

CRB-S™

## SOLAR CRB-S™

### Cylindrical Radius Bender System for Solar Parabolic Shapes

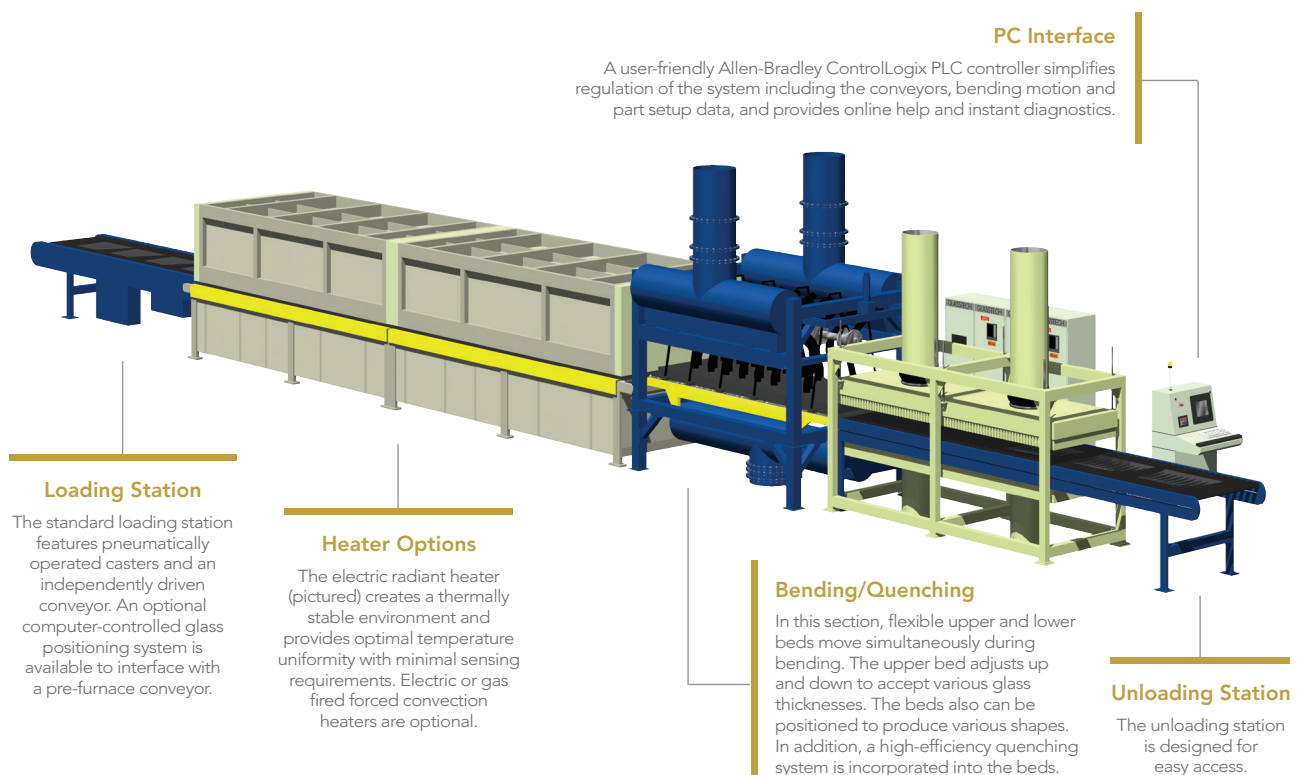
The CRB-S system has been specifically designed to meet customer requirements for high-output, ease of operation and high repeatability for forming flat glass into parabolic or cylindrical shapes with the advanced benefit of strengthening the parts. The glass shapes produced on the Glasstech CRB-S system can be heat strengthened or fully tempered, depending on the thickness. Fully tempered glass is up to five times stronger than annealed glass and provides increased impact and wind-load resistance, and if broken, results in small pieces which are much safer for workers and other components nearby.

- RP-2, RP-3, RP-4 and RP-5 (up to 2010mm wide) part size capability depending on system width
- Processes up to 189 loads per hour, depending on glass thickness, load size and heater length
- Uses much less energy than traditional sag process
- Allows fast changeover times
- Forms glass without dedicated tooling
- Achieves superior repeatability and shape control while strengthening the glass
- Processes fully tempered or heat-strengthened glass shapes

The Glasstech CRB-S system is available in widths of 1700mm (67"), 1900mm (75") and 2010mm (79") and features a combination bending/quenching station with upper and lower flexible beds. When bending is complete, the glass can be quenched by a high-efficiency quenching system to provide fully tempered or heat-strengthened glass. The CRB-S can also process thin glass suitable for lamination.

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

The Solar CRB-S offers maximum production flexibility in processing the broad range of shapes, sizes and thicknesses desired by the concentration solar-thermal power industry with the added advantage of glass strengthening.



## SOLAR CRB-S™ TECHNICAL FEATURES

### 1700 Series

Available Glass Sizes									
System Heater Width		Max. Widths		Max. Length		Min. Width		Min. Length	
(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
1828	72	1651	65	1700	67	380	15	380	15

Production Capability*				
Glass Thickness**		48' Oscillator Loads/Hr	72' Continuous Loads/Hr	108' Continuous Loads/Hr
(mm)	(in)	Part Length 1700mm	Part Length 1700mm	Part Length 1700mm
1.6	.063	105	150	189
2.2	.087	105	150	189
3.0	.118	96	150	189
4.0	.157	72	128	189
5.0	.197	58	102	156

Floor Space Requirements								
Heater System	Total Length		Total Width		Total Height		Blower Room	
	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)
48' Oscillator	31.7	104	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7
72' Continuous	44.5	146	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7
108' Continuous	61	200	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7

Installed Power					
Heater System	Heating	Quench Fan	Cooler Fan	Drives	Total
	(kW)	(kW)	(kW)	(kW)	(kW)
48' Oscillator	1870	373	100	30	2383
72' Continuous	2650	373	150	30	3203
108' Continuous	3275	373	250	30	3928

Shape†				
Parameter	Min.		Max.	
	(mm)	(in)	(mm)	(in)
Parabolic Shape Focal Length	1430	56	1870	73.6
Based on Arc Length	1500	59	1700	73

### 1900 Series

Available Glass Sizes									
System Heater Width		Max. Widths		Max. Length		Min. Width		Min. Length	
(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
2134	84	1900	75	1700	67	380	15	380	15

Production Capability*				
Glass Thickness**		48' Oscillator Loads/Hr	72' Continuous Loads/Hr	108' Continuous Loads/Hr
(mm)	(in)	Part Length 1700mm	Part Length 1700mm	Part Length 1700mm
1.6	.063	105	150	189
2.2	.087	105	150	189
3.0	.118	96	150	189
4.0	.157	72	128	189
5.0	.197	58	102	156

Floor Space Requirements								
Heater System	Total Length		Total Width		Total Height		Blower Room	
	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)
48' Oscillator	31.7	104	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7
72' Continuous	44.5	146	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7
108' Continuous	61	200	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7

Installed Power					
Heater System	Heating	Quench Fan	Cooler Fan	Drives	Total
	(kW)	(kW)	(kW)	(kW)	(kW)
48' Oscillator	1960	450	180	30	2620
72' Continuous	2940	450	225	30	3645
108' Continuous	3820	450	375	30	4675

Shape†				
Parameter	Min.		Max.	
	(mm)	(in)	(mm)	(in)
Parabolic Shape Focal Length	1430	56	1870	73.6
Based on Arc Length	1500	59	1900	75

### 2010 Series

Available Glass Sizes									
System Heater Width		Max. Widths		Max. Length		Min. Width		Min. Length	
(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
2134	84	2010	79	2030	80	380	15	380	15

Production Capability*				
Glass Thickness**		48' Oscillator Loads/Hr	72' Continuous Loads/Hr	108' Continuous Loads/Hr
(mm)	(in)	Part Length 1700mm	Part Length 1700mm	Part Length 1700mm
1.6	.063	105	150	189
2.2	.087	105	150	189
3.0	.118	96	150	189
4.0	.157	72	128	189
5.0	.197	58	102	156

Floor Space Requirements								
Heater System	Total Length		Total Width		Total Height		Blower Room	
	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)
48' Oscillator	31.7	104	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7
72' Continuous	44.5	146	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7
108' Continuous	61	200	12	39.4	6	19.7	15 x 12 x 6	49.2 x 39.4 x 19.7

Installed Power					
Heater System	Heating	Quench Fan	Cooler Fan	Drives	Total
	(kW)	(kW)	(kW)	(kW)	(kW)
48' Oscillator	1960	525	180	30	2695
72' Continuous	2940	525	225	30	3720
108' Continuous	3820	525	375	30	4750

Shape†				
Parameter	Min.		Max.	
	(mm)	(in)	(mm)	(in)
Parabolic Shape Focal Length	1710	67	2200	87
Based on Arc Length	1600	63	2010	79

\* Production rates for coated panels or different glass compositions will vary depending on part size, thickness and specific type of coating used, and the consistency of the coating. Low stress is defined as < 3,500psi. Full temper is defined as > 10,000psi.  
 \*\* 1.6mm (.063") and 2.2mm (.087") are low stress. 3mm (.118") is heat strengthened only for that size. 4mm (.157") and 5mm (.197") can be heat-strengthened or fully tempered.  
 † Blank shape – rectangular. Based on 1700mm (67"), 1900mm (75") and 2010mm (79") systems.

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