

## Automotive CRBA™

### Cylindrical Radius Bender System

Glasstech's CRBA has been designed to meet customer requirements for cylindrical and asymmetrical shaped parts. It features high output, ease of operation and high productivity. Glass parts produced on this system are used primarily in the automotive industry, but there are also applications in the architectural market. Typical automotive applications are SUV, bus and train windows; and typical architectural applications include glass partitions and shower enclosures.

### The Glasstech CRBA System

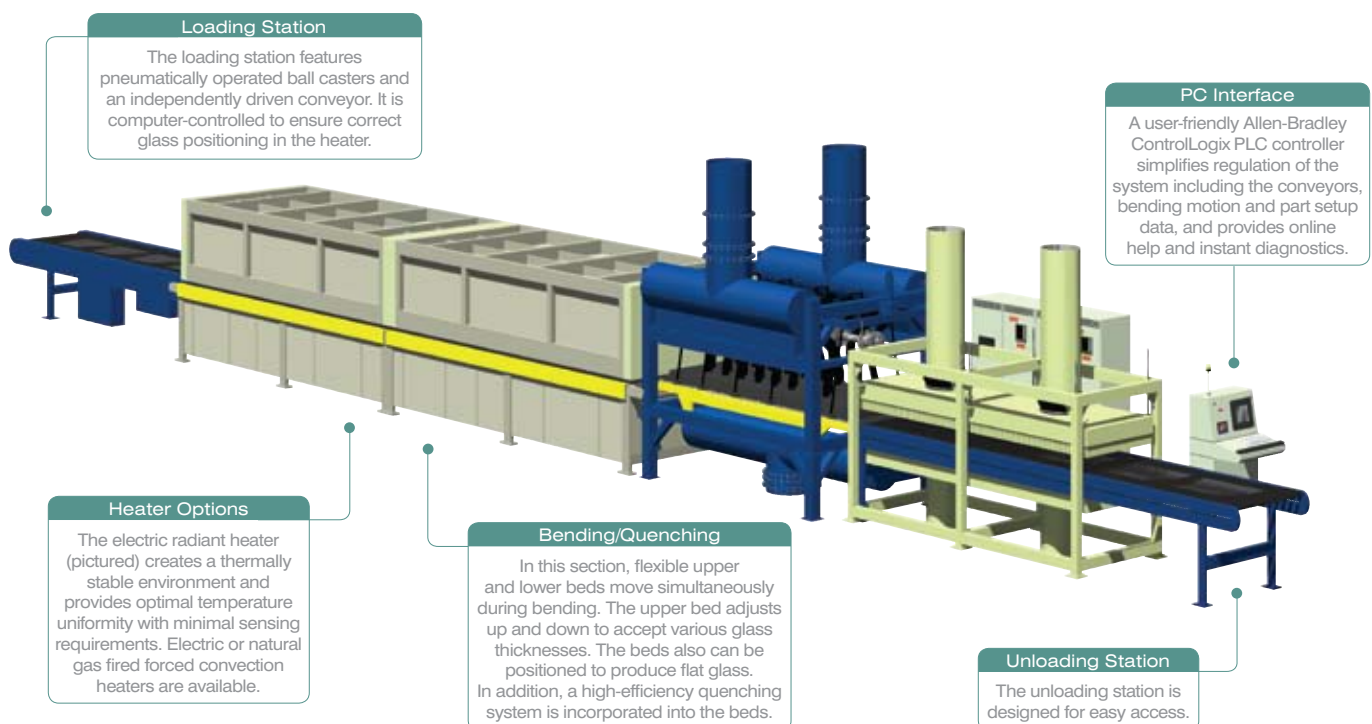
- Processes 3.0mm to 6.0mm (.118" to 1/4") thick glass parts
- Produces up to 80 loads per hour depending on glass thickness and load size
- Can change shapes in only a few minutes
- Forms glass without part-dedicated tooling
- Achieves superior quality optics
- Meets international fracture standards
- Produces high quality bent and flat tempered parts
- Can produce thin heat-strengthened parts for subsequent lamination

The CRBA system is 1500mm (59") wide and features a combination bending/quenching station with upper and lower flexible beds which allow the system to bend glass to a minimum radius of 1200mm (47"). When bending is complete, the glass is quenched by a high-efficiency quenching system incorporated into the flexible bed. This system can process parts up to 2.5m (8') long.

Glasstech's new double radii model is available to bend glass symmetrically or asymmetrically to a minimum radius of 1500mm (59") to create a range of shapes for use in cars, trucks, SUVs, buses, trains and boats.

Production is controlled by a user-friendly Allen-Bradley ControlLogix™ PLC controller. Setups can be stored and recalled, permitting changeover times in the range of a few minutes to 20 minutes dependent on glass thickness, shape and dimensions. No part-dedicated tooling is required.

Glasstech's modular design combines high productivity, flexibility and economy of operation.



# Automotive CRBA™ Technical Features

Glass thickness: Min. 3.0mm (+0.2mm, -0.0mm); Max. 6.0mm  
 Loading area: 1500mm x 2400mm (59" x 96")  
 Glass size and production rate based on typical size loads

Minimum glass size: 380mm (15") in the direction of travel

## Production Capability – Loads/Hour ECE R43

Glass Thickness		1000mm x 1500mm (40" x 59")	1500mm x 2000mm (59" x 79")	Max. Single Piece Size	
(mm)	(in)	Loads/Hour	Loads/Hour	(mm)	(in)
3.0	.118	80	52	685 x 1000	27 x 40
4.0	5/32	64	42	1500 x 2000	59 x 79
5.0	3/16	52	34	1500 x 2400	59 x 94
6.0	1/4	42	28	1500 x 2400	59 x 94

## Form Tolerances

Gauging technique to be mutually agreed upon as one of the following.

### Part Dimensions

< 1220mm x 1800mm (48" x 71") W x L

Perimeter off form

- Full-contact perimeter land gauge with maximum 8.0mm (5/16") ledge
- Nominal design +2.0mm, -0.0mm

Perimeter off form

- Full perimeter gauge with 3.0mm (.118") stand-off pins
- Nominal design ±1.0mm

### Part Dimensions

< 1500mm x 2400mm (59" x 94") W x L

Perimeter off form

- Full-contact perimeter land gauge with maximum 8.0mm (5/16") ledge
- Nominal design +3.0mm, -0.0mm

Perimeter off form

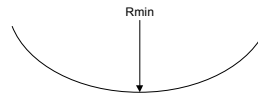
- Full perimeter gauge with 3.0mm (.118") stand-off pins
- Nominal design ±1.5mm

Perimeter rate of change

- Max. 1.0mm in 100mm (4")
- Max. for corners < 75° included angle: 1.25mm in 75mm (3")
- Max. for corners > 75° included angle: 1.25mm in 100mm (4")

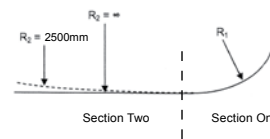
## Base System Shapes

### Constant Radius Cylindrical Contour



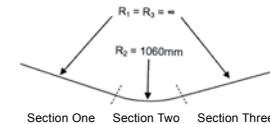
- 1220mm x 1800mm (48" x 71") W x L
- 1200mm (47") Min. single radius
  - Max. flat
- 1500mm x 2000mm (59" x 79") W x L
- 1300mm (51") Min. single radius
  - Max. flat
- 1500mm x 2400mm (59" x 96") W x L
- 2000mm (79") Min. single radius
  - Max. flat

### Dual Radii (J Bend) Cylindrical Contour



- 1430mm x 2000mm (56" x 79") W x L
- Section One
- 1500mm (59") Min. radius R<sub>1</sub>
  - Max. radius R<sub>1</sub> flat
  - 254mm (10") Min. arc length
  - 715mm (28") Max. arc length
- Section Two
- 2500mm (98") Min. radius R<sub>2</sub>
  - Max. radius R<sub>2</sub> flat
  - Arc length Section One ≤ arc length Section Two

### Triple Radii (V Bend) Cylindrical Contour



- 1430mm x 2000mm (56" x 79") W x L
- Sections One and Three
- Min. and max. radius R<sub>1</sub> flat
  - 150mm (6") Min. arc length
  - 655mm (26") Max. arc length
  - (Arc length Section One) – (arc length Section Two) ≤ 100mm (4")
- Section Two
- 1070mm (42") Min. radius R<sub>2</sub>
  - Max. radius R<sub>2</sub> flat
  - 120mm (4.7") Min. arc length
  - 240mm (9.5") Max. arc length

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