

# Solar Cell



**RH SOLUTIONS LLC**

Bringing Print to Life

**AT-PS56**  
Automatic Electrode  
Screen Printer

**AT-PA56**  
Appearance  
Inspection Machine

**AT-PM56**  
Magazine Automatic  
Buffer Feeder



**ATMALINE PV56**

## Solar Cell Screen Printing Line

Dedicated design for electrode printing Silicon wafer (mono & multicrystalline) for Solar Cell industry.

Corresponding to thinner wafer (200  $\mu$  m or below), adopts digital equalizing air pressure to control printing and parallel transportation mechanism, lowering breakage rate.

**AT-PM56**

Magazine Automatic  
Buffer Feeder

**AT-PO56**

Automatic Panel  
Curing Oven

**AT-PP56**

Pattern Inspection Machine

**AT-PS56**

Automatic Electrode  
Screen Printer



**Low** Breakage Rate

**Slight** Pressure Printing



# Solar Cell Screen Printing Line

**AT-PB56**

Automatic Buffer

**AT-PA56**

Appearance  
Inspection Machine

**AT-PF56**

Automatic Flipper

**AT-PM56**

Magazine Automatic  
Buffer Feeder



## The Solar Cell Screen Printing Line Including :

Model	Item	Application
<b>AT-PM56</b>	Magazine Automatic Buffer Feeder	Feeding wafer and buffer
<b>AT-PA56</b>	Appearance Inspection Machine	Examining breakage and micro crack
<b>AT-PS56</b>	Automatic Electrode Screen Printer	Ag/Al/AgAl paste electrode printing
<b>AT-PP56</b>	Pattern Inspection Machine	Examining breakage, micro crack and disconnection
<b>AT-PO56</b>	Automatic Panel Curing Oven	Curing the printed paste on wafer surface
<b>AT-PB56</b>	Automatic Buffer	Temporary storage the printed wafer
<b>AT-PF56</b>	Automatic Flipper	Processing to flip the wafer

(We reserve the specifications modification right to upgrade the product performance.)

## CCD Center Registering Green Energy Wafer Screen Printer

### ATMASC 25PP

- Composed of registering & printing section, shuttle table for convenient loading to increase throughput.
- Special design frame holder for quick screen positioning, no need professional skill
- Easy to adjust the squeegee angle/depth/level/printing pressure
- Slight cone shaped registration pin + suction pop-up pin for easy manual loading the wafer to prevent breakage
- Printing section is covered by clean booth for the best combination of safety, exterior appearance and work environment.
- Equipped CCD vision system for high precise registration
- HMI system for various function, digital control and automatic error diagnosis

Spec.	
Max print area("/mm)	5"(125x125) \ 6"(156x156)
Frame Size(mm)	350x350 \ 500x500
Dim.(mm)	840x1300x1900 (WxDxH)
Weight(kg)	500

*High precise registration*  
Special designed for R&D processing



## Green Energy Wafer Screen Printer

### AT - 25PSC

- Cantilever concept with the upgraded digital control
- Motor driven printing / screen uplift, leaded by Linear Guide Rail for stable quiet smooth movement, digital setting printing stroke / speed.
- Easy to adjust the squeegee angle/depth/level/printing pressure
- Slight cone shaped registration pin + suction pop-up pin for easy manual loading the wafer to prevent breakage
- HMI system for various function, digital control and automatic error diagnosis

Spec.	
Max print area("/mm)	5"(125x125) \ 6"(156x156)
Frame Size(mm)	350x350 \ 500x500
Dim.(mm)	735x680x1600 (WxDxH)
Weight(kg)	185

Semi-automatic processing to print on wafer



SCREEN PRINTER

# Solar Cell Screen Printing Production Flow Chart Line

## AT-PP56

Pattern Inspection Machine

## AT-PS56

Automatic Electrode  
Screen Printer

## AT-PB56

Automatic Buffer

## AT-PA56

Appearance  
Inspection Machine

## AT-PF56

Automatic Flipper

## AT-PO56

Automatic Panel  
Curing Oven



### Automatic Electrode Screen Printer

## AT - PS56

#### Uplift Structure

- Use German STAR Ballscrew and Japanese VR Guide Rail to work with Mitsubishi servo motor.

#### Stencil Structure

- Single screen frame size, use the combination of the link flange and frame, locked by pneumatic pins for fast stencil replacement.
- Stencil displacement system : use German STAR Ballscrew and Guide Rail to work with servo motor driven to achieve high accurate registration.

#### Table Structure

- Embedded CCD camera lens and LED light source module in table to pick up image for automatic registration.
- Adopt vacuum pump to hold wafer on table top

#### Printing Structure

- Printing / flood coater are driven by servo motor with Linear Guide Rail leading, digital preset speed and stroke to keep extreme stable speed movement.
- Linear Guide Rail is supported and protected by new type strong rigid Aluminum extrusion profile, precise machining the mounting surface for high accurate assembly and calibration.

### Appearance Inspection Machine

## AT - PA56

- Used to examine wafer breakage, micro crack and disconnection. Enables automatic to reject defective product, lowering labor cost to achieve purpose of fully automatic operation.
- Adopt Japanese CCD camera, video card, high resolution lens and LED back light source.

### Automatic Panel Curing Oven

## AT - PO56

- High efficiency IR emitter heating.
- Three sections PID digital control temperature to work with SCR rectifier for precise control temperature.
- Use high quality Stainless Steel conveyor belt

### Magazine Automatic Buffer Feeder

## AT - PM56

- Best exchanger system up to 8 wafer cassette
- Use robot arm for parallel transportation wafer to control fast and accurate positioning
- Prevention of cassette failure placement and alarm function to assure cassette at correct position before start running.

### Automatic Buffer

## AT - PB56

# Professional Design / Excellent Manufacture / Expert Consulting

## AT-PP56

Automatic Electrode  
Screen Printer

## AT-PS56

Automatic Electrode  
Screen Printer

## AT-PB56

Automatic Buffer

## AT-PA56

Appearance  
Inspection Machine

## AT-PO56

Automatic Panel  
Curing Oven



## Illustration of Processing Control and Safety System

### Control System

- Use German IPC and programming module, colored touch-screen, preset various operational function and parameters to achieve high quality digitalized control.
- 100 groups of memory module, each group can be named and numbered for quick saving / retrieving, easy for the standardized management of each different processing.
- Screen cleaning function to protect operator safety. When cleaning the screen, press this function key on touch-screen priority, all manual or mono mode can not be operated.

### Safety System

- Complete line is covered by clean booth for the best combination of safety, exterior appearance and work environment.
- Equipped interlock system, while the door is opened to stop running temporary and warned by sound and light to secure operator safety.
- Equipped Emergency Stop Switch and Alarm light for instant safety process.



SILVER NATIONAL  
AWARD OF EXCELLENCE  
WINNER



SYMBOL OF EXCELLENCE  
WINNER



NATIONAL  
INNOVATION  
RESEARCH AWARD



NATIONAL AWARD OF SME  
(Small and Medium Enterprises)



ISO 9001 ISO 14001  
CERTIFIED



NATIONAL  
LITTLE GIANT AWARD  
WINNER





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