

Automotive DB™ 4 QC/FC

Deep Bend Advanced Bending and Tempering System

Glasstech's Advanced Bending and Tempering System for Deep Bend™ Automotive Glass is now available with Quick Change and Fast Cycle features. Based on the established DB 4 system equipped with an electric radiant heater, the DB 4 QC/FC produces bent and tempered automotive parts of complex shape and high optical quality to precise tolerances.

Quick Change dramatically reduces tooling changeover times from approximately 6 hours to 90 minutes. The Quick Change feature provides increased uptime, increased productivity and better yield due to continuous realignment of tooling. It also facilitates economical short part runs.

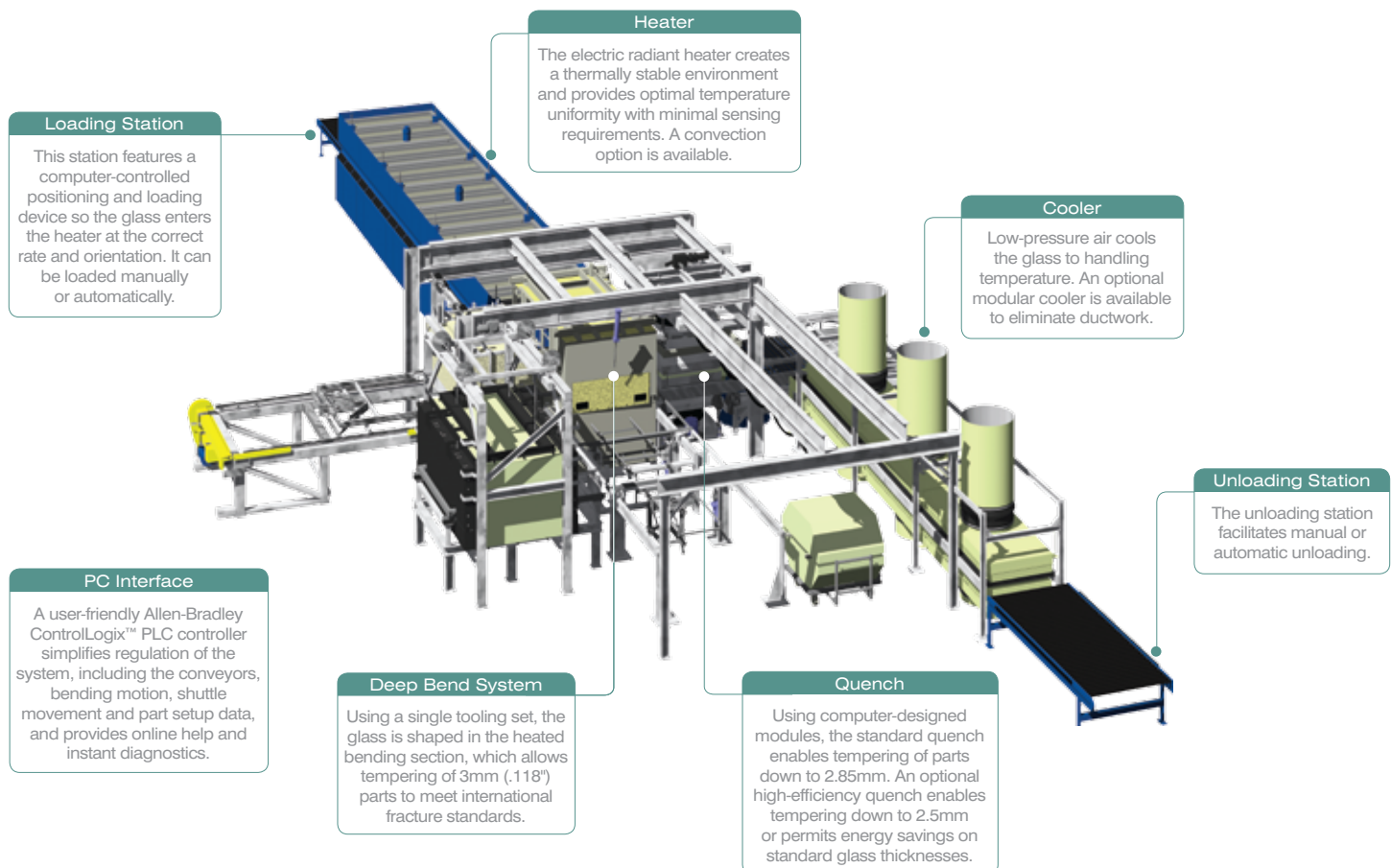
Fast Cycle typically results in a 20% increase in productivity. On average, cycle times can be reduced from 22 to 17 seconds and certain parts can be run at 15 seconds, equivalent to a maximum of 240 parts per hour.

Quick Change and Fast Cycle are also available as retrofits to existing DB 4 systems. The combined improvements from Quick Change and Fast Cycle can lead to an increase in productivity of approximately 40%.

Glass parts produced on the DB 4 QC/FC system have exceptional optical quality and uniformity of shape. Coated and tinted glass can be processed without difficulty. This production-proven system is unsurpassed in creating complex backlites and sidelites to international fracture standards.

General Specifications for DB 4 QC/FC

- Maximum depth of bend: 305mm (12")
- Minimum radius of curvature for 3mm (.118") glass: 75mm (3")



Automotive DB™ 4 QC/FC Technical Features

305mm (12") Depth of Bend

Glass thickness: Min. 3.0mm (-0.1mm); Max. 6.0mm
 Loading area: DB 4 QC/FC: 1070mm x 1728mm (42" x 68") all thicknesses**
 Quick Sag: 1220mm x 1828mm (48" x 72") all thicknesses
 Glass size and production rate based on typical size loads.

Production Capability

Glass Thickness (mm)	DB 4 QC/FC Loads/Hour	Gravity Sag 4884* Simple Bends Loads/Hour	Maximum Area in Any Single Piece	
			(sq m)	(sq ft)
3.0 – 3.2	Production rates are part-dependent. Fast Cycle production rates vary from 15 seconds to 42 seconds.	300	1.3	13.9
3.8 – 4.2		225	1.5	16.1
4.8 – 5.2		180	1.5	16.1
5.8 – 6.0		150	1.5	16.1

*4884 – 21.9m (72) heater plus 3.66m (12) bender

**For parts deeper than 305mm (12"), taller than 1070mm (42") or wider than 1728mm (68"), please contact Glasstech for more information.

Maximum Depth and Radius of Bend

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

DB 4 QC/FC

- Min. radius of curvature for 3mm (.118") glass: 75mm (3")
- Max. depth of bend: 305mm (12")
- Minimum radii and maximum depths of conical and spherical shaped parts are shape-dependent

Gravity Sag

- Max. depth: 100mm (4") with curved quench
- Min. radius of curvature: 1000mm (40")
- Max. radius of curvature: 2540mm (100")

Equipment Components

DB 4 Quick Change

- Curved vacuum press mold and air jet press system
- Curved quench heads
- Curved quench ring frames with self-alignment capability
- Computer-controlled lift jet system
- Back side shuttle with press ring with self-alignment capability and heater
- Automated quench closing system with Quick Change quench head change system
- Glass positioner
- Stable thermal-center vacuum press mold guide system
- Tool preheater with Quick Change tool exchange system

Fast Cycle

- Total heater length of 21.9m (72)
- Additional heating capacity in furnace and bender
- Index conveyor in heater
- Quick Change shuttles
- PLC control

Floor Space Requirements

Heater System	Total Length		Total Width		Total Height		Blower Room	
	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)
High Capacity – DB 4884	42	138	17	55.8	7	23	20 x 11	65.6 x 36

Installed Electric Power

Heater Length	Heating (kW)	Quenching** (kW)		Electrical		Drives (kW)	Total (kW)
		Fan Power	Aftercooler	3-Phase (v)	4-Wire (Hz)		
DB 4884†	2522	1200	150	380-600	50-60	37.5	3910

†21.9m (72) heater plus 3.66m (12) bender section, 305mm (12") max. depth of bend

**Quench power based on ECE capability for 2.8mm thickness. Blow-up is powered by lower quench fan.

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