EPB-L™

AUTOMOTIVE EPB-L™

External Press Bending System for Windshields

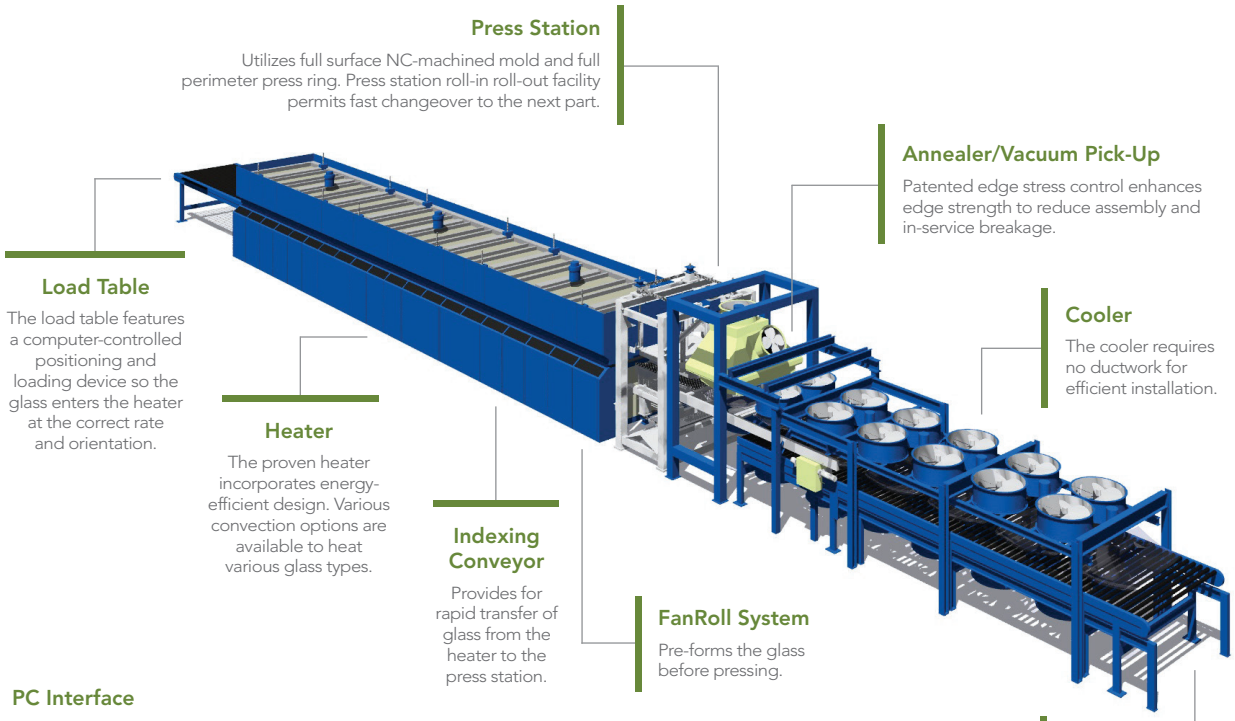
Glasstech's EPB-L system is an innovative, highly versatile glass bending system designed for producers of automotive windshields. The system satisfies the automotive OEM demand for tighter surface tolerances with superior optical quality, while also meeting the glass processor's need for greater productivity, economical tooling and energy conservation.

Designed as an expandable system, the production capabilities of Glasstech's EPB-L can easily meet specific production needs. In the highest throughput configuration, EPB-L achieves a cycle time of 9.5 seconds for glass monoliths. This enables the two parts required for a windshield to be produced every 19 seconds. EPB-L can be supplied initially as a lower capacity system. Thus, as production requirements grow, the system can be upgraded and expanded for greater throughput.

The Glasstech EPB-L system utilizes several new patented features to provide high capability and quality parts. For example, the final heating section is equipped with a FanRoll system that is used to pre-form the glass before it arrives in the pressing station. This provides an increase in forming capability. The EPB-L system also utilizes Glasstech's patented edge stress control technology, which increases edge strength while maintaining inner band tension. This feature helps reduce installation and in-service breakage.

Production Capabilities

- Bent and annealed windshields or backlites suitable for lamination
- Compound, complex-shaped and cylindrical parts
- Single forming tool-set ensures high statistical repeatability
- Total energy consumption is significantly lower than conventional bending systems because the system only heats glass, instead of glass and bending rings



AUTOMOTIVE EPB-L™ TECHNICAL FEATURES

Product Size and Forming Capability

	Size					Depth of Bend		Minimum Radius of Curvature	
	Glass Thickness	Minimum Glass Size Length x Width		Maximum Glass Size Length x Width					
	(mm)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
EPB-L with FanRoll System	1.6 – 2.6	890 x 500	35 x 20	1220 x 1828	48 x 72	165	6.5	380	15

Example System Configurations

	Heater Length		Glass Thickness			
			1.6mm	1.8mm	2.1mm	2.6mm
	(m)	(ft)	(sec)	(sec)	(sec)	(sec)
EPB-L Standard Capacity	21.0	68.9	9.5	10.3	11	12
EPB-L High Capacity	27.3	89.6	9.5	9.5	9.5	11

Floor Space Requirements

	Heater Length		A Total Length		B Total Width		C Total Height	
	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)
EPB-L Standard Capacity	21.0	68.9	43.2	141.8	19	62.2	7	23
EPB-L High Capacity	27.3	89.6	56.2	184.4	19	62.2	7	23

Installed Electric Power

	Heating	Annealing	Cooling	Drives	Total
	(kW)	(kW)	(kW)	(kW)	(kW)
EPB-L Standard Capacity	1900	30	72	60	2065
EPB-L High Capacity	2500	30	90	60	2683

Load Table Positioner

The standard positioner is a computer-controlled servo positioning system which ensures correct positioning and provides a means to position inner or outer glass.

Indexing Conveyor System

The final heating section is equipped with an indexing conveyor system which allows the glass to be rapidly transferred to the pressing station, thereby minimizing the heat loss and improving the optical quality of the part.

Press Station

The press station utilizes precision, NC-machined tooling that is maintained at a constant temperature ensuring consistent and repeatable product quality. The tooling is also designed with Quick Change features to reduce part changeover times. As an optional feature, the system can be equipped with a second press station that is located and prepared "offline."

Annealer/Vacuum Pick-Up

The patented edge stress control system provides for edge compression that is three times higher than traditional methods while maintaining traditional inner band tension.

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