

GLASS PROCESS SYSTEMS

- ◆ Spandrel Systems G101
- ◆ Glass Bending Systems
 - Single Station Bender G102
 - Shuttle Bender G102
 - (4) Cart Bender G102
 - Auto Windshields
 - Aircraft Windshields
 - Furniture Glass
- ◆ Flat Glass Laminating Systems G104
 - Windows
 - Safety/Security Glass
 - Bullet Resistant Glass
- ◆ Decorating Large Format Glass G105
- ◆ Novel Designs for Glass Laminating G106
- ◆ Pointers for Setting Up a Continuous Glass Laminating Line G107
- ◆ Batch Laminating G109
 - No Autoclave



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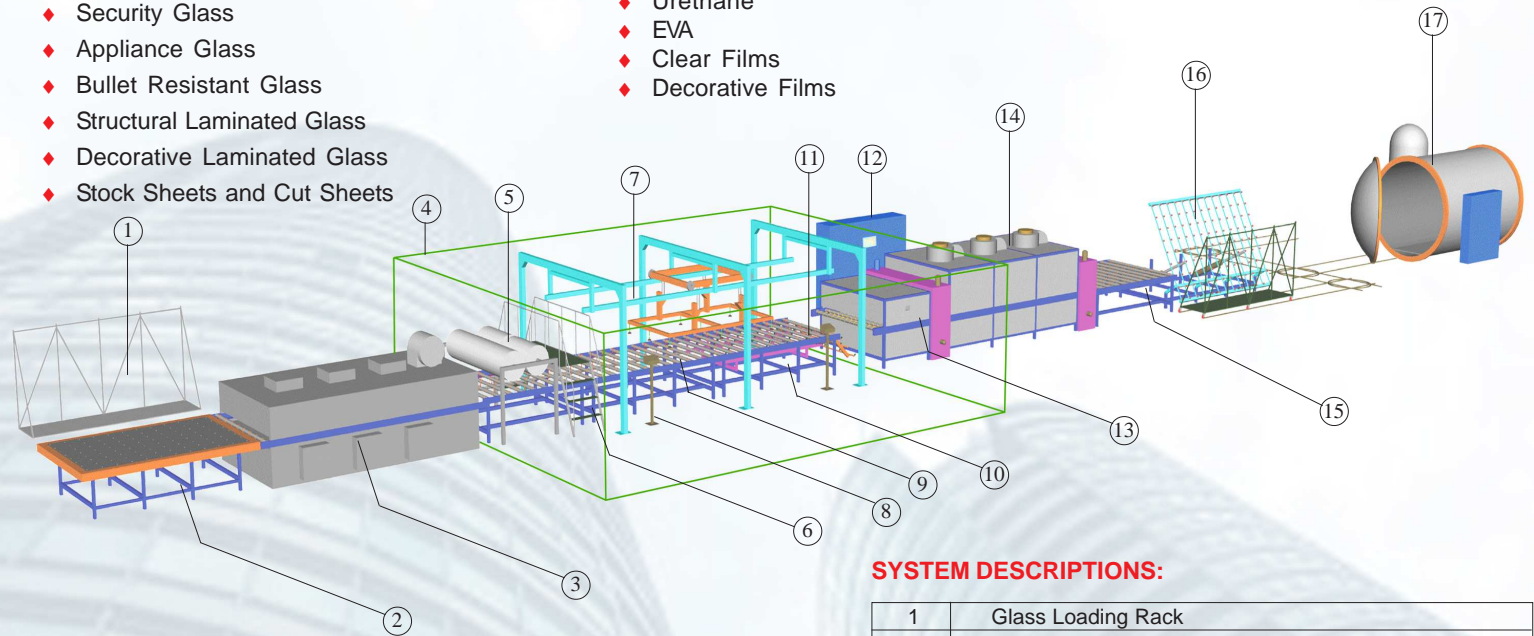
FULL CONVECTION - AUTOCLAVE & NON-AUTOCLAVE

TYPICAL APPLICATIONS:

- ◆ Standard Laminated Window Glass
- ◆ Hurricane Rated Window Glass
- ◆ Photovoltaic
- ◆ Security Glass
- ◆ Appliance Glass
- ◆ Bullet Resistant Glass
- ◆ Structural Laminated Glass
- ◆ Decorative Laminated Glass
- ◆ Stock Sheets and Cut Sheets

LAMINATE MATERIALS:

- ◆ Glass - 2mm-19mm, Standard and Coated
- ◆ PVB - .015" - .150"
- ◆ Rigid Materials such as DuPont's Sentry Glass
- ◆ Polycarbonate
- ◆ Urethane
- ◆ EVA
- ◆ Clear Films
- ◆ Decorative Films



ADVANTAGES:

- ◆ Process Coated & Uncoated Glass
- ◆ Autoclave and Non-Autoclave
- ◆ USA Spare Parts and Technical Support
- ◆ Customers Plant Electrical/Mechanical Specifications Incorporated
- ◆ Minimum Floor Space Requirement
- ◆ Lowest Power Usage
- ◆ Minimum Maintenance
- ◆ Over 50 Systems Installed
- ◆ Over Five Decades of Experience in the Glass Industry

SYSTEM DESCRIPTIONS:

1	Glass Loading Rack
2	Free Fall, Tilt Table or Automatic Loader
3	Washer
4	Assembly Room
5	PVB Storage & Unwind
6	Bridge
7	Overhead Vacuum Lift
8	Assembly Room Operator's Stations
9	Layout Conveyor with Popup Table & Registration Lugs
10	Trim Conveyor with Popup Table
11	Pneumatic Bridge
12	Control Panel with PLC System
13	IR Preheat Oven & Press
14	IR/Convection Tack Oven with Press
15	Acceleration Conveyor
16	Manual Unload, Tilt Table or AUTOMATIC Stacker
17	Autoclave

SEE REVERSE SIDE FOR DETAILED SPECIFICATIONS

- BASE MODELS:** ♦ All Base Models Utilize Casso-Solar Technologies Tubular Quartz Unitube™ Heaters with Internal Reflector
- AUTOCLAVE** ♦ All Units Available at 200/220/240; 380/400/415; 440/460/480; 575/600 volts, 50 or 60 Hertz
- ♦ Base Laminate: 3 mm Glass + .030" PVB + 3 mm Glass



Specs	Model #	LGM - 48	LGM - 60	LGM - 72	LGM - 84	LGM - 96	LGM - 108	LGM - 120
Glass Size		48"W x 84"L	60"W x 96"L	72"W x 144"L	84"W x 144"L	96"W x 144"L	108"W x 144"L	120"W x 144"L
Conveyor Speed		2 - 15 FPM	2 - 15 FPM	2 - 15 FPM	2 - 15 FPM	2 - 15 FPM	2 - 15 FPM	2 - 15 FPM
30 FPM High Production System		Optional	Optional	Optional	Optional	Optional	Optional	Optional
Load Table		Optional	Optional	Optional	Optional	Optional	Optional	Optional
Washer		Optional	Optional	Optional	Optional	Optional	Optional	Optional
Layup Sections		1	1	1	1	1	1	1
Layup Section Dimensions		48"W x 108"L	48"W x 120"L	60"W x 168"L	60"W x 168"L	72"W x 168"L	84"W x 168"L	96"W x 168"L
Trim Sections		1	1	1	1	1	1	1
Trim Section Dimensions		48"W x 108"L	48"W x 120"L	60"W x 168"L	60"W x 168"L	72"W x 168"L	84"W x 168"L	96"W x 168"L
Layup & Trim Lanes		1	1	1	1	1	1	1
Popup Table In Trim		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overhead Lift Assist		No	No	No	No	Yes	Yes	Yes
Registration Equipment		Optional	Optional	Optional	Optional	Optional	Optional	Optional
PVB Storage/Unwind		Optional	Optional	Optional	Optional	Optional	Optional	Optional
Preheat Oven		1	1	1	1	1	1	1
Preheat Press		1	1	1	1	1	1	1
Tacking Ovens		3	3	3	3	3	3	3
Tacking Press		1	1	1	1	1	1	1
Tacking Optical Pyrometer		1	1	1	1	1	1	1
Unload Conveyor		108"L	108"L	156"L	156"L	156"L	156"L	156"L
PLC Control		Optional	Optional	Optional	Included	Included	Included	Included
Machine Prewire		Optional	Optional	Optional	Included	Included	Included	Included
All Other Options		Available	Available	Available	Available	Available	Available	Available

SYSTEM FEATURES AND OPTIONS - Casso-Solar Technologies will custom configure a system to meet your exact process requirements:

Load Section Options:

- ♦ Free Fall Table
- ♦ Tilt Load
- ♦ Overhead Loader Lift to Fixed Table
- ♦ Side Loader to Fixed Table

Washer Options:

- ♦ Standard Washer
- ♦ Coated Glass Washer

Assembly Area Options:

- ♦ Layup & Trim Conveyors with Drop Down Sides for Access to Center of Conveyor
- ♦ Cut Resistant Conveyor Donuts
- ♦ Bridge Conveyors for Access to Both Sides of the Line
- ♦ Compact Drive System
- ♦ Overhead Lift System for Heavy Glass
- ♦ Manual or Automatic Allignment and Registration System
- ♦ Automatic Pairing System
- ♦ PVB Storage/Unwind System
- ♦ Dual Line Operation for Window Glass
- ♦ AC Inverter Conveyor Motor Controls
- ♦ Automatic Conveyor Synchronization
- ♦ Glass & laminate thickness sensor

Oven Options:

- ♦ Electric IR Oven
- ♦ **Fast Response, Medium Wavelength, Maintenance Free**
- ♦ **Electric Heaters with Internal Reflectors**
- ♦ Independent Top and Bottom Control
- ♦ Cut-Off Zones to Maximize Efficiency
- ♦ Laminate Thickness Sensor for Automatic Setup
- ♦ **Chamber Venting to Eliminate Premature Edge Sealing**
- ♦ Kevlar Wrap Conveyor Rolls
- ♦ No Maintenance Graphite Conveyor Roll Bearings
- ♦ Fully Insulated Oven
- ♦ **Full Top Convection Heat** for Coated Glass
- ♦ Optical Pyrometers after Preheat and Tack Ovens to Measure Laminate Temperature

Laminating Press Options:

- ♦ **Oversized 17" Diameter Press Rolls**
- ♦ Non-Marking EPDM Roll Covering with Traction Pattern
- ♦ Recipe Control Press Gap and Pressure
- ♦ Automatic Press Gap Adjustment

Unload Options:

- ♦ Unload Conveyor with Unload Assist Rolls
- ♦ Tilt Unload Conveyor
- ♦ Overhead Vacuum Lift Unload System
- ♦ Automatic Stacker and Robotic Unload
- ♦ Multi-Directional Rolls

Autoclave:

- ♦ Single Vessel Design
- ♦ Dual Vessel Design

Controls:

- ♦ Full SCR Solid State Power Control
- ♦ Optical Pyrometer Monitors Part Temperature
- ♦ **PLC Operator Control with Recipe Storage/Recall/Automatic Setup**
- ♦ Operator's Interface in Assembly Room or on Main Control Panel
- ♦ Data Logging and Process Reporting/Documentation
- ♦ NEMA 12 Enclosures
- ♦ **Meets Underwriters Laboratories, CSA, CE, NFPA and NEC Codes**
- ♦ Complete Prewiring of Entire Machine