



American Hakko Products, Inc.

P R O D U C T B U L L E T I N

Bulletin No: PB220

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Product:

FR1418 BGA Rework System with Auto-Z axis

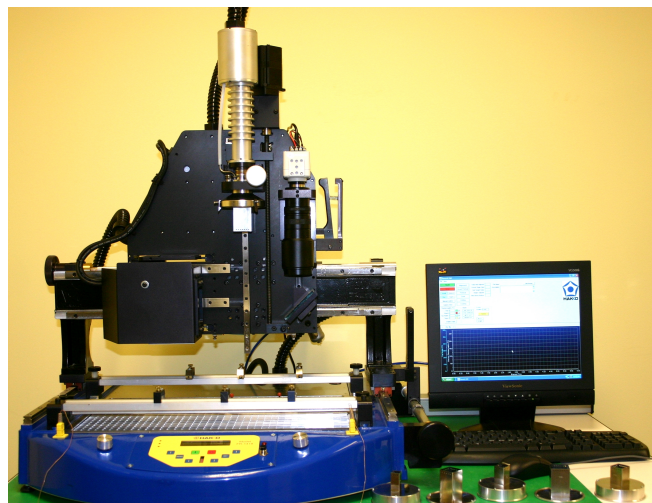
Part No:

FR1418-03

BGA Rework System, Single Zone, Auto-Z w/ PC Control System

FR1418-04

BGA Rework System, Dual Zone, Auto-Z w/ PC Control System



Specification:

Part No.	FR1418-03	FR1418-04
Power consumption	120 VAC, 15A	120 VAC, 20A
Preheater, low mass IR	one bank, 750W, 254 x 305 mm (10 x 12 in.) Proportional control 20-100%	two banks, 1500W, 508 x 305 mm (20 x 12 in.) Proportional control 20-100%
Top heater, forced convection/hot gas	1000 watt	10000 watt
Dimensions	711 x 711 x 711 mm (28 x 28 x 28 in.)	711 x 711 x 711 mm (28 x 28 x 28 in.)
Weight	57 kg (125 lbs.)	57 kg (125 lbs.)
Supply Air	483 kPa (70 PSI), 5 CFM (Dry, filtered)	483 kPa (70 PSI), 5 CFM (Dry, filtered)
Auto-Z speed, min-max	76-1143 mm/min (3-45 in./min)	76-1143 mm/min (3-45 in./min)
Auto-Z resolution	0.008 mm (0.0003 in.)	0.008 mm (0.0003 in.)

Contents:

The FR1418-03 includes one 254 x 305 mm (10 x 12 in.) bank of IR preheater. The FR1418-04 includes two preheater banks totaling 508 x 305 mm (20 x 12 in.).

Both machines include the following:

- FR1418 Auto-Z machine with CCD camera

For pricing information, please contact your local American Hakko representative or our customer service department at (661) 294-0090.

From...

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AHP14 Rev 2000-01

- Computer with flat panel monitor and video capture card
- Thermal Analysis and Control Software
- Standard Accessory Pack:

Qty	P/N	Description
2	222-510	Bottom IR Heater Lamp 500W
2	222-511	Standard Optics Lighting Bulb 75W
3	222-512	Type K 36 Ga. Thermocouple
1	222-513	Standard Vacuum Cup 0.28 Dia.
1	222-514	Optics Calibration Tip
1	222-515	Optics Calibration Plate
1	222-400	Nozzle 14 x 14 mm
1	222-401	Nozzle 18 x 18 mm
1	222-402	Nozzle 22 x 22 mm
1	222-403	Nozzle 26 x 26 mm
1	222-404	Nozzle 30 x 30 mm
1	222-405	Nozzle 34 x 34 mm

Comments:

Constructed of heavy-walled aluminum castings for unsurpassed precision and stability, the innovative FR-1418 BGA Rework System is a flexible system designed for the manual alignment and automated placement or removal of BGA, μ BGA, Flip Chip, CSP and other surface mount electronic components with precisely controlled solder reflow profiles. The system can accommodate component sizes from 2.0 mm (0.08 inch) to 51mm (2 in.) square with placement accuracy up to ± 0.025 mm (0.001 in.). The Auto-Z BGA Rework Machines incorporate a motorized Z-axis system that further simplifies removing and replacing BGA components. The system features a unique gantry style construction similar to that of a pick-and-place machine, which allows the PCB to remain stationary while the head moves to accomplish the X, Y, Z and Theta alignment. This design provides the capacity to easily rework boards from 51 x 51 mm (2 x 2 in.) up to 356 x 457 mm (14 x 18 in.). The system can rework boards with up to 51 mm (2 in.) tall components and PCB thickness' up to 6.4mm (0.25 inch).

The top heater is a 1000 watt forced convection/hot gas type and is integrated into the automated placement head. The bottom heater is a large area, low mass infra-red heater that provides fast, efficient heating and eliminates board warping. The optical alignment system uses a CCD camera with a flat mirror and beam splitting prism for easy alignment of BGA and area array devices. The camera connects to the computer system (included) for easy viewing on the flat monitor.

The thermal analysis and control software provide easy control over the FR-1418 BGA Rework System. The software allows thermocouple graphing and analysis with unlimited recipe storage. Thermocouple target temperature, top heater temperature, board heater percent, air flow rate, and time for the Preheat, Soak and Reflow stages of each recipe are controlled by the software. Airflow speed and time are controllable for the Cool stage. Teach

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mode profiling sets the recipe times based on the input operating and target temperatures. Recipes can also be programmed that include a bottom side preheat to a selected temperature prior to the Preheat stage. The Z-axis location and speed are also controlled by the software.

The FR-1418 with Auto Z-axis is available in two standard configurations. The FR1418-03 includes one bank of low mass infrared full area array bottom preheater. The FR1418-04 includes two banks of preheaters.

Accessories:

222-529 Pan and tilt mirror

222-526 Board support rail

222-501 Micro Nozzle Kit

Component print frame stencils (contact Hakko for specific stencils)

Nozzles (contact Hakko for specific nozzles)

Pricing:

FR1418-03 List Price \$24,300.00

FR1418-04 List Price \$25,750.00

Available:

July 01, 2005

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