

KH-6800

Automatic Final Frequency Adjustment System

(Pallet Type)for SMD Crystal



- 2002 Hong Kong Award for Industry :
Machinery and Equipment Design



The KH6800 utilizes the latest Proportional-Integral-Differential (PID) plating control algorithm enhanced with shutter forecasting control. Intelligent solid-state plating power control module gives better plating accuracy and higher speed compared to the other conventional shutter-only or PID-only control system. Typical plate time per crystal is less than 3.0 seconds (totally 2 plating cycles), with typical frequency spread of less than ± 1 ppm * ^{Note}.

The built-in high quality KH1120/KH1240/Agilent E5100A Pi-network Crystal Measurement System provides the final accuracy of the crystal being plated. Measurement accuracy of less than ± 1 ppm could be achieved (Fs or Fr). And for full frequency range, both Fs and FL can be plated with high accuracy.

The system operation software is user friendly and menu driven. Touch panel is designed for production workers to operate easily, so that they do not need to work with the computer.

- Proportional-Integral-Differential (PID) plating control algorithm enhanced with shutter forecasting control.
- Programmable pitch for different size of pallets (max. size 175 x 125mm).
- Typical plate time per crystal is less than 3.0 seconds (totally 2 plating cycles), with typical frequency spread ± 1 ppm * ^{Note}.
- The system operation software is user friendly and menu driven.
- Touch panel is designed for production workers to operate easily.
- Filament control : Computer controlled real time high speed solid-state SSR.
- Dual pallets for high throughput.
- Simultaneous plating (Optional) increase throughput.
- High speed Turbo pump. (Optional : Cryo Pump, Diffusion Pump)
- UPS (Uninterruptable Power Supply) to protect the system from power failure.
- Optional for 49S Crystal Plating or SMD clock OSC



Kolinker Industrial Equipments Limited

Unit H-I, 22/F, Shield Industrial Centre, 84 - 92 Chai Wan Kok Street, Tsuen Wan, New Territories, Hong Kong.

Phone : (852) 2412 0121

Fax : (852) 2498 5908

E-mail : kolinker@kolinker.com

Home page : <http://www.kolinker.com>

Specifications

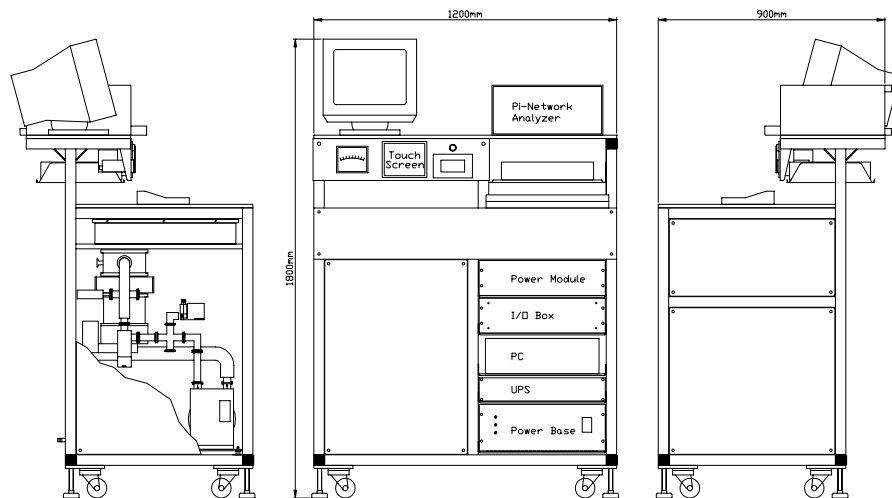
- Frequency range : KH1120 1-120MHz or
KH1240 1-240MHz or
Agilent E5100 1-180MHz or
Aglient E5100 1-300MHz
- Plating control algorithm : Real time digital PID control, with shutter forecast
- Filament control : Computer controlled real time high speed solid-state SSR
- Measurement : Kolinker KH1120/KH1240 PI-Network system or Agilent E5100A
- Pump down time * : Approx. 3 minute to $1 * 10^{-4}$
- Power requirement : 380V 3-phase, 50Hz Approx. 3 KVA
- Cooling water required : 2 Kg/cm² below 21°C Approx. 3 litre/min.
- Compressed air required : 5 Kg/cm²
- Pumping System : Rotary Pump - 200 Litre/min, Turbo pump**
- Gross weight : approx. 500Kg
- Dimensions (DxWxH) : approx. 900 x 1200 x 1800 mm (not include the light pole)

* When the chamber is clean, empty, at room temperature, and with sufficient water cooling.

** Diffusion pump or Cryo Pump is available on customer's request.

Options

- Dual card simultaneous plating (for KH1120/KH1240 only)
- Up-grade KH6801 options for SMD Clock OSC.
- Dry pump (only suitable for turbo pump or cryo pump configurations)



Note : 1) Measurements were taken immediately after a crystal was plated inside the vacuum system. The measurement data show the actual plating accuracy of the system without influencing by crystal stabilities (e.g. temperature characteristics, effect on crystal under normal atmosphere, etc.)

2) Typical >90%±1ppm

Specifications are subject to change without prior notice.



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