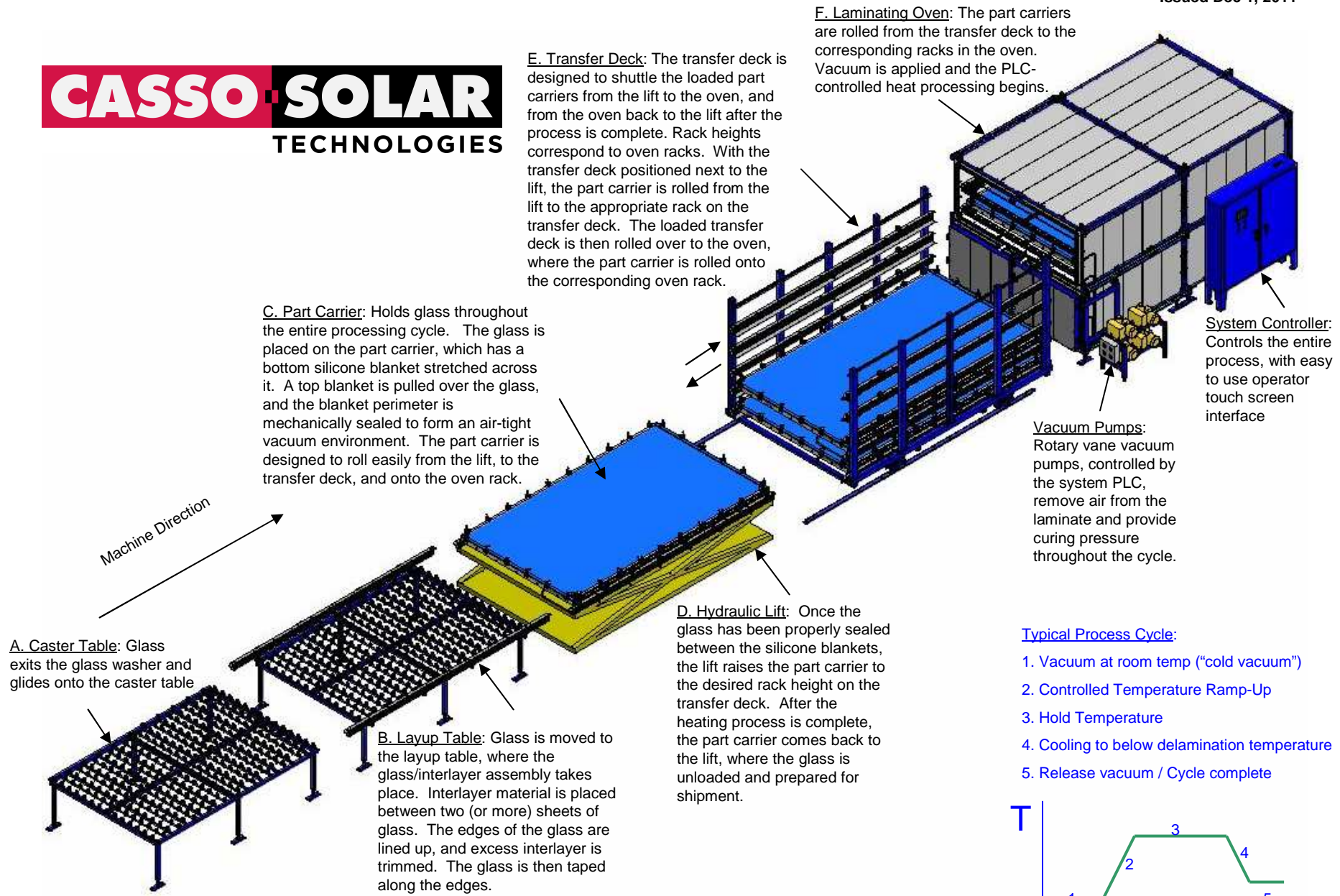


THE CASSO-SOLAR BATCH LAMINATING PROCESS

Product Bulletin G110
Issued Dec 1, 2011



E. Transfer Deck: The transfer deck is designed to shuttle the loaded part carriers from the lift to the oven, and from the oven back to the lift after the process is complete. Rack heights correspond to oven racks. With the transfer deck positioned next to the lift, the part carrier is rolled from the lift to the appropriate rack on the transfer deck. The loaded transfer deck is then rolled over to the oven, where the part carrier is rolled onto the corresponding oven rack.

C. Part Carrier: Holds glass throughout the entire processing cycle. The glass is placed on the part carrier, which has a bottom silicone blanket stretched across it. A top blanket is pulled over the glass, and the blanket perimeter is mechanically sealed to form an air-tight vacuum environment. The part carrier is designed to roll easily from the lift, to the transfer deck, and onto the oven rack.

D. Hydraulic Lift: Once the glass has been properly sealed between the silicone blankets, the lift raises the part carrier to the desired rack height on the transfer deck. After the heating process is complete, the part carrier comes back to the lift, where the glass is unloaded and prepared for shipment.

F. Laminating Oven: The part carriers are rolled from the transfer deck to the corresponding racks in the oven. Vacuum is applied and the PLC-controlled heat processing begins.

Vacuum Pumps: Rotary vane vacuum pumps, controlled by the system PLC, remove air from the laminate and provide curing pressure throughout the cycle.

System Controller: Controls the entire process, with easy to use operator touch screen interface

Typical Process Cycle:

1. Vacuum at room temp ("cold vacuum")
2. Controlled Temperature Ramp-Up
3. Hold Temperature
4. Cooling to below delamination temperature
5. Release vacuum / Cycle complete

