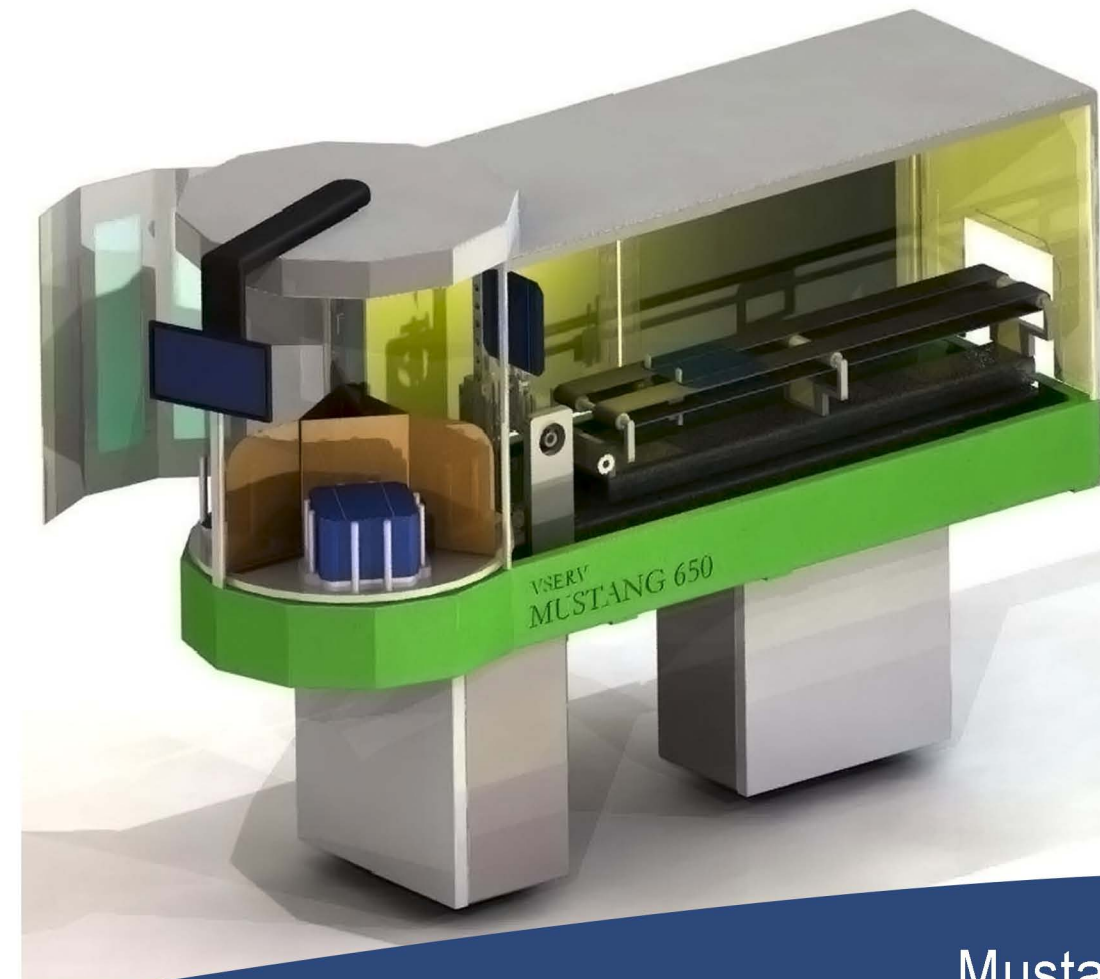




VserV Technologies
Serving Global Engineering



**Enabling the next generation in
Solar Production Equipment**

Meeting the equipment demand for the global solar energy production is a daunting task. We at VserV Technologies Corp specialize in building "State of the Art" Solar production systems to address the critical equipment needs of the expanding Solar energy industry

**Mustang 650
Tabber Stringer**



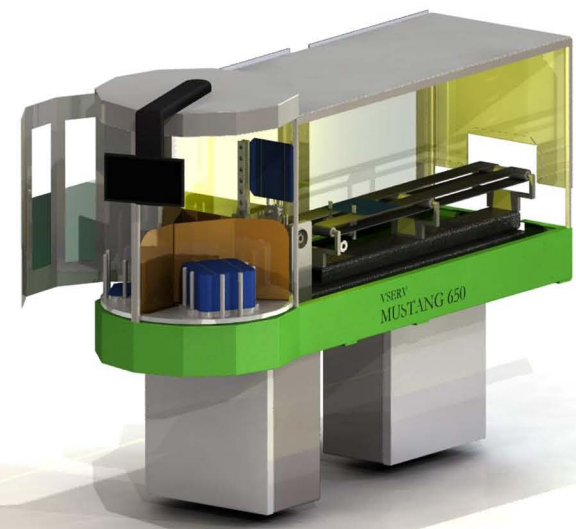
VserV Technologies

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www.vservtech.com



Equipment technologies at work for you

BUILDING THE NEXT GENERATION IN SOLAR PRODUCTION EQUIPMENT TECHNOLOGY



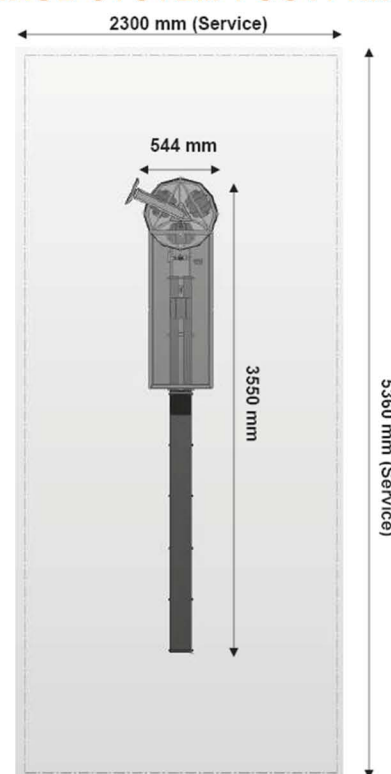
The VserV Mustang 650™ Tabber Stringer is a “low cost” high throughput solution for the manufacture of mono and multi-crystalline silicon solar cells. The mustang 650 uses “patent pending” cross tabbing and parallel processing of solar cells to generate uniform cell strings at very high speed. Using proven “non contact soldering” methods the Mustang 650 is the fastest & most versatile tabbing and stringing system available in the market today.

The tool utilizes non contact methodologies for handling thin solar cells < 160µM in thickness. The system uses closed loop controls to ensure variable cell placement, conveying accuracy and repeatability. Cells are tabbed using a non contact soldering method by inducing an electromagnetic field which generates heat proportional to the required soldering temperature. Using the “non contact soldering methodology” cell breakage is virtually eliminated thus increasing overall system yield and throughput.

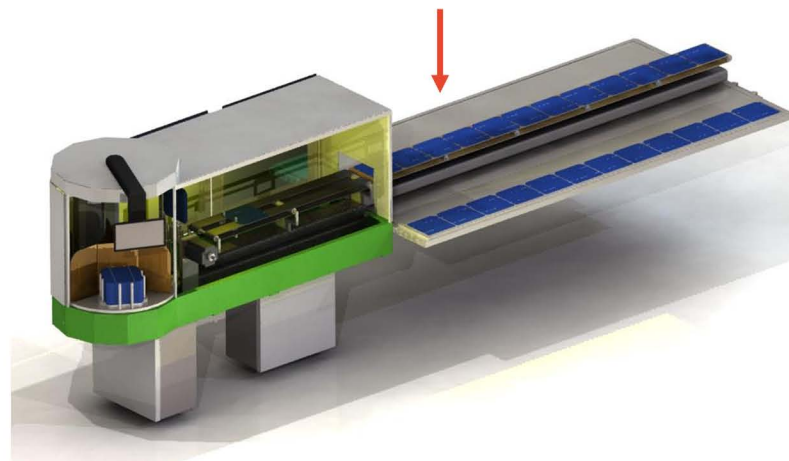
EQUIPMENT PORTFOLIO

- TABBER & STRINGERS
- LAMINATORS
- CELL SORTERS
- CUSTOM ROBOTIC MANIPULATORS
- PLASMA VACUUM SYSTEMS
- INTEGRATED PANEL LAYUP
- PANEL CONVEYOR SYSTEMS

BASE SYSTEM FOOTPRINT



(OPTIONAL INTEGRATED LAYUP CAPABILITY)



MUSTANG 650 BENEFITS

The mustang 650 with its modular & state of the art mechanical design will do 650 cells per hour with the capability of increasing the throughput when needed. By doubling the system configuration greater than 1300 cells per hour can be easily achieved. The system takes minimum floor space with easily accessible service space for ease of maintenance. A rotating man machine interface allows easy operator access to the system software with user friendly graphical user interface. Gentle cell handling techniques allow the Mustang 650 to process the thinnest solar cells available in the market. The Mustang 650 uses an spray fluxing method that accurately applies the correct amount of flux to the front or back of the ribbon for superior soldering results. Ribbon straightness and tension is controlled by holding both ends of the ribbon. With this capability soft crooked ribbons can be handled with precise alignment accuracy.

INTEGRATED LAYUP

Unique to the mustang 650 is the option of integrating a semi automated flat bed string lay-up system which can be easily retrofitted to an existing system to minimize stringed cell breakage and ensures higher yield and improved system performance with reliable ease of operation

TECHNICAL SPECIFICATIONS

CELL HANDLING

100– 210 MM Square and Pseudo Square (Standard)

Multi/Mono Crystalline Cells

INTERCONNECT RIBBONS

2-3 (Depending upon application)

RIBBON SPACING

50 MM (Minimum)

125 MM (Maximum)

CELL SPACING (Cell Size Dependent)

2.0 mm (Minimum)

50 mm (Maximum)

CELL STRINGING

6 Cells (Minimum)

12 Cells (Maximum)

Note: Cell stringing for > 12 cells is available upon request

CELL THICKNESS

< 160 µM

ELECTRICAL CONNECTION

3 Phase 208—480 V (50-60 Hz)

COMPRESSED AIR REQUIREMENT

80 PSI (Facility)

VACCUM REQUIREMENT

14.4 in HG (Facility)

WEIGHT

< 1100 Kilograms



STANDARD FEATURES

- Cell Optical Inspection system
- String offloading capability on standard cell trays
- Integrated Layup (Optional)
- Cell loading rotary shuttle with reject bins for bad cells
- Automated rotary pick & place with integrated mechanical alignment
- Flux spraying nozzles
- Non Contact soldering system



SERVICE & SUPPORT

VserV offers complete system training and after sales service & support

- Tier 1 System Startup
- Spare parts management and delivery
- Local Service and Support through channel partners
- Yearly System Maintenance contracts
- Software upgrades and support

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