

Solar Cell Production Line

(Multi and Mono Crystalline Solar Cell)

Manufacturer: RENA/MANZ/ BACCINI/KOYO/ SHIMADZU

Manufacturing year: 2008

Throughput(Cell/h): 1400cells/hour

Multi:52MW(Net:48MW, 92%operation rate)

Mono: 54MW(Net: 50MW,) 92%operation rate

(Equipment list)

Intex loader

Intex

Intex unloader

Doping transfer

Doping furnace A

Doping furnace B

PG etcher

PECVD A

PECVD B

Screen printer A

Screen printer B

Screen printer C

Screen printer D

Dryer A

Dryer B

Dryer C

Firing furnace

Laser

Cell tester & Sorter

(Intex loader)

Manufacturer:MANZ

Manufacturing year:2008

Model:ITL3000(speedpicker3000)

Type: inline

Capacity: 3000/hr , 380V, 5A(7A)

Size: 3366*3225*2957(3,790Kg)

Main component:conveyor system /linear actuator in combination with rotaty axis acrbon-arm bernoulli gripper/ vision system

(Intex)

Manufacturer: RENA

Manufacturing year: 2008

Inline texture etching machine

Type: inline

Capacity: 1500/hr, 380V, 98A

Size: 9696*1900*2965mm(9100Kg)

Main component: chiler

(Intex unloader)

Manufacturer: SFA

Manufacturing year: 2008

Type: batch

Capacity: 1700/hr, 220V/12KVA

Size: 3600*1950*2060mm

(Doping transfer)

Manufacturer: SFA

Manufacturing year: 2008

Type: batch

Capacity: 1700wafer/hr ,380V

Size: 2341*2000*2540mm

Wafer loading/ unloading (boat<=>carrier)

(Doping furnace A/B)

Manufacturer:KOYO(Japan)

Manufacturing year: 2008

Type: batch

Size: 8400*2100*2900mm

POCl₃ doping diffusion(Multi/Mono)

Main component: wet scrubber down transformer

Throughput: 1920wafers/hour (2 units, 5&6inch), 380V, 100A(200A)

Batch type(300wafer/boat) 4 tube/unit

Fully automated process

Facility supply: POCl₃,O₂,N₂, CDA

(PSG Etcher)

Manufacturer: RENA(German make)

Installation date: 2008

Model: PG-ETCH 200

Task: Inline Etching(PSG removal)(Multi/Mono)

Component: LD-SDR-Cleaning-Dry-UNLD

Throughput: 1700wafers/hour(6inch)

Inline type

Fully automated process

Facility supply: HF, HCl, DIW

Size: 8790mm x2150mm x2530mm

(PECVD A/B)

2units

Manufacturer: SHIMADZU(Japan)

Manufacturing year:2008

Model: SLPC-71H5DR

Type: inline

Task: anti reflection coating(Multi/Mono)

Main component: LD-heating-Deposition- Cooling-UNLD/

Pump stand/bun wet scrubber/He gas detector/SiH4 gas cabinet/

NH3 gas cabinet

Throughput:1800wafers/h

5chamber, 48wafer/cart(6inch) 70wafer/cart(5inch)

Direct plasma (250 KHz)

Fully automated process

Facility supply: SiH4,NH3,CDA,N2,He

Size: 16.8m x 3.0m x1.8m

(DRYER A/B/C)

3units

Manufacturer: BACCINI

Manufacturing year:2008

Dryer oven

Type: inline

Capacity: 1400/hr, 380V

(Screen Printer)

4units

Manufacturer: BACCINI(Italy)

Installation date:2008

Task: Screen printing

Main component: LD-Back Ag print-dry-Back Al print-Dry-Front Ag print-Front Ag print-UNLD

Throughput: 1400wafers/hour(5&6inch)

Type:inline

Optical alignment

Fully automated process

Double printing system

Facility supply: Ag, Al paste, CDA, Power

Size: 18.5m x2.5m x2.0m

Main component: buffer unit/ flip over/high resolution print inspection/

automatic paste dispenser

(Firing Furnace)

Manufacturer: Despatch(USA)

Manufacturing year: 2008

Model: CDF-7210

Task: Dry&Firing(Multi/Mono)

LD-Dry-burn out-Firing- Cooling-UNLD

Throughput: 1700wafers/hour(5&6inch)

Main component: Mesh belt conveyor system/dry zone & firing zone/ condenser

Ultrasonic cleaning system

1rows

Type:inline

Facility supply: N2, CDA, Power

Size: 7366*1270*1650mm

(Laser)

Manufacturer: BACCINI

Manufacturing year: 2008

Model: POWER LINE D-100

Type: inline

Capacity: 1440/hr, 380V, 19A

Task: Laser edge isolation

Main component: LD-Laser

(Cell tester & Sorter)

Manufacturer: BACCINI

Manufacturing year: 2008

Model: PSS10

Type: INLINE

Throughput:1440wafers/hours(5&6inch)

Main component: tester basic module(classification logic, database, conveyor)/

Berger I/V measurement/

color vision system / front & real side inspection/48bin sorter

Facility supply: Chiller, CDA, Power

Size:10m x 1.6m x2m