temperatures greatly differ from each other.



2 Excellent heating uniformity realized by even convection heating!

Heating wind velocity of even 6 m/s causes no misalignment nor skipping of 1005 chips, tall condensers or connectors because of its remarkably-uniformed velocity, so that heating wind velocity can be greatly increased to achieve the smallest ⊿T even when producing PCBs loaded with larger and smaller components.



3 High-precision conveyor rails

PCB transporting conveyor is equipped with a newly designed width adjustment unit to maintain the rail parallelism under high temperature, which ensures stable and durable PCB transporting performance.

4 Excellent maintainability!

Mist attached to the cooling zone can be softened and collected by our unique heating system (when the machine is stopped).

5 N2 consumption greatly reduced!

Drastic reduction of N2 consumption can be achieved by enhancing the oven's sealing capacity, adding more labyrinth parts, and changing the mist collection system into an inner circulation type.

Standard Equipment

- ♦ PC Control System
- ♦ UPS
- ♦ Oxygen Meter
- ♦ Mist Collection Unit inside Oven

Optional Equipment

- ♦ Overall PCB Warp Prevention Unit
- ♦ Automatic Width Adjustment Unit

Reflow Soldering System

Specification List

		ECOR-4077B	ECOR-4077NA
PCB Size	MIN	50(W) × 100(L) mm	50(W) × 100(L) mm
	MAX	400(W) × 500(L) mm	400(W) × 500(L) mm
	Thickness	0.6 - 2.0 mm	0.6 - 2.0 mm
Component Height		20 mm on Top & Bottom sides	20 mm on Top & Bottom sides
Heating Zone		7 zones each on Top & Bottom	7 zones each on Top & Bottom
Cooling Zone		Outside Air Introduction Method	Inside Circulation Method (L=650mm)
Atmosphere		Air	N2
PC, UPS		Standard Equipment	Standard Equipment
Mist Collection Unit		Option	Standard Equipment
Automatic Width Adjustment Unit		Option	Option
Full Warp-prevention Unit		Option (Chain Type)	Option (Chain Type)
Conveyor Pass Line		900 ± 20 mm	900 ± 20 mm
PCB Conveyor Speed		0.5 – 2.0 m/min	0.5 – 2.0 m/min
Power Supply		3-phase 200V 40KVA	3-phase 200V 40KVA
Air Source		4 – 5 kgf/cm^2 or more	4 – 5 kgf/cm^2 or more
N2 Supply		-	18 m^3/H
Dimensions		4060(L) × 1350(W) × 1400(H) mm	4990(L) × 1350(W) × 1400(H) mm
Weight		Approx. 2000 kg	Approx. 2500 kg

		ECOR-4099A	ECOR-4099NA
PCB Size	MIN	50(W) × 100(L) mm	50(W) × 100(L) mm
	MAX	400(W) × 500(L) mm	400(W) × 500(L) mm
	Thickness	0.6 - 2.0 mm	0.6 - 2.0 mm
Component Height		20 mm on Top & Bottom sides	20 mm on Top & Bottom sides
Heating Zone		9 zones each on Top & Bottom	9 zones each on Top & Bottom
Cooling Zone		Inside Circulation Method (L=650mm)	Inside Circulation Method (L=650mm)
Atmosphere		Air	N2
PC, UPS		Standard Equipment	Standard Equipment
Mist Collection Unit		Option	Standard Equipment
Automatic Width Adjustment Unit		Option	Option
Full Warp-prevention Unit		Option (Chain Type)	Option (Chain Type)
Conveyor Pass Line		900 ± 20 mm	900 ± 20 mm
PCB Conveyor Speed		0.5 – 2.0 m/min	0.5 – 2.0 m/min
Power Supply		3-phase 200V 45KVA	3-phase 200V 45KVA
Air Source		4 – 5 kgf/cm^2 or more	4 – 5 kgf/cm^2 or more
N2 Supply		-	18 m^3/H
Dimensions		5740(L) × 1350(W) × 1400(H) mm	5740(L) × 1350(W) × 1400(H) mm
Weight		Approx. 3000 kg	Approx. 3000 kg

Flow Soldering System

MDR series

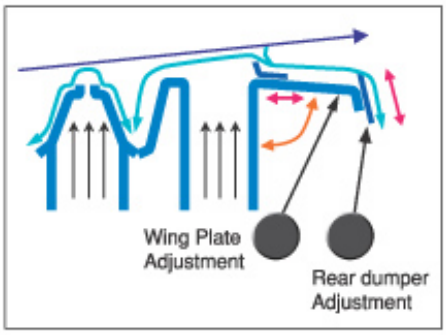
Lead-free Automatic Soldering System

- **Newly-designed nozzle most suitable for lead-free solder flow property of “high melting point and low specific gravity”**
- **Controllable PCB peeling angle & solder flowing rate at peel-back point**

1

External Adjustment System for “Peel-back Point” (Option)

External adjustment system for “peel-back point” can control solder flow rate and PCB peeling angle without stopping solder flow. This system is very effective for realizing bridgeless and fillet-up soldering, and stably controls soldering quality if lead-free solder is used as well. “Set-value check gauge” also provides reproducibility of the set values.



2

Solder Bath Replacement System

Easy replacement with a spare solder bath enables combined use of lead-free solder and currently-used Sn-Pb eutectic solder.

3

Newly-developed “N2 Tunnel Structure” (Option)

Newly-developed “nitrogen tunnel structure” of the N2 supply system has improved operability and maintainability of the machine, effectively reducing oxide dross of lead-free solder. (The machine can be easily modified from air to N2 spec. even after already installed.)

4

Built-in Spray Fluxer (Option)

Spray Fluxer (VIS-350, able to handle VOC-free) can be built in as an optional extra. Its high spraying efficiency realizes uniform coating without soiling the machine.

5

PCB Cooling Unit (Option)

The PCB Cooling Unit can eliminate problems of lead-free soldering quality, such as SMT land lifting and shrinkage cavity.

Standard Equipment

♦ Main Conveyor ♦ Preheater ♦ Solder Bath
♦ Solder-bath Roll-out Unit (Automatic) ♦ Cooling Fan
♦ Inlet Feeder (Chain Conveyor) ♦ Outlet Feeder (Chain Conveyor)
♦ Finger Cleaner ♦ Intermittent Flow Controller
♦ Main Control Unit ♦ Emergency Stop Switch

Optional Equipment

♦ N2 Middle (Full) Closed Tunnel Structure ♦ Mist Collection Unit
♦ Outside Peel-back Point Adjustment Unit
♦ PCB Warp-prevention Unit (in Solder Bath and Preheater)
♦ PCB Cooling Unit ♦ Spare Solder Bath (Cart)
♦ Built-in Spray Fluxer ♦ Dross Separation Unit
♦ Automatic Solder Feeding Unit
♦ Foaming Fluxer Unit (Flux Controller)
♦ Automatic Width Adjustment Unit
♦ UPS ♦ Automatic Fire Extinguisher ♦ Duct Shutter
♦ Pass-line Changer ♦ PCB Production Counter
♦ Signal Tower ♦ Voltage Transformer

Flow Soldering System

WS-302LF

Lead-free Automatic Soldering System

- **Essential features as lead-free standard model**
- **Controllable PCB peeling angle & solder flowing rate at peel-back point**

1

Resistant to lead-free solder corrosion!

Ceramic treatment is provided inside the solder bath made of special cast metal with heat & corrosion resistance. Surface treatment with corrosion resistance is provided to the nozzle and duct. The heater can be mounted from outside.

2

Cutdown of solder storage capacity achieves cost reduction!

Solder capacity is reduced to 300kg by approx. 33% of that of our existing machine, which achieves significant reduction in the initial cost and solder replacement cost.

3

Maintainability greatly improved!

Attachment and removal of the impeller parts have been greatly simplified (one-touch type), which allows for reduction of maintenance time as well as increase of maintenance frequency so that the machine can be kept in the best conditions.

4

Running cost greatly reduced!

Improvement of the nozzle and duct, and adoptioin of “liquid-level lowering prevention system” have contributed to minimum generation of oxide dross (past record: 2.5kg/8h), which results in great reduction of running cost.

5

Solderability enhanced and quality of through-hole soldering improved!

The distance between the first and second wave nozzles has been minimized (20 mm), and temperature depression has been prevented as much as possible. External peel-back point adjustment unit (optional unit, patent pending) enables operators to externally operate to have lead-free solder form the optimal wave without stopping solder flowing.

Standard Equipment

♦ Main Conveyor ♦ Preheater ♦ Solder Bath
♦ Solder-bath Roll-out Unit (Manual) ♦ Cooling Fan (Blower-type)
♦ Inlet Feeder (Chain Conveyor) ♦ Outlet Feeder (Chain Conveyor)
♦ Finger Cleaner Main ♦ Control Unit ♦ Emergency Stop Switch
♦ Solder-bath Upper Panel Lamp

Optional Equipment

♦ Outside Peel-back Point Adjustment Unit
♦ PCB Warp-prevention Unit (in Solder Bath and Preheater)
♦ PCB Cooling Unit ♦ Dross Separation Unit
♦ Automatic Solder Feeding Unit ♦ Preheater Extension
♦ Preheater 2-circuit Temperature Controller
♦ Intermittent Flow Controller ♦ Foaming Fluxer Unit (Flux Controller)
♦ UPS ♦ Auto Fire Extinguisher ♦ Duct Shutter
♦ Main-body Raising System (Pass-line Changer) ♦ Signal Tower
♦ Voltage Transformer ♦ Hot-air Combination Preheating Unit

Flow Soldering System

Specification List

		MDR/MDF-250	MDR/MDF-350
PCB Size	MIN	50(W) × 120(L) mm	50(W) × 120(L) mm
	MAX	250(W) × 350(L) mm	350(W) × 450(L) mm
	Thickness	1.0 - 2.0 mm	1.0 - 2.0 mm
Component Height (in N2)		100 mm or less (50 mm or less)	100 mm or less (50 mm or less)
Lead Length		6 mm or less	6 mm or less
Conveyor Angle		3° - 4°	3° - 4°
Transport Finger		Ultra Heat-resistant Resin Finger	Ultra Heat-resistant Resin Finger
Solder Bath Roll-out System		Automatic	Automatic
Solder Bath Roll-out Direction		Foreside/Backside	Foreside/Backside
Built-in Spray		Option	Option
N2 Atmosphere		Option	Option
Soldering Condition Input		200 Files	200 Files
Preheater		Far-infrared Panel Heater	Far-infrared Panel Heater
Solder Bath Replacement		Option	Option
Solder Bath Material		Special Cast Metal Ceramic Treatment SUS316L Kanuc Surf Treatment	Special Cast Metal Ceramic Treatment SUS316L Kanuc Surf Treatment
Solder Bath Heating Method		Indirect Heating System	Indirect Heating System
Solder Capacity		360 kg (SG:7.3)	360 kg (SG:7.3)
Power Supply		3-phase 200V 34KVA	3-phase 200V 34KVA
Air Source		4 - 5 kgf/cm^2	4 - 5 kgf/cm^2
N2 Supply (Option)		20 m^3/H	20 m^3/H
Dimensions		4440(L) × 1400(W) × 1334(H) mm	4440(L) × 1400(W) × 1334(H) mm
Weight		Approx. 1050 kg	Approx. 1150 kg

		MDR-460	WS-302LF
PCB Size	MIN	50(W) × 120(L) mm	50(W) × 120(L) mm
	MAX	460(W) × 500(L) mm	300(W) × 350(L) mm
	Thickness	1.0 - 2.0 mm	1.0 - 2.0 mm
Component Height (in N2)		100 mm or less (50 mm or less)	80 mm or less
Lead Length		6 mm or less	6 mm or less
Conveyor Angle		3° - 4°	4.5° ± 1°
Transport Finger		Ultra Heat-resistant Resin Finger	Ultra Heat-resistant Resin Finger
Solder Bath Roll-out System		Automatic	Manual
Solder Bath Roll-out Direction		Foreside	Backside
Built-in Spray		Option	NA
N2 Atmosphere		Option	NA
Soldering Condition Input		200 Files	NA
Preheater		Far-infrared Panel Heater	Sheath Heater
Solder Bath Replacement		Option	NA
Solder Bath Material		Special Cast Metal Ceramic Treatment SUS316L Kanuc Surf Treatment	Special Cast Metal Ceramic Treatment SUS316L Kanuc Surf Treatment
Solder Bath Heating Method		Indirect Heating System	Indirect Heating System
Solder Capacity		420 kg (SG:7.3)	300 kg (SG:7.3)
Power Supply		3-phase 200V 34KVA	3-phase 200V 27KVA
Air Source		4 - 5 kgf/cm^2	4 - 5 kgf/cm^2
N2 Supply (Option)		27 m^3/H	-
Dimensions		4440(L) × 1500(W) × 1334(H) mm	3700(L) × 1220(W) × 1448(H) mm
Weight		Approx. 1200 kg	Approx. 1000 kg

Spray Fluxer

VIS-350

Spray Fluxer available for VOC-free Flux

- **Option**
- ○ Preheater ○ Flux tray
- ○ Inlet/outlet buffer conveyor
- ○ Automatic roll-up unit for top paper filter
- ○ Pass line changeable ○ Deodorant unit
- ○ Body color selectable
- ○ Compatible with different voltage

- **"Servo-swing spray system" allows for uniform flux coating**
- **Environmentally-friendly VOC-free flux usable**

1 Uniform and even flux coating

Combined use of the spray gun which provides ultralow-pressure infinitesimal coating and the servo-motor which controls the gun's high-speed swinging movement have achieved uniform and even spray coating.

2 Coating efficiency greatly improved!

Flux spraying at point-blank range has greatly improved coating efficiency and reduced outward mist dispersal or particle rebound from PCB, which requires a lot less maintenance work and flux usage.

JS-64VFII	VIS-350	
Before coating (g)	239.88	239.82
After coating (g)	241.51	241.56
Adhering amount (g)	1.63	1.74
Amount sprayed (g)	2.21	2.30
Coating efficiency (%)	73.7	75.2

3 Sub-tank supply control structure

Flux sub-tank supply control structure enables flux replacement without stopping the machine.

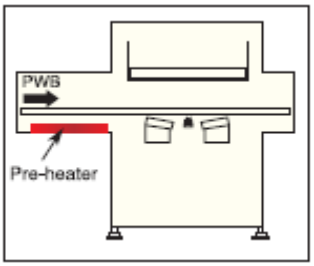
4 Easy condition control

Spray area of X-Y dimensions can be precisely set on the LCD monitor and error messages (e.g. air pressure, flux empty, filter replacement, spray amount anomaly) are also displayed there, which help operators to easily control conditions on production line.

5 Preheating Unit (Option)

Preheating PCBs (at 60C°) right before coated with VOC-free flux generates the following effects to improve solderability:

- Water adhering to PCBs is decreased by 30%, and interfacial tension with PCBs is lowered, which improve solder wettability and uniformity.
- Agent (water) evaporation in the preheater unit becomes faster, which increases resin's fluidity in the flux.
- Heat-resistant pre-flux on the PCBs becomes softer, which improves its compatibility with post-flux.



Specifications:

Item	VIS-350
PCB Size (MIN)	50(W) × 100(L) mm
PCB Size (MAX)	350(W) × 450(L) mm
Lead Length	8.0 mm or less
Component Height	180 mm or less
Conveyor Pass Line	750 ± 20 mm
Exhaust Method	Simplified dust-collection system of built-in type
Power Supply	Three-phase AC200V 1.3kW
Air Source	4 – 5 kg/cm2
Outer Dimensions	1180L × 1350W × 1250H mm
Total Weight	Approx. 300 kg

Soldering System for Add-on Components

TAKUROBO-II

Benchtop Selective Soldering System

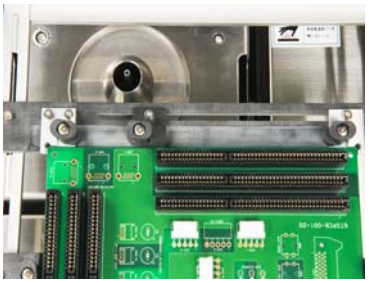
Benchtop Selective Fluxer “SPROBO”

- **Higher-quality alternative to “soldering-iron” type robots**
- **Compact size and low cost**
- **Plays a triple role of high-mix/low-volume production, prototyping & reworking**

1

Highly-advanced Performance

Controls solder amount and soldering time required for each point to be soldered. Can reduce “heat load” imposed on PCBs because of its lower operating temperature than “soldering-iron” method.



2

Easier Program Generation

Direct teaching method of soldering program generation is available in the standard model.
Another method available as optional is to generate programs using the scanned PCB image and PCB designing Gerber data displayed on the PC screen via the optional exclusive-use software.

3

No Jigs Needed

Nozzles of many different tip sizes are available to meet users’ desired spray patterns. Jigless soldering allows for more economical PCB production. Machine setup time and production startup process will be greatly reduced.

● Specifications

Items	ULTIMA-TR2 (Model Name)
PCB Size (MIN)	50(W) × 50(L) mm
PCB Size (MAX)	250(W) × 330(L) mm
PCB Thickness	0.8 - 2.0 mm
Program Steps	100 steps, 40 files
Selectable Nozzle Inner Diameter	Round Nozzle: Ø 2.5, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 12.0, 14.0, 16.0, 20.0 mm (Rectangular rework nozzle also available as custom-made)
Solder Capacity	Approx. 16 kg (SG:7.3)
N2 Supply	0.5 MPa 20 ltr/min
Power Source	Single-phase 200V 4KVA
Outer Dimensions	620(W) × 760(L) × 440(H) mm
Weight	Approx. 97 kg (solder included)

Items	ULTIMA-SP (Model Name)
PCB Size (MIN)	50(W) × 50(L) mm
PCB Size (MAX)	250(W) × 330(L) mm
PCB Thickness	0.8 - 2.0 mm
Program Steps	100 steps, 40 files
Flux Tank Capacity	1 ltr.
Nozzle	Two-fluid / Ultrasonic nozzle
Air Supply	0.4 - 0.5 MPa
Power Source	Single-phase 200V 0.1KVA
Outer Dimensions	630(W) × 640(L) × 365(H) mm
Weight	Approx. 45 kg

Soldering System for Add-on Components

MINIROBO

Selective Soldering System (All-in-one type)

- **All-in-one system capable of high-mix/low-volume production**
- **Handles PCBs of various sizes up to the largest**

1

Highly-advanced Performance

Controls solder amount, heat capacity and soldering time needed for each point soldered. Emits heated N2 from the nozzle outer surface, which enables bridgeless soldering and greatly improves through-hole soldering.

2

Simplified NC Program Generation Method

Scanned PCB image and PCB designing Gerber data can be displayed on the PC screen via the optional exclusive-use software so as to help easily generate soldering programs.
Another method available is to generate programs while checking a real PCB image to be processed via the optional “CCD camera teaching system.”

3

No Jigs Needed

Nozzles of many different tip sizes are available to suit the desired spray patterns. “Dedicated pallets” for tilting carrierless soldering systems are unnecessary so that production cost can be remarkably reduced.

• Specifications

Items	ULTIMA-MINIROBO (Model Name)
PCB Size (MIN)	50(W) × 50(L) mm
PCB Size (MAX)	300(W) × 460(L) mm (ULTIMA-MR-M) 600(W) × 600(L) mm (ULTIMA-MR-XL)
PCB Thickness	0.8 - 2.0 mm
Component Height	60 mm or less (upper side) 25 mm or less (lower side)
Lead Wire Length	3.0 mm or less
PCB Feeding Height	900 ± 20 mm
Solder Capacity	Approx. 16 kg (SG:7.3)
N2 Supply	0.5 MPa 25 ltr/min
Power Source	Three-phase 200V 7KVA
Outer Dimensions	1510(L) × 1370(W) × 1135(H) mm (ULTIMA-MR-M) 1690(L) × 1670(W) × 1135(H) mm (ULTIMA-MR-XL)
Total Weight	Approx. 750 kg: solder included (ULTIMA-MR-M) Approx. 800 kg: solder included (ULTIMA-MR-XL)

Soldering System for Add-on Components

SELROBO

Selective Soldering System (Inline model)

“Ultimate Soldering System” achieved by per-component soldering condition setting

1 Productivity improved by “modular design”

Varied types of production line building with combination of flux spraying unit, PCB preheating unit and selective dipping unit are provided in accordance with the user’s production takt time.

2 Highly-advanced Performance

Solder amount, heat capacity and soldering time required for each position to be soldered can be controlled to allow for optimal soldering condition setting. Productivity can be more enhanced if the optional “recutangular nozzle” is used for components of large heat capacity.

3 Simplified NC Program Generation

Scanned PCB image and PCB designing Gerber data can be displayed on the PC screen via the optional exclusive-use software so as to help easily generate soldering programs.

4 No Jigs Required

Nozzles of many different tip sizes are available responding to users’ desired spray patterns. The “exclusive-use pallets” used in tilting-type carrierless soldering machines are not necessary so that production cost can be remarkably reduced.

● Specifications

SELROBO SPRAYING UNIT	
Items	**Model: ULTIMA-SR-S**
PCB Size (MIN)	100(W) × 100(L) mm
PCB Size (MAX)	250(W) × 330(L) mm
PCB Thickness	0.8 - 2.0 mm
Component Height	Top side: 60 mm or less Bottom side: 25 mm or less
Pass Line	900 ± 20 mm
Spraying Method	Two-fluid atomization method
Power Source	Three-phase 200V 2KVA
Outer Dimensions	575(L) × 1300(W) × 1580(H) mm

SELROBO PREHEATING UNIT	
Items	**Model: ULTIMA-SR-H**
PCB Size (MIN)	100(W) × 100(L) mm
PCB Size (MAX)	250(W) × 330(L) mm
PCB Thickness	0.8 - 2.0 mm
Component Height	Top side: 60 mm or less Bottom side: 25 mm or less
Pass Line	900 ± 20 mm
Preheater	Carbon Lamp Heater (6 pcs at bottom)
Power Source	Three-phase 200V 4.5KVA
Outer Dimensions	575(L) × 1300(W) × 1580(H) mm

SELROBO DIPPING UNIT	
Items	**Model: ULTIMA-SR-D**
PCB Size (MIN)	100(W) × 100(L) mm
PCB Size (MAX)	250(W) × 330(L) mm
PCB Thickness	0.8 - 2.0 mm
Component Height	Top side: 60 mm or less Bottom side: 25 mm or less
Pass Line	900 ± 20 mm
Solder Bath Material	Ferrous casting
Solder Capacity	Approx. 16 kg
Flowing Method	Selective Solder Flowing Method with Impeller
Power Source	Three-phase 200V 4.1KVA
Outer Dimensions	575(L) × 1300(W) × 1580(H) mm

Soldering System for Add-on Components

EQS-350SDD

Selective Soldering System (Standard Inline Model)

- **Standard type of inline production system**
- **Horizontal transport process & XYZ-axis controlled solder bath responding to increased production of large-size PCBs**

1

Highly-advanced Performance

Solder amount, heat capacity and dipping time required for each position to be soldered can be controlled to allow for optimal “soldering condition” setting.
Rectanglar nozzle available as optional to handle components with large heat capacity, resulting in better productivity.

2

Easy Program Generation

Scanned PCB image and PCB designing Gerber data can be displayed on the PC screen via the optional exclusive-use software so as to help easily generate soldering programs.

3

Productivity improved by extension of “Solder Bath Modules”

Optimal line build-up responding to your production takt is made possible by extension of solder bath modules.

● Specifications

Items	EQS-350SDD
PCB Size (MIN)	100(W) × 100(L) mm
PCB Size (MAX)	350(W) × 400(L) mm
PCB Thickness	0.8 - 2.0 mm
Component Height	Top side: 60 mm or less Bottom side: 25 mm or less
Lead Wire Length	3 mm or less
Pass Line	900 +/- 20 mm
Spray Method	Two-fluid / Ultrasonic type
Preheater	Carbon Lamp Heater (6 pcs. at bottom)
Solder Capacity	Approx. 16 kg
N2 Supply	0.5 MPa 25 ltr/min
Power Source	Three-phase 200V 20KVA
Outer Dimensions	4200(L) × 1350(W) × 1620(H) mm
Weight	Approx. 1,600 kg

Solder Dipping Device

SOFR-400

Overflow-type Automatic Soldering System

- **Pallet-dipping model helping to greatly increase productivity**
- **Soldering quality improved by multifunctional dipping system**

1 Dipping method selectable from four types (Best conditions settable)

- Normal dipping method for PCB surface
- Peel-back motion (Electric 4-shaft cylinders used to provide peel-back motion with max. 4-degree angle)
- Sliding motion (PCB tranporting chain moved back & forth in dipping)
- Peel-back & sliding motion (Two motions simultaneously given)

2 Productivity improved!

Productivity in pallet dipping process is greatly improved by high performance preheater. (Preheating finished in short time)

3 N2 Supply (Option)

Dross generation reduced by supplying simultaneously N2 from four places in all at PCB transport section (2 places) and on the solder bath lateral side (2 places).

4 Cell Production System also available!

Selectable from inline or cell production system

5 Compact body

Miniaturized into approx. half the size of the same-type conventional company product to provide smaller footprint.

● Specifications

Items	SOFR-400
Conveyor Section 1	Sprayer & Preheater (Pin chain)
Conveyor Section 2	Solder bath (Chain with fingers)
Sprayer Section	Nozzle of Y-direction oscillation type
Preheater Section	Carbon Lamp Heater (6 pcs. at bottom)
Solder Bath Roll-out System	Rear-side automatic roll-out system
Solder Capacity	Approx. 490 kg (SG:7.3)
Cooling Fan	Installed on the top and bottom sides of Preheater sec. (12 pcs.)
PCB Size	Max. 460 × 400 mm
Lead Wire Length	40 mm or less
Outer Dimensions	2700 (L) × 1150(W) × 1340(H) mm