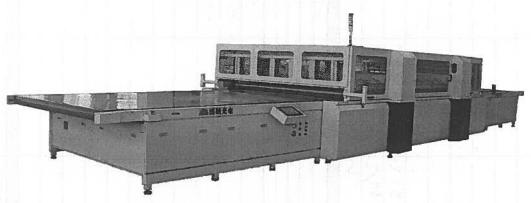


### Qinhuangdao Boostsolar Photovoltaic Equipment Co.,Ltd

### BSL2236OAC-III Automatic Solar Module Laminator

#### **Technical Parameters**



| Main Parameters                      | Power Supply:                        | AC380V±10% 3Phases, 5Lines 50HZ                          |
|--------------------------------------|--------------------------------------|--|
|                                      | Total Power:                         | 75KW   |
|                                      | Working Power:                       | 45KW   |
|                                      | Lamination Size:                     | 2200mm×3600mm  |
|                                      | Lamination Chamber Height:           | 30mm   |
|                                      | Lamination Pressure:                 | 0Mpa∼0.1Mpa (Adjustable)                                 |
|                                      | Temperature Control Precision:       | ±1℃  |
|                                      | Temperature Uniformity:              | Less than ±1.5℃  |
|                                      | Controllable Working Temperature:    | 30℃-180℃   |
|                                      | Vacuum Pump Speed:                   | 70 L/S   |
|                                      | Working Vacuum Degree:               | Less than 100Pa (Less than 2min)                         |
|                                      | Equipment Weight:                    | 18T  |
|                                      | Dimensions:                          | 12250mm×3410mm×1830mm                                    |
| 172                                  | Air Supply Pressure:                 | 0.6Mpa~0.8Mpa  |
|                                      | Transmit Weight Capacity:            | More than 300Kg  |
|                                      | Working Noise:                       | Less than 70dbA  |
|                                      | Configuration: Loading Conveyor + L  | amination + Unloading Conveyor+ Heating System           |
|                                      | Power Control: Frequency             | y Converter + Reducer Motor                              |
| ဂ္ဂ                                  | Conveyor Belt: Full Size I           | Rubber Tape  |
| onfic                                | Drive Roller: High strer             | ngth design + Surface Teflon processing                  |
| Co<br>Co                             | Transmit positioning: Encoder        | + PLC + Sensor   |
| tion                                 | Loading automatically: Loading M     | Modules step by step. Stepping distance can be adjusted. |
| Configuration of Loading<br>Conveyor | Status Display: Indicator            | light shows normal/fault state                           |
|                                      | Manual Operation: Inching B          | utton  |
|                                      | Loading Position can be aligned auto | matically.   |
| <u>a</u> a a                         |                                      | owered   |
| n O<br>ating                         | Upper Cover Safety Locking: Mecl     | hanical safety lock catch                                |

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|                                | Safety Protection: Safety Cover + Raster Protection+ Audible Alarm + Security                 |
|--------------------------------|---|
|                                | Membrane Sheet: High-Temperature resistant & long life membrane sheet                         |
|                                | Membrane Sheet Installation: Quick fastener+ Bolts Tensioning                                 |
|                                | Transmit Power: Frequency Converter + Reducer Motor   |
|                                | Transmit Positioning: Encoder + PLC + Sensor  |
|                                | Transmission Chain: Roller Chain  |
|                                | Chain Guide Rail: Nylon Guide Rail  |
|                                | Transport Sheet: Teflon Sheet   |
|                                | Transport Sheet Cleaning: Dynamic brush roller  |
|                                | Release Sheet: Same as Transport Sheet and synchronize with it                                |
|                                | Release Sheet Cleaning: Dynamic brush roller  |
|                                | Vacuum Valve: Pneumatic cover plate valves  |
|                                | Vacuum Measurement: Pirani vacuum gage  |
|                                | Upper Chamber Negative Pressure Measurement: KEYENCE digital readout negative pressure gauge. |
|                                | Lower Chamber Negative Pressure Measurement: KEYENCE digital readout negative pressure gauge  |
|                                | Compressed Air Pressure Measurement: KEYENCE digital readout negative pressure gauge.         |
|                                | Inflating Speed: Fast, medium and slow speed is optional                                      |
|                                | Laminating Process: Laminating Repeatedly   |
|                                | Power Failure Emergency System: Manual emergency aerate of upper & lower vacuum chamber       |
|                                | +manual open cover valve of upper cover   |
|                                | Transportation System: Stainless steel power roller +rubber ring                              |
| Con                            | Power Control: Frequency Converter + Reducer Motor  |
| figu<br>Loa<br>Conv            | Transmission Speed Measurement: Encoder + PLC + Sensor  |
| Configuration Loading Conveyor | Cooling System: Cooling fan array (Equipped with speed control switch)                        |
| on o                           | Status Display: Indicator light shows normal/fault state.                                     |
|                                | Manual Operation: Inching button  |
|                                | Module Protection: Prevent collision sensor and drop sensor on unloading Conveyor.            |
| _                              | Heating Method: Heat transfer oil recirculation heating                                       |
| Conf                           |   |
| Heating System onfiguration    | Oil Pump: RY65-40-200   |
| ng<br>Patic                    | Overheating Protection: Software protection+ Hardware forced power failure                    |
| ă                              | Oil Pressure Protection: High/Low Pressure Forced Power Failure Protection                    |
|                                | Heater Monitor: Current Sensor + PLC Intelligent judging                                      |
|                                | Vacuum Pump: 2x-70  |
| Vacuum System Configuration    | Vacuum Valve: Pneumatic cover plate valves  |
| Vacuum<br>System<br>onfigurati | Vacuum suction pipe counter-attack: Automatic air evacuation valve                            |
| ratic em                       | Vacuum Measurement: Pirani vacuum gauge   |
| ĭ                              | Negative pressure measurements: KEYENCE digital readout negative pressure gauge               |
|                                | Vacuum Control Valve: SMC (two-position five-way valve)                                       |
|                                | Controller: SIEMENZ S7-200 226 controller   |
| ) 3 (                          | Networking Technology: PROFIBUS-DP + TCP/IP   |
|                                | INCLWOINING TECHNOLOGY. FROFIDUS-DF T TOPIE   |

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|                             | Computer    | interface:               | PWS6A00T  |
|-----------------------------|-------------|--------------------------|---|
|                             | Temperat    | ure Control:             | PLC+PID temperature control   |
|                             | Vacuum o    | control:                 | PLC + Japan SMC solenoid valve + Pneumatic baffle valve                                       |
|                             | Inflating C | Control:                 | Computer Interface Pressure Setting + Japan SMC Solenoid Valve                                |
|                             | Main Pow    | er Supply Control:       | Mechanical Breaker can be lock  |
|                             | Backup F    | ower:                    | Laminator can provide backup power to realize emergency oper<br>cover and air charge function |
|                             | Interrupt I | ockout Device of Mai     | n Power Supply Breaker  |
| Safety System Configuration | Many em     | ergency stop buttons     |   |
|                             | Oil heater  | overheating alarm &      | outage  |
|                             | Oil heater  | high & low voltage ala   | arm & outage  |
|                             | Vacuum c    | hamber air leakage ju    | dgment alarm  |
|                             | Upper Co    | over mechanical loc      | king to prevent falling   |
|                             | Safety Lig  | ht Curtain protection    |   |
|                             | Gas circu   | it cutoff protection whe | en power supply interrupt   |
| atio                        | Motor ove   | er-current protection    |   |
| 5                           | Heater ov   | er-current protection    |   |
|                             | Loading p   | osition sensor protecti  | ion   |
|                             | Gas circu   | it cutoff protection whe | en power supply interrupt   |
|                             | PLC:        |                          | Siemens   |
|                             | Temperat    | ure Control Module:      | Siemens   |
|                             | Analog In   | put Module:              | Siemens   |
|                             | Communi     | cation Module:           | Siemens   |
|                             | Mini type   | Disconnecting Relay:     | Idec  |
| ≾                           | Low-volta   | ge Apparatus:            | Schneider   |
| in (                        | Button sw   | ritch:                   | Fuji  |
| Con                         | Transduc    | er:                      | Omron   |
| Main Componen               | High Vacu   | ıum Gauge:               | Inficon-Pilot Vacuum Gauge  |
| nent                        | Negative    | Pressure Gauge:          | Keyence   |
| its                         | Air Comp    | ressed Sensor:           | Keyence   |
|                             | Pneumati    | c Valve:                 | SMC   |
|                             | Cylinder:   | 33 50                    | Airtac  |
|                             | Electric M  | otor:                    | Shengbang   |
|                             | Sensor:     |                          | Dubuque   |
|                             | Main pow    | er switch:               | Schneider   |
|                             | Compress    | sed air ducts:           | Airtac  |
| _                           | ailite :    | Power Supply:            | AC380V±10% 3 phase5 line 50HZ/60HZ  |
| Facility<br>Requirements    |             | Air pressure pump:       | 1Mpa Pressure + gasholder   |
|                             |             |                          | for Vacuum Pump: 1 Cubic Meter Volume +1 circulating pump                                     |

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