

ARCHITECTURE

glaston



The
Masterpiece
of
Intelligence

Glaston FC Series

Flat tempering furnaces

Glaston FC Series

The Masterpiece of Intelligence

Three reasons why the Glaston FC Series furnace is your choice for tempering:



1. Always deliver top quality

- Keep production rates high
- Measure and prove the results to your customers
- Minimize remakes and claims



2. Save on production costs

- The best energy efficiency in the market
- Highest loading efficiency
- Easy operation with built-in process intelligence



3. Grow your business for a lifetime

- Stay future-proof with upgrades
- Be part of Glaston Insight family
- Engineered to serve for decades



“The reason to select Glaston’s FC type tempering line was that we wanted an uptick in our technology. Minimum roll wave and no glass distortion are the requirements from the larger commercial construction builders we serve. The furnace offers high performance for Low-E, which is exactly what we were looking for.”

Tim Kelley,
Owner of TriStar Glass,
USA



FC Series:
the winner's
choice for flat
tempering



Take your Low-E production to a new level

Not all heating systems branded in the market as "Low-E capable" are equal. Inefficient heating results in longer production times, high waste rates and poor glass quality.

For today's demanding Low-E coatings, you need highly efficient

heating with a state-of-the-art convection system and accurate heating control™.

Our FC Series meets this challenge with its high air volume Glaston Chinook™ and Chinook Pro™ convection systems.

The Masterpiece of Intelligence



Improved built-in intelligence

Typically, increasing your production rate means compromising glass quality. Thanks to its state-of-the-art *convection heating*, the FC Series furnaces does the opposite.

All FC Series machines can be connected to the Glaston Insight™ ecosystem. Glaston Insight gathers global processing data

and transforms it into global production excellence.

This means improved automation based on actual measured data from your machinery. In this way, excellence comes standard for all Glaston community members.



Cut your production costs to a minimum

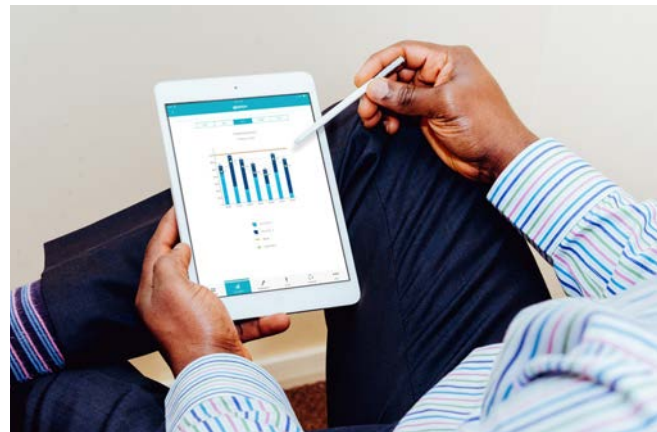
The circulated convection system™ of the FC Series furnaces brings the energy consumption close to the absolute minimum.

Shorter cycle times and top quality insulation help you save even energy more.

In addition, short cycle times

reduce overall production costs, for example, in the manpower costs per square meter produced.

Track and improve your reduced production costs from Glaston Insight online reports. Reports are available to you always, wherever you are.





Proven and further improved cornerstones of the FC Series

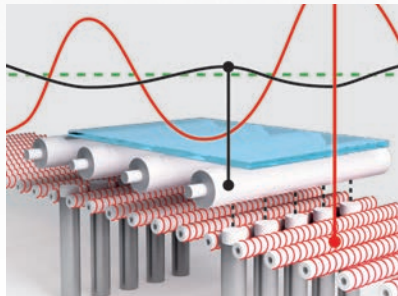


Intelligent heating

Effective and accurate heating is key to high-quality, high-capacity Low-E glass production.

Glaston Chinook™ has the market's most intelligent heating system, based on the highest number of measurements combined with automatic process adjustment.

In practice, this means minimal operator input with high constant capacity. The **ChinookPro™** convection system circulates air on both the top and the bottom of the glass, minimizing energy consumption.



- Set roller heat level
- Heater firing
- Roller temperature

Roller heat control (RHC)

Stable roller temperature is required in continuous high-quality production.

Glaston RHC stabilizes the roller temperatures even in the most demanding production. The system transmits roller heat information to the furnace control system and automatically adjusts the bottom heat level to balance the roller temperatures.

RHC eliminates any roller heat disturbance and raises the FC Series glass production quality to an even higher level.



Don't accept bad anisotropy!

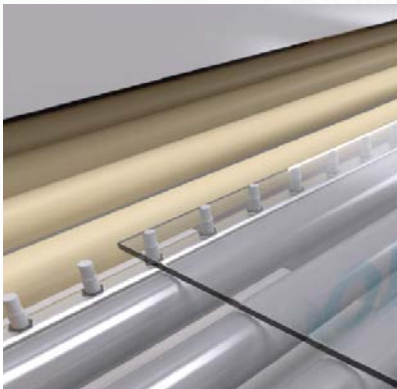
Best anisotropy

Anisotropy is currently the hottest topic in glass processing. Thanks to a new slot nozzle design in the chiller, stress level differences, and thus anisotropy, can be radically reduced.

This design, together with the advanced convection nozzle distribution, shifted heating modules and divided heating segments, reduces anisotropy considerably.



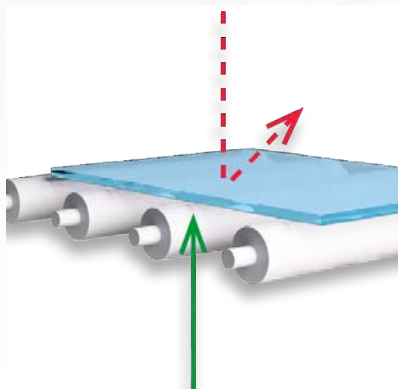
Intelligence is built on deep insight



Process assistance

Now all operators will have their own assistant. New **Glaston Insight Assistant™** automatically adjusts furnace settings based on the measured glass size and loading pattern information. Parameters are adjusted both in heating and cooling.

This greatly assists operators in their day-to-day activities and helps them use the most suitable heating settings for their production.



Smarter processing

The scanner is a good tool for operators to verify that the glass is heating uniformly. A Low-emissivity glass surface reflects light and thus the traditional thermal scanner does not perform in an optimal way in Low-E glass production.

A bottom scanner can be integrated with **Glaston Insight Assistant Pro™**, which uses the scanner information to make an automatic recipe improvement suggestion.



Stay connected

Glaston Insight Online Reporting™ brings new and smart tools to improve your machinery productivity, uptime and, most importantly, your profitability.

With Glaston Insight reporting, you can monitor your heat treatment machinery online and get immediate feedback from production, quality and maintenance, wherever you are.

STANDARD FEATURES:

Advanced heating and quality control

- **Chinook™:** Patented convection design for accurate heating and reduced anisotropy
- **RHC:** Automatic roller heat control for repeatable quality in continuous operation
- **SMC:** Smart Movement control for optimized capacity

Intelligence and automation

- **Insight Intelligence:** Extensive process, production and maintenance reporting system includes IR scanner (SCA), energy consumption and process/production efficiency measurement system
- **Insight Reporting:** Online reporting with mobile application
- **Insight Assistant:** Automatic heating profiling and recipe adjustment
- **Remote VPN:** Remote support system



OPTIONAL FEATURES:

Process monitoring

- **Insight BSCA:** Bottom scanner for accurate Low-E glass detection
- **Insight Assistant Pro:** Intelligent online process assistance
- **Insight iLook:** Integrated online glass quality measuring system
- **CAM:** Video surveillance for easy process monitoring
- **V:** Additional process screen for unloading table

Intelligent quenching

- **New Quench:** Intelligent quench design for optimal anisotropy and optical quality
- **HS8:** Heat strengthening system for clear glass up to 8 mm
- **S:** Energy efficient, up to 19 mm tempering with frequency converter(s)
- **BMON:** Quench blower vibration monitoring system



Heating efficiency

- **Chinook Pro™:** Capacity and quality booster for energy-efficient, high-quality tempering
- **2:** Second heating chamber for higher capacity

Thin glass tempering

- **Boost unit** for 2.8 or 3.15 mm glass
- **PTQ280/315:** Full pass-through quenching for 2.8 or 3.15 mm glass
- **IPT315:** Integrated pass-through quenching for 3.15 mm glass

Advanced quench options

- **HS10/12:** Heat strengthening up to 10/12 mm
- **SLOT:** Advanced mixed slot design in extended quench for decreased iridescence
- **N85:** Noise reduction cabin for chiller, LpA = 85 dB(A)
- **VC:** Cullet conveyor under quench
- **M:** Cullet removal lifting conveyor with cullet container

A few words from our FC Series customers...

“Now with our own machine up and running, we have seen for ourselves that the furnace can produce **the best glass around**. Even when unpacking the six containers shipped from Finland, our guys said we had a Cadillac because all the elements were so sturdy and well crafted.”

Michelle Magyar,
President,
Mid-American Glass, USA

“Our customers are placing more importance on the quality of the glass. They demand negligible distortion and minimal glass iridescence. For us to keep growing at the same pace as we’re doing now, we need to know that our equipment is up to the challenge. The **Glaston FC type furnaces are giving us that edge** to move ahead.”

Mr. Christian T. Daes,
Owner and Managing Director,
Tecnoglass, Colombia

“The FC type furnace is highly developed technically, and at the same time user friendly, thanks to a newly applied iControl™ automation system. For us, the most important aspect of manufacturing is to **obtain the highest quality product.**”

Mr. Mirosław Radomski,
Vice Chairman,
Press-Glas SA,
Poland



Glaston Genuine Care keeps you performing

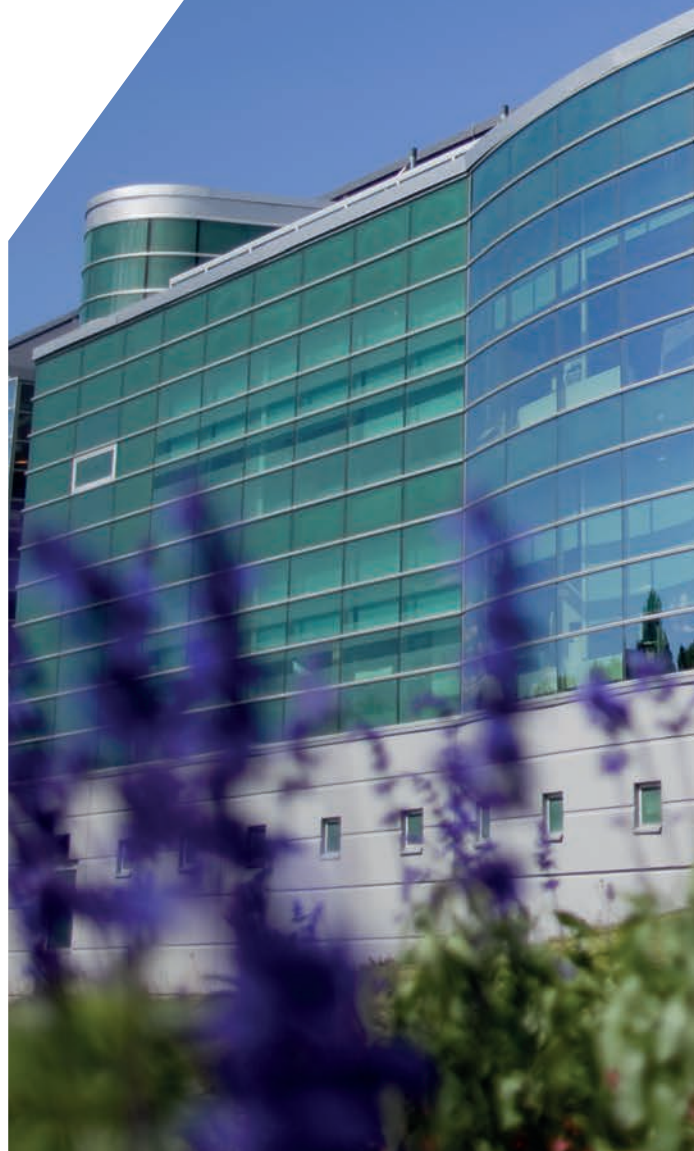
As the industry leader, we offer you the best in service and support with Glaston Genuine Care. It's our way to extend the lifetime of your glass processing machinery, cut operating and maintenance costs and take your business to the next level.

Glaston Genuine Care includes all services needed over the lifetime of your machinery, including Glaston Care agreements, spare parts and tools, service work, training and consulting, as well as upgrades.

This is our genuine commitment to your long-term success. For more information, please contact your nearest Glaston representative at [glaston.net/contacts](https://www.glaston.net/contacts)

Glaston – changing the way the world sees glass

NOTE: Images shown in this brochure are indicative and depend on the level of equipment.
Models may differ from the pictures shown.



We are a global company that develops glass processing technology for architectural, automotive, appliance, and solar industries.

As the market and technology leader, we provide you with the highest quality glass processing machines and lifecycle services.

We have the largest installed machine base in the industry, with deliveries to more than 100 countries.

glaston

www.glaston.net

Keep in touch with the latest industry news, business insights and practical tips at
www.glastory.net

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