

PHOTOVOLTAIC METALLIZATION LINE

Compact & fully
integrated in-line
solution

High accuracy

Belt-to-belt
technology

DUBUIT 338

100Mw/year
3600 Wafers/hour

machines
DUBUIT

LINE 338

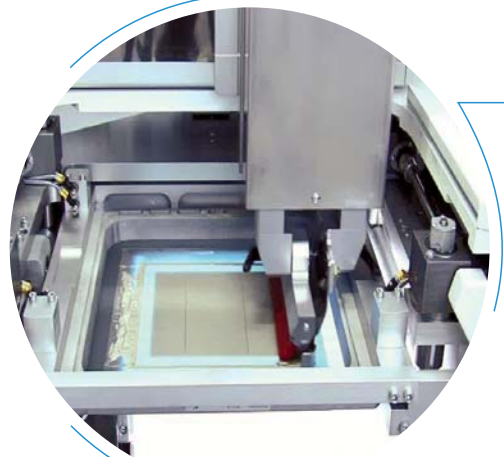
The machine 338 is a double production line developed to print 3600 wafers/h. Each printing module is fitted with two independent printing heads:

- one printing head per lane
- one wafer per screen

This solution combined to our know how ensures the highest standard of printing quality. Reliability, ergonomics, automation and control of many functions, allow the line to be operated by a very limited number of operators.

RELIABILITY

- Zero cell breakage due to the belt-to-belt technology. No pick and place.
- Stress-less wafer transport.
- Fast and smooth handling.
- Exclusive Siemens Controller and other worldwide well-known suppliers.



PRINTING QUALITY

- Double squeegee control mode: in position for fast approach, in pressure while printing.
- Continuous squeegee pressure onto the substrate independently of thickness variation.
- Self-adjustable squeegee.
- Digital vertical squeegee motion.
- Low printing speed at high output.
- Independent settings for squeegee and flood bar.
- Peel off device of the screens.
- Automatic adjustment of the screen level to ensure an accurate snap off.
- Wafer integrity inspection by camera before printing
- Paper cleanliness control by camera. Automatic paper regeneration.

HIGH OUTPUT

- Movements anticipations, thanks to numerical technology.
- Several operations are performed simultaneously during printing cycle.
- Numerical motion control to reach the throughput of 3600 wafers/h at low squeegee speed.

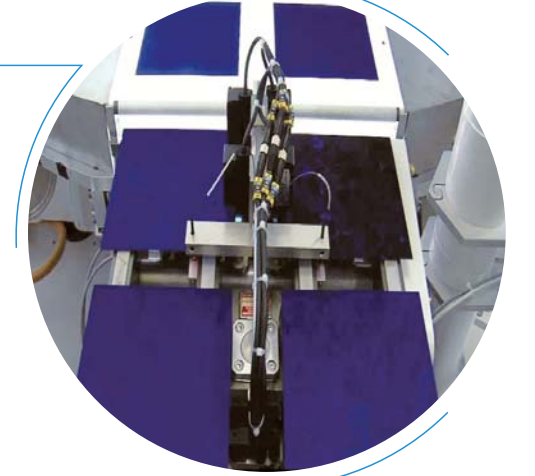


ACCURACY

- Optical system for perfect positioning of each wafer under the printing head.
 - Cell to cell screen positioning for optimum print quality.
 - Automatic adjustment of the screen x, y, θ positions for each printing. Guaranty of a perfect printing positioning.
- Each printing station is servo-driven (100% digital technology).

MAINTENANCE

- Each part (oven belt, conveyor belt, paper roll...) directly linked to the wafer can be manually changed without tool.
 - Components standardisation reducing spare parts number.
 - Remote maintenance.
 - No hard disc (flash memory).
 - Easy worldwide available parts.



REDUCED TIME OF CHANGE OF PRODUCTION

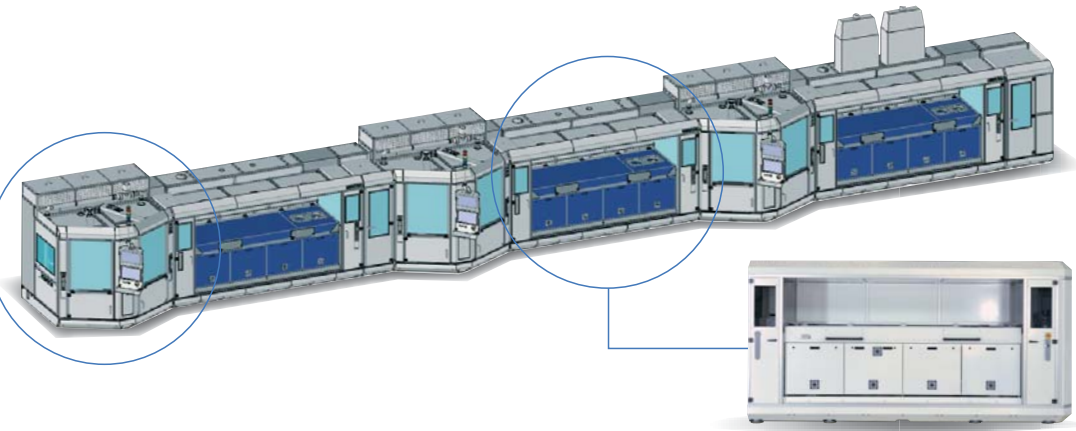
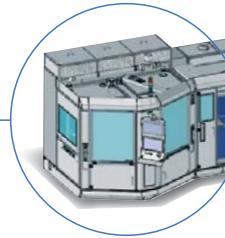
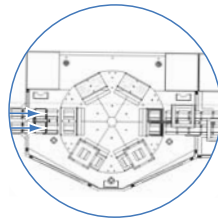
- Intuitive interface.
- Memorization of all production parameters.
- Each printing head is fitted with a friendly interface.
 - Big paper rolls. Replacement: about once a week.
- Screens, squeegees, flood bars and paper rolls changed without hand tool (SMED).
 - After a screen change, 2 cameras position the screen according to fiducials.
 - Less than 2 mn for screen, squeegee, flood bar or paper rolls change over.
 - Screen replacement: automatic positioning x, y, θ
- Ergonomics: Good access to the screen, squeegee and strategic part of the line.

LINE PERFORMANCE

- Capacity: ~ 100 Mw/year
- Throughput: 3600 wafers/h
- Substrate dimension: 156 mm
- Substrate thickness: Min. 120µm

SECURITY

- Versatile safety ASI SAFE Network.



AVAILABLE OPTION

- MES
- Interfacing according SECS/GEM PV2 standard
- Quality control vision system integration
- Integration of oxidizer (for aluminium)
- Automatic dispenser for paste
- Printing module air-cooling
- Wafer integrity detection by camera after printing

OTHERS DATA

- Buffer: 200 wafers capacity (per lane and per module)
- Flip over: by wheel
- Weight: ~ 21000 kg
- Dimensions (L x W x H): ~20 x 2,2 x 2,3 m
- Depending on layout configuration
- Line available in left to right or right to left

INTERMEDIARY DRYER MODULE

- Compact design (~ 4,4 m)
- Compatible for silver and aluminium
- Temperature monitoring at the end of the heating and cooling zones
- Several adjustable heating zones per dryer
- Fast belt and IR lamps change over

FULL RANGE

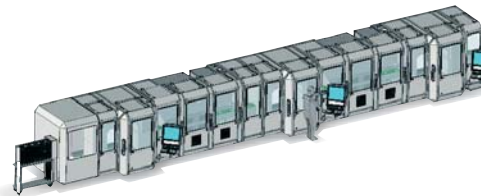
METALLIZATION LINE TYPE 138

- Capacity: ~ 30 MW/year
- Throughput: 1200 wafers/h
- Substrate dimension: 156 mm
- Dimensions of the line: 13 m (depending on layout configuration)
- Weight : ~10000 kg (depending the customer line configuration)



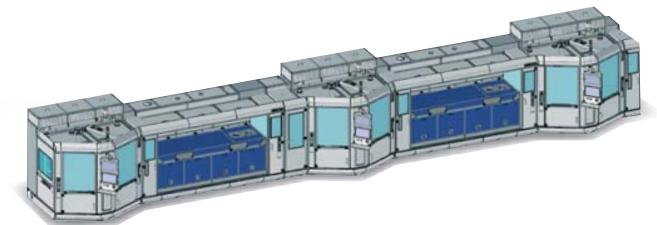
METALLIZATION LINE TYPE 238

- Capacity: ~ 60MW/year
- Throughput: 2000 wafers/h
- Substrate dimension: 156 mm
- Dimensions of the line: 15 m (depending on layout configuration)
- Weight : ~ 14000 kg (depending the customer line configuration)



METALLIZATION LINE TYPE 338

- Capacity: ~ 100 MW/year
- Throughput: 3600 wafers/h
- Substrate dimension: 156 mm
- Dimensions of the line: 20 m (depending on layout configuration)
- Weight : ~ 21000 kg (depending the customer line configuration)



EASY INTEGRATION with quality vision control system, Firing Oven and Automatic Cell tester-Sorter

SINCE 1932 specialized in the design and manufacturing of direct screen printing machines on objects
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Above specifications are just informative and can change without notice.