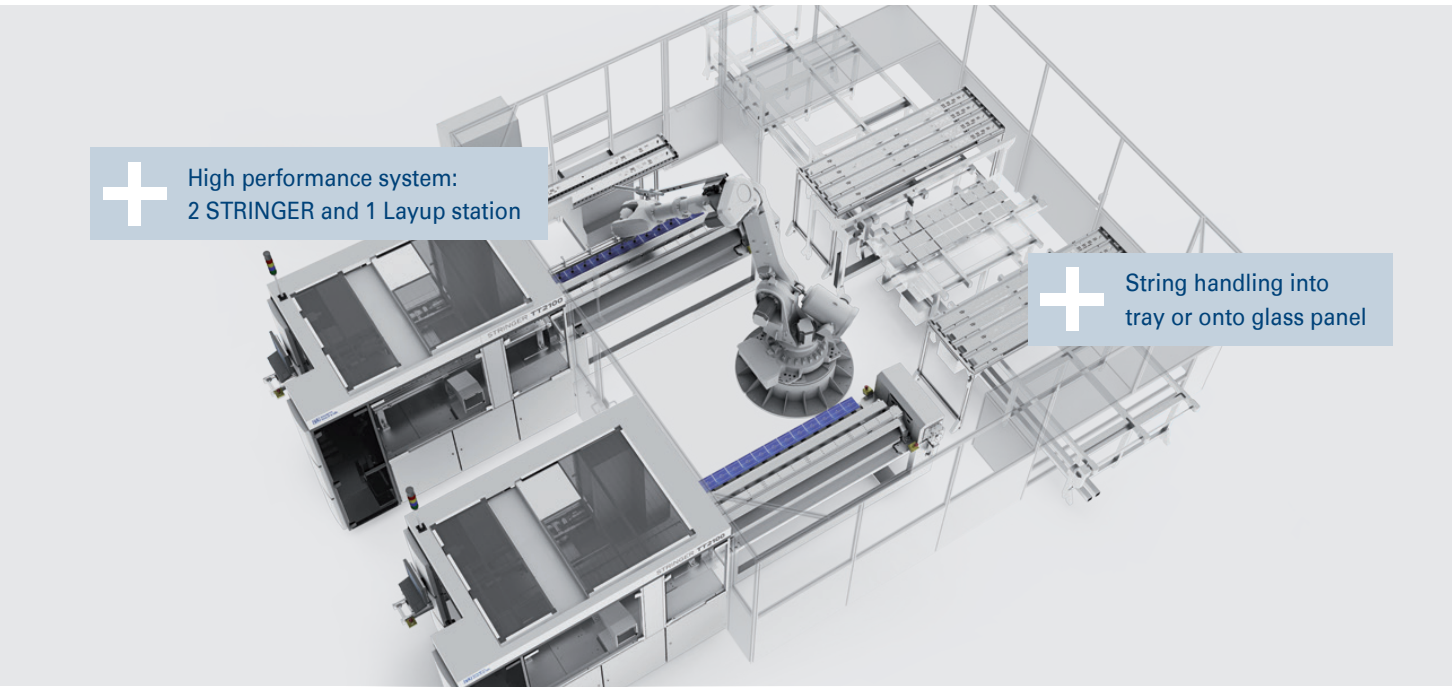
INTELLIGENT PRODUCTION TECHNOLOGY

130 MW SYSTEM

High performance system with only one 6-axis robot



The flexible complete system consists of two STRINGER TT2100 single-track and a Layup station. The system is equipped with optimized automation and proven technology and processes. The integrated 6-axis robot allows the system to be adapted quickly to different applications or cell and glass sizes.

Layup station

- One 6-axis robot for 1 or 2 STRINGER TT2100
- Vacuum gripper for string handling
- Positioning station for glass panel
- Safety guarding
- Control cabinet and operating panel

Features and options

- Buffer trays
- Rejected strings sorted into buffer trays, standard: 2 trays
- Optional buffer trays can be provided
- Infeeding of repaired strings via trays
- Additional infeed and outfeed conveyors for glass panels as an option
- Adapted Ribbon Length System: Production of strings with defined and varied ribbon length of first and last cell (depending on string position in the module layup)

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Technical Data 130 MW System (2x STRINGER TT2100 + Layup)

Soldering technology	IR light	
Cell technology, types	mono-/poly-crystalline, front & back side contacted, all commercially available types	
Cell alignment	optical alignment via camera & robot for busbar or edge positioning	
Cell inspection	vision system (camera), detection of accuracy for cracks, broken edges and scratches: 0.5 x 0.5 mm, grid-completeness check	
Suitable for lead-free (Pb) ribbons	yes	
Number of interconnection ribbons	3 - 4 - 5 - 6 (as option)	
Range of solar cells	156 x 156 mm - 156,75 x 156,75 mm (6") as standard; half cells, changeover parts required	
Busbar spacing	26 - 52 mm; 26, 31.2, 39, 52 mm as standard, other dimensions require changeover parts	
Cell spacing (varies with cell size)	2.0 - 8.0 mm as standard	
Cell positioning accuracy	± 0.2 mm	
Max. length of strings	max. 2,000 mm, accuracy in length ± 1 mm	
Throughput (4.5 W per cell, 22.5 h, 300/330/355 days p.a.)	max. 4,200 cycles/h; 3,818 cells/h for a 10 cell-string including cell fluxing, 110/120/130 MWp p.a.	
Cycle time per module	56.5 sec. (6 strings with 10 cells each) 66.7 sec. (6 strings with 12 cells each)	
Technical availability	> 95 % (VDI 3423)	
Noise level	max. 75 dB(A)	
Flux application method for cells	cells fluxed with adjustable, metered micro spray; top and bottom side	
Cell thickness processing capability	160 - 250 µm, 180 µm as standard	
Breakage rate	on cell thicknesses down to 180 µm < 0.3 % (varies according to cell quality)	
Ribbon sizes	width > 0.6 mm, different sizes may require changeover parts	
Ribbon positioning accuracy	± 0.2 mm	
Changeover time from e.g. 3 to 4 bb, 3 to 5 bb	approx. 2 hours	
Operator interface (HMI)	color touch screen with German/English/Chinese and other language options	
Unloading system (Layup)	automatic with 6-axis robot	
Positioning accuracy, string on matrix	± 0.8 mm standard	
Module size	max. 2,000 x 1,050 mm; min. 1,500 x 750 mm	
	STRINGER (per Stringer)	Layup
Electrical power requirement	22 kVA	30 kVA
Average power consumption (p. hour)	13.3 kWh	9 kWh
Compressed air	600 kPa (6 bar)	600 kPa (6 bar)
Compressed air consumption (at 1 bar)	400 l / min	250 l / min
130 MW System dimensions	9.1 m x 6.0 m x 3.0 m	

Trust the world market leader!

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