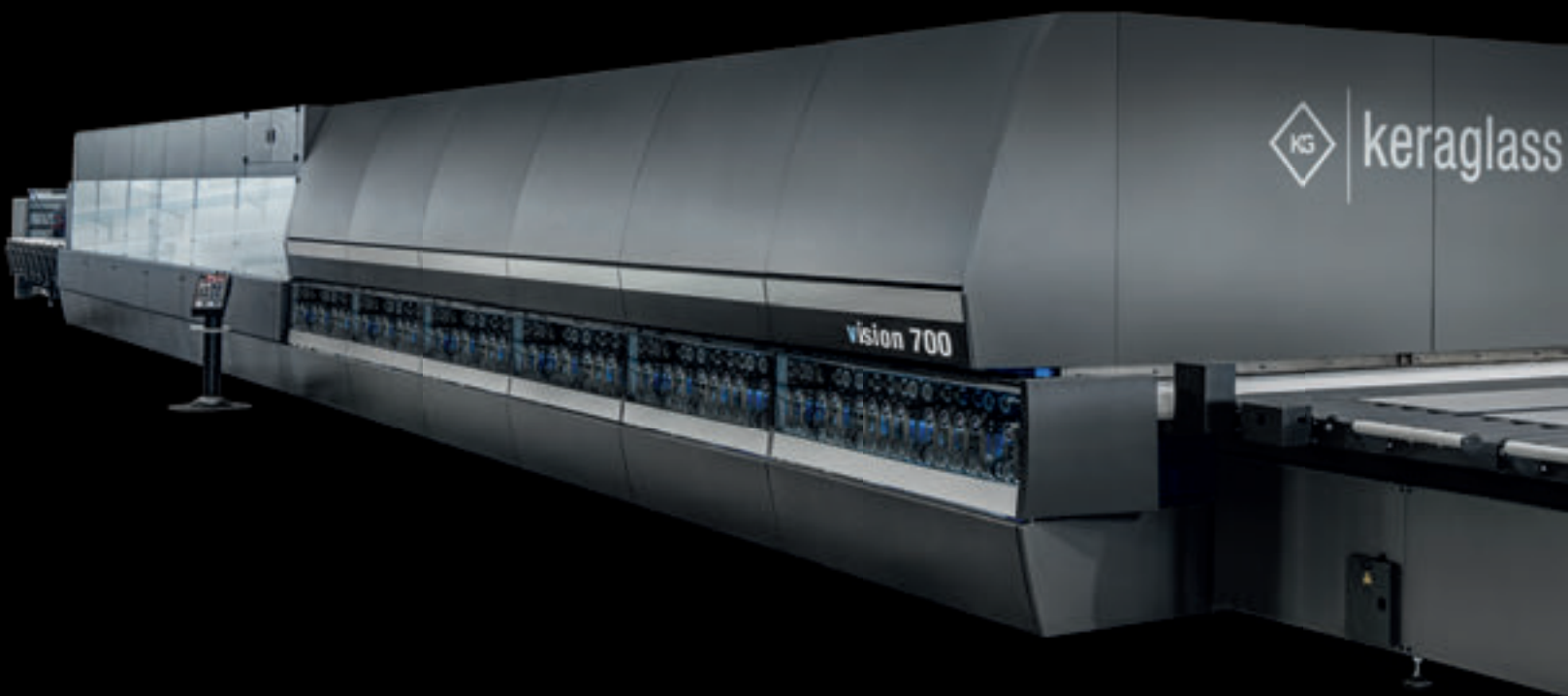


vision 700





Core Business

An overview that makes the difference. What characterizes Keraglass as a worldwide leader in the glass industry is its “all around” approach.

With innovative, functional and customer oriented solutions. Developed around a deep and direct analysis of the issues that may arise in glass processing on flat and curved tempering, screen printing, roller-coating and laminating.

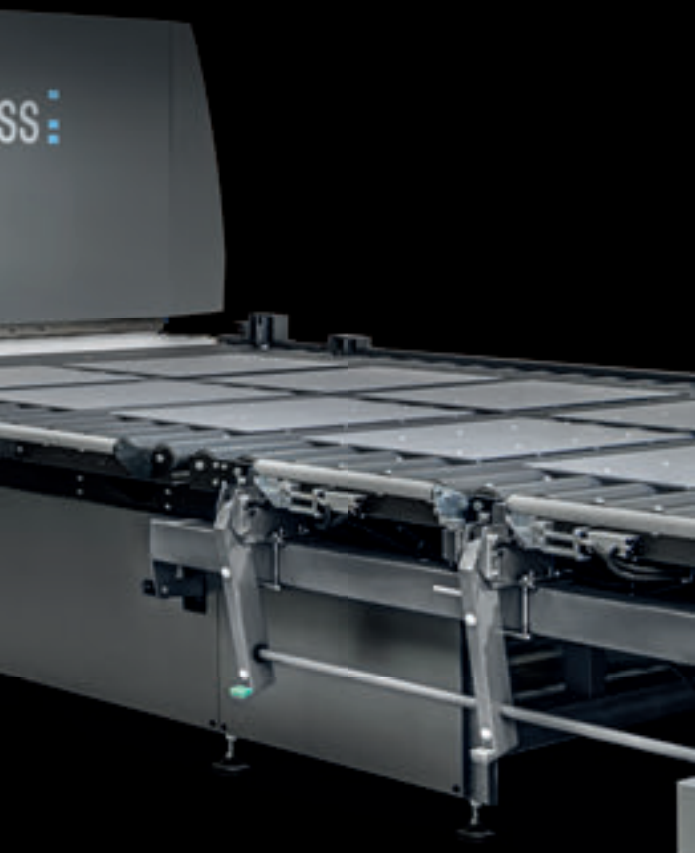
Value and elegance

Keraglass presents Vision: the new line of glass tempering furnaces. A result of an innovative project which introduces new features and new design, keeping all milestones that have always distinguished Keraglass.

Vision 700

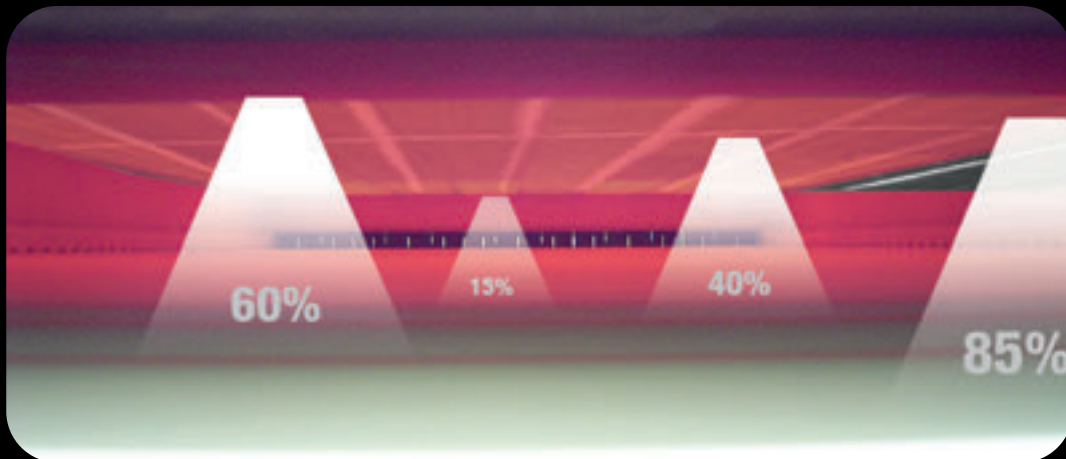
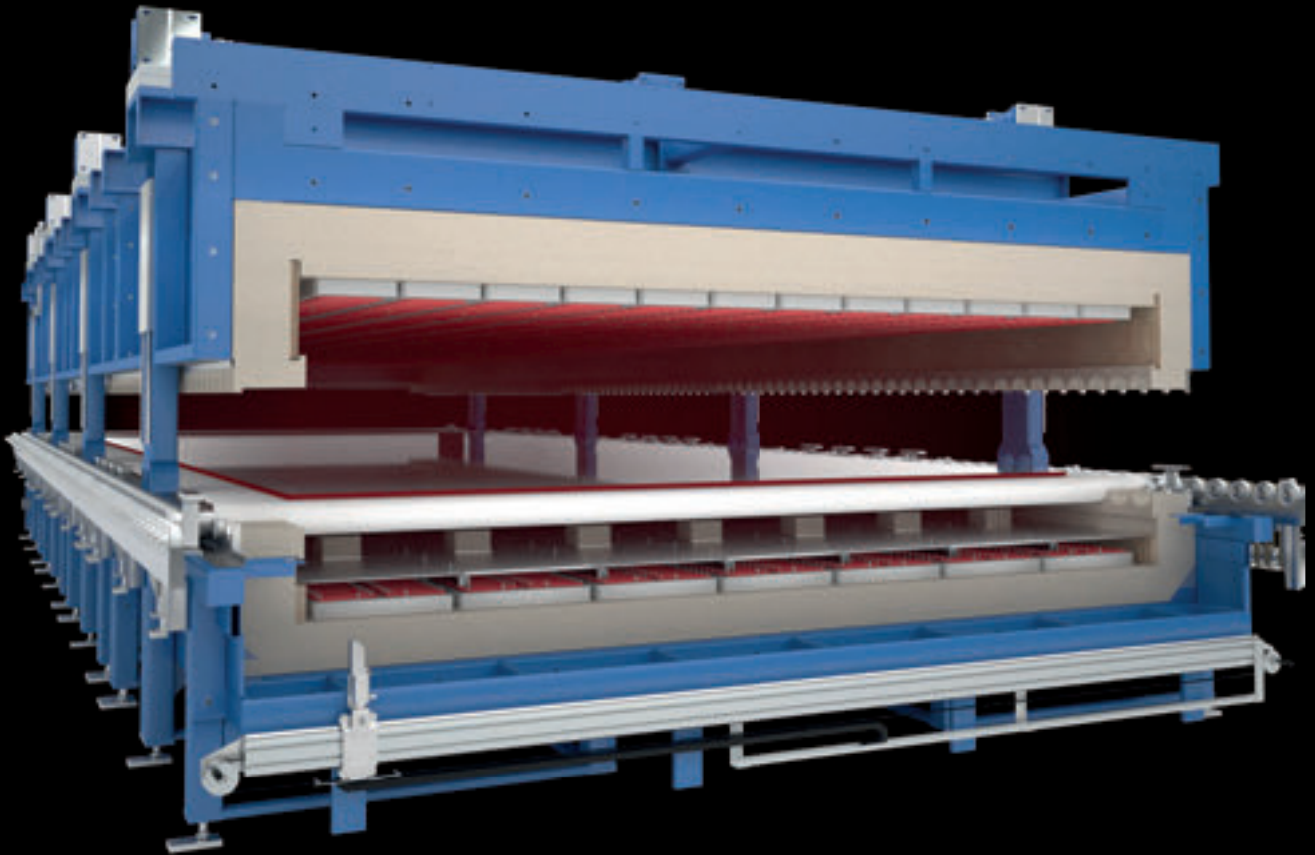
Oscillating tempering furnace, entry level but with all distinctive features of our furnaces. A result of accurate analysis of the specifications made around the customer.

The dedicated design and implementation of Vision 700, are based on simple but efficient concepts: less energy consumption; better energy optimization in the heating phase; optimized energy on the tempering process; excellent optical quality of the tempered glass. This furnace is ideal for mid-sized companies with high quality standards, particularly in the architectural glass, furniture, household appliances and shower doors.



Headquarters

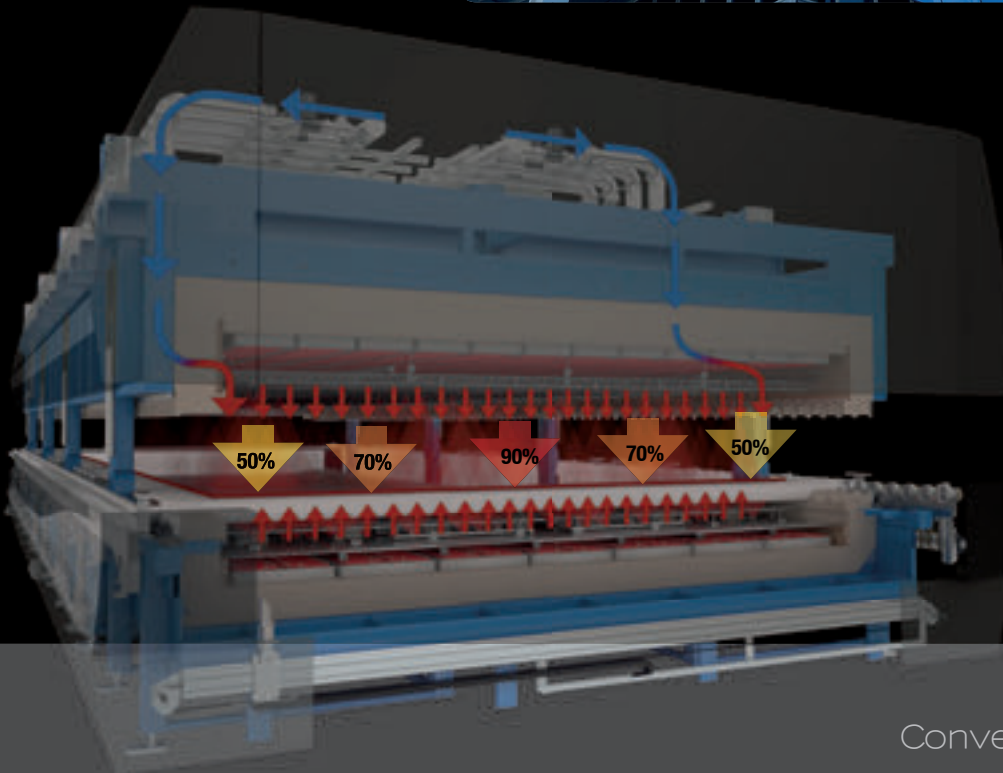
The headquarter in Baiso (Italy), with an area of 10,000 sqm includes executive offices, production workshops, R&D, warehouses in addition to the technological Showroom. All these aspects are the real flagship for technology and innovation.



heating system

Uniformity and control

- The heating section of Vision 700 is made by flat radiant panels, independently controlled and powered by SCR. The special wire of the electrical heating elements represents a long life guarantee. The matrix arrangement allows a distribution of the radiating energy differentiated in both directions, lengthwise and crosswise.
- Advantages:
 - accurate energy distribution;
 - easy management of the heating process;
 - reduced energy consumption;
 - no maintenance costs.

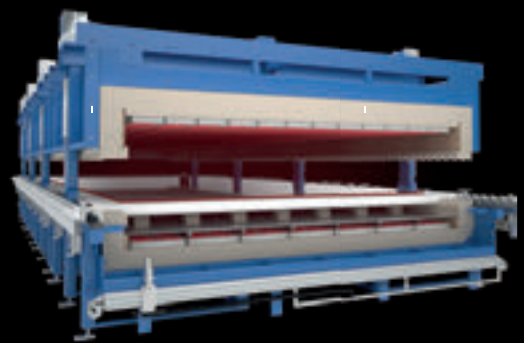


Convection System (optional)

Vision 700 can be equipped with a high efficiency air convection system, working on the top and on the bottom of the glass, based on a high pressure blowing system inside the heating chamber, in order to temper the latest generation low-e glasses.

The air distribution system consists of groups of stainless steel pipes blowers, positioned above and below the glass, longwise and crosswise mapped, in order to create a dedicated convection profile, which is managed by the supervision system

supervision intelligent

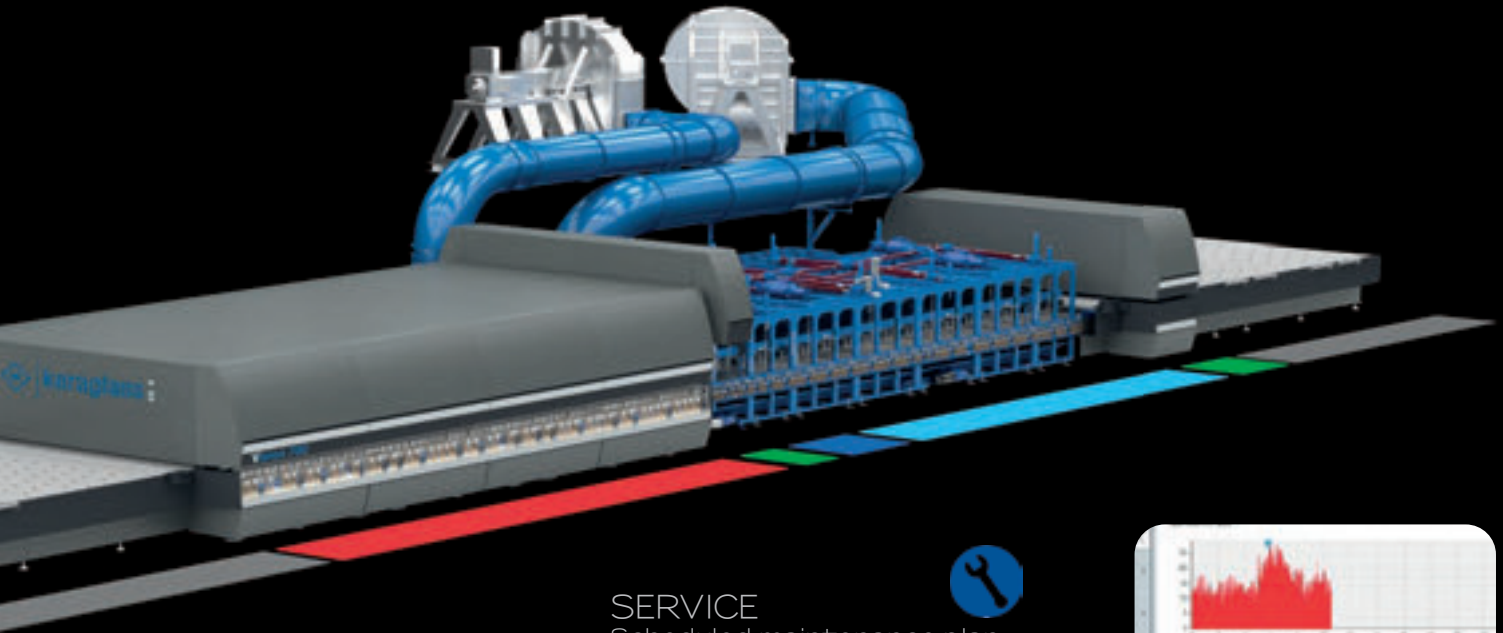


The intelligent vision

- A wide touch-screen monitor with a new user friendly graphic interface, allows total control of the furnace, including the control of the double star system, the heating cycle management and all the control instruments installed on the furnace.
- It includes a power consumption monitoring system and user manual with automatic troubleshooting system, minimizing the machine downtime.

DYNAMIC HEATING CYCLE (DHC)

The new software function DHC allows to obtain a more heat homogeneity on the glass. The function of dynamic heating DHC adapts during the heating phase all control parameters (temperature set point and power) independently for each individual heater, creating variable profiles of temperature and power. Target: heat up the glass only where needed, depending on the type of processed glass. The function is completely configurable by the operator, and it is essential for the new generation glasses and improves the performance of the oven while tempering thick or coated glass.



SERVICE

Scheduled maintenance plan

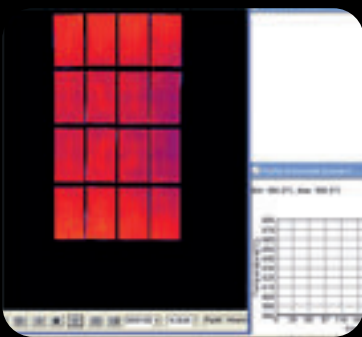


The system will automatically notify the operator, through the interface, about the maintenance operations aimed to keep in efficient conditions all parts



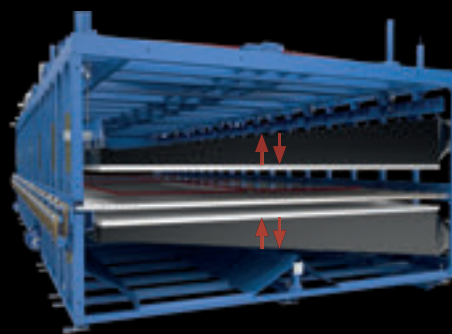
KERASOFT

Software interface that tracks and registers the electrical power consumption



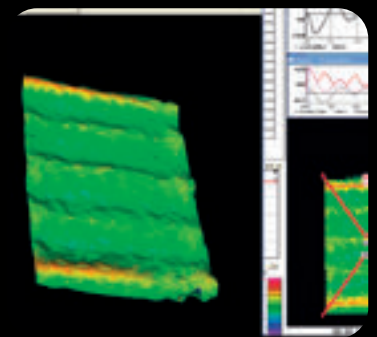
SCANNER CONTROL

Device for measuring the temperature of the glass, at the furnace exit. This innovative system allows the operator to have the complete control of the heating zone by providing precise temperature of all batches. Thanks to the "scroll" function it is possible to compare the results between batches in any point the glass. In this way it is possible to keep over time the same quality of the temper.



TEMPERING AND COOLING HOODS MOVEMENT

Actual glass tempering step, in which the load performs numerous transitions in reciprocating motion under the pressure of air that comes out from the calibrated nozzles. The flow of pressurized air cools the glass and consequently supports the tempering process.

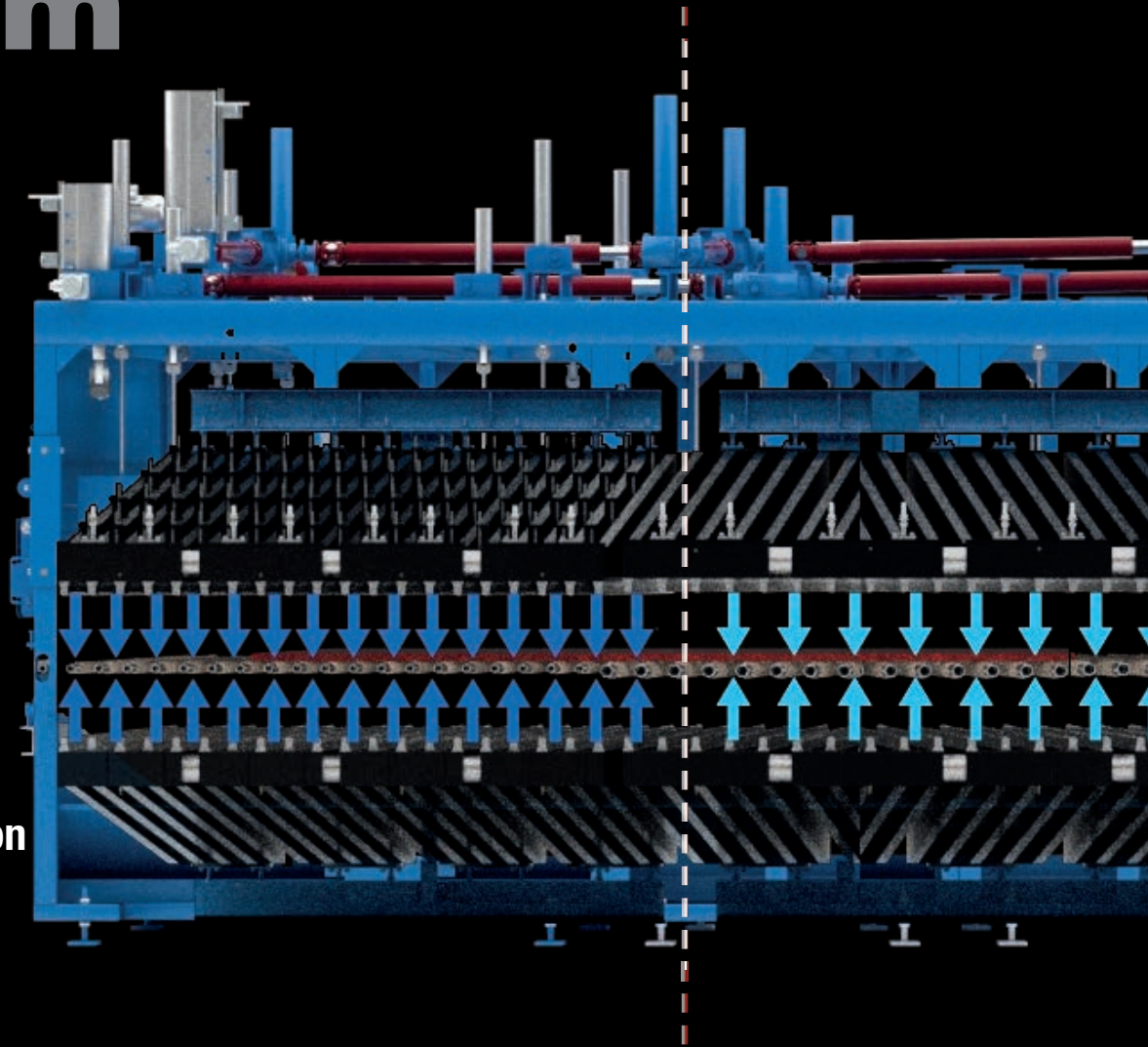


K-INSPECTOR

The K-Inspector system shows directly on Supervision Intelligent the realtime information related to the optical distortion of the glass. The operator can perform the corrective interventions of the various recipes directly during the tempering process.

tekno system

- + pressure
- + quality
- consumption
- anisotropy

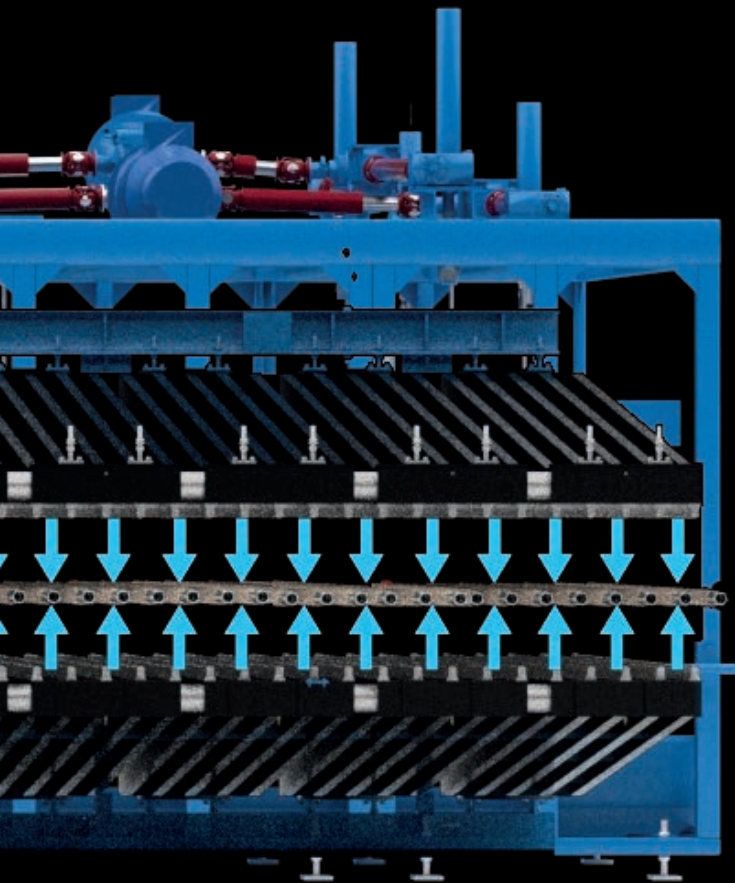


■ Pass through tempering

The pass through tempering area is characterized by an additional independent quench module, served by its own blower with independently moving hoods that permits a narrow pitch of the rollers and a higher pressure in a narrow area.

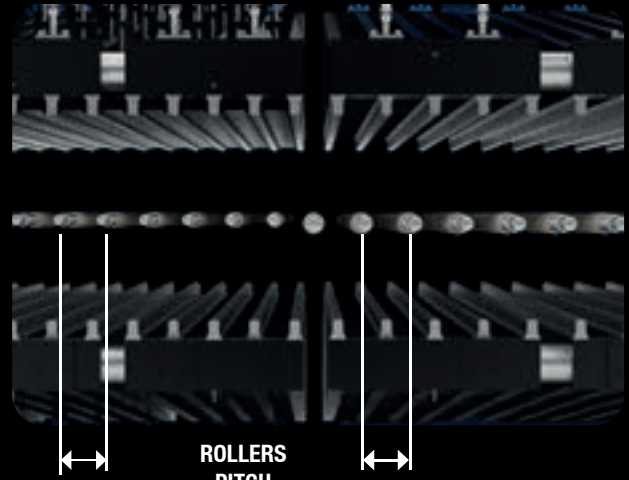
- The reason for this technical choice lies in the improved control of the tempering conditions, mainly depending on the glass flatness. So the “tekno system” offers sure benefits, summarized below:
 - Improved flatness and optical quality of tempered glass
 - Ability to temper thin glass without size limitation
 - Reduced energy consumption, thanks to the use of variable speed motors for the blowers, and to the software management of the heating and tempering phases.





TEMPERING

COOLING



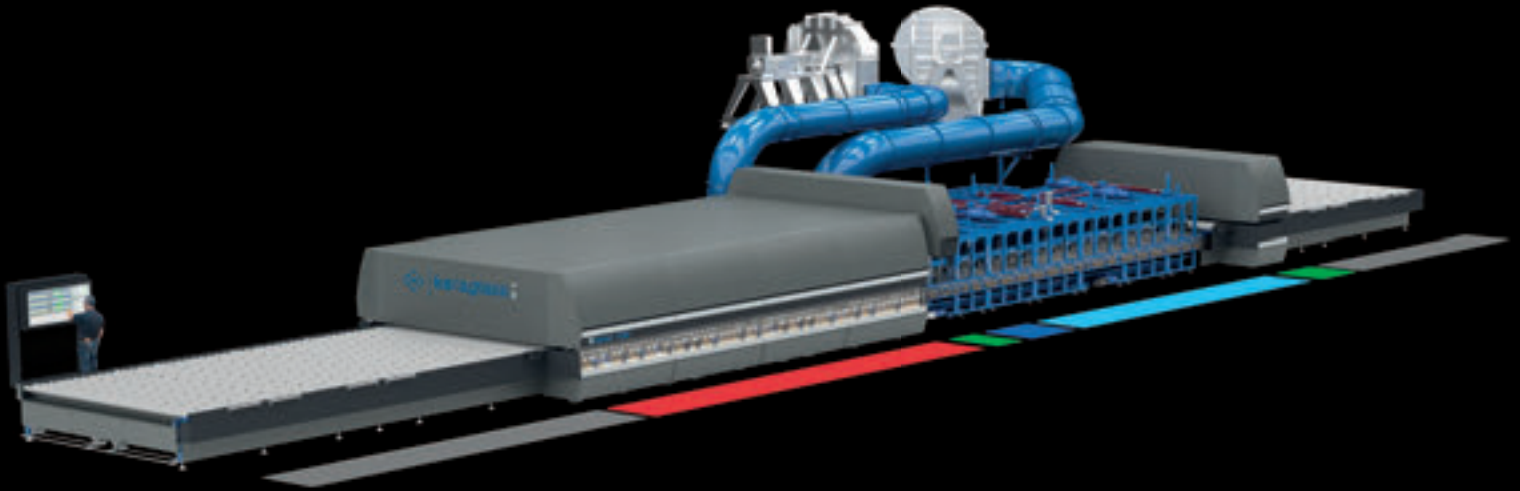
Vision 700: Glass anisotropy

Tempered glass anisotropy is a dreaded phenomenon which may look very unpleasant on a glazed façade. The mechanical stress created by the tempering process slightly modifies the optical properties of the glass: its refractive index is slightly modified, and depends on light direction. Such a material is called a birefringent material, and has strong effects on polarized light, such as blue sky or light reflected on the glass surface under angle. Keraglass improves this defect thanks to the use of this system, having a special nozzle distribution on the blowers which are of smaller diameter compared to a standard nozzles, improving the quality of air distribution in tempering step.

Blowers with independent movement.

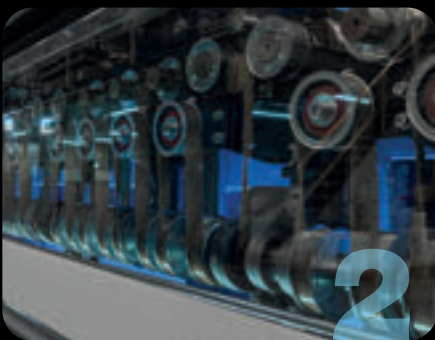
Depending on the glass thickness, the central control unit provides to change the tempering fan speed to obtain the correct operating pressure. It also vertically adjusts the distance from the glass of the upper and lower quenchers that, thanks to two separate drives, may have an independent movement. The reason for this technical choice lies in the improved control of the tempering conditions, mainly depending on the glass flatness.

main elements



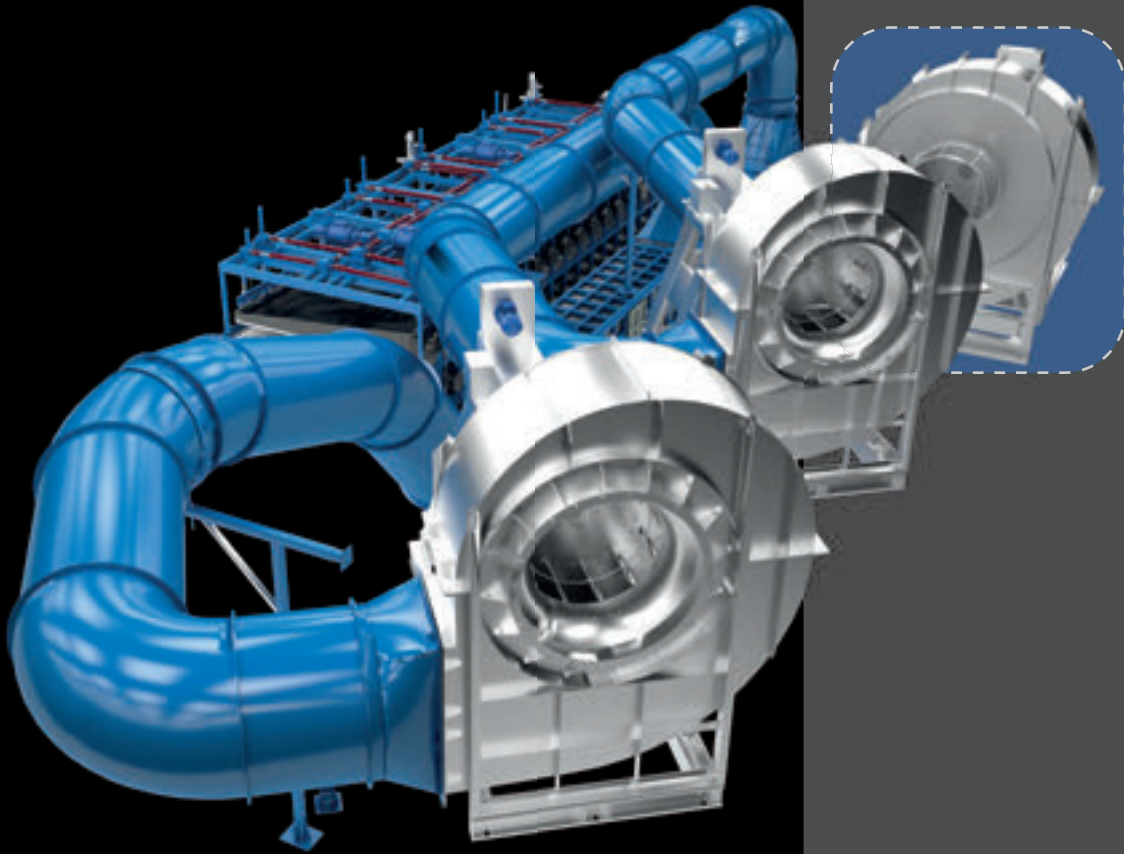
1250° Insulation

The thermal insulation of the walls, roof and bottom of the heating chamber is made by insulating panels tested for temperatures up to 1250°C. The most relevant characteristic is the internal walls lining with Cordierite refractory plates, featured by smooth and compact surface, which provides important advantages both in terms of internal cleaning and structural stability of the furnace.



DRIVING SYSTEM

Realized with special toothed timing belts it ensures a uniform and smooth motion of the ceramic rollers, without slacks, to ensure a perfect glass quality. All conveyors are independently driven, in order to optimize the production changes.



6

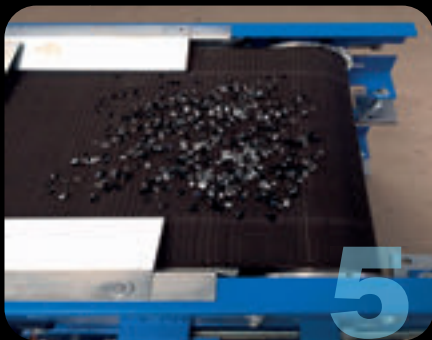
FANS

The furnaces are equipped with variable speed motors. This solution enables the maximum flexibility in speed regime and is suitable for all thickness values of treated glass. This provides a substantial benefit in terms of energy saving, since the blower will always operate in the optimal speed. The 3rd fan, optional, allows performing the tempering of the 2.8 mm glass.



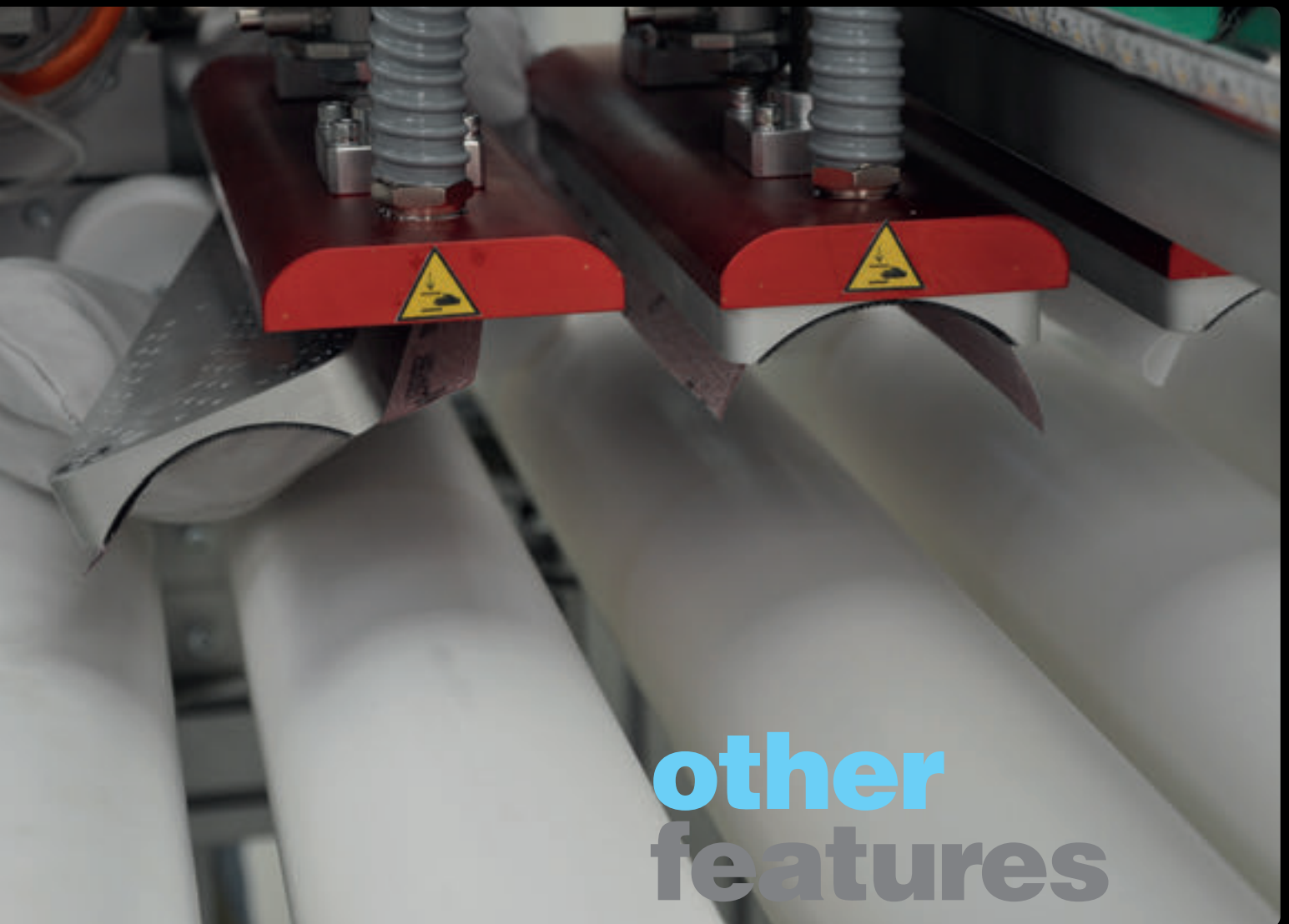
UPS

The emergency system is based on the use of a UPS group, which supplies the furnace cabinets in case of electricity loss.



CULLET CONVEYOR

In case of accidental breaking of the glass during the tempering or cooling cycle, the cullets are collected to the bottom of the cooling section by means of a robust automatic metal mesh conveyor.

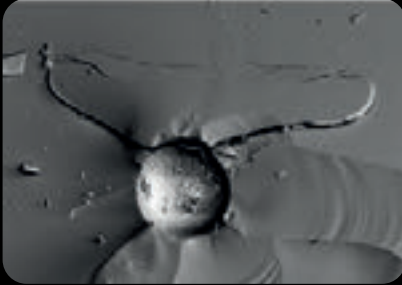
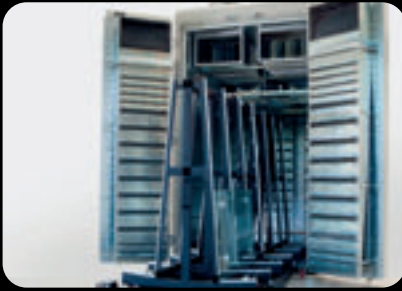


other features



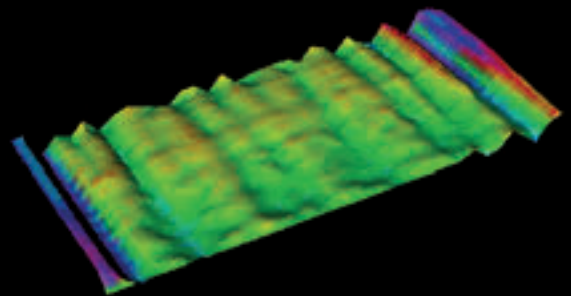
Rollers cleaning system

- RCK thoroughly cleans rollers with a rapid system of interchangeable pads: abrasive, vacuuming and washing. The extremely precise cleaning takes place directly on the system without the need of disassembling the rollers. This optimizes the working times and allows ease of operation than ever before. This machine can eliminate the glass residues stuck to the roller, polish it and aspirate the excess parts. A special option allows to pass from one roller to another in a completely automatic way. The innovative system proposed by Keraglass is adaptable to any type of furnace, pitch and diameter of the rollers.
-
-



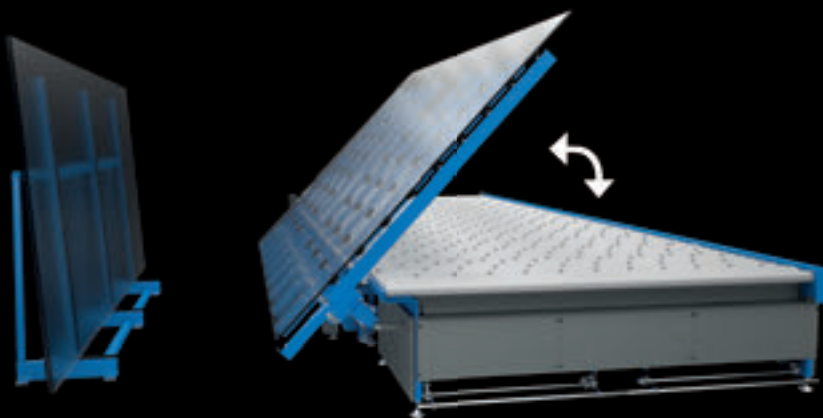
HST

Heat Soak Test furnace: the best guarantee to prevent sudden and unexpected explosions of tempered glass sheets due to Nickel-Sulphide impurities present in the initial float glass sheets. The HST furnace is the ideal tool to meet the safety standards on the use of tempered glass. The Keraglass furnace for HST, certified according to DIN-EN14179-1 standards, allows users to place a certified product on the market.



K-INSPECTOR

Provides the real optical measurement thanks to an advanced instrument. This system measures all types of optical distortion, including roller waves, edge kink, local bow, hammer and many others. It improves the quality and reduces the final product breakage. The real-time information sent directly to the beginning of the furnace in the SUPERVISION INTELLIGENT allows the operator to better control the process.




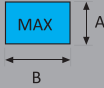
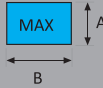
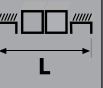
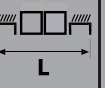
LOADER/UNLOADER

Optional device for load and unload the entry and exit conveyors





data sheets

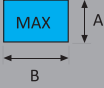
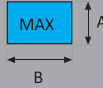
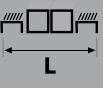
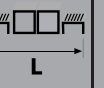

vision 700 t

					CLEAR GLASS									
 SPESSORE THICKNESS mm		2,8	3,2	4	5	6	8	10	12	15	19			
 N° CARICHE LOAD NR.		32	28	22	18	15	11	9	7	6	4			
CONSUMO ENERGETICO ENERGY CONSUMPTION kW/m ²		1,8	2	2,5	2,7	3,2	3,7	4,9	6	7,5	9,5			
 (A x B) CARICA MAX. MAX LOAD cm	 (A x B) CARICA MAX. MAX LOAD in	 LUNGHEZZA LENGTH m	 LUNGHEZZA LENGTH in	POTENZA RICHIESTA (*) POWER REQUIRED kW	PRODUZIONE PRODUCTION m²/h									
125/240	49x94	14.30	562	160	96	84	66	54	45	33	27	21	18	12
160/320	62x125	18.90	744	180	164	143	112	92	76	56	46	35	30	20
230/360	90x141	19.38	762	325	265	231	182	149	124	91	74	57	49	33
230/420	90x165	22.04	867	400	309	270	213	174	145	106	87	68	58	39
230/520	90x204	25.56	1006	500	382	335	263	215	179	132	108	84	72	48
230/620	90x244	30.96	1218	600	456	399	314	257	214	157	128	100	86	57
260/420	102x165	22.07	868	500	349	306	240	197	164	121	98	77	66	44
260/520	102x204	25.59	1007	600	433	378	297	243	203	149	122	94	81	54
260/620	102x244	31.09	1224	700	516	451	354	290	241	177	145	112	97	64
290/520	114x204	26.01	1024	640	482	422	331	271	226	165	135	105	90	60
290/620	114x244	31.21	1225	765	575	503	395	323	269	197	161	125	107	71
321/620	126x244	30.66	1207	900	-	557	438	358	298	219	179	139	119	80
321/800	126x314	37.92	1492	1050	-	719	565	462	385	282	231	180	154	103
335/620	131x244	32.04	1261	1015	-	-	456	373	311	298	186	145	124	83
335/900	131x354	42.55	1675	1235	-	-	663	542	452	331	271	211	180	120
335/1200	131x472	54.28	2137	1545	-	-	884	723	603	442	361	281	241	160

Note: The above-mentioned productivity data are based on 100% useful charge, on a hour constant production and with glass size according to standard rules. Actual productivity depends on the operator's efficiency, size of the glass, shape and quality standards requested by the customer.

vision 700

		CLEAR GLASS									
	SPESSORE THICKNESS mm	2,8	3,2	4	5	6	8	10	12	15	19
	N° CARICHE LOAD NR.	32	28	22	18	15	11	9	7	6	4
CONSUMO ENERGETICO ENERGY CONSUMPTION kWh/m ²		2,2	2,5	2,7	2,9	3,4	4	5	6	7,5	9,5

					PRODUZIONE PRODUCTION									
(A x B) CARICA MAX. MAX LOAD cm	(A x B) CARICA MAX. MAX LOAD in	LUNGHEZZA LENGTH m	LUNGHEZZA LENGTH in	POTENZA RICHIESTA (*) POWER REQUIRED kW	m ² /h									

125/240	49x94	12.00	472	180	96	84	66	54	45	33	27	21	18	12
160/320	62x125	16.48	648	200	164	143	112	92	76	56	46	35	30	20

230/360	90x141	17.56	691	375	-	232	182	149	124	91	74	57	49	33
230/420	90x165	20.22	796	450	-	-	213	174	145	106	87	68	58	39
230/520	90x204	24.34	958	550	-	-	263	215	179	132	108	84	72	48
230/620	90x244	29.14	1147	650	-	-	314	257	214	157	128	100	86	57

260/420	102x165	20.38	802	550	-	-	240	197	164	121	98	76	66	44
260/520	102x204	24.49	964	650	-	-	297	243	203	149	122	94	81	54
260/620	102x244	29.39	1157	750	-	-	354	290	241	177	145	112	97	64

Note: The above-mentioned productivity data are based on 100% useful charge, on a hour constant production and with glass size according to standard rules. Actual productivity depends on the operator's efficiency, size of the glass, shape and quality standards requested by the customer.



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