JUKI®

LOWEST COST OF OWNERSHIP

I-TRONIK

# GL PLUS

## The power of continuous improvement

# GL PLUS

## Advanced Performance, Enhanced Value

### Adjustable Stencil X Frame Mechanism

By using joystick like handles, X Frame size can be adjusted to suit stencil size of 480 x 500 mm to 737 x 737 mm without using any stencil adapter. Stencil can be easily slotted into the frame mechanism and clamped firmly by 8 plungers (4 on each side).

### Arch Shape Squeegee Beam

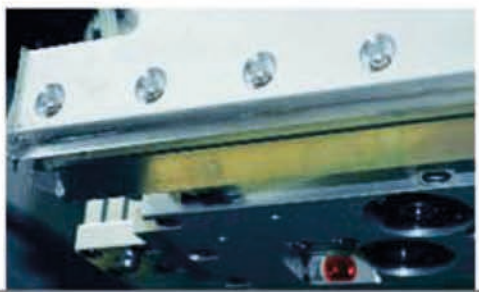
The arch shaped Squeegee Beam is made by solidly casted high intensity steel material. It provides rigidity and durability to the entire squeegee assembly for stable and balanced squeegee movement.

### Automatic Stencil Wiper System

Two way automatic wet/dry/vacuum stencil wiper allows user to select any combination of cleaning mode. A new designed wetting unit guarantees economical use of cleaning fluid.

### FAC (Flexible Automatic Clamping) System

It is a combination of retractable top clamp and motor controlled side clamp uniquely designed by GKG (Patented). With this standard feature, majority of today's available and challenging substrates can be securely clamped and printed with best result from the very first board.



### Paste Roll Height Monitoring System

A laser sensor is mounted on the back of the squeegee head and measures the solder paste bead diameter during the printing stroke. If solder bead diameter is below a threshold due to lack of paste the operator gets a warning or the optional automatic paste dispenser is triggered.

### Single Stage Conveyor with U-Shape Belt

Automatic conveyor width adjustment, software control flow direction (L>R, R>L, L>L, R>R) and the highly durable Anti-Static U-shaped belt are standard features. Conveyor belt is driven by stepper motor with a precision controlled PCB soft stop position.

Swappable Monitor Position

## APC (Automatic Pressure Check) System

During start up or whenever there is a change of product, both front and rear squeegees will automatically do a pressure check by a tactile sensor to ensure that the optimum squeegee pressure is adopted.

## Easy Access Swing Cabinet

All electrical parts such as servo motor drivers, power supply boards etc. are mounted neatly on a swing cabinet at the rear side of the machine for easy accessibility.

## Stencil Inspection System

Together with the internal lighting unit the built-in camera can detect clogged stencial apertures. A cleaning cycle can be automatically triggered to remove dirt before a possible misprint appears.

## External Temperature Control Unit (Option)

This unit maintains constant temperature inside the printer to ensure optimal processing of solder paste.

## Swappable Monitor Position

Monitor and keyboard can be mounted on eaither left or right side of the machine to suit the line configuration of customer's SMT lines.

## SPM (Stencil Position Memory) System

To set mechanical stop for the Y position when loading the stencil. Stencil position is saved with each file. This feature tremendously reduces product changeover time.

## User Friendly Software

An easy to use software enables operators to create programs quickly.

## Vision and Optics System

The simultaneously Look Up/Look Down optical camera system adopted uniform ring light and high brightness coaxial light, equipped with adjustable brightness control can handle all kinds of fiducial marks with high resolution and precision.

## 2D Paste Inspection Function

The 2D paste inspection function can be used to inspect solder paste deposition at critical location such as micro BGA or QFP immediately after printing to ensure print quality.

## Auto Paste Replenishment System (Option)

Solder paste from can (500 g) or cartridge (6 or 12 oz) can be dispensed automatically to prevent misprints caused by lack of paste on the stencil.

# Specifications

## Performance

| | |
|---|---|
| Process Alignment Capability | 2 Cpk@ ± 25 microns 6 sigma |
| Machine Alignment Capability | 2 Cpk@ ± 12.5 microns 6 sigma |
| Core Cycle Time | < 8.5 secs (Excluding printing & cleaning) |
| Product Changover time | 2 min |
| New Product Set up time | 10 min |

## Board Handling

| | |
|---|---|
| Maximum Size (L x W) | 510 mm x 510 mm |
| Minimum Size (L x W) | 50 mm x 50 mm |
| Thickness | 0.4 mm to 6 mm |
| PCB Thickness Adjustment | Auto leveling |
| PCB Support Methods | Magnetic pins, support blocks, vacuum |
| PCB Clamping Methods | Retractable top clamp & motor controlled side clamp |
| PCB Max. Weight | 5 Kg |
| PCB Edge Clearance | 3 mm |
| PCB Bottom Clearance | 23 mm |
| PCB Warpage | Max. 1% diagonally |
| Conveyor Direction | L > R, R>L, R>R, L> L (Software controlled) |
| Conveyor Height | 900 ± 40 mm |
| Conveyor Speed | Max. 1500 mm/sec |
| Conveyor Width Adjustment | Auto |

## Printing Parameters

| | |
|---|---|
| Stencil Frame Size (L x W) | Adjustable, 480 mm x 500 mm to 737 mm x 737 mm |
| Print Head | Arc shaped beam with 2 independent double linear guide motorized heads |
| Print Mode | Single / Double (Software select) |
| Printing Table Adjustment Range | X: ± 10 mm; Y: 10 mm; 0: ± 2° |
| Squeegee Type | Metal: 280 mm, 350 mm, 520 mm (Std.), other size opt. |
| Squeegee Presure | 0 ~ 10 Kg (Programmable) come with APC (Std.) |
| Squeegee Speed | 10 ~ 200 mm/sec |
| Squeegee Angle | Std. 60°, Option 45°, 50°, 55° |
| Cleaning System | Auto wet/dry/vacuum combination (User edit) |

## Optical System

| | |
|---|---|
| Vision Method | Single camera simultaneously Look Up/Look Down |
| Field of View (FOV) | 8 mm x 6 mm |
| Fiducial Type | Circle, triangle, square, diamond, cross |
| Fiducial Size | 0.5 ~ 4.0 mm |
| 2D Inspection | 50 to 100 windows to inspect missing, insuffcient (Std.) |

## Operator Interface

| | |
|---|---|
| Hardware | LCD Monitor, Mouse & Keyboard (Swappable left or right position) |
| Operating System (OS) | Windows 7 or higher |
| Control Method | Industrial PC controlled |
| I/O interface | SMEMA standard |

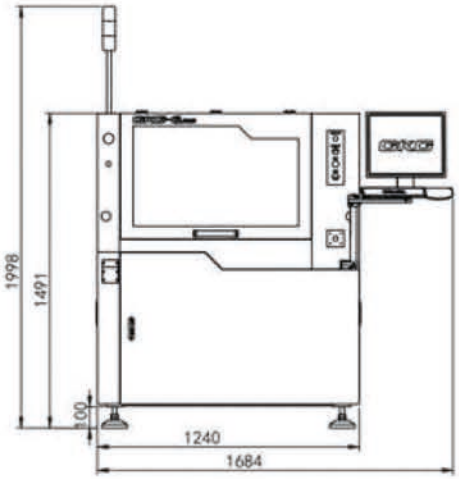
## Facilities Requirement

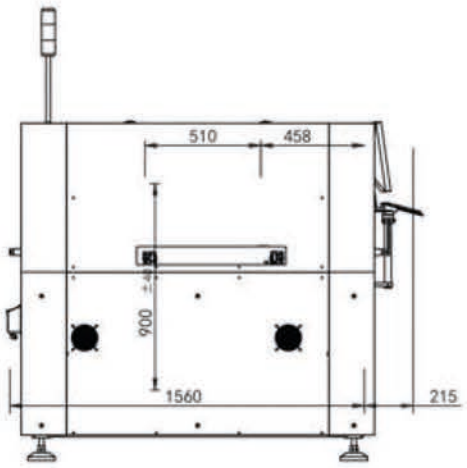
| | |
|---|---|
| Power Supply | AC220V ± 10%, 50/60 Hz, single phase |
| Air Supply | 4 ~ 6 Kg/cm² |
| Power Consumption | 3 KW |
| Dimension (Exclude signal lamp) | 1240 (W) x 1560 (D) x 1491 (H) mm |
| Machine Weight | Approximately 1200 Kg |

## Options

Auto paste replenishment system, external temperature control unit, metal squeegees assembly with user specified length and angles, rubber squeegee and pressurized air connection for stencil frames.

## Dimensions

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JUKI CORPORATION HEAD OFFICE

An environmental management system to promote and conduct the following:
(1) Eco-friendly development of products and technologies
(2) Green procurement and green purchasing
(3) Energy conservation (reduction in carbon-dioxide emissions)
(4) Resource saving (reduction of papers purchased, etc.)
(5) Reduction and recycling of waste
in the activities of research, development, design, sales, distribution, and maintenance services of industrial sewing machines and industrial robots, etc., including sales and maintenance services of data entry systems.


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