



**FONTON**

**BGA/CSP/LLP**  
Soldering &  
Desoldering  
Equipment





## TSMC Recognizes FONTEON with Appreciation Award

Taiwan Semiconductor Manufacturing Company Limited (TSMC), the worldwide leading semiconductor foundry company, has presented an Appreciation Award to FONTEON.

The award recognizes FONTEON in assisting in TSMC's novel PoP Re-assembly Project.

FONTEON dedicates to providing not only best quality equipment but also all kinds of soldering solutions for our clients.

## Cordiality Creativity Customers-Satisfying

Your best partner in BGA/CSP Rework equipments. Founded in 1985, FONTEON has been the primary source of soldering and desoldering equipments for electronics and computer industries.

With the continuous growth of 3C field and clients support over the last 32 years, FONTEON offers various, stable, high efficient solution and products to satisfy different needs in professional electronics field. Moreover, built up wide overseas sales network to supply direct service to overseas clients.

FONTEON's BGA / CSP / LLP Rework equipment, BGA-936UA brings new page to the professional equipment field. More economical, more intelligent interface helps your enterprise to solve the continuous challenge from smaller and latest chips. Any problem in BGA/CSP/LLP desoldering / soldering procedures, simply get contact with FONTEON. High performance, high-value-added products and immediate satisfying service are our constant promises to you.

# BGA/CSP /LLP Rework Station & Reballing Kits

Model : BGA-936UA .....	2
High Precision .....	3
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## Intel Recognizes FONTON with Appreciation Award



Intel Corporation has presented an Appreciation Award to FONTON for Intel's Equipment Vendor Enabling program. Intel and FONTON have worked for over ten years to align roadmaps, access new technologies and review new Intel Components. The award of appreciation is to recognize the great support and participation towards Intel's Equipment Vendor Enabling program. It also further solidifies FONTON's reputation as the partner of choice for new technology manufacturing.



### *Efficient · Reliable · User-Friendly*

**High Efficiency** is the ultimate goal in our constant pursue of perfection. Possessing fine heating element with 1000W upper hot air injection and ultra large IR bottom heating system, 936UA offers excellent efficiency in soldering and desoldering performance. Versatile clampers is specially designed for various P.C.B. from mobile phone to server field.

**Reliability** of 936UA guarantees the quality and stable yield rate. The use of New Fuzzy Industrial Microprocessor and Aviation Industrial Precision Linear Mechanism brings more accurate and reliable result. Precise and clear Different Color Alignment System makes alignment trustworthy.

**User-Friendly** design with integrated operation interface brings working pleasure to operators. No need for extra equipment or air-supply, AC power itself is sufficient. Within 2 hours of training, operator could understand and operate our intuitive operation controller with ease for it is that user friendly.

### *Perfect Performance*

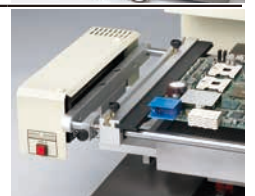
Fast Alignment  
Calibration Design

Ultra Large Bottom Heating

Auto Quick  
Cooling System

Versatile PCB  
Clampers

Programmable  
Reflow System



# HIGH PRECISION

## Fast Alignment Calibration

### *Fast Alignment Calibration design*

- Fast alignment calibration design shortens adjustment time significantly.
- Auto / manual option for Z spindle. Fully enhanced soldering efficiency and easy operation.
- Quick and smooth movement, accurate location with aviation industrial precision linear motion guide.

### *The coaxial mechanism avoid CSP chips moving*

- Fully prevent aligned BGA chips to deviate due to movement.
- Can proceed BGA alignment procedure and soldering work simultaneously.
- Best precision even for continuous long term usage. No need to adjust X, Y shafts at all.

### *Different Color Alignment System makes perfect image*

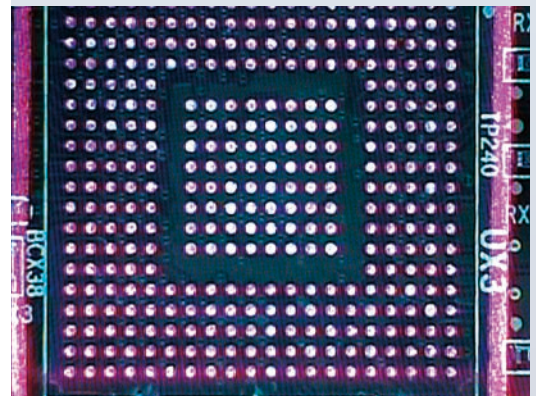
- When images of chip and PCB overlap, comparison between the two images will be very clear.
- Special design for CSP ( $\mu$ BGA, Tiny BGA), fine pitch BGA and LLP.

### *High Precision device for fast chip Location*

- High Precision device for fast BGA chip Location, tolerance is within  $\pm 0.025\text{mm}$ .
- Fast, safe, efficient solution. No more solder paste trouble resulted from direct contact with hand.



**Fast Alignment calibration design**  
Best coaxial mechanism and fast calibration adjustment design



**Bright Color Comparison**  
Simply overlap the red of solder balls and pad into one image



Fast Chip Feeder (Option)



# EFFICIENT

## Ultra Large Bottom Heating Design

### High efficient soldering with IR System

- The use of IR heating element offers high efficient soldering and desoldering.
- Ultra large preheating area: 360 x 260 mm. It can be divided into 3 zones for different sizes of P.C.B.
- Rapid desoldering and soldering: increase 50% efficiency.
- Preheating zone can be operated synchronously or independently. Completely solve warpage / twist problem cause by uneven / tiny preheating.
- Module design: low cost for maintenance and repair.



**Ultra Large Bottom Heating**  
Shorten preheating time and offers sufficient and even preheating to all PCB

### Quick Cooling System Provides high efficiency

- Drastically reduce cooling time by 50 % than other designs.
- Work with electricity and no extra air compressor needed.
- Built-in auto cooling system highly increase 50% work efficiency.



**Auto Quick Cooling System**  
Increase 50 % cooling efficiency

### Multi-function Clampers for various P.C.Board

- Versatile clampers is suited for standard and special P.C.Board.
- PCB fast loading device shortens fixing time for P.C. Board.
- Offering good support for uneven shape PCB prevents P.C. Board from warping or twisting.



**Multi-function clampers**  
It is suitable for various P.C.Board.

### High precision LLP chip solder Paste printing device

- Able to directly locate printing fixture on alignment system for perfect alignment effect.
- Average printing time for one BGA / LLP chip is within 30 seconds.
- Unified Flux thickness from Solder Paste Printing device provides users the best reflow quality.



Solder Paste  
Printing Device

# SMART

## New Fuzzy Industrial Microprocessor

### New Fuzzy Industrial Microprocessor System with USB Disk Data Storage

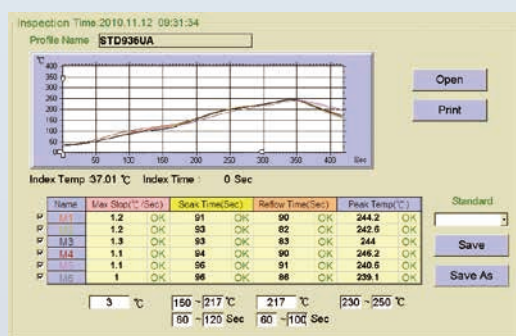
- PC-based Industrial-Level Microprocessor System and LCD panel brings more accurate and stable operation.
- All the parameter and heating process can be recorded without extra PC or equipment connection.
- Auto Pick-up vacuum function makes reflow / Desoldering of BGA and LLP chips easier.
- Design for independent operation. No need for additional equipment.

PROGRAM	25		NAME:		FONTON01		
STEP	:	1	2	3	4	5	6
UP_HEAT °C	:	150	180	150	230	250	250
BTM_HEAT °C	:	150	180	200	230	250	250
OUTPUT %	:	100	100	100	100	100	100
TIME Sec	:	40	40	40	40	40	40
AIR FLOW	:	5	5	5	5	5	5
COOLING	:	0	0	0	0	0	0
PICK_UP	:	0	0	0	0	0	1
LOAD/SAVE	:	LOAD					
STATE:	END	DATE: 12/05/04		16:30:45			
RUN:	0 Sec	STAY:	320 Sec				
U.T.:	29.1 °C	B.T.:	29.1 °C	E.T.:	28.5 °C		
M1:	N.C °C	M2:	N.C °C	M3:	N.C °C		
M4:	N.C °C	M5:	N.C °C	M6:	N.C °C		

Clear Temperature Parameter List

### Easy and Quick to Set up Parameter

- All parameter can be directly settled on the LCD panel without using any other facility. Besides, it is equipped with extra removable controller for easy operation.
- Reflow profile can be 100% set up in advance and operators can also set up parameter by themselves effortlessly.



Profile inspection System

### Fast 99 sets Show-up and Professional Profile Inspect System

- Easy to make a qualified program against the profile inspection result.
- Fast check on 99 sets of profile memories: completely solves the profile reset problem caused by the difference of BGA chips. Save operation time and enhance production efficiency.
- Unlimited profile spaces: In addition to fast check function, operators can install as many as temperature profile they wish on BGA-936UA via built-in USB Disk Port. "Once used, forever memorized" is our constant promise to clients.

### Built-in 6 Temperature Detectors

- Six Sets of thermocouple can measure the heating characteristic of BGA body and PC Board directly.
- Reflow profile can be 100% set up and operator can easily set up parameter without complicated training course in advance.
- Chinese and English version available.



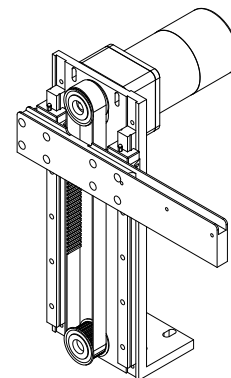
Six Temperature Detectors

# SUPER FINE

## Automatic Mechanism and Durable Structure

### User-Friendly interface save time and manpower

- User-friendly design: no more damage due to improper operation in CCD camera system. Alignment system will automatically turn off while soldering head is going down.
- Heating Head and CCD camera: directly controlled by Microprocessor or heating head control box aside.
- Extremely easy operation: CCD and Heating head move automatically and programmable vacuum function.



Super Fine Automatic Mechanism

### Durable Structure and Modular design for Easy Maintenance

- Durable structure design: The presence of 50 kg heavy objects on both sides of P.C.B. clumper causes no shake.
- Advanced liner motion guide: Not only does it smoothen the movement of the table, but also strengthens the whole structure, making it more durable.



Durable PCB Clamper table

## SPECIFICATION

Main Voltage	220 $\pm$ 10V AC
Power Consumption	Max. 6100W
Preset Temp. of Top	50 $^{\circ}$ C ~ 399 $^{\circ}$ C (122 $^{\circ}$ F ~ 750 $^{\circ}$ F)
Preset Temp. of Bottom	50 $^{\circ}$ C ~ 399 $^{\circ}$ C (122 $^{\circ}$ F ~ 750 $^{\circ}$ F)
Top Heater	1000W
Bottom Heater	1000W/3000W/5000W (adjustable)
Air Spouting	250 l/min Max. (adjustable)
Vacuum Pump	Diaphragm 420mm Hg Max.
Working Lamp	3 W 3V LED
P.C Board Size	600mm x 460 mm
Capacity	(600mmx680mm)
Applicable Devices	Max. 80mm x 80mm
Vision Magnification	Standard up to 20x. option 40x,
Dimensions	62(W) x 62(H) x 70(D)cm
Weight	98 kg

## ACCESSORIES

High-Resolution TFT 17" LCD packages	1 set
Monitor mount Plate	1 set
Hex key wrench	1 set
Vacuum Pads ( $\varnothing$ 5 $\varnothing$ 10 $\varnothing$ 15)	3pcs(one piece for each)
Center Support	1 set

## OPTIONAL ACCESSORIES

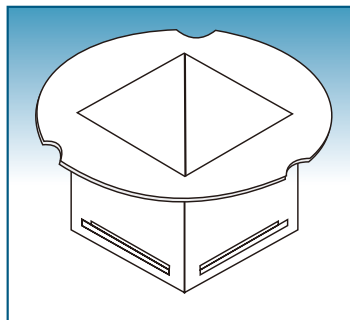
1. Complete range of standard and custom nozzles
2. Gloves with high temperature resistance
3. Various sizes of vacuum pads. ( $\varnothing$ 2,  $\varnothing$ 5,  $\varnothing$ 10,  $\varnothing$ 15)
4. Clamper for special P.C. Board.
5. Electronic Dry Cabinet
6. LLP Fixture
7. Fast Chip Feeder
8. Table



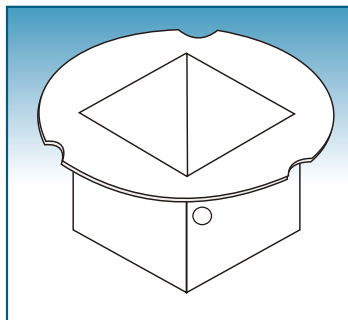
# NOZZLES

## FOR BGA-936UA

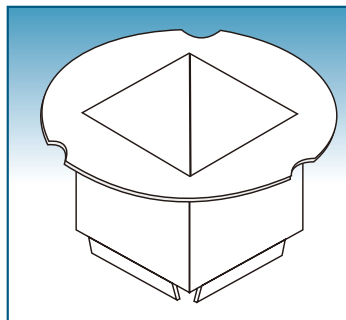
A) OPEN HALL(OH)



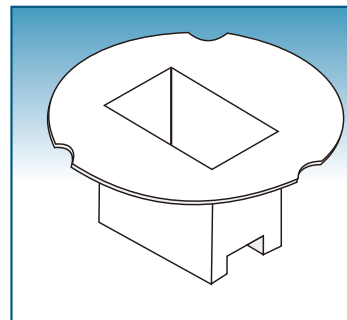
B) CLOSE HALL(CH)



C) SOJ.PLCC

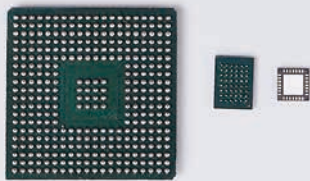


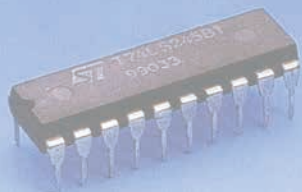


C) DIP.PGA



The BGA 936UA suits every type of BGA & SMD, only needs to change the NOZZLE.

### NOZZLE SIZE ( • COMMON SIZE, ▲ SPECIAL SIZE ) UNIT mm

BGA/CSP/LLP				SOP.QFP				SOJ.PLCC				DIP-PGA			
															
NO .	SIZE	TYPE		NO .	SIZE	TYPE		NO .	SIZE	TYPE		NO .	SIZE	TYPE	
		OH	CH			OH	CH			OH	CH			OH	CH
BGA-N001	5 x 5		•	BGA-N041	13 x 12		•	BGA-N081	10 x 17		•	BGA-N121	10 x 20		•
BGA-N004	5 x 10		•	BGA-N043	13 x 20		•	BGA-N083	12 x 19		•	BGA-N122	10 x 22.5		•
BGA-N007	10 x 10		•	BGA-N045	15 x 22		•	BGA-N085	12 x 27		•	BGA-N123	10 x 25		•
BGA-N010	10 x 15		•	BGA-OPT46	7 x 7		•	BGA-N090	12 x 12		•	BGA-N124	10 x 27.5		•
BGA-N016	16 x 24		•	BGA-N047	17 x 30		•	BGA-N091	14 x 14		•	BGA-N131	18 x 32		•
BGA-N020	29 x 29	•	▲	BGA-N051	11 x 11		•	BGA-N093	17 x 15		•	BGA-N133	18 x 37		•
BGA-N024	37 x 37	•	▲	BGA-N052	13 x 13		•	BGA-N095	20 x 20		•	BGA-N135	18 x 42		•
BGA-N025	39 x 39	•	▲	BGA-N053	15 x 15		•	BGA-N096	25 x 25		•	BGA-N139	18 x 52		•
BGA-N026	42 x 42		•	BGA-N054	17 x 17		•	BGA-N097	27 x 27		•	BGA-N141	21.5 x 21.5		•
BGA-N028	45 x 45		•	BGA-N055	19 x 19		•	BGA-N098	32 x 32		•	BGA-N143	29 x 29		•
BGA-N061	33 x 33		•	BGA-N056	21 x 21		•	BGA-N099	37 x 37		•	BGA-N145	34 x 34		•
BGA-OPT10	70 x 70		•	BGA-N057	23 x 23		•					BGA-N148	49 x 49		•
BGA-OPT43	10 x 12		•	BGA-N058	25 x 25		•								
BGA-OPT55	55 x 66		•	BGA-N059	26 x 20		•								
BGA-OPT57	58 x 48		•	BGA-N062	35 x 35		•								
BGA-OPT58	48 x 41		•												
BGA-OPT70	75 x 75		•												

#### Remarks:

Particular specifications for nozzles can be ordered. Please inform us the BGA specification, nozzle size or send us your parts sample.

# HOT PLATE FOR BGA/SMD REPLACEMENT

## Model: SMD-928S BEST CHOICE FOR BGA REPLACEMENT

### Simple, Fast and Reliable Hot Plate

- Best choice for BGA Chip Replacement Processing. Combining with fixture, it is simple and fast to replace solder ball on chips within 3 minutes.
- Excellent preheat effect for BGA chip before actual replacement work.
- Built-in advanced plate-type heater: convenient and effective solution for the various soldering and desoldering work on SMD and BGA chips.
- Optimum for PC Board preheating, multi-varied small soldering production and general maintenance on small/middle-size PC Board.

### PID Precision Temperature Control System

- Temperature precision is  $\pm 1^{\circ}\text{C}$
- More accurate and stable temperature display.
- With timer display unit to achieve the best soldering result.
- Outstanding safety Device: Upper cover completely protects users from any burning damage.

### SPECIFICATION

MAIN VOLTAGE	220 $\pm$ 10V AC
PLATE SIZE	150 <sup>W</sup> x 200 <sup>L</sup> x 13 <sup>H</sup> mm
HEATER	1000W
TEMP. RANGE	0~300 $^{\circ}\text{C}$ MAX. 400 $^{\circ}\text{C}$
SENSOR	Thermoelectric Couple K Type
TEMP. PRECISION	PID / Digital Setting $\pm 1^{\circ}\text{C}$
START-UP TIME	6 Minutes (20 $^{\circ}\text{C}$ to 200 $^{\circ}\text{C}$ )
DIMENSION	280 <sup>D</sup> x 240 <sup>W</sup> x 170 <sup>H</sup> mm
WEIGHT	7.5Kgs



# BGA REPLACEMENT FIXTURE AND MATERIALS

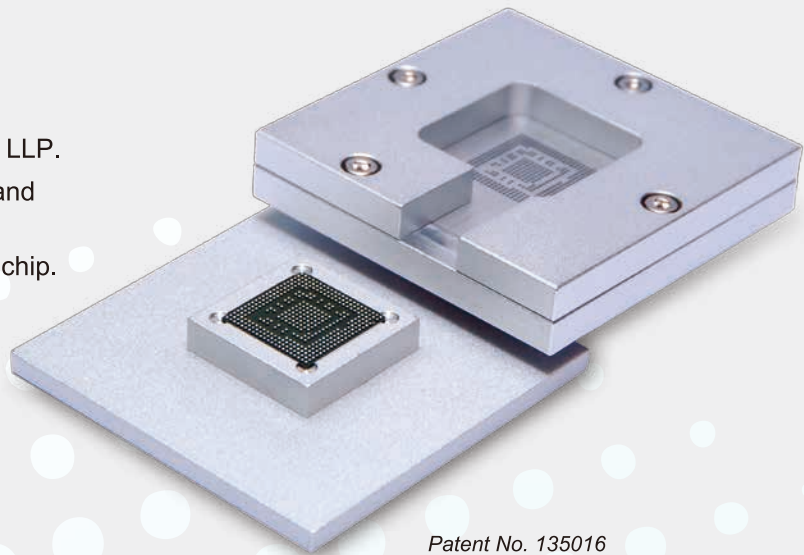
**FONTON**

SPECIALIZE IN  
LEAD-FREE

DB

## REPLACEMENT FIXTURE

- World No.1 fast and convenient solution for BGA Chip Replacement work.
- It can replace various types of BGA,  $\mu$  BGA, CSP and LLP.
- High precision aluminum alloy structure, durable, light and efficient.
- Fast and convenient to reflow solder balls on the BGA chip. One cycle only takes 30~90 seconds.



Patent No. 135016

## BGA PASTE FLUX

- Rosin materials designed for ball grid array process (BGA) requiring reflow application.
- It can be successfully reflowed in infrared convection or vapor phase systems.
- Can be safely left on the PC board after reflow without cleaning.

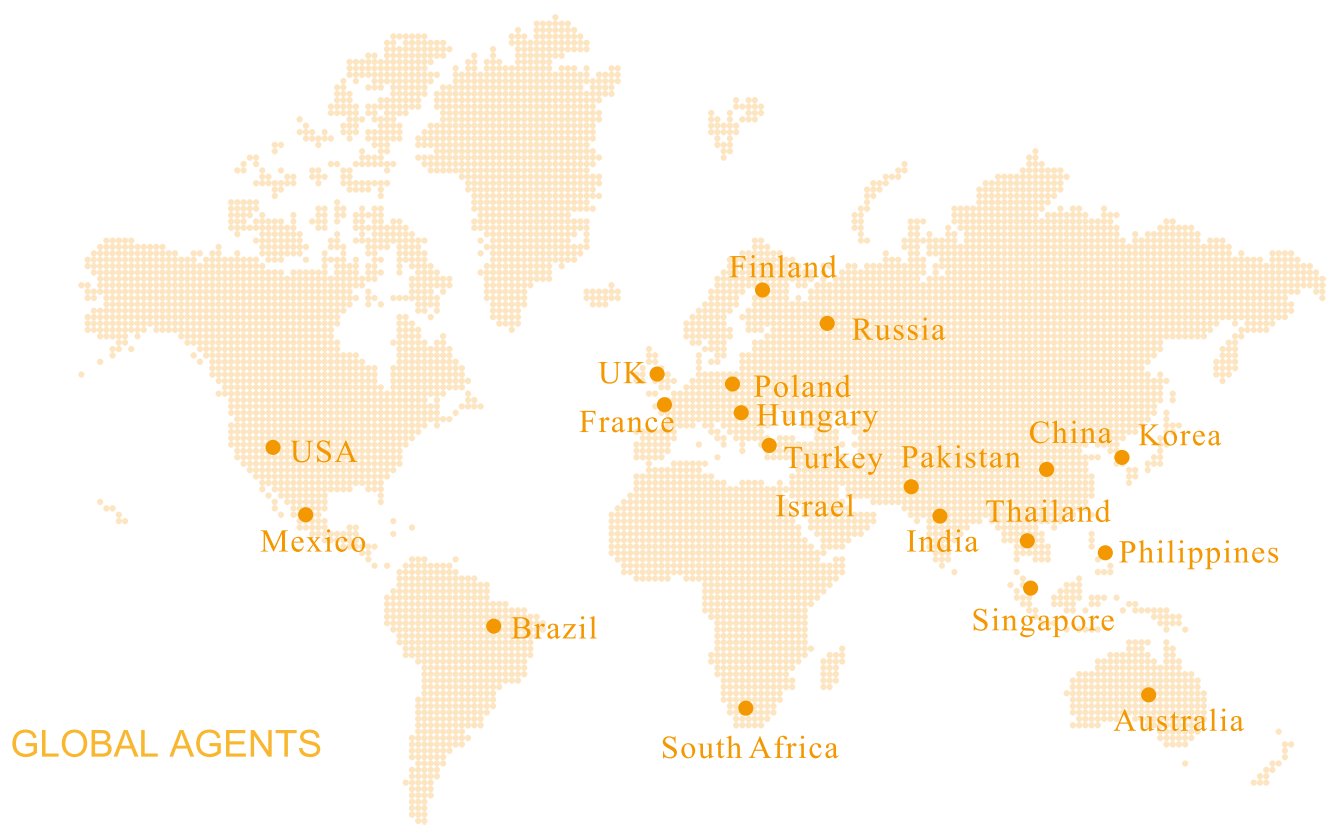


## BGA Solder Ball

- High precision circular size. The tolerance of diameter within 0.02 mm.
- Solder balls are packed in argon gas for delivery to user.
- A wide range of solder balls size and type for option, such as 0.2, 0.3, 0.45, 0.5, 0.6, and 0.76 mm....etc.
- Lead-Free and Leadless solder balls for option.







# FONTON

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