



# FLATGLASS

**2025**

**world directory**



High Tech  
Insulating Glass  
Line with  
Thermoplastic  
profile applicator

The High Tech line is the strategic choice for businesses that will significantly increase both **productivity** and **process quality**.

> **Supplier Profiles**

> **Supplier Products & Yellow Pages**

> **Suppliers Guide - Data Sheets**

> **Supplier Sales Networks**

> **Review A year of News**

At the  
Forefront  
of Glass  
Automation

www.forelspa.com



**FOREL**



Poste Italiane Spa - Spedizione in abbonamento postale - 70% - 10/MI - € 2 - C. di emissione

**Suppliers • Yellow Pages • Sales Network • Data Sheets**



# TECGLASS

DIGITAL GLASS PRINTING BY FENZI GROUP

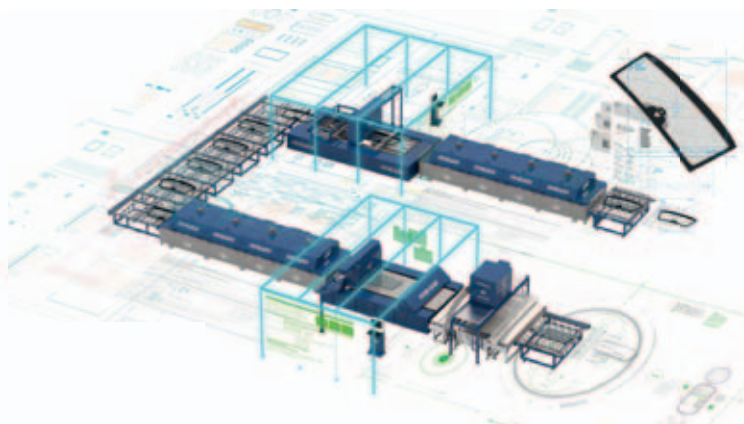
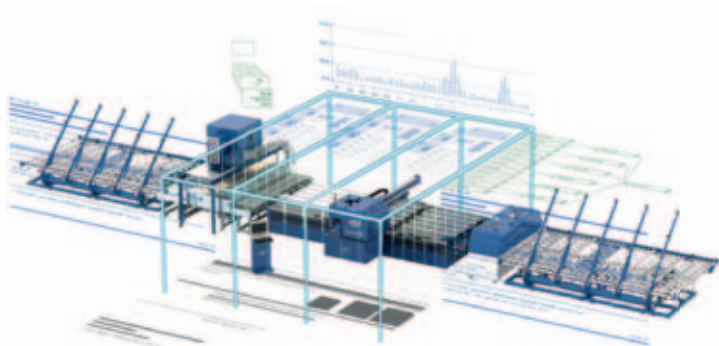
## GO DIGITAL!



# THE WIDEST RANGE OF DIGITAL PRINTING TURN-KEY SOLUTIONS

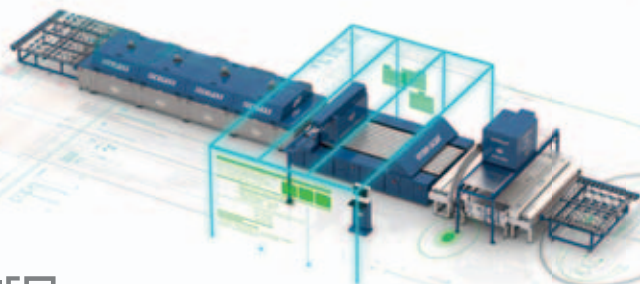
**Architecture**

**Automotive**



**Industrial Refrigeration**

**Home Appliances**



[www.tecglasdigital.com](http://www.tecglasdigital.com)

[comercial@tecglass.es](mailto:comercial@tecglass.es)

# A+W Software

for Glass, Windows & Doors



## Scanning Takes a Giant Leap Forward

A+W Smart Companion's revolutionary scanning app is an info terminal running on smart devices with greater computing power and outstanding graphics. This app for flat glass, window, and door fabricators benefits users, saving time and money, by making processes quicker and mobile.



**A+W Smart Companion serves as your scanning device moving items from station to station; it also:**

- Works as a mobile info terminal
- Securely and accurately scans barcodes individually or in continuous mode
- Increases employee productivity by displaying critical information, while also sending and receiving data to your ERP

[www.a-w.com](http://www.a-w.com)



Glass Company S.r.l.  
www.glasscompany.com  
info@glasscompany.com



# GLASSCOMPANY

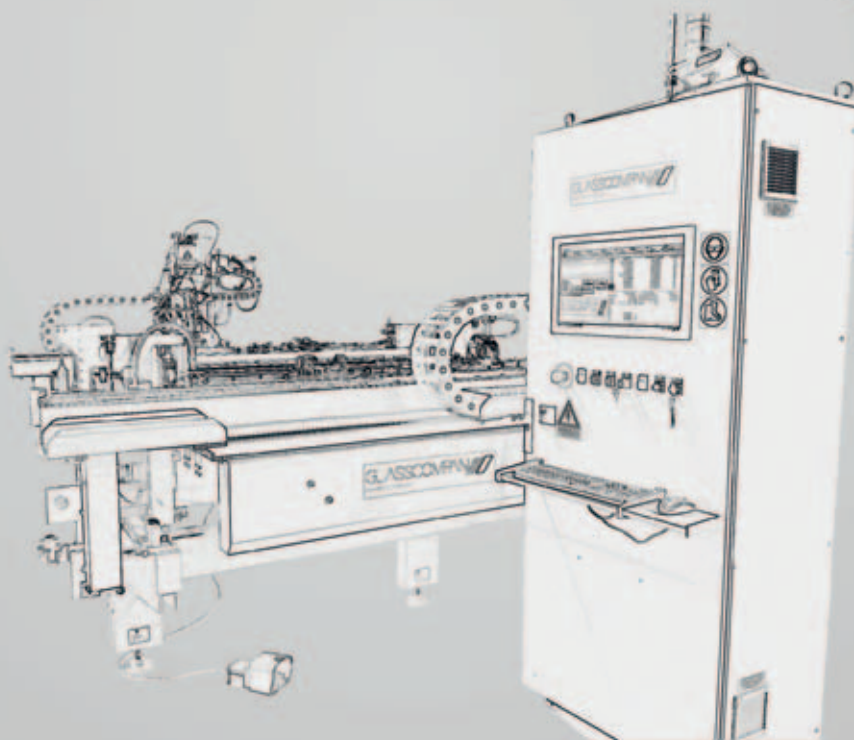
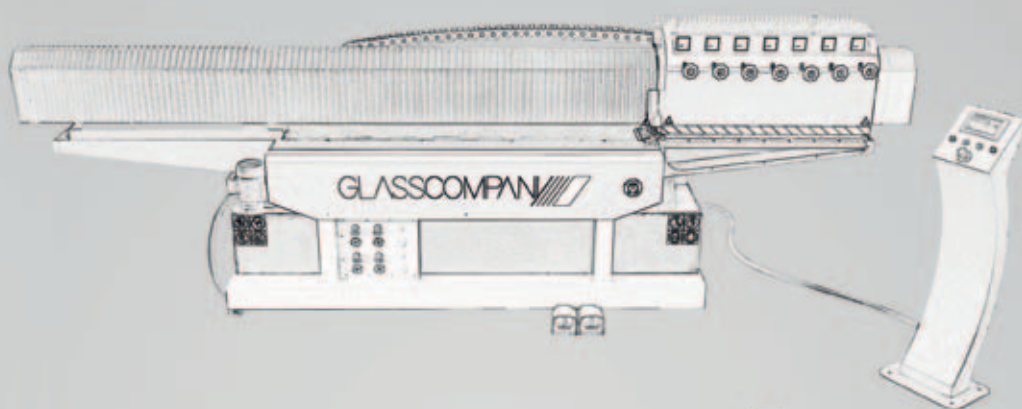
SPECIALIST IN INNOVATION

## IG FULL VISION INNOVATION AND LIMITLESS VISIBILITY

**Patented technology for next-generation IG,**  
with plasma treatment and UV bonding  
ensuring durability and reliability.

**Unmatched visibility**  
with an innovative design to maximize product display.

**Exceptional energy efficiency**  
thanks to glass spacers.



# VISION MEK

# bestmakina

common language of glass world



Precision and performance, a smart investment  
[www.bestmakina.com](http://www.bestmakina.com)



An aerial photograph of a large, modern industrial building under construction. The building has a light-colored facade and a flat roof. The construction site is active, with various pieces of machinery, including cranes and forklifts, visible. The sky is clear and blue.

# THE PERFECT BATCH

**STARTS WITH THE RIGHT CHOICE**

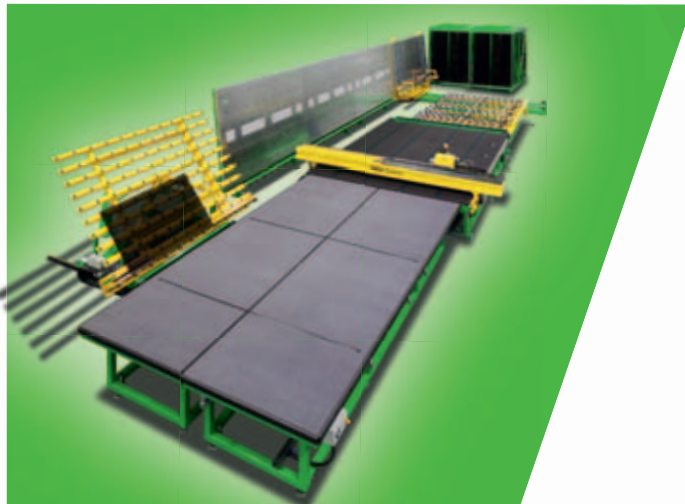
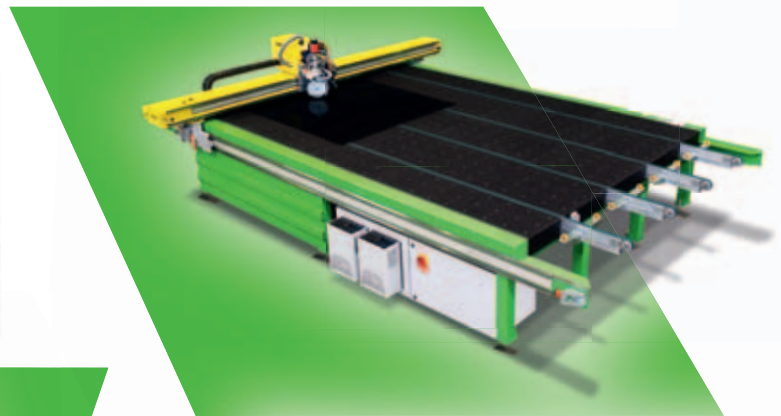
The specialist – **Zippe** – independent and dedicated entirely to producing the finest batch plants, cullet plants and associated products. Zippe has been on the cutting edge of technology for over 100 years and place its innovative spirit and expertise at your disposal. Right from the start.

**Batch Plants • Cullet Plants • Automation • Engineering •  
Modernization • Factory Cullet Recycling • Glass Recycling •  
Batch Charging • Preheating • Audits • Maintenance & Service**

right from the start

T: +49 9342 8040  
zippe@zippe.de  
[www.zippe.de](http://www.zippe.de)

# Combined Expertise for Customized Solutions



## Developing the Value Chain with HEGLA Group

With machines and integrated systems from HEGLA, you can achieve maximum precision, quality and automation. Efficient software solutions optimize your production control and planning. Innovations such as laser-assisted finishings for birdfriendly glass or better cell reception further increase your added value. QR code marking makes your glass trackable in the process and in the field – for the whole product life cycle.





## Annual publication

### EDITORIAL AND ADVERTISING OFFICE

Via Antonio Gramsci, 57 - 20032 Cormano (Milan) - Italy  
Tel.: +39 - 02 - 66306866

### PUBLISHING DIRECTOR

Arcangelo Altamura

### EDITOR-IN-CHIEF

Marco Pinetti

### ASSOCIATE EDITOR

Nicolas François Fouché.....nick.fouche@glassonline.com

### CONTRIBUTORS EDITOR

Zoë Elaine Whitten, Alexander Roe

### ADVERTISING

#### ITALY

Maurizio Lozza.....maurizio.lozza@glassonline.com

#### WORLDWIDE

Luciano Molina.....luciano.molina@glassonline.com

Alessandro Corboud alessandro.corboud@glassonline.com

### GRAPHIC DESIGN

Sonia Previato.....sonia.previato@glassonline.com

Martina Donà

### PRINTED BY

BICIDI ARTI GRAFICHE - Via San Felice N° 37d 16138  
Genoa (Molassana) - Italy

### SINGLE COPIES

€ 40 air mail included

Italy: € 30

Published by A151 S.r.l.; owned by Smartenergy S.r.l.  
All rights reserved. Reproduction even partially in any form is strictly prohibited unless written permission has first been obtained from the Publisher. The magazine is open to collaboration with all, but no manuscripts or photographs will be returned. The editor's office accepts no responsibility whatsoever for opinions expressed in signed articles.

The Court responsible is that of Milan. Publication registered at no. 136 of the Milan Court Records Office on 11.04.2017 - ROC no. 34927

PUBLISHED BY



Via Antonio Gramsci, 57 - 20032 Cormano (Milan) - Italy  
Tel.: +39-02-66306866 • E-mail: publications@glassonline.com  
www.glassonline.com

# review - a year of news

143 MARCH / MAY

205 JUNE / SEPTEMBER

253 OCTOBER / JANUARY 2025



08 FAIR CALENDAR

11 ADVERTISERS INDEX

140-142 ASSOCIATIONS



# suppliers to the glass industry

12 ALPHABETICAL INDEX



# suppliers guide

112 YELLOW PAGES

123 SALES NETWORKS

DATA SHEETS

155 A - E

217 F - L

269 M - Z





- + BUILDING GLASS TEMPERING FURNACE
- + AUTOMOBILE GLASS TEMPERING FURNACE
- + HOUSEHOLD APPLIANCE GLASS TEMPERING FURNACE



● ENERGY SAVING

● SYSTEM SMART

● CUSTOMIZATION  
AVAILABLE



RECEIVED GOOD CREDITS IN CHINA SINCE 2008  
MORE THAN 400 CLIENTS' UNREPENTANT CHOICE  
CONTINUOUSLY TECHNOLOGICAL INNOVATION  
CONTINUOUSLY CREATING GREATER VALUE FOR CUSTOMERS



issue	exhibition/conference	date	venue	deadlines
2025				<b>Editorial files:</b> <b>31-01-2025</b> <b>Deadline Adv files:</b> <b>10-02-2025</b>
2025	<b>1</b>	<b>AUTOMOTIVE GLASS FORUM 3rd EDITION</b>	16 April BOLOGNA Italy	<b>Editorial files:</b> <b>14-03-2025</b> <b>Deadline Adv files:</b> <b>21-03-2025</b>
		<b>FIT SHOW</b>	29 April 1 May BIRMINGHAM United Kingdom	
		<b>GLASS TEXPO</b>	7-8 May SAN ANTONIO (TX) USA	
2025	<b>2</b>	<b>GLASSTECH CANADA</b>	14-15 May TORONTO Canada	<b>Editorial files:</b> <b>11-04-2025</b> <b>Deadline Adv files:</b> <b>18-04-2025</b>
		<b>CONSTRUMAT</b>	20-22 May BARCELONA Spain	
		<b>CHINA GLASS</b>	26-29 May BEIJING China	
2025	<b>3</b>	<b>GPD - GLASS PERFORMANCE DAYS</b>	10-12 June TAMPERE Finland	<b>Editorial files:</b> <b>16-05-2025</b> <b>Deadline Adv files:</b> <b>21-05-2025</b>
		<b>GLASSTECH MEXICO</b>	16-18 July MEXICO CITY Mexico	
2025	<b>4</b>	<b>GLASS SOUTH AMERICA</b>	3-6 September SAO PAULO Brazil	<b>Editorial files:</b> <b>23-07-2025</b> <b>Deadline Adv files:</b> <b>31-07-2025</b>
		<b>GLASSPRO INDIA</b>	10-12 September MUMBAI India	
		<b>VITRUM</b>	16-19 September MILAN Italy	
		ALL VITRUM EXHIBITORS ADVERTISING IN THIS ISSUE ALSO RECEIVE A FREE VITRUM PREVIEW 		
2025	<b>5</b>	<b>GLASSBUILD AMERICA</b>	4-6 November ORLANDO (FL) USA	<b>Editorial files:</b> <b>22-09-2025</b> <b>Deadline Adv files:</b> <b>26-09-2025</b>
		<b>GLASSTECH ASIA</b>	6-9 November JAKARTA Indonesia	
2025	<b>6</b>	<b>EURASIA GLASS</b>	15-18 November ISTANBUL Turkey	<b>Editorial files:</b> <b>15-10-2025</b> <b>Deadline Adv files:</b> <b>20-10-2025</b>
		<b>ZAK GLASS TECHNOLOGY</b>	4-7 December MUMBAI India	

# LEADING BEYOND THE FURNACE

## GLASS PLANT TECHNOLOGY FROM A TO Z

HORN takes on the demanding work for your project - regardless of the furnace manufacturer. From the first planning sketch to the finished production line for hollow or flat glass. Years of experience in engineering through to the manufacturing of melting technology, float glass forming and - annealing make HORN a reliable partner in the turn-key segment.

**Ekaterina Firsova**  
Executive Director  
Glass Plant Technology

# Super Spacer<sup>®</sup>

**AESTHETIC, DURABLE AND UNIVERSAL**

## The T makes all the difference and offers ultimate flexibility!

Its unique T-shape and foam-based spacer system make the Super Spacer<sup>®</sup> 100% resilient and make it really stand apart from rigid spacers. T-Spacer's features inspire architects, specifiers, engineering offices, project managers, facade builders and glass processors, serving as an invitation for them to exploit all its strengths.

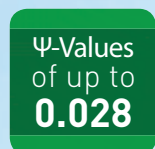
### T-shaped power features:

- Substantial reduction in tension levels on the butyl cord
- Warm edge integrity is preserved
- The T-shape limits movement of butyl
- Simple 3-step application, either automatically or manually
- Perfectly suited to both flat and curved glazing

**FLEXIBILITY OF GLAZING  
DURING CONTRACTION  
AND EXPANSION**

**Acrylic adhesive**

**Butyl**



# ADVERTISERS INDEX

Advertisers	Company Profile	ADS	Data Sheet	Advertisers	Company Profile	ADS	Data Sheet
A+W SOFTWARE	12-13	First Page	156-157	HORN GLASS INDUSTRIES	54-55	9	243
ADELIO LATTUADA	14-15		158-160	ITALCARRELLI	56-57		244-245
AUTOMOTIVE GLASS FORUM		110		ITALMATIC	58-59		246-247
B SOLUTION	16-17		162-163	ITALMOLE	60-61		248
BEST MAKINA	18-19	3	164-165	KERAGLASS	62-63		249
BOTTERO	20-21		166-172	LANDGLASS	64-65		
BOVONE	22-23		173-175	LISEC	66-67		250-252
CHINA GLASS		122		MAPPI INTERNATIONAL	68-69		270-271
CMS	24-25		176-183	MARPOSS	70-71		272-274
CUGHER GLASS	26-27		184-188	MARVAL	72-73		275
DELTAMAX AUTOMATION	28-29		190-191	MAZZAROPPI ENGINEERING	74-75		276-279
ECOL INGENIERÍA INDUSTRIAL	30-31		192-194	MOLE MORESCHI	76-77		281
EDGE TECH EUROPE	32-33	10	195	NEPTUN	78-79		282-284
EMAR GLASS	34-35		196-199	NORTHGLASS	80-81		
EURASIA GLASS		241		OPTRIS	82-83		285-287
EUROTECH WAY	36-37		200-203	RCN SOLUTIONS	84-85		288-289
FOREL	38-39	Front Cover	218-224	ROLLMAC - GEMATA	86-87		290-291
FUCHONG MACHINERY	40-41	7	226	SATINAL	88-89		292-294
GIARDINA GLASS DIVISION	36-37		227	SCHIATTI	90-91		295
GLASS COMPANY	44-45	2	228-233	SCHIAVO	92-93		296-297
GLASSONLINE		204		SI.STE TRADING	94-95		298-299
GLASSPRO		189		SKILL GLASS	96-97		300-302
GLASSTECH MEXICO		225		STUDIO 1 AUTOMAZIONI	98-99		303-305
GLASS PERFORMANCE DAYS		122		TALAMONI	100-101		306-307
GLASTON	46-47	Back Cover		TECGLASS	102-103	Front Inside Cover	308-310
GPM AUTOMATION	48-49		234-240	TEXPACK	104-105		311
HEGLA	50-51	5		TUROMAS	106-107		312
HELIOS QUARTZ	52-53	111	242	VITRUM		Back Inside Cover	
				ZIPPE	108-109	4	



FRONT COVER:

**Forel**

Via per Monastier, 4  
31056 Vallio di Roncade (TV)  
Italy  
www.forelspa.com

## suppliers guide

**112-121** YELLOW PAGES

**123-139** SALES NETWORKS

**140-142** ASSOCIATIONS

www.glassOnline.com  
The World's Leading Glass Industry Website

# A+W Software

for Glass, Windows & Doors



## A+W SOFTWARE GmbH

Siemensstraße 3 - 35463 Fernwald - Germany

Tel.: +49-641-96620 0

E-mail: [info@a-w.com](mailto:info@a-w.com) • [www.a-w.com](http://www.a-w.com)

### COMPANY DATA

#### Contacts

**Julia Schmidt** - CFO  
**Dennis Tiegs** - COO A+W Clarity

#### Annual turnover

EUR 29,625,216

#### Percentage of turnover from glass (%)

77

#### Number of Employees

184

#### Founding Year

1977

#### Registered Trademarks

A+W DynOpt



### COMPANY PROFILE

#### A+W

#### Software for Glass, Windows and Doors

**A+W** is the global market leader for software in the flat glass industry as well as the windows and doors business. The company develops ERP-, PPS- and optimization software in order to make glass and window manufacturers even more efficient.

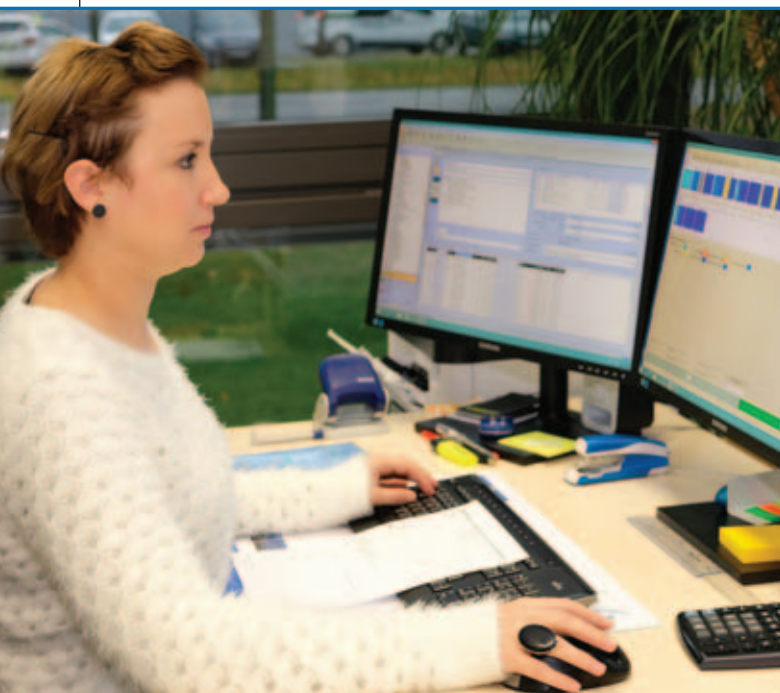
A+W solutions control and optimize the whole value chain, from basic glass to finished windows or façade elements. A+W products are suitable for small-, mid-sized and large companies.

Of course, A+W offers individual advice and consulting for its entire product range and supports users from the presentation of the systems through to live operation.

With automatic updates and upgrades, the global maintenance service makes sure that the installed software is always up to date. A+W optimizes its customers' yield, reduces production costs, shortens lead times, improves quality and thus increases customer satisfaction.

A+W has been active on the market for more than 40 years and sells its products worldwide. A+W cooperates with the most experienced and competent companies in the industry. This close networking helps A+W to always provide the best possible solution for its customers' demands.

A+W is a wholly owned company of Constellation Software Inc., which is listed on the Toronto Stock Exchange under the symbol 'CSU'. The Corporation acquires, manages and builds vertical market software businesses.



## SALES NETWORK

### A+W Sales and Services Global Network

#### UK

##### A+W Software UK Ltd.

c/o Hillier Hopkins LLP, 1st Floor, Radius House, 51 Clarendon Road, Watford, WD17 1HP, Hertfordshire, United Kingdom

#### POLAND

##### A+W Software Polska Sp. z o.o.

ul. Sikorskiego 44 - 62-300 Wrzeźnia

#### SCANDINAVIA

##### A+W Software Sweden AB

Industrivägen 17 - 302 41 Halmstad - Sweden

#### FRANCE

##### A+W Software France SAS

62 Avenue des Frères Montgolfier  
69740 Genas

#### NORTH AMERICA

##### A+W Software USA Inc.

C/O Vela US Holdco Inc  
8770 West Bryn Mawr Ave, Suite 1300  
Chicago, IL 60631

#### AUSTRALIA

##### A+W Software Australia PTY Limited

Level 1 - 37 Brandl Street Eight Mile Plains  
QLD 4113

### MEXICO / LATIN AMERICA

##### A+W Software Services Latin America S de RL de CV

Calle 18, Num. 315  
Col. Cámara de Comercio Norte  
97133 Mérida (Yucatán) - México

### A+W Sales and Service Partners (Agents)

#### LITHUANIA

Idelis UAB - Pelesos 3 - 02115 Vilnius

#### SPAIN, PORTUGAL

##### Appglas S.L.U.

Pol.Ind.Can Salvatella, Calle Mogoda 1, Despacho 111, 08210  
Barbera de Valles / Barcelona, Spain

#### SLOVENIA, SERBIA

##### MAB Export d.o.o.

Vodovodna Pot 3 - Kromberg  
Nova Gorica - Slovenia

#### MEA

##### Corptrade (Cyprus) Ltd.

PO Box 42687, Larnaca 6501, Cyprus

#### SOUTH AFRICA

##### Glass Design (Pty) Ltd

1 Eugene Street - Malanshof - Randburg, 2196

#### JAPAN

##### Correns Corporation

1-8-7 Roppongi, Minato-Ku. Tokyo 106-0032, Japan





## ADELIO LATTUADA Srl

Via Abbondanza, 11/13 - 22070 Carbonate (CO) - Italy  
Tel: +39-0331-832713

E-mail: [info@adeliolattuada.com](mailto:info@adeliolattuada.com) • [www.adeliolattuada.com](http://www.adeliolattuada.com) • [www.lattuada-na.com](http://www.lattuada-na.com)

### COMPANY DATA

#### Contacts

**Adelio Lattuada** - President

**Nicola Lattuada, Michela Lattuada** - Partners

#### Sales

Domestic 5% / International 95%

#### Area

Office area 500 m<sup>2</sup> / Plant area 3,500 m<sup>2</sup>

#### Number of Employees

44

#### Founding Year

1978

#### Capital

EUR 90,000.00

#### Planned Exhibitions 2025

**China Glass** - Beijing, China - 26 / 29 May

**Glasstech Mexico** - Mexico City, Mexico - 16 / 18 July

**Vitrum** - Milan, Italy - 16 / 19 September

**GlassBuild America** - Orlando, (FL) USA - 4 / 6 November

### SALES NETWORK

#### USA, CANADA

##### LATTUADA NORTH AMERICA, INC.

Northwood (OH) - Tel: +1 567 2494486 - E-mail: [joe.g@lattuada-na.com](mailto:joe.g@lattuada-na.com)

#### COLOMBIA

##### GLASSTOOLS DE COLOMBIA LTDA.

Bogotá - Tel: +57 1 6417300 - E-mail: [cam.glasstools@gmail.com](mailto:cam.glasstools@gmail.com)

#### MEXICO

##### MAVHISA S.A. DE C.V.

Jalisco - Tel: +52 33 36192590 - E-mail: [ventas@mavhisa.com.mx](mailto:ventas@mavhisa.com.mx)

#### AUSTRIA, BELGIUM, GERMANY, LUXEMBOURG, NETHERLANDS

##### FÜLDNER MACHINES BV

Geleen - Tel: +31 455 217757 - E-mail: [info@fuldner.nl](mailto:info@fuldner.nl)

#### PORTUGAL, ANGOLA, CAPE VERDE, GUINEA BISSAU, MOZAMBIQUE

##### JLE - J. LEMOS ESTEVES, LDA

Marinha Grande - Tel: +351 244 573480 - E-mail: [info@jlemosestes.pt](mailto:info@jlemosestes.pt)

#### POLAND

##### Q-GLASSTECH SP. Z O.O. - Zblewo

Tel. 0048-605282418 - E-mail: [biuro@q-glasstech.com.pl](mailto:biuro@q-glasstech.com.pl)

#### SPAIN

##### ADETEC, SL

Linares - Tel: +34 670 311 948 - E-mail: [paco@adetecl.es](mailto:paco@adetecl.es)

#### TECNICGLASS

La Selva del Camp - Tel: +34 619 231 227

E-mail: [info@tecnicglass.com](mailto:info@tecnicglass.com)

##### SATECRIS ENCABO, S.L.

Serranillos del Valle (Madrid) - Tel: +34 605 071 598

E-mail: [carlos@satecris.com](mailto:carlos@satecris.com)

##### NTPS GLASS, S.L.

Cabrils (Barcelona) - Tel. +34 637 722 458 - E-mail: [daniel.bravo@ntps.es](mailto:daniel.bravo@ntps.es)

#### UNITED KINGDOM, IRELAND

##### P.A.L. GLASS MACHINERY LTD.

Basildon Essex - Tel: +44 1268 493382

E-mail: [paul@palmachinery.co.uk](mailto:paul@palmachinery.co.uk)

#### AUSTRALIA

##### OVERSEAS GLASS AGENCIES PTY LTD

Braeside, VIC - Tel: +61 395872488 - E-mail: [neil@oga.com.au](mailto:neil@oga.com.au)

#### TAIWAN

##### C.Y. HANK INDUSTRIAL CO. LTD.

Taipei - Tel. +886 2 25318190 - E-mail: [cyhank@ms45.hinet.net](mailto:cyhank@ms45.hinet.net)

#### CZECH REPUBLIC AND SLOVAKIA

##### ITALCOMMA SLOVAKIA, SRO

Zilina - Tel. +42 41 5006 224 - E-mail: [italcomma@italcomma.sk](mailto:italcomma@italcomma.sk)

#### NORWAY, ICELAND, SWEDEN

##### PER MORDT AS

Oslo - Tel. +47 2207 1770 - E-mail: [post@permordt.no](mailto:post@permordt.no)

#### FINLAND

##### PROJECTA OY

Turku - Tel: +358 20 77130

E-mail: [info@projecta.fi](mailto:info@projecta.fi)



**ESTONIA**  
**ESTONEGLASS OÜ**

Harjumaa - Tel: +372 55 662662  
E-mail: info@estoneglass.ee

**LITHUANIA**  
**GLASSPRO UAB**

Vilnius - Tel: +37 052 778 314  
E-mail: nerijus.leskauskas@glasspro.lt

**CYPRUS**  
**GRAND MINATOR PROMOTIONS LTD**

Paralimni – Tel: +35799621041  
E-mail: manager@grandminator.com

**BRAZIL**  
**EURO WORK SOLUCOES PARA VIDRO**

Itupeva, SP – Tel: +5511987311427  
E-mail: rduarte@eurowork.com.br

## COMPANY PROFILE

**MADE IN LATTUADA INTEGRATED SOLUTIONS, TO MEET ALL YOUR NEEDS**



**Fully automatic edger:  
A-WR + iAL**

Lattuada Automation solutions bring companies into the world of Industry 4.0, by making every machine a fusion of precision, productivity and automation.

### STONE SOLUTIONS

Lattuada's many years of know-how transferred to natural stone, ceramic and composite material processing: PetrA, vertical edge polisher - Works with precision and quality on all types of edges, and, thanks to its natural versatility, is perfect for Stone Professionals production facilities.

### SPECIAL MACHINES SOLUTIONS

Any special needs? Any out-of-standard processes? Do you treat composite materials? TNo problem. We can find the most suitable solution for you and customise our machines to ensure you get the flexibility you need.

### GLASS SOLUTIONS

Customisation, precision, versatility: all Lattuada glass processing lines ensure excellent performance and high productivity, integrating perfectly into company realities. A combination of experience and innovation to meet any kind of challenge.

**- Grinding**

Our strength, always. A variety of solutions taking the shape of a wide range of machines: more than 40 possible models.

**- Washing**

For over 15 years we have been studying and providing solutions for glass washing. We offer a full range of high-tech, vertical washing machines that are easy to use and maintain.

**- Complementary processing**

Need to drill or process corners? We can provide a complete range of horizontal drilling machines and automatic radius as well as straight corner grinding machines.

### AUTOMATION SOLUTIONS

Robotics, A-WR & i-AL Systems, Augmented Reality and IoT: a beating heart of innovation and technology that's revolutionising glass and stone processing.





## B SOLUTION Srl

Via Spallanzani 6 - 24061 Albano S. Alessandro (BG) - Italy - Tel.: +39-035-4521234

E-mail: [sales@bsolutionsrl.it](mailto:sales@bsolutionsrl.it) - [info@bsolutionsrl.it](mailto:info@bsolutionsrl.it) • [www.bsolutionsrl.com](http://www.bsolutionsrl.com)

### COMPANY DATA

#### Contacts

**Gianluca Bonfanti** - General Manager

**Alessandra Bonfanti** - Sales Director



### COMPANY PROFILE

**B Solution** has 40 years of experience and has developed a complete range of products suitable for both small and large glassworks, satisfying the most modern production requirements.

**B Solution is specialized in:**

#### GRINDING LINES

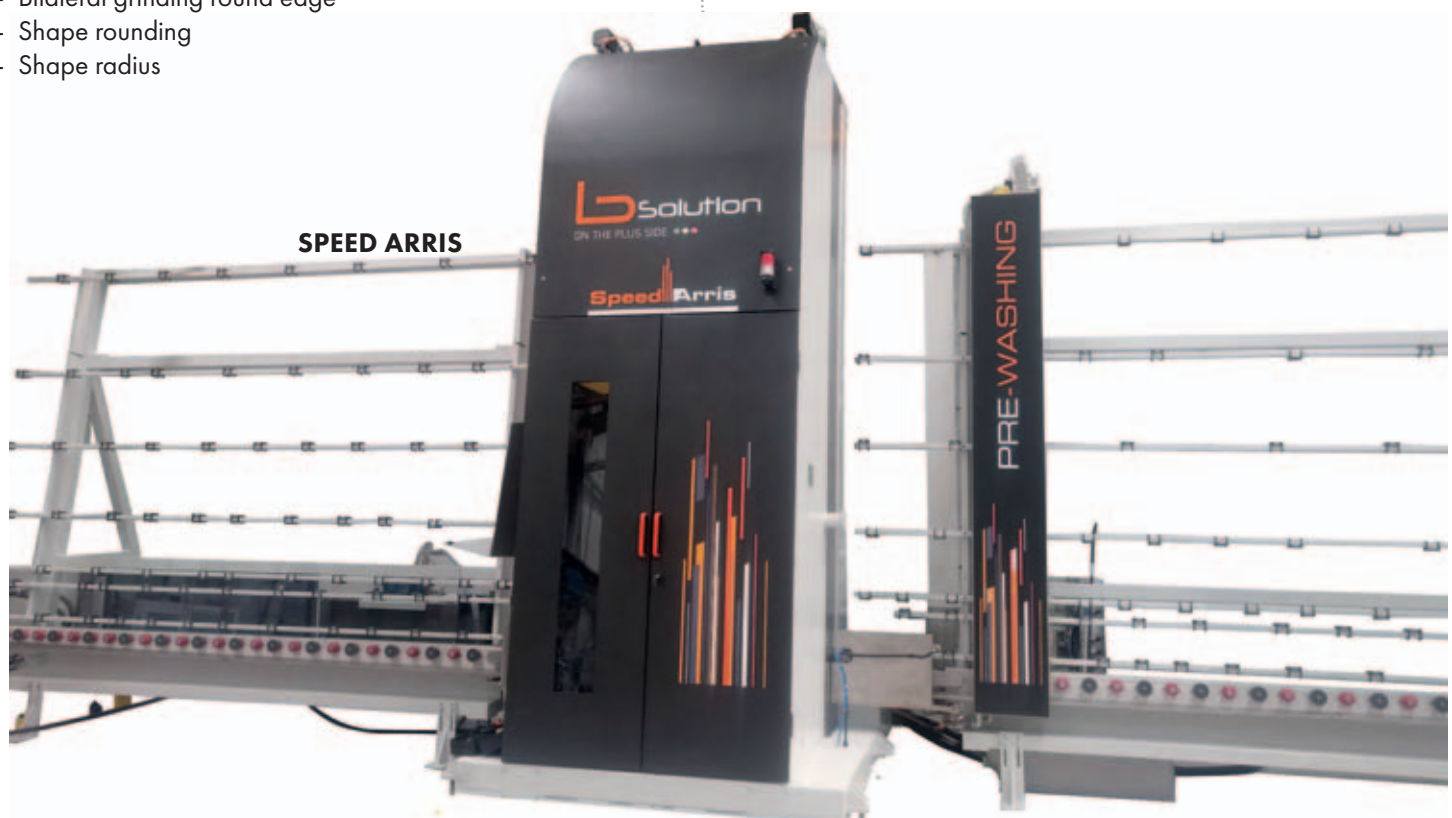
- Vertical Grinder Speed Edge
- Vertical Speed Arris
- Bilateral grinding flat edge
- Bilateral grinding round edge
- Shape rounding
- Shape radius

#### AUTOMATION AND MANIPULATION

- Loading manipulator
- Unloading manipulator
- Rotating platform
- Shuttle
- Turning device
- Transfer
- Horizontal diverter 0-90

#### CUSTOMIZED LINES FOR:

- Home appliance industry
- Automotive industry
- Structural industry
- Furniture industry
- Small sizes



**SPEED ARRIS**

### SPEED ARRIS

Speed Arris is B Solution's high-productivity vertical arriasing machine specialized in rough grinding-arriasing.

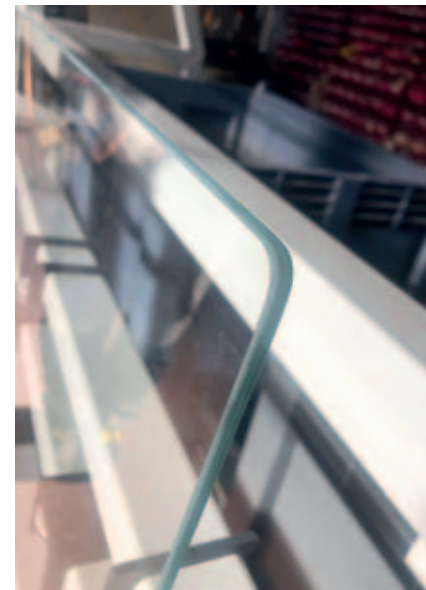
The machine can arriis/grind two rectangular glass with different size and thickness, this guaranteeing high Productivity for double-glazing lines and also thanks to the continuous production cycle.

Glass transport and handling is carried out with suction cups, especially important for today's high-performance glass types.

Regular arriis is ensuring thanks to the oscillating spindle.

The Speed Arris can be integrated with IG or tempering line or as stand-alone machine.

A software for shaped glass is available upon request. Available in different size 2.0.3 - 2.6.4 - 2.8.5.



### SPEED EDGE



BSolution's Speed Edge is a vertical compact grinder with the innovative patented follow-glass system, which carries out both rough and polished machining, flat and round edging, arising and milling.

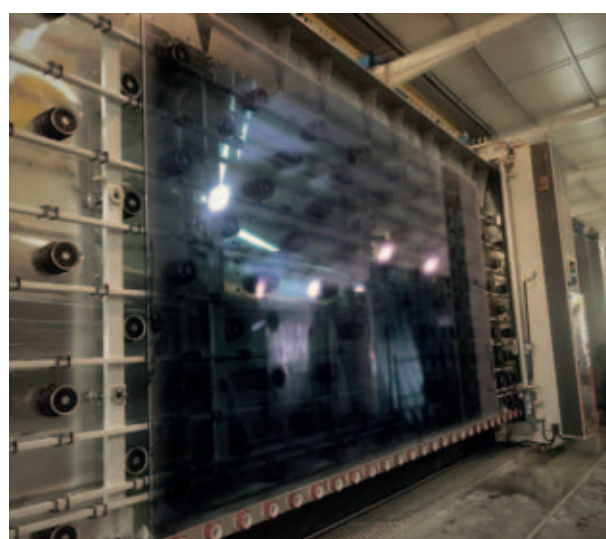
Processing of big glass sheets in a limited space thanks to the compact system that integrates the loading and unloading in a single solution.

The machine's suction cups have a locking system that involves the entire glass sheet.

Other features include:

- Maximum precision machining
- Best tool efficiency
- Loading of new glass sheets during the production cycle.

Available in different sizes 2.0.3 - 2.6.4 - 3.2.5 - 3.2.6 - 3.2.9



# bestmakina



## BEST MAKINA SAN. VE TIC. A.S.

Makine Ihtisas OSB, 15. Sk, No:5, 41455, Dilovasi/KOCAELI/Turkey  
Tel.: +90-262-7540232

E-mail: [info@bestmakina.com](mailto:info@bestmakina.com) • [www.bestmakina.com](http://www.bestmakina.com)

### COMPANY DATA

#### Contacts

**Oguzhan Kukul** - Plant Manager\Mechanical Eng.\Msc.  
E-mail: [oguzhan@bestmakina.com](mailto:oguzhan@bestmakina.com)

#### Founding Year

1999

#### European Office

**BEST MASCHINENBAU&TECHNIK GmbH**  
Tel.: +49-1511-7772378  
E-mail: [holger.boehme@bestmaschinenbau.de](mailto:holger.boehme@bestmaschinenbau.de)

#### Area

22000 m<sup>2</sup>

#### Number of Employees

200

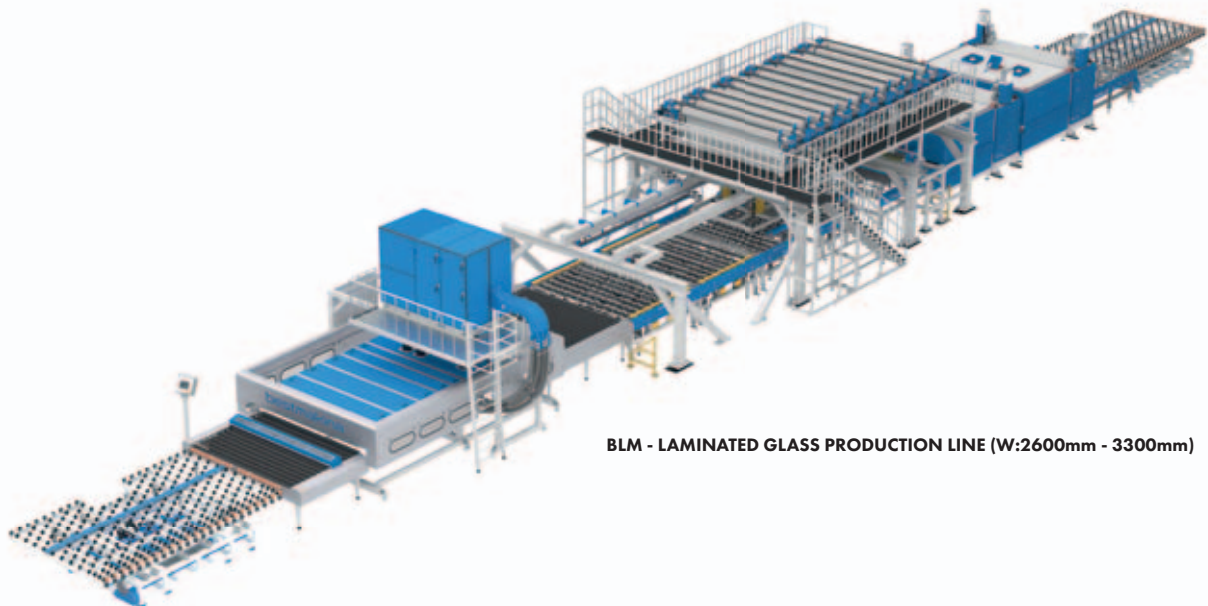
#### Planned Exhibitions 2025

**Eurasia Glass** - Istanbul, Turkey - 15 / 18 November

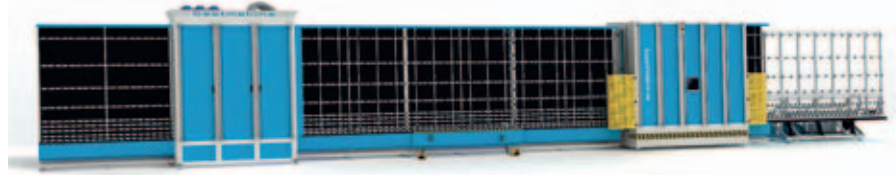
### COMPANY PROFILE

**BEST MAKINA** has been providing customized solutions for insulated glass production companies since 1999. With the advantage of having all engineering and production phases in-house; BEST MAKINA can create and deliver flexible solutions with the best price-performance ratio.

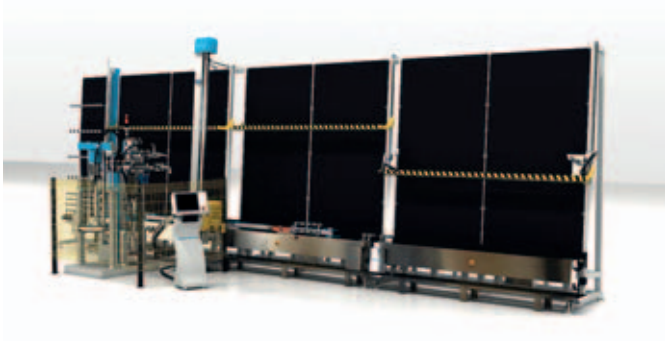
BEST MAKINA grants a longer lifetime as well as simplicity and durability of the machine components. BEST MAKINA offers excellent after-sales service including same-day parts supply, remote assistance, and 2 years warranty period. BEST MAKINA has the best return on investment parameters through the sustainable quality, performance of the machines and services.



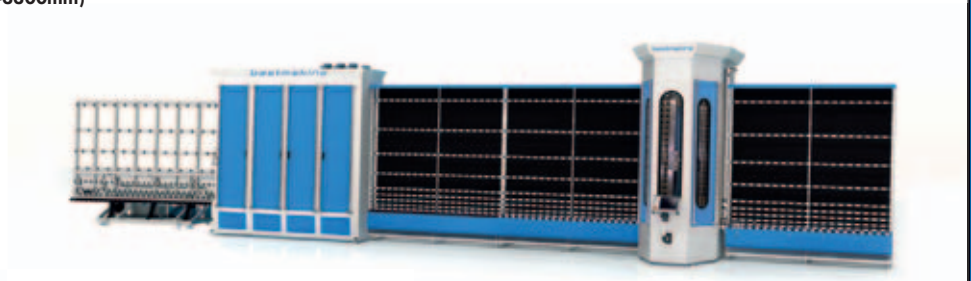
BLM - LAMINATED GLASS PRODUCTION LINE (W:2600mm - 3300mm)



INSULATED GLASS PRODUCTION LINES (H:1700-3300mm)



AUTOMATIC TWO COMPONENT EXTRUDERS (H:1700-3300mm)



VERTICAL ARRISING LINES (H:1700-3300mm)



SPACER PROCESSING MACHINES

AUXILIARY EQUIPMENTS



## PRODUCT RANGE

- GAS FILLING OR NON-GAS FILLING INSULATED AND STEPPED GLASS PRODUCTION LINES(1700X3000MM TO 3300X6000MM)
- VERTICAL & HORIZONTAL WASHING LINES(1700X3000MM TO 3300X∞)
- AUTOMATIC TWO COMPONENT EXTRUDERS FOR SECONDARY SEALING(1700X3000MM TO 3300X6000MM)
- GLASS LAMINATION LINE
- VERTICAL ARRISING LINES(1700X3000MM TO 3300X6000MM)
- COATING (LOW-E ) DELETION MACHINES(1700X3000MM TO 3300X6000MM)
- MANUAL TWO COMPONENT EXTRUDERS FOR SECONDARY SEALING
- PIB EXTRUDERS
- AUTOMATIC SPACER BAR PROCESSING MACHINES
- MANUALLY OPERATED SPACER BAR PROCESSING MACHINES
- AUTOMATIC TRANSFER SOLUTIONS FOR I4.0 APPLICATIONS



## **BOTTERO SpA**

Via Genova 82 - 12100 Cuneo (CN) - Italy - Tel.: +39-0171-310611

E-mail: [bottero@bottero.com](mailto:bottero@bottero.com) - [www.bottero.com](http://www.bottero.com)

### COMPANY DATA

#### Contacts

**Alberto Masoero** - Flat Glass Sales Manager  
**Giovanni Bensa** - Hollow Glass Sales Manager

#### Annual turnover of the company

Over 300Mio Euro

#### Percentage of turnover from glass (%)

80

#### Sales

Domestic 10% / International 90%

#### Quality certification

ISO9001 - ISO14001 - ISO26000

#### Area

Plant area 44,000 m<sup>2</sup>

#### Number of Employees

650

#### Founding Year

1957

#### Capital

EUR 6,000,000

#### Patents obtained

110

#### Registered brands

4



### SALES NETWORK

#### FRANCE & FRANCE DOM-TOM

##### Bottero France

39 Rue du Moulin Paillasson  
42300 Roanne, France  
Tel. 0800 941 438

#### UNITED KINGDOM & BRITISH OVERSEAS TERRITORIES

##### Bottero Uk Limited

Unit P1, Bay, 15 Heywood  
Distribution Park  
OL10 2TT Heywood, Lancashire  
United Kingdom  
Tel: +44 1706655440

#### NORTHERN AND EASTERN EUROPE

##### Bottero GmbH

Marie Curie Strasse 7  
D-41515 Grevenbroic, Germany  
Tel: +49 218181930

#### UNITED STATES OF AMERICA & CANADA

##### Bottero Flat Glass Inc.

121 Shields Park Dr, Suite J  
27284 Kernersville,  
North Carolina, USA  
Tel: +1 3369925623

#### SOUTH AMERICA

##### Bottero do Brasil

Rua George Rexroth, 609 Bl.F  
cj.01 JD.  
Padre Anchieta - CEP.09951-  
270 Diadema - SP, Brazil  
Tel: +55 1140723031

#### REPUBLIC OF CHINA, CAMBODIA, MONGOLIA, LAOS, TAIWAN

##### Bottero Glass Industry (Foshan) Co. Ltd.

Workshop No. 7, No. 6  
Chengyou Rd - Danzao Town,  
Nanhai Dt, Foshan  
China  
Tel: +86 0757-23838898



## COMPANY PROFILE



The glass industry has undergone a global transformation in recent times. Glassworks are facing a much more variable request from the market: dimensions and order size are difficult to predict, while delivery times are becoming shorter and shorter.

The new challenge for glass makers is to keep pace, raising productivity and staying competitive. This means investing in new equipment, but mainly reshaping the workshop production flow following lean principles.

**Bottero S.p.A.** has solutions ready to go for all these challenges, based on three main pillars:

- modular machines and platform concept;
- integrated systems tailor-made to customer needs;
- Bottero 4.0: a comprehensive suite for machine learning and artificial intelligence.

For more than 65 years Bottero has been leading the flat glass industry in float and laminated glass with an in-depth and wide range of processing machines, from cutting tables to double edgers and CNC machines.

With more than 200 glass production equipment items, and more than 50,000 processing machines installed around the world for any type of glass, Bottero is the unmissable partner for everyone who wants to cut a piece of glass.

Our product range in cutting (BKM, BCS and EVO) is the widest and most in-depth available today in both stand-alone and dual-line with a laminated glass cutting table, or within an integrated line with stock management systems such as crane loaders or shuttle systems.

Thanks to their modular design, our customers can choose several options for their cutting tables, such as the Easy Deletion system with baffle grinding wheel, low-E/TPF removal with peripheral grinding wheel, PPL labelling printer and CO2 laser marking, just to name a few.

Every Bottero cutting table gathers more than six decades of experience and know-how in the glass sector, ensuring not only perfect cutting quality and a user-friendly approach, but also remote support and preventive maintenance tools.

Bottero offers a wide range of solutions for laminated glass processing scalable in terms of modularity and automation level, suitable to process laminated glass with PVB (acoustic and/or refrigerated), EVA and special anti-hurricane interlayers.

Bottero's R&D department is continuously working to innovate its

laminated glass product range to ensure that the company remains the undisputed leader in this field.

The company's most advanced equipment is the 548 LAM, a fully automated table that can process different laminated glass types with reduced cycle time and energy consumption.

Bottero's PVB heating system focuses energy on the PVB without heating the glass, thus reducing cycle time by 30%, saving up to 40% of energy costs and reducing the number of glass breakages. Operator manual intervention is eliminated thanks to the patented squaring device for glass positioning and rotating, as well as by means of automatic loading and unloading arms.

With regards to laminated glass production, Bottero is currently market leader in the assembly line segment with a full range of solutions ranging from entry level, with manual loading and unloading, up to fully automated with automatic PVB unwinding and trimming with an output cycle time of 38s per JS plate of up to 6,000x3,300mm.

Bottero Flex Lamelines can manage shaped glass from 200x200mm up to XJS glass of 12,000x3,300mm in multiple layers of up to 100mm thickness.

Thanks to a great number of patents and more than 35 years of experience worldwide, Bottero offers state-of-the-art nip rolls and furnace area for laminated glass production, suitable for a huge variety of glass size and dimensions. Modularity and scalability are also applied to Bottero's wide range of horizontal double edgers and vertical edgers. While double edgers represent the best solution when high grinding and polishing quality is required, vertical edgers are more flexible and can be easily integrated with robots for loading, unloading and glass rotation.

Of course, double edgers ensure perfect parallelism, squareness and multiple profile finishing, including arrisses, engraving and polished radius corners. Bottero Flex-Edge, customers can really customise their machines with up to 17 spindles per side, with an unlimited range of dimensions up to 12,000mm opening width.

Remote service, cloud connection and preventive maintenance tools are the basic tool set of Bottero edgers.

Bottero is, and has been since 1957, customer centric. Our Pre-Sales and Sales Department pay special attention to understand customer expectations and limitation to develop the best proposal fitting with customer needs and reducing Total Cost of Ownership (TCO).

Fewer manual operations and more automation has allowed many of our customers around the world to improve their competitiveness and market leadership.

Recently, Bottero, through its subsidiary E2Pack srl, acquired the activities of a branch of the Ems Group of Montecchio Emilia, a company that specializes in producing end-of-line and packaging systems for the food, beverage, glass, and cans industries.

Thanks to its expertise in creating handling, palletizing, and storage systems the acquisition expands Bottero's offerings to include packaging solutions for hollow glass production lines and other market segments such as food, beverage, and pharmaceutical industries.

Bottero is also widely known as a key player in the photovoltaic technology supply chain. As a result, 3Sun chose Bottero as a technological partner in developing their GigaFactory in Catania. This factory is dedicated to producing photovoltaic modules with hetero-junction technology (HJT) and has an annual capacity of 3GW.



## BOVONE Srl

Via Molare 23/C - 15076 Ovada (AL) - Italy  
Tel.: +39-0143-837511

E-mail: [sales@bovone.com](mailto:sales@bovone.com) • [www.bovone.com](http://www.bovone.com)

### COMPANY DATA

#### Contacts

**Massimo Arata, Gianpiero Delucca,**  
**Matteo Patalocchi**  
Sales Manager

#### Annual Group Turnover

EUR 18 million

#### Percentage of Turnover from glass (%)

95

#### Sales

Domestic (2%) / International (98%)

#### Quality Certifications

ISO 9001 - ISO 14000 - ISO 18000 - ISO 45001

#### Nominal Capital

EUR 1 million

#### Area

Offices 1,000 m<sup>2</sup> / Plants 12,000 m<sup>2</sup>

#### Number of Employees

110

#### Founding Year

1954

#### Registered Trademarks

Bovone

#### Parent and Sister Companies

##### BDT - Bovone Diamond Tools

Via Molare 23/C - 15076 Ovada (AL) - Italy  
Tel.: +39-0143-837511 - Fax: +39-0143-837560  
E-mail: [sales@bovonediamond.com](mailto:sales@bovonediamond.com)  
<https://bovonediamond.com/en/glass-tools>

#### Planned Exhibitions 2025

**China Glass** - Beijing, China - 26 / 29 May  
**AUSFENEX** - Benowa Queensland, Australia - 2 / 4 September  
**Vitrum** - Milan, Italy - 16 / 19 September  
**Glassbuild America** - Orlando, (FL) USA - 4 / 6 November  
**Glasstech Asia** - Jakarta, Indonesia - 6 / 9 November

### SALES NETWORK

#### FRANCE

**C.V.M.I. SARL**  
[cvmifrance@cvmifrance.com](mailto:cvmifrance@cvmifrance.com)

#### SPAIN

**CASTRO GLASS**  
[castroglass@castroglass.es](mailto:castroglass@castroglass.es)

#### SWEDEN/DENMARK

**DMT APS**  
[Jesper@dm-t.dk](mailto:Jesper@dm-t.dk)

#### GERMANY

**GLASTECHNIK HOLGER KRAMP GmbH**  
[info@glastechnik.com](mailto:info@glastechnik.com)

#### POLAND

**ITALPOL**  
[italpol@italpolglass.eu](mailto:italpol@italpolglass.eu)

#### GREECE

**GEORGE DIKAIOS P.C.**  
[georgedikaios@dgtech.gr](mailto:georgedikaios@dgtech.gr)

#### RUSSIA

**COMPANY YTA**  
[stanki@yta.ru](mailto:stanki@yta.ru)

#### BELGIUM

**PIETERMAN GLASTECHNIEK-B**  
[info@pgv-be.com](mailto:info@pgv-be.com)

#### THE NETHERLANDS

**PIETERMAN GLASTECHNIEK - H**  
[info@pgv-nl.com](mailto:info@pgv-nl.com)

#### UNITED KINGDOM

**STONE AND GLASS GROUP**  
[sales@stoneandglassgroup.co.uk](mailto:sales@stoneandglassgroup.co.uk)

#### TURKEY

**SORGLAS LTD**  
[sacha@sorglas.com](mailto:sacha@sorglas.com)

#### CZECH REPUBLIC

**TEKNIKA-CZ**  
[zmeskal@teknika-cz.cz](mailto:zmeskal@teknika-cz.cz)

#### USA

**BOVONE NORTH AMERICA**  
[sales@bovonenorthamerica.com](mailto:sales@bovonenorthamerica.com)

#### ARGENTINA

**GIL BARBARA S.R.L.**  
[diego@gilbarbara.com.ar](mailto:diego@gilbarbara.com.ar)

#### JAPAN

**CORRENS CORPORATION**  
[d34@correns.co.jp](mailto:d34@correns.co.jp)

#### THAILAND

**JEENNY TRADING**  
[info@jeennytrading.com](mailto:info@jeennytrading.com)

#### FAR EAST

**USE ELECTRONICS (TAIWAN)**  
[glass@use.com.tw](mailto:glass@use.com.tw)

#### SOUTH KOREA

**YOUNG KYUNG CO. LTD.**  
[ykcltd@ykc.co.kr](mailto:ykcltd@ykc.co.kr)

#### CYPRUS

**CORPOTRADE (Cyprus)Ltd.**  
[charlesmaalouf@corpotrade.com](mailto:charlesmaalouf@corpotrade.com)







Innovation and Customization, Flexibility and Reliability, Performance, Quality and Process Speed are the characteristics of each Bovone product. Over 70 years of production at the highest levels, Bovone Group has established itself as an international leader in the supply of stand alone machines and full-line systems, accessories and tools for the second processing of glass and natural and synthetic stones.

The continuous analysis of the different and frenetic trends of each single application market originates the technological primacy of Bovone Group, which constantly studies new solutions that are able to provide clients with cutting-edge technologies for present and future challenges. In fact BRS, the Bovone robotic systems, born well in advance of the other players, expresses the trends of a market that is increasingly looking for automated solutions, to optimize resources without losing sight of workmanship quality. Highly technological solutions for application destinations mainly aimed at the construction, furniture and automotive sectors: the entire production takes place in the Ovada (AL) plants, which constitute an infrastructure of absolute excellence in the Italian and international industrial scene - all able to internally manage every step, from supply of the best raw materials to development and integration of management software, up to proposal of the most suitable tool, thanks to the synergy with its subsidiary BDT, Bovone Diamond Tools.

In addition to the Ovada headquarters, Bovone is present in the market with two direct branches, one in the United States dedicated to the North American market, the other in Brazil for coverage of South America, as well as a widespread network of distributors present throughout the world. An articulated and highly qualified system of technicians, supported by the almost unlimited availability of stock, provides an excellent after-sales assistance service, that responds promptly and competently in each geographical area. On the commercial side, the choices that are building this strategy are the result of a clear and defined vision of business objectives: starting from 2020, the new headquarters in the United States originates from this vision and is aimed at direct control of the market. The new General Manager who will lead the US office is called to consolidate the presence of the brand on such a strate-



gic market as that of the US which continues to show real interest in Made in Italy technology. The action plan involves the structuring of an excellent sales service – faster responses and more efficient sales support – and the development of new opportunities.

Anticipating market needs and facing high production standards are the drivers that guide production choices:

Bovone machines and systems combine high quality with process speed, the continuous innovative drive with a drastic reduction of downtime thanks to very high reliability.

There are three production reference areas at Bovone:

### Machines

Stand alone machines for the treatment of glass sheets: grinders, bevellers and washing machines. The main aspect of this area is its high level of customization which, today, is a fundamental strategic plus: whether it's Bovone machines are designed to solve each and every production need. They provide perfect finishes for increasing production results thanks to their high speed, and combine the most advanced electronic applications with the construction strength and reliability guaranteed over time: an entry level machine or a more advanced model, Bovone is able to guarantee excellent performance.



### Plants

Complete systems for mirror silvering and laminated glass lines are fully customizable and can be integrated according to clients' specific needs: with respect to standard configurations, all construction details are customized and calibrated to meet every specific need. Bovone systems ensure high performance both for large numbers and for those where high flexibility is required.

### BRS – Bovone Robotic System

The Bovone Robotic System (BRS) is a highly advanced integrated robotic solution for flat glass processing that provides:

- High productivity
- Reduced operating costs
- Accuracy to the millimetre
- Constant quality of the finished product
- Production flexibility
- Complete customisation
- Increased operator safety

The slabs are handled by anthropomorphic robotic arms that feed the Bovone edging machines to automatically carry out the various edge processing stages.

The latest 7-axis layout of BRS includes an anthropomorphic robotic arm mounted on a linear track moving on 7 axes, a straight edging machine, two dedicated supports for slab storage, and can be integrated with the optional BVR vertical washing machine for a complete edging and washing process.



## CMS SpA

Via A. Locatelli, 123 - 24019 Zogno (BG) - Italy  
Tel.: +39-0345-64111

E-mail: [info@cms.it](mailto:info@cms.it) • [www.cms.it](http://www.cms.it)

### COMPANY DATA

#### Contacts

**Dorian Campagnola** - Division Manager Glass,  
Stone and Metal

**Luca Barbieri** - Business Unit Manager Glass

**Alessandro Colella** - Product Manager Glass

#### Mother Company

SCM GROUP

#### Annual Company Turnover

EUR 150 million

#### Number of Employees

700

#### Founding Year

1969

#### Parent and Sister Companies

##### 1) CMS NORTH AMERICA

4095 Karona Ct - 49316 - Caledonia, MI - USA

Tel.: +1 616 698 9970 - E-mail: [cmssales@cmsna.com](mailto:cmssales@cmsna.com)

##### 2) CMS FRANCE

Z.A. La Verrerie - 74290 - Alex - France

Tel.: +33 450 028 391 - E-mail: [commercial@cmsfr.fr](mailto:commercial@cmsfr.fr)

#### Planned Exhibitions 2025

##### GlassBuild America

Orlando, (FL) USA - 4 / 6 November

### COMPANY PROFILE

**CMS Glass Technology: high-performance machining centers and unique integrated lines for glass processing**

CMS Glass Technology is an industry leader in the field of bent and flat glass working, with advanced solutions such as horizontal and vertical CNC machining centers, cutting tables, seaming machine and waterjet cutting systems.

**ELECTA** is the new 3- or 4-axis CNC machining center for processing flat glass, whether thick, thin, float or laminated. In its category CMS electa features an incredibly compact footprint with an ultra-wide working area and can perform many types of machining: the 3-axis version performs grinding, edge polishing, drilling and milling, while the 4-axis version can also perform cup wheel polishing, diamond disc cutting, engraving and 5° beveling.

The high inertia and thickness of the exclusive Metal Synthetic Technology (MST) worktable, which replaces the conventional aluminum worktable, dampens vibrations and helps to improve the quality of the machined glass.

With a maximum axis speed of 72 m/min, CMS electa guarantees top performance and is the perfect machine to increase productivity since it performs high-speed grinding and can machine multiple work-pieces on the same worktable.



**TAKTIKA** is the compact vertical machining center developed by CMS for the greatest flexibility in small spaces. It can perform seaming, grinding, polishing, milling and coaxial drilling; it can be used stand-alone or in line with a vertical washing machine to wash the glass immediately after processing.

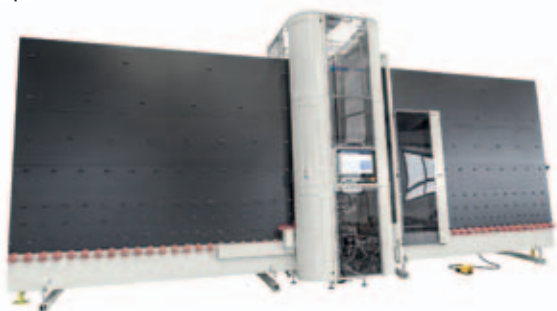
The project was conceived for small and medium-sized glass factories that need to increase their efficiency, and is also ideal for larger companies that need the flexibility to manage small batches of glass.

Taktika features the new Cms Active software was designed to make the user interface more efficient and user-friendly than ever.



**AURA** is the vertical dry seaming machine specially developed to machine edges without the use of water (dry seaming). Aura can be used as a stand-alone machine, in line with a vertical washing machine and is the perfect machine to be part of a double glazing production.

Aura can seam monolithic, laminated or low-e treated glass. Aura is designed to meet the needs of customers who demand ease of use, quick installation, reliability and low cost of system ownership.



**PROXIMA** is an automatic horizontal dry seaming machine and it is the ideal solution for all small-medium glass factories that need to venture into seaming with a modest investment. This machine has been designed to be combined with both tilting float glass cutting tables and laminated glass cutting tables.



**AGIL TR** is a super compact, versatile and easy to install cutting table. It automatically cuts float glass sheets and semi-automatically cuts laminated glass sheets, thanks to the double-zero system. Agil tr can process sheets up to 3810x2600 mm, has 4

loading / unloading arms and a C-axis for straight and shaped cutting.

It can optionally be equipped with an automatic tool changer, a grinding wheel for removing low-e coatings, and a cutter for vinyl removal.



CMS's product-range also includes:

- **GEA and SPEED:** horizontal 3- and 4-axis horizontal CNCs with bigger worktables than Electa
- **MAXIMA:** 5-axis horizontal CNC for bent glass and beveling without templates or with a variable angle
- **YPSOS and VERTECMILL:** vertical CNCs dedicated to the edge- and internal-processing. They can be put in line to reach the highest productivities
- **EASYLINE, SMARTLINE, PROLINE and AQUATEC:** a wide range of 3- and 5-axis abrasive waterjet machines to cut, drill and mill monolithic and laminated glass, either thin or thick.

**CMS can also design and manufacture tailor-made, fully-automatic cells and lines based on customer's needs in terms of space and productivity.**

To keep up with the continuous evolution of the manufacturing world and **Industry 4.0**, CMS has also introduced **new digital applications and services to simplify the operator's daily operations and management of the entire production process.**

The digital services offered by CMS include **CMS CONNECT**, the IOT platform that is fully integrated with CMS machines. It can offer customized micro services through the use of IoT Apps that support the daily activities of industry operators, improving the availability and use of machines or systems. The platform displays, analyzes and monitors all data from connected machines. The data collected by the machines in real time can be used to increase machine productivity, reduce operating and maintenance costs and cut energy costs.

CMS has also decided to adopt the new **CMS ACTIVE** software for all its machines. It is an extremely simple, user-friendly human machine interface (HMI) so that the operator can easily manage each process. In addition, the operator can quickly get used to different Cms machines because they all have Cms Active with the same look & feel, icons and approach to interaction.

All CMS Glass Technology machines are also equipped with a free remote support program, which allows the operator to connect with CMS support to be guided step by step through troubleshooting any issues.



## CUGHER GLASS Srl

Via Giuseppe di Vittorio, 70 - 20026 Novate Milanese (MI) - Italy  
Tel.: +39-02-66207762

E-mail: [info@cugher.com](mailto:info@cugher.com) • [www.cugher.com](http://www.cugher.com)

### COMPANY DATA

#### Contacts

**Barbara Mazza** - General Manager  
**Marino Bonetti** - Chief Sales Officer  
**Paolo Bardotti** - Chief Engineering Officer  
**Andrea Zorzitto** - Project Manager Officer  
**Silvia Viva** - Sales Account  
**Dea Cizmja** - Marketing Account

#### Mother Company

Cugher Glass srl

#### Annual Company Turnover

EUR 15,000,000

#### Percentage of turnover from glass (%)

95

#### Sales

Domestic 5% / International 95%

#### Quality certifications

QMS ISO 9001:2015

#### Area

Office area 1,000 m<sup>2</sup> / Plant area 7,600 m<sup>2</sup>

#### Number of Employees

130

#### Founding Year

1967

#### Planned Exhibitions 2025

**Automotive Glass Forum** - Bologna, Italy - 16 April  
**China Glass** - Beijing, China - 26 / 29 May  
**Glass South America** - Sao Paulo, Brasil - 3 / 6 September  
**Glass Build America** - Orlando, (FL) USA - 4 / 6 November  
**Vitrum** - Milan, Italy - 16 / 19 September

### CUGHER INSTALLATIONS

● AUTOMOTIVE    ● HOME APPLIANCE    ● ARCHITECTURAL    ● SOLAR





## COMPANY PROFILE

**Cugher's** over 50-year success with printing machines for silk-screen printing on glass is the result of an efficient mix of productive resources and cutting-edge technologies, deriving from the work of a team of high profile professional and derives from the work of a Team composed by high profile professionals. Production focuses on offering customized and performing solutions for each sector.

### AUTOMOTIVE

Fully automated and integrated printing lines for tempered and laminated glasses of windshields, backlites, sidelites and rooftops. The plants guarantee extremely high productivity, print repeatability (<math>\pm 0,08\text{ mm}</math>) and short cycle time (from 6 to 15 seconds).

### HOME APPLIANCE

Solutions for a sector where speed is essential. The production change-over is very simple and fast; it allows for very easy processing of different glass types, with operations relative to different batches all performed by a single operator.

### BUILDING & INTERIOR DESIGN

Architectural LAB, the newest research center, is highly specialized in the creation of specific long-term solutions to manage float, tempered, laminated glasses of civil and industrial applications – from windows and balconies to furnishing elements and shower enclosures.

### SOLAR

Development and engineering of machinery for handling solar panels along the production line as well as silk-screen printing of backsheets – all guaranteeing wet film uniformity, 98% good parts, a 7/7 working plant and high reliability.

Cugher's commercial offer is dedicated to a cutting edge product range composed of:

- **Machines for screen printing** that best fit production needs thanks to options ensuring excellent image definition, precision and uniformity of the ink. Cugher printing machines can either be integrated in a turnkey automated plant or used stand-alone with a high level of flexibility.
- **Dryers (IR, UV or combined)** with specific features and flexibility to satisfy both silk screen printing and digital printing on glass. Indeed, adapting air recirculation, dryers can accurately dry ink thicknesses from 15 to 100 microns.
- **Vision systems and quality control** provides opportunities to best control glass and print quality in every detail and to monitor and adjust the process through optical systems that are designed for automatic screen centering automatic control of broken screens.
- **Dedicated systems for handling, transport and storage** of every dimension and shape, guaranteeing excellent integration and synchronization with all line components.



## DELTAMAX AUTOMAZIONE Srl

Via Kufstein, 5 - z.i. Spini di Gardolo 38121 Trento (TN) - Italy  
Tel.: +39-0461-042301

E-mail: [info@deltamax.eu](mailto:info@deltamax.eu) • [www.deltamax.eu](http://www.deltamax.eu)

### COMPANY DATA

#### Contacts

**Pompeo Viganò** - General Manager  
**Fulvio Rigotti** - President  
**Gianluca Diener** - Sales Manager

#### Mother Company

Delta Informatica Spa

#### Annual Group Turnover

EUR 25.000.000

#### Annual Company Turnover

EUR 2.000.000

#### Percentage of turnover form glass (%)

100%

#### Sales

National 35% / International 65%

#### Number of Employees

15

#### Founding Year

1989

### COMPANY PROFILE

Born in 1989 as spin-off of the research centre Fondazione Bruno Kessler, **DELTAMAX** boasts wide experience in the development of **artificial vision solutions for quality control** in the industrial sector. Since 2010 we have devoted to flat glass quality control developing cutting-edge solutions thanks to continuous investment in Research&Development.

Since 2017 Deltamax has become part of the Delta Informatica group, a point of reference for ICT in the north of Italy. The common goal is to support the continuous growth of the inspection solutions application, with a more structured organization ready to face the new challenges that the markets propose.

Thanks to the strength of the group and to our thirty year experience, we can offer the necessary know how to renovate the manufacturing process, with hard-core solutions aimed at modernizing existing systems, replacing or integrating them with more innovative ones.



#### CUTTING LINES SOLUTIONS

The complex production of float glass involves the presence of structural defects in every sheet, defects that cannot be repaired. This results in significant costs that relate to waste management and client disputes. With a mission to make the whole float glass transformation process more efficient, Deltamax has developed OPT, the innovative solution destined to change the glass sector. It can detect defects before each processing without having to wash the sheets and guarantees numerous advantages and a quick return on investment.

#### IG LINES SOLUTIONS

The high demand for insulated glass by the building industry with increasingly larger, high-performance windows in terms of acoustic and thermal insulation has resulted in demand for higher quality, as close as possible to a "zero defect" result. Being the first company ever to engineer a functional solution for defects control in IG lines as well as the first designer of a scanner for defects detection such as halos, Deltamax is now a leader in the supply of technologies for supporting workers, such as augmented reality.

- **GLASSINSPECTOR**

Developed in 2007, this technology has constantly evolved to meet different needs, ensuring the detection of the typical glass defects such as bubbles, inclusions, scratches, coating defects, dirtiness, etc.

- **Q+**

Q+ integrates two different technologies of inspection in one solution: the standard system potential is improved by a second inspection channel which dramatically increases the capacity to detect superficial defects, such as halos

- **IGU SCANNER**

Any manufacturing company's goal is to certify the quality of a finished product and of the whole production line before delivering it to the client. Thanks to the IGU Scanner, Delta-max can offer a versatile solution for the control of single, double and triple glazing

## FLAT GLASS CONTROL SOLUTIONS

The increasing speed in modern manufacturing systems makes the use of technology indispensable to ensure accuracy in the single production processes and the quality of the finished product.

This is no less true for flat glass production and processing lines. The level of automation has considerably increased over the years, thanks to the technological innovations which guarantee high performance together with simplified configuration and use.

That is the case of EVO, the most flexible and comprehensive solution for flat glass inspection which be easily adapted to any production line to carry out accurate controls which can even be combined one with the other. These controls include:

- DEFECTS DETECTION
- PRINTING CONTROL
- DIMENSIONAL AND SHAPE CONTROL





# ECOL INGENIERIA INDUSTRIAL, S.L:

Poligono Industrial Guarnizo P17 - 39611 Guarnizo / Cantabria (Spain) - Tel.: +34-942-566-196

E-mail: [comercial@grupoecol.com](mailto:comercial@grupoecol.com) • [www.grupoecol.com](http://www.grupoecol.com) • [www.linkedin.com/in/ecolglassmachinery](https://www.linkedin.com/in/ecolglassmachinery)

## COMPANY DATA

### Founding Year

Santander, 1975

### Business

Customized Machinery Solutions for flat and automotive glass

### Expertise

Mechanical, electrical, automation, robotics

### Scope

Design, manufacture, assembly and installation of customized machinery and automated solutions

### References

Turnkey projects worldwide



## COMPANY PROFILE

**ECOL** Ingenieria industrial S.A. is specialized in the automation of the glass processing industry. Working as a consulting partner and turnkey supplier, ECOL develops and integrates customized machinery solutions to upgrade new or revamped lines with the latest technology in the market. Our specific know-how can increase your competitiveness by:

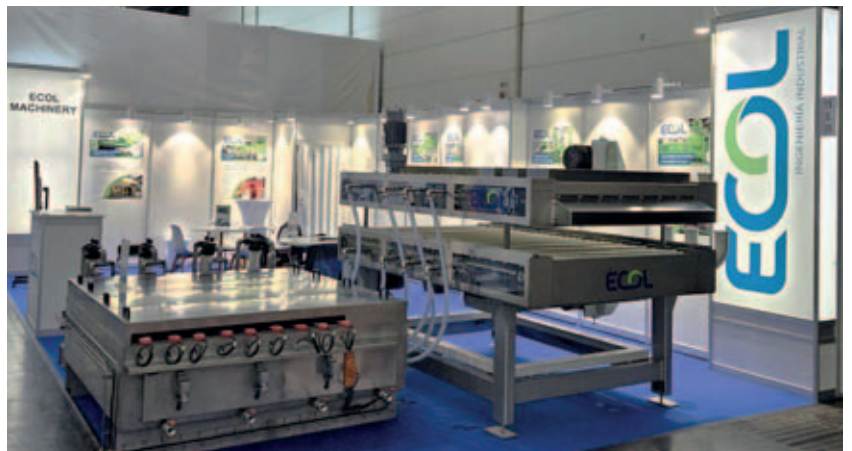
- **Boosting your production speed**
- **Improving your product quality**
- **Lowering your labor cost**
- **Saving energy consumption**

With a proven track of records in the **design, manufacture and installation of customized machines**, ECOL is the reliable choice to support your engineering team in your improvement projects. Our deep technical expertise ensures a cost-effective solution. Our long experience in international project management guarantees a successful on-site integration. Our professional reputation comes from an extended customer support. Our worldwide customers attest about our reactivity and service commitment.

ECOL manages all the stages of its projects 100% internally. From the mechanical and electrical design to the manufacture in our dedicated workshops (i.e. machining, welding, painting, automation, etc.), ECOL is equipped with ad-hoc capacities for the business. With no subcontractors, the project schedule and product quality are closely controlled. Moreover, the know-how and lesson learnings remain in-house leading to a continuous improvement of our innovative solutions.

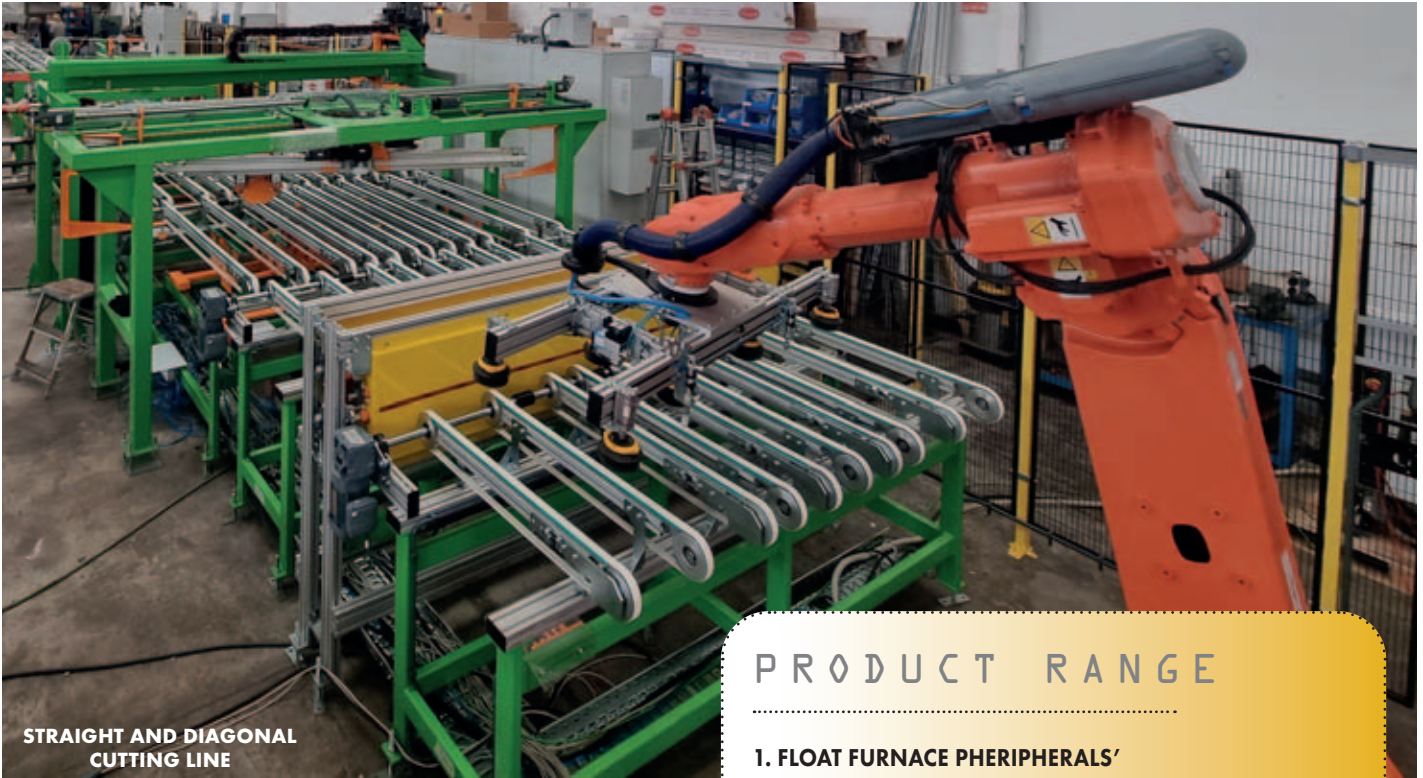


**BAG VACUUM FURNACE  
ROBOTIC LOADING**



**WASHING MACHINE FOR FLAT GLASS  
GLASSTEC DUSSELDORF**





**STRAIGHT AND DIAGONAL CUTTING LINE**

## PRODUCT RANGE

1. FLOAT FURNACE PHERIPHERALS'
2. CONVEYORS AND TRANSFERS
3. ACCUMULATION BUFFERS (STOCKERS)
4. LOADERS/UNLOADERS
5. CUTTING LINES
6. CRUSHER AND CULLET LINES
7. SERIGRAPHY LINES (LOGO PRINTING)
8. WASHING MACHINE FOR FLAT GLASS
9. WASHING MACHINE FOR BENT GLASS
10. PVB WIRING DRUM
11. DE-AIRING VACUUM BAGS FURNACE
12. PVB TRIMMING MACHINES
13. PACKING LINES
14. SMART WAREHOUSE STORAGE
15. ROBOTIC CELLS
16. AUTOMOTIVE AVO (ADDED VALUE OPERATIONS)



**FURNACE AUTOMATIC UNLOADING**



**WASHING MACHINE FOR BENT GLASS**



## EDGETECH EUROPE GmbH

Gladbacher Strasse 23 - 52525 Heinsberg - Germany  
Tel.: +49-2452-964910

E-mail: [info@edgetech-europe.com](mailto:info@edgetech-europe.com) • [www.superspacer.com](http://www.superspacer.com)

### COMPANY DATA

#### Contacts

**Joachim Stoss**

Vice President International Sales IG

**Mike Moran**

Vice President Europe and UK Sales IG

**Johann Artamonov**

Vice President of Operations Europe and UK

#### Mother company

Quanex Building Products Corporation

#### Area

Cambridge, Ohio - USA: 38,740 m<sup>2</sup>

Heinsberg, Germany: 7,110 m<sup>2</sup>

Coventry, UK: 2,522 m<sup>2</sup>

#### Number of Employees

490

#### Founding Year

1989

#### Registered brands

Super Spacer®

#### Parent and Sister Companies

**Quanex IG Systems, Inc.**

800 Cochran Avenue - Cambridge, Ohio 43725 - USA

Phone: +1 800 233 4383 - Fax: +1 740 439 0121

E-mail: [IGSales@quanex.com](mailto:IGSales@quanex.com) - [www.quanex.com](http://www.quanex.com)

**Edgetech Europe GmbH**

Gladbacher Strasse 23 - 52525 Heinsberg - Germany

Phone: +49 2452 964910

E-mail: [info@edgetech-europe.com](mailto:info@edgetech-europe.com) - [www.superspacer.com](http://www.superspacer.com)

**Edgetech (UK) Ltd.**

Stonebridge House, Rowley Drive, Stonebridge Trading Estate

Coventry CV3 4FG - United Kingdom

Phone: +44 2476 639931 - Fax: +44 2476 639727

E-mail: [UKenquiries@edgetechig.com](mailto:UKenquiries@edgetechig.com) - [www.edgetechig.co.uk](http://www.edgetechig.co.uk)

#### With the T, insulating glass is fit for the future

**The T-shape of the Super Spacer® ensures the integrity of the edge seal**

Thanks to its unique shape and 100% resilience, the spacer system made of T-shaped silicone foam can withstand the pumping movements of insulating glazing countless times. The spacer structure has a lot of advantages: substantial reduction in



tension levels on the butyl cord and secondary seal, the butyl cord is not pressed into the visible area of the glass unit. The flexible structural foam of the Super Spacer® can compensate for the loads on the edge seal and its T-shape holds the butyl secondary seal in place. The edge seal remains intact, preventing gas leakage or condensation.

In addition the spacer can be applied automatically and manually and is suitable for both flat and free-form glazing.

#### Super Spacer® ensures low thermal conductivity

Psi values make it possible to compare the different spacers in terms of their thermal performance. According to a rule of thumb, a difference of 0.04 W/mK in the Psi value means an improvement of 0.1 W/mK in the Uw value. The Psi values of the Super Spacer® spacers are at best 0.029 W/mK. This means that the warm edge efficiently prevents the formation of thermal bridges at the edge of the insulating glass through which valuable energy is lost.



#### Exact parallelism also ensured with XXL glazing

Up to an edge length of 3.5 metres, a deviation of the spacer from the straight glass edge of 4 millimetres is permitted; for larger edge lengths, the maximum deviation is 6 millimetres. Setting the spacer in an insulating glass line therefore requires precision work, not only for normative but also for visual reasons. With the increasing size of the insulating glass units, rigid spacer frames are increasingly difficult to handle due to their lack of tensile strength and tendency to bend. In contrast, the flexible Super Spacer® spacer bar is applied from the roll on partially or fully automated lines with robotic support and outstanding precision and ensures immediate stability even with oversized glazing thanks to its good adhesive strength.



These are just some of the reasons why Super Spacer® is featured in world-renowned buildings such as the Killa Design's Museum of the Future, Zaha Hadid's The Opus in Dubai or the new headquarters of the Bjarke Ingels Group (BIG) in Copenhagen.

## Planned Exhibitions 2025

We value direct contact with our clients, that is why we will try to attend as many trade fairs as possible.

**Window Facades EXPO** - Guangzhou, China - 11 / 13 March  
**ZAK World of Facades** - Singapore - 26 March  
**ZAK World of Facades** - Dubai - 23 April  
**China Glass** - Beijing, China - 26 / 29 May  
**ZAK World of Facades** - Shanghai, China - 24 July

**Vitrum** - Milan, (Italy) 16 / 19 September  
**Windoor North America** - Toronto, (ON) Canada - 8 / 9 October  
**ZAK World of Facades** - Mumbai, India - 10 October  
**GlassBuild America** - Orlando, (FL) USA - 4 / 6 November  
**ZAK Doors and Windows** - Mumbai, India - 4 / 7 December

## SALES NETWORK

### GENERAL SALES CONTACT

#### AFRICA, AUSTRALIA, MIDDLE EAST & PACIFIC

**Joachim Stoss**

Mobile: +49 171 5679224 - E-mail: j.stoss@edgetech-europe.com

#### EUROPE & UK

**Mike Moran**

Mobile: +44 7731 527590 - E-mail: Mike.Moran@edgetechig.com

#### BALKANS, BELGIUM (WAL), EASTERN EUROPE, FRANCE, MAGHREB & MONACO

**Fabrice Keller**

Mobile: +33 648 655 968 - E-mail: f.keller@edgetech-europe.com

#### IRELAND

**EDGETECH (UK) Ltd.**

Stonebridge House - Rowley Drive

Stonebridge Trading Estate - Coventry CV3 4FG - United Kingdom

Phone: +44 2476 639931

Fax: +44 2476 639727

E-mail: UKenquiries@edgetechig.com

#### CENTRAL, NORTH & SOUTH AMERICA

**QUANEX IG SYSTEMS, Inc.**

800 Cochran Avenue

Cambridge, Ohio 43725 - USA

Phone: +1 800 233 4383 - Fax: +1 740 439 0121

E-mail: IGSales@quanex.com

#### AUSTRIA, GERMANY & SWITZERLAND

**Horst Matias**

Mobile: +49 151 55046650 - E-mail: h.matias@edgetech-europe.com

#### BENELUX

#### BELGIUM (FLEMING), LUXEMBURG & NETHERLANDS

**Roger Kahlen**

Mobile: +49 151 55850050 - E-mail: r.kahlen@edgetech-europe.com

#### BALTIC & NORTHERN EUROPE

#### DENMARK, ESTONIA, FINLAND, ICELAND, LATVIA, LITHUANIA, NORWAY & SWEDEN

**Christina Bång - Sinchrijo Agenturer AB (Distributor)**

Mobile: +46 705 803789 - E-mail: christina@sinchrijo.com

#### EASTERN EUROPE

#### KAZAKHSTAN, POLAND, UKRAINE & UZSBEKISTAN

**Fabrice Keller**

Mobile: +33 648 655 968 - E-mail: f.keller@edgetech-europe.com

#### MONGOLIA

**Joachim Stoss**

Mobile: +49 171 5679224 - E-mail: j.stoss@edgetech-europe.com

#### ROMANIA

**Ady Chitimus - Ortosil (Distributor)**

Mobile: +40 773 720 270 - E-mail: ady@ortosil.ro

### SOUTHERN EUROPE

#### ITALY, REPUBLIC OF MALTA, SAN MARINO & VATICAN

**Tommaso Pascucci (Sales Agent)**

Mobile: +39 320 632 2008 - E-mail: t.pascucci@edgetech-europe.com

#### FRANCE

**Vincent Ausset - SAS Covadis (Distributor)**

Mobile: +33 603 183 614 - E-mail: vincent.ausset@covadis.eu

#### TURKEY

**Esat Suvarierol - FGI Flat Glass International (Distributor)**

Mobile: +90 532 337 0475 - E-mail: esuvarierol@fgias.com

#### ANDORRA, PORTUGAL & SPAIN

**Jacinto Mora - Tekvimo - Pladenex S.L. (Distributor)**

Mobile: +34 649 905 410 - E-mail: jacinto.mora@tekvimo.es

#### ASIA

#### INDIA

**Asif Dahoodwala - Saugaat Inc. (Distributor)**

Mobile: +91 77385 87864 - E-mail: saugaatinc@gmail.com

#### SOUTH KOREA

**Grace Ryu - AMR Advanced Material Resource Inc. (Distributor)**

Mobile: +82 31 621300 - E-mail: ryugrace6374@gmail.com

#### JAPAN

**Osamu Kobayashi - Correns Corporation (Distributor)**

Mobile: +81 3 5114 0852 - E-mail: osamu.kobayashi@correns.co.jp

#### CHINA

**Daniel Zhang - Linkeast International Trading (Shanghai) Co., Ltd. (Distributor)**

Mobile: +86 1864 0258 988 - E-mail: daniel.zhang@linkeast.com.cn

#### AUSTRALIA & PACIFIC

#### AUSTRALIA

**Tim Stokes - Glasscorp Australia Ltd. (Distributor)**

Mobile: +61 420 818 958 - E-mail: tim@glasscorpastralia.com

#### NEW ZEALAND

**Richard Stokes - Glasscorp Ltd. (Distributor)**

Mobile: +64 21 2853525 - E-mail: richard@glasscorp.co.nz

#### AFRICA

#### SOUTH AFRICA

**Stuart Fraser - Fraser Global Trading (Pty) Ltd. (Distributor)**

Mobile: +27 717 426 759 - E-mail: sfraser@fgtrading.co.za

#### MIDDLE EAST

**ISRAEL, JORDAN, KUWAIT, OMAN, QATAR, SAUDI ARABIA, UNITED ARAB EMIRATES & MORE**

**Joachim Stoss**

Mobile: +49 171 5679224 - E-mail: j.stoss@edgetech-europe.com



## EMAR Srl

Via del lavoro 2/b - 20060 Pozzo D'Adda (MI) - Italy - Tel.: +39-02-90967625

E-mail: [diego@emar.it](mailto:diego@emar.it) • [www.emar.it](http://www.emar.it)

### COMPANY DATA

#### Contacts

**Diego Ronchi** - CEO

**Daniilo Ronchi** - Product Manager

#### Annual Turnover of the Group

EUR 3.000.000,00

#### Sales

Domestic (20%) / International (80%)

#### Banks

Banco B.P.M. Spa Bank

#### Area

Offices 160 m<sup>2</sup> / Plants 4,500 m<sup>2</sup>

#### Founding Year

1991

#### Pad-in Capital

EUR 50.000,00



### COMPANY PROFILE

**EMAR Group** has been operating in the sector of design and construction of flat glass machines for over thirty years exporting directly or indirectly to more than 50 countries, accounting for 90% of its global turnover. We currently operate in a production facility with a total surface area of over 4000 sqm. The factors on which EMAR has always based its business are investment in research and development, and the continuous improvement of customer services.

EMAR produces customized machines for foreign and Italian retailers who need to expand and complete their production lines. Abroad we sell through qualified distributors trained through specific technical courses to guarantee customers a complete and efficient service. In Italy we operate with qualified personnel together with our internal technical team to guarantee assistance within 24 hours.

Over the years we have produced more than 5000 machines including various solutions for double and triple glazing. And last but not least, we have supplied customized systems to produce photovoltaic panels with machines designed and produced according to customer needs.

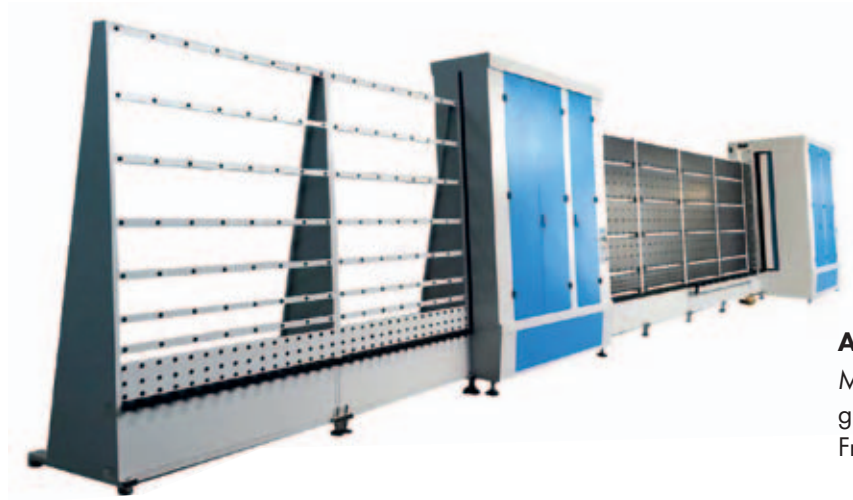
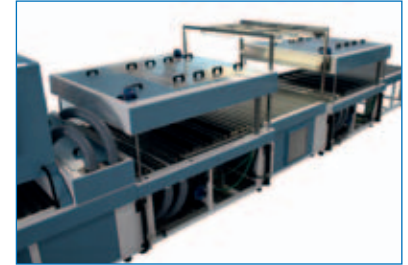
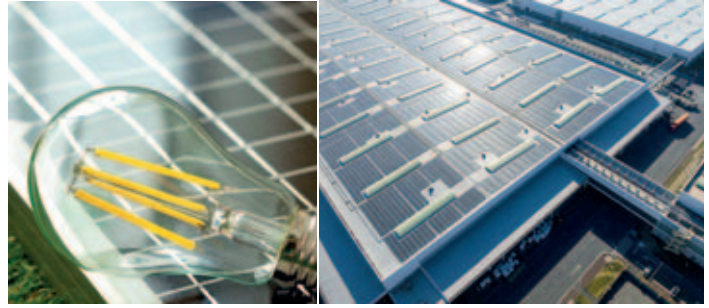
Our research and development department (E2LAB) is constantly evolving to improve the technology and functionality of our machines, and speed up processes from a mechanical, technical, electrical and electronic point of view, with a particular attention to aesthetics and design. The materials used are of excellent quality, and the care and continuous attention to various customer needs in the construction of the machines (obtaining an excellent quality-price ratio



**ENVIRONMENT AND ENERGY**

In the coming years, global energy demand is expected to increase by almost two percent per year: On the environmental front, in 1997 the "Kyoto Protocol" established the need to reduce greenhouse gas emissions to combat the progressive warming of the planet.

To produce more more energy and pollute less is the mission of the EMAR Group.



**AUTOMATIC LINES WITH GAS**

Modular automatic lines with panel press, gas loading and remote monitoring. From 2000 to 2500.

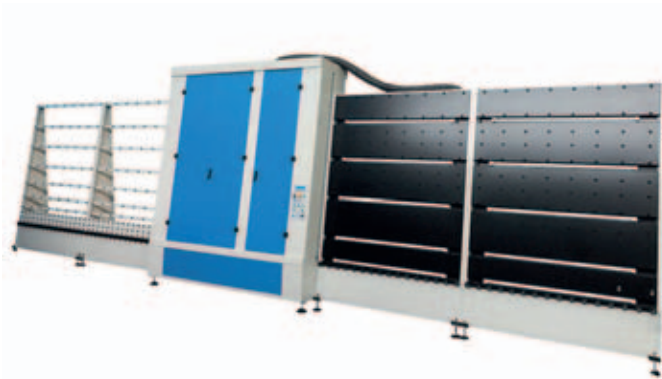
**AUTOMATIC LINES**

Modular automatic lines with panel press and remote monitoring. From 2000 to 2500.



**VERTICAL WASHING MACHINES**

Modular vertical washing machines - STANDARD or ECO series. From 1500 to 3300.



**ALWAYS CONNECTED**

The prepared machines can be connected to our monitoring centre simply by connecting the line to the internet with the following advantages:

- ✓ Possibility of remote troubleshooting
- ✓ Reduction of machine downtime
- ✓ Instant control of the ageing of electronic components
- ✓ Possibility of excluding sensors to be able to continue production while waiting for a spare part (provided it doesn't compromise the operator's safety).



## EUROTECH-WAY Srl

Via Benedetto Croce, 14 - 42014 Castellarano (RE) - (Italy)  
Tel.: +39-0536-823563

E-mail: [info@eurotech-way.com](mailto:info@eurotech-way.com) • [www.eurotech-way.com](http://www.eurotech-way.com)

### COMPANY DATA

#### Contacts

**Francesco Grappi** - Owner  
**Roberto Bacchini** - Sales manager

### COMPANY PROFILE

**EUROTECH WAY** is a leading company in the production of automatic machinery for the glass sector since 1996, but the experience of Eurotech Way technicians team in the industrial automation sector began in 1970.

#### MANUFACTURED MACHINES:

- Patented ROBOT for cleaning the rollers in glass tempering furnaces with dry technology, directly inside the furnace in a completely automatic way.
- Screen Printing Machines for medium, large and very large formats, with bridge technology for quick and easy use.
- Dryers for glass enamels with an innovative heating technology for high production and low energy consumption.

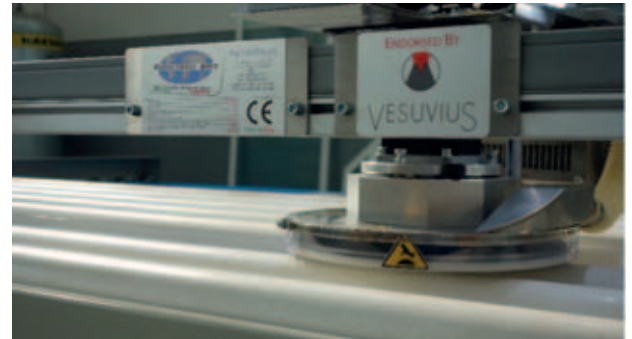
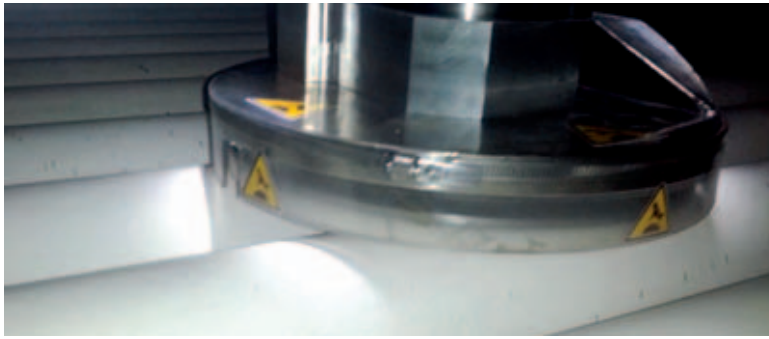
- Edges Roller Coating Machines with a particular design of the roller to optimize the overlapping of the glaze.

#### ROBOCLEAN

IS THE ONLY WAY to clean and polish rollers fully automatically, perfectly guarantee 100%, with high final cleaned result, and ENDORSED BY VESUVIUS.



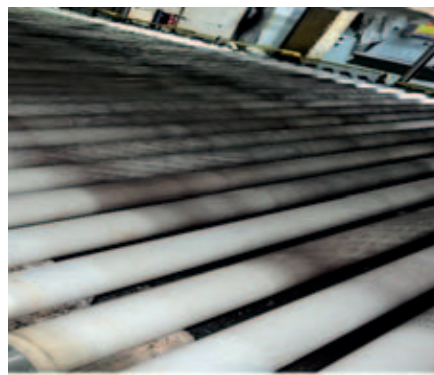
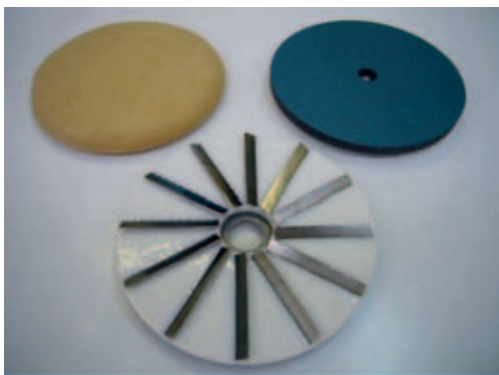
**ROBOCLEAN IN ACTION INSIDE FURNACE**



**Set of discs for RoboClean**

**Rollers dirty with paint**

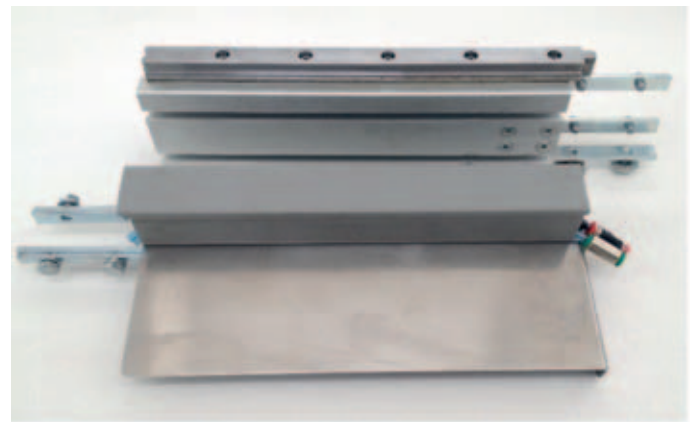
**Cleaned with RoboClean**



**MAIN ROBOCLEAN PERFORMANCE:**

- With the same RoboClean, and proper kits, you can clean multiple roller furnaces and of any type!
- With this kits you can change the RoboClean set-up in a very fast and simple way.
- Using the RoboClean you save manpower, reduction productions stop time, and avoid any defect on the glass, coming from dirty rollers.
- The RoboClean could be equipped with different type of discs able to remove any kind of dirty materials from rollers surface.

**EXTENSION KIT**



Have a look to Eurotech Way RoboClean New Release here:



**ROLLERS KIT PITCH**



# FOREL



## FOREL SpA

Via per Monastier 4 - 31056 Vallio di Roncade, Treviso - Italy  
Tel.: +39-0422-840507

E-mail: [info@forelspa.com](mailto:info@forelspa.com) • [www.forelspa.com](http://www.forelspa.com)

### COMPANY DATA

#### Founding Year

1976

#### Offices

##### FOREL NORTH AMERICA - USA

1819 Buerkle Road - St. Paul, Minnesota - USA  
Tel: +1 651 493 4378 - E-mail: [sales@na.forelspa.com](mailto:sales@na.forelspa.com)

##### FOREL NORTH AMERICA - CANADA

400 Creditstone Rd, Ste 11A - Vaughan, ON L4K 3Z3  
Tel: + 647 532 6193 - E-mail: [owen.allen@na.forelspa.com](mailto:owen.allen@na.forelspa.com)

##### FOREL UK&IRELAND

Unit 3, M11 Business Link,  
Parsonage Road, Stansted, Essex (UK) - CM24 8GF  
Tel: + 44 1245 961736 - E-mail: [support@uk.forelspa.com](mailto:support@uk.forelspa.com)

##### FOREL NORTH EUROPE

Nobelstr. 3 - 41189 Mönchengladbach - Germany  
E-mail: [sales@ne.forelspa.com](mailto:sales@ne.forelspa.com)



### COMPANY PROFILE

**FOREL**, established in 1976, is an Italian company of solutions for flat glass and double-glazing processing (vertical cutting, sorting systems, edge processing line, laminating glass lines and IG line). Forel has its headquarters and production plants in Italy, but the company owns commercial branches and offices in USA, Canada, United Kingdom, Germany. The sales network is worldwide present and has developed sales relations with over 70 countries, exporting the technological tradition and dynamism of Italian engineering. Forel's core philosophy is innovation: every year, a remarkable part of the incomes are invested in R&D.







## SALES NETWORK

### AFRICA

#### ADAEZE TRADING

Afam Ike

E-mail: ike.afam@gmail.com

### ALBANIA

#### ARVIS

Islam Isufaj

E-mail: arben.isufaj@arvis.al

### ARGENTINA - URUGUAY

#### CASA FIGINI

Adrián Luiggi

E-mail: adrian@casafigini.com

### AUSTRALIA - NEW ZEALAND

#### OVERSEAS GLASS AGENCIES

Davide Peano

E-mail: enquiries@oga.com.au

### BALKANS

#### GLASMIK

Igor Florenin

E-mail: igor.florenin@glasmik.si

### BALTIC STATES

#### IDELIS

Daiva Citavicienė

E-mail: daiva@idelis.lt

### BRAZIL

#### MUNIZ REPRESENTAÇÕES

Genilson Muniz

E-mail: genilson@munizrepresentacoes.com.br

### CHILE

#### DECRIстал

Pedro De La Fuente M.

E-mail: predrodelafuente@decrystal.cl

### CYPRUS

#### GRAND MINATOR PROMOTIONS

Vasos Vasiliou

E-mail: manager@grandminator.com

### INDIA

#### THORNGATE SALES

Sajeew M Poovadan

E-mail: sales@thorngate.in

### JAPAN

#### TGM

Takashi Hironaka

E-mail: hironaka@tgm-japan.com

### MEXICO

#### PROVIGLASS

Alma Delia Castellanos

E-mail: proviglass@yahoo.com.mx

### PERU - BOLIVIA

#### OSAMU

Orlando Kihara

E-mail: osamukihara@hotmail.com

### POLAND

#### GLASSMAK

Adam Makarowski

E-mail: glassmak@vp.pl

### ROMANIA - HUNGARY

#### IMROGLASS

Robert Jug

E-mail: robert.jug@imroglass.ro

### SPAIN - PORTUGAL

#### SOLUTEC GLASS

Gonzalo Martínez

E-mail: gonzalo@solutecglass.com

### THAILAND

#### MOTECH MACHINERY SERVICE

Pawarich Huailai

E-mail: p.huailai1@yahoo.co.th

### TURKEY

#### GLASSEXP

Selçuk Genç

E-mail: sgenc@glassexper.com

### UKRAINE

#### IDELIS

Daiva Citavicienė

E-mail: daiva@idelis.lt

### VIETNAM

#### NBH INDUSTRIES

Jone Nguyen

E-mail: jone.nguyennbh@gmail.com





## LUOYANG FUCHONG MACHINERY Co., Ltd.

2-701, 1st Bldg, Yeci Garden, No.121 Glass Factory South Road, 471000 Luoyang, China - Tel.: +86-379-62202882

E-mail: [sales@fuchongglass.com](mailto:sales@fuchongglass.com) • [www.fuchongglass.com](http://www.fuchongglass.com)

### COMPANY DATA

#### Contacts

**Song Xi** - Sales Manager

**Song Liu** - Sales Manager

#### Area

60,000 m<sup>2</sup>

#### Number of Employees

150

#### Founding Year

2008



#### Planned Exhibitions 2025

**Glass Texpo** - San Antonio (TX), USA - 7 / 8 May

**Glasstech Canada** - Toronto, Canada - 14 / 15 May

**China Glass** - Beijing China- 26 / 29 May

**Vitrum** - Milan, Italy - 16 / 19 September

**Glassbuild America** - Orlando (FL), USA - 4 / 6 November

**Eurasia Glass** - Istanbul, Turkey - 15 / 18 November

### COMPANY PROFILE



**FULL-TIME**, established in 2008, is a Chinese company located in Luoyang city, China, specializing in the research, development, design, sales and after-sales installation of glass tempering furnaces. With the founder's over 30 years' tempering furnace industry experience in China, and the company's 16 years of healthy running, we have cooperated with more than 400 clients, in building/household appliance/automobile glass industries mostly. Recent years, we have decided to put more efforts into oversea market, to name a few very recent cases, we have 2 furnaces shipped to a remarkable Italian company, 2 furnaces in Turkish market, 7 furnaces in Australian market, and 3 furnaces in Russian market, our furnaces also have been delivered to countries like: Poland, Romania, Ukraine, Iran, Iraq, Uzbekistan, Kazakhstan, Turkmenistan, Algeria, India, Pakistan, Thailand, Vietnam, Cambodia, Peru, Canada, etc. Compared to oversea market, we have gained much more credits in Chinese domestic market, some of our clients chose to purchase 5-8 furnaces. Stable and strong equipment performance with fair pricing helps our customers improve their glass quality and be more competitive in the complicated economy situation. China has become more and more important in global industry system, as an equipment supplier, we have witnessed too many successes of our clients. With our continuous passion of technology innovation, we are confident that FULL-TIME tempering furnace will convince more and more customers both home and abroad.

## COMPANY PRODUCTS



### FOCUS ON OUTSTANDING PRODUCTION QUALITY Take the lead in the trend of industry application

- Use nickel chrome material for the upper heaters of the furnace.
- Use high temperature resistant material for the lower heaters.
- Use 310S stainless steel quench structure for the upper part of the convection furnace.
- Use super big size block from ISOLITE and Luyang incorporated company as the insulated material, for a lot of heating energy saving.
- Power consumption monitored by computer with intelligent electrical meter installed to machine .
- Automatic detection of tempering air pressure of every load, and real time alarm.
- Glass size detection when glass coming out of furnace.
- Leveling system checking when glass coming out from furnace, which can improve the production quality.
- Technical parameter and alarm information showed on LED display screen.
- Power-save control mode of blower running.
- Schneider brand applied to industrial computer, PLC, servo system, and low-voltage apparatus.
- Super low power consumption. 4mm glass per square meter's power consumption 2.3-2.5 KWH. (pass-type).
- Schneider servo system used in the transmission of bending section.
- Schneider servo system used in the arc lifting of bending section.
- Air pressure detecting system.
- Bending section Min. radius  $R \geq 220\text{mm}$ , shaped bending partial Min. radius  $R \geq 130\text{mm}$ .
- Use Raytek infrared temperature detector. (can be customized)



## GIARDINA GROUP

Via Vico Necchi, 63 - 22060 Figino Serenza (CO) - Italy  
Tel.: +39-031-7830801

E-mail: [info@giardinagroup.com](mailto:info@giardinagroup.com) • [www.giardinagroup.com](http://www.giardinagroup.com)

### COMPANY DATA

#### Contacts

**Stefano Tibè** - Sales Manager

### COMPANY PROFILE

**GIARDINA GROUP** – 70 employees, a turnover of around 20 million euros and 95% of exports – is a world leader in technologies for painting glass, wood, composite materials, plastic and metal.

It was born from the merger of Mauri Macchine and Giardina Finishing, companies founded in the early seventies, and from the very recent acquisition of De Stefani, all companies that have been protagonists for decades in the various sectors of surface finishing. Skills, professionalism and experience that since 2017 have been brought together in a single, large technological hub in Figino Serenza, in the province of Como, where the largest production program in the sector is designed and implemented:

from the treatment of glass plates “Jumbo” to the impregnation of the beams, from the finishing of the profiles to sophisticated robot plants for the painting of doors and windows or furniture. A 360-degree experience which – through the work of Giardina Group Glass Division – has made it possible to develop specific solutions, with strong innovative contents, also for the world of glass.

A vocation that since 2019 can count on the structures of the Giampiero Mauri Innovation Center a large, well-equipped showroom/laboratory - named after the founder of the group - where customers and partners can test all the available technologies.

#### For the glass sector Giardina Group Glass Division offers:

- Heavy-duty Roller Coaters suitable for lacquer application on glass (standard working widths from mm 1,300 to 2,500; wider machines on request);
- Roller Coaters for special glass decoration;



- Automatic Spray machines, either with disposable paper belt conveyor or with paint recovery belt;
- Curtain coaters with double bed and 1 or 2 coating heads on fix or removable trolleys;
- 3D Glass Finishing with combined systems MOS® IR for water-based products;
- Quick drying systems such as MOS® UV dryers;
- Flash-offs and hot air tunnels;
- Cooling tunnels.

In recent years, Giardina Group Gass Division has further perfected its drying and preheating technologies, capable of fur-

ther optimizing cycles for high productions and offering an important added value in terms of efficiency, energy saving and sustainability. The new ovens allow to manage the preheating of several glasses at the same time, leading to a homogeneous temperature in the glass, with important energy saving factors and quality of subsequent processing.

The mixed IR and forced air drying systems guarantee superior performance compared to the ovens in use today in the mirror sector, just as the lateral radiation of the glass guarantees total drying of the coating at every point.



## PRODUCT RANGE

- ENAMELLING EQUIPMENT AND PLANTS
- HOT AND COLD COATING SYSTEMS AND MATERIALS (ROLLERS, CURTAIN COATERS, DRYERS)
- POWDER OR LIQUID APPLICATION SYSTEMS FOR PROTECTING FLOAT GLASS

# GLASSCOMPANY



## GLASS COMPANY Srl

Via Brigata Garibaldi 33 - 61122 Pesaro - Italy  
Tel.: +39-0721-283519

E-mail: [cb@glasscompany.com](mailto:cb@glasscompany.com) • [www.glasscompany.com](http://www.glasscompany.com)

### COMPANY DATA

#### Contacts

**Claudio Bernabucci** - CEO

#### Annual turnover of the Company

EUR 4,000,000

#### Sales

International > 70%

#### Banks

BPER - CREDEM - Banco BPM

#### Area

Offices 250 m<sup>2</sup> / Plants 1000 m<sup>2</sup>

#### Number of Employees

9

#### Third-party suppliers

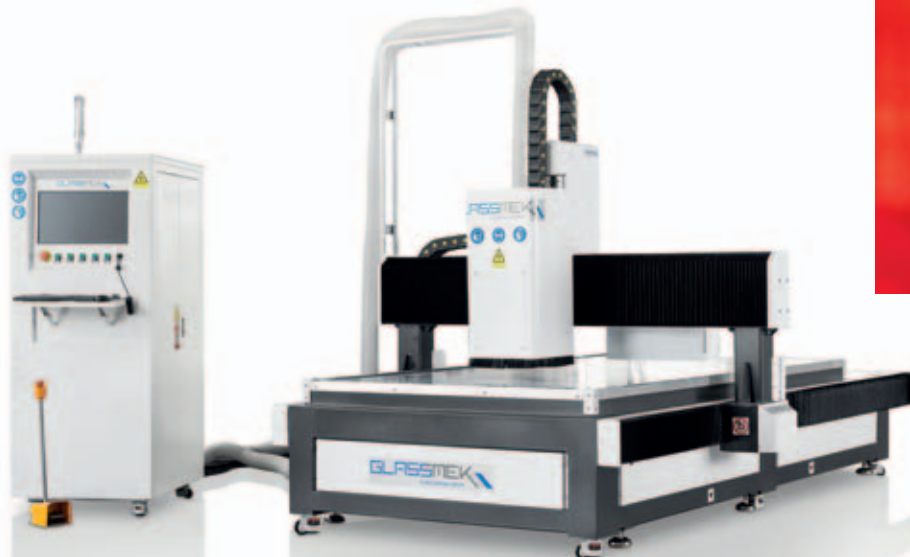
Pesaro area, as well as international suppliers

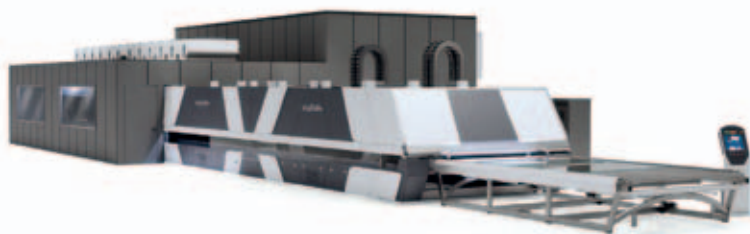
#### Planned Exhibitions 2025

- Glasstech Canada** - Toronto, Canada - 14 / 15 May
- Glass South America** - Sao Paulo, Brazil - 3 / 6 September
- Vitrum** - Milan, Italy - 16 / 19 September
- Glass Build America** - Orlando, (FL) - 4 / 6 November

### PRODUCT RANGE

- Laser Cutting, Drilling, Engraving and Ablating Machines
- Fire resistant glass production line
- Full Vision – Double glazing line with glass spacers
- Plasma machine
- Glass Coating system
- Horizontal and Vertical glass washing and drying machines
- Measurement instruments for glass industries.





## COMPANY PROFILE

Founded in 2001 after leveraging Claudio Bernabucci's thirty years of experience coupled with a relentless pursuit of innovative solutions, as an industry leader in Italy, **Glass Company** specializes in the design, production and resale of advanced machinery, tools and products - all for glass processing. Focusing upon innovation, automation, precision and quality, the technological solutions it develops meet the needs of today's most advanced industries.

### SYSTEMS AND TECHNOLOGIES PRODUCED AND MARKETED BY GLASS COMPANY

- **LASERMEK** is a modular, configurable machine for laser engraving, coating ablation and silvering on glass. It leaves glass with either a transparent or a sandblasted effect. With new laser technology, it enables sandblasting effects even on transparent glass - all with high precision and execution speed. Thanks to Scanner technology and its dedicated HG SOFTMEK software, LASERMEK provides precise engraving, even on Low-E coatings, making it ideal for anti-fog heated glass.
- **LASERMEK ALL-IN-ONE** is Glass Company's latest innovation. It integrates three key processes into a single machine, namely transparent ablation, sandblasting effect and drilling.
- **LASERMEK DRILL** represents a breakthrough in laser drilling

for glass. It can create notches and holes of varying geometries (up to 100x100 mm) with minimal and repeatable dimensional tolerances. The machine is CNC-controlled and can be supplied in either single-head or multi-head drilling versions.

- **LASERMEK CUT** is an innovative laser cutting solution for monolithic glass of up to 15 mm thickness - ensuring flawless edges without chipping while continuously increasing cutting speeds.
- **FIREMEK** is an automated system for the production of fire-resistant glass (E, EW, EI). Praised for its ease of use and affordability, FIREMEK enables small and medium-sized companies to enter the fire-resistant glass production sector.
- **FULL VISION** is the new production line for insulating glass units (IGUs) with glass spacers that are dedicated to manufacturing high-performance glass for the refrigeration sector. It ensures transparency, durability and customization for applications in both commercial display cases and refrigerators.
- **PLASMEK** is an atmospheric plasma technology that cleans and treats glass surfaces. PLASMEK enhances the adhesion of subsequently applied products, increasing both the efficiency and quality of processing.
- **GLASS BREAK ALERT** is a system for detecting glass breakage areas in the tempering and cooling sections of tempering furnaces. It allows furnace operators to quickly identify the affected area in the air blower - resolving the issue without delays, especially in short tempering cycles.
- **JINGLASS FURNACES**. Within Europe, Glass Company is the exclusive partner of Jinglass - a leading, high-tech glass tempering furnace manufacturer for both flat and curved glass, which includes the advanced VULCAN model. This furnace is designed to deliver outstanding efficiency, quality and low energy consumption.
- **TOOLS**. In supplying tools for tempered glass inspection, IGU quality control and the monitoring of glass processing, Glass Company stands at the forefront.

For its outstanding ingenuity, Glass Company has established itself as a key flat glass reference point, developing technologies and machinery that combine creativity, functionality and reliability. More than just a machinery supplier, it offers technical assistance and consulting services directly from Italy - all to ensure a swift response in tailored solutions that are reinforced by over 20 years of expertise.





## GLASTON CORPORATION

**HEADQUARTERS:**

Lönnrotinkatu 11 - 00120  
Helsinki - Finland  
Tel.: +358 10 500 500  
E-mail: [info@glaston.net](mailto:info@glaston.net)  
[www.glaston.net](http://www.glaston.net)

**TECHNOLOGY CENTER**

**FINLAND HEAT TREATMENT TECHNOLOGY:**

**Glaston Finland Oy**  
Vehmaistenkatu 5 - 33730  
Tampere - Finland  
Tel. +358 10 500 500  
E-mail: [info@glaston.net](mailto:info@glaston.net)  
[www.glaston.net](http://www.glaston.net)

**TECHNOLOGY CENTER**

**GERMANY INSULATING GLASS TECHNOLOGY:**

**Glaston Germany GmbH**  
Karl-Lenhardt-Strasse 1-9  
75242 Neuhausen-  
Hamburg - Germany  
Tel. +49 7234 6010  
E-mail:  
[info.de@glaston.net](mailto:info.de@glaston.net)  
[www.glaston.net](http://www.glaston.net)

**TECHNOLOGY CENTER**

**SWITZERLAND DISPLAY & AUTOMOTIVE GLASS PRE-PROCESSING TECHNOLOGY:**

**Glaston Switzerland AG**  
Industriestrasse 5 4922  
Bützberg - Switzerland  
Tel. +41 62 958 7777  
E-mail:  
[info.ch@glaston.net](mailto:info.ch@glaston.net)  
[www.glaston.net](http://www.glaston.net)

**TECHNOLOGY CENTER**

**CHINA HEAT TREATMENT & INSULATING GLASS TECHNOLOGIES:**

**Glaston (Tianjin) Co., Ltd.**  
11 Huifeng Road Wuqing  
Development Area 301700  
Tianjin P.R. China  
E-mail: [info@glaston.net](mailto:info@glaston.net)  
[www.glaston.net](http://www.glaston.net)



Glaston Processing Automation



Glaston flat laminating



Glaston Autopilot

### COMPANY DATA

**Contacts**

**Toni Laaksonen** - President, CEO  
All contacts:  
<https://glaston.net/contacts/>

**Annual Group Turnover**

EUR 213,5 million

**Number of Employees**

780

**Registered Patents**

257

**Planned Exhibitions**

Glaston will be present at major glass exhibitions in 2025



Glaston Thin Triple IG technology

### COMPANY PROFILE

**Glaston in brief**

Glaston is the glass processing industry's innovative technology leader supplying equipment, services and solutions to the architectural, mobility, display and solar industries. The company also supports the development of new technologies integrating intelligence into glass.

Glaston is committed to providing its clients with both the best know-how and the latest technologies in glass processing, with the purpose of building a better tomorrow through safer, smarter, and more energy-efficient glass solutions. Glaston operates globally with manufacturing, services and sales offices in 9 countries and its shares (GLA1V) are listed on NASDAQ Helsinki Ltd.

Our equipment efficiency cuts costs for higher productivity and better bottom-line results. With our advanced automation solutions, experience effortless production line operation with flawless accuracy and consistent quality. Extend your machinery life and see higher uptime with comprehensive services.

**In Glass Tempering:**

**Glaston's latest-generation RC and FC Series** tempering line technologies underscore our commitment to continuous development and customer satisfaction. Since their first introduction to the market in 2010, our RC and FC Series have evolved substantially. Today, we proudly present the 7th generation, tailored to meet your specific needs with our "fit for you" approach. Our pioneering automation solutions designed to accelerate operation across all production stages further boost these newest-generation lines.



**Glaston Autopilot** is our latest innovation for higher speed, continuous quality and reduced waste in glass tempering. The solution automates the operation of Glaston's glass tempering machines, minimizing operator input in the process and offering process control without parameters.

#### In Glass Lamination:

Glaston ProL flat glass lamination line provides greater flexibility for mixed production. The ProL convection heating chamber makes switching between glass types and different glass sandwiches easier. The new ProL SPEED edition takes laminating production efficiency to a new level by increasing production output by up to 40%.

Glaston ProL lines offer market-leading automation to reduce the need for manual labor. The lines are fully equipped with automatic processing capabilities from automatic glass handling to automatic foil placement to automatic trimming of produced sandwiches.

The ProL Convection control technology is Glaston's new solution to address the increasing demand for structural interlayers. It offers a significantly wider operating window, even with complex laminates.

#### In Insulating Glass Manufacturing:

**Glaston TPS® PRO** revolutionizes efficiency and productivity in insulating glass manufacturing. The latest solution features a new control system and production process subsequence for as much as a 15% higher yield. The Thermo Plastic Spacer (TPS®) material can be applied directly onto the glass plate to flexibly produce IG units, multilayers, or solar panels. The new drum pump system concept leads to a higher material discharge due to the tandem operation without any time loss.

Glaston triple thin IG unit production meets regulatory demands and promotes sustainable practices. Offering significant energy efficiency benefits, the solution is perfect for building renovations reusing existing window frames.

**Glaston MUNTIN'MASTER** for TPS® lines automates the correct setting of muntins in TPS® IG units. This advanced solution replaces manual work, boosting precision and efficiency with speed by using innovative embedding technology. Thanks to the elimination of muntin end pieces, this new machine is a highly economical solution.

**Glaston ACTIVE'SEALER** automates double glazing production with its proven dosing technology. The solution shifts operations from manual sealing to automated sealing, ensuring consistent quality and faster production times. **ACTIVE'SEALER** is specifically designed for markets with a high proportion of double IG units.



Glaston TPS® Applicator



Glaston MATRIX EVO

#### In Mobility and Display glass processing:

**Glaston CHAMP EVO** for mobility glass preprocessing automates the cutting, breaking and grinding phases, increasing performance and speed. Along with other technological advancements, the line's freely moveable glass holding system speeds up changeover times while ensuring precision and quality. This generation offers better controllability, more dynamic movements and high grind edge quality for all shapes.

The **Glaston HYPERFEX** grinding system revolutionizes glass edge grinding. The new HYPERFEX grinding wheels consider all aspects of glass preprocessing for different applications and demonstrate significantly improved performance.

The new **Glaston MATRIX EVO** automatic windshield bending furnace is designed for faster, high-performance production. The line's new windshield press bends deep sags and wraps around corners precisely. Glaston's active convection technology speeds up heating even for coated, printed or otherwise complex glass types. **MATRIX EVO** is available in various sizes and configurations to meet your specific needs.

#### In Processing Automation:

**An automated glass loader and unloader** place glass onto the line most efficiently, based on batch patterns and production needs. Regardless of the type of glass processing, the systems boost production, enhance quality, increase safety and reduce energy consumption.

For tempering and laminating lines, **automatic batch optimization** enables processors to generate the most efficient batch patterns based on the specific type and processing requirements. This results in increased capacity and reduced energy consumption.

#### In Services:

**Glaston Care** offers comprehensive service agreements guaranteeing the highest possible equipment reliability. Our lifecycle support minimizes downtime, reduces total cost of ownership and extends the life of your machines.

More about our products and services: [www.glaston.net](http://www.glaston.net)



## GPM AUTOMATION Srl

Via Tommaso Salsa, 9 - 31030 Carbonera (TV) - Italy  
Tel.: +39-0422-606015

E-mail: [info@gpmautomation.com](mailto:info@gpmautomation.com) • [www.gpmautomation.com](http://www.gpmautomation.com)

### COMPANY DATA

#### Contacts

**Alessandro Grando** - CEO and board member  
**Loris Grando** - CEO and board member

#### Annual Company Turnover

EUR 4 million

#### Sales

National (5%) / International (95%)

### SALES NETWORK

#### TURKEY

##### Cengiz BEYÇAYIRI

Istanbul - Tel. (90)532 3639375

E-mail: [cengizbeycayiri@gmail.com](mailto:cengizbeycayiri@gmail.com)

#### FRANCE

##### TECHNIS SAS

ZI de la Vallière, Bat 11 - 06730 Saint André de la Roche

Tel. +33 4 93 806 469

E-mail: [technis@orange.fr](mailto:technis@orange.fr)

**GPM automation** operates in two main business areas:

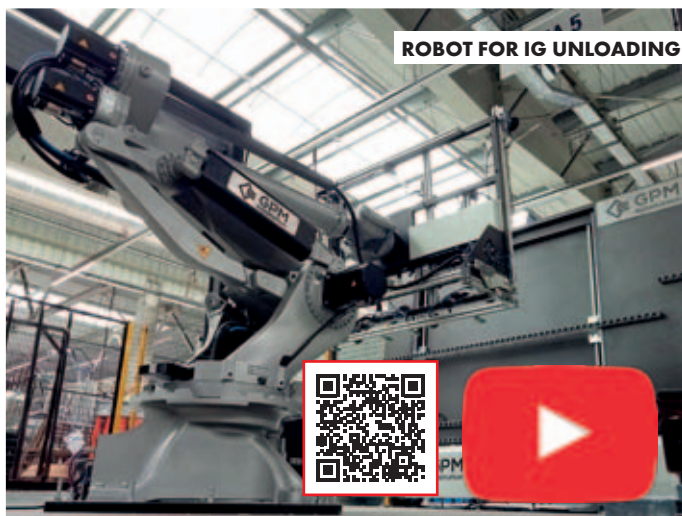
1- glass processing machineries: turnkey laminated glass plants including autoclave and climatic room, horizontal and vertical washers;

2- automation: sorting and stocking systems for glass, window, stone and ceramic tiles; robotic solutions for loading/unloading of third party lines such as insulating glass line, double edger, painting line, vertical CNC line, tempering furnace.

Our staff is made up of highly qualified people with decades of experience in the glass and automation world.

We focus on customer needs by proposing tailor made solutions. GPM automation is committed to providing reliable technologic machineries with customized to the specific design of each project.

We think that innovation and continuous improvement are keys on equipment development.

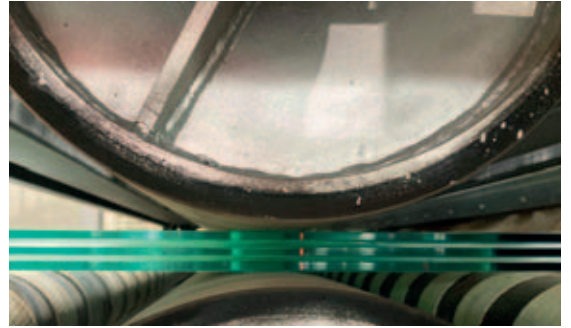
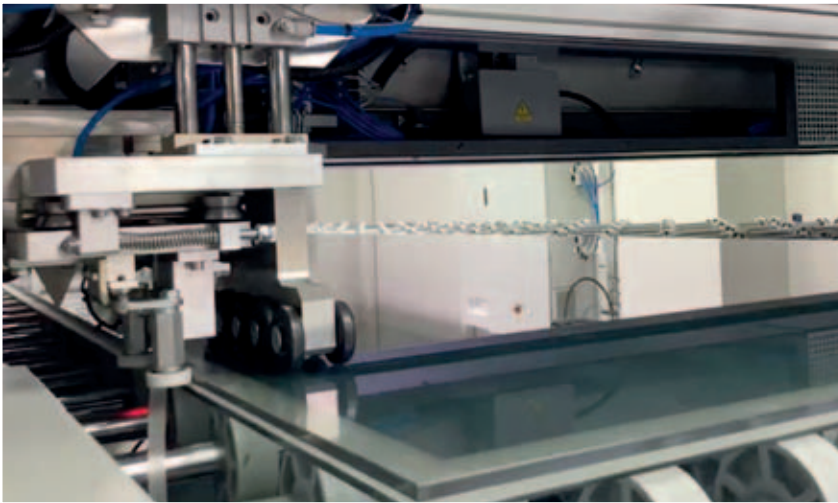


ROBOT FOR IG UNLOADING



ROBOT FOR IG LOADING

**LAMINATED GLASS LINE**



**HORIZONTAL WASHER AND TILTING TABLE**





**HEGLA**<sup>®</sup>

**HEGLA**

Industriestraße 21 - 37688 Beverungen - Germany

Tel.: +49-5273-905-0

E-mail: [info@hegla.de](mailto:info@hegla.de) • [www.hegla.com](http://www.hegla.com)

## COMPANY DATA

### Contacts

**Bernhard Hötger** - CEO  
**Jochen H. Hesselbach** - CEO  
**Peter Herrmann** - COO  
**Dr. Heinrich Ostendarp** - CTIO  
**Stefan Reuter** - CTO  
**Thomas Schwabe** - CSO

### Annual Group Turnover

EUR 104,000,000

### Percentage of Turnover from Glass

100%

### Quality Certifications

DIN EN ISO 9001:2015

### Number of Employees

800

### Registered Trademarks

SortJet, ReMaster, Optimax

### Planned Exhibitions 2025

**FitShow 2025** - Birmingham, England - 29 April / 01 May  
**Windoorex Saudi Arabia** - Riyadh, Saudi Arabia, 05 / 07 May  
**Windoorex Middle East** - Kairo, Egypt, 15 / 17 May  
**GPD Glass Performance Days** - Tampere, Finland, 10/ 12 June  
**Vitrum** - Milano, Italy, 16 / 19 September



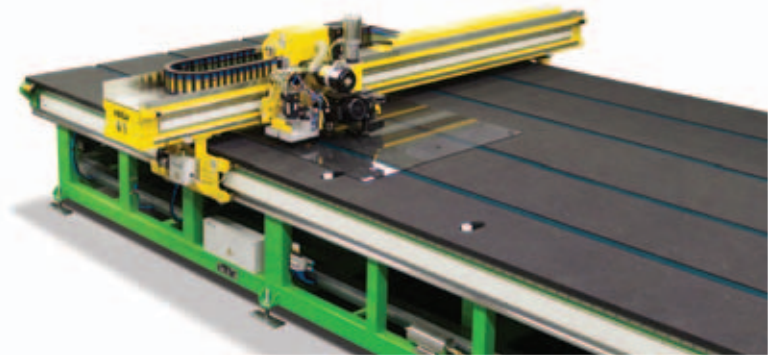
## COMPANY PROFILE

### Loading

For loading **HEGLA** offers different solutions such as Automatic Floor Loading Systems, Compact and Gantry Loaders. Double sided floor loaders of 3 x 2 metres and 6 x 3 metres are available with up to 6 positions (12 racks), while the gantry systems are infinitely variable and can use 'A' and 'L' frames as well as compact storage systems. 6 x 3-metre gantry loaders can also load directly from Float Liner delivery racks dropped in the crane area.

### Float Glass Cutting

With its wide range of cutting systems, **HEGLA** offers a perfect solution for each and every customer needs. For the industrial volume cutting of float glass for example the Galactic with its shortest processing time and full automation was invented. **RA-PIDLINE**, with its optional grinding device for low-E, is **HEGLA's** universal cutting machine for float glass.



### Linear Driven Cutting Machine for float glass: Hegla Galactic

### ProLam LSR – Greater productivity for LSG Cutting

With the ProLam LSR, LSG cutting is faster than ever before. Thanks to the newly developed laser separation technology, the film can be heated up much faster than before. The overall process has also been accelerated, increasing productivity by 20 per cent or more compared to conventional cutting systems. The system's high performance is not only reflected in its cycle time and precise cutting results - with the new laser technology the surrounding glass area remains cold. This systematic improvement counters downstream delamination and visible blurring around the edges.

## SALES NETWORK

### GERMANY

#### HEGLA Maschinenbau GmbH & Co. KG

Industriering 5 - D-06712 - Kretzschau - Tel.: +49 3 44 25 - 5 01-0  
/ Fax: +49 3 44 25 - 5 01-29 - E-mail: info.k@hegla.de

### AMERICA, USA

#### HEGLA Corp.

277 Southfield Pkwy Suite 170 - GA 30297 - Forest Park  
Tel.: +1 404 763 9700 / Fax: +1 404 763 0901  
E-mail: info@heglaus.com

### FRANCE

#### HEGLA France S.a.r.l

Zone les Terrasses de la Sarre - 4 Terrasse Bretagne 57400 -  
Sarrebouurg - Tel.: +33 3 88 - 91 01 01 / Fax: +33 3 88 - 91 05 05  
E-mail: hegla.france@heglafrance.com

### UNITED KINGDOM

#### HEGLA Machinery (UK) Ltd.

11 Cochran Close - Milton Keynes, MK8 0AJ - Buckinghamshire  
Tel.: +44 19 08 - 26 19 33 / Fax: +44 19 08 - 26 19 50  
E-mail: info@hegla.co.uk

### MENA

#### HEGLATRADING & SERVICE GmbH

Dubai Silicon Oasis - Head Quarter Building  
DG-02 Office - Dubai, UAE - Tel.: + 971 50 52 00 516  
E-mail: info@hegla.ae - info@heglaus.com



**ProLam LSR: Improved productivity and edge quality thanks to laser diode heating technology**

### Laser Markings for Glass

The ES-Guard laser marking system of HEGLA boraident enables a non-destructive marking of coated and uncoated glass surfaces. The glass is marked using our reliable and patented laser transfer technology, UniColor. As an added advantage, the machine is designed for fully automatic operation on production or cutting lines. Besides, thanks to the laser technology the markings are attached within the panel for its entire life cycle, giving us important information that is collected and saved.

### ReMaster

The ReMaster for optimised processing of remnant sheets is an innovative system that allows sub-plates of any type be stored without manual handling above the cutting line. Without interrupting the production process the remnant can be used for following glass runs, thus reducing sub plate waste drastically. This creates the basis for efficient production of IG-units of all glass

### POLAND

#### HEGLA Polska sp. z o.o.

Ul. Skarbowców 23A – PL-53 025 Wrocław  
Tel.: +48 882 772 505  
E-mail: biuro@hegla.de

### INDIA

#### G&N Ventures

12 Lakshmiapuram, 600014 Chennai  
Tel.: +91 80 56 13 31 13  
E-mail: india@hegla.com

### ITALY

#### Fabio Zucal

Via Roma 3 - 22070 - Bregnano (CO)  
Tel.: +39 334 59 56 212 - +39 333 35 65 003  
E-mail: zucal.hegla@vodafone.it

### SPAIN

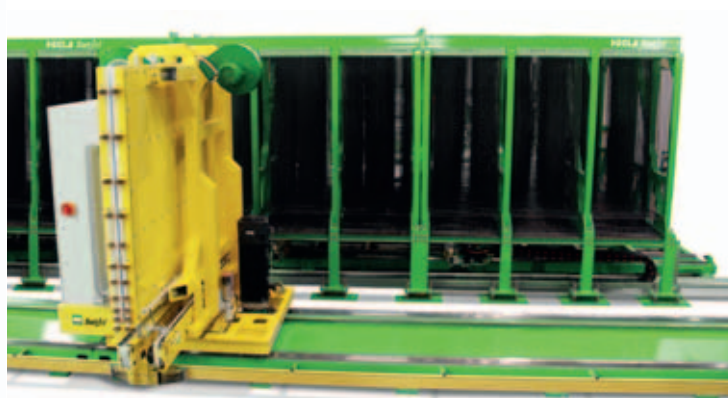
#### R. Meyer S.L., Rolf Meyer

C/Llull 70-72, 3º 3a, 08005 - Barcelona  
Tel.: +34 93 30 10 52 5 / Fax: +34 93 41 20 57 6  
E-mail: rolf.meyer@rmeyersl.com

### TURKEY

#### IKATEK, Cem Kara

Dudullu OSB Mah. DES Sanayi Sitesi - 34776 Istanbul  
Tel.: +90 533 749 14 58 - E-mail: cem@ikatek.com.tr



**HEGLA SortJet: Invented to reduce material costs and improve production flow**

types and thicknesses. It offers optimal utilization of subplates, decreases material costs and reduces unnecessary handling.

### SortJet

With the need for more and more automation and high-speed operations in glassworks, HEGLA invented the SortJet – An innovative product that not only improves material flow but also reduces material costs to a minimum. After cutting the glass in random order to reduce offcuts, all panes are stored in the dynamic buffer of the SortJet. Just 250 bays can accommodate multiple panes to buffer all the glasses in the production process for an insulation glass line. When the panes for an IG-unit are required on the line, the individual panes are handed over directly in production orientation and sequence. The separate processes in front of and behind the dynamic buffer contribute towards a production process that significantly reduces downtime while at the same time accelerating the material flow and reducing cutting costs.

**helios quartz®**



**HELIOS ITALQUARTZ Srl**

**Production Site / R&D and Technical Center**

Viale delle Industrie, 103/A - 20040 Cambiago (MI) - Italy  
Tel.: +39-02-95349318

E-mail: [italy@heliosquartz.com](mailto:italy@heliosquartz.com) • [www.heliosquartz.com](http://www.heliosquartz.com)

COMPANY DATA

**Contacts**

**Armando Giro** - Chairman  
**Luigi Gastaldo** - CEO

**Sister Companies**

**AMERICA**

**HELIOS QUARTZ AMERICA INC.**

**Distributor - Logistic and Technical center  
for North America region**

7345 W. Sylvania Ave Sylvania,  
OH 43560 - USA  
Tel.: +1 (419) 882-3377 - Fax: +1 (419) 787-8307  
E-mail: [america@heliosquartz.com](mailto:america@heliosquartz.com)  
[www.heliosquartz.com](http://www.heliosquartz.com)

**CHINA**

**SHENYANG HELIOS TECH. CO. LTD**

**Distributor and Logistic center  
for China Mainland region**

Building A, 1506 Midland Tower. No.208  
Changjiang S.St. Huanggu District  
Shenyang - China  
Tel.: +86 024-31632308 / 024-31653319  
E-mail: [china@heliosquartz.com](mailto:china@heliosquartz.com)  
[www.heliosquartz.com](http://www.heliosquartz.com)

**ASIA**

**HELIOS QUARTZ ASIA LTD.**

**Distributor and Logistic center for Asia Pacific region**

Suite 3002, 30/F, Oxford House,  
979 King's Road, Quarry Bay, Hong Kong  
Tel.: +86 (132) 38830625  
E-mail: [asia@heliosquartz.com](mailto:asia@heliosquartz.com)  
[www.heliosquartz.com](http://www.heliosquartz.com)

**TURKEY**

**HELIOS QUARTZ TURKEY**

**Commercial branch for Turkey region**

Mimaroba Mh. Mustafa Kemal Bulvarı.  
Colorist A Blok. Kat 3 D.50  
Mimaroba, Büyükdere - Istanbul  
Tel.: +90 8502281908 - E-mail: [turkey@heliosquartz.com](mailto:turkey@heliosquartz.com)  
[www.heliosquartz.com](http://www.heliosquartz.com)

**EUROPE (Headquarters)**

**HELIOS QUARTZ GROUP SA**

**Production Site / R&D and Technical Center**

Via Roncaglia 20 6883 Novazzano (CH)  
Tel.: +41 (0) 919233555/6  
Fax: +41 (0) 919233557  
E-mail: [swiss@heliosquartz.com](mailto:swiss@heliosquartz.com)  
[www.heliosquartz.com](http://www.heliosquartz.com)

- **IR AND UV LAMPS AND SYSTEMS**
- **INTEGRATED EFFICIENT SOLUTIONS**
- **R&D SOLUTIONS**
- **TURN-KEY PROJECTS**

**Planned Exhibitions 2025**

**Ice**

Monaco, Germany - 11 / 13 March

**China Plas**

Shenzhen, China - 15 / 18 April

**CHEMEXPO India**

Mumbai, India - 29 / 30 April

**China Glass**

Pechino, China - 26 / 29 May

**Battery Show Europe**

Stuttgart, Germany - 3 / 5 June

**Chemspec**

Koelnmesse, Germany - 5 / 6 June

**Vitrum**

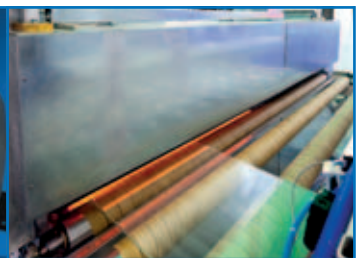
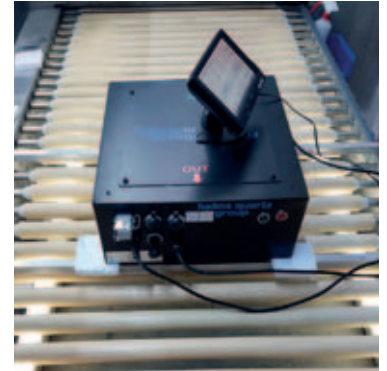
Milan, Italy - 16 / 19 September

**Battery Show USA**

Detroit, USA - 6 / 9 October

**Messe K**

Düsseldorf, Germany - 8 / 15 October



## COMPANY PROFILE

**HELIOS QUARTZ** was founded in 1940 as a family-owned company in the busy city of Milan. Since then, it has grown and developed, becoming an important group of companies with two production plants, the historical one in Italy (Helios Italquartz S.r.l.) and the new facility in Switzerland (Helios Quartz Group SA), combined with distribution channels in the US, South America and Asia.

Helios Quartz is now an international player and a well-known supplier for Quartz Glass processing and the manufacturing of Infrared Emitters and Ultraviolet Lamps. Helios Quartz also produces Specialized Equipment for Industrial, Scientific and Medical applications.

TÜV certified, Helios Quartz is a very flexible and dynamic group which is deeply oriented towards internationalization and which is living a strong and stable growth phase with great momentum: in the last 10 years, Helios Quartz has opened commercial branches in the US (Helios Quartz America), in China (Shenyang Helios Tech) and Hong Kong (Helios Quartz Asia).

Thanks to its experience in different fields

and to its cutting-edge testing laboratory located in the historical Helios Italquartz S.r.l. plant in Cambiago (Italy), Helios Quartz can be a strategic Partner to realize integrated solutions for every specific application.

**HELIOS QUARTZ is focusing in being a Best Partner, not just a supplier.**

Helios Quartz products range for the glass industry include:

- **QUARTZ INFRARED HEATERS** in short, medium and fast medium wavelength, in single and twin tube, with or without gold reflector for:
  - *Laminating lines* (plastic film coupling);
  - *Screen printing lines;*
  - *Bending furnaces;*
  - *Fusion furnaces;*
  - *Laminated glass cutting tables;*
- **INFRARED MODULES:** complete infrared solutions, designed and customizes according to customer needs, and ready to be integrated in existing machines and production lines;

- **UV POLYMERIZATION EQUIPMENT:** UV high and medium pressure lamps for drying screen printing of reactive inks, paints, coatings and adhesives for the decorating and furnishing sector;

- **TIN DETECTOR EQUIPMENT:** UV black light devices which are able to detect the tin coated side of the float glass even under high brightness conditions. This kind of detection is crucial before processes such as laminating, mirroring, printing and decorating. Helios Quartz offers two type of device:

- **MANWOOD 25-N:** manual equipment.

- **AUTOMATIC TIN SIDE DETECTOR:** compact automatic version of this device. It can be fixed directly on the glass transportation line, before the production process, in order to check each and every piece of glass. A user-friendly PLC helps the operator in calibrating and managing the different recipes.



# HORN GLASS INDUSTRIES AG

Bergstrasse 2 - D-95703 Plössberg - Germany - Tel: +49-9636-92040

E-mail: [info@hornglas.de](mailto:info@hornglas.de) • [www.hornglass.com](http://www.hornglass.com)

## COMPANY DATA

### Contacts

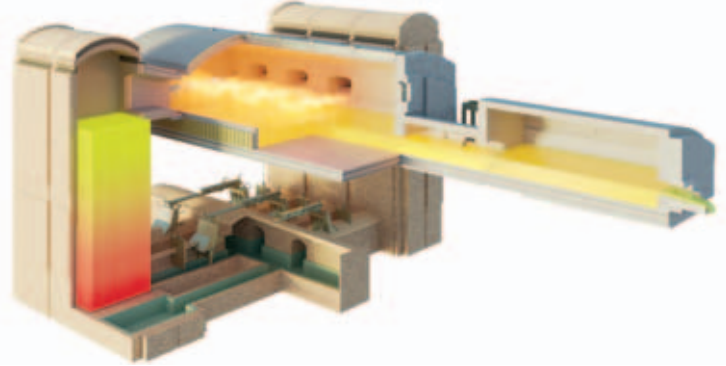
- Stephan Meindl** - President and CEO
- Ekaterina Firsova** - Executive Director Glass Plant Technology
- Ulrich Imhof** - Executive Director Container/Special Glass
- Andreas Kopp** - Managing Director HORN Bau & Service GmbH

### Number of Employees

Approx. 475 (worldwide)

### Company founded

1999







## COMPANY PROFILE

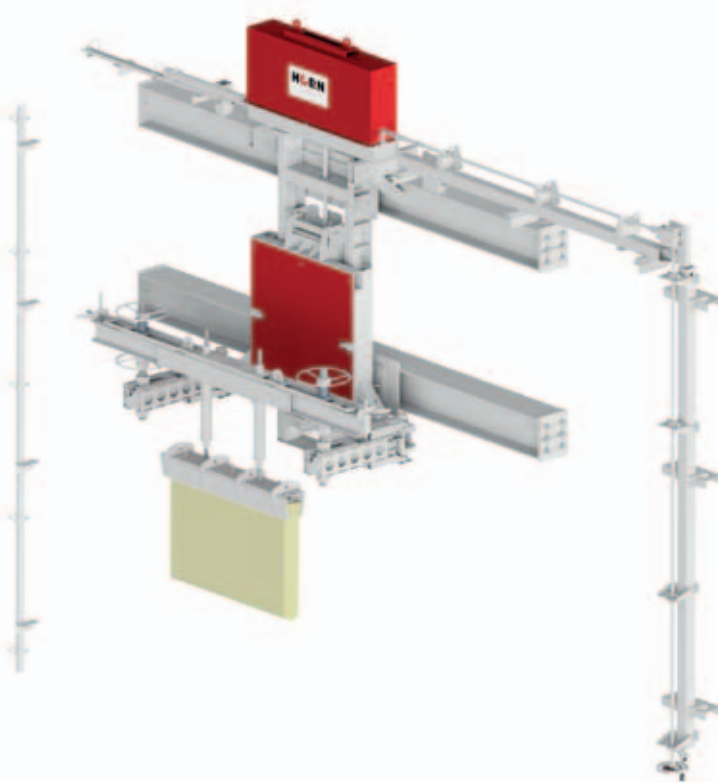
At its location in Plößberg, Germany, **HORN Glass Industries AG** designs and makes glass melting technology and turnkey projects for the float and container glass industries. The company's high-performance glass melting furnaces and turnkey projects are installed at glass manufacturers all over the world and serve the production of beverage bottles, food containers, drinking glasses, glass panes, glass tubes, glass fibres and special glass.

With more than 140 years of experience, HORN has been the specialist and expert in the field of the construction of glass melting furnaces for many years, and is now one of the industry leaders in the implementation of turnkey projects.

Subsidiary companies in China, Malaysia, India, Croatia, Ukraine, Brazil and the Czech Republic add value to global customers, offering proximity and prompt response in the global market. Almost 90% of HORN's products are exported from Plößberg in Upper Palatinate to more than 75 countries worldwide.

HORN offers its customers complete support and a helping hand at all times. HORN can offer tailor-made solutions because we have a very high level of vertical integration for all our products. HORN has ventured into unknown areas, e.g. in the construction of its own tin baths and associated equipment. HORN manufactures a large number of products in its workshops in Plößberg:

- Glass melting furnaces (container glass, float glass, etc.)
- Tin baths
- Batch chargers
- Stirrers
- Gas, oil and heavy oil heating for melting furnaces
- Tin bath equipment such as top roller, pusher, flags, fences
- Tweel
- Dross boxes
- Shield gas supply stations



## PRODUCT RANGE

**MELTING FURNACES**  
**TURNKEY TECHNOLOGICAL PLANTS**  
**PROJECT ENGINEERING**  
**FINANCING & AUTHORISATIONS**  
**PROJECT MANAGEMENT ON SITE**  
**TRAINING**  
**OPERATIONAL SUPPORT**

**TIN BATHS**  
**HEATING EQUIPMENT**  
**CONTROL EQUIPMENT**  
**ELECTRIC BOOSTING SYSTEMS**  
**BATCH CHARGERS**  
**MEDIA SUPPLY EQUIPMENT**  
**SERVICE WORKS**  
**FOREHEARTHES**



## ITALCARRELLI SpA

Via Monte Rosa, 9 - 36072 Chiampo (VI) - Italy - Tel.: +39-0444-623393

E-mail: [info@italcarrelli.eu](mailto:info@italcarrelli.eu) • [www.italcarrelli.eu](http://www.italcarrelli.eu)

### COMPANY DATA

#### Contacts

**Alessandro Negrin** - President  
**Stefania Negrin** - Vice-President  
**Ivan Lambertucci** - CEO  
**Davide Schiavon** - Sales Manager

#### Annual Turnover of the Company

EUR 10 / 50 mil

#### Sales

Domestic (3%) / International (97%)

#### Quality Certifications

ISO 9001:2015 - ISO27001 - ISO 27701

#### Banks

Intesa San Paolo - Arzignano

#### Number of Employees

> 100

#### Founding Year

1962

#### Registered Patents

Telescopic Arm for rack handling in autoclaves, Collar Handling Device, ABV Device/EN BOX for glass handling in containers, Battery Exchange System, Side-loader telescopic cab, Side-loaders equipment for handling glass boxes, PTN inloader with adjustable trailer width, Laser guided jumbo frame transporter PTN 330 LGV and laser scanners self-regulation support

#### Registered Trademarks

Italcarrelli

#### Planned Exhibitions 2025

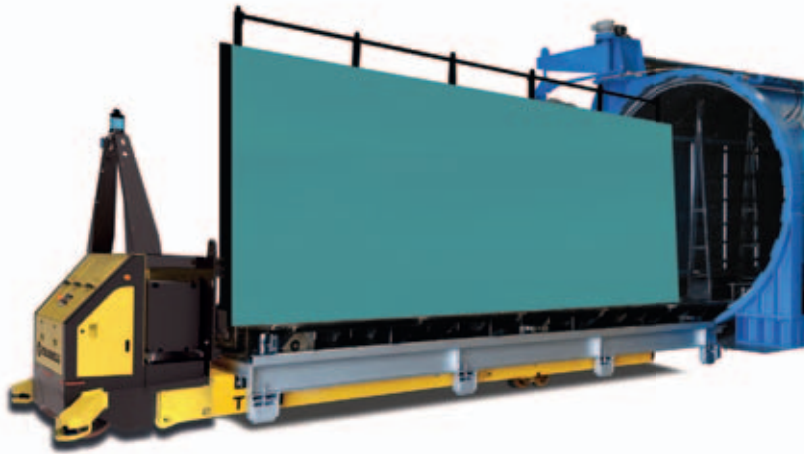
**China Glass** - Pechino, China - 26 / 29 May  
**Vitrum** - Milan, Italy - 6 / 19 September  
**GlassBuild America** - Orlando, USA  
4 / 6 November



SIDE-LOADERS



AGV-LGV



LAMINATED GLASS HANDLING



PLATFORM TRANSPORTERS



CONTAINER LOAD/UNLOAD



INLOADER TRANSPORTERS

## COMPANY PROFILE

### SMART WORKING, SAFE WORKING WITH TOP HANDLING SOLUTIONS

**ITALCARRELLI®** designs and builds special machines, technology and accessories for the transport and storage of glass. After many years of hard work, the Company has put into practice its idea of smart work.

- Smart – with clients to create personalized machines responding to their precise needs and demands;
- Smart – with suppliers to have the constant availability of top class material and components;
- Smart – solutions both with regards to technology and energy savings;
- Smart – for safety each and every day.

Thanks to the perfect synergy between the company's design departments and software development, Italcarrelli's machines have the highest levels of performance and ease of use, with low energy consumption levels.

## PRODUCT RANGE

- PLATFORM TRANSPORTERS
- INLOADER TRANSPORTERS
- SIDE-LOADERS
- SPECIAL SOLUTIONS
- CONTAINER LOAD/UNLOAD
- LAMINATED GLASS HANDLING
- AGV-LGV



## ITALMATIC Srl

Via Tazio Nuvolari S.N. - 55061 Fraz. Carraia - Capannori (LU) - Italy  
Tel.: +39-0583-981166

E-mail: [info@italmatic.eu](mailto:info@italmatic.eu) • [www.italmatic.eu](http://www.italmatic.eu)

### COMPANY DATA

#### Contacts

**Roberto Frediani** - Managing Director

**Adriano Frediani** - CEO

**Massimo Ghitturi** - Member of Board of Directors

#### Annual Group Turnover

EUR 50 million

#### Annual Company Turnover

EUR 20 million

#### Percentage of turnover from glass

20%

#### Sales

National (30%) / International (70%)

#### Quality certifications

ISO 9001

#### Banks

Intesa S. Paolo

#### Area

Offices 600 m<sup>2</sup> / Plants 8000 m<sup>2</sup>

#### Number of Employees

60

#### Paid-in capital

EUR 46.481,12

#### Founding year

1987

#### Registered Trademarks

Italmatic - Comfort





## COMPANY PROFILE

### New autoclaves for curved glass and windshield

**ITALMATIC**, leader in the research, design and construction of autoclaves for various applications, has developed a new generation of advanced and innovative machines for the treatment of curved glass and windscreens.

These autoclaves, the result of research, development and experience acquired over the years, have been designed with the aid of the most sophisticated structural and thermodynamic calculation programs, such as the new dynamic flow simulator C.F.D. (Computational Fluid Dynamics).

In the design, particular attention was paid to energy saving, adopting innovative materials for thermal insulation, high efficiency motors controlled by inverters, heating systems (electric, diathermic oil or steam) with infinitesimal control, as well as new control systems capable of managing power and flow distribution, thus allowing significant reductions in operating costs.

The machine can also be made with two doors, one on each side, to allow the automatic and/or manual introduction and

unloading of the glass holder carriages, thereby speeding up the loading and unloading operations, especially for continuous production of both 24/24h and 7/7g.

For a better internal chamber uniformity, according to the different loads and positioning of the glass under treatment, the motor fan units have been positioned in the upper part in direct contact with the heating and cooling exchangers.

This innovation has made it possible to work for defined areas within the chamber, managing each area according to the load and with the best uniformity.

Orientation and modulation of the ventilation, with variation of the fluid transfer speed on the products, ensures that glass quality conforms to even the most restrictive market requirements.

The control system, called **ICS (Italmatic Control System)**, allows you to program, supervise and have complete traceability of production batches - both automatically and manually, in order to allow for analysis of all process cycles.

The control system meets every industry 4.0 requirement and can also be interfaced with the company MES.



## ITALMOLE Srl

Via Carducci, 10/12/14 - 20072 Fizzonasco di Pieve Emanuele (MI) - Italy  
Tel.: +39-02-90426141

E-mail: [info@italmolesrl.com](mailto:info@italmolesrl.com) • [www.italmolesrl.com](http://www.italmolesrl.com)

### COMPANY DATA

#### Contacts

**Ivan Rossi** - Owner Partner / Sales and Technical Manager  
**Graziano Venturi** - Senior Owner Partner

#### Sale

Domestic (20%) / International (80%)

#### Area

Office 50 m<sup>2</sup> / Production unit 2000 m<sup>2</sup>

#### Founding Year

1978

#### Planned Exhibitions 2025

**Vitrum** - Milan, Italy - 16 / 19 September

### COMPANY PROFILE

**ITALMOLE S.r.l.**, founded in 1978, has more than 40 years of experience in glass polishing and develops product lines to meet any requirement coming from global market.

Every day is a new challenge and new inspiration: the company has remained loyal to its traditional artisan way to guarantee the same quality starting to study new technologies to improve its products and provide polishing wheels for any use and processing.

All these improvements were also made on-site with environmentally sustainable machinery and equipment. The latest project was the installation of a 110 Mwh photovoltaic system made up of 252 new generation panels that support the energy needs of the entire production and office area.

#### DUSSELDORF SUCCESS

Last year ITALMOLE participated in the Glasstec fair with a very successful visits that confirmed already established relationships and brought new possible business collaborations.

Every trade fair is the ideal time to talk to customers about all products and to present new products.





**ANOTHER WINNING LINE**

Italmole has received positive feedback from global market for the new "ALFA" line which guarantees a longer life and a better polishing quality. These wheels are produced for all types of machines and for all types of fixing in the grits 40,60,80 and 120. They are available with rigid plastic plate, aluminum plate and special Bavelloni "J40" plate.

On request with sectors for laminated glass.

**PRODUCT RANGE**

- Peripheral wheels
- Engraving wheels
- Cup wheels
- Arris wheels
- Cerium wheels
- Low-e
- Peripheral rubber wheels



**BLACK**

**PRODUCT RANGE**

Italmole manufactured polishing wheels for all type of machines and has more than 40 years of activity and experience in the glass industry.

The company is able to offer a complete range of polishing wheels with binder, grit, standard and custom machining for different uses in glass processing.

In recent years have been developed a new peripheral wheel named ASTRA, with long life and super polishing, suitable for vertical CNC machines such as VERTMAX, FOREL, CMS and SKILLGLASS, as well as horizontal machines such as MASTER, CMS and BOTTERO-BIMATECH.

The other product range is the wheels for arris, the type BLACK is one of the main product. Advised to polish the arris after diamond wheel and it can be supplied with any type of plate and for all type of machines.



**Known and used worldwide, on all types of machines in the arris polishing position. Available with and without rigid plate.**





## KERAGLASS Srl

Via Sassogattone 13/A - 42031 Baiso (RE) - Italy  
Tel.: +39-0522-993027

E-mail: [info@keraglass.com](mailto:info@keraglass.com) • [www.keraglass.com](http://www.keraglass.com)

### COMPANY DATA

#### Contacts

**Stefano Spezzani** - Founder & President  
**Maicol Spezzani** - Co-CEO, Sales & MKT Director  
**Luca Calanca** - Strategic Sourcing Manager  
**Paolo Righi** - Technical & Service Manager

#### Mother Company

Voilàp

#### Annual Group Turnover

EUR 390,000,000.00

#### Annual Company Turnover

EUR 60,000,000.00

#### Sales

Domestic (15%) / International (85%)

#### Parent and Sister Companies

##### **Keraglass South America do Brasil Ltda**

Av.Salgado Filho, 252, sala 612, centro  
12655 Guarulhos SP - Brazil - Tel.: +55 11 954407000  
E-mail: [southamerica@keraglass.com](mailto:southamerica@keraglass.com)

##### **Keraglass USA Inc.**

20 Murray Hill Parkway, Unit 120 - East Rutherford - NJ 07073  
USA - Tel.: +1 201 561 2191 - E-mail: [info.usa@keraglass.com](mailto:info.usa@keraglass.com)

### COMPANY PROFILE

**Keraglass** is the world's leading Italian manufacturer of glass processing plants and equipment, thanks to the design and production of a range of high-tech glass tempering, laminating and decorating solutions. An all-round approach that makes this company an ever higher performing and more competitive player on the global market.

#### Planned Exhibitions 2025

##### **Glass Expo West**

Ontario (CA), USA - 5 / 6 February

##### **Mid-Atlantic Glass Expo**

Greenbelt (MD), USA - 23 April

##### **Glass Texpo**

San Antonio (TX), USA - 8 / 9 May

##### **China Glass**

Beijing, China - 26 / 29 May

##### **Glass South America**

Sao Paulo, Brazil - 3 - 6 Sept (BR)

##### **Vitrum**

Milan, Italy - 16 / 19 September

##### **GlassBuild America**

Orlando (FL), USA - 4 / 6 November

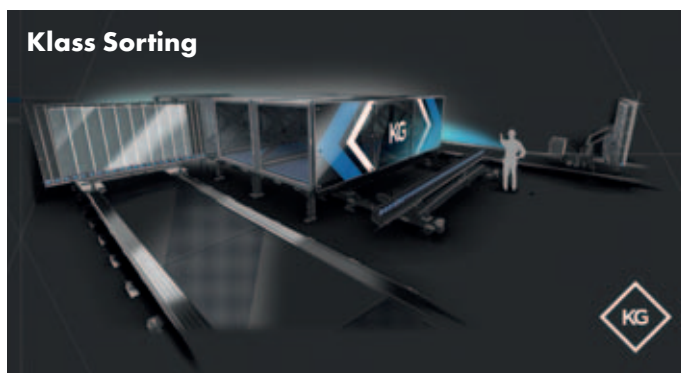
##### **Big 5 Global (Gulf Glass)**

Dubai, UAE - 24 / 27 November



**Vision - oscillating tempering furnace**





**S A L E S   N E T W O R K**

**ALBANIA - BULGARIA - KOSOVO - MACEDONIA - MONTENEGRO**

**GMSC LTD**

E-mail: rks.gmsc@gmail.com

**AUSTRIA - GERMANY - SWITZERLAND**

**Modeco Global GmbH**

E-mail: modecoglobal@gmail.com

**BELGIUM - LUXEMBURG - THE NETHERLANDS**

**GKservice BVBA**

E-mail: bertgoris@gkservice.be

**BIELORUSSIA - ESTONIA - LATVIA - LITHUANIA - UCRAINA**

**UAB "Idelis"**

E-mail: info@idelis.lt

**CIPRO**

**GRAND MINATOR PROMOTIONAL**

E-mail: manager@grandminator.com

**FINLAND**

**Projecta Oy**

E-mail: markus.tasala@projecta.fi

**GREECE**

**PRISMA**

E-mail: sales@prismaglass.gr

**ITALY: Emilia Romagna - Toscana - Marche - Umbria - Lazio - Abruzzo**

**- Molise - Campania - Puglia - Basilicata - Calabria - Sicilia - Sardegna**

**Tecno-Glass Srl**

E-mail: manuela@tecnoglass.it

**Trentino Alto Adige - Veneto - Friuli**

**Sig. Fulvio Valeri**

E-mail: fulvio.valeri@virgilio.it

**PORTUGAL**

**HMGLASS UNIPESSOAL, LDA**

E-mail: hugogoncalves1977@gmail.com

**SPAIN**

**ADETEC, SL (Grupo ADA Distribuciones):**

**Andalucía, Badajoz, Ciudad Real**

Linares - Tel: +34 670 311 948

E-mail: adetec@adetecl.es

**NTPS GLASS (Grupo ADA Distribuciones):**

**Galicia, Asturias, Cantabria, País Vasco, Navarra, La Rioja, Burgos, León, Palencia**

Cabrils (Barcelona) - Tel: +34 637 722 458

E-mail: daniel.bravo@ntps.es

**TECNICGLASS: all other areas**

La Selva del Camp - Tel: +34 619 231 227

E-mail: info@tecnicglass.com

**TURKEY**

**CONCEPT SOLUTION**

E-mail: agursoz@keraglass.com

**UK AND IRELAND**

**Glass Machinery Solutions Ltd**

E-mail: rgerrard@glassmachines.co.uk

**ALGERIA - LYBIA - MAROCCO - TUNISIA**

**Art Med Srl**

E-mail: artmed.tn@gmail.com

**BAHRAIN - KUWAIT - OMAN - WQUATAR - SAUDI ARABIA - UAE - YEMEN**

**IBA MIDDLE EAST FZE**

E-mail: sudip@iba-me.com

**THAILANDIA**

**Motech Machinery Service co. Ltd**

E-mail: p.huailai1@yahoo.co.th

**VIETNAM**

**NINH Service & Trading Division - Hoang Son Co. Ltd**

E-mail: info@ninh.com.vn

**AUSTRALIA**

**Alumach PTY LTD**

E-mail: adrian@alumach.com

**CANADA FRENCH SPEAKING**

**Drolet Equipement CNC**

E-mail: Jtherrien@drolet-equipementcnc.com

**COSTA RICA - MEXICO**

**Certech Impianti de Mexico S.A. de C.V.**

E-mail: roberto.amaya@certechmexico.com

**ARGENTINA - BOLIVIA - CHILE - PARAGUAY - URUGUAY**

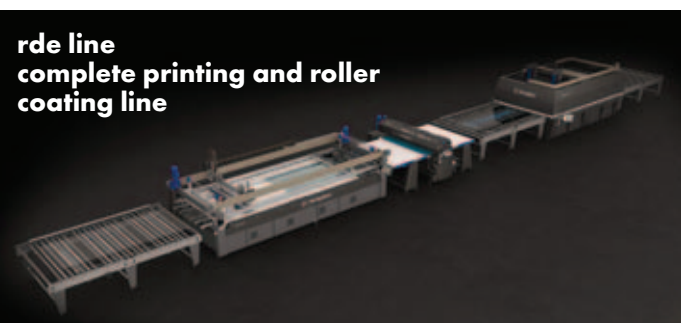
**Oficina Comercial Voilap - Cono Sur Sudamérica**

E-mail: joliva@voilap.com

**COLOMBIA - ECUADOR - PANAMA - VENEZUELA**

**PROTECH COLOMBIA S.A.S.**

E-mail: paocol@hotmail.it





# LANDGLASS TECHNOLOGY Co., Ltd.

Guangjian Building, No.12 Wangcheng Road, 471000 Luoyang - China  
Tel.: +86-379-80890369

E-mail: [marketing@landglass.com](mailto:marketing@landglass.com) • [www.landglass.net](http://www.landglass.net)

## COMPANY DATA

### Contacts

**Zhao Yan** - General Manager

### Planned Exhibitions 2025

- Mir Stekla** - Moscow, Russia - 11 / 14 March
- Glass & Aluminum + WinDoorEx** - Saudi Arabia - 5 / 7 May
- China Glass** - Beijing, China - 26 / 29 May
- Glasstech Mexico** - Mexico City, Mexico - 16 / 18 July
- Vitrum** - Milan, Italy - 16 / 19 September
- GlassBuild America** - Orlando, (FL) USA - 4 / 6 November
- Glasstech Asia** - Jakarta, Indonesia - 6 / 9 November
- Eurasia Glass** - Istanbul, Turkey - 15 / 18 November
- ZAK Glass** - New Delhi, India - 5 / 7 December



## COMPANY PROFILE

**Landglass:** Ideal partner for tempered glass manufacturers

### All-New Cyclone™ Series Glass Tempering Furnaces

The legendary and benchmark product in the intelligent glass tempering field with thirteen innovative technologies and nearly a hundred innovations and creations

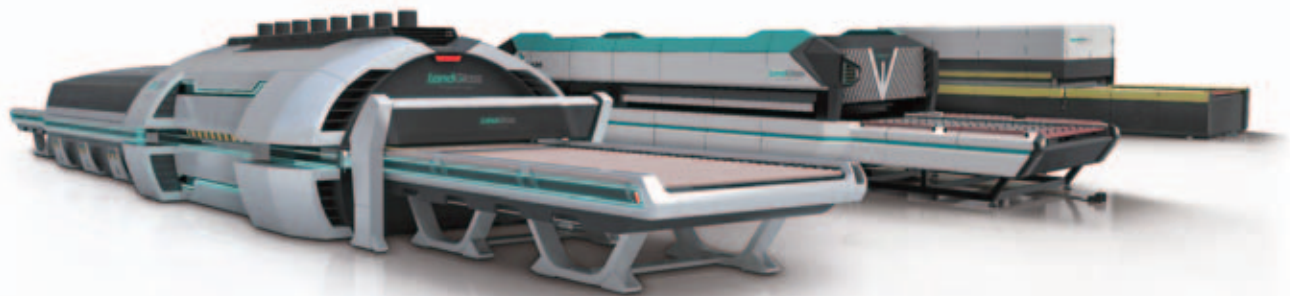
Capable of providing systematic solutions for flat and curved tempered glass for architecture and furniture, vehicle, home appliances, and solar power industries, fulfilling the ultimate demand for top quality tempered glass!

### All-New UltraJet™ Series Glass Tempering Furnaces

With the inherited advantages of the classic JetConvection™ Glass Tempering Furnaces, the all new UltraJet™ series, equipped with six major innovative technologies, fulfills the diversified de-

## Intelligent Glass Tempering Furnace Solutions

- Five Major Advantages
- Hundreds of Innovations
- Remarkable Outcome
- Stimulate the Development of Four Industries



Cyclone™ Series Glass Tempering Furnaces

UltraJet™ Series Glass Tempering Furnaces

JetConvection™ Series Glass Tempering Furnaces

### TIGER Smart Factory Solutions

- Efficient Production
- Cost Effective
- Quality Improvement

### Vacuum Insulated Glass Solutions

- Extremely Energy Efficient
- Outstanding Noise Reduction
- Condensation-free



[www.landglass.net](http://www.landglass.net)  
+86-379-80890369



mands from architecture and furniture, vehicle, home appliances, and solar power industries for flat and curved tempered glass with both quality and capacity guaranteed.

**All-New JetConvection™ Series Glass Tempering Furnaces**

As the pioneer in Forced Convection Technology, LandGlass' high quality and efficiency advantages revealed in high-performance Low-E Glass Tempering made the JetConvection™ series glass tempering furnace a two-time winner of the National Patent Gold Award and an iconic product in the forced convection glass tempering machinery.

At present, more than one thousand furnaces of this series have been sold to over sixty countries and regions worldwide, becoming one of the legendary products of LandGlass.

**LandGlass TIGER™ Smart Factory**

LandGlass TIGER™ Smart Factory employs the new generation enterprise resource planning system, intelligent manufacturing technology and identification technology to interconnect all machinery throughout the entire process from float glass to finished products. It has realized digital and intelligent processing of supply, manufacturing, and sales information during production, achieving lean and efficient manufacturing and management.

**About LandVac**

**LandVac®:** fully tempered vacuum insulated glass

**LandVac®** is a wholly-owned brand of LandGlass. LandVac® Tempered Vacuum Insulated Glass, is backed by eight major technologies:

**Noise Reduction:** With its weighted sound reduction index exceeding 39dB, LandVac makes rooms in downtown quiet like a library.

**Energy Conservation:** U-value as low as 0.4W/(m<sup>2</sup> • K). A 8.3 mm thick LandVac has better thermal insulation effect than the 1.5m thick brick wall.

**Free of Condensation:** Remain condensation-free when the temperature difference between the two sides exceeds 70°C, keeping away from condensation

**Tempered and Safe:** Completely retains the high strength, impact resistance, and other safety characteristics of tempered glass with its unique FLAS Flexible Lead-free Alloy Sentry technology.

**Outstanding Adaptability:** Since there is no thermal expansion or contraction in the high vacuum chamber of LandVac, the use of LandVac is not limited by geographical locations, elevation, or installation angle.

**Super Long Life:** The service life expectancy of Landvac exceeds 25 years.

**Thin and Lightweight:** A piece of 8.3 mm thick LandVac weighs only 20kg/m<sup>2</sup>. It reduces the use of materials while extending the service life of hardware. The costs on storage and logistics are also significantly reduced.

**Lead-free:** The Testing Report from CTI, which is authorized by RoHS EU, has witnessed the outstanding environmental-friendly performance of Landvac.

PRODUCT RANGE

- Cyclone™ Series Glass Tempering Furnaces
- UltraJet™ Series Glass Tempering Furnaces
- JetConvection™ Series Glass Tempering Furnaces
- TIGER™ Smart Factory
- Landvac® Tempered Vacuum Insulated Glass

# LISEC



## LISEC AUSTRIA GMBH

Peter-Lisec-Straße 1 - 3353 Seitenstetten - Austria  
Tel.: +43-7477-405-0

E-mail: [sales@lisec.com](mailto:sales@lisec.com) • [www.lisec.com](http://www.lisec.com)

### COMPANY DATA

#### Contacts

**Dipl.-Ing. Gottfried Brunbauer**  
CEO

#### Founding Year

1961

#### Sister Companies

##### **Glastronic Hungary Kft.**

Mester utca 4 - 2840 Oroszlány - Hungary

E-mail: [preowned@lisec.com](mailto:preowned@lisec.com)

web: [glastronic.lisec.com](http://glastronic.lisec.com)

##### **Schraml Glastechnik GmbH**

Lumpgraben 49 - 4463 Grossraming - Austria

E-mail: [schraml@lisec.com](mailto:schraml@lisec.com) - web: [www.schraml.com](http://www.schraml.com)

#### Number of Employees

1,300

#### Planned Exhibitions 2025

**China Glass** - Beijing, China - 26 / 29 May

**Glass South America** - Sao Paulo, Brasil - 3 / 6 September

**Vitrum** - Milan, Italy - 16 / 19 September

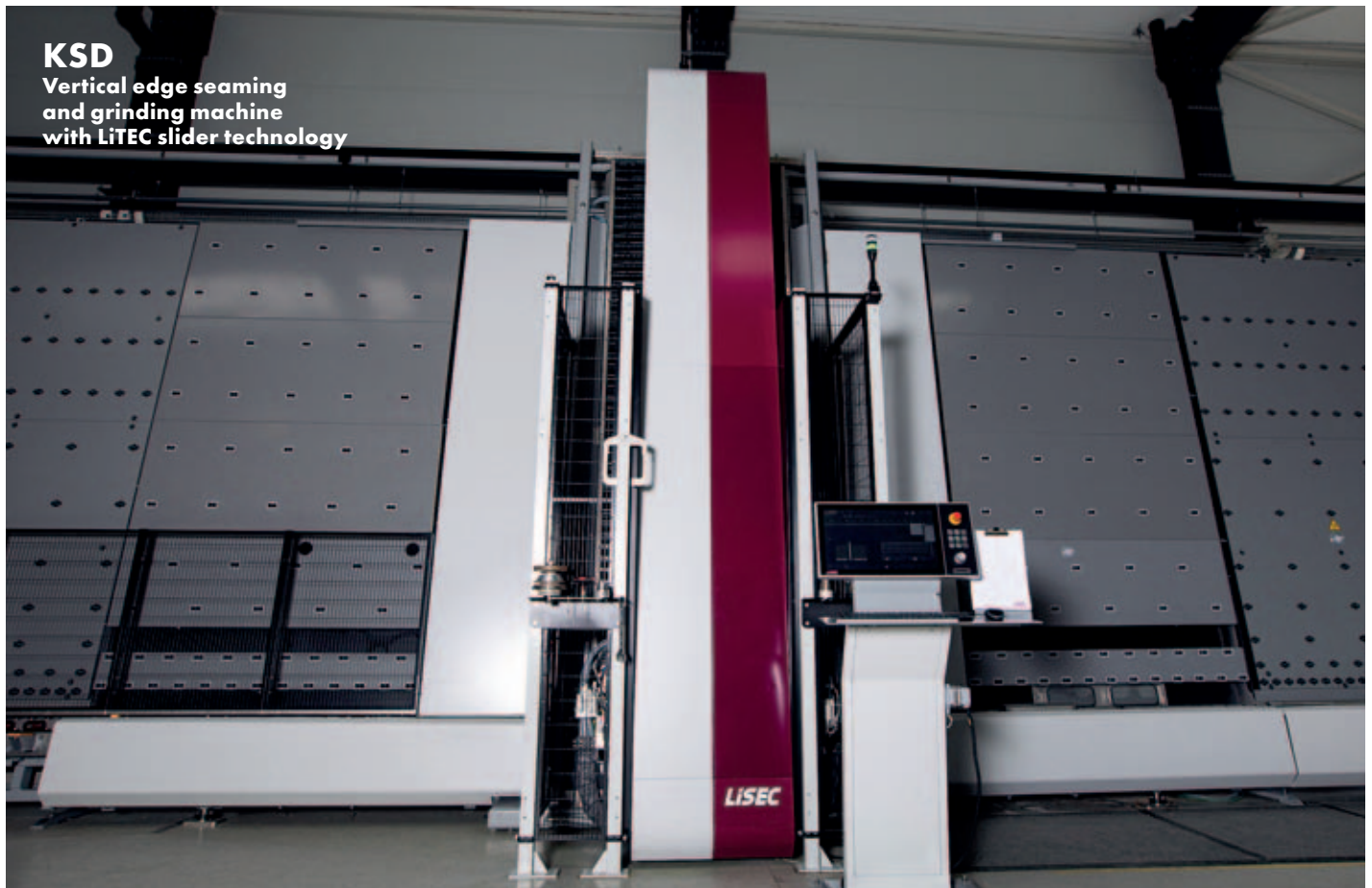
##### **GlassBuild America**

Orlando, (FL) USA - 4 / 6 November

**Glasstec Asia** - Jakarta, Indonesia - 6 / 9 November

#### KSD

Vertical edge seaming  
and grinding machine  
with LiTEC slider technology



## COMPANY PROFILE

**LiSEC**, an international group of companies headquartered in Seitenstetten, Austria, looks back on almost 65 years of leading innovation in the flat glass industry. With 1,300 employees in more than 20 locations, the group generated EUR 300 million sales in 2023, 95 % of which



in exports. LiSEC stands for top-quality machines and plants as well as integrated complete solutions including software along the entire value stream of flat glass processing. Designed and manufactured in Austria, the range of products spans glass cutting and glass sorting, insulating glass and laminated glass production, as well as glass processing. Customers benefit from working with an all-in-one supplier with extensive experience in the implementation of large projects and a global service network.

## SALES NETWORK

### AUSTRALIA

#### LiSEC AUSTRALIA PTY LIMITED

79-81/23 Narabang Way

2085 - Belrose NSW

Tel.: +61 2 9485-890-0 - Fax: +61 2 9485-890-9

E-mail: sales-australia@lisc.com

### CHINA

#### LiSEC SHANGHAI

Room 301 Building 2, Gang'ao Road ChinaPilot Free Trade Zone

201799 Shanghai

Tel.: +86-21-6030-30-80 - Fax: +86-21-6073-00-37

E-mail: office.cn@lisc.com

### GERMANY

#### LiSEC DEUTSCHLAND GMBH

Osterholzstr. 124 - 34123 - Kassel

Tel.: +49 561 570-57-0 - Fax: +49 561 570-57-40

E-mail: info-deutschland@lisc.com

### ITALY

#### LiSEC SOLUTIONS ITALY S.R.L.

Via E. Fermi, 6

30020 Noventa di Piave (VE)

Tel.: +39-0421-307483

E-mail: info.solutions@lisc.com

### POLAND

#### LiSEC POLSKA SP. Z O.O.

Piwna 10

05-850 Konotopa

Tel.: +48 22 6381049

Fax: +48 22 6660180

E-mail: info-pl@lisc.com

### UAE

#### LiSEC MIDDLE EAST LTD. FZE.

Dubai Air Port Free Zone LIU

No: B1-Road WB-21

P.O. Box 54290 Dubai

Tel.: +971 4 2994-596 - Fax: +971 4 2994-740

E-mail: sales.middleeast@lisc.com

### USA

#### LiSEC AMERICA, INC.

12571 Oliver Avenue South, Suite 100

55337 - Burnsville MN

Tel.: +1 952 641-99-00 - Fax: +1 952 641-99-33

E-mail: lisc@liscamerica.com

You can find a full list of  
our Sales Network on:  
[www.lisc.com](http://www.lisc.com)



## PRODUCT RANGE

- Glass Cutting Machines
- Insulating Glass Production Machines
- Sorting & Logistic Systems
- Laminated Glass Production Machines
- Flat Glass Processing Machines
- Glass Processing & Washing Machines
- Business Software
- After Sales / Service



**MAPPI**

BEYOND GLASS PERFECTION

## MAPPI INTERNATIONAL Srl

Via Fieramonti, 1 - 04012 Cisterna di Latina (LT) - Italy  
Tel.: +39-06-96873284

E-mail: [info@mappi.it](mailto:info@mappi.it) • [www.mappi.it](http://www.mappi.it) • [www.mappi.us](http://www.mappi.us)



### COMPANY DATA

#### Contacts

**Nancy Mammaro** - Managing Director  
**Ermanno Petitti** - Sales Manager  
**Giulio Dalla Costa** - Automation Manager

#### Annual Turnover of the Company

EUR 8,200,000

#### Percentage of turnover from glass (%)

100

#### Sales

Domestic (10%) / International (90%)

#### Area

Offices 1000 m<sup>2</sup> / Plants 4000 m<sup>2</sup>

#### Number of Employees

48

#### Founding Year

1993

#### Registered Trademarks

MAPPI | SUPERTEMPER

#### Parent and Sister Companies

##### Mappi America

3888 Mannix Dr.#314 - 34114 Naples, FL - USA  
Tel.: +1 336 8787460 - <mailto:info@mappi.us>

### SALES NETWORK

#### FOR ITALY SEE:

[www.mappi.it/contact-us/agents/](http://www.mappi.it/contact-us/agents/)

#### MIDDLE ITALY

##### TECNOVATI

E-mail: [ghizzani@tecnovati.it](mailto:ghizzani@tecnovati.it)  
[www.tecnovati.it](http://www.tecnovati.it)

#### GERMANY - THE NETHERLAND - BELGIUM - SWITZERLAND - AUSTRIA

##### Füldner Machines BV

E-mail: [frank.verhooren@fuldner.nl](mailto:frank.verhooren@fuldner.nl)  
[www.fuldner.nl](http://www.fuldner.nl)

#### POLAND

##### Adam Makarowski

E-mail: [glassmak@vp.pl](mailto:glassmak@vp.pl)

#### FRANCE

##### DUMATEK

E-mail: [dumatek@dumatek.fr](mailto:dumatek@dumatek.fr)  
[www.dumatek.fr](http://www.dumatek.fr)

#### SPAIN

##### TekVimo

E-mail: [j.mora@tekvimo.es](mailto:j.mora@tekvimo.es)

#### PORTUGAL

##### C.M.V. Unipessoal, Lda

E-mail: [geral@cmvsa.pt](mailto:geral@cmvsa.pt)

#### GREECE

##### STEFANOS THEMELIS AND CO EE

E-mail: [stefanos.themelis@gmail.com](mailto:stefanos.themelis@gmail.com)

#### DENMARK

##### DMT APS

E-mail: [jesper@dm-t.dk](mailto:jesper@dm-t.dk)

#### CZECH REPUBLIC AND SLOVAKIA

##### TEKNIKA-CZ

E-mail: [zmeskal@teknika-cz.cz](mailto:zmeskal@teknika-cz.cz)  
[www.teknika-cz.cz](http://www.teknika-cz.cz)

#### LITHUANIA - FINLAND - SWEDEN -

#### NORWAY - BELARUS - UKRAINE

##### GLASSPRO

E-mail: [nerijus.leskauskas@glasspro.lt](mailto:nerijus.leskauskas@glasspro.lt)  
[www.glasspro.lt](http://www.glasspro.lt)

#### SLOVENIA - CROATIA - BOSNIA - BULGARIA - KOSOVO

##### GLASMIK D.O.O.

E-mail: [devid@glasmik.si](mailto:devid@glasmik.si)  
[www.glasmik.com](http://www.glasmik.com)

#### MOLDAVIA - ROMANIA

#### UNGHERIA

##### IMROGLASS S.R.L.

E-mail: [robert.jug@imroglass.ro](mailto:robert.jug@imroglass.ro)  
[www.imroglass.ro](http://www.imroglass.ro)

#### ESTONIA - LATVIA

##### Estoneglass Ou

E-mail: [info@estoneglass.eu](mailto:info@estoneglass.eu)

#### UK - IRELAND

##### P.A.L. Glass Machinery Ltd

E-mail: [paul@palmachinery.co.uk](mailto:paul@palmachinery.co.uk)  
[www.palmachinery.co.uk](http://www.palmachinery.co.uk)

#### TURKEY

##### AS CAM DESIGN

E-mail: [kadir@ascam.com.tr](mailto:kadir@ascam.com.tr)  
[www.ascam.com.tr](http://www.ascam.com.tr)

#### USA: see MAPPI AMERICA

#### MIDDLE EAST

##### Corpotrade

##### Dubai Office:

E-mail: [charlesmaalouf@corpotrade.com](mailto:charlesmaalouf@corpotrade.com)

##### Beirut Office:

E-mail: [aymen@corpotrade.com](mailto:aymen@corpotrade.com)  
[www.corpotrade.com](http://www.corpotrade.com)

#### BRAZIL

##### Italotec Maquinas

E-mail: [vendas@italotec.com.br](mailto:vendas@italotec.com.br)

#### MEXICO

##### Marbolz Vetrostile

E-mail: [info@vetrostile.com](mailto:info@vetrostile.com)  
[www.vetrostile.com](http://www.vetrostile.com)

#### COLOMBIA - BOLIVIA

##### Glasstools

E-mail: [cam.glasstools@gmail.com](mailto:cam.glasstools@gmail.com)  
[www.glasstools.com.co](http://www.glasstools.com.co)

#### AUSTRALIA & NEW ZELAND

##### Overseas Glass Agencies

E-mail: [neil@oga.com.au](mailto:neil@oga.com.au)  
[www.oga.com.au](http://www.oga.com.au)

#### RUSSIA - CIS

##### KPD TECHNO

E-mail: [hp@kpd-techno.ru](mailto:hp@kpd-techno.ru)  
[www.kpd-techno.ru](http://www.kpd-techno.ru)

#### INDIA

##### THORNGATE SALES CORP

E-mail: [sales@thorngate.in](mailto:sales@thorngate.in)  
[www.thorngate.in](http://www.thorngate.in)

#### VIETNAM - LAOS - CAMBODIA -

#### PHILIPPINES - SINGAPORE -

#### MALAYSIA - THAILAND -

#### INDONESIA - MYANMAR

##### EUROTECHCORP

E-mail: [eurotechline@gmail.com](mailto:eurotechline@gmail.com)

#### JAPAN

##### TGM

E-mail: [kamijima@tgm-japan.com](mailto:kamijima@tgm-japan.com)  
[www.tgm-japan.com](http://www.tgm-japan.com)

### COMPANY PROFILE

#### MAPPI INTERNATIONAL: CONTINUOUS SEARCH FOR INNOVATION

Mappi International has been designing and manufacturing high quality tempering systems for the glass industry since 1993. Hundreds of plants installed all over the world are a demonstration of the company's steady growth, important investments in research and development, uncompromising quality, and attention to the specific needs of each and every customer.

Mappi International manufactures each and every product in-house and therefore has complete quality control of all components, guaranteeing the highest quality performance and functionality of its machines

– constantly. Mappi America, located in Florida, enables the customer service department to reach each and every plant within 24 hours.

Thanks to collaboration with Siemens, Mappi machines are, first in the entire glass industry, recognized as ‘Powered by Siemens’.

**As glass tempering technology leader, Mappi and Siemens with MEC (MAPPI EDGE COMPUTING) enhances communication, efficiency, control and data security for tempering furnaces.**

The innovation ensures higher productivity, better quality, optimum consumption and improved maintenance – all while revolutionizing security in glass manufacturing. Mappi’s path of innovation continues with Supertemper, the exclusive feature that opens up a new frontier of fireproof glass: a furnace equipped with Supertemper can produce E30 certified glass for fire resistance.

From design to assistance, quality is at the centre of every thought and action of Mappi. This quality is found both in the design and in the range of products, where machines are different in size, technical solutions, mechanical engineering, and software solutions. User-friendly machines that have been designed to minimize downtime during shutdown and subsequent restart, along with the constant perfection of glass and important energy savings, show just how Mappi produces tempering furnaces that go beyond perfection day after day. Nancy Mammaro, CEO of Mappi says: “Our payoff, ‘beyond glass perfection’, sums up in three words our everyday aim shared at every level and in every area in Mappi.” Over the years, Mappi has never changed its aim: to become the leader in tempering furnaces and manufacturing, and to constantly increase quality and customization to satisfy the specific needs of each customer.

Main features:

**MHS | MULTIZONE HEATING SYSTEM**

Automatically manages the temperature of the furnace by means of a network of electronically controlled sensors that maintain temperatures constant and focus heat only in areas where there is glass.

**IHS | INTELLIGENT HEATING SYSTEM**

The internal temperature of the furnace is controlled with an accuracy of +/- 1 C, preventing overheating of the ceramic rollers and avoiding downtime for the adaptation of the furnace temperature.



**ESS | ENERGY SAVING SYSTEM** Heating and forced ventilation stages are coordinated and managed by a computerized system optimizing consumption and significantly reducing the installed power required by the entire system.

**SYNCR0 | TRASMISSION TECHNOLOGY**

The ceramic rollers are driven accurately within 1/1000mm by DC drive motor with a friction transmission between iron/rubber (avoids slack time gaps, gear lash, with resulting risks of marks on the glass).

This eliminates the need of SO2. Brushless motors control roller drives to guarantee accurate roller position and speed. Automatic speed management of the ceramic roller oscillation avoids distortions and damage to the glass surface. Full ceramic rolls, which can be easily replaced.

**ITS | INTEGRATED TOUCH SYSTEM**

The system monitors the parameters of the tempering process and immediately prints the compliance report for CE and ANSI glass standards at the same time, automatically storing this information for each production cycle.

**AC | ADVANCED COOLING**

A particular design of the blowing system that allows even more specific control while tempering, and substantially decreases the iridescence of the glass.

**ATI | ACTIVE THERMAL INSULATION**

The ATI completely reduces thermal dispersion thanks to continuous research in the best performing materials for thermal insulation, in association with the most prestigious research centres in Europe, as well as with Knauf and Morgan.

**GHBS | XTREME PROFILE CONVECTION** GHBS allows to process all last-generation coated glass, including low-E with 0.01 Emissivity.

**HEATING CHAMBER EXTRACTION**

Mappi is the only tempering equipment manufacturer that has this feature for easier maintenance and better finished product quality. ATS 4.0 is available from 1500 x 3800 to 3300 x 6000 mm and also in customizable sizes.



# MARPOSS



## MARPOSS SpA

Via Saliceto 13 - 40010 Bentivoglio (BO) - Italy - Tel.: +39-051-899111

E-mail: [marposs@marposs.com](mailto:marposs@marposs.com) • [www.marposs.com](http://www.marposs.com)

### COMPANY DATA

#### Annual Turnover of the Group

Approx EUR 450 million

#### Sales

Domestic (6%) / International (94%)

#### Quality Certifications

ISO 9001 - ISO 14001 - ISO 45001

#### Number of Employees

3500

#### Founding Year

1952

### COMPANY PROFILE

With the will to diversify the offer MARPOSS is providing solutions to the automotive glass industry since more than 20 years but MARPOSS was founded in 1952 and Mr. Stefano Possati is the President of the Group; it provides shop-floor solutions for quality control in the production environment. MARPOSS' solutions include gauging equipment for mechanical components, before, during and after the production process; monitoring solutions on machine tools; assembly and testing for many industry sectors; and automatic machines and inspection stations for production lines. MARPOSS is one of the main suppliers to the automotive industry supporting the transition to e-mobility, but additionally operates in the aerospace, biomedical, hi-tech, appliance and glass containers industries. MARPOSS Group employs 3500 people around the world and is present in 34 countries with more than 80 sales offices. Over the past 20 years, MARPOSS has acquired more than 30 companies with specific technologies into the group to always have the correct solution for customers. One of the most recent with greater relevance for this market segment is Stil; a French company that has patented the confocal technology applied to quality control (website: [www.stil-sensors.com/eng/](http://www.stil-sensors.com/eng/)).



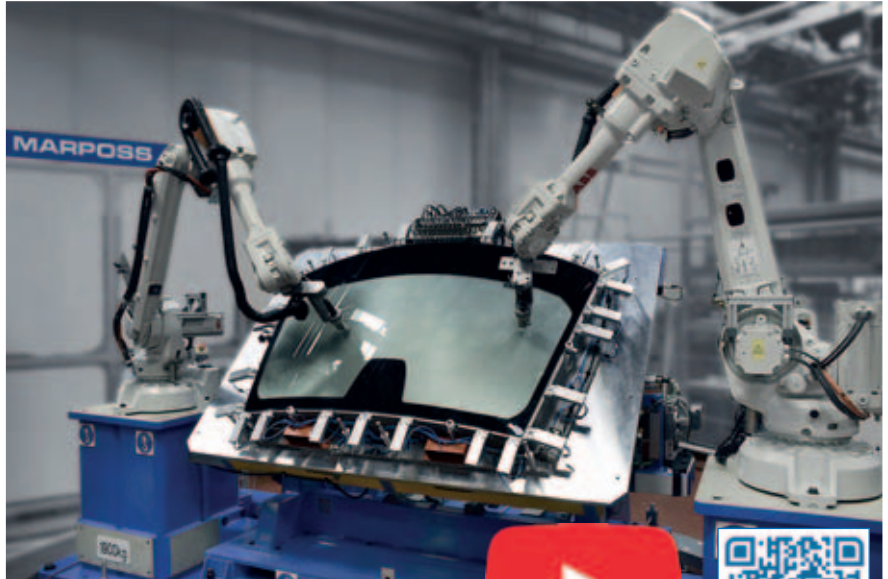


## PRODUCT RANGE

- PENCIL PROBES
- CONFOCAL SENSORS (MARPOSS STIL)
- MODULAR INTERFACE UNITS
- MEASURING SOFTWARE
- INDUSTRIAL PC
- FLEXIBLE NON-CONTACT APPLICATION
- OPTICAL INSPECTIONS
- MEASUREMENT & CONTROL SYSTEMS
- TAYLOR MADE SOLUTIONS



COMPLETE LIST



## LOCAL PRESENCE





## MARVAL

Via Milano, 16 - 22079 Villa Guardia (CO) - Italy  
Tel.: +39-031-2741355

E-mail: [info@marvalgl.com](mailto:info@marvalgl.com) • [www.marval.glass](http://www.marval.glass)

### COMPANY DATA

#### Contacts

**Stefano Mauri** - Sales manager

### COMPANY PROFILE

**MARVAL, since 1985 advanced insulating glass solutions and technologies**

**MARVAL** was founded in 1985 in Mariano Comense (Como, Italy), in the heart of the Brianza industrial area and today it's managed by new owners who have planned an industrial path for a strong relaunch.

Over the years it has become a worldwide point of reference in the Insulating glass sector.

Marval was born as a mechanical workshop and was brought to success thanks to the determination and experience of its staff in designing simple and reliable machines with excellent technology.

Today, Marval uses all the advanced technologies in the production of insulating glass, producing machines and equipments that are appreciated and exported all over the world. Everything about Marval is planned, manufactured and tested in the new headquarter in Villa Guardia (Como).

### PRODUCT RANGE

**Today Marval offers a wide range of products:**

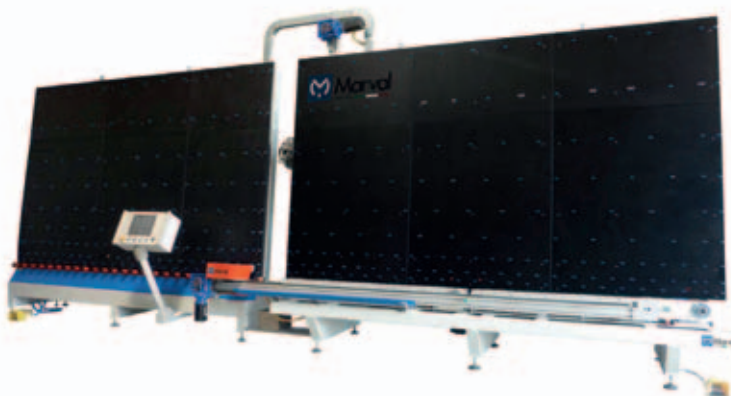
- vertical and horizontal washing machines;
- automatic panel presses with gas;
- automatic sealing robots;
- complete semiautomatic and automatic lines;
- automatic profile bending machines;
- automatic dessiccant filling machines;
- butyl extruders;
- manual single component and two components extruders;
- accessories;
- special and customized installations.



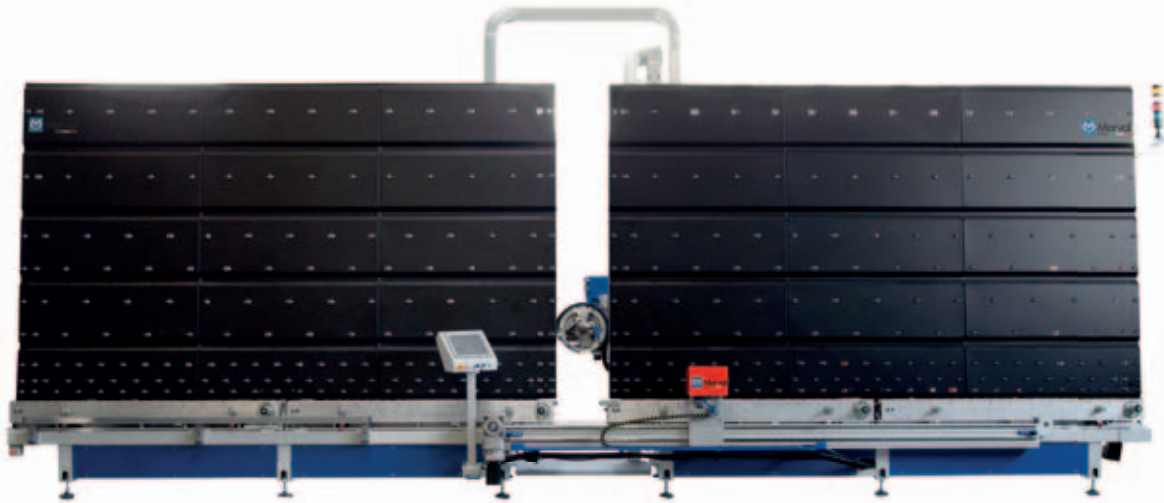
**Automatic insulating glass line**



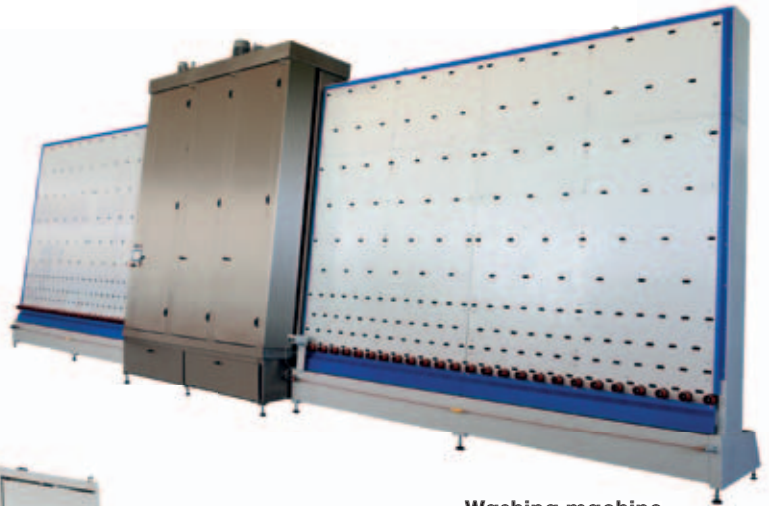
**Butyl Extruder**



**Automatic Sealing Robot**



Automatic Sealing Robot



Washing machine



Panel Presses

Automatic profile bending machine



Turning table





# MAZZAROPPI ENGINEERING Srl

Via Cagliari 49 - 04011 Aprilia (LT) - Italy  
Tel.: +39-06-92854602

E-mail: [sales@mazzaroppi.com](mailto:sales@mazzaroppi.com) • [www.mazzaroppi.com](http://www.mazzaroppi.com)

## COMPANY DATA

### Contacts

**Antonio Mazzaroppi** - General Manager  
**Federico Mazzaroppi** - Marketing Manager  
**Bellini Glauco** - Service Manager

## SALES NETWORK

### GERMANY, AUSTRIA AND SWITZERLAND

#### LECHNER SRL

E-mail: [marco-lechner@lechner-srl.com](mailto:marco-lechner@lechner-srl.com) - [lechner.srl.arquata@gmail.com](mailto:lechner.srl.arquata@gmail.com)

### FRANCE

#### CVMI FRANCE

E-mail: [silvia.gentilini@cvmifrance.com](mailto:silvia.gentilini@cvmifrance.com) - [rudy.marcantonio@cvmifrance.com](mailto:rudy.marcantonio@cvmifrance.com)

### POLAND

#### ITALPOL

E-mail: [italpol@italpolglass.it](mailto:italpol@italpolglass.it)

### UK

#### STONE AND GLASS GROUP

E-mail: [phil@stoneandglassgroup.co.uk](mailto:phil@stoneandglassgroup.co.uk)

### USA

#### MATODI INDUSTRIAL LLC

E-mail: [ejones@matodigroup.com](mailto:ejones@matodigroup.com)

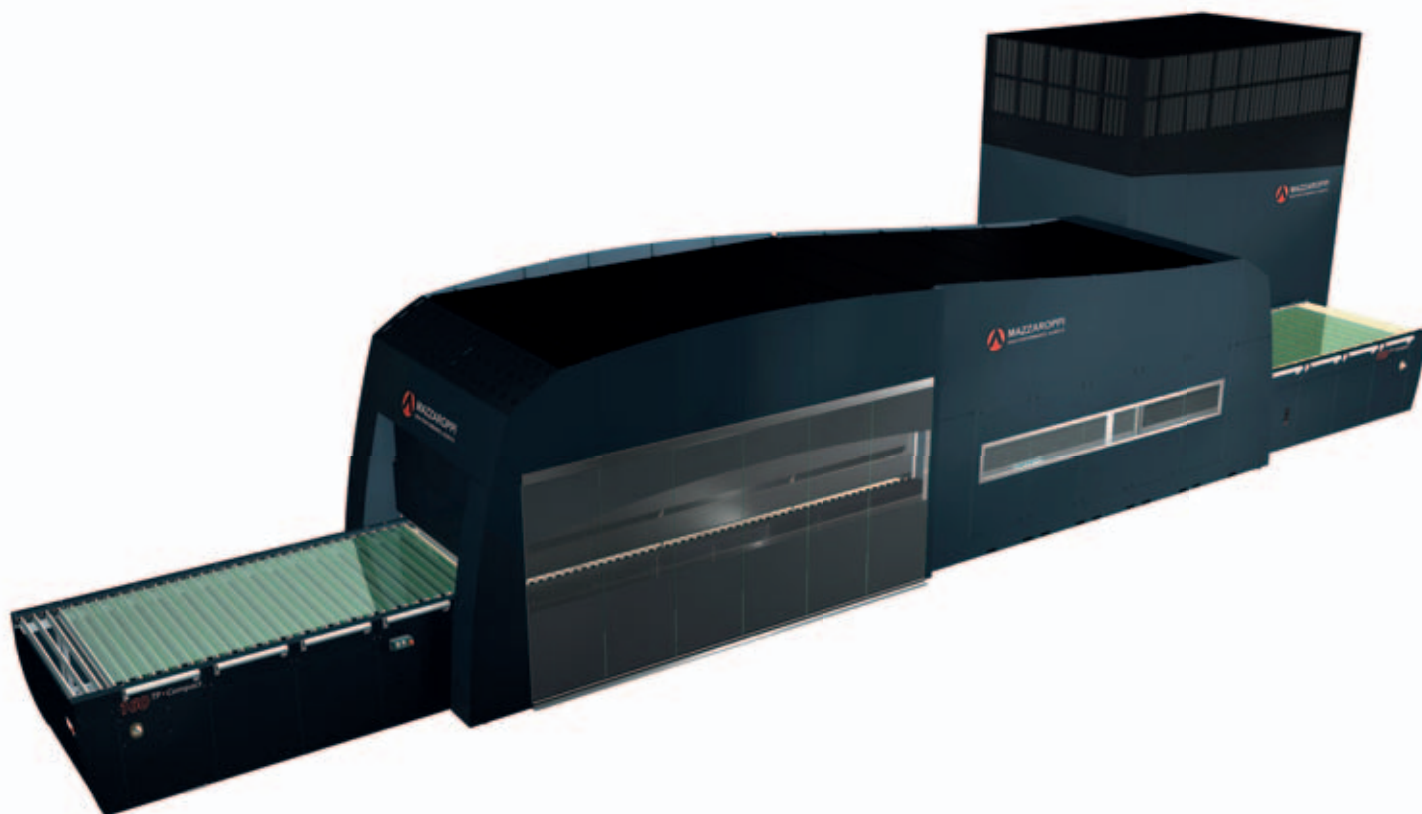
## COMPANY PROFILE

Since 1958, **MAZZAROPPI** has been offering companies exactly what they need for glass tempering: patented technologies that guarantee high performance and low consumption. This is why Mazzaroppi solutions today guarantee the highest energy efficiency on the market, with consumption up to 70% lower than the competition and top performance.

For us, sustainability means looking to the future, protecting the environment and supporting the development of companies of all sizes that choose our hardening furnaces and equipment.

Mazzaroppi machines are designed according to the Energy Saving Approach, an innovative concept focused on energy saving and integration with Industry 4.0. We use the best materials for the construction of each oven, guaranteeing a life cycle of more than 30 years. Our specialised team is always ready to assist our customers to ensure that their Mazzaroppi oven is always at the top of its game and that their work never stops.





## FOUR MAZZAROPPI TECHNOLOGIES REVOLUTIONISE GLASS TEMPERING

### ENERGY-SAVING SOFTWARE

The intelligent software that manages every Mazzaroppi plant is focused on increasing efficiency and not only on temperature control, with very low power dissipation. Thanks to the Power Saving Software, it is possible to achieve huge savings in terms of energy and costs in the production process by limiting the absorption peaks.

### INTELLIGENT HEATING ZONE

The multi-zone control system divides the upper and lower heating chambers into many small independent zones, each with its own heating element and thermocouple. Thanks to complex optimisation algorithms implemented in the software, the system automatically recognises which areas of the furnace are occupied by glass and in what percentage, switching them on according to actual requirements, limiting current peaks and also favouring the immediate possibility of changing the thickness.

### START&STOP FUNCTION: FROM 20° TO 680° IN 1 HOUR

Thanks to the quick start system (just in time), Mazzaroppi furnaces go from 20° C to 680° C in just 30 minutes in the days following the first start-up.

It is therefore possible to completely shut down the system every day, reducing non-productive costs to zero (unlike conventional hardening furnaces). This performance is achieved by using low absorption materials and a low thermal mass inside the oven, which is designed to absorb high and continuous temperature variations. There is no inherent problem with the expansion of components inside the oven, nor with the classic chalking of insulation materials.

### 97% REDUCTION OF ANISOTROPY

All Mazzaroppi systems, thanks to the automatic multi-zone control, the eco-convention system and the intelligent software, are able to minimise the temperature difference zones (ensuring the most uniform heating and cooling of the glass sheets). The results are incredible: a reduction in anisotropy of up to 97%.



**How much could you save with Mazzaroppi technologies?  
Scan the Qrcode and find out with the Energy Saving Check**



## MOLE MORESCHI

Via Palazzetti, 5 - 40068 S. Lazzaro di Savena (BO) - Italy  
Tel.: +39-051-6255919

E-mail: [sales@molemoreschi.com](mailto:sales@molemoreschi.com) • [www.molemoreschi.com](http://www.molemoreschi.com)



### COMPANY DATA

#### Contacts

**Marco Moreschi** - Owner

**Barbara Doda** - Sales Department

**Michele Cesaretti** - Sales Department



## COMPANY PROFILE

**Mole Moreschi** has know-how and direct experience in the production of diamond wheels and tools for glass processing, that are the result of more than 100+4 years of production. The company was first in the production and development of the resin wheels and, today, Mole Moreschi has a complete range of standard and special tools for the glass industry, with very high quality.

Some Italian and international glass machinery manufacturers have chosen Mole Moreschi as their preferred partner and found that the company's wheels have the best reliability and constant quality. This means that tools can be tested and new products developed to increase machine performances. Mole Moreschi uses the most advanced technologies in tool

production to guarantee the highest quality level possible.

The research and development activities of the company are dedicated to improving tool quality and guaranteeing production level.

Mole Moreschi's target is to maintain this very high level of quality, while guaranteeing the highest possible performance of customers' machines.

Mole Moreschi is always available to study and manufacture tools as per specific customers' requests for special production. The company's sales and distribution network is a winner not only for the quality and timing of service, but also with regards to the technical knowledge of its distributors who can assist and suggest the best tools.





## NEPTUN Srl

Via Mazzini 63 E/F, 22070 Rovello Porro (CO) - Italy  
Tel.: +39-02-96979011

E-mail: [sales@neptunglass.com](mailto:sales@neptunglass.com) • [www.neptunglass.com](http://www.neptunglass.com)

### COMPANY DATA

#### Contacts

**Stefano Bavelloni** - Director of Operation  
**Matteo Rolla** - Finance & Sales Director  
**Fabio Palella** - Sales Manager

#### Sales

Domestic (10%) / International (90%)

#### Area

Production unit 4000 m<sup>2</sup>

#### Planned Exhibitions 2025

**China Glass** - Beijing, China - 26 / 29 May  
**Glasstech Mexico** - Mexico City, Mexico - 16 / 18 July  
**Vitrum** - Milan, Italy - 16 / 19 September  
**GlassBuild America** - Orlando, (FL) USA - 4 / 6 November  
**Eurasia Glass** - Istanbul, Turkey - 15 / 18 November

### SALES NETWORK

#### USA & CANADA

**Matodi USA I.l.c.**  
Greensboro, USA  
E-mail: [sales@matodigroup.com](mailto:sales@matodigroup.com)

#### ESTONIA

**Estone Glass OÜ**  
Harjumaa  
E-mail: [info@estoneglass.eu](mailto:info@estoneglass.eu)

#### FINLAND, NORWAY, SWEDEN & DENMARK

**Lasitekno o.y.**  
Tampere, Finland  
E-mail: [martti@lasitekno.com](mailto:martti@lasitekno.com)

#### BULGARIA

**GMT**  
E-mail: [m.gospodinova@glassbg.com](mailto:m.gospodinova@glassbg.com)

#### GERMANY, AUSTRIA & GERMAN SPEAKING SWITZERLAND

**Modeco Global GmbH**  
Herzogenrath, Germany  
E-mail: [modecoglobal@gmail.com](mailto:modecoglobal@gmail.com)

#### GREECE

**Kalliosis Bros. Co. Ltd**  
1° km - Arideas - Piperias  
ZIP Code 58400

#### PORTUGAL

**Mavetro lda**  
Rebordões  
E-mail: [mavetro.geral@gmail.com](mailto:mavetro.geral@gmail.com)

#### NETHERLANDS

**Tecfort b.v.**  
Minnertsga  
E-mail: [sh.steinfort@tefort.n](mailto:sh.steinfort@tefort.n)

#### ROMANIA

**AMN Moldova SRL**  
Scobinti  
E-mail: [office@amnoldova.ro](mailto:office@amnoldova.ro)

#### RUSSIA, UKRAINE, BELARUS

**YTA Ilc**  
Moscow city, Russia  
E-mail: [info@yta.ru](mailto:info@yta.ru)

#### SPAIN

**Maquiglass s.a.**  
Barcelona  
E-mail: [maquiglass@maquiglass.es](mailto:maquiglass@maquiglass.es)

#### SPAIN (ANDALUSIA, ESTREMADURA)

**Suvisur s.l.**  
Linares  
E-mail: [juanmanuelvargas@suvisur.com](mailto:juanmanuelvargas@suvisur.com)

#### SPAIN (CASTILLA-LA MANCHA, LEON)

**Jaloglass**  
Madrid  
E-mail: [javierlopez@jaloglass.com](mailto:javierlopez@jaloglass.com)

#### CYPRUS

**A. Jacovides**  
Latsia  
E-mail: [sales@ajacovides.com](mailto:sales@ajacovides.com)

#### UNITED KINGDOM & IRELAND

**Glass Machinery Solutions Ltd.**  
Units 4 Hadrians Way, Rugby,  
Warwickshire CV21 1ST

#### MEXICO & CENTRAL AMERICA

**Marbolz Vetrostile SA De Cv**  
Guadalajara, Messico  
E-mail: [info@vetrostile.it](mailto:info@vetrostile.it)

#### COLOMBIA, VENEZUELA & ECUADOR

**Cigtra Ltda**  
Bogota, Colombia  
E-mail: [emorenoa@cigtra.com](mailto:emorenoa@cigtra.com)

#### MIDDLE EAST

**Theral s.p.r.l.**  
E-mail: [theral@skynet.be](mailto:theral@skynet.be)

#### TUNISIA

**Art Med Srl**  
Ariana  
E-mail: [artmed.tn@gmail.com](mailto:artmed.tn@gmail.com)

#### TURKEY

**FGI Flat Glass International a.s.**  
Istanbul  
E-mail: [esuvarierol@fgias.com](mailto:esuvarierol@fgias.com)

#### SOUTH AFRICA & NAMIBIA

**FG Trading (Pty) Ltd**  
Germiston, Sudafrica  
E-mail: [info@fgtrading.co.za](mailto:info@fgtrading.co.za)

#### JAPAN

**TGM Co Ltd**  
Tokyo  
E-mail: [hironaka@tgm-japan.com](mailto:hironaka@tgm-japan.com)

#### MALASIA, INDONESIA, SINGAPORE

**Ebcotech Machinery Sdn. Bhd.**  
Kuala Lumpur, Malaysia  
E-mail: [johnsonteo@ebco2u.com.my](mailto:johnsonteo@ebco2u.com.my)

#### PHILIPPINES & SRI LANKA

**Janco-Phil Impex Trading**  
E-mail: [jancoph@gmail.com](mailto:jancoph@gmail.com)

#### THAILAND

**Leotech**  
E-mail: [leotech.contact@gmail.com](mailto:leotech.contact@gmail.com)

### COMPANY PROFILE

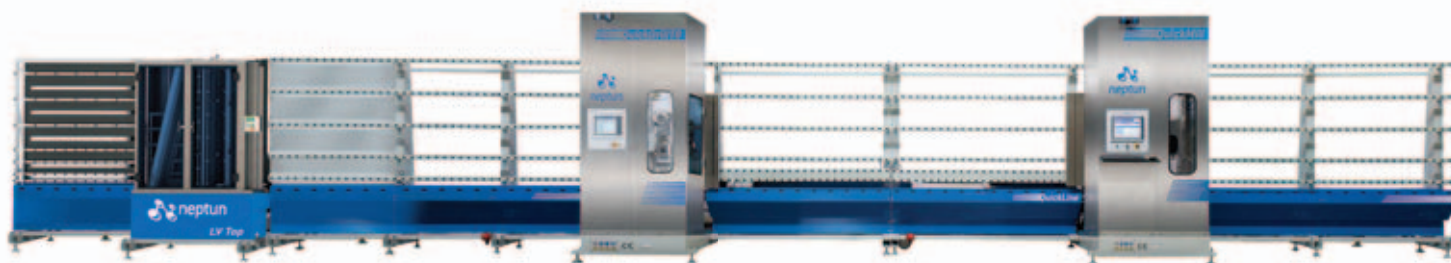
**NEPTUN Srl** was founded in late 2008 as a machines and equipment manufacturer for flat glass cleaning. It quickly established itself thereafter as a key player for creating solutions for glass processing. Neptun's Mission is to produce new technical solutions that can provide a competitive advantage to its customers - for which it invests more than 12 percent of its turnover in Research and Development. Together with its sales distribution, the company's customer support is strengthened by its network of experienced collaborators. Neptun stands out as an ideal partner for all glass industry companies that require proven quality, performance and reliability. The company has a trio of product lines, namely straight-edging machines, washing machines and vertical NCs for drilling and milling. All three have a full range which spans both width and depth, while each can be fully-integrated - whether in-line or thanks to the company's anthropomorphic 'Bravo' series manipulators.



### QUICK SERIES

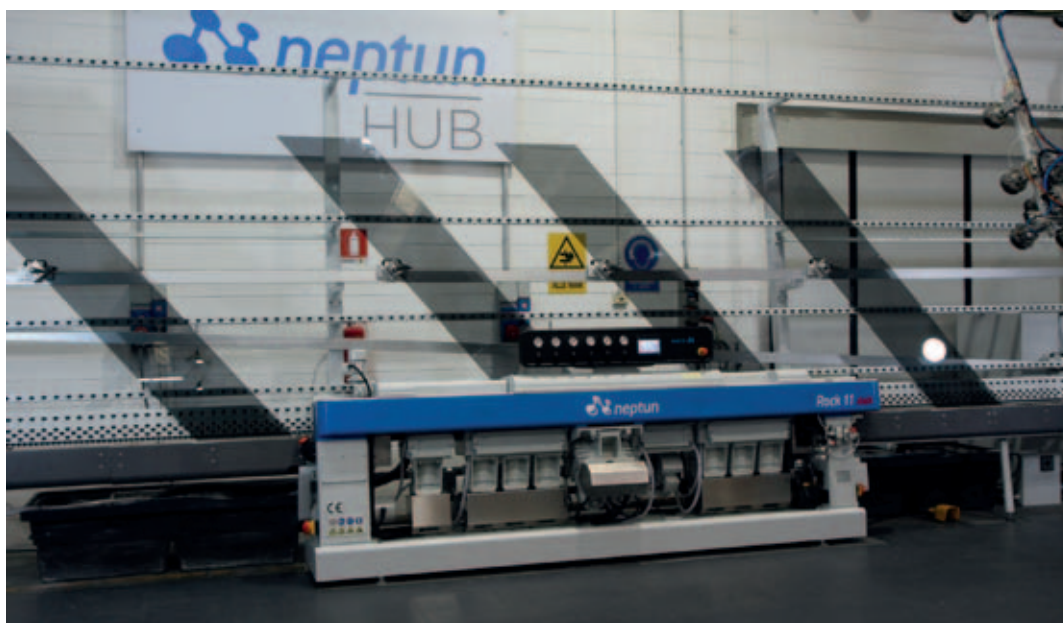
Neptun has the widest range of vertical NCs on the market for drilling/milling and glass grinding for any type of processing and company size. From the entry-level milling machine to the latest generation fully-automatic Quick2 T10, up to the brand new Quickedge, the Quick series includes over 10 models that can work individually or combined in line.

Neptun offers work solutions from the small glass shop to the industry that works 24/7 with the NC machines inside robotic cell.



### ROCK

Neptun's line of straight line edgers is the very definition of tradition and innovation - being characterized by a truly robust structure in thick steel and cast iron which guarantees long-lasting reliability. Rock also offers many patented solutions and cutting-edge functions, ETS squaring systems, the RC-4 for parallelogram processing and, lastly, the AWA version for fully-automatic wheel management.



### WASHING MACHINES

As for glass washing, Neptun displays its expertise in a wide range of available washers. The company offers 3 horizontal washing machine models, namely the economical TORNADO EASY, the HP for high performance and the HP-S series for special applications (solar, ceramic ink, ultra-thin glass, medical). Neptun further proposes 4 vertical washer models - from the economical LV Top, going up in performance and automation terms to the LV EVO model and Wave before finally rising to the top-of-the-range, super-equipped standard Superinox.





# LUOYANG NORTH GLASS TECHNOLOGY INDUSTRIAL CO., LTD.



No.20, Binhe Road, Hi-tech Development Zone, 471000 Luoyang, Henan - China  
Tel.: +86-379-6433-1804

E-mail: [sales@northglass.com](mailto:sales@northglass.com) • [www.northglass.global](http://www.northglass.global)

## COMPANY DATA

### Contacts

**Gao Xueming** - Chairman  
**Gao Li** - President  
**Johnny Li** - Sales Director

### Mother company

Luoyang North Glass Technology Industrial Co., Ltd.

### Area

Offices 500,000 m<sup>2</sup> / Production Unit 35,000 m<sup>2</sup>

### Annual turnover of the Group

Euro 190 Million

### Annual turnover of the Company

Euro 73 Million

### Percentage of turnover form glass (%)

38%

### Percentage third-party turnover (%)

62%

### Sales

National (70%) / International (30%)

### Quality Certifications

CE, EN14179, IGCC, SGCC, CSI

### Number of Employees

2200

### Founding Year

1995

### Paid-in Capital

Euro 91 Million

### Registered Patents

390 patents

### Registered Trademarks

NorthGlass

## Parent and Sister Companies

### CHINA

#### Shanghai North Glass Technology Industrial Co., Ltd.

No. 328, Guanghua Road, Xiaokunshan Town, Songjiang District, 201614 Shanghai, China  
Tel.: +86 - 21 - 57858658  
Fax: +86 - 21 - 57858667  
E-mail: [sales@northglass.com](mailto:sales@northglass.com)

#### Shanghai North Glass Vacuum Coating Technology Co., Ltd.

No. 328, Guanghua Road, Xiaokunshan Town, Songjiang District, 201614 Shanghai, China  
Tel.: +86 - 21 - 5785 8711  
Fax: +86 - 21 - 5785 8699  
E-mail: [zouwei@northglass.com](mailto:zouwei@northglass.com)

#### Shanghai North Glass Automation Technology Co., Ltd.

No. 328, Guanghua Road, Xiaokunshan Town, Songjiang District, 201614 Shanghai, China  
Tel.: +86 - 21 - 57858530  
Fax: +86 - 21 - 57858551  
E-mail: [autosales@northglass.com](mailto:autosales@northglass.com)

#### Luoyang Northglass Triturbo Fan Technology Co., Ltd

No. 58, North Binhe Road ,Hi-tech Development Zone, 471003 Luoyang, Henan, China  
Tel.: +86 - 379-6433 1847  
Fax: +86 - 379-6433 1847  
E-mail: [fans@northglass.com](mailto:fans@northglass.com)

#### Tianjin North Glass Industrial Technical Co., Ltd.

No. 20, Baozhong Lane, Energy-saving environmental Industrial Zone, Baodi District, 301899 Tianjin, China  
Tel.: +86 - 22 - 5928 0088  
Fax: +86 - 22 - 5928 0066  
E-mail: [tngsales@northglass.com](mailto:tngsales@northglass.com)

#### Luoyang North Glass Light-Stone Technology Co., Ltd.

Address: East of Luobo South Road, Ruyang Advanced Manufacturing Development Zone, Luoyang, Henan  
Tel.: +86-379-64331863  
E-mail: [bbqjs@northglass.com](mailto:bbqjs@northglass.com)

## COMPANY PROFILE



### About Us

Founded on May 18, 1995, by Chairman Mr. Gao Xueming, **Luoyang NorthGlass Technology Co., LTD.**, commonly referred to as "NorthGlass," is a pioneering force in the glass industry. Located in the Luoyang National High-Tech Industrial Development Zone, we specialize in the research, design, manufacturing, and sales of glass processing equipment and processed glass products. In 2011, NorthGlass made its mark on the global stage by successfully listing on the Shenzhen Stock Exchange (StockCode: 002613).

### Our Family

Our growth strategy includes the establishment of several subsidiaries, each specializing in different facets of the glass industry. These include:

Shanghai North Glass technology industrial Co., LTD.  
 Shanghai North Glass Vacuum Coating Technology Co., LTD.  
 Luoyang North Glass Triburbo Fan Technology Co., LTD.  
 Tianjin North Glass Technology Industrial Co., LTD.  
 Shanghai North Glass Automation Technology Co., LTD.  
 Luoyang North Glass High-end Equipment Park Co., LTD.  
 Moreover, our strategic investments in Luoyang North Glass LightStone Technology Co., LTD. and Luoyang North Glass LightStone New Material Co., LTD. underscore our commitment to diversification and innovation within the glass industry.

### Our Products

At NorthGlass, we believe that "innovation knows no limits, and success comes through perseverance," NorthGlass has consistently developed products that stand at the forefront of the industry. Our portfolio ranges from glass tempering furnaces and coating lines to high-end deep processed glass, setting new standards in various sectors including

automation and new material development. Our commitment to expanding the boundaries of technology extends to the development of automated glass processing lines, glass cutting equipment, glass storage systems, and the innovative Triturbo Fan technology. Moreover, our strategic investment in incubating the Light Stone industry marks our entry into the modular green building materials market, showcasing our leadership in environmental sustainability and innovation.

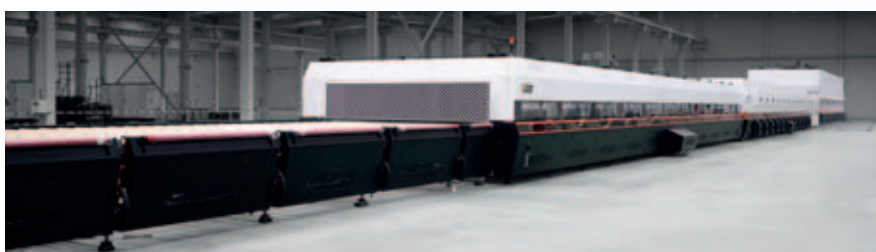
NorthGlass has solidified its leading position in the glass industry through continuous innovation and excellence in the manufacturing of advanced glass processing equipment. Our flat and curved glass tempering furnaces have dominated the market for 23 consecutive years, with over 6,000 units operational worldwide. Our in-house developed coating production lines have also become one of the mainstream manufacturing solutions in the global glass coating industry.



Our advanced processed glass products form another cornerstone of our industry, gracing iconic architectural landmarks all over the world. Oracle Headquarters in Austin, Japan Sport Olympic Square, UK Leadenhall Building, Abu Dhabi International Airport,

New Performing Arts Venue, These landmarks include National Center for the performing arts(China), Beijing National Stadium, known as the "Bird Nest"(China), National Aquatics Centre known as the "Water Cube"(China), National Speed Skating Oval known as the "Ice Ribbon"(China), National Convention Center(China), Beijing Daxing International Airport(China), "Sun Valley" & "Shiliupu Pier" of EXPO 2010 Shanghai(China), National Development Bank Headquarters (China), Beijing Library(China), Shanghai Tower(China), Nike Shanghai 001 (China), Huawei global flagship store in Shenzhen(China), among many other notable buildings. Furthermore, NorthGlass is proud to be one of the two main suppliers of architectural glass to a world well-known tech company, providing glass for its flagship stores worldwide and its headquarters in Silicon Valley, underscoring our global reach and the trust prestigious clients place in our products.

NorthGlass products are all over the country and exported to more than 110 countries and regions such as the U.S., the U.K., Germany, France, Japan, India, Brazil, Saudi Arabia, Egypt, Turkey, supported by a comprehensive domestic and international sales and service system.





## OPTRIS GMBH & CO. KG

Ferdinand-Buisson-Str. 14 - 13127 Berlin - Germany - Tel.: +49-(0)30-500 197 0

E-mail: [sales@optris.com](mailto:sales@optris.com) • [www.optris.com](http://www.optris.com)

### COMPANY DATA

#### Contacts

**Sascha Kienitz** - General Manager  
**Torsten Czech** - Head of Marketing  
**Ingo Stahlkopf** - Head of Sales

#### Number of Employees

115

#### Company founded

2003

#### Planned Exhibitions 2025

**China Glass** - Beijing, China - 22 / 29 May  
**Glass Build America** - Orlando, (FL) USA - 04 / 06 November

### SALES NETWORK

#### OPTRIS HEADQUARTERS

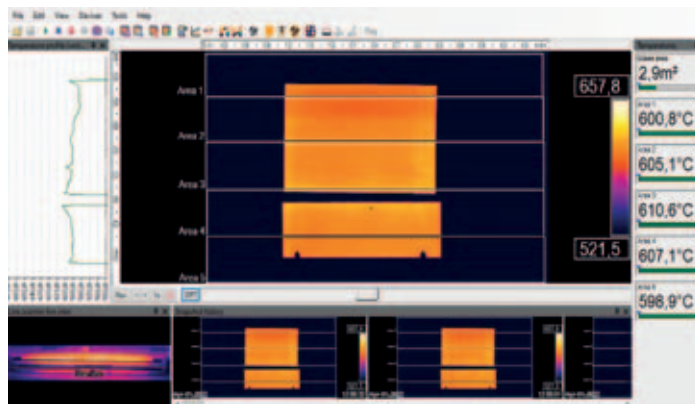
##### Optris GmbH & Co. KG

Ferdinand-Buisson-Str. 14 - 13127 Berlin, Germany  
Tel.: +49 30-500 197-0  
[sales@optris.com](mailto:sales@optris.com) - [www.optris.com](http://www.optris.com)

#### USA

##### Optris Infrared Sensing

200 International Drive, Suite 130, Portsmouth, NH 03801 USA  
Tel.: +1-603 766-6060  
[sales@optris-ir.com](mailto:sales@optris-ir.com) - [www.optris.com](http://www.optris.com)



Thermal image of monitoring temperatures of glass sheets

### COMPANY PROFILE

**Optris** is and has been, one of the leading innovative companies in the field of non-contact temperature measurement by means of infrared radiation since its establishment in 2003. The company's product range covers fixed industrial thermometers, infrared cameras, as well as accessories.

#### TRADITION AND INNOVATION

Thanks to their extensive know-how and innovative concepts, our experienced engineers and physicists continuously inspire with outstanding solutions.

#### TOP QUALITY AT REASONABLE PRICES

We provide cutting-edge infrared technology. Cost advantages arising from bulk purchasing of semiconductor products and from the production process are passed directly on to our customers.

#### PROCESS OPTIMIZATION VIA TEMPERATURE MONITORING

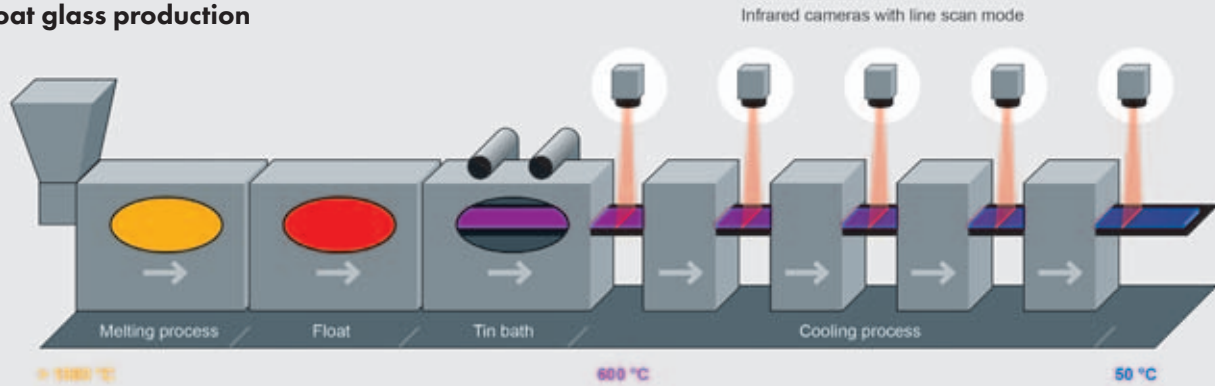
In many manufacturing processes (e.g. the glass industry), product and process temperatures are important physical variables. Non-contact temperature measurement with Optris sensors and thermal imaging cameras ensures high production line quality standards.

In order to ensure the highest level of quality, the glass industry and its energy-intensive production process relies on dependable means of temperature monitoring.

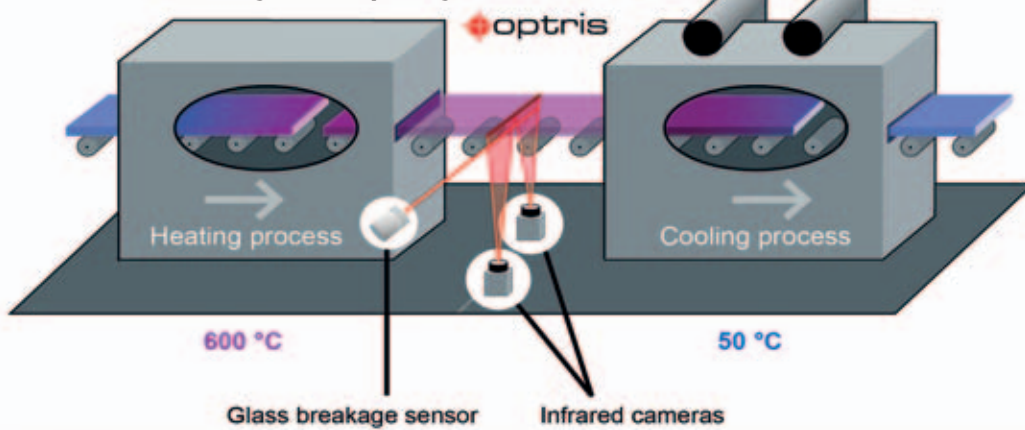
Our glass thermometers and IR cameras are optimally suited to non-contact temperature measurement of glass surfaces and use innovative double lasers to indicate the exact measurement spot.

All kinds of glass, coated and uncoated, change their emissivity behavior in dependency of the angle of view. Especially low-E coatings show an unusual behavior. The new Bottom Up Glass inspection system solves this problem by having two infrared imagers installed underneath the tempering line which measure the temperature on the non-coated high emissivity side of the glass.

**Measurement areas at float glass production**



**Solutions for low-E glass tempering**



mal treatment, which is ensured by the application of the correct temperature measurement technology.

**Ensuring the quality of laminated safety glass**

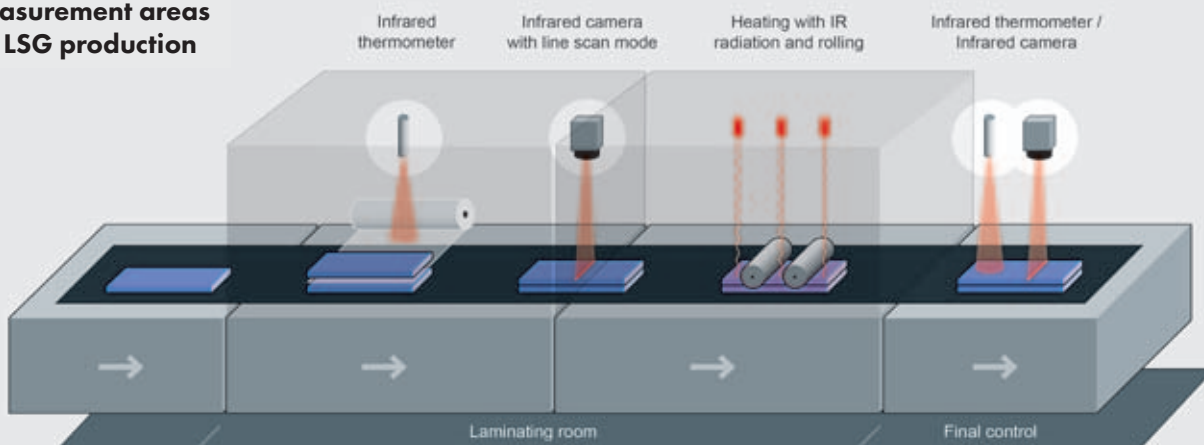
Laminated safety glass (LSG) consists of at least two flat panes of glass, which are laminated in a clean room with a sheet of PVB film between them. The temperature of the film can be monitored with infrared

**Single-pane safety glass production with correct temperature measurement technology**

For the production of single-pane safety glass (SPSG), the cut and processed flat glass is heated in a furnace under continuous movement at over 600°C. During the transport of the heated glass in the pretension zone, an infrared camera monitors the temperature distribution on the glass surface in line scan mode. Inhomogeneities can thus be compensated during the tempering process, in which the glass is air-cooled. The quality of the SPSG mainly depends on a homogeneous ther-

ermometers. In the pre-heating furnace, the glass panes are heated in order to melt the film and simultaneously press the "sandwich" together, to prevent air pockets. During the transition to the autoclaves, the temperature distribution is monitored with an infrared camera, in order to adjust the heating elements in the pre-lamination furnace for subsequent panes, when necessary.

**Measurement areas at LSG production**





## R.C.N. SOLUTIONS Srl

Via Marcatutto 7, 20080 Albairate (MI) - Italy  
Tel.: +39-02-94602434

E-mail: [office@rcnsolutions.it](mailto:office@rcnsolutions.it) • [www.rcnsolutions.it](http://www.rcnsolutions.it)

### COMPANY DATA

#### Contacts

**Elena Calvi** - CEO

**Davide Ricchi** - Owner - R&D Department

**Simone Vecchi** - General Manager

**Roberta Cometti** - Communication & Press Manager

**Thomas Pollari** - Project Manager

**Monica Losa** - Logistics

#### Annual Company Turnover

EUR 5,500,000

#### Percentage of Turnover from Glass

80%

#### Percentage of Third-Party Turnover

20%

#### Sales

Domestic (20%) / International (80%)

#### Area

Offices 500 m<sup>2</sup> / Plants 2000 m<sup>2</sup>

#### Founding Year

1993

### COMPANY PROFILE

**R.C.N. SOLUTIONS** manufactures three lines of machines, in different sizes and combinations:

- laminating
- bending
- chemical tempering

The company seeks to focus on the importance of keeping active and supportive to give customers the utmost cooperation. Great flexibility in customization, together with the ability to innovate, are the two main strengths that make RCN different from other market choices.

In the last five years, the company has been committed to find technical solutions to simplify operations, reduce the work of the operators, granting total safety.

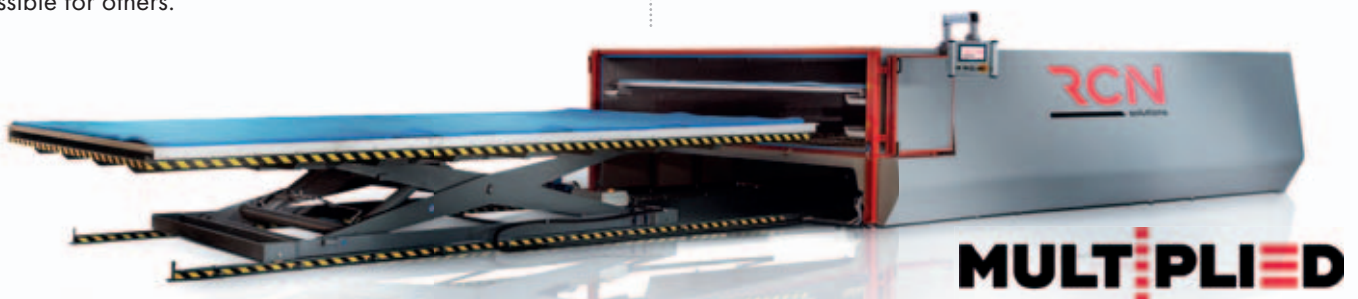
This project started in 2021 with the issue of RD CLEAN CONCEPT, the patented system for clean edges in lamination together with the RCN EASY CONNECT APP, the remote system to control production from any device.

RCN SOLUTIONS generates a know-how embodied by machines that are solid, durable, and succeed in tasks that prove impossible for others.

In the last two years, RCN has greatly advanced thanks to the entry of the new generation that brought new insight with new ideas and the application of new technologies.

In a market asking more and more for special products, we want to offer all the possibilities to produce special products reducing costs and time, but keeping quality, safety and control. Service is a crucial matter for the company that is working to develop it every day. It involves management, sales and production team, all of them are aware customers deserve the utmost attention and have to work to satisfy expectations accordingly.

2024 has been the turning point for the company that issued its first rotary bending system, opening the door to a new age of machinery, especially automatic and semi-automatic ones, whose first result is LIA – laminating integrated automation. It was time for RCN to make one step ahead from the old machines construction, whose structures although solid and appreciated gives space to more mild shapes, charming colors and most of all, technology.



RCN SOLUTIONS is particularly proud of its Made in Italy that makes a significant difference on the market and it is a synonym for research and development.

**LIA - laminating integrated automation.**

This laminating machine comes in automatic or semi-automatic mode. It has been introduced in October 2024 and met great approval and demands.

Studied and designed by the RCN's engineers, it embodies all the traditional construction known for solidity and durability but with an easier handling offered by the automatic opening, the automatic lifting platform able to remove shelves from the laminating chamber independently. Which means some cycles can be run in

the night too, under the supervision of EASY CONNECT APPLICATION and the RCN's remote diagnostic.

LIA can be combined with RD CLEAN CONCEPT bags for utmost performance and maximization of production.



**ROTARY BENDING SYSTEM**

This bending machine consists of a self-excluding twin-axled system, equipped with four working positions, controlled movement in size of 4000x5500xH2000 millimetres.

This equipment fits the scope for the production of special products that have to be of high quality, perfect, without distortion, especially if installed in luxury yachts.

The other traditional bending line, named **ECO SPECIAL**, has been designed with independent heating zones thus to grant the heat where is most needed to the benefit of the type of the curve. Each zone can be heated with different temperatures controlled by the PLC. 4,6,8 but also 10 different heating zones can be installed.



**RIVA BY RCN**

There are some special products that cannot do without chemical tempering, such as curves or thin glass but also thicker glass can be processed, unlike common opinion. The reason is that chemical tempered glass has high mechanical resistance and once it is laminated it becomes an important safety glass. Customization and large size machines can be manufactured.

**RESISTANCE TABLE**

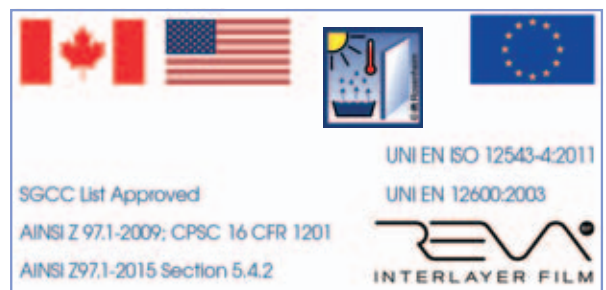
Type of glass	Annealed	Hardened	Thermally Toughened	Chemically Toughened
Thickness	from 2.3 to 19	from 2.3 to 8	from 3.2 to 19	from 0.7 to 19
Resistance to flexure [N/mq]	30/40	50/100	120/200	250/600
Resistance [°C]	30	40/100	110/180	Over 200



**REVA BF lamination interlayer**

Exclusive chemical formula to combine adhesion quality, high transparency rate and product constancy, thanks to the choice of fresh raw materials supplied by one of the most prestigious international chemical companies and production controls and inspections.

REVA BF has been validated by international certifications Institute by Rosenheim Ift too. In combination with RCN's laminating kilns, REVA BF laminates in fast mode, ex. 75 minutes for lamination of 6+6mm glass. This system together with perfect heat uniformity and control, allows not only short cycles but energy saving too.



**Rollmac**®

**Gemata**®



**ROLLMAC A DIVISION OF GEMATA SpA**

Via Postale Vecchia 77 - 36070 - Trissino (VI) - Italy  
Tel.: +39-0445-492711

E-mail: [rollmac@rollmac.it](mailto:rollmac@rollmac.it) • [www.rollmac.it](http://www.rollmac.it)

COMPANY DATA

**Contacts**

**Mauro Pellizzari** - Sales Director  
**Michele Fassina, Giovanni Posenato** - Sales Managers

**Mother Company**

GEMATA SpA

**Sales**

Domestic (11%) / International (89%)

**Quality Certifications**

ISO9002, 14001, 9001:2000

**Number of Employees**

111

**Founding Year**

1979

**Planned Exhibitions 2025**

- Mir Stekla** - Moscow, Russia - 11 / 14 March
- China Glass** - Beijing, China - 26 / 29 May
- Vitrum** - Milan, Italy - 16 / 19 September
- Glassbuild America** - Orlando (FL), USA - 4 / 6 November
- Eurasia Glass** - Istanbul, Turkey - 15 / 18 November







## COMPANY PROFILE

**ROLLMAC** is the branch of Gemata Spa, primary group in the leather finishing manufacturing sector, devoted to the production of machinery for the enameling and satin-coating of flat glass. Its specific expertise, acquired over years on the global market, means it can offer the final user a complete know-how service and support from individual machines to complete lines. All the products are designed in-house by the R&D division and tested both internally and later at the premises of those clients with whom it has established close cooperation.

### Production

Gemata/Rollmac creates complete systems that integrate the "GlassLine" system, for coating of the edges of glass sheets, "Multiglass" for coating the entire glass sheet, and the IR drying furnace "GlassDrier IR". The latest innovation launched on the market is the Jumboglass machine for the enamelling of float glass sheets "jumbo" size.

According to specific factors such as production needs, sheet size, and high automation levels requirements, a wide range of accessories and options are also available.

In compliance with current standards, all Rollmac machines come with remote assistance as standard, thereby meeting the requirements for Industry 4.0.



Rollmac-Gemata is certified as per ISO 9001, ISO 14000, and Italian "Safe Work" standards.

**SATINAL**



## **SATINAL SpA - TK - STRATO**

Via del Lavoro, 1 - 22036 Erba (CO) - Italy  
Tel.: +39-031-870573

E-mail: [info@satinal.it](mailto:info@satinal.it) • [www.satinal.it](http://www.satinal.it)

Tel.: +39-031-3574873

E-mail: [ask@tkitaly.com](mailto:ask@tkitaly.com) • [www.tkitaly.com](http://www.tkitaly.com)

### COMPANY PROFILE



**Satinal SpA** is an innovation-driven Italian Company, operating worldwide to deliver **advanced solutions for safety glass manufacture**.

The deep knowledge of glass processing technologies has allowed Satinal SpA to expand globally: it has branches abroad including United Arab Emirates, North and South America, beside the headquarter and manufacturing plant in Italy.

Today Satinal SpA is a global leader in the development, manufacturing and commercialization of glass laminating solutions, both from a machinery standpoint and from the made in Italy laminating interlayers perspective.

Close to its customers and partners, Satinal offers customized and innovative solutions, and after-sales technical services.

**Quality, honesty, transparency and respect** are the main ingredients of Satinal everyday life. Primary assets are people and their value. This inspiration drives Satinal approach to business, innovation and quality.

Satinal's vision has driven towards the search for an **economi-**

**cally and environmentally sustainable energy solution.**

Raising awareness of these issues and striving to respect and protect nature are topics considered as a moral and social obligation. Satinal has been planning **investments** with respect to environmental sustainability, reduction of harmful emissions and energy efficiency.

In 2022 STRATO® achieved **ISCC+ certification** (International Sustainability & Carbon Certification), thanks to the introduction of **STRATO® Carbonlight™** product range. **STRATO® obtained the ISCC PLUS certification with a score of 1,13 [kg CO<sub>2</sub> eq] which is an extraordinary result compared with the 4.5 [kg CO<sub>2</sub> eq] of the best potential competitor.** And in 2023 STRATO® obtained the 100% Made in Italy Certification, aimed at guaranteeing Italian origin and product quality and the **EcoVadis Platinum medal**, proving **Satinal progress** in the ESG goals. A recognition of the great steps taken so far by Satinal and the promise to go on in the same direction, keeping the same dedication and commitment.

### STRATO®

Satinal Spa is the first EVA film production site in Italy, a reference point in Europe for the supply of 100% made in Italy STRATO® EVA interlayers.

**STRATO® EVA film is a thermosetting material.** Thus, it is significantly different from the **PVB film** (Polyvinyl butyral), which is a **thermoplastic material**. The **EVA film** creates three-dimensional bonds at molecular level during the lamination process. The **interlayer** is not sensitive neither to humidity nor to temperature, therefore it is not necessary to store it under controlled humidity and temperature conditions. Being a cross-linking material, **STRATO®** can be used for **laminating safety glass** for both **architectural** and **interior design applications** without running the risk of de-lamination and yellowing over time.



### TK

TK is specialized in the design and construction of plants and ovens for glass lamination, temper, chemical temper and Heat Soak Test. The wide range of **TK products** meets the needs of **medium and large companies** that need to start production or increase their production capacity and improve the quality performance of the finished product.

Working in close collaboration with customers, TK relies exclusively upon the **best Italian technology and European**

**components** to meet its high quality and standards requirements - providing 100 percent customized solutions.

In seeking to best provide the most appropriate and personalized solutions, TK applies a tested methodology that relies upon great attention to all steps: briefings on customer requirements, made to measure solutions, equipment design and development right up to on-site, remote and local installation, staff training and aftersales assistance.





## OFF. MECC. SCHIATTI ANGELO Srl

Via alla Porada 188 - 20831 Seregno (MB) - Italy  
Tel.: +39-0362-238496

E-mail: [info@schiattingelosrl.com](mailto:info@schiattingelosrl.com) • [www.schiattingelosrl.com](http://www.schiattingelosrl.com)

### COMPANY DATA

#### Contacts

**Angelo Schiatti** - President  
**Cinzia Schiatti** - Sales Manager  
**Emanuela Schiatti** - Account Manager  
**Alessandro Schiatti** - Technical Manager

#### Sales

Domestic (25%) / International (75%)

#### Number of Employees

45

#### Founding Year

1950

#### Planned Exhibitions 2025

- Glass Texpo** - San Antonio (TX) USA - 7 / 8 May
- China Glass** - Beijing, China - 26 / 29 May
- Glasstech Mexico** - Mexico City, Mexico - 16 / 18 July
- Glass South America** - Sao Paulo, Brasil  
4 / 6 September
- Vitrum** - Milan, Italy - 16 / 19 September
- Glassbuild America** - Orlando (FL) USA  
4 / 6 November
- Eurasia Glass** - Istanbul, Turkey - 15 / 18 November

### COMPANY PROFILE

The Schiatti Elia company manufactured the first glass machine in 1950.

Today the **SCHIATTI ANGELO** (Angelo is Elia's son) designs and produces, for small, medium and large glassworks from furnishing, construction and photovoltaic sectors, a complete range of glass processing machines, including:

- 7 models of straight grinding machines for the processing of pencil, flat and arris, ogee and waterfall edges. Cerium oxide finishing.
- 25 models of straight-edge grinding machines for the processing of flat edges and arris - 45° mitres - cerium oxide polishing on the edge.
- 16 models of double edging machines for the processing of polished pencil and flat +arris profiles, available in different sizes.
- Straight-edge bevelling machines for the processing of bevels from 0° to 45° - with cerium oxide polishing.
- Glass loaders/unloaders especially suitable for medium/large glass companies for coupling with horizontal edging or drilling machines.

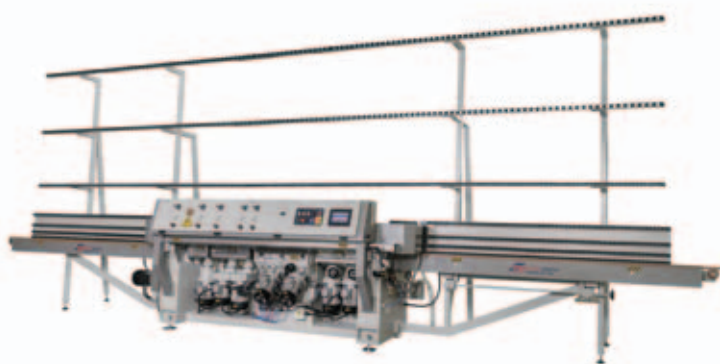
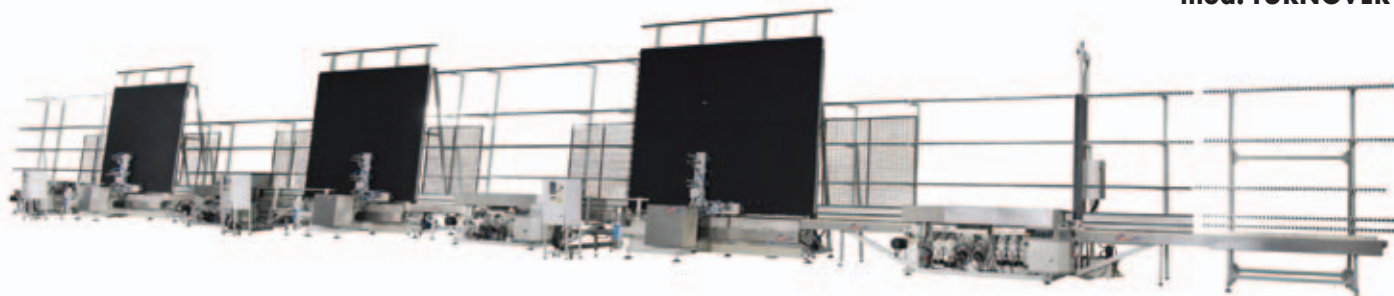


- Drilling machines with opposite heads suitable for the production of mirrors, shelves for furniture, laminated glass, tables tops and household appliances.
- Multi-head drilling machines for the execution of 2, 3 or 4 holes at the same time. Especially suitable for the production of mirrors, shelves for furniture, laminated glass and household appliances.
- Vertical drilling machines for the execution of holes and notches. Especially suitable for medium/large glass companies for the production of mirrors, shelves for furniture, laminated glass, table-tops, household appliances and doors.

- Special machines such as complete vertical grinding lines composed of 4 straight edgers and 3 turnover units for the complete processing of the 4 sides of the glass, drilling centers customizable according to customers' needs and special solutions for smart factories.

Reliability, innovation, service, sustainability are the features that distinguish our way of work and our machines. Those who choose us do so for the attention we dedicate to the real needs of our interlocutor, even for after-sales service (periodic maintenance, revamping), for a high-performance and innovative technology, always aimed to best adapt the circular economy and the industry 4.0.

**Automatic straight edging line  
mod. TURNOVER**



**Straight grinding machine mod. SME10**



**Vertical milling/drilling machine mod. Tfv2000**

**S A L E S   N E T W O R K**

**AUSTRIA, HUNGARY**

**K & K PROVITRUM GMBH**

E-mail:  
harald.kraus@kkprovitrum.at  
zita.kellermayer@kkprovitrum.at  
auftrag@kkprovitrum.at

**BOSNIA, BULGARIA, CROATIA,  
MACEDONIA, MONTENEGRO,  
SERBIA, SLOVENIA**

**GLASMIK D.O.O.**

E-mail: info@glasmik.com

**GERMANY - SWITZERLAND  
LECHNER SRL**

E-mail:  
marco-lechner@lechner-srl.com  
emanuele.thierry@lechner-srl.com  
lechner.srl.arquata@gmail.com

**DENMARK, SWEDEN  
GLAS X GLASTEKNIK**

E-mail: glasx@live.dk

**CZECH REPUBLIC,  
SLOVAKIA**

**IMPRÁ SPOL.S.R.O.**

E-mail: jbleier@impra.cz

**FRANCE, DOM-TOM  
COUNTRIES**

**COVADIS**

E-mail: contact@covadis.eu  
francois.ausset@covadis.eu

**GREECE**

**STEFANOS THEMELIS**

E-mail: stefanos.themelis@gmail.com

**TUNISIA,  
ALGERIA, MAROCCO**

**ART MED SRL**

E-mail: artmed.tn@gmail.com

**IRELAND, U.K.**

**PETER HAWKINS LTD**

E-mail: info@peterhawkins.co.uk

**POLAND**

**MCS TECHNO SP. Z.O.O.**

E-mail: danilo.f@mcs-techno.pl  
michele.l@mcs-techno.pl

**PORTUGAL**

**HM GLASS UNIPessoal LDA**

E-mail: hmglass.pt@gmail.com

**SPAIN**

**GLASSTEK**

E-mail: info@glasstek.es

**ROMANIA**

**IMROGLASS SRL**

E-mail: robert.jug@imroglass.ro

**CENTRAL ASIA**

**GLASS TEAM**

E-mail: glassteam.kg@gmail.com

**ARGENTINA**

**ALCON GLASS**

E-mail:alcon@alcon-glass.com.ar

**COLOMBIA, VENEZUELA,  
SURINAME**

**SOLVITEC**

E-mail: comercial@solvitec.com.co  
fabiancorchuelo@solvitec.com.co

**PERÙ - BOLIVIA**

**HECMAQ S.A.S.**

E-mail: hecmaq@hecmaq.com

**BRAZIL, URUGUAY**

**ITALOTEC**

E-mail: silvio@italotec.com.br

**MEXICO, CENTRAL AMERICA,  
CARIBE**

**GLASS AMERICA**

E-mail: joliva@glass-america.com

**USA, PUERTO RICO**

**DE GORTER INC.**

E-mail: sales@degorter.com

**AUSTRALIA**

**GLASSCORP AUSTRALIA**

E-mail:  
chris@glasscorpaustralia.com.au

**NEW ZEALAND**

**GLASSCORP LIMITED**

E-mail: richard@glasscorp.co.nz

**JORDAN, SYRIA, SAUDI**

**ARABIA**

**MATARI MAZIN**

E-mail: mazinmatari@hotmail.com

**TAIWAN**

**USE ELECTRONICS CO. LTD**

E-mail: peter\_tzai@use.com.tw

**THAILAND**

**USE ELECTRONICS**

**(THAILAND) CO., LTD.**

E-mail: tayavee@use-thailand.com

**TURKEY**

**YGM**

E-mail: odemiriz@ygm.com.tr

**BAHRAIN, OMAN, QATAR,  
U.A.E.**

**GULF STAR ENTERPRISE (FZC)**

E-mail: rg@gulfstarenter.com  
gulfstarenterprise@gmail.com

**VIETNAM**

**GIA THINH PHAT INDUSTRY**

**MACHINERY & TECHNIC**

**SERVICES GROUP CO., LTD**

E-mail:  
jone.nguyennbh@gmail.com



## SCHIAVO Srl

Via Cave Ticino, 10 - 20020 Robecchetto con Induno (MI) - Italy  
Tel.: +39-0331-890645

E-mail: [info@schiavotech.it](mailto:info@schiavotech.it) • [www.schiavotech.it](http://www.schiavotech.it)

### COMPANY DATA

#### Contacts

Michele Schiavo - General Manager

#### Percentage of turnover from glass (%)

100

#### Sales

Domestic (20%) / International (80%)

#### Founding Year

2003

### COMPANY PROFILE

#### Products

**SCHIAVO** machines are well-known in the market for their quality, reliability and advanced technology. As of today, more than 5.000 machines have been installed in over 50 countries. Every machines are 100% Made in Italy with 100% high-quality European components.

#### Washing machine

SCHIAVO horizontal and vertical washers have been developed to offer high-quality and high-performing machines, for clients requiring affordable and quality machinery. Our washing machines can be equipped with 2 to 6 brushes or more, and are made entirely of stainless steel.

#### Milling - Drilling machine

Very precise and CNC controlled, the new FV1000 model is a vertical machines very versatile in order to obtain each and every type of cuts, notches and holes needed for the installation of hinges, handles, locks and accessories on glass doors and glass furniture. Our machine is industry 4.0.

#### Storage systems

Glass storage systems are essential for glassworks to organize production efficiently and to optimize available space.

### PRODUCT RANGE

- Vertical and horizontal washing machines
- Manual, Semi-automatic, Automatic Storage Systems
- Vertical Milling Machines
- Vertical and horizontal drilling machines
- Fixed, Manual, Motorized Vacuum Lifters
- Manipulators
- Unloaders for packs



HYDRO



**FV1000 vertical milling machine**

In this area, SCHIAVO is a leader, with highly reliable solutions for the needs of its clients. CLO is a sideways-moving storage system available in manual or semiautomatic version. UCS is the new, ultra-compact, ultra-low storage system for glass sheets and offcut glass, patented by SCHIAVO.

**Vacuum lifters**

SCHIAVO offers a wide range of products to lift glass sheets: from simple clamps to vacuum lifters (manual, motorized or hydraulic) for all kinds of flat glass including IG glass, manipulators, jib cranes, package unloaders.



**Horizontal glass washing machine HTL2600**



**GEBI**



## Si.Ste Trading Srl

Via Lega Lombarda 38 - 24040 Bonate Sopra (BG) - Italy - Tel.: +39-035-4947048

E-mail: [info@sisteitaly.it](mailto:info@sisteitaly.it) • [www.sisteitaly.it](http://www.sisteitaly.it)

### COMPANY DATA

#### Contacts

**Simone Sala** - General Manager

**Stefano Sala** - General Manager

### COMPANY PROFILE

**Si.Ste Trading srl** was founded in 1997 by Luigi Sala after a long experience in the glass sector first in S.I.V (Italian Glass Society) and later as commercial director of Bavelloni.

Luigi Sala started his own business as a distributor of accessories and consumables for glass processing in his own living room. After 27 years, the company is now made up of a team of eight people and a warehouse of almost a thousand square meters. Luigi Sala's sons, Simone and Stefano, then took over the business management.

Now they are the two managers of the company with different roles: Simone is in charge of sales in the Italian market and the administrative part of the company, Stefano in in charge of export and technical aspects of product development.

The company has a very specific sales focus, with a product range that aims to meet the needs of both small glaziers up to important glass industries, making greater use of the collabora-

tion of dozens of distributors located all over the world at international scale.

Development and goals are those of increasing sales by searching for new areas and new markets and increase product ranges; which is why the company has invested so much in a new catalogue, ready for the 2025 with a lot of new products.

The fixed points of Si.Ste Trading always remain two and these are the driving factors of the company since its birth: quality of products and services. Working all over the world, Si.Ste Trading has decided to focus on the highest quality of products and in the timeliness of deliveries. The stock in the warehouse in recent years has been more than doubled to guarantee just in time delivery.

The products on which the company is focusing its efforts most are: polishing and diamond grinding tools, accessories for glass processing and lamination products. The latter is the sector with the greatest increase since the introduction of Evashine lamination eva to the market, of which Si.Ste Trading is the distributor for all Europe with its sister company GMT Bulgaria.

Evashine is very high quality product which is meeting the highest standards of glass lamination with EVA. Available in different sizes and formats, both extra clear transparent, white, black, milky white and jade white. The whole range is always available on stock for immediate shipments.









## SKILL GLASS

Via Egidio Gregori, 2 - 36015 Schio (VI) - Italy  
Tel.: + 39-0445-500202

E-mail: [info@skillglass.it](mailto:info@skillglass.it) • [www.skillglass.it](http://www.skillglass.it)



### COMPANY DATA

#### Contacts

**Matteo Dal Santo** - C.E.O.  
**Paolo Reffo Scarso** - Sales Manager  
**Andrea Dal Santo** - Technical Manager

#### Sales

National (20%) / International (80%)

#### Founding year

1999

#### Planned Exhibitions 2025

- China Glass** - Shanghai, China - 26 / 29 May
- Glasstech Mexico** - Mexico City, Mexico - 16 / 18 July
- Glass South America** - S. Paolo, Brasil - 03 / 06 September
- Vitrum** - Milan, Italy - 16 / 19 September
- GlassBuild America** - Orlando FL, USA - 04 / 06 November
- Eurasia Glass** - Istanbul, Turkey - 15 / 18 November
- ZAK Doors & Windows** - Mumbai, India - 4 / 7 December

### COMPANY PROFILE

**SKILL GLASS** is a specialized company manufacturing high technology numerical control machines for flat glass process. Discover the high level of our vertical CNC machines, designed and conceived to offer new perspectives of quality and perfection in flat glass processing.

Edging, grinding, arissing, polishing, drilling, milling and wa-shing; each machine is specialized to offer you maximum efficiency and expertise. All machines can be used independently or combined in a line offering stability in accuracy and perfection and longevity in service life.

Rely on Skill Glass products and our multilingual after-sales service, leading in organization and delivery times. SKILL GLASS has created the best expression of vertical processing, promoting optimal use of space for the glass industry. All machines are particularly appropriate for large production of architectural and structural glass offering the strongest features, the best solutions and lots of advantages on the vertical glass processing sector.

### NEW PERSPECTIVES OF PERFECTION

#### VERTICAL CNC CENTERS

SKILL E-D is the vertical CNC center for grinding, milling, drilling and polishing rectangular and shaped flat sheet glass. The machine can process both rectilinear and shaped flat

sheet glass and combines all the technology for vertical drilling and milling with the features of a vertical grinding machine. Its main feature is its versatility, which allows for different types of processes at high speeds and optimal precision.



**DRILLING AND MILLING**

DRILL 1600FF is a 5-axis CNC drilling and milling machine designed for producing holes, inserts and countersinks on rectangular flat sheet glass with a thickness of 3-20 mm. The machine

is composed of five axes, X Y V Z W, and two electro-spindles which, as opposite drilling heads, create a double-sided drilling system that drills perfect holes.



**GRINDING, ARRISING AND POLISHING**

SKILL SFILL is the vertical center for arissing, grinding and polishing straight and shaped glass panes.

The machine is composed of nine axes and two electro-spindles mounted in parallel, allowing to process the pieces with two heads at the same time.

Edging is done using diamond wheels with a diameter of 150mm and can be carried out on straight and shaped glass, including laminated or treated glass.





# STUDIO 1 AUTOMAZIONI INDUSTRIALI Srl

Via Cà del Miele 8 - 42013 Casalgrande (RE) - Italy - Tel.: +39-0536-851243

E-mail: [studio1@studio1srl.it](mailto:studio1@studio1srl.it) • [www.studio1srl.it](http://www.studio1srl.it)

## COMPANY DATA

### Contacts

**Andrea Lombardi** - CEO  
**Barbara Righi** - Commercial Manager  
**Marco Barozzi** - Sales Manager

### Sales

Domestic (30%) / International (70%)

### Area

Offices 450 m<sup>2</sup> / Plants 10,000 m<sup>2</sup>

### Patents obtained

1

### Registered brands

STUDIO 1 AUTOMAZIONI INDUSTRIALI

## COMPANY PROFILE

**Studio 1 Automazioni Industriali** designs and builds complete automatic machines and complete plants with a high degree of customization for several production sectors including the glass industry.

With its background of technical skills and acquired know-how, STUDIO 1 has based its success on the high technological value of the products offered and on the constant improvement, through intense research activity and targeted strategic choices and can now be defined as a dynamic company able to supply automations not linked to a specific product but to a production process.

It is the challenge of **AUTOMATION** and **ROBOTICS** that Studio 1, based in Northern Italy in the middle of 'Motor Valley', has successfully undertaken more than 40 years ago and still continues to motivate the Company towards new solutions and optimal responses to production efficiency.





**Founded in 1984** as a design studio for automatic machines, Studio 1 became in 1990 a manufacturer of machines and automatic plants for the industry and today boasts customers in over 45 countries worldwide. This confirmation chronology of the company, constantly **oriented towards growth**, technological development and the search for **quality**. Based on its experience and commitment, it has continued to grow over time and has taken a leading position in the field of industrial automation design and construction, thanks also to its **flexibility, know-how** and vocation for research and the development of new solutions.

With an eye always focused on the future, today the Company is proud of being a point of reference for its customers who need to **innovate** and keep up with the times with the common goal that is based on proposals increasingly aimed at **sustainability, flexibility, safety and care of the product as well as the people**.

**Studio 1 Automazioni industriali** features an internal department dedicated to the development of PC/PLC – HMI software on industrial automation machines as well as the programming of anthropomorphic robots.

Our software is created ad hoc and customized for each individual machine/system based on the important know-how acquired through the creation of multiple special systems and the specific needs expressed by the customer.

The Company offers a complete suite of software solutions for **industry 4.0 and 5.0** that are technologically advanced and can be integrated with any ERP system, in order to increase the efficiency and effectiveness of production processes. **Studio 1 Automazioni Industriali can proudly say that is a provider of SOLUTIONS not only machines.**



## TALAMONI Srl

Via Menconi 3 - 28877 Ornavasso (VB) - Italy  
Tel.: +39-0323-836198

E-mail: [info@talamoni.com](mailto:info@talamoni.com) • [www.talamoni.com](http://www.talamoni.com)

### COMPANY DATA

#### Contacts

**Tomasino Talamoni** - Owner - Production Director

**Rosella Mitidieri** - Owner - Sales Director

**Elisabetta Talamoni** - Production Manager

#### Sales

Domestic: 60% / International: 40%

#### Banks

Banco Popolare

#### Paid-in capital

EUR 20,000

#### Area

Offices 100 m<sup>2</sup> / Plants 150 m<sup>2</sup>

#### Founding year

1994

#### Planned Exhibitions 2025

**Vitrum** - Milan, Italy - 16 / 19 September

### COMPANY PROFILE

#### An Italian partner for cutting tools known worldwide

**TALAMONI** was founded in 1994 and is specialized in the production of cutting tools in hard metal for the glass and ceramics industry.

Craftsmanship, flexibility and customer focus are all Talamoni's strong points. Thanks to our well-stocked warehouse, your order for any destination in the world leaves today.

The know-how of the owner, together with his young dynamic organisation, has enabled the company to grow and to make an impact on the market. Today, Talamoni is a trusted and proactive partner for many companies, with 50% of its turnover coming from exports.

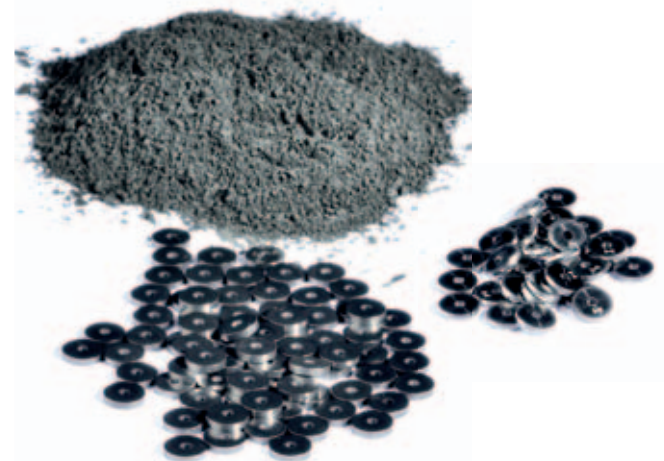
#### Raw materials and Operations, Quality Standards

Talamoni cutting wheels and discs, sintered with state-of-the-art

technology are turned by machines that guarantee consistent high-quality batches.

In the quality assurance unit, the physical characteristics of materials, metallurgical properties and all stages of production up to finished products, are examined before being assembled into tool-holders also produced by Talamoni, so as to guarantee ready to use and performing cutting heads.

The "Diamant" line of wheels is produced in various sizes and finishes depending on the type of glass to be cut. The advantages of using "Diamant" wheels are multiple: better quality of cut, easy breakout, triple lifetime and the same cutting angle allows greater thicknesses to be worked.



**Talamoni products are used in the following fields:**

### FLAT GLASS PROCESSING

- wheels in hard metal with diameter of 3.0 to 12.4 millimetres for automatic- or semi-automatic cutting tables, available with angles from 90° to 165° for cutting monolithic, stratified, laminated, and special glass.
- plastic wheel holders with various wheel models, suitable for installation on Bystronic, Bottero, Bavelloni, CMS, CSM, Euromec, Hegla, Intermac, Lisec, Gfpm, Macotec, OCS, Turomas cutting tables...
- wheel holders in metal or steel in various models for all cutting tables, CNC-controlled machines and hand-held cutters on the market.
- metal modules complete with wheels for safe, fast and secure tool changes.



### LUBRICATION

Talamoni cutting fluid mixtures are formulated to guarantee ideal lubrication of the cut and to optimise the working lifetime of the wheel, the oil enters the cut, maintaining the tension of the glass, facilitating the opening of the cut easy.

Talamoni offers four different types of synthetic fluid for cutting glass:

- T-OIL 3125 for cutting thick glass – low volatility;
- 3130 T-OIL for cutting shaped glass – medium volatility;
- 3133 T-OIL for cutting monolithic glass – high volatility;
- 3232 T-OIL for magnetronic, stratified, coated glass etc. – super volatility.

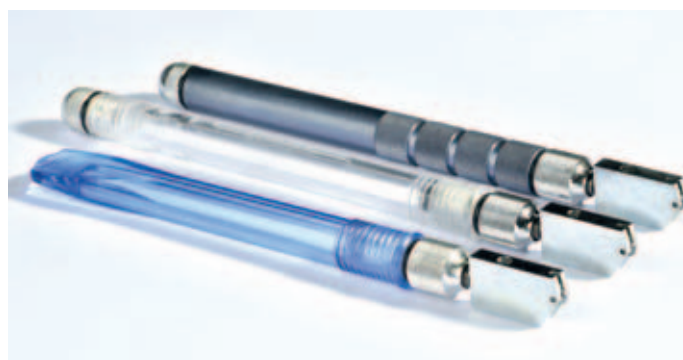
All products are registered and checked to ensure safe a working environment in work areas and on cutting tables.



### MANUAL CUTTING

The company produces a complete line of oil-reservoir cutters for manual cutting.

Various models of oil-reservoir hand-held cutters with handles in plastic or anodised aluminium all rigorously "Made in Italy". Talamoni glass cutters are produced with wheels sharpened to different angles to satisfy diverse cutting requirements – the manual tools are destined for professional use in glassworks or artistic workshops.



### HOLLOW GLASS PROCESSING

wheels in hard metal with diameters of 5.0, 5.6 and 6.0 are used for engraving hollow glass in automatic crack-off lines. Talamoni also produces tool-holders for these lines, as well as a series of diamond tools for edge processing and glass beakers.



# TECGLASS DIGITAL PRINTING by Fenzi Group

Pol. Ind. Lalin 2000 / P8a 3ª Fase - 36500 Lalin - Spain - Tel.: +34-986-787-627

E-mail: [comercial@tecglass.es](mailto:comercial@tecglass.es) • [www.tecglasdigital.com](http://www.tecglasdigital.com)

## COMPANY DATA

### Contacts

**Javier Fernández** - General Manager

**Manuel Ramos** - Sales Manager

### Annual Turnover of the Company

EUR 45 millions

### Percentage of turnover form glass (%)

100%

### Sales

Domestic (10%) / International (90%)

### Quality Certifications

ISO 9001 / ISO14001

### Area

Offices 800 m<sup>2</sup> / Plants 18,000 m<sup>2</sup>

### Number of Employees

162

### Founding Year

2003

### Registered Brands

Tecglass Vitro-Jet Digital Printers / Jetver Ceramic Inks

### Planned Exhibitions 2025

**World Of Glass-Mir Stekla** - Moscow, Russia - 11 / 14 March

**China Glass** - Beijing, China - 26 / 29 May

**Vitrum** - Milan, Italy - 16 / 19 September

**Glass Build America** - Orlando, (FL) USA - 4 / 6 November

**Eurasia Glass** - Istanbul, Turkey - 15 / 18 November

## COMPANY PROFILE

**TECGLASS DIGITAL PRINTING by Fenzi Group** is a worldwide leader manufacturer of integral Turn-Key digital printing solutions and Jetver Ceramic inks for the most relevant flat glass industry sectors: Architectural & Decoration, Automotive, Home Appliances and Commercial Refrigeration.

Established in 2003 and from its headquarters in Lalin ( Pontevedra ) Spain, through all of its manufacturing plants – inks and machinery – and with a solid commercial network with presence in the 6 continents and 3 permanent business units established China, Russia and United States, Tecglass covers all phases of the implementation of a digital printing project; from designing and manufacturing of all machines part of a digital printing line, to all related to operating software & marketing , as well as, the own fabrication of the widest range of JETVER CERAMIC INKS formulated for all types of applications.

Innovation, high technology, development and a constant approach to the customer to understand the needs of the industry, are the hallmarks of the Spanish company, that counts with more than 500 digital printers in operation and an international presence in over 80 countries.

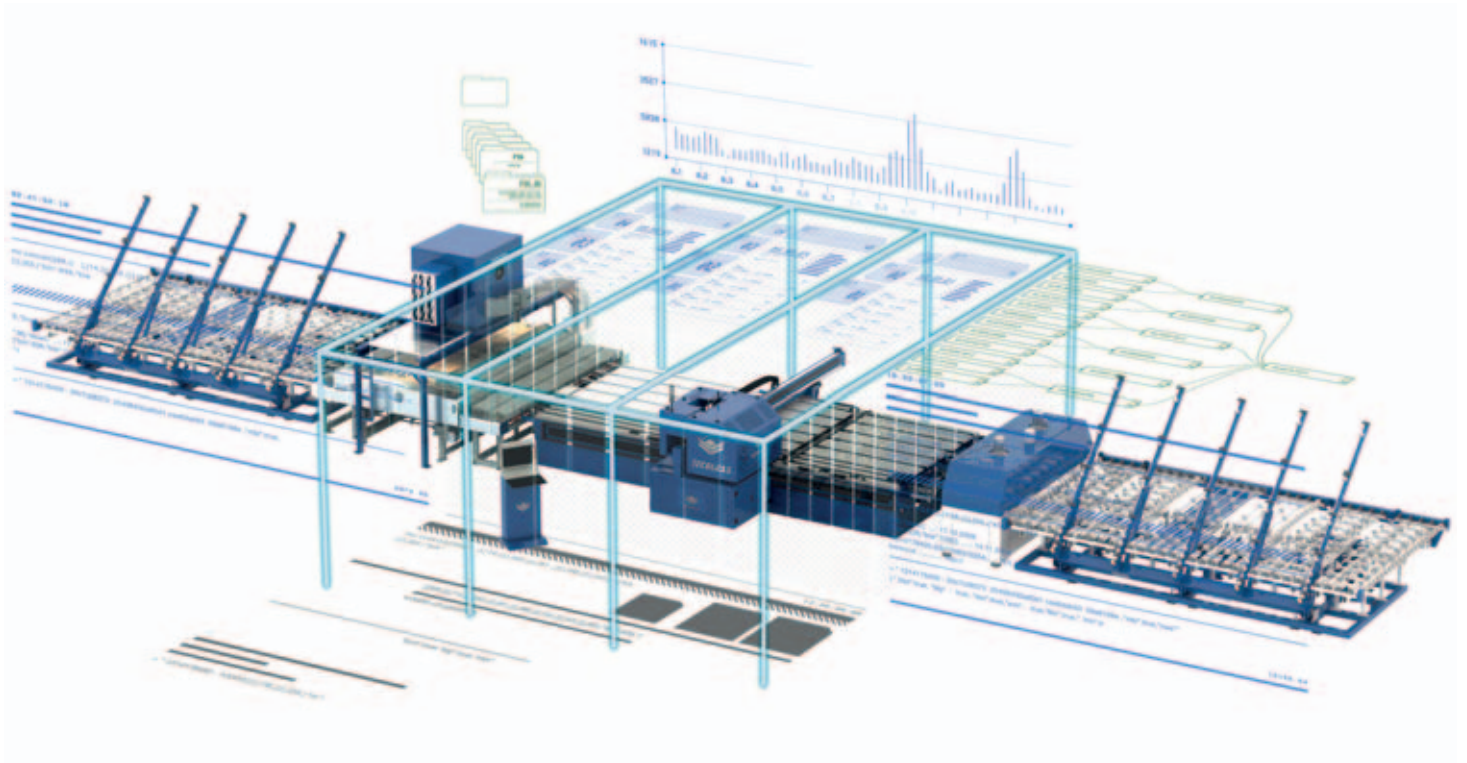
With a solid technological concept optimized through decades

of background experience and development as the main basis for a high-tech machinery intended for industrial processes, Tecglass offers its customers a variety of standard and customized solutions, perfectly adapted to their needs & specifications and in particular to each sector of application.

## PRODUCT RANGE

- **VITRO-JET DIGITAL PRINTERS.**
- **GLASS TRANSPORT AND TRANSFER CONVEYOR SYSTEMS.**
- **HORIZONTAL AND VERTICAL WASHING MACHINES.**
- **IR DRYERS COMBINED WITH HOT AIR.**
- **CLEAN ROOMS.**
- **ROLL COATERS FOR SPANDREL APPLICATION.**
- **QUALITY SCANNING INSPECTION SYSTEMS.**
- **WIDEST RANGE OF JETVER CERAMIC INKS**
- **SOFTWARE & TOOLING.**





# TEXPACK®



## TEXPACK Srl

Via Galileo Galilei, 24 - 25030 Adro - (Bs) - Italy  
Tel.: +39-030-7480168

E-mail: [info@texpack.it](mailto:info@texpack.it) • [www.texpack.it](http://www.texpack.it)

### COMPANY DATA

#### Quality Certifications

ESA (European Sealing Association)  
ISO 45001:2018 – Safety System Certification  
ISO 9001:2015 – Quality System Certification

#### Founding Year

1993

### COMPANY PROFILE

**TEXPACK®** is a manufacturer of packings, tapes, twisted ropes, cloths and sleeves for thermal insulation, for static use, and also manufactures special types of packing and braided packing for dynamic use for pumps and valves. The company manufactures and markets industrial gaskets of different types and sizes, offering a complete range of sealing systems and products for high temperatures, as well as a range of products for the maintenance of fireplaces and stoves dedicated to the consumer market. Texpack® was founded in 1993 as a result of the business experience of Giorgio Lanza and Simonetta Ghisi, who began specializing in the manufacture of textile products in glass, silica, Texil®, Biotex®, Thermaltex, Pyrotex®, Tenack and Aramtex® for thermal insulation at temperatures from 200°C up to 1,200°C. Since 1993, Texpack® has continued making constant and continuous investments, following the direction of technological research and using cutting-edge production methods. Texpack® has always looked towards the future, using speciali-

zed technical staff for each individual process. This strategy has led to its transformation from its first small premises to occupying its current production and commercial headquarters of over 10,000 sq.m., selling products in Italy and around the world. Since its foundation, the company has changed continuously with the market to meet the needs of customers, becoming an established reality. The company is deeply rooted in the local area, where, since its foundation, it has always maintained its corporate headquarters.

Texpack® continues to give the highest importance to its staff members, which are an integral part of the results achieved and an asset to the company. The success achieved is the result of the synergies, knowledge, abilities and skills of its staff. The combination of skills, their application and commitment, are one of the pillars of the company. Investment in training, refresher courses, specialized development courses, as well as courses regarding production techniques, is an on-going strategy of Texpack®. The best preparation and quality of its staff are a guarantee for the continual improvement of quality, products and services supplied by Texpack® to its customers.

Texpack® manufactures specific products for the glass industry, used in the production lines of glass bottles, flat glass and tempered curved glass mould coating.

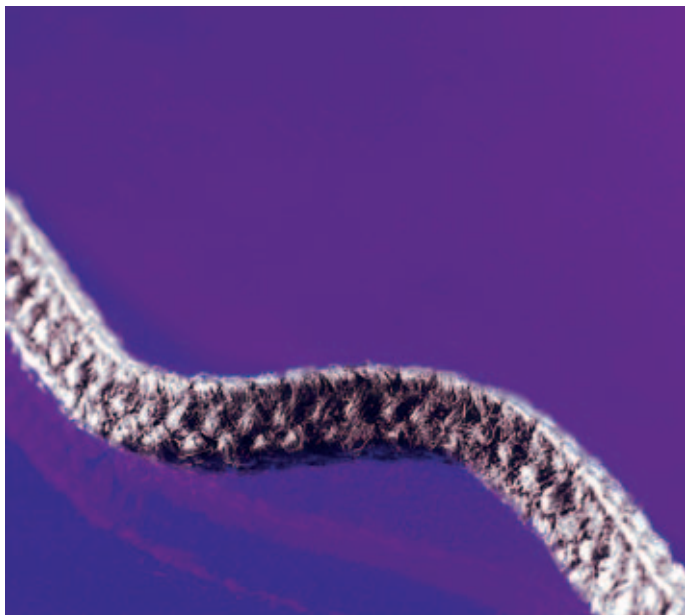
Tenack products are ideal for covering stacker rods in the hollow glass industry and for lining moulds for the production of car windows, covering rollers and pipes in tempering furnaces, and in lamination furnaces for flat glass.

Aramtex® products are used in the industrial sector where extremely high mechanical resistance is required to running temperatures of about 350°C.



### COD. 1204T Tenack square packing

Tenack square packing is made by braiding wires of AISI 316 L stainless steel. This type of packing, which withstands high temperatures and has excellent mechanical properties, is suitable for the glass industry as protection for parts that may come into contact with hot glass that is still soft, to prevent thermal shock and microcracks. The packing is very flexible, elastic and easy to handle, and is an excellent substitute for Aramtex® products when temperatures exceed 350°C.



### COD. 1204CM Tenack knitted sleeves

Tenack sleeves are made by braiding AISI 316 L stainless steel wires. These sleeves, which withstand high temperatures and have excellent mechanical properties, are suitable for the glass industry as protection for parts that may come into contact with hot glass that is still soft, to prevent thermal shock and microcracks. They are an excellent substitute for Aramtex® products when temperatures exceed 350°C.



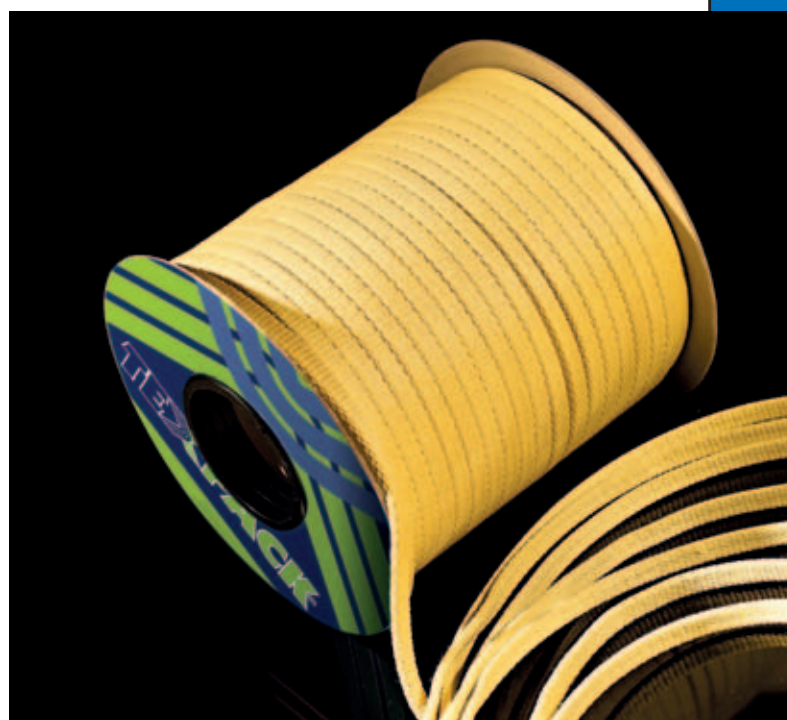
### COD. 1203N PBI Tapes

PBI tapes are fire-retardant textile products made of PBI yarns, which are particularly suitable for high temperatures. To improve the use of this tape, a double-sided adhesive has been added, which helps to ensure correct positioning.



### COD. 12010N Aramtex® discontinuous filament tapes

Aramtex® tapes are produced using 100% pure para-aramidic yarns with continuous filaments, and are usually woven in several layers, using particularly fine yarns that render the positioning surface extremely homogeneous and smooth, thus preventing the still hot sheets of glass from being scratched. Aramtex® tapes have excellent mechanical characteristics (excellent resistance to cutting, abrasion, tearing and compression) while their heat resistance characteristics remain unaltered.



# TUROMAS

OUR PASSION, YOUR PROGRESS

## TUROMAS

Carretera Estación Km. 15,8  
44415 Rubielos de Mora - Spain - Tel.: +34-978-804158  
E-mail: [info@tuomas.com](mailto:info@tuomas.com) • [www.tuomas.com](http://www.tuomas.com)

# distecglass



## DISTECGLASS

Polígono Industrial Platea, Parcela LI-2 Nave 9  
44195 Teruel - España  
E-mail: [comercial@distecglass.com](mailto:comercial@distecglass.com) • [www.distecglass.com](http://www.distecglass.com)

### COMPANY DATA

#### Founding Year

1985 (40 years)

#### Registered brands

Tuomas

#### Planned Exhibitions 2025

- FOSG 2024** - Goa, India - 11 / 13 April
- China Glass** - Shanghai, China - 26 / 29 May
- Glasstec Mexico** - Guadalajara, Mexico - 16 / 18 July
- Glass South America** - São Paulo, Brazil - 3 / 6 September
- Vitrum** - Milan, Italy - 16 / 19 September
- Glassbuild** - Orlando, (FL) USA - 4 / 6 November
- Zak Glass** - Mumbai, India - 4 / 7 December



### COMPANY PROFILE

Since 1985, **TUROMAS** has been manufacturing equipment for glass storage, loading and cutting, becoming an undisputed industry reference through its continuous R&D investment and commitment to reliability, versatility and performance. Nowadays the company has an intensive and strong presence in Europe and America, and its products are increasingly acclaimed in Africa, Asia and Oceania.

### PRODUCT RANGE

- SMART GLASS STORAGE AND LOADING SYSTEMS
- FLOAT GLASS CUTTING SYSTEMS
- LAMINATED GLASS CUTTING SYSTEMS
- CUSTOMIZED PROJECTS
- SOFTWARE SOLUTIONS

#### DISTECGLASS, SOLUTIONS FOR:

- MANUFACTURE OF DOUBLE GLAZING
- MANUFACTURE AND INSTALLATION OF LIGHT FACADE
- MANUFACTURE AND INSTALLATION OF WINDOWS
- GLAZING AND INSTALLATION TOOLS
- SEALANTS AND TECHNICAL ADHESIVES
- GLASS TRANSPORT
- TAPES AND ADHESIVE GLASS SHEETS
- GLASS FITTINGS
- CONSUMABLES FOR GLASS CUTTING TABLES
- SPARE PARTS FOR GLASS MACHINERY





### 100% EUROPEAN MACHINERY

Quality, reliability and service are a must. TUROMAS production is carried out 100% in its Spanish factories, using only top rated European components and following the highest quality controls to ensure reliability and performance over the years.

### READY FOR THE FUTURE

A future-proof investment needs machines able to integrate with other equipment, flexible enough to adapt to new requirements and even capable of growing with the company. Automation and the philosophy of Industry 4.0 are leading the glass industry towards a new model to be prepared for.

### SMART STORAGE AND LOADING MACHINERY

TUROMAS provides an entire range of intelligent warehouses to achieve more performance, reliability and flexibility. The new range of automatic storage systems SR and LA have re-

volutionized the concept of storage space utilization, while significantly reducing the loading cycle, making it the current market benchmark. As no two factories or two customers are the same.

TUROMAS designs and optimizes smart glass storage and loading systems individually according to available space, current production needs and future projections in order to generate the ideal solution for each particular case.

### PIONEERS IN MAGNET DRIVEN CUTTING TABLES

TUROMAS presented the first-ever cutting table with linear drives back in 2000, enabling

to achieve an accuracy of  $\pm 0,1\text{mm}$ , maximum speeds of 310 m/min and, most importantly, accelerations of up to 19 m/s<sup>2</sup>, which allowed for unprecedented performance. Since then, many of the world's leading glass processing companies have relied on the reference technology and expertise offered by Spanish machinery.

### 4-TOOL: CUTTING 4 PERFECTION

The exclusive 4-TOOL cutting technology by TUROMAS offers unparalleled cutting quality in any glass from only 0.55mm to 25mm thickness. It uses specific pressure cylinders, lubrication and cutting wheels for each glass thickness, automatically adjusted without the operator intervention.

The result is a perfect and vertical cutting of any thickness, achieving the famous TUROMAS Open Cut and optimizing the company's time and resources.



# zippe



## **ZIPPE INDUSTRIEANLAGEN GMBH**

P.O. Box 1665, 97866 Wertheim - Alfred-Zippe-Str. 11, 97877 Wertheim - Germany  
Tel.: +49-9342-8040

E-mail: [info@zippe.de](mailto:info@zippe.de) • [www.zippe.de](http://www.zippe.de)

### COMPANY DATA

#### Contacts

**Dr. Philipp Zippe** - CEO

#### Percentage of turnover from glass (%)

100

#### Sales: Domestic (%) / Foreign (%)

Domestic: 20% / International: 80%

#### Quality certifications

ISO 9001

#### Number of Employees

approx. 200

#### Founding Year

1920





## COMPANY PROFILE

Our core business is the development and construction of batch and cullet plants. We pride ourselves on being amongst our customers' most reliable partners, with an infrastructure, the expertise and capability to deliver projects of any magnitude.

As one of the few full-service providers in our industry, our spectrum covers all service areas within plant construction – engineering, planning, design, production, automation technology, installation, site management for all disciplines, commissioning, training for personnel, and services for ongoing operations.

Be it flat glass or hollowware, Zippe batch plants ensure that the batch for every glass type is fully automatically fed into the furnace with the exact consistency and homogeneity needed, at the required amount and at the right point in time – 24 hours a day, every day. Our state-of-the-art control technology is a key element for optimal operation of a batch plant.

We design systems to minimize energy and material consumption – even decrease it in existing plants. The longevity of the Zippe systems and machines, as well as their good maintainability and reparability go a long way to ensure sustainability. We can also help with the modernization of plants and plant checks, software updates and system extensions that Zippe offer, help to further reduce wastage of resources.

There are around 40 Zippe automation and control systems specialists hard at work for you. This means we are one of the few companies able to develop and realise complete control systems in house. Our 24-hour support service enables our customers to contact an expert around the clock either by phone or email.

Zippe has been focused on the future for more than 100 years and, having realised well over 650 batch plant projects, has the longest standing experience in our industry sector.

**Zippe – right from the start.**

## PRODUCT RANGE

- BATCH PLANTS
- CULLET PLANTS
- AUTOMATION
- ENGINEERING
- MODERNIZATION
- FACTORY CULLET RECYCLING
- GLASS RECYCLING
- BATCH CHARGING
- PREHEATING
- AUDITS
- MAINTENANCE & SERVICE

# AUTOMOTIVE GLASS

## FORUM 2025

3<sup>RD</sup>  
EDITION

PROMOTED BY

glassOnline

*Glass-Technology  
International*

THE INDUSTRY CONVERSATION ABOUT THE LATEST AUTOMOTIVE GLASS TECHNOLOGIES AT WHICH LEADING EXPERTS WILL OFFER KEY INSIGHTS INTO HOW TODAY'S INNOVATIONS ARE TRANSFORMING THE AUTOMOTIVE SECTOR

16 April 2025

Bologna  
Exhibition  
Centre - Italy

CO-LOCATED WITH

**E-TECH  
EUROPE 2025**

ORGANIZED BY



A151 Srl, Via Antonio Gramsci, 57

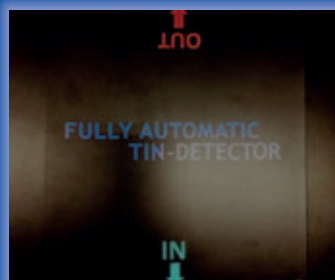
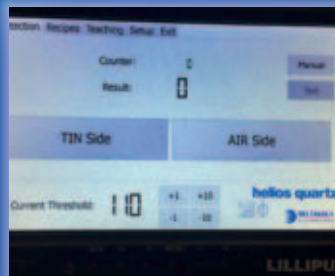
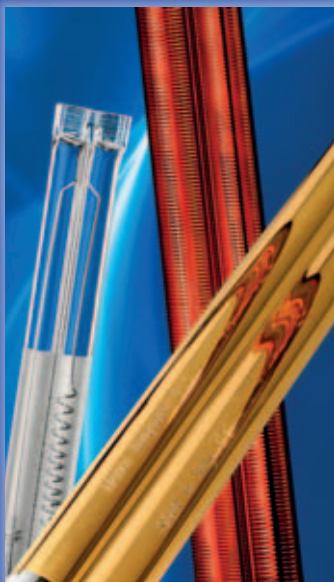
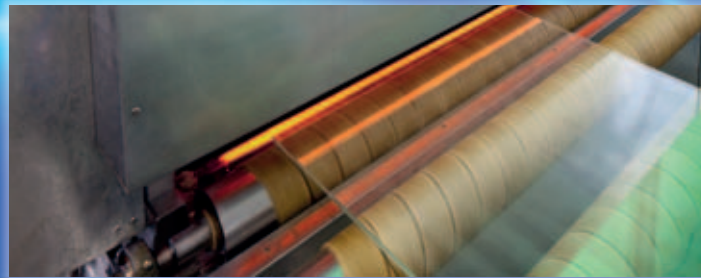
20032 Cormano (MI) - Tel.: +39-02-66306866 - E-mail: events@a151.eu

[E-TECH.SHOW/AUTOMOTIVE-GLASS-FORUM-2025](https://E-TECH.SHOW/AUTOMOTIVE-GLASS-FORUM-2025)



# GLASS INDUSTRY

INFRARED AND UV SOLUTIONS FOR EVERY APPLICATION



## IR medium wave twin tubes emitters for:

- laminating lines
- mirroring lines
- dry screen printing lines

## IR medium wave single tube emitters for:

- bending furnaces
- fusion furnaces

## IR fast medium wave twin tube emitters for:

- laminated glass cutting machines

Helios Quartz also produces cutting edge equipment for the glass industry such as **manual and automatic tin side detectors and UV polymerization units.**

# helios quartz®



[www.heliosquartz.com](http://www.heliosquartz.com)

## Helios Quartz Group SA

Via Roncaglia 20 6883 Novazzano - Switzerland  
Tel. +41 (0) 919233555/6 Fax +41 (0) 919233557  
[swiss@heliosquartz.com](mailto:swiss@heliosquartz.com)

## Helios Italquartz S.r.l.

Via delle Industrie 103/A 20040 Cambiagio - Milano - Italy  
Tel. +39 02 95 34 93 18 Fax +39 02 95 34 50 85  
[italy@heliosquartz.com](mailto:italy@heliosquartz.com)

*Your partner, not a simple supplier*

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

## COMPANY

website

**A+W Software**

for Glass, Windows & Doors

**A+W SOFTWARE**

[www.a-w.com](http://www.a-w.com)

**LATTUADA**  
+ADDING VALUE

**ADELIO LATTUADA**

[www.lattuada-na.com](http://www.lattuada-na.com)

**B Solution**  
ON THE PLUS SIDE

**B SOLUTION**

[www.bsolutionsrl.com](http://www.bsolutionsrl.com)

**bestmakina**

**BEST MAKINA**

[www.bestmakina.com](http://www.bestmakina.com)

**BOTTERO**

**BOTTERO**

[www.bottero.com](http://www.bottero.com)

**BOVONE**  
MADE IN EXCELLENCE

**BOVONE**

[www.bovone.com](http://www.bovone.com)

**Cms**  
glass technology

**CMS**

[www.cms.it](http://www.cms.it)

**CUGHER**  
Plants for glass screen printing

**CUGHER GLASS**

[www.cugher.com](http://www.cugher.com)

**DELTA MAX**  
we see it

**DELTA MAX AUTOMAZIONE**

[www.deltamax.eu](http://www.deltamax.eu)

**ECOL**  
INDUSTRIAL

**ECOL INGENIERIA INDUSTRIAL**

[www.grupoecol.com](http://www.grupoecol.com)

**Edgetech**  
A SUBSIDIARY OF Quanex

**EDGETECH EUROPE**

[www.superspacer.com](http://www.superspacer.com)

**EMAR**  
GROUP

**EMAR**

[www.emar.it](http://www.emar.it)

**EUROTECH WAY**  
High tech for the industrial machinery

**EUROTECH-WAY**

[www.eurotech-way.com](http://www.eurotech-way.com)

**FOREL**

**FOREL**

[www.forelspa.com](http://www.forelspa.com)

**FULL-TIME**

**FUCHONG GLASS MACHINERY**

[www.fuchongglass.com](http://www.fuchongglass.com)

**giardinagroup**  
FINISHING SOLUTIONS 1977  
glass division

**GIARDINA GROUP**

[www.giardinagroup.com](http://www.giardinagroup.com)

**GLASSCOMPANY**

**GLASS COMPANY**

[www.glasscompany.com](http://www.glasscompany.com)

**glaston**  
seeing it through

**GLASTON**

[www.glaston.net](http://www.glaston.net)

**GPM**  
automation

**GPM AUTOMATION**

[www.gpmautomation.com](http://www.gpmautomation.com)

**HEGLA**

**HEGLA**

[www.hegla.com](http://www.hegla.com)

**helios quartz**

**HELIOS QUARTZ**

[www.heliositalquartz.com](http://www.heliositalquartz.com)

**HORN**  
GLASS INDUSTRIES  
ENGINEERED IN GERMANY

**HORN GLASS INDUSTRIES**

[www.hornglass.com](http://www.hornglass.com)

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

## COMPANY

website



**ITALCARRELLI**  
[www.Italcarrelli.eu](http://www.Italcarrelli.eu)



**ITALMATIC PRESSE STAMPI**  
[www.italmatic.eu](http://www.italmatic.eu)



**ITALMOLE**  
[www.italmolesrl.com](http://www.italmolesrl.com)



a **voilà** company

**KERAGLASS**  
[www.keraglass.com](http://www.keraglass.com)



**LANDGLASS TECHNOLOGY**  
[www.landglass.net](http://www.landglass.net)



**LISEC**  
[www.lisec.com](http://www.lisec.com)



**MAPPI INTERNATIONAL**  
[www.mappi.it](http://www.mappi.it)



**MARPOSS**  
[www.marposs.com](http://www.marposs.com)



**MARVAL**  
[www.marvalgl.com](http://www.marvalgl.com)



**MAZZAROPPI ENGINEERING**  
[www.mazzaroppi.com](http://www.mazzaroppi.com)



**MOLE MORESCHI**  
[www.molemoreschi.com](http://www.molemoreschi.com)

## COMPANY

website



**NEPTUN**  
[www.neptunglass.com](http://www.neptunglass.com)



**NORTHGLASS TECHNOLOGY INDUSTRIAL**  
[www.northglass.global](http://www.northglass.global)



**OPTRIS GMBH**  
[www.optris.com](http://www.optris.com)



**R.C.N. SOLUTIONS**  
[www.rcnsolutions.it](http://www.rcnsolutions.it)



**ROLLMAC DIVISION OF GEMATA**  
[www.rollmac.it](http://www.rollmac.it)



**SATINAL**  
[www.satinal.it](http://www.satinal.it)



**OFF. MECC. SCHIATTI ANGELO**  
[www.schiattiangelosrl.com](http://www.schiattiangelosrl.com)



**SCHIAVO**  
[www.schiavotech.it](http://www.schiavotech.it)



**SI.STE TRADING**  
[www.sisteitaly.it](http://www.sisteitaly.it)



**SKILL GLASS**  
[www.skillglass.it](http://www.skillglass.it)



**STUDIO 1 AUTOMAZIONI**  
[www.studio1srl.it](http://www.studio1srl.it)

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

COMPANY

website

COMPANY

website



**TALAMONI**  
[www.talamoni.com](http://www.talamoni.com)



**TUROMAS**  
[www.tuomas.com](http://www.tuomas.com)



**TECGLASS DIGITAL PRINTING**  
[www.tecglasdigital.com](http://www.tecglasdigital.com)



**ZIPPE**  
[www.zippe.de](http://www.zippe.de)



**TEXPACK**  
[www.texpack.it](http://www.texpack.it)



Listing in this section is reserved for advertisers.

FOR FURTHER INFORMATION PLEASE CONTACT OUR ADVERTISING DEPARTMENT:

Tel: +39 - 02 - 6630686

E-mail: [publications@glassonline.com](mailto:publications@glassonline.com) • [www.glassonline.com](http://www.glassonline.com)

Listing in the "Suppliers Guide - Yellow Pages" is free of charge and reserved to advertisers. Advertisers of this issue are listed on the opening pages of this section, along with their logo, and listed in bold on the following pages. The "Suppliers Guide - Yellow Pages" promotes their products and services worldwide.

Glass manufacturing and Processing

**FLOAT GLASS**  
Sisecam

**PROCESSED SHEET GLASS**  
Emar

Stocking, handling and movement

**COMPLETE STOCKING LINES / ENGINEERING**

Biesse Group  
**Cugher Glass**  
**ECOL**  
**Glaston Group**

**Hegla**  
IOCCO Group  
**Keraglass**  
**Lisec Group**  
**North Glass Technology**  
**Schiavo**  
**Studio 1 Automazioni**  
Torgauer Maschinenbau  
**Tuomas**

**COMPLETE HANDLING AND MOVEMENT LINES**

Biesse Group  
Bando Kiko

**Bottero**  
**Cugher Glass**  
**CMS**  
**ECOL**  
**Glaston Group**  
**GPM Automation**  
**Hegla**  
IOCCO Group  
**Keraglass**  
**Lisec Group**  
**North Glass Technology**  
**Schiavo**  
**Studio 1 Automazioni**  
Torgauer Maschinenbau

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

## Tuomas

### MACHINES FOR HANDLING GLASS SHEETS

Bando Kiko  
Bavelloni  
Bottero  
CMS  
ECOL  
Forel  
Glaston Group  
GPM Automation  
Hegla  
IOCCO Group  
Italcarrelli  
Keraglass  
Lisec Group  
Lovati  
Schiavo  
Studio 1 Automazioni  
Torgauer Maschinenbau  
Tuomas

### HANDLING ROBOTS

Bavelloni  
Bottero  
CMS  
ECOL  
GPM Automation  
Hegla  
IOCCO Group  
Lisec Group  
Neptun  
Schiavo  
Studio 1 Automazioni  
Torgauer Maschinenbau  
Tuomas

### HANDLING EQUIPMENT FOR FLOAT GLASS

Bovone  
Bottero  
ECOL  
Glaston Group  
Hegla  
IOCCO Group  
Italcarrelli  
Lisec Group  
Schiavo  
Torgauer Maschinenbau  
Tuomas

### TROLLEYS AND CLASSIFIERS

Biesse Group  
CMS  
Forel  
Hegla  
Lisec Group  
Schiavo  
Torgauer Maschinenbau  
Tuomas

### TRANSPORTATION SYSTEMS/TRUCKS

Hegla

## Italcarrelli

Lisec Group  
Schiavo  
Tecglass

### VACUUM LIFTING EQUIPMENT

Bottero  
CMS  
ECOL  
Fenzi  
Forel  
Glaston Group  
Hegla  
Lisec Group  
Schiavo  
Si.Ste Trading  
Studio 1 Automazioni  
Torgauer Maschinenbau  
Tuomas

### CRANE SUCTION CUPS FOR LARGE SHEETS

Bottero  
Fenzi  
Glaston Group  
Hegla  
Lisec Group  
Schiavo  
Tuomas

### TRANSPORTATION TONGS

Bottero  
Fenzi  
IOCCO Group  
Schiavo  
Tuomas

### SUCTION CUPS

ADI - Surface Group  
Bottero  
CMS  
Fenzi  
Glaston Group  
Hegla  
Schiavo  
Si.Ste Trading  
Tuomas

### CONVEYOR BELTS

Cugher Glass  
ECOL  
Glaston Group  
Schiavo  
Studio 1 Automazioni  
Tecglass  
Tuomas

### PACKAGING MATERIALS AND SYSTEMS

ECOL  
Hegla  
Schiavo  
Vismara

## ACCESSORIES

Bottero  
CMS  
Fenzi  
Hegla  
Helios Quartz  
Mole Moreschi  
Schiavo  
Studio 1 Automazioni  
Tuomas

### Straight-edge and shape cutting

#### COMPLETE STRAIGHT-EDGE LINES

Bando Kiko  
Bavelloni  
Biesse Group  
Bottero  
CMS  
Glaston Group  
Hegla  
Lisec Group  
Neptun  
North Glass Technology  
Schiavo  
Schiatti Angelo  
Teknik Elmas  
Tesir Makine

#### COMPLETE SHAPE CUTTING LINES

Bando Kiko  
Bavelloni  
Biesse Group  
Bottero  
CMS  
Glaston Group  
Hegla  
Lisec Group  
North Glass Technology  
Schiavo  
Teknik Elmas  
Tesir Makine  
Tuomas

#### AUTOMATIC CUTTING MACHINES FOR AUTOMOTIVE GLASS

Bando Kiko  
Bottero  
CMS  
Glaston Group  
IOCCO Group  
Lisec Group  
Schiavo

#### LOADING AND TILTING MACHINES

Bando Kiko  
Bavelloni

## Biesse Group

Bottero  
CMS  
ECOL  
Forel  
Glass Company  
Glaston Group  
GPM Automation  
Hegla  
IOCCO Group  
Lisec Group  
Neptun  
Schiavo  
Studio 1 Automazioni  
Tuomas

### CUTTING TABLES

Bando Kiko  
Bavelloni  
Biesse Group  
Bottero  
CMS  
Fenzi  
Forel  
Glaston Group  
Hegla  
IOCCO Group  
Lisec Group  
Schiavo  
Tekno Kilns/Pujol  
Triulzi  
Tuomas

### CUTTING OPTIMIZERS

Bando Kiko  
Bavelloni  
Biesse Group  
Bottero  
CMS  
Deltamax Automazione  
Forel  
Glaston Group  
Hegla  
IOCCO Group  
Lisec Group  
Optima  
Schiavo  
Tuomas

### CUTTING PATH OPTIMIZERS

Bando Kiko  
Bottero  
CMS  
Glaston Group  
IOCCO Group  
Lisec Group  
Optima  
Schiavo

### CAD SYSTEMS

Bavelloni  
CMS  
Lisec Group  
Prodim  
Schiavo

## ARMOURED AND LAMINATED GLASS CUTTING MACHINES

Bando Kiko  
Bavelloni  
**Bottero**  
**CMS**  
**Glaston Group**  
**Hegla**  
**Lisec Group**  
**Schiavo**  
**Tuomas**

## ROUND OR SHAPE CUTTING MACHINES

Bando Kiko  
Bavelloni  
**Bottero**  
**CMS**  
Fenzi  
**Glaston Group**  
**Hegla**  
**Lisec Group**  
**Schiavo**  
**Tuomas**

## CUTTING ACCESSORIES

ADI - Surface Group  
Ayrox  
Bando Kiko  
**Bottero**  
Fenzi  
IOCCO Group  
**Schiavo**  
**Si.Ste Trading**  
Softeco  
**Talamoni**  
Teknik Elmas  
Tesir Makine  
**Tuomas**

## SAW MACHINES

**Schiavo**

## AUTOMATIC SAWS FOR CUTTING LAMINATED AND BULLET-PROOF GLASS

**CMS**  
**Schiavo**

## BREAKING SYSTEMS

Bando Kiko  
Bavelloni  
**Bottero**  
**CMS**  
**Glaston Group**  
**Hegla**  
IOCCO Group  
**Lisec Group**  
**Schiavo**  
Teknik Elmas  
Tesir Makine  
**Tuomas**

## CUTTING MACHINES WITH BREAKING AND EDGE DELETING DEVICES

Bando Kiko  
**Bottero**  
**CMS**  
**Glaston Group**  
**Hegla**  
IOCCO Group  
**Lisec Group**  
**Schiavo**  
Teknik Elmas  
Tesir Makine  
**Tuomas**

## GLASS CUTTING FLUIDS

**Schiavo**  
**Si.Ste Trading**  
**Tuomas**

## ACCESSORIES

**Schiavo**  
**Schiatti Angelo**  
**Si.Ste Trading**  
**Talamoni**  
Teknik Elmas  
Tesir Makine  
**Tuomas**

## Edging and bevelling

## COMPLETE EDGING LINES

**Adelio Lattuada**  
**B Solution**  
Bando Kiko  
Bavelloni  
Biesse Group  
**Bottero**  
**CMS**  
**Forel**  
IOCCO Group  
Lovati  
**Neptun**  
**Schiavo**  
**Schiatti Angelo**  
Schraml  
**SKG - Skill Glass**

## CROSSBELT ARRISERS

**Best Makina**

## COMPLETE BEVELLING LINES

**Adelio Lattuada**  
Bando Kiko  
Biesse Group  
**Bottero**  
**CMS**  
IOCCO Group

Lovati  
**Schiavo**  
Teknik Elmas  
Tesir Makine

## COMPLETE AUTOMOTIVE GLASS EDGING AND BEVELLING LINES

**Adelio Lattuada**  
Bando Kiko  
Bavelloni  
Biesse Group  
**Bottero**  
**Glaston Group**  
IOCCO Group  
Schraml  
**SKG - Skill Glass**  
Teknik Elmas  
Tesir Makine

## DOUBLE-EDGE GRINDING MACHINES

**B Solution**  
Bando Kiko  
Bavelloni  
Biesse Group  
**Bottero**  
**CMS**  
IOCCO Group  
**Schiatti Angelo**  
Teknik Elmas  
Tesir Makine

## VERTICAL-EDGE GRINDING MACHINES

**Adelio Lattuada**  
**B Solution**  
Bando Kiko  
Bavelloni  
**Bottero**  
**Forel**  
**Glass Company**  
**Glaston Group**  
**Neptun**  
**Schiavo**  
**Schiatti Angelo**  
SGM - Special Glass Machinery  
**North Glass Technology**  
Schraml  
**SKG - Skill Glass**  
Tesir Makine

## GRINDING SPINDLES

**Schiavo**  
Teknik Elmas  
Tesir Makine

## BEVELLING MACHINES FOR ROUND AND SHAPED GLASS

**Adelio Lattuada**  
Bando Kiko  
Bavelloni  
Biesse Group

## CMS

Lovati  
**Schiavo**  
Teknik Elmas  
Tesir Makine

## STRAIGHT-EDGE BEVELLING MACHINES

**Adelio Lattuada**  
Bando Kiko  
Bavelloni  
**Bovone**  
**CMS**  
**Glass Company**  
**Schiavo**  
**Schiatti Angelo**  
Teknik Elmas  
Tesir Makine

## BEVEL POLISHING MACHINES

**Adelio Lattuada**  
Bando Kiko  
Bavelloni  
Biesse Group  
**Bovone**  
**CMS**  
Lovati  
Teknik Elmas  
Tesir Makine

## STRAIGHT-EDGE ENGRAVING MACHINES

Bavelloni  
Biesse Group  
**Bottero**  
**CMS**  
Schraml  
**SKG - Skill Glass**  
Teknik Elmas

## SHAPED GLASS ENGRAVING MACHINES

Bavelloni  
Biesse Group  
**Bottero**  
**CMS**  
Lovati  
Teknik Elmas  
Tesir Makine

## CORNER GRINDING MACHINES

**Adelio Lattuada**  
**B Solution**  
Bavelloni  
Biesse Group  
**CMS**  
Lovati  
SGM - Special Glass Machinery  
Schraml  
**SKG - Skill Glass**  
Teknik Elmas  
Tesir Makine

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | www.glassonline.com | Reserved for advertisers | www.glassonline.com

## SHAPED GLASS GRINDING MACHINES

### Adelio Lattuada

Bando Kiko  
Bavelloni  
Biesse Group

### Bottero

### CMS

### Forel

### Glass Company

Lovati  
Teknik Elmas  
Tesir Makine

## BELT GRINDING MACHINES

### Adelio Lattuada

### Best Makina

Fenzi  
IOCCO Group

## LATHES - VERTICAL AND HORIZONTAL

### CMS

Fenzi  
Teknik Elmas  
Tesir Makine

## EMBOSSING MACHINES

### CMS

Fenzi

## PORTABLE MACHINES

Fenzi

### Helios Quartz

## DIAMOND TOOLS

### Adelio Lattuada

ADI - Surface Group  
Bando Kiko

### Bovone

### Bottero

Diamut - Biesse  
Fenzi

### Glaston Group

Marrose Abrasives

### Mole Moreschi

### Neptun

### Schiavo

### Si.Ste Trading

### Talamoni

Teknik Elmas  
Vetrolux

## DIAMOND BELTS

### Mole Moreschi

## SEAMING LINES

### Best Makina

## POLISHING WHEELS

### Adelio Lattuada

ADI - Surface Group  
Bando Kiko

### Bovone

Diamut - Biesse  
Dogo

Fenzi

### Glaston Group

Italmole  
Marrose Abrasives

### Mole Moreschi

RBM Italia - Surface Group

### Schiavo

### Si.Ste Trading

Teknik Elmas

## POLISHING AGENTS AND OXIDES

ADI - Surface Group

### Bovone

Fenzi

### Schiavo

### Si.Ste Trading

Teknik Elmas

## POLISHING BELTS

Fenzi

### Schiavo

### Si.Ste Trading

## COOLANTS

### Adelio Lattuada

### Bovone

Fenzi

### Schiavo

### Si.Ste Trading

## GLASS GRINDING AND BEVELLING

### COOLANTS

### Schiavo

### Si.Ste Trading

Teknik Elmas

## SEPARATORS FOR GLASS-SOLIDS

### SEPARATORS FOR GLASS-SOLIDS

Dieffe Macchine

Filtraglass

Immnes

### Schiavo

Vitrosep

## ACCESSORIES

ADI - Surface Group

### CMS

Fenzi

### Helios Quartz

IOCCO Group

### Mole Moreschi

### Schiavo

### Schiatti Angelo

### Si.Ste Trading

Teknik Elmas

.....

## Washing

.....

## HORIZONTAL WASHING MACHINES

Bando Kiko

Bavelloni

### Best Makina

### Bovone

### ECOL

### Emar

### Forel

### Glass Company

### Glaston Group

### GPM Automation

IOCCO Group

### Lisec Group

### Neptun

### Schiavo

### SGM - Special Glass

Machinery

### Tecglass

Triulzi

## VERTICAL WASHING MACHINES

### Adelio Lattuada

Bavelloni

### Best Makina

### Emar

### ECOL

### Forel

### Glass Company

### Glaston Group

### GPM Automation

IOCCO Group

### Lisec Group

### Neptun

### Schiavo

### SGM - Special Glass

Machinery

### North Glass Technology

Stefiglass

### Tecglass

Teknik Elmas

Tesir Makine

Triulzi

## WASHING MACHINES FOR AUTOMOTIVE GLASS

### WASHING MACHINES FOR AUTOMOTIVE GLASS

Bando Kiko

### ECOL

### Glaston Group

IOCCO Group

### Tecglass

Tesir Makine

Triulzi

## WASHING PURIFICATION SYSTEMS

### WASHING PURIFICATION SYSTEMS

Best Makina

Dieffe Macchine

### Emar

### Forel

### Glass Company

### Glaston Group

Immnes

IOCCO Group

### Schiavo

## LIQUID WASHING CONCENTRATES

### Schiavo

### Si.Ste Trading

## ACCESSORIES

### Helios Quartz

### Emar

Idrotecnica

### Neptun

### Schiavo

.....

## Mirror production

.....

## COMPLETE PLANTS & CONVEYORS FOR MIRROR PRODUCTION

### Bovone

IOCCO Group

Triulzi

## PAINTING EQUIPMENT

Fenzi

IOCCO Group

Triulzi

## DRYING OVENS

### Bovone

### CMS

## AUTOMOTIVE MIRROR BENDING FURNACES

### AUTOMOTIVE MIRROR BENDING FURNACES

### Bovone

### Marposs

Tecnosens

## MANUAL SILVER- SPRAYING EQUIPMENT

### MANUAL SILVER- SPRAYING EQUIPMENT

Fenzi

### Glass Company

## PAINTS AND CHEMICAL PRODUCTS

### PAINTS AND CHEMICAL PRODUCTS

Fenzi

### ACCESSORIES

Fenzi

### Helios Quartz

.....

### ACCESSORIES

Fenzi

### Helios Quartz

.....

## Insulating glass

.....

## COMPLETE INSULATING GLASS LINES

Bavelloni

### Best Makina

### Emar

### Forel

### Glass Company

Glaston Group

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | www.glassonline.com | Reserved for advertisers | www.glassonline.com

**Marval**  
**Neptun**  
**Schiavo**  
SGM - Special Glass  
Machinery  
Thermoseal Group  
Triulzi

## **AUTOMATIC SEALING LINES**

Bavelloni  
**Best Makina**  
Easy Automation  
**Emar**  
**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
Teknik Elmas  
Tesir Makine

## **AUTOMATIC SPACER BENDING MACHINES**

Bavelloni  
**Best Makina**  
**Emar**  
Fenzi  
**Forel**  
**Glaston Group**  
IOCCO Group  
**Lisec Group**  
**Marval**  
**Schiavo**  
Thermoseal Group

## **DESICCANT SALT FILLING MACHINES**

Bavelloni  
**Best Makina**  
**Emar**  
Fenzi  
**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
**Neptun**  
**Schiavo**  
Thermoseal Group  
Triulzi

## **SPACER CUTTING SAWS**

Bavelloni  
**Best Makina**  
**Emar**  
Fenzi  
**Forel**  
**Lisec Group**  
**Marval**  
**Neptun**  
**Schiavo**  
Tesir Makine  
Thermoseal Group

## **BUTYL EXTRUDERS**

Bavelloni  
**Best Makina**  
**Emar**

**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
**Neptun**  
**Schiavo**  
Thermoseal Group  
Triulzi

## **HOT-MELT EXTRUDERS**

Bavelloni  
**Best Makina**  
Easy Automation  
**Emar**  
Fenzi  
**Forel**  
**Lisec Group**  
**Marval**  
**Neptun**  
**Schiavo**  
Thermoseal Group  
Triulzi

## **POLYURETHANE EXTRUDERS**

Bavelloni  
**Best Makina**  
Easy Automation  
**Emar**  
Fenzi  
**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
**Schiavo**

## **POLYURETHANE ENCAPSULATION**

**Emar**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
**Schiavo**

## **SILICONE EXTRUDERS**

**Best Makina**  
**Emar**  
Fenzi  
**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
**Schiavo**  
Triulzi

## **POLYSULPHIDE SEALANT EXTRUDERS**

**Best Makina**  
**Emar**  
Fenzi  
**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**

**Schiavo**  
Triulzi  
**GAS FILLING EQUIPMENT**

**Emar**  
Fenzi  
**Forel**  
**Glaston Group**  
**Lisec Group**  
**Marval**  
**Neptun**  
**Schiavo**  
Sparklike  
Thermoseal Group

## **DESICCANT SALTS**

**Emar**  
Fenzi  
**Neptun**  
**Schiavo**  
Thermoseal Group

## **SPACERS/PROFILES**

**Edgetech Europe**  
Fenzi  
**Schiavo**  
Thermoseal Group

## **GEORGIAN BARS**

**Hegla**  
Thermoseal Group

## **BUTYL**

Fenzi  
Thermoseal Group

## **POLYSULPHIDE SEALANTS**

Fenzi

## **HOT MELT**

Fenzi  
Thermoseal Group

## **OTHER SEALANTS**

Fenzi

## **PANTOGRAPHS**

Fratelli Pezza

## **ACCESSORIES**

**Deltamax Automazione**  
**Forel**  
**Helios Quartz**  
**Schiavo**  
**Si.Ste Trading**  
Sparklike  
Tesir Makine  
Triulzi

## Tempering

## **TEMPERING FURNACES (ARCHITECTURAL GLASS)**

**Glass Company**

Glasstech Inc.  
**Glaston Group**  
Hornos Industriales Pujol  
Jinglass  
**Keraglass**  
**Landglass Technology**  
**Lisec Group**  
**Luoyang Fuchong Machinery**  
**Mappi International**  
**Marposs**  
**North Glass Technology**  
**Schiavo**  
Tecnosens  
TK  
Tekno Kilns/Pujol  
**Texpack**

## **TEMPERING FURNACES (AUTOMOTIVE GLASS)**

**Glass Company**  
Glasstech Inc.  
**Glaston Group**  
Jinglass  
**Keraglass**  
**Landglass Technology**  
**Luoyang Fuchong Machinery**  
**Mappi International**  
**Marposs**  
**Mazzaroppi Engineering**  
**North Glass Technology**  
**Satinal**  
Taifin  
Tecnosens  
**Texpack**

## **CHEMICAL TEMPERING EQUIPMENT**

**Glass Company**  
**R.C.N. Solutions**  
TK

## **ROBOT FOR CLEANING SILICA ROLLERS**

**Eurotech Way**

## **ACCESSORIES**

**Deltamax Automazione**  
Fenzi  
**Glass Company**  
**Glaston Group**  
**Helios Quartz**  
Hornos Industriales Pujol  
**Keraglass**  
**Landglass Technology**  
**Mappi International**  
**Mazzaroppi Engineering**  
**R.C.N. Solutions**  
**Satinal**  
Taifin  
Tekno Kilns/Pujol  
Torgauer Maschinenbau



# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

## Bending

### BENDING FURNACES (ARCHITECTURAL GLASS)

Hornos Industriales Pujol  
Jinglass  
Keraglass  
Luoyang Fuchong Machinery  
Mappi International  
Marposs  
Mazzaroppi Engineering  
R.C.N. Solutions  
Tecnosens  
Tekno Kilns/Pujol  
TK  
Texpack

### BENDING FURNACES (AUTOMOTIVE GLASS)

Glass Company  
Glasstech Inc.  
Glaston Group  
Jinglass  
Keraglass  
Luoyang Fuchong Machinery  
Mappi International  
Marposs  
Mazzaroppi Engineering  
R.C.N. Solutions  
TK  
Taifin  
Tecnosens  
Texpack

### ACCESSORIES

Ayrox  
Deltamax Automazione  
Glass Company  
Glasstech Inc.  
Glaston Group  
Hornos Industriales Pujol  
Keraglass  
Mappi International  
Satinal  
Softeco  
Tekno Kilns/Pujol  
TK

## Laminated glass production

### COMPLETE PLANTS

Best Makina  
Bovone  
Bottero  
Forel  
Glass Company  
Glaston Group  
GPM Automation

Hornos Industriales Pujol  
IOCCO Group  
Italmatic  
Lisec Group  
Mazzaroppi Engineering  
R.C.N. Solutions  
Texpack  
TK  
Triulzi

### LAMINATED WINDSCREEN BENDING FURNACES

ECOL  
Glass Company  
Glasstech Inc.  
Glaston Group  
Keraglass  
Mappi International  
Marposs  
Taifin  
Texpack

### AUTOCLAVES

Glass Company  
Glaston Group  
GPM Automation  
Hornos Industriales Pujol  
Italmatic  
Lisec Group  
Triulzi

### CLIMATIC CABINS

Forel  
Glaston Group  
GPM Automation  
IOCCO Group  
Lisec Group  
Triulzi

### INFRARED OVENS

ECOL  
Forel  
Glass Company  
Glaston Group  
GPM Automation  
Hornos Industriales Pujol  
IOCCO Group  
Lisec Group  
TK  
Triulzi

### MANGLES

GPM Automation

### PRESSES/BENDING MACHINES

Forel  
IOCCO Group  
Lisec Group  
Triulzi

### RESIN LAMINATING MATERIALS AND EQUIPMENT

IOCCO Group  
Satinal

Teknik Elmas  
Torgauer Maschinenbau

### EVA (ETHYLENE VINYL ACETATE)

Satinal  
Si.Ste Trading  
Tecnosens

### PVB

Everlam  
Kuraray - Trosifol  
Marposs  
Si.Ste Trading  
Tecnosens

### PVB - SHAPING AND CUTTING EQUIPMENT

Ayrox  
ECOL  
Forel  
Glaston Group  
GPM Automation  
IOCCO Group  
Lisec Group  
Softeco

### PVB - WIRING TECHNOLOGY FOR HEATABLE LAMINATES

Ayrox  
Easy Automation  
ECOL  
Softeco

### ACCESSORIES

Ayrox  
Bottero  
Deltamax Automazione  
Eurotech Way  
Glaston Group  
Helios Quartz  
Hornos Industriales Pujol  
IOCCO Group  
Lisec Group  
Satinal  
Si.Ste Trading  
Softeco  
Taifin  
Triulzi

## Drilling

### AUTOMATIC DRILLING LINES

B Solution  
Bando Kiko  
Bavelloni  
Biese Group  
Glaston Group  
IOCCO Group  
Neptun  
Schiatti Angelo  
Schraml

### SKG - Skill Glass

Teknik Elmas  
Tesir Makine  
Vismara

### MULTI-SPINDLE DRILLING MACHINES

B Solution  
Bando Kiko  
Bavelloni  
Biese Group  
CMS  
Glass Company  
Glaston Group  
IOCCO Group  
Neptun  
Schiavo  
Schiatti Angelo  
Schraml  
SKG - Skill Glass  
Teknik Elmas  
Tesir Makine  
Vismara

### DRILLING MACHINES WITH OPPOSITE DRILLING HEADS

B Solution  
Bando Kiko  
Bavelloni  
Bottero  
CMS  
Fenzi  
Glaston Group  
IOCCO Group  
Lovati  
Neptun  
Schiavo  
Schiatti Angelo  
Schraml  
SKG - Skill Glass  
Teknik Elmas  
Tesir Makine  
Vismara

### COLUMN DRILLING MACHINES

B Solution  
Bottero  
Fenzi  
Neptun  
Schiavo  
Tesir Makine  
Vismara

### PORTABLE DRILLING MACHINES

CMS  
Fenzi  
Schiavo  
Si.Ste Trading  
Teknik Elmas  
Tesir Makine

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | www.glassonline.com | Reserved for advertisers | www.glassonline.com

## DRILLING AND MILLING MACHINES

Bavelloni  
**Bottero**  
Biesse Group  
**CMS**  
IOCCO Group  
Lovati  
**Neptun**  
**Schiavo**  
Teknik Elmas  
Tesir Makine  
Vismara

## DIAMOND DRILLS

ADI - Surface Group  
**Bovone**  
Diamut - Biesse  
Fenzi  
**Glaston Group**  
**Mole Moreschi**  
**Neptun**  
**Schiavo**  
**Si.Ste Trading**  
Teknik Elmas  
Tesir Makine  
Vetrolux

## ACCESSORIES

**CMS**  
Fenzi  
**Neptun**  
**Schiavo**  
**Si.Ste Trading**  
Teknik Elmas

## Other equipment and plants

### TURNKEY PLANTS / ENGINEERING - FOR BUILDING GLASS

Bando Kiko  
Biesse Group  
**Bottero**  
**Cugher Glass**  
**Glaston Group**  
**Horn**  
IOCCO Group  
**Keraglass**  
**Lisec Group**  
**Marposs**  
Torgauer Maschinenbau

### TURNKEY PLANTS / ENGINEERING - FOR AUTOMOTIVE GLASS

Bando Kiko  
Biesse Group  
**Bottero**  
**Cugher Glass**

Easy Automation

**Horn**  
**Glaston Group**  
IOCCO Group  
**Marposs**

### KEY PLANTS / ENGINEERING - FOR DISPLAY GLASS

Bando Kiko  
**Cugher Glass**  
**Marposs**  
Torgauer Maschinenbau

### EDGES ROLLER COATING MACHINE

**Eurotech Way**

### WORK CENTRES - CNC CONTROLLED

Bando Kiko  
Bavelloni  
Biesse Group  
**Bottero**  
**Glass Company**  
Glasstech Inc.  
**Glaston Group**  
**Hegla**  
**Neptun**  
Schraml  
**SKG - Skill Glass**

### FLOAT PLANTS/ LINES (EQUIPMENT & ACCESSORIES)

**Bovone**  
**Horn**  
IOCCO Group

### CULLET HANDLING SYSTEMS

**ECOL**

### COMPLETE BATCH PLANTS

**Zippe**

### VACUUM COATING EQUIPMENT AND PLANTS

**Giardina Group Glass Division**  
**Glass Company**  
**North Glass Technology**

### ENAMELLING EQUIPMENT AND PLANTS

**Giardina Group Glass Division**  
**Glass Company**  
**Rollmac division of GeMaTa**

### DRYERS AND ENAMELING FURNACES

**Giardina Group Glass Division**  
**Tecglass**

### SPRAYING TECHNOLOGY

**Giardina Group Glass Division**

### HOT- AND COLD-END COATING SYSTEMS AND MATERIALS (CVD, ROLLERS, CURTAIN COATERS)

**Giardina Group Glass Division**

### SANDBLASTING SYSTEMS, EQUIPMENT AND PLANTS - OPTIMIZERS

Fenzi  
Fratelli Pezza  
**Glass Company**  
**Schiavo**  
Schraml  
**SKG - Skill Glass**

### DIGITAL INKJET PRINTERS

**Glass Company**  
System Ceramics  
**Tecglass**  
TecnoFerrari

### SCREEN PRINTING EQUIPMENT AND PLANTS

Ayrox  
COMSS  
**Cugher Glass**  
**Deltamax Automazione**  
**ECOL**  
**Eurotech Way**  
**Glass Company**  
**Keraglass**  
**North Glass Technology**  
**Rollmac division of GeMaTa**  
Softeco  
**Studio 1 Automazioni**  
TecnoFerrari

### SCREEN PRINTING FRAMES

COMSS

### SCREEN PRINTING DRYING SYSTEMS

COMSS  
**Cugher Glass**  
**Glass Company**  
**Rollmac division of GeMaTa**  
**Studio 1 Automazioni**

### EDGES ROLLER COATING MACHINE

**Giardina Group Glass Division**

### ACIDING GLASS EQUIPMENT AND PLANTS

**Lisec Group**  
**Rollmac division of GeMaTa**

## LASER DECORATING MACHINES

**Glass Company**

## Artistic glass production

### CERMAMIC INKS

**Glass Company**  
**Tecglass**

### CHAMBER ELECTRIC KILNS

**Glass Company**  
**Keraglass**  
Tekno Kilns/Pujol

### ACCESSORIES

**Deltamax Automazione**  
**Helios Quartz**  
**TK**

## Miscellaneous

### ADHESIVES FOR GLASS BONDING

**Si.Ste Trading**

### AUTOMATION

Easy Automation  
**Horn**  
IOCCO Group  
**Marposs**  
**Studio 1 Automazioni**  
Tecnosens  
Torgauer Maschinenbau  
**Zippe**

### AUTOMOTIVE GLASS APPROVAL SERVICES

Ayrox  
**Marposs**  
Softeco  
Tecnosens  
Teknik Elmas

### AUTOMOTIVE GLASS QUALITY CONTROL

Ayrox  
Bando Kiko  
**Cugher Glass**  
**Deltamax Automazione**  
**Glaston Group**  
IOCCO Group  
**Marposs**  
Softeco  
Tecnosens

# SUPPLIERS GUIDE Yellow Pages

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

## CE MARKING - QUALITY CONTROL EQUIPMENT FOR GLASS IN BUILDING

Ayrox  
Softeco

## COLOURS & ENAMELS - OTHER APPLICATIONS

Ayrox

## CUTTERS

**Si.Ste Trading**

## CUTTERS WHEELS

**Si.Ste Trading**

## DEIONIZING AND WATER SOFTENING EQUIPMENT

Fenzi  
**Forel**  
**Glass Company**  
Idrotecnica  
**Lisec Group**  
Triulzi

## DEIONIZING AND WATER SOFTENING EQUIPMENT

Immies

## DIAMOND ROUTER EQUIPMENT - PORTABLE

Teknik Elmas  
Tesir Makine

## DISTRIBUTORS

**Si.Ste Trading**

## FLAT GLASS QUALITY CONTROL DEVICES

Ayrox  
**Deltamax Automazione**  
**Forel**  
IOCCO Group  
**Marposs**  
Softeco  
Tecnosens

## FURNACES

**Glass Company**  
**Horn**  
**Texpack**

## FURNACES / HYDROGEN GENERATORS (WATER ELECTROLYSERS)

Nel Hydrogen

## GLASS COATING AND TINTING

**Glass Company**  
**Rollmac division of GeMaTa**

## GLASS TREATMENT FILMS

**Glass Company**

## HEATING EQUIPMENT - STANDARD (GAS FIRING, BURNERS, AIR GAS MIXERS, SAFETY DEVICES, ELECTRICAL RESISTORS)

**Horn**

**Keraglass**  
**Texpack**

## INSPECTION INSTRUMENTS & INTENSIMETERS

**Marposs**  
Tecnosens

## INFRARED TUBES

**Helios Quartz**  
**Deltamax Automazione**

## KILNS

**Glass Company**  
**Keraglass**  
**Lisec Group**  
Tekno Kilns/Pujol  
**TK**  
Fenzi

## METAL ACCESSORIES

**Si.Ste Trading**  
Teknik Elmas  
Tesir Makine

## METALLIC SECTIONS

Fenzi  
Tesir Makine

## NUMERICAL CONTROL SYSTEM (CNC) FOR ALL GLASS PROCESSING MACHINES

**Glass Company**  
IOCCO Group  
Prodim

## OPTICAL DISTORTION ANALYSERS FOR AUTOMOTIVE GLASS

IOCCO Group  
**Keraglass**  
Tecnosens

## OPTICAL INFRARED THERMOMETERS

**Optris GMBH**

## POWDER OR LIQUID APPLICATION SYSTEMS FOR PROTECTING FLOAT GLASS

**Cugher Glass**  
**Glass Company**

## PUMPING AND APPLICATION SYSTEMS (AUTOMOTIVE GLASS)

IOCCO Group

## PURIFIERS FOR REFLUENT WATER

Dieffe Macchine  
Immies

## PUTTIES AND SEALANTS

Fenzi

## QUARTZ EQUIPMENT

**Helios Quartz**

## SHAPE CHECKING DEVICES

Easy Automation  
IOCCO Group

## SHOWER ENCLOSURES

**Si.Ste Trading**  
Vismara

## SIC HEATERS

**Helios Quartz**

## SOFTWARE SYSTEMS FOR PRODUCTION CONTROL

**A+W Software**  
**CMS**  
**Cugher Glass**  
**Deltamax Automazione**  
**Edgetech Europe**  
**Forel**  
**Lisec Group**  
Optima  
Prodim

## SOLDERING EQUIPMENT FOR ELECTRICAL CONNECTORS FOR WINDSCREENS AND BACKLITES

Ayrox  
Easy Automation  
Softeco

## SORTING SYSTEMS

**Glaston Group**  
**GPM Automation**  
**Lisec Group**  
**Studio 1 Automazioni**

## SURFACE STRESS MEASUREMENT INSTRUMENT

Ayrox  
**Glass Company**  
Tecnosens

## WINDSCREEN STRESS MEASUREMENT INSTRUMENT

Tecnosens

## WINDSCREEN AND BACKLITES

**Marposs**  
Tecnosens

## TESTING FOR SOLDERINGS

Ayrox  
Easy Automation  
Softeco

## TESTING DEVICES OF BACKLITES ELECTRICAL HEATING

Ayrox  
Easy Automation  
Softeco

## THERMAL IMAGING SYSTEMS

**Glass Company**  
Easy Automation  
**Optris GMBH**

## TIN FLOAT BATH FURNACES

**Horn**  
IOCCO Group

## TIN FLOAT BATH SIDE DETECTION DEVICES

Tecnosens

## UV ADHESIVES

**Si.Ste Trading**

## UV LAMPS

**Helios Quartz**

## UV PORTABLE MACHINES

**Helios Quartz**

## WATER REPELLENT SPRAY COATING MACHINES

**Best Makina**

FOR FURTHER INFORMATION  
PLEASE CONTACT OUR  
ADVERTISING DEPARTMENT:

Tel: +39 - 02 - 6630686

[publications@glassonline.com](mailto:publications@glassonline.com)

[www.glassonline.com](http://www.glassonline.com)

The logo for glassOnline, featuring the word "glass" in a lowercase sans-serif font, "Online" in a larger, bold lowercase sans-serif font, and a stylized orange and grey graphic element resembling a drop or a lens.

[click here](#)



#GPD2025

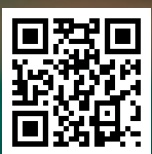
GLASS PERFORMANCE DAYS 2025

# GLASS - THE IN/VISIBLE IMPACT

## CHOOSE YOUR ROLE

- ▶ PARTICIPANT
- ▶ SPEAKER
- ▶ SPONSOR
- ▶ EXHIBITOR

// JOIN US AT GPD



[WWW.GPD.FI](http://WWW.GPD.FI)

**JUNE 10-12, 2025**

NOKIA ARENA / TAMPERE, FINLAND

# SUPPLIERS GUIDE

**SUPPLIERS GUIDE Sales Network**

**ALPHABETICAL INDEX**

Country	Companies	Page
ALBANIA	Albania	124
ALGERIA	Algeria	125
ANDORRA	Andorra	126
ANGOLA	Angola	127
ANTIGUA AND BARBUDA	Antigua and Barbuda	128
ARGENTINA	Argentina	129
AUSTRALIA	Australia	130
AUSTRIA	Austria	131
AZERBAIJAN	Azerbaijan	132
BALNEAR	Balnear	133
BANGLADESH	Bangladesh	134
BARBADOS	Barbados	135
BELGIUM	Belgium	136
BELIZE	Belize	137
BENIN	Benin	138
BHUTAN	Bhutan	139
BOLIVIA	Bolivia	140
BOSNIA AND HERZEGOVINA	Bosnia and Herzegovina	141
BRAZIL	Brazil	142
BULGARIA	Bulgaria	143
BURUNDI	Burundi	144
CAMBODIA	Cambodia	145
CANADA	Canada	146
CHINA	China	147
CYPRUS	Cyprus	148
CZECH REPUBLIC	Czech Republic	149
DENMARK	Denmark	150
DOMINICAN REPUBLIC	Dominican Republic	151
DROMEDARY	Dromedary	152
ECUADOR	Ecuador	153
EGYPT	Egypt	154
EL SALVADOR	El Salvador	155
ESTONIA	Estonia	156
ETHIOPIA	Ethiopia	157
FINLAND	Finland	158
FRANCE	France	159
GABON	Gabon	160
GERMANY	Germany	161
Ghana	Ghana	162
GUATEMALA	Guatemala	163
HONG KONG	Hong Kong	164
HUNGARY	Hungary	165
INDONESIA	Indonesia	166
IRELAND	Ireland	167
ISRAEL	Israel	168
ITALY	Italy	169
JAMAICA	Jamaica	170
JAPAN	Japan	171
JORDAN	Jordan	172
KAZAKHSTAN	Kazakhstan	173
KENYA	Kenya	174
KOREA	Korea	175
KUWAIT	Kuwait	176
LAOS	Laos	177
LATVIA	Latvia	178
LEBANON	Lebanon	179
LIBERIA	Liberia	180
LITHUANIA	Lithuania	181
LUXEMBOURG	Luxembourg	182
MACAU	Macau	183
MADAGASCAR	Madagascar	184
MADEIRA	Madeira	185
MAINTENANCE	Maintenance	186
Maldives	Maldives	187
MALTA	Malta	188
MARSHALL ISLANDS	Marshall Islands	189
MEXICO	Mexico	190
MICRONESIA	Micronesia	191
MOLDOVA	Moldova	192
MONTENEGRO	Montenegro	193
MOROCCO	Morocco	194
NETHERLANDS	Netherlands	195
NEW ZEALAND	New Zealand	196
NICARAGUA	Nicaragua	197
NORWAY	Norway	198
OMAN	Oman	199
PANAMA	Panama	200
PAPUA NEW GUINEA	Papua New Guinea	201
PARAGUAY	Paraguay	202
PERU	Peru	203
PHILIPPINES	Philippines	204
POLAND	Poland	205
PORTUGAL	Portugal	206
ROMANIA	Romania	207
RUSSIA	Russia	208
SAN MARINO	San Marino	209
SAUDI ARABIA	Saudi Arabia	210
SENEGAL	Senegal	211
SERBIA	Serbia	212
SINGAPORE	Singapore	213
SLOVAKIA	Slovakia	214
SLOVENIA	Slovenia	215
SOUTH AFRICA	South Africa	216
SPAIN	Spain	217
SRI LANKA	Sri Lanka	218
SUDAN	Sudan	219
SWEDEN	Sweden	220
SWITZERLAND	Switzerland	221
TAIWAN	Taiwan	222
TANZANIA	Tanzania	223
THAILAND	Thailand	224
TRINIDAD AND TOBAGO	Trinidad and Tobago	225
TUNISIA	Tunisia	226
TURKEY	Turkey	227
USA	USA	228
UKRAINE	Ukraine	229
UNITED ARAB EMIRATES	United Arab Emirates	230
USA (Continental)	USA (Continental)	231
USA (Hawaii)	USA (Hawaii)	232
USA (Puerto Rico)	USA (Puerto Rico)	233
USA (Virgin Islands)	USA (Virgin Islands)	234
USA (Washington DC)	USA (Washington DC)	235
USA (West Virginia)	USA (West Virginia)	236
USA (Wyoming)	USA (Wyoming)	237
USA (Alaska)	USA (Alaska)	238
USA (Arizona)	USA (Arizona)	239
USA (California)	USA (California)	240
USA (Colorado)	USA (Colorado)	241
USA (Connecticut)	USA (Connecticut)	242
USA (Delaware)	USA (Delaware)	243
USA (Florida)	USA (Florida)	244
USA (Georgia)	USA (Georgia)	245
USA (Idaho)	USA (Idaho)	246
USA (Illinois)	USA (Illinois)	247
USA (Indiana)	USA (Indiana)	248
USA (Iowa)	USA (Iowa)	249
USA (Kansas)	USA (Kansas)	250
USA (Kentucky)	USA (Kentucky)	251
USA (Louisiana)	USA (Louisiana)	252
USA (Maine)	USA (Maine)	253
USA (Maryland)	USA (Maryland)	254
USA (Massachusetts)	USA (Massachusetts)	255
USA (Michigan)	USA (Michigan)	256
USA (Minnesota)	USA (Minnesota)	257
USA (Mississippi)	USA (Mississippi)	258
USA (Missouri)	USA (Missouri)	259
USA (Montana)	USA (Montana)	260
USA (Nebraska)	USA (Nebraska)	261
USA (Nevada)	USA (Nevada)	262
USA (New Hampshire)	USA (New Hampshire)	263
USA (New Jersey)	USA (New Jersey)	264
USA (New Mexico)	USA (New Mexico)	265
USA (New York)	USA (New York)	266
USA (North Carolina)	USA (North Carolina)	267
USA (North Dakota)	USA (North Dakota)	268
USA (Ohio)	USA (Ohio)	269
USA (Oklahoma)	USA (Oklahoma)	270
USA (Oregon)	USA (Oregon)	271
USA (Pennsylvania)	USA (Pennsylvania)	272
USA (Rhode Island)	USA (Rhode Island)	273
USA (South Carolina)	USA (South Carolina)	274
USA (South Dakota)	USA (South Dakota)	275
USA (Tennessee)	USA (Tennessee)	276
USA (Texas)	USA (Texas)	277
USA (Utah)	USA (Utah)	278
USA (Vermont)	USA (Vermont)	279
USA (Virginia)	USA (Virginia)	280
USA (Washington)	USA (Washington)	281
USA (West Virginia)	USA (West Virginia)	282
USA (Wisconsin)	USA (Wisconsin)	283
USA (Wyoming)	USA (Wyoming)	284
USA (Alaska)	USA (Alaska)	285
USA (Arizona)	USA (Arizona)	286
USA (California)	USA (California)	287
USA (Colorado)	USA (Colorado)	288
USA (Connecticut)	USA (Connecticut)	289
USA (Delaware)	USA (Delaware)	290
USA (Florida)	USA (Florida)	291
USA (Georgia)	USA (Georgia)	292
USA (Idaho)	USA (Idaho)	293
USA (Illinois)	USA (Illinois)	294
USA (Indiana)	USA (Indiana)	295
USA (Iowa)	USA (Iowa)	296
USA (Kansas)	USA (Kansas)	297
USA (Kentucky)	USA (Kentucky)	298
USA (Louisiana)	USA (Louisiana)	299
USA (Maine)	USA (Maine)	300
USA (Maryland)	USA (Maryland)	301
USA (Massachusetts)	USA (Massachusetts)	302
USA (Michigan)	USA (Michigan)	303
USA (Minnesota)	USA (Minnesota)	304
USA (Mississippi)	USA (Mississippi)	305
USA (Missouri)	USA (Missouri)	306
USA (Montana)	USA (Montana)	307
USA (Nebraska)	USA (Nebraska)	308
USA (Nevada)	USA (Nevada)	309
USA (New Hampshire)	USA (New Hampshire)	310
USA (New Jersey)	USA (New Jersey)	311
USA (New Mexico)	USA (New Mexico)	312
USA (New York)	USA (New York)	313
USA (North Carolina)	USA (North Carolina)	314
USA (North Dakota)	USA (North Dakota)	315
USA (Ohio)	USA (Ohio)	316
USA (Oklahoma)	USA (Oklahoma)	317
USA (Oregon)	USA (Oregon)	318
USA (Pennsylvania)	USA (Pennsylvania)	319
USA (Rhode Island)	USA (Rhode Island)	320
USA (South Carolina)	USA (South Carolina)	321
USA (South Dakota)	USA (South Dakota)	322
USA (Tennessee)	USA (Tennessee)	323
USA (Texas)	USA (Texas)	324
USA (Utah)	USA (Utah)	325
USA (Vermont)	USA (Vermont)	326
USA (Virginia)	USA (Virginia)	327
USA (Washington)	USA (Washington)	328
USA (West Virginia)	USA (West Virginia)	329
USA (Wisconsin)	USA (Wisconsin)	330
USA (Wyoming)	USA (Wyoming)	331
USA (Alaska)	USA (Alaska)	332
USA (Arizona)	USA (Arizona)	333
USA (California)	USA (California)	334
USA (Colorado)	USA (Colorado)	335
USA (Connecticut)	USA (Connecticut)	336
USA (Delaware)	USA (Delaware)	337
USA (Florida)	USA (Florida)	338
USA (Georgia)	USA (Georgia)	339
USA (Idaho)	USA (Idaho)	340
USA (Illinois)	USA (Illinois)	341
USA (Indiana)	USA (Indiana)	342
USA (Iowa)	USA (Iowa)	343
USA (Kansas)	USA (Kansas)	344
USA (Kentucky)	USA (Kentucky)	345
USA (Louisiana)	USA (Louisiana)	346
USA (Maine)	USA (Maine)	347
USA (Maryland)	USA (Maryland)	348
USA (Massachusetts)	USA (Massachusetts)	349
USA (Michigan)	USA (Michigan)	350
USA (Minnesota)	USA (Minnesota)	351
USA (Mississippi)	USA (Mississippi)	352
USA (Missouri)	USA (Missouri)	353
USA (Montana)	USA (Montana)	354
USA (Nebraska)	USA (Nebraska)	355
USA (Nevada)	USA (Nevada)	356
USA (New Hampshire)	USA (New Hampshire)	357
USA (New Jersey)	USA (New Jersey)	358
USA (New Mexico)	USA (New Mexico)	359
USA (New York)	USA (New York)	360
USA (North Carolina)	USA (North Carolina)	361
USA (North Dakota)	USA (North Dakota)	362
USA (Ohio)	USA (Ohio)	363
USA (Oklahoma)	USA (Oklahoma)	364
USA (Oregon)	USA (Oregon)	365
USA (Pennsylvania)	USA (Pennsylvania)	366
USA (Rhode Island)	USA (Rhode Island)	367
USA (South Carolina)	USA (South Carolina)	368
USA (South Dakota)	USA (South Dakota)	369
USA (Tennessee)	USA (Tennessee)	370
USA (Texas)	USA (Texas)	371
USA (Utah)	USA (Utah)	372
USA (Vermont)	USA (Vermont)	373
USA (Virginia)	USA (Virginia)	374
USA (Washington)	USA (Washington)	375
USA (West Virginia)	USA (West Virginia)	376
USA (Wisconsin)	USA (Wisconsin)	377
USA (Wyoming)	USA (Wyoming)	378
USA (Alaska)	USA (Alaska)	379
USA (Arizona)	USA (Arizona)	380
USA (California)	USA (California)	381
USA (Colorado)	USA (Colorado)	382
USA (Connecticut)	USA (Connecticut)	383
USA (Delaware)	USA (Delaware)	384
USA (Florida)	USA (Florida)	385
USA (Georgia)	USA (Georgia)	386
USA (Idaho)	USA (Idaho)	387
USA (Illinois)	USA (Illinois)	388
USA (Indiana)	USA (Indiana)	389
USA (Iowa)	USA (Iowa)	390
USA (Kansas)	USA (Kansas)	391
USA (Kentucky)	USA (Kentucky)	392
USA (Louisiana)	USA (Louisiana)	393
USA (Maine)	USA (Maine)	394
USA (Maryland)	USA (Maryland)	395
USA (Massachusetts)	USA (Massachusetts)	396
USA (Michigan)	USA (Michigan)	397
USA (Minnesota)	USA (Minnesota)	398
USA (Mississippi)	USA (Mississippi)	399
USA (Missouri)	USA (Missouri)	400
USA (Montana)	USA (Montana)	401
USA (Nebraska)	USA (Nebraska)	402
USA (Nevada)	USA (Nevada)	403
USA (New Hampshire)	USA (New Hampshire)	404
USA (New Jersey)	USA (New Jersey)	405
USA (New Mexico)	USA (New Mexico)	406
USA (New York)	USA (New York)	407
USA (North Carolina)	USA (North Carolina)	408
USA (North Dakota)	USA (North Dakota)	409
USA (Ohio)	USA (Ohio)	410
USA (Oklahoma)	USA (Oklahoma)	411
USA (Oregon)	USA (Oregon)	412
USA (Pennsylvania)	USA (Pennsylvania)	413
USA (Rhode Island)	USA (Rhode Island)	414
USA (South Carolina)	USA (South Carolina)	415
USA (South Dakota)	USA (South Dakota)	416
USA (Tennessee)	USA (Tennessee)	417
USA (Texas)	USA (Texas)	418
USA (Utah)	USA (Utah)	419
USA (Vermont)	USA (Vermont)	420
USA (Virginia)	USA (Virginia)	421
USA (Washington)	USA (Washington)	422
USA (West Virginia)	USA (West Virginia)	423
USA (Wisconsin)	USA (Wisconsin)	424
USA (Wyoming)	USA (Wyoming)	425
USA (Alaska)	USA (Alaska)	426
USA (Arizona)	USA (Arizona)	427
USA (California)	USA (California)	428
USA (Colorado)	USA (Colorado)	429
USA (Connecticut)	USA (Connecticut)	430
USA (Delaware)	USA (Delaware)	431
USA (Florida)	USA (Florida)	432
USA (Georgia)	USA (Georgia)	433
USA (Idaho)	USA (Idaho)	434
USA (Illinois)	USA (Illinois)	435
USA (Indiana)	USA (Indiana)	436
USA (Iowa)	USA (Iowa)	437
USA (Kansas)	USA (Kansas)	438
USA (Kentucky)	USA (Kentucky)	439
USA (Louisiana)	USA (Louisiana)	440
USA (Maine)	USA (Maine)	441
USA (Maryland)	USA (Maryland)	442
USA (Massachusetts)	USA (Massachusetts)	443
USA (Michigan)	USA (Michigan)	444
USA (Minnesota)	USA (Minnesota)	445
USA (Mississippi)	USA (Mississippi)	446
USA (Missouri)	USA (Missouri)	447
USA (Montana)	USA (Montana)	448
USA (Nebraska)	USA (Nebraska)	449
USA (Nevada)	USA (Nevada)	450
USA (New Hampshire)	USA (New Hampshire)	451
USA (New Jersey)	USA (New Jersey)	452
USA (New Mexico)	USA (New Mexico)	453
USA (New York)	USA (New York)	454
USA (North Carolina)	USA (North Carolina)	455
USA (North Dakota)	USA (North Dakota)	456
USA (Ohio)	USA (Ohio)	457
USA (Oklahoma)	USA (Oklahoma)	458
USA (Oregon)	USA (Oregon)	459
USA (Pennsylvania)	USA (Pennsylvania)	460
USA (Rhode Island)	USA (Rhode Island)	461
USA (South Carolina)	USA (South Carolina)	462
USA (South Dakota)	USA (South Dakota)	463
USA (Tennessee)	USA (Tennessee)	464
USA (Texas)	USA (Texas)	465
USA (Utah)	USA (Utah)	466
USA (Vermont)	USA (Vermont)	467
USA (Virginia)	USA (Virginia)	468
USA (Washington)	USA (Washington)	469
USA (West Virginia)	USA (West Virginia)	470
USA (Wisconsin)	USA (Wisconsin)	471
USA (Wyoming)	USA (Wyoming)	472
USA (Alaska)	USA (Alaska)	473
USA (Arizona)	USA (Arizona)	474
USA (California)	USA (California)	475
USA (Colorado)	USA (Colorado)	476
USA (Connecticut)	USA (Connecticut)	477
USA (Delaware)	USA (Delaware)	478
USA (Florida)	USA (Florida)	479
USA (Georgia)	USA (Georgia)	480
USA (Idaho)	USA (Idaho)	481
USA (Illinois)	USA (Illinois)	482
USA (Indiana)	USA (Indiana)	483
USA (Iowa)	USA (Iowa)	484
USA (Kansas)	USA (Kansas)	485
USA (Kentucky)	USA (Kentucky)	486
USA (Louisiana)	USA (Louisiana)	487
USA (Maine)	USA (Maine)	488
USA (Maryland)	USA (Maryland)	489
USA (Massachusetts)	USA (Massachusetts)	490
USA (Michigan)	USA (Michigan)	491
USA (Minnesota)	USA (Minnesota)	492
USA (Mississippi)	USA (Mississippi)	493
USA (Missouri)	USA (Missouri)	494
USA (Montana)	USA (Montana)	495
USA (Nebraska)	USA (Nebraska)	496
USA (Nevada)	USA (Nevada)	497
USA (New Hampshire)	USA (New Hampshire)	498
USA (New Jersey)	USA (New Jersey)	499
USA (New Mexico)	USA (New Mexico)	500
USA (New York)	USA (New York)	501
USA (North Carolina)	USA (North Carolina)	502
USA (North Dakota)	USA (North Dakota)	503
USA (Ohio)	USA (Ohio)	504
USA (Oklahoma)	USA (Oklahoma)	505
USA (Oregon)	USA (Oregon)	506
USA (Pennsylvania)	USA (Pennsylvania)	507
USA (Rhode Island)	USA (Rhode Island)	508
USA (South Carolina)	USA (South Carolina)	509
USA (South Dakota)	USA (South Dakota)	510
USA (Tennessee)	USA (Tennessee)	511
USA (Texas)	USA (Texas)	512
USA (Utah)	USA (Utah)	513
USA (Vermont)	USA (Vermont)	514
USA (Virginia)	USA (Virginia)	515
USA (Washington)	USA (Washington)	516
USA (West Virginia)	USA (West Virginia)	517
USA (Wisconsin)	USA (Wisconsin)	518
USA (Wyoming)	USA (Wyoming)	519
USA (Alaska)	USA (Alaska)	520
USA (Arizona)	USA (Arizona)	521
USA (California)	USA (California)	522
USA (Colorado)	USA (Colorado)	523
USA (Connecticut)	USA (Connecticut)	524
USA (Delaware)	USA (Delaware)	525
USA (Florida)	USA (Florida)	526
USA (Georgia)	USA (Georgia)	527
USA (Idaho)	USA (Idaho)	528
USA (Illinois)	USA (Illinois)	529
USA (Indiana)	USA (Indiana)	530
USA (Iowa)	USA (Iowa)	531
USA (Kansas)	USA (Kansas)	532

## ALPHABETICAL INDEX

Country	Companies	Page
ALBANIA	Arvis • GMSC	127
ALGERIA	Art Med	127
ANDORRA	Tekvimo	127
ANGOLA	JLE - J. Lemos Esteves	127
ARGENTINA	Alcon Glass • Casa Figini • Gil Barbara Oficina Comercial Voilap – Sudamérica	127
AUSTRALIA	A+W Software Australia • Alumach Glasscorp Australia • Lisec Australia • Overseas Glass Agencies	127
AUSTRIA	Füldner Machines • K&K ProVitrum • Lechner • Modeco Global	127
BAHRAIN	Gulf Star Enterprise • Iba Middle East	127
BELARUS	Glasspro • Idelis • YTA Company (Yuta)	127
BELGIUM	Füldner Machines • GKService • Pieterman Glastechnik	127-128
BOLIVIA	Glasstools de Colombia • Hecmaq Oficina Comercial Voilap – Sudamérica • Osamu	128
BOSNIA AND HERZEGOVINA	Glasmik	128
BRAZIL	Bottero Do Brasil • Euro Work Solucoes Para Vidro • Italogec Maquinas Keraglass South America do Brasil • Muniz Representacoes	128
BULGARIA	Glasmik • GMSC • GMT Bulgaria	128
CAMBODIA	Bottero Glass Industry. • Eurotechcorp	128
CANADA	Drolet Equipement • Forel Canada	128
CAPE VERDE	JLE - J. Lemos Esteves	128
CHILE	Decristal • Oficina Comercial Voilap – Sudamérica	128
CHINA	Bottero Glass Industry • Linkeast International Trading • Lisec Shanghai Trading • Shenyang Helios Tech.	128-129
COLOMBIA	Cigtra • Glasstools de Colombia • Protech Colombia • Solvitec	129
CROATIA	Glasmik	129
CYPRUS	A. Jacovides • Corptrade Cyprus • Grand Minator Promotions	129
CZECH REPUBLIC	Impra • Teknika	129
DENMARK	DMT Diamant & Maskin-Teknik • Glas x Glasteknik • Lasitekno	129
ECUADOR	Cigtra • Protech Colombia	129
EGYPT	Corptrade Egypt	129
ESTONIA	EstoneGlass • Idelis	129
FINLAND	Glasspro • Lasitekno • Projecta Group	129-130
FRANCE	A+W Software France • Bottero France • Cms France • Covadis CVMI Sarl • Edgetech Southern Europe / Mr. Fabrice Keller • Hegla France • Technis	130
GERMANY	Bottero • Forel North Europe • Füldner Machines Glastechnik Holger Kramp • Hegla Maschinenbau • Lechner • Lisec Deutschland • Modeco Global	130
GREECE	DG Tech George Dikaïos • iGlass Prisma • Kalliosis Bros • Stefanos Themelis	130
GUINEA BISSAU	JLE - J. Lemos Esteves	130
HONG KONG - CHINA	Helios Quartz Asia	130

# Sales Network SUPPLIERS GUIDE

Country	Companies	Page
HUNGARY	Imroglass Srl • K&K ProVitrum	131
ICELAND	Per Mordt	131
INDIA	Hegla Trading & Service • Saugaat • Thorngate Sales	131
INDONESIA	Ebcotech Machinery • Eurotechcorp	131
IRAN	Theral	131
IRELAND	Edgetech UK • P.A.L. Glass Machinery • Peter Hawkins	131
ITALY	Fabio Zucal • Lisec Solutions Italy • Stratos Service • Tecno Glass Tecnovati Com	131
JAPAN	Correns Corporation • TGM - Tokyo Glass Materials	131
JORDAN	Matari House • Theral	131
KOSOVO	Glasmik • GMSC	131
KUWAIT	Iba Middle East • Theral	132
KYRGYZSTAN	Glass Team	132
LATVIA	EstoneGlass • Idelis	132
LEBANON	Corptrade • Theral	132
LIBYA	Art Med	132
LITHUANIA	Glasspro • Idelis	132
LUXEMBOURG	Füldner Machines • GKService	132
MACEDONIA	Glasmik • GMSC	132
MALAYSIA	Ebcotech Machinery • Eurotechcorp	132
MEXICO	A+W Software Latin America • Certech Impianti De México • Glassamerica Marbolz Vetrostile • Mavhisa • Proviglass	132
MOLDAVIA	Imroglass	133
MONTENEGRO	Glasmik • GMSC	133
MOROCCO	Art Med	133
MOZAMBIQUE - AFRICA	JLE - J. Lemos Esteves	133
NAMIBIA	FG Trading (Fraser Global Trading)	133
NEW ZEALAND	Glasscor • Overseas Glass Agencies	133
NORWAY	Glasspro • Lasitekno • Per Mordt	133
OMAN	Gulf Star Enterprise • Iba Middle East	133
PANAMA	Protech Colombia	133
PARAGUAY	Oficina Comercial Voilap - Cono Sur Sudamérica	133
PERU	Hecmaq • Osamu	133
PHILIPPINES	Eurotechcorp • Janco-Phil Impex Trading	133
POLAND	A+W Software Polska • GlassMak • Hegla Polska • Italpol • Lisec Polska • MCS Techno • Q-Glasstech	133-134
PORTUGAL	Appglass • CMV Unipessoal HM Glass Unipessoal • JLE - J. Lemos Esteves • Mavetro • Solutec Glass • Tekvimo	134
QATAR	Gulf Star Enterprise • Iba Middle East	134
REP. OF SOUTH AFRICA	Adaeze Trading - Forel Africa • FG Trading (Fraser Global Trading) • Glass Design	134
ROMANIA	AMN Moldova • Imroglass • Ortosil	134

# SUPPLIERS GUIDE Sales Network

Country	Companies	Page
RUSSIA	KPD Techno • YTA Company (Yuta)	134
SAUDI ARABIA	Corpotrade Jeddah • Corpotrade Saudia • Iba Middle East • Matari House • Theral Sprl	134-135
SERBIA	Glasmik • Mab Export	135
SINGAPORE	Ebcotech Machinery • Eurotechcorp • Hegla Trading & Service - Far East Branch Office	135
SLOVAKIA	Impra • Italconma Slovakia	135
SLOVENIA	Glasmik • Mab Export	135
SOUTH KOREA	Advanced Material Resource • YKC - Young Kyung	135
SPAIN	Adetec - Grupo Ada Distribuciones • Appglass • Castro Glass • Glasstek Suministros • Jaloglass - Castilla - La Mancha - Leon • Maquiglass • NTPS Glass - Grupo Ada Distribuciones • R. Meyer Satecris Encabo - Grupo Ada Distribuciones • Solutech Glass Suvisur - Andalusia - Extremadura • Tecnicglass - Grupo Ada Distribuciones • Tekvimo	1351-136
SRI LANKA	Janco-Phil Impex Trading	136
SWEDEN	A+W Software Sweden • DMT Diamant & Maskin-Teknik • Edgetech Northern Europe - Sinchrijo Agenturer • Glas x Glasteknik • Glasspro Lasitekno • Per Mordt	136
SWITZERLAND	Lechner • Modeco Global	136
SYRIA	Corpotrade Syria • Matari House	136
TAIWAN	Bottero Glass Industry • CY Hank Industrial Use • Electronics	136
THAILAND	Bottero Glass Industry • Eurotechcorp • Jeenny Trading • Leo-Tech Motech Machinery Service • Use Electronics	136
THE NETHERLANDS	Füldner Machines • GKService • Pieterman Glastechniek • Tecfort	137
TUNISIA	Art Med	137
TURKEY	As Cam Design - Glass Machinery • Concept Solutions • FGI - Flat Glass International First Glass • Glass Exper - Selcuk Genc • Helios Quartz Turkey • Sorglas YGM Makina	137
TURKMENISTAN	Glass Team	137
UAE - UNITED ARAB EMIRATES	Corpotrade • Gulf Star Enterprise Hegla Trading & Service • Iba Middle East Lisec • Middle East • Theral	137
UKRAINE	Glasspro • Idelis • YTA Company (Yuta)	137-138
UNITED KINGDOM	A+W Software UK - Hillier Hopkins • Bottero UK • Edgetech UK Forel UK & Ireland • GMS - Glass Machinery Solutions • HEGLA Machinery UK • P.A.L. Glass Machinery • Peter Hawkins • Stone & Glass Group	138
URUGUAY	Oficina Comercial Voilap - Cono Sur Sudamérica	138
USA	A+W Software USA - Vela US Holdco • Bottero Flat Glass • Bovone North America • CMS North America • De Gorter • Forel North America • Hegla USA • Helios Quartz America • Keraglass USA • Lattuada North America • Lisec America • Mappi America • Matodi • Optris Infrared Sensing • Quanex IG Systems	138-139
UZBEKISTAN	Glass Team	139
VENEZUELA	Cigtra • Protech Colombia	139
VIETNAM	Eurotechcorp • Gia Thinh Phat Industry Machinery & Technic Services Group • NBH Industries • NINH Service & Trading Division - Hoang Son	139
YEMEN	Iba Middle East	139



## ALBANIA

### ARVIS SH. P. K.

Lagja N° 4, Rruga Skenderbej  
2001-2009 Durrës

#### Albania

Tel.: +355-684097550  
E-mail: islam.isufaj@arvis.al  
www.arvis.al

**Agent for: Forel**

### GMSC LTD

Rruga Driton Islami P.N  
70000 Ferizaj  
Albania  
E-mail: rks.gmsc@gmail.com

**Agent for: Keraglass**

## ALGERIA

### ART MED SRL

15, Rue Sadok Tebourski  
2073 Borj Louzir, Ariana - Tunisia

#### Algeria

E-mail: artmed.tn@gmail.com

**Agent for: Keraglass, Schiatti**

## ANDORRA

### TEKVIMO

Avda Diagonal, 534, 1º-1ª  
08006 Barcelona - Spain

#### Andorra

E-mail: jacinto.mora@tekvimo.es

**Agent for: Edgetech**

## ANGOLA

### JLE - J. LEMOS ESTEVES LDA

Rua Soprem - Estacao Apartado 79  
2430-132 Marinha Grande - Portugal

#### Angola

E-mail: info@jlemosestev.es.pt

**Agent for: Adelio Lattuada**

## ARGENTINA

### ALCON GLASS

Cafferata 2948  
2000 Rosario - Santa Fe

#### Argentina

Tel.: +54-341 7922337  
E-mail:alcon@alcon-glass.com.ar  
www.alcon-glass.com.ar

**Agent for: Schiatti**

### CASA FIGINI

J. A. Cabrera 3183  
C.P.1186 - Buenos Aires - CAP. FED.

#### Argentina

Tel.: +54-11-49619027  
E-mail: info@casafigini.com  
www.casafigini.com

**Agent for: Forel**

### GIL BARBARA SRL

Libertad 4362  
1604 Florida - Prov. Buenos Aires

#### Argentina

Tel.: +54-11-47618700  
E-mail: diego@gilbarbara.com.ar  
www.gilbarbara.com.ar

**Agent for: Bovone**

### OFICINA COMERCIAL VOILÀP - CONO SUR SUDAMÉRICA

Bureau Leloir - Pte. Peron 8725/31  
Edif.3 Of.22  
1714 - Ituzaingo - Buenos Aires

#### Argentina

Tel.: +54-9117000-1023  
E-mail: joliva@voilap.com  
www.voilapholding.com

**Agent for: Keraglass**

## AUSTRALIA

### A+W SOFTWARE AUSTRALIA

Level 1 - 37 Brandl Street  
Eight Mile Plains QLD4113

#### Australia

www.a-w.com

**Agent for: A+W Software**

### ALUMACH PTY LTD

42 Goodyear Drive  
Thomastown VIC 3074

#### Australia

Tel.: +61-3-9846 2790  
E-mail: sales@alumach.com  
alumach.com

**Agent for: Keraglass**

### GLASSCORP AUSTRALIA LTD.

89 Letcon Drive  
Dandenong South - Victoria 3175

#### Australia

Tel.: +61-420 818 958  
E-mail: tim@glasscorpastralia.com  
glasscorpastralia.com.au/

**Agent for: Edgetech, Schiatti**

### LISEC AUSTRALIA PTY LIMITED

78-81/23 Narabang Way  
2085 Belrose NSW

#### Australia

Tel.: +61-2-94858900  
E-mail: sales-australia@lisc.com  
www.lisc.com

**Agent for: lisc**

### OVERSEAS GLASS AGENCIES

138-140 Malcom Road  
Braeside VIC 3195

#### Australia

Tel.: +61-3-95872488  
E-mail: enquires@oga.com.au  
www.oga.com.au

**Agent for: Adelio Lattuada, Forel,  
Mappi International**

## AUSTRIA

### FÜLDNER MACHINES BV

Wijngaardsweg 20  
6412 PJ Heerlen

#### Austria

E-mail: info@fuldner.nl

**Agent for: Adelio Lattuada,  
Mappi International**

### K&K PROVITRUM GMBH

Färberstraße 8  
2540 Bad Vöslau

#### Austria

Tel.: +43-2252-25121412  
E-mail: harald.kraus@kkprovitrurn.at  
www.kkprovitrurn.at

**Agent for: Schiatti**

### LECHNER SRL

Piazza della Libertà, 7/15  
Arquata Scrivia - Italy

#### Austria

E-mail: lechner@lechner-srl.com

**Agent for: Mazzaroppi Engineering**

### MODECO GLOBAL

An Den Glaswerken 1  
52134 Herzogenrath

#### Austria

E-mail: info@modecoglobal.de  
www.modecoglobal.de

**Agent for: Keraglass, Neptun**

## BAHRAIN

### GULF STAR ENTERPRISE

P.O. BOX 8545  
SAIF Zone  
SHARJAH, Q4-296 - UAE

#### Bahrain

E-mail: info@gulfstarintl.com

**Agent for: Schiatti**

### IBA MIDDLE EAST FZE

PO BOX 261193  
Jebel Ali - Dubai - UAE

#### Bahrain

E-mail: sudip@iba-me.com

**Agent for: Keraglass**

## BELARUS

### GLASSPRO UAB

Lakunu g. 3a - 09108 Vilnius

#### Belarus

E-mail: glasspro@glasspro.lt

**Agent for: Mappi International**

### IDELIS UAB

Pelesos Str. 3  
02115 Vilnius - Lithuania

#### Belarus

E-mail: info@idelis.lt

**Agent for: Forel, Keraglass**

### YTA COMPANY (YUTA)

4th Street, Trunk 5, p. 1  
123007, Moscow

#### Belarus

E-mail: info@yta.ru  
www.yta.ru

**Agent for: Neptun**

## BELGIUM

### FÜLDNER MACHINES BV

Wijngaardsweg 20  
6412 PJ Heerlen

#### Belgium

E-mail: info@fuldner.nl

**Agent for: Adelio Lattuada,  
Mappi International**

## GKSERVICE

Hortstraat 15  
3520 Zonhoven

**Belgium**

Tel.: +32-479588591  
E-mail: bertgoris@gkservice.be  
www.gkservice.be

**Agent for: Keraglass**

## PIETERMAN GLASTECHNIEK NV - BELGIUM

Industrieweg 111  
3583 Paal-Beringen

**Belgium**

Tel.: +32-11-421775  
E-mail: info@pgv-be.com  
www.piemerman-glastechniek.be

**Agent for: Bovone**

## BOLIVIA

### GLASSTOOLS DE COLOMBIA LTDA

Carrera 65 No. 94-14  
111121 Bogotá DC

**Bolivia**

E-mail: cam.glasstools@gmail.com

**Agent for: Mappi International**

### HECMAQ SAC

Calle Carlos Mellet 929  
Chorrillos - Lima 09 - Perú

**Bolivia**

E-mail: hecmaq@hecmaq.com

**Agent for: Schiatti**

### OFICINA COMERCIAL VOILÀP - CONO SUR SUDAMÉRICA

Bureau Leloir - Pte. Peron 8725/31  
Edif.3 Of.22

1714 - Ituzaingo - Buenos Aires

**Bolivia**

E-mail: joliva@voilap.com

**Agent for: Keraglass**

### OSAMU EIRL

Merino 195  
San Isidro - Lima 27 - Perú

**Bolivia**

E-mail: osamukihara@hotmail.com

**Agent for: Forel**

## BOSNIA AND HERZEGOVINA

### GLSMIK DOO

Ulica Lavznik 9 - Vrtojba  
5290 Sempeter pri Gorici - Slovenia

**Bosnia and Herzegovina**

**Agent for: Forel, Mappi International,  
Schiatti**

## BRAZIL

### BOTTERO DO BRASIL

Rua George Rexroth, 609 Bi.f Cj.01

Jd. Padre Anchieta  
09951-270 Diadema - Sao Paulo

**Brazil**

Tel.: +55-11-40723031  
E-mail: sales.br@bottero.com  
www.bottero.com

**Agent for: Bottero**

### EURO WORK SOLUCOES PARA VIDRO

Eng. Julio Seabra Ingles De Souza, 143  
Itupeva - SP

**Brazil**

Tel.: +55-11-987311427  
E-mail: contato@eurowork.com.br  
eurowork.com.br/

**Agent for: Adelio Lattuada**

### ITALOTEC MAQUINAS

Rua Conde de Barca 19  
02840-080 Freguesia do O' - São Paulo

**Brazil**

Tel.: +55-11-30170930  
E-mail: vendas@italotec.com.br

**Agent for: Mappi International, Schiatti**

### KERAGLASS SOUTH AMERICA DO BRASIL LTDA

Av.Salgado Filho, 252, sala 612, centro  
12655 Guarulhos - SP

**Brazil**

Tel.: +55-11-954407000  
E-mail: southamerica@keraglass.com  
www.keraglass.com

**Agent for: Keraglass**

### MUNIZ REPRESENTACOES

Rua Quixeramobim, 15  
Bairro: Pq Uirapuru  
07230-440 - Guarulhos - Sp

**Brazil**

Tel.: +55-119-64385588  
E-mail: genilson@munizrepresentacoes.com.br

**Agent for: Forel**

## BULGARIA

### GLSMIK DOO

Ulica Lavznik 9  
Vrtojba  
5290 Sempeter pri Gorici - Slovenia

**Bulgaria**

**Agent for: Forel, Mappi International,  
Schiatti**

### GMSC LTD

Rruga Driton Islami P.N  
70000 Ferizaj  
**Bulgaria**

E-mail: rks.gmsc@gmail.com

**Agent for: Keraglass**

### GMT-BULGARIA LTD.

1 Kazanluk Str.  
7200 Razgrad  
**Bulgaria**

Tel.: +359-84-660771  
E-mail: gmf\_bulgaria@glassbg.com

glassbg.eu

**Agent for: Neptun**

## CAMBODIA

### BOTTERO GLASS INDUSTRY CO. LTD.

Huaxu Road, Block.568, Room 501  
20170 Qingpu District, Shanghai - China

**Cambodia**

E-mail: sales.cn@bottero.com

**Agent for: Bottero**

### EUROTECHCORP

No 192/8 Tam Trinh Street  
Yen so Ward, Hoang Mai District  
Hanoi City - Vietnam

**Cambodia**

E-mail: eurotechline@gmail.com

**Agent for: Mappi International**

## CANADA

### DROLET EQUIPEMENT

2665 Terra Jet  
St-Cyrille-De-Wendover - Qc J17 1b3

**Canada**

Tel.: +1-819-4742149  
E-mail: webinfo@drolet-equipementcnc.com

www.drolet-equipementcnc.com

**Agent for: Keraglass**

### FOREL CANADA

400 Creditstone Road, Suite 11A  
Vaughan, ON L4K 3Z3

**Canada**

Tel.: +1-647-5326193  
E-mail: owen.allen@na.forelspa.com

www.forelspa.com

**Agent for: Forel**

## CAPE VERDE

### JLE - J. LEMOS ESTEVES LDA

Rua Soprem - Estacao Apartado 79  
2430-132 Marinha Grande - Portugal

**Cape Verde**

E-mail: info@jlemosestev.es.pt

**Agent for: Adelio Lattuada**

## CHILE

### DECRISTAL S.A.

Dr. Manuel Barros Borgoño 160 - Of.102  
7500000 Providencia - Santiago

**Chile**

Tel.: +56-2-3342914

www.decristal.cl

**Agent for: Forel**

### OFICINA COMERCIAL VOILÀP - CONO SUR SUDAMÉRICA

Bureau Leloir - Pte. Peron 8725/31  
Edif.3 Of.22

1714 - Ituzaingo - Buenos Aires

**Chile**

E-mail: joliva@voilap.com

**Agent for: Keraglass**

## CHINA

### BOTTERO GLASS INDUSTRY CO. LTD.

Huaxu Road, Block.568, Room 501

201700 Qingpu District, Shanghai  
**China**  
 Tel.: +86-21-64274666  
 E-mail: sales.cn@bottero.com  
**www.bottero.com**  
**Agent for: Bottero**

## LINKEAST INTERNATIONAL TRADING CO. LTD.

Room 923 Bldg. 1 - Jinxiang Road  
 Shanghai  
**China**  
 Tel.: +86-1864 0258 988  
 E-mail: daniel.zhang@linkeast.com.cn  
**Agent for: Edgetech**

## LISEC SHANGHAI TRADING CO. LTD

Room 301 Building 2, Gang'ao Road  
 ChinaPilot Free Trade Zone  
 201799 Shanghai  
**China**  
 Tel.: +86-21-60303080  
 E-mail: office.cn@lisc.com  
**www.lisc.com**  
**Agent for: lisc**

## SHENYANG HELIOS TECH. CO. LTD

Building A, 1506 Midland Tower. No.208  
 Changjiang S.St.  
 Huanggu District, Shenyang  
**China**  
 Tel.: +86-24-31653319  
 E-mail: china@heliosquartz.com  
**www.heliosquartz.com**  
**Agent for: Helios Quartz Group**

## COLOMBIA

### CIGTRA

Calle 15 No. 68D78  
 Bogota - **Colombia**  
 Tel.: +57-1-4122573  
 E-mail: emorenoa@cigtra.com  
**Agent for: Neptun**

## GLASSTOOLS DE COLOMBIA LTDA

Carrera 65 No. 94-14  
 111121 Bogotá DC  
**Colombia**  
 Tel.: +57-1-6417300  
 E-mail: cam.glasstools@gmail.com  
**www.glasstools.com.co**  
**Agent for: Adelio Lattuada, Mappi International**

## PROTECH COLOMBIA

Cr. 62 no.74-61 ap.14  
 Baranquilla  
**Colombia**  
 Tel.: +57-301-5412688  
 E-mail: paocol@hotmail.it  
**Agent for: Keraglass**

## SOLVITEC SAS

Parque Industrial CELTA KM 7 autopista  
 bogota-medellin, bodega 15-3  
 Funza - **Colombia**  
 Tel.: +57-1-7431469  
 E-mail: comercial@solvitec.com.co  
**www.solvitec.com.co/**  
**Agent for: Schiatti**

## CROATIA

### GLASMIK DOO

Ulica Lavznik 9  
 Vrtojba  
 5290 Sempeter pri Gorici - Slovenia  
**Croatia**  
**Agent for: Forel, Mappi International, Schiatti**

## CYPRUS

### A. JACOVIDES LTD

9 Invrou Street  
 Latsia Industrial Area  
 2260 Latsia - Nicosia  
**Cyprus**  
 Tel.: +357-22-866300  
 E-mail: sales@ajacovides.com  
**www.ajacovides.com**  
**Agent for: Neptun**

### CORPOTRADE CYPRUS LTD.

PO Box 42687  
 6501 Larnaca  
**Cyprus**  
 Tel.: +357-24-822833  
 E-mail: charlesmaalouf@corptrade.com  
**www.corptrade.com**  
**Agent for: A+W Software, Bovone**

### GRAND MINATOR PROMOTIONS LTD

Ermou 8  
 5280 Paralimni  
**Cyprus**  
 Tel.: +357-99621041  
 E-mail: manager@grandminator.com  
**www.grandminator.com**  
**Agent for: Adelio Lattuada, Forel, Keraglass**

## CZECH REPUBLIC

### IMPRA SPOL SRO

Reinerova 710/21  
 16300 Praha 6 - Repy  
**Czech Republic**  
 Tel.: +420-2-35301504  
 E-mail: info@impra.cz  
**www.impra.cz**  
**Agent for: Schiatti**

### TEKNIKA

Jirankova 329/31  
 618 00 Brno  
**Czech Republic**  
 E-mail: zmeskal@teknika-cz.cz  
**www.teknika-cz.cz**  
**Agent for: Bovone, Mappi International**

## DENMARK

### DMT DIAMANT & MASKIN-TEKNIK APS

Merkurvej 2B  
 7430 - Ikast  
**Denmark**  
 Tel.: +45-28512820  
 E-mail: kontor@dm-t.dk  
**http://dm-t.dk**  
**Agent for: Bovone, Mappi International**

## GLAS X GLASTEKNIK

Hulvejen 13  
 7500 Holstebro  
**Denmark**  
 Tel.: +45-28921201  
 E-mail: glasx@live.dk  
**Agent for: Schiatti**

## LASITEKNO

Palomäentie 7A  
 33230 Tampere  
**Denmark**  
 E-mail: martti@lasitekno.com  
**www.lasitekno.com**  
**Agent for: Neptun**

## ECUADOR

### CIGTRA

Calle 15 No. 68D78  
 Bogota  
**Ecuador**  
 E-mail: emorenoa@cigtra.com  
**Agent for: Neptun**

## PROTECH COLOMBIA

Cr. 62 no.74-61 ap.14  
 Baranquilla - Colombia  
**Ecuador**  
 E-mail: paocol@hotmail.it  
**Agent for: Keraglass**

## EGYPT

### CORPOTRADE EGYPT

13 Ali Abd Elrazek Street  
 Heliopolis, Cairo  
**Egypt**  
 Tel.: +20-22-6243239  
 E-mail: egypt@corptrade.com  
**www.corptrade.com**  
**Agent for: A+W Software, Mappi International**

## ESTONIA

### ESTONEGLASS

Tähnase tee 2/2  
 Peetri, Rae vald  
 75312 Harjumaa  
**Estonia**  
 Tel.: +372-55-662662  
 E-mail: info@estoneglass.eu  
**https://estoneglass.ee**  
**Agent for: Adelio Lattuada, Mappi International, Neptun**

## IDELIS UAB

Pelesos Str. 3  
 02115 Vilnius - Lithuania  
**Estonia**  
 E-mail: info@idelis.lt  
**Agent for: Forel, Keraglass**

## FINLAND

### GLASSPRO UAB

Lakunu g. 3a  
 09108 Viinius  
**Finland**

E-mail: glasspro@glasspro.it  
**Agent for: Mappi International**

## LASITEKNO

Palomäentie 7A  
 33230 Tampere  
**Finland**  
 Tel.: +358-40-5182602  
 E-mail: martti@lasitekno.com  
<http://lasitekno.com>  
**Agent for: Neptun**

## PROJECTA GROUP

Lukkosepänkatu 14  
 20321 Turku  
**Finland**  
 Tel.: +358-20-77130  
 E-mail: info@projecta.fi  
[www.projecta.fi](http://www.projecta.fi)  
**Agent for: Adelio Lattuada, Keraglass**

## FRANCE

### A+W SOFTWARE FRANCE

62 Avenue des Frères Montgolfier  
 69740 Genas  
**France**  
 Tel.: +33-4-72236860  
[www.a-w.com](http://www.a-w.com)  
**Agent for: A+W Software**

### BOTTERO FRANCE

39 Rue du Moulin Paillasson  
 42300 Roanne  
**France**  
 Tel.: +800 941 438  
 E-mail: sales.fr@bottero.com  
**Agent for: Bottero**

### CMS FRANCE

Za La Verrerie  
 74290 Alex  
**France**  
 Tel.: +33-4-50028391  
 E-mail: commercial@cmsfr.fr  
[www.scmgroup.com/fr/cmssglass](http://www.scmgroup.com/fr/cmssglass)  
**Agent for: CMS Glass Technology**

### COVADIS SARL

295 Rue Du Trident  
 Za Via Domitia  
 34740 Vendargues  
**France**  
 Tel.: +33-4-67594066  
 E-mail: contact@covadis.eu  
[www.covadis.eu](http://www.covadis.eu)  
**Agent for: Edgetech, Schiatti**

### CVMI SARL

5 Chemin du Jubin  
 69570 Dardilly  
**France**  
 Tel.: +33-4-72163490  
 E-mail: cvmifrance@cvmifrance.com  
[www.cvmifrance.fr](http://www.cvmifrance.fr)  
**Agent for: Bovone, Mazaroppi Engineering**

**EDGETECH SOUTHERN EUROPE / MR. FABRICE KELLER**  
**France**

Tel.: +33-648 655 968  
 E-mail: f.keller@edgetech-europe.com  
**Agent for: Edgetech**

## HEGLA FRANCE S.A.R.L.

Zone les Terrasses de la Sarre  
 4 Terrasse Bretagne - 57400 Sarrebourg  
**France**  
 Tel.: +33-3-88910101  
 E-mail: hegla.france@heglafrance.com  
**Agent for: Hegla**

## TECHNIS SAS

ZI de la Vallière, Bat 11  
 06730 Saint André de la Roche  
**France**  
 Tel.: +33-4-93806469  
 E-mail: technis@orange.fr  
**Agent for: GPM Automation**

## GERMANY

### BOTTERO GMBH

Marie Curie Strasse 7  
 D-41515 Grevenbroich  
**Germany**  
 Tel.: +49-2181-81930  
 E-mail: sales.de@bottero.com  
**Agent for: Bottero**

### FOREL NORTH EUROPE

Nobelstrasse 3  
 41189 Mönchengladbach  
**Germany**  
 E-mail: sales@ne.forelspa.com  
[www.forelspa.com](http://www.forelspa.com)  
**Agent for: Forel**

### FÜLDNER MACHINES BV

Wijngaardsweg 20  
 6412 PJ Heerlen  
**Germany**  
 E-mail: info@fuldner.nl  
**Agent for: Adelio Lattuada, Mappi International**

### GLASTECHNIK HOLGER KRAMP GMBH

Albert-Einstein-Strasse 18  
 D-23617 Stockelsdorf  
**Germany**  
 Tel.: +49-451-499690  
 E-mail: info@glastechnik.com  
[www.glastechnik.com](http://www.glastechnik.com)  
**Agent for: Bovone**

### HEGLA MASCHINENBAU GMBH & CO.

Industriering 5  
 06712 Kretzschau  
**Germany**  
 Tel.: +49-34425-5010  
 E-mail: info@kretzschau.hegla.de  
[www.hegla.de](http://www.hegla.de)  
**Agent for: Hegla**

### LECHNER SRL

Piazza della Libertà, 7/15  
 Arquata Scrivia - Italy  
**Germany**  
 E-mail: lechner@lechner-srl.com  
**Agent for: Mazaroppi Engineering, Schiatti**

## LISEC DEUTSCHLAND GMBH

Osterholzstrasse 124  
 D-34123 Kassel  
**Germany**  
 Tel.: +49-561-570570  
 E-mail: info-deutschland@lisc.com  
[www.lisc.com](http://www.lisc.com)  
**Agent for: lisc**

## MODECO GLOBAL

An Den Glaswerken 1  
 52134 Herzogenrath  
**Germany**  
 Tel.: +49-2406-9878035  
 E-mail: info@modecoglobal.de  
[www.modecoglobal.de/](http://www.modecoglobal.de/)  
**Agent for: Keraglass, Neptun**

## GREECE

### DG TECH GEORGE DIKAIOS

6 Ipirou Street  
 14235 - Nea Ionia - Athens  
**Greece**  
 Tel.: 0030-210-8035751  
 E-mail: georgedikaios@dgtech.gr  
[www.dgtech.gr](http://www.dgtech.gr)  
**Agent for: Bovone**

### IGLASS PRISMA

Amisiana Kavalas  
 P. o. Box 1345  
 65403 Kavala  
**Greece**  
 Tel.: +30-2510-326124  
 E-mail: sales@prismaglass.gr  
[www.prismaglass.gr](http://www.prismaglass.gr)  
**Agent for: Keraglass**

### KALLIOSIS BROS CO.

1st km - Aridaia - Piperia  
 PO 58400 Aridea Pella  
**Greece**  
 Tel.: +30-238402338  
 E-mail: info@kalliosis.gr  
[www.kalliosis.gr](http://www.kalliosis.gr)  
**Agent for: Naptun**

### STEFANOS THEMELIS

141d. Sof. Venizelou Str.  
 15231 - Halandri - Athens  
**Greece**  
 Tel.: +30-213-0693067  
 E-mail: stefanos.themelis@gmail.com  
**Agent for: Mappi International, Schiatti**

## GUINEA BISSAU

### JLE - J. LEMOS ESTEVES LDA

Rua Soprem - Estacao Apartado 79  
 2430-132 Marinha Grande - Portugal  
**Guinea Bissau**  
 E-mail: info@jlemosestev.es.pt  
**Agent for: Adelio Lattuada**

## HONG KONG

### HELIOS QUARTZ ASIA LTD.

Suite 3401, 34/F., One Taikoo Place  
 979 King's Road - Quarry Bay,  
**Hong Kong**

## Hong Kong - China

Tel.: +852-132-38830625  
E-mail: asia@heliosquartz.com  
www.heliosquartz.com

Agent for: **Helios Quartz Group**

## HUNGARY

### IMROGLASS SRL

Str. Alexandru Ioan Cuza 50  
510193 Alba Iulia - Jud Alba - Romania

Hungary

E-mail: info@imroglass.ro

Agent for: **Forel, Mappi International**

### K&K PROVITRUM GMBH

Färberstraße 8  
2540 Bad Vöslau - Austria

Hungary

E-mail: info@kkprovitrum.at

Agent for: **Schiatti**

## ICELAND

### PER MORDT A/S

Oestensjoeveien 18  
0661 Oslo - Norway

Iceland

E-mail: post@permordt.no

Agent for: **Adelio Lattuada**

## INDIA

### HEGLA TRADING & SERVICE

44 Veerabadran Street - Nungambakkam  
600034 Chennai

India

Tel.: +91-80-56133113

E-mail: naresh.kumar@hegla.in

Agent for: **Hegla**

### SAUGAAT INC

9 kapote meher market, wadala naka  
422001 Nashik, Maharashtra

India

Tel.: +91-77385 87864

E-mail: saugaatinc@gmail.com

Agent for: **Edgetech**

### THORNGATE SALES

05-117, WeWork, Zenia Building,  
Hiranandani Circle, Hiranandani Business  
400607 Thane - Mumbai

India

Tel.: +91-7025-222888

E-mail: sales@thorngate.in

https://thorngate.in

Agent for: **Forel, Mappi International**

## INDONESIA

### EBCOTECH MACHINERY SDN BHD

No 1, Jalan Gangsa SD 5/3A  
Bandar Sri Damansara

52200 Kuala Lumpur

Indonesia

E-mail: info@ebco2u.com.my

www.ebcotech.com.my

Agent for: **Neptun**

### EUROTECHCORP

No 192/8 Tam Trinh Street  
Yen so Ward,

Hoang Mai District

Hanoi City - Vietnam

Indonesia

E-mail: eurotechline@gmail.com

Agent for: **Mappi International**

## IRAN

### THERAL SPRL

Rue Gatti de Gamond 174

1180 Bruxelles

Iran

E-mail: theral@skynet.be

Agent for: **Neptun**

## IRELAND

### EDGEtech UK

Stonebridge House, Rowley Drive  
Stonebridge Trading Estate

Coventry CV3 4FG

Ireland

E-mail: ukenquiries@edgetechig.com

Agent for: **Edgetech**

### P.A.L. GLASS MACHINERY LTD

33 Hornsby Square

Southfields Business Park

Basilidon Essex SS15 6SD - UK

Ireland

E-mail: sales@palmachinery.co.uk

Agent for: **Mappi International**

### PETER HAWKINS LTD.

Castle Lane

Melbourne Derbyshire DE73 8JB - UK

Ireland

E-mail: info@phawkins.co.uk

Agent for: **Schiatti**

## ITALY

### FABIO ZUCAL

Via Roma 3

22070 Bregnano (CO)

Italy

Tel.: +39-334-5956212

E-mail: zucal.hegla@vodafone.it

Agent for: **Hegla**

### LISEC SOLUTIONS ITALY SRL

Via E. Fermi 6

30020 Noventa di Piave (VE)

Italy

Tel.: +39-0422-794111

E-mail: info.solutions@lisc.com

www.lisc.com

Agent for: **lisc**

### STRATOS SERVICE SNC

Via Del Poz, 13,

33170 Pordenone (PD)

Italy

Tel.: +39-335-5363340

E-mail: fulvio.valeri@virgilio.it

Agent for: **Keraglass**

### TECNO GLASS SRL

Contrada Caldari Stazione 63/A  
66026 Ortona (CH)

Italy

Tel.: +39-085-9032165

E-mail: info@tecnoglass.it

www.tecnoglass.it

Agent for: **Keraglass**

### TECNOVATI COM S.R.L.

Via Pisana, 15

50028 Barberino Tavarnelle (FI)

Italy

Tel.: +39-055-5180018

E-mail: tecnovati@tecnovati.it

www.tecnovati.it

Agent for: **Mappi International**

## JAPAN

### CORRENS CORPORATION

1-8-7 Roppongi 1- Chome

MFRP Roppongi Azabudai building 3F

Minato-ku - Tokyo 106-0032

Japan

Tel.: +81-3-51140711

E-mail: sales@correns.co.jp

www.correns.co.jp

Agent for: **A+W Software, Bovone,**

**Edgetech**

### TGM CO. LTD - TOKYO GLASS MATERIALS

7F, Mast-Life Nishi-Shinbashi Bld. 3-6-10

Nishi-Shinbashi - Minato-ku, Tokyo

Japan

Tel.: +81-35 7336261

E-mail: hironaka@tgm-japan.com

www.tgm-japan.com

Agent for: **Forel, Mappi International,**

**Neptun**

## JORDAN

### MATARI HOUSE CO. LTD.

P.o. Box 51- Amman

Danhat-al-yarmouk

Jordan

Tel.: +962-6-610351

E-mail: mazinmatari@hotmail.com

Agent for: **Schiatti**

### THERAL SPRL

Rue Gatti de Gamond 174

1180 Bruxelles

Jordan

E-mail: theral@skynet.be

Agent for: **Neptun**

## KOSOVO

### GLASMIK DOO

Ulica Lavznik 9

Vrtojba

5290 Sempeter pri Gorici - Slovenia

Kosovo

Agent for: **Forel, Mappi International**

### GMSC LTD

Rruga Driton Islami P.N

70000 Ferizaj

## Kosovo

Tel.: +383 48 290 111  
E-mail: rks.gmsc@gmail.com  
www.gmsc.al

**Agent for: Keraglass**

## KUWAIT

### IBA MIDDLE EAST FZE

PO BOX 261193  
Jebel Ali  
Dubai - UAE  
**Kuwait**  
E-mail: sudip@iba-me.com  
**Keraglass**

### THERAL SPRL

Rue Gatti de Gamond 174  
1180 Bruxelles  
**Kuwait**  
E-mail: theral@skynet.be  
**Agent for: Neptun**

## KYRGYZSTAN

### GLASS TEAM

Leo Tolstoy Street, 36k/1, Office 701  
Bishkek  
**Kyrgyzstan**  
Tel.: +996-778 160 756  
E-mail: glassteam.kg@gmail.com  
**Agent for: Schiatti**

## LATVIA

### ESTONEGLASS

Tāhnase tee 2/2  
Peetri, Rae vald  
75312 Harjumaa  
**Latvia**  
E-mail: info@estoneglass.eu  
**Agent for: Mappi International**

### IDELIS UAB

Pelesos Str. 3  
02115 Vilnius - Lithuania  
**Latvia**  
E-mail: info@idelis.lt  
**Agent for: Forel, Keraglass**

## LEBANON

### CORPOTRADE S.A.R.L.

Land Bldg. facing Toyota - Body Shop  
2nd Floor, Mekalles, Industrial Area  
El Metn Area  
**Lebanon**  
Tel.: +961-1-685999  
E-mail: info@corpotrade.com  
www.corpotrade.com  
**Agent for: A+W Software,  
Mappi International**

### THERAL SPRL

Rue Gatti de Gamond 174  
1180 Bruxelles  
**Lebanon**  
E-mail: theral@skynet.be  
**Agent for: Neptun**

## LYBIA

### ART MED SRL

15, Rue Sadok Tebourski  
2073 Borj Louzir, Ariana - Tunisia  
**Libya**  
E-mail: artmed.tn@gmail.com  
**Agent for: Keraglass**

## LITHUANIA

### GLASSPRO UAB

Lakunu g. 3a  
09108 Vilnius  
**Lithuania**  
Tel.: +370-8-5-2778314  
E-mail: glasspro@glasspro.lt  
www.glasspro.lt  
**Agent for: Adelio Lattuada,  
Mappi International**

### IDELIS UAB

Pelesos Str. 3  
02115 Vilnius  
**Lithuania**  
Tel.: +370-5-2383391  
E-mail: info@idelis.lt  
http://idelis.lt  
**Agent for: A+W Software, Forel, Keraglass**

## LUXEMBOURG

### FÜLDNER MACHINES BV

Wijngaardsweg 20  
6412 PJ Heerlen  
**Luxembourg**  
E-mail: info@fuldner.nl  
**Agent for: Adelio Lattuada,  
Mappi International**

### GKSERVICE

Hortstraat 15  
3520 Zonhoven  
**Luxembourg**  
E-mail: bertgoris@gkservice.be  
**Agent for: Keraglass**

## MACEDONIA

### GLSMIK DOO

Ulica Lavznik 9  
Vrtobja  
5290 Sempeter pri Gorici - Slovenia  
**Macedonia**  
**Agent for: Forel, Schiatti**

### GMSC LTD

Rruga Driton Islami P.N  
70000 Ferizaj  
**Macedonia**  
E-mail: rks.gmsc@gmail.com  
**Agent for: Keraglass**

## MALAYSIA

### EBCOTECH MACHINERY SDN BHD

No 1, Jalan Gangsa SD 5/3A  
Bandar Sri Damansara  
52200 Kuala Lumpur  
**Malaysia**

Tel.: +60-3-62806226  
E-mail: info@ebco2u.com.my  
www.ebcotech.com.my  
**Agent for: Neptun**

### EUROTECHCORP

No 192/8 Tam Trinh Street  
Yen so Ward, Hoang Mai District  
Hanoi City - Vietnam  
**Malaysia**  
E-mail: eurotechline@gmail.com  
**Agent for: Mappi International**

## MEXICO

### A+W SOFTWARE LATIN AMERICA

Calle 18- Num. 315  
Col. Camara de Comercio Norte  
97133 Merida  
**Mexico**  
Tel.: +52-9993713050  
**Agent for: A+W Software**

### CERTECH IMPIANTI DE MÉXICO

Raúl Chapa Zarate #3234  
Colonia Buócratas Municipales  
64769 Monterrey, Nuevo León  
**Mexico**  
Tel.: +52-81-83876270  
E-mail: ventas@certechmexico.com  
www.certechmexico.com  
**Agent for: Keraglass**

### GLASSAMERICA SL

Calle Calvo Sotelo, 2  
44430 Valbona - Teruel - Aragón  
**Mexico**  
Tel.: +34 646760833  
E-mail: info@glass-america.com  
https://glass-america.com  
**Agent for: Schiatti**

### MARBOLZ VETROSTILE SA DE CV

Av. Lazaro Cardenas 1200  
Col. Alamo Industrial  
44490 Guadalajara - Jalisco  
**Mexico**  
Tel.: +52-33-36662415  
E-mail: info@vetrostile.com  
www.vetrostile.com  
**Agent for: Mappi International, Neptun**

### MAVHISA S.A.DE C.V.

Gabino Barreda 927  
Col. San Carlos  
Guadalajara  
Jalisco  
**Mexico**  
Tel.: +52-33-36192590  
E-mail: ventas@mavhisa.com.mx  
www.mavhisa.com.mx  
**Agent for: Adelio Lattuada**

### PROVIGLASS

Calle 30 N° 2646 - Zona Industrial  
44940 Guadalajara  
Jalisco  
**Mexico**  
Tel.: +52-33-34418063  
E-mail: proviglass@yahoo.com.mx  
**Agent for: Forel**

## MOLDAVIA

### IMROGLASS SRL

Str. Alexandru Ioan Cuza 50  
510193 Alba Iulia - Jud Alba - Romania  
**Moldavia**  
E-mail: info@imroglass.ro  
**Agent for: Mappi International**

## MONTENEGRO

### GLASMIK DOO

Ulica Lavznik 9  
Vrtobja  
5290 Sempeter pri Gorici - Slovenia  
**Montenegro**  
**Agent for: Forel, Schiatti**

### GMSC LTD

Rruga Driton Islami P.N  
70000 Ferizaj  
**Montenegro**  
E-mail: rks.gmsc@gmail.com  
**Agent for: Keraglass**

## MOROCCO

### ART MED SRL

15, Rue Sadok Tebourski  
2073 Borj Louzir, Ariana - Tunisia  
**Morocco**  
E-mail: artmed.tn@gmail.com  
**Agent for: Keraglass, Schiatti**

## MOZAMBIQUE

### JLE - J. LEMOS ESTEVES LDA

Rua Soprem - Estacao Apartado 79  
2430-132 Marinha Grande - Portugal  
**Mozambique - Africa**  
E-mail: info@jlemosestev.es.pt  
**Agent for: Adelio Lattuada**

## NAMIBIA

### FG TRADING (FRASER GLOBAL TRADING)

Unit 1 Meadowbrook Park  
110A North Reef Road  
Wilbart, Germiston  
**Namibia**  
E-mail: info@fgtrading.co.za  
www.fgtrading.co.za  
**Agent for: Neptun**

## NEW ZEALAND

### GLASSCORP LTD.

124 Bush Road  
North Harbour Industrial Estate  
Albany, Auckland  
**New Zealand**  
Tel.: +64-9-4156338  
E-mail: sales@glasscorp.co.nz  
www.glasscorp.co.nz  
**Agent for: Edgetech, Schiatti**

## OVERSEAS GLASS AGENCIES

138-140 Malcom Road  
Braeside VIC 3195 - Australia  
**New Zealand**  
E-mail: enquires@oga.com.au  
**Agent for: Adelio Lattuada, Forel, Mappi International**

## NORWAY

### GLASSPRO UAB

Lakunu g. 3a  
09108 Vilnius  
**Norway**  
E-mail: glasspro@glasspro.lt  
**Agent for: Mappi International**

### LASITEKNO

Palomäentie 7A  
33230 Tampere  
**Norway**  
E-mail: martti@lasitekno.com  
www.lasitekno.com  
**Agent for: Neptun**

### PER MORDT A/S

Oestensjoeveien 18  
0661 Oslo  
**Norway**  
Tel.: +47-2207-1770  
E-mail: post@permordt.no  
www.permordt.no  
**Agent for: Adelio Lattuada**

## OMAN

### GULF STAR ENTERPRISE

P.O. BOX 8545 - SAIF Zone  
SHARJAH, Q4-296 - UAE  
**Oman**  
E-mail: info@gulfstarintl.com  
**Agent for: Schiatti**

### IBA MIDDLE EAST FZE

PO BOX 261193  
Jebel Ali  
Dubai - UAE  
**Oman**  
E-mail: sudip@iba-me.com  
**Agent for: Keraglass**

## PANAMA

### PROTECH COLOMBIA

Cr. 62 no.74-61 ap.14  
Baranquilla - Colombia  
**Panama**  
E-mail: paocol@hotmail.it  
**Agent for: Keraglass**

## PARAGUAY

### OFICINA COMERCIAL VOILÁP - CONO SUR SUDAMÉRICA

Bureau Leloir - Pte. Peron 8725/31  
Edif.3 Of.22  
1714 - Ituzaingo - Buenos Aires  
**Paraguay**  
E-mail: joliva@voilap.com  
**Agent for: Keraglass**

## PERU

### HECMAQ SAC

Calle Carlos Mellet 929  
Chorrillos - Lima 09  
**Peru**  
Tel.: +51-1-2510699  
E-mail: hecmaq@hecmaq.com  
www.hecmaq.com  
**Agent for: Schiatti**

### OSAMU EIRL

Merino 195  
San Isidro - Lima 27  
**Peru**  
Tel.: +51-1-4216412  
E-mail: osamukihara@hotmail.com  
**Agent for: Forel**

## PHILIPPINES

### EUROTECHCORP

No 192/8 Tam Trinh Street  
Yen so Ward, Hoang Mai District  
Hanoi City - Vietnam  
**Philippines**  
E-mail: eurotechline@gmail.com  
**Agent for: Mappi International**

### JANCO-PHIL IMPEX TRADING

1781 F Varona St,  
Bgy 85, Zone 007  
Tondo, Manila,  
**Philippines**  
Tel.: +63-55-662 662  
E-mail: jancoph@gmail.com  
**Agent for: Neptun**

## POLAND

### A+W SOFTWARE POLSKA

ul. Sikorskiego 50  
62300 Wrzesnia  
**Poland**  
Tel.: +48-506-533418  
E-mail: support.pl@a-w.com  
www.a-w.com  
**Agent for: A+W Software**

### GLASSMAK

Raciborska 33F/5  
40-070 Katowice  
**Poland**  
Tel.: +48-692-428999  
E-mail: glassmak@vp.pl  
**Agent for: Forel, Mappi International**

### HEGLA POLSKA

Ul. Skarbowcow 23A  
53025 Wroc aw  
**Poland**  
Tel.: +48-882-772505  
E-mail: biuro@hegla.de  
**Agent for: Hegla**

### ITALPOL

Via Versilia 374  
Cesena - Italy  
**Poland**  
E-mail: italpol@italpolglass.it  
**Agent for: Bovone, Mazzaroppi Engineering**

## LISEC POLSKA SP. ZO.O.

Piwna 10  
05-850 Jawczyce – Konotopa  
**Poland**  
Tel.: +48-22-6381049  
E-mail: info-pl@lisc.com  
www.lisc.com  
**Agent for: lisc**

## MCS TECHNO

Ul. Bursztynowa 5  
31-213 KRAKOW  
**Poland**  
Tel.: +48-61 8143569  
E-mail: danilo.f@mcs-techno.pl  
**Agent for: Schiatti**

## Q-GLASSTECH SP. ZOO

ul. Pinczowska 82 - Zblewo  
**Poland**  
Tel.: +48-605282418  
E-mail: biuro@q-glasstech.com.pl  
https://q-glasstech.com.pl  
**Agent for: Adelio Lattuada**

## PORTUGAL

### APPGLASS SL

Diputación 279, 1º  
08007 Barcelona - Spain  
**Portugal**  
**Agent for: A+W Software**

### CMV UNIPESSOAL

Rua Dr. Francisco Sá Carneiro, Nº 1351  
4400-129 Vila Nova de Gaia  
**Portugal**  
Tel.: +351-221-142916  
E-mail: geral@cmvsa.pt  
**Agent for: Mappi International**

### HM GLASS UNIPESSOAL LDA

Av. Dr. António Mota 89 2 dr  
4505-221 Fiães VFR  
**Portugal**  
Tel.: +351-918-468865  
E-mail: hmglass.pt@gmail.com  
**Agent for: KeraglassSchiatti**

### JLE - J. LEMOS ESTEVES LDA

Rua Soprem - Estacao Apartado 79  
2431-901 Marinha Grande  
**Portugal**  
Tel.: +351-244-573480  
E-mail: info@jlemosestev.es.pt  
www.jlemosestev.es.pt  
**Agent for: Adelio Lattuada**

### MAVETRO

Rua Da Capela N. 195  
4795-186 Rebordoes  
**Portugal**  
Tel.: +351-252-131864  
E-mail: mavetro.geral@gmail.com  
**Agent for: Naptun**

### SOLUTECH GLASS

Paseo Landabari, 3  
Ed. Artaza Etxea La Avanzada Of. 1ºB  
48940 Leioa (Vizcaya) - Spain  
**Portugal**

E-mail: info@solutechglass.com  
**Agent for: Forel**

### TEKVIMO

Avda Diagonal, 534, 1º-1º  
08006 Barcelona - Spain  
**Portugal**  
E-mail: jacinto.mora@tekvimo.es  
**Agent for: Edgetech**

## QATAR

### GULF STAR ENTERPRISE

P.O. Box 8545  
Saif Zone  
Sharjah, Q4-296 - Uae  
**Qatar**  
E-mail: info@gulfstarintl.com  
**Agent for: Schiatti**

### IBA MIDDLE EAST FZE

PO BOX 261193  
Jebel Ali  
Dubai - UAE  
**Qatar**  
E-mail: sudip@iba-me.com  
**Agent for: Keraglass**

## REP. OF SOUTH AFRICA

### ADAEZE TRADING - FOREL AFRICA

42 Kessel Street  
Fairland  
2195 Johannesburg - Gauteng  
**Rep. Of South Africa**  
Tel.: +27-83-2510417  
E-mail: ike.afam@forelspa.com  
**Agent for: Forel**

### FG TRADING (FRASER GLOBAL TRADING)

Unit 1 Meadowbrook Park  
110A North Reef Road  
Wilbart, Germiston  
**Rep. Of South Africa**  
Tel.: +27-11-4500263  
E-mail: info@fgtrading.co.za  
www.fgtrading.co.za  
**Agent for: Edgetech Neptun**

### GLASS DESIGN (PTY) LTD

1 Eugene Street  
2196 Malanshof, Randburg  
**Rep. Of South Africa**  
Tel.: +27-11-7925004  
E-mail: carl@glassdesign.co.za  
www.glassdesign.co.za  
**Agent for: A+W Software**

## ROMANIA

### AMN MOLDOVA SRL

Km 24 (Tg. Frumos - Harlau)  
Scobinti, Jud. Lasi DN 28B  
**Romania**  
Tel.: +40-371-002020  
E-mail: office@amnoldova.ro  
https://amnoldova.ro  
**Agent for: Neptun**

### IMROGLASS SRL

Str. Alexandru Ioan Cuza 50  
510193 Alba Iulia - Jud Alba  
**Romania**  
Tel.: +40-258-839397  
E-mail: info@imroglass.ro  
www.imroglass.ro  
**Agent for: Forel, Mappi International, Schiatti**

### ORTOSIL

str. Intrarea Ciresului nr 16F  
Fundeni - Dobroesti  
**Romania**  
Tel.: +40-773 720270  
E-mail: ady@ortosil.ro  
https://ortosil.ro  
**Agent for: Edgetech**

## RUSSIA

### KPD TECHNO

Bldg. 1, 2/4, 4th Krasnogorskiy Proezd  
123182 Moscow  
**Russia**  
Tel.: +7-495-942-5375  
E-mail: hp@kpd.ru  
www.kpd.ru  
**Agent for: Mappi International**

### YTA COMPANY (YUTA)

4th Street, Trunk 5, p. 1  
123007, Moscow  
**Russia**  
Tel.: +7-495-5189638  
E-mail: stanki@yta.ru  
www.yta.ru  
**Agent for: Bovone, Neptun**

## SAUDI ARABIA

### CORPOTRADE JEDDAH

Building 835 - Unit 1  
Jeddah 128126 - 21362  
**Saudi Arabia**  
Tel.: +966-2-6644527  
E-mail: jeddah@corpotrade.com  
www.corpotrade.com  
**Agent for: A+W Software, Mappi International**

### CORPOTRADE SAUDIA L.L.C.

Dabbab Street - P.O.Box 69239  
Iskan al Maazar - Riyadh  
**Saudi Arabia**  
Tel.: +966-1-2145230  
E-mail: riadh@corpotrade.com  
www.corpotrade.com  
**Agent for: A+W Software, Mappi International**

### IBA MIDDLE EAST FZE

PO BOX 261193  
Jebel Ali - Dubai - UAE  
**Saudi Arabia**  
E-mail: sudip@iba-me.com  
**Agent for: Keraglass**

### MATARI HOUSE CO. LTD.

P.O. Box 3365  
22034 Salmiya - Jordan



**Saudi Arabia**  
E-mail: mazinmatari@hotmail.com  
**Agent for: Schiatti**

**THERAL SPRL**  
Rue Gatti de Gamond 174  
1180 Bruxelles  
**Saudi Arabia**  
E-mail: therat@skynet.be  
**Agent for: Neptun**

## SERBIA

**GLASMIK DOO**  
Ulica Lavznik 9  
Vrtojba  
5290 Sempeter pri Gorici - Slovenia  
**Serbia**  
**Agent for: Forel, Schiatti**

**MAB EXPORT D.O.O.**  
Vodovodna Pot 3  
Kromberk  
5000 Nova Gorica - Slovenia  
**Serbia**  
E-mail: mab@mab-export.si  
**Agent for: A+W Software**

## SINGAPORE

**EBCOTECH MACHINERY SDN BHD**  
No 1, Jalan Gangsa SD 5/3A  
Bandar Sri Damansara  
52200 Kuala Lumpur  
**Singapore**  
E-mail: info@ebco2u.com.my  
www.ebcotech.com.my  
**Agent for: Neptun**

**EUROTECHCORP**  
No 192/8 Tam Trinh Street  
Yen so Ward, Hoang Mai District  
Hanoi City - Vietnam  
**Singapore**  
E-mail: eurotechline@gmail.com  
**Agent for: Mappi International**

**HEGLA TRADING & SERVICE GMBH  
- FAR EAST BRANCH OFFICE**  
91, Compassvale Bow  
544 688 - Singapore  
**Singapore**  
Tel.: +65-96274676  
E-mail: kh.mak@hegla.de  
**Agent for: Hegla**

## SLOVAKIA

**IMPRA SPOL SRO**  
Reinerova 710/21  
16300 Praha 6, Repy - Czech Republic  
**Slovakia**  
E-mail: info@impra.cz  
**Agent for: Schiatti**

**ITALCOMMA SLOVAKIA**  
Dolné Rudiny 1  
01001 Zilina  
**Slovakia**  
Tel.: +421-41-5006224

E-mail: italcomma@italcomma.sk  
www.italcomma.sk  
**Agent for: Adelio Lattuada**

## SLOVENIA

**GLASMIK DOO**  
Ulica Lavznik 9 - Vrtojba  
5290 Sempeter pri Gorici  
**Slovenia**  
Tel.: +386-5-3359710  
E-mail: info@glasmik.com  
www.glasmik.si  
**Agent for: Forel, Mappi International,  
Schiatti**

**MAB EXPORT D.O.O.**  
Vodovodna Pot 3  
Kromberk - 5000 Nova Gorica  
**Slovenia**  
Tel.: +386-5-3313850  
E-mail: mab@mab-export.si  
www.mab-export.si  
**Agent for: A+W Software**

## SOUTH KOREA

**ADVANCED MATERIAL RESOURCE INC.**  
Rm#: B-1925, Higgs U-Tower, 184,  
Jungbu-daero  
17095 Gyeong-gu, Yongin-si. Geyonggi-do  
**South Korea**  
Tel.: +82-10-32559841  
**Agent for: Edgetech**

**KC - YOUNG KYUNG CO. LTD.**  
1439-5 Chunsuk Bldg 4fl  
Seoch-dong,  
Seocho-ku, Seoul  
**South Korea**  
Tel.: +82-2-34618428  
E-mail: ykc@ykc.co.kr  
www.ykc.co.kr  
**Agent for: Bovone**

## SPAIN

**ADETEC - GRUPO ADA  
DISTRIBUCIONES**  
Pol. Ind. Los Rubiales II, Vial B, C/4  
23700 Linares (Jaén)  
**Spain**  
Tel.: +34-953-607237  
E-mail: adetec@adetecl.es  
www.adetecl.es/  
**Agent for: Adelio Lattuada, Keraglass**

**APPGLOSS SL**  
Calle Mogoda 1, Despacho 111  
Pol.Ind.Can Salvatella  
08210 Barbera de Valles - Barcelona  
**Spain**  
Tel.: +34-930330157  
E-mail: carlos.alvarez@app-glass.com  
**Agent for: A+W Software**

**CASTRO GLASS SL**  
C/ Benito Castro, 10  
28028 Madrid  
**Spain**  
Tel.: +34-91-7131510

E-mail: castroglass@castroglass.es  
www.castroglass.es  
**Agent for: Bovone**

**GLASSTEK SUMINISTROS SL**  
Polígono Industrial El Campillo  
Edificio de Oficinas Meatza Planta.2ª-  
Dpto.9 - 48500 Gallarta (Vizcaya)  
**Spain**  
Tel.: +34-944677266  
E-mail: info@glasstek.es  
www.glasstek.es  
**Agent for: Schiatti**

**JALOGLOSS SL - CASTILLA - LA  
MANCHA - LEON**  
Las Fabricas 23 - 28923 Alcorcón Madrid  
**Spain**  
Tel.: +34-916418383  
E-mail: jaloglass@jaloglass.com  
www.jaloglass.es  
**Agent for: Neptun**

**MAQUIGLASS S.A.**  
Avenida Diagonal 324  
08013 Barcelona  
**Spain**  
Tel.: +34-93-2077862  
E-mail: maquiglass@maquiglass.es  
www.maquiglass.es/  
**Agent for: Neptun**

**NTPS GLASS - GRUPO ADA  
DISTRIBUCIONES**  
Calle Bosc 15  
08348 Cabrils (Barcelona)  
**Spain**  
Tel.: +34-637-722458  
E-mail: daniel.bravo@ntps.es  
**Agent for: Adelio Lattuada, Keraglass**

**R. MEYER SL**  
c/ Llull 70-72, 3º 3a - 08005 Barcelona  
**Spain**  
Tel.: +34-93-3010525  
E-mail: rolf.meyer@rmeyersl.com  
www.rmeyersl.com  
**Agent for: Hegla**

**SATECRIS ENCABO - GRUPO ADA  
DISTRIBUCIONES**  
C/ Cerezos, 22, Pol. Ind. Cañariego  
28979 Serranillos del Valle (Madrid)  
**Spain**  
Tel.: +34-918149406  
E-mail: carlos@satecris.com  
www.satecris.com/  
**Agent for: Adelio Lattuada**

**SOLUTEC GLASS**  
Paseo Landabari, 3  
Ed. Artaza Etxea La Avanzada Of. 1ºB  
48940 Leioa (Vizcaya)  
**Spain**  
Tel.: +34-94-6002211  
**Agent for: Forel**

**SUVISUR SL - ANDALUSIA -  
ESTREMADURA**  
Pol. Ind. Los Jarales  
Urb. Linaves 3

23700 Linares (Jaen)  
**Spain**  
 Tel.: +34-95-3602064  
 E-mail: info@suvisur.com  
 www.suvisur.com  
**Agent for: Neptun**

**TECNICGLASS - GRUPO ADA DISTRIBUCIONES**  
 C/ la Pau, 1 - Baixos  
 43470 La Selva del Camp (Tarragona)  
**Spain**  
 Tel.: +34-977-845606  
 E-mail: info@tecnicglass.com  
 www.tecnicglass.com  
**Agent for: Adelio Lattuada, Keraglass**

**TEKVIMO**  
 Avda Diagonal, 534, 1º-1ª  
 08006 Barcelona  
**Spain**  
 Tel.: +34-649-905410  
 E-mail: jacinto.mora@tekvimo.es  
 www.tekvimo.es  
**Agent for: Edgetech, Mappi International**

## SRI LANKA

**JANCO-PHIL IMPEX TRADING**  
 1781 F Varona St,  
 Bgy 85, Zone 007  
 Tondo, Manila,  
**Sri Lanka**  
 E-mail: jancoph@gmail.com  
**Agent for: Neptun**

## SWEDEN

**A+W SOFTWARE SWEDEN**  
 Industrivagen 17  
 302 41 Halmstad  
**Sweden**  
 Tel.: +46-35-175417  
 www.a-w.com  
**Agent for: A+W Software**

**DMT DIAMANT & MASKIN-TEKNIK APS**  
 Merkurvej 2B  
 7430 Ikast - Denmark  
**Sweden**  
 E-mail: kontor@dm-t.dk  
**Agent for: Bovone**

**EDGETECH NORTHERN EUROPE - SINCHRIJO AGENTURER**  
 Smaltaregatan 6  
 Haganas  
**Sweden**  
 Tel.: +46-42-237601  
 E-mail: info@sinchrijo.com  
 http://sinchrijo.se  
**Agent for: Edgetech**

**GLAS X GLASTEKNIK**  
 Hulvejen 13  
 7500 Holstebro - Denmark  
**Sweden**  
 E-mail: glasx@live.dk  
**Agent for: Schiatti**

**GLASSPRO UAB**  
 Lakunu g. 3a  
 09108 Vilnius  
**Sweden**  
 E-mail: glasspro@glasspro.lt  
**Agent for: Mappi International**

**LASITEKNO**  
 Palomäentie 7A  
 33230 Tampere  
**Sweden**  
 E-mail: martti@lasitekno.com  
 www.lasitekno.com  
**Agent for: Neptun**

**PER MORDT A/S**  
 Oestensjoeveien 18  
 0661 Oslo - Norway  
**Sweden**  
 E-mail: post@permordt.no  
**Agent for: Adelio Lattuada**

## SWITZERLAND

**LECHNER SRL**  
 Piazza della Libertà, 7/15  
 Arquata Scrivia - Italy  
**Switzerland**  
 E-mail: lechner@lechner-srl.com  
**Agent for: Mazaroppi Engineering, Schiatti**

**MODECO GLOBAL**  
 An Den Glaswerken 1  
 52134 Herzogenrath  
**Switzerland**  
 E-mail: info@modecoglobal.de  
 www.modecoglobal.de/  
**Agent for: Keraglass, Neptun**

## SYRIA

**CORPOTRADE SYRIA**  
 P.O.Box 10807  
 Mazzeh, Damascus  
**Syria**  
 Tel.: +963-11-6620598  
 E-mail: syria@corpotrade.com  
 www.corpotrade.com  
**Agent for: A+W Software, Mappi International**

**MATARI HOUSE CO. LTD.**  
 P.o. Box 3365  
 22034 Salmiya - Jordan  
**Syria**  
 E-mail: mazinmatari@hotmail.com  
**Agent for: Schiatti**

## TAIWAN

**BOTTERO GLASS INDUSTRY CO. LTD.**  
 Huaxu Road, Block.568, Room 501  
 20170 Qingpu District, Shanghai - China  
**Taiwan**  
 E-mail: sales.cn@bottero.com  
**Agent for: Bottero**

**CY HANK INDUSTRIAL CO LTD**  
 Room 1001, San Chin Bldg, 31-1, Sec 2

Hsin Sheng N. Rd.  
 Taipei 67-541  
**Taiwan**  
 Tel.: +886-2-25318190  
 E-mail: cyhank@ms45.hinet.net  
 http://cyhank.glass.com.cn  
**Agent for: Adelio Lattuada**

**USE ELECTRONICS CO. LTD. / HEADQUARTERS**  
 20fl, no.85, Sec.1, Chung Hsiao E. Road  
 Taipei R. o. c.  
**Taiwan**  
 Tel.: +886-2-23934825  
 E-mail: glass@use.com.tw  
 www.use.com.tw  
**Agent for: Bovone, Schiatti**

## THAILAND

**BOTTERO GLASS INDUSTRY CO. LTD.**  
 Huaxu Road, Block.568, Room 501  
 20170 Qingpu District, Shanghai - China  
**Thailand**  
 E-mail: sales.cn@bottero.com  
**Agent for: Bottero**

**EUROTECHCORP**  
 No 192/8 Tam Trinh Street  
 Yen so Ward, Hoang Mai District  
 Hanoi City - Vietnam  
**Thailand**  
 E-mail: eurotechline@gmail.com  
**Agent for: Mappi International**

**JEENNY TRADING CO. LTD**  
 50/57 Soi Wuttakard 36/2 Wuttakard Rd.  
 Bangkiao Chomthong  
 10150 Bangkok  
**Thailand**  
 Tel.: +66-2-8763684  
 E-mail: info@jeennytrading.com  
 www.mpimac.co.th  
**Agent for: Bovone**

**LEO-TECH**  
 56/32 M.1 Soi.tha-It, Rattanathibeth Rd  
 Zai-ma, Mueang Nonthaburi District  
 Nonthaburi 11000  
**Thailand**  
 Tel.: +66-2 926 1870  
 E-mail: leotech.contact@gmail.com  
**Agent for: Neptun**

**MOTECH MACHINERY SERVICE**  
 225/71 Moo, Lumlukka Rd., Kukot  
 12130 Lumlukka, Patumthani  
**Thailand**  
 Tel.: +66-298-72440  
 E-mail: motech2012.service@gmail.com  
**Agent for: Forel, Keraglass**

**USE ELECTRONICS CO. LTD. / THAILAND**  
 No.66 3rd Fl., Soi Ramintra 99  
 Kannayao, Bangkok 10230  
**Thailand**  
 Tel.: +66-2-9383300  
 E-mail: tayavee@use-thailand.com  
 www.use.com.tw  
**Agent for: Schiatti**

## THE NETHERLANDS

**FÜLDNER MACHINES BV**  
Heiweg 14 - NL 6161 DA Geleen  
The Netherlands  
Tel.: +31-45-5217757  
E-mail: info@fuldner.nl  
www.fuldner.com  
**Agent for: Adelio Lattuada, Mappi International**

**GKSERVICE**  
Hortstraat 15  
3520 Zonhoven  
The Netherlands  
E-mail: bertgoris@gkservice.be  
**Agent for: Keraglass**

**PIETERMAN GLASTECHNIEK / THE NETHERLANDS**  
Industrieweg 28  
3133 EE Vlaardingen  
The Netherlands  
Tel.: +31-10-4451060  
E-mail: info@pgv-nl.com  
www.pieterman-glastechniek.be  
**Agent for: Bovone**

**TECFORT**  
De Opfeart 26  
9047 KW Minnertsga  
The Netherlands  
Tel.: +31-518 471723  
E-mail: info@tecfort.nl  
www.tecfort.com  
**Agent for: Neptun**

## TUNISIA

**ART MED SRL**  
15, Rue Sadok Tebourski  
2073 Borj Louzir, Ariana  
Tunisia  
Tel.: +216-252- 70696464  
E-mail: artmed.tn@gmail.com  
**Agent for: Keraglass, Neptun, Schiatti**

## TURKEY

**AS CAM DESIGN - GLASS MACHINERY**  
Tantavi Mh. Estergon Cd.  
Suryapi Exen stanbul Sitesi No : 20 F  
Ümraniye / stanbul  
Turkey  
Tel.: +90-216-4102747  
E-mail: info@ascam.com.tr  
www.ascam.com.tr  
**Agent for: Mappi International**

**CONCEPT SOLUTIONS**  
Mimaroba Mah. Mustafa Kemal Bulvarı No:4  
Colorist A Blok Kat:3 No:50 Mimaroba  
Buyukcekmece - Istanbul  
Turkey  
Tel.: +90-212-8643881  
E-mail: info@conceptsolutions.com.tr  
https://conceptsolutions.com.tr  
**Agent for: Keraglass**

## **FGI - FLAT GLASS INTERNATIONAL LTD**

World Trade Center Istanbul  
A2 Block, 9th Floor, Office No: 305  
34149 Yesilkoy Istanbul  
Turkey  
Tel.: +90-212-4656252  
E-mail: esuvarierol@fgias.com  
www.fgilimited.com  
**Agent for: Edgetech, Neptun**

**FIRST GLASS**  
Yeni ehir Mahallesi Mustafa  
Akyol Sokak No: 7a - Ofis No: 23  
Pendik - Istanbul  
Turkey  
Tel.: +90-532-3639375  
E-mail: cengizbeycayiri@gmail.com  
www.firstglass.com.tr/  
**Agent for: GPM Automation**

**GLASS EXPER - SELCUK GENC**  
Sakarya Mah. Yarbay  
Necdet Hosgor Cad. No:13-15 / Kapı No:8  
Biga / Canakkale  
Turkey  
Tel.: +90-541 346 46  
E-mail: info@glassexper.com  
www.glassexper.com  
**Agent for: Forel**

**HELIOS QUARTZ TURKEY**  
Mimaroba Mh. Mustafa Kemal Bulvari  
Colorist A Blok. Kat 3 D.50  
Mimaroba, Buyukcekmece - Istanbul  
Turkey  
Tel.: +90-8502281908  
E-mail: turkey@heliosquartz.com  
www.heliosquartz.com  
**Agent for: Helios Quartz Group**

**SORGLAS LTD**  
Halaskargazi Mh  
Safak Sk. Dede Han 15 / 4 Nisantasi  
34371 Istanbul  
Turkey  
Tel.: +90-212-2414533  
E-mail: sacha@sorglas.com  
www.sorglas.com  
**Agent for: Bovone**

**YGM MAKINA MÜHENDISLIK DIS TICARET LIMITED SIRKETI**  
Barbaros Mah. Mor Sümbül Sok.  
Varyap Meridian Business, No:1/100 Kat:7 A  
Atasehir - Istanbul  
Turkey  
Tel.: +90-216-4561448  
E-mail: info@ygm.com.tr  
www.ygm.com.tr  
**Agent for: Schiatti**

## TURKMENISTAN

**GLASS TEAM**  
Leo Tolstoy Street, 36k/1, Office 701  
Bishkek  
Turkmenistan  
Tel.: +996-778 160 756  
E-mail: glassteam.kg@gmail.com  
**Agent for: Schiatti**

## U. A. E.

**CORPOTRADE L.L.C. DUBAI**  
P.o. Box 21532  
Dubai  
UAE - United Arab Emirates  
Tel.: +971-4-3337725  
E-mail: dubai@corpotrade.com  
www.corpotrade.com  
**Agent for: A+W Software, Mappi International**

**GULF STAR ENTERPRISE**  
P.O. BOX 8545  
SAIF Zone  
SHARJAH, Q4-296  
UAE - United Arab Emirates  
Tel.: +971-6-5571977  
E-mail: info@gulfstarintl.com  
www.gulfstarintl.com  
**Agent for: Schiatti**

**HEGLA TRADING & SERVICE GMBH - MENA BRANCH OFFICE**  
Dubai Silicon Oasis - Head Quarter Building  
DG-02 Office  
Dubai  
UAE - United Arab Emirates  
Tel.: +971-50-5200516  
E-mail: info@hegla.ae  
**Agent for: Hegla**

**IBA MIDDLE EAST FZE**  
PO BOX 261193  
Jebel Ali  
Dubai  
UAE - United Arab Emirates  
Tel.: +971-48819454  
E-mail: sudip@iba-me.com  
**Agent for: Keraglass**

**LISEC MIDDLE EAST LTD. FZE**  
No: B1-Road WB-21  
P.O. Box 54290  
Dubai Air Port Free Zone LIU  
UAE - United Arab Emirates  
Tel.: +971-4-2994596  
E-mail: sales.middleeast@lisc.com  
www.lisc.com  
**Agent for: lisc**

**THERAL SPRL**  
Rue Gatti de Gamond 174  
1180 Bruxelles  
UAE - United Arab Emirates  
E-mail: theral@skynet.be  
**Agent for: Neptun**

## UKRAINE

**GLASSPRO UAB**  
Lakunu g. 3a  
09108 Vilnius  
Ukraine  
E-mail: glasspro@glasspro.lt  
**Agent for: Mappi International**

**IDELIS UAB**  
Pelesos Str. 3  
02115 Vilnius - Lithuania  
Ukraine

E-mail: info@idelis.lt

**Agent for: Forel, Keraglass**

## YTA COMPANY (YUTA)

4th Street, Trunk 5, p. 1  
123007, Moscow

**Ukraine**

E-mail: info@yta.ru

www.yta.ru

**Agent for: Neptun**

## UNITED KINGDOM

### A+W SOFTWARE UK - HILLIER HOPKINS LLP

1st Floor, Radius House, 51 Clarendon Road  
Watford, WD17 1HP, Hertfordshire

**United Kingdom**

Tel.: +44-1923 232938

E-mail: hi@hhllp.co.uk

https://hillierhopkins.co.uk

**Agent for: A+W Software**

### BOTTERO UK LIMITED

15 Heywood Distribution Park  
Unit P1 Bay

Heywood - Lancashire OL10 2TT

**United Kingdom**

Tel.: +44-1706-655440

E-mail: sales.uk@bottero.com

**Agent for: Bottero**

### EDGETECH UK

Stonebridge House, Rowley Drive  
Stonebridge Trading Estate  
Coventry CV3 4FG

**United Kingdom**

Tel.: +44-2476-639931

E-mail: ukenquiries@edgetechig.com

www.superspacer.co.uk

**Agent for: Edgetech**

### FOREL UK & IRELAND

Unit 3, M11 Business Link  
Parsonage Road  
Stansted - Essex Cm24 8gf

**United Kingdom**

Tel.: +44-1245 961736

E-mail: support@uk.forelspa.com

**Agent for: Forel**

### GMS - GLASS MACHINERY SOLUTIONS LTD

Units 5 & 6 - 5 Avon Industrial Estate  
Rugby - Warwickshire CV21 3UY

**United Kingdom**

Tel.: +44-1788-569470

E-mail: info@glassmachines.co.uk

www.glassmachines.co.uk

**Agent for: Keraglass, Neptun**

### HEGLA MACHINERY (UK) LTD

11 Cochran Close  
Crownhill Industrial Estate  
Milton Keynes, Buckinghamshire MK8 0AJ

**United Kingdom**

Tel.: +44-1908-261933

E-mail: info@hegla.co.uk

www.hegla.de

**Agent for: Hegla**

### P.A.L. GLASS MACHINERY LTD

33 Hornsby Square  
Southfields Business Park  
Basildon Essex SS15 6SD

**United Kingdom**

Tel.: +44-1268-493382

E-mail: paul@palmachinery.co.uk

www.palmachinery.co.uk

**Agent for: Adelio Lattuada, Mappi International**

### PETER HAWKINS LTD.

Castle Lane  
Melbourne Derbyshire DE73 8JB

**United Kingdom**

Tel.: +44-1332-864747

E-mail: info@phawkins.co.uk

www.phawkins.co.uk

**Agent for: Schiatti**

### STONE & GLASS GROUP

George Thomas Avenue  
Brynmenyn Industrial Estate  
Bridgend - CF329SQ

**United Kingdom**

Tel.: +44-1948-841574

E-mail: sales@stoneandglassgroup.co.uk

www.stoneandglassgroup.co.uk

**Agent for: Bovone, Mazzaroppi Engineering**

## URUGUAY

### OFICINA COMERCIAL VOILÀP - CONO SUR SUDAMÉRICA

Bureau Leloir - Pte. Peron 8725/31  
Edif.3 Of.22

1714 - Ituzaingo - Buenos Aires

**Uruguay**

E-mail: joliva@voilap.com

**Agent for: Keraglass**

## UNITED STATES

### A+W SOFTWARE USA - VELA US HOLDCO INC.

8770 West Bryn Mawr Ave, Suite 1300  
Chicago, IL 60631

**USA**

Tel.: +1-3124706645

E-mail: usa@a-w.com

www.a-w.de/us

**Agent for: A+W Software**

### BOTTERO FLAT GLASS INC.

121 Shields Park Dr. - Suite J  
27284 Kernersville NC

**USA**

Tel.: +1-336-9925623

E-mail: sales.us@bottero.com

**Agent for: Bottero**

### BOVONE NORTH AMERICA

2018 Barnes Street  
Reidsville, NC 27320

**USA**

Tel.: +1-336-894067

E-mail: sales@bovonenorthamerica.com

https://bovone.com/en/north-america

**Agent for: Bovone**

### CMS NORTH AMERICA INC.

4095 Karona Court  
Caledonia, MI 49316

**USA**

Tel.: +1-616-6989970

E-mail: cmssales@cmsna.com

www.cmsna.com

**Agent for: CMS Glass Technology**

### DE GORTER INC.

5623 Cannon Drive  
Monroe, NC 28110

**USA**

Tel.: +1-704-2822055

E-mail: sales@degorter.com

www.degorter.com

**Agent for: Schiatti**

### FOREL NORTH AMERICA

1819 Buerkle Road  
St. Paul - Minnesota

**USA**

Tel.: +1-651-4934378

E-mail: sales@na.forelspa.com

www.forelspa.com

**Agent for: Forel**

### HEGLA CORP.

277 Southfield Pkwy. - Suite 170  
Forest Park, GA 30297

**USA**

Tel.: +1-404-7639700

E-mail: info@heglacorp.com

www.hegla.de

**Agent for: Hegla**

### HELIOS QUARTZ AMERICA INC.

7345 W. Sylvania Ave  
Sylvania, OH 43560

**USA**

Tel.: +1-419-8823377

E-mail: america@heliosquartz.com

www.heliosquartz.com

**Agent for: Helios Quartz Group**

### KERAGLASS USA INC.

20 Murray Hill Parkway, Unit 120  
East Rutherford - NJ 07073

**USA**

Tel.: +1-201-5612191

E-mail: info.usa@keraglass.com

**Agent for: Keraglass**

### LATTUADA NORTH AMERICA INC

6967 Wales Road, Suite F  
43619 Northwood (OH)

**USA**

Tel.: +1-567-2494486

E-mail: joe.g@lattuada-na.com

www.lattuada-na.com/

**Agent for: Adelio Lattuada**

### LISEC AMERICA, INC.

12571 Oliver Avenue South  
Suite 100

55337 Burnsville, MN

**USA**

Tel.: +1-952-6419900

E-mail: lisec@liscamerica.com

www.lisec.com

**Agent for: lisec**

# Sales Network SUPPLIERS GUIDE

## **MAPPI AMERICA**

3888 Mannix Drive #314  
Naples, FL 34114

### **USA**

Tel.: +1-336 878 7460  
E-mail: info@mappi.us  
www.mappi.us

**Agent for: Mappi International**

## **MATODI**

7206 Cessna Drive  
27409 Greensboro, NC

### **USA**

Tel.: +1-336--2026405  
E-mail: sales@matodigroup.com  
https://matodigroup.com

**Agent for: Mazzaroppi Engineering, Neptun**

## **OPTRIS INFRARED SENSING**

200 International Drive - Suite 170  
Portsmouth NH 03801

### **USA**

Tel.: +1-603-7666060  
E-mail: sales@optris-ir.com  
www.optris.global

**Agent for: Optris**

## **QUANEX IG SYSTEMS**

800 Cochran Avenue  
Cambridge, Oh 43725

### **USA**

Tel.: +1-740-4392338  
E-mail: igsales@quanex.com  
www.quanex.com

**Agent for: Edgetech**

## **UZBEKISTAN**

### **GLASS TEAM**

Leo Tolstoy Street, 36k/1, Office 701  
Bishkek

#### **Uzbekistan**

E-mail: glassteam.kg@gmail.com

**Agent for: Schiatti**

## **VENEZUELA**

### **CIGTRA**

Calle 15 No. 68D78  
Bogota

#### **Venezuela**

E-mail: emorenoa@cigtra.com

**Agent for: Neptun**

### **PROTECH COLOMBIA**

Cr. 62 no.74-61 ap.14  
Baranquilla - Colombia

#### **Venezuela**

E-mail: paocol@hotmail.it

**Agent for: Keraglass**

## **VIETNAM**

### **EUROTECHCORP**

No 192/8 Tam Trinh Street  
Yen so Ward, Hoang Mai District  
Hanoi City

#### **Vietnam**

Tel.: +84-24-32336210  
E-mail: eurotechline@gmail.com  
www.eurotechcorp.vn

**Agent for: Mappi International**

## **GIA THINH PHAT INDUSTRY MACHINERY & TECHNIC SERVICES GROUP CO.**

Dong Xuan Hamlet  
Truong Trung Commune  
Nong Cong District - Thanh Hoa Province

#### **Vietnam**

Tel.: +84-919 160 075  
E-mail: jone.nguyennbh@gmail.com  
www.nbhindustries.vn

**Agent for: Schiatti**

### **NBH INDUSTRIES**

No 84 - Lot B3 - New Dai Kim Urban Zone  
Dai Kim Ward - Hoang Mai District  
Hanoi City

#### **Vietnam**

Tel.: +84-983-282095  
E-mail: jone.nguyennbh@gmail.com

**Agent for: Forel**

### **NINH SERVICE & TRADING DIVISION - HOANG SON CO. LTD**

20/20B Tan Long Zone  
Tan Dong Hiep Ward  
Di An District, Binh Duong Province

#### **Vietnam**

Tel.: +84-650-3-731636  
E-mail: info@ninh.com.vn  
www.ninh.net.vn

**Agent for: Keraglass**

## **YEMEN**

### **IBA MIDDLE EAST FZE**

PO BOX 261193 - Jebel Ali  
Dubai - UAE

#### **Yemen**

E-mail: sudip@iba-me.com

**Agent for: Keraglass**

## Glass Magazines

1989

## *Glass-Technology International*

**GLASS-TECHNOLOGY INTERNATIONAL** is the leading international magazine for professionals involved in the flat and bent glass industry, from building to automotive, and from furniture to household appliances. G-TI is useful for those working in float glass plants as well as glass processors/fabricators, glazing contractors, automotive glass installers, window and door manufacturers, glass merchants, wholesalers, etc. With about 100 pages per issue, it is the bi-monthly tool for keeping abreast of new technology, new products, company life and all innovations in the world of flat and bent glass.





# associations

C T L I N K



DIR E C T L I N K S



These companies on [www.glassonline.com](http://www.glassonline.com) | Direct link |

## BELGIUM

### FEVE - EUROPEAN CONTAINER GLASS FEDERATION

Avenue Louise 89, Bte 4  
B-1050 Bruxelles  
Belgium  
Tel.: +32-2-5360080  
E-mail: [secretariat@feve.org](mailto:secretariat@feve.org)  
[www.feve.org](http://www.feve.org)

### FIV - FÉD. DE L'INDUSTRIE DU VERRE BELGE

Boulevard De La Plaine, 5  
1050 Bruxelles  
Belgium  
Tel.: +32-2-5426120  
E-mail: [info@vgi-fiv.be](mailto:info@vgi-fiv.be)  
[www.vgi-fiv.be](http://www.vgi-fiv.be)

### GLASS ALLIANCE EUROPE

Avenue Louise 89 / 5  
1050 Bruxelles  
Belgium  
Tel.: +32-2-5384446  
E-mail: [info@glassallianceeurope.eu](mailto:info@glassallianceeurope.eu)  
[www.glassallianceeurope.eu](http://www.glassallianceeurope.eu)

## CZECH REPUBLIC

### CZECH GLASS SOCIETY CESKA SKLARSKA SPOLECNOST

Arbesova 66a  
466 04 Jablonec nad Nisou  
Czech Republic  
Tel.: +420-777-302977  
[www.czech-glass-society.cz](http://www.czech-glass-society.cz)

## FRANCE

### CERFAV - POLE VERRIER

Rue De La Liberté  
54112 Vannes-le-chatel  
France  
Tel.: +33-3-83254990  
E-mail: [contact@cerfav.fr](mailto:contact@cerfav.fr)  
[www.cervav.fr](http://www.cervav.fr)

### FEDERATION DU CRISTAL ET DU VERRE

114, Rue La Boétie  
75008 Paris  
France

Tel.: +33-1-42688180  
E-mail: [contact@fedecristal.fr](mailto:contact@fedecristal.fr)  
<https://fedecristal.fr>

## GERMANY

### BV GLAS - BUNDESVERBAND GLASINDUSTRIE E.V.

Hansaallee 2  
40549 Düsseldorf  
Germany  
Tel.: +49-211-902278  
E-mail: [info@bvglas.de](mailto:info@bvglas.de)  
[www.bvglas.de](http://www.bvglas.de)

### DEUTSCHE GLASTECHNISCHE GESELLSCHAFT

Siemensstrasse 45  
63071 Offenbach am Main  
Germany  
Tel.: +49-69-9758610  
E-mail: [info@hvg-dgg.de](mailto:info@hvg-dgg.de)  
[www.hvg-dgg.de](http://www.hvg-dgg.de)

### IPGR - INTERNATIONAL PARTNERS IN GLASS RESEARCH

Nerscheider Weg 170  
52076 Aachen  
Germany  
Tel.: +49-241 80 94 986  
E-mail: [info@ipgr.com](mailto:info@ipgr.com)  
[www.ipgr.com](http://www.ipgr.com)

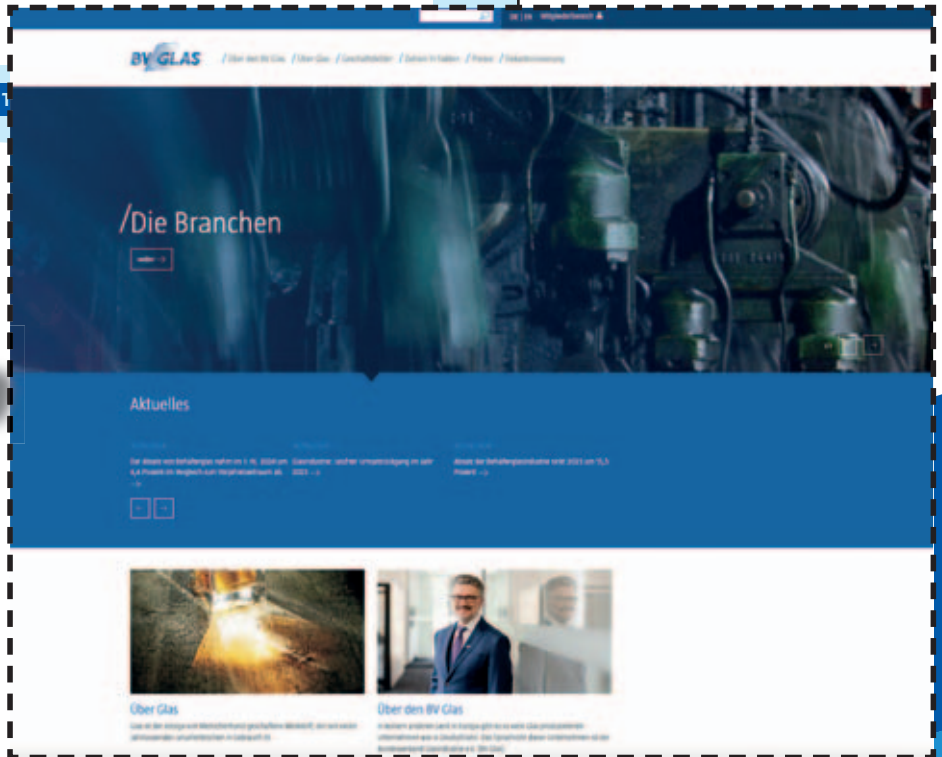
### VDMA - FORUM GLASTECHNIK

Lyoner Strasse 18  
60528 Frankfurt am Main  
Germany  
Tel.: +49-69-66031259  
E-mail: [info@vdma.org](mailto:info@vdma.org)  
<http://glas.vdma.org/en/home>

## GREECE

### AGMPM - ASSOCIATION OF INDUSTRIAL PRODUCTION PACKAGING & MATERIAL

328, Vouliagmenis Ave,  
17342 - Athens  
Greece



## ITALIANI DEL VETRO

Via Marchesi 26 D  
C/O MV Congressi S.p.A.  
43126 Parma (PR)  
Italy  
Tel.: +39 328-6851552  
E-mail: [info@ativ.eu](mailto:info@ativ.eu)  
[www.ativ.eu](http://www.ativ.eu)

### GIMAV - VITRUM SRL

Viale Fulvio Testi 128  
20092 Cinisello Balsamo (MI)  
Italy  
Tel.: +39 02-33007032  
E-mail: [gimav@gimav.it](mailto:gimav@gimav.it)  
[www.gimav.it](http://www.gimav.it)

### STAZIONE SPERIMENTALE DEL VETRO

Via Briati 10  
30141 Murano - Venezia (VE)  
Italy  
Tel.: +39 041-2737011  
E-mail: [spevetro@spevetro.it](mailto:spevetro@spevetro.it)  
[www.spevetro.it](http://www.spevetro.it)

## POLAND

### POLISH GLASS MANUFACTURERS FEDERATION

ul. Pasteura 6A/16  
02-093 Warsaw  
Poland  
Tel.: +48-22-8287091  
E-mail: [biuro@zpps.pl](mailto:biuro@zpps.pl)  
[www.polish-glass.pl](http://www.polish-glass.pl)

## PORTUGAL

### AIVE - ASSOCIAÇÃO INDUSTRIAS VIDRO DE EMBALAGEM

Av. Duque de Loulé 72  
1050-091 Lisboa  
Portugal  
Tel.: +351-213-549810  
E-mail: [aive@aive.pt](mailto:aive@aive.pt)  
<http://aive.pt>

THE PERFECT WAY OF FINDING  
COMPLETE AND UPDATED INFORMATION ABOUT  
ASSOCIATIONS THE WORLD OVER  
WITH **direct links**



 **BELGIUM**

### FEVE - EUROPEAN CONTAINER GLASS FEDERATION

Avenue Louise 89, Bte 4  
B-1050 Bruxelles

**Belgium**

Tel.: +32-2-5360080

E-mail: [secretariat@feve.org](mailto:secretariat@feve.org)

☞ [www.feve.org](http://www.feve.org)

### FIV - FÉD. DE L'INDUSTRIE DU VERRE BELGE

Boulevard De La Plaine, 5  
1050 Bruxelles

**Belgium**

Tel.: +32-2-5426120

E-mail: [info@vgi-fiv.be](mailto:info@vgi-fiv.be)

☞ [www.vgi-fiv.be](http://www.vgi-fiv.be)

### GLASS ALLIANCE EUROPE

Avenue Louise 89 / 5  
1050 Bruxelles

**Belgium**

Tel.: +32-2-5384446

E-mail: [info@glassallianceeurope.eu](mailto:info@glassallianceeurope.eu)

☞ [www.glassallianceeurope.eu](http://www.glassallianceeurope.eu)

 **CZECH REPUBLIC**

### CZECH GLASS SOCIETY CESKA SKLARSKA SPOLECNOST

Arbesova 66a  
466 04 Jablonec nad Nisou

**Czech Republic**

Tel.: +420-777-302977

☞ [www.czech-glass-society.cz](http://www.czech-glass-society.cz)

 **FRANCE**

### CERFAV - POLE VERRIER

Rue De La Liberté  
54112 Vannes-le-chatel

**France**

Tel.: +33-3-83254990

E-mail: [contact@cerfav.fr](mailto:contact@cerfav.fr)

☞ [www.cervav.fr](http://www.cervav.fr)

### FEDERATION DU CRISTAL ET DU VERRE

114, Rue La Boétie  
75008 Paris

**France**

Tel.: +33-1-42688180

E-mail: [contact@fedecristal.fr](mailto:contact@fedecristal.fr)

☞ <https://fedecristal.fr>

 **GERMANY**

### BV GLAS - BUNDESVERBAND GLASINDUSTRIE E.V.

Hansaallee 203  
40549 Düsseldorf

**Germany**

Tel.: +49-211-902278

E-mail: [info@bvglas.de](mailto:info@bvglas.de)

☞ [www.bvglas.de](http://www.bvglas.de)

### DEUTSCHE GLASTECHNISCHE GESELLSCHAFT

Siemenstrasse 45  
63071 Offenbach am Main

**Germany**

Tel.: +49-69-9758610

E-mail: [info@hvg-dgg.de](mailto:info@hvg-dgg.de)

☞ [www.hvg-dgg.de](http://www.hvg-dgg.de)

### IPGR - INTERNATIONAL PARTNERS IN GLASS RESEARCH

Nerscheider Weg 170  
52076 Aachen

**Germany**

Tel.: +49-241 80 94 986

E-mail: [info@ipgr.com](mailto:info@ipgr.com)

☞ [www.ipgr.com](http://www.ipgr.com)

### VDMA - FORUM GLASTECHNIK

Lyoner Strasse 18  
60528 Frankfurt am Main

**Germany**

Tel.: +49-69-66031259

E-mail: [info@vdma.org](mailto:info@vdma.org)

☞ <http://glas.vdma.org/en/>

home

 **GREECE**

### AGMPM - ASSOCIATION OF INDUSTRIAL PRODUCTION PACKAGING & MATERIAL

328, Vouliagmenis Ave,  
17342 - Athens

**Greece**

Tel.: +306937217918

E-mail: [info@pac.gr](mailto:info@pac.gr)

☞ [www.pac.gr](http://www.pac.gr)

 **INDIA**

### THE ALL INDIA GLASS MANUFACTURERS FEDERATION

812, New Delhi House  
27, Barakhamba Road  
New Delhi 110 001

**India**

Tel.: +91-9811921633

E-mail: [info@aigmf.com](mailto:info@aigmf.com)

☞ [www.aigmf.com](http://www.aigmf.com)

 **ITALY**

### ASSOVETRO

Via Barberini, 67  
00187 Roma (RM)

**Italy**

Tel.: +39 06-4871130

E-mail: [assovetro@assovetro.it](mailto:assovetro@assovetro.it)

☞ [www.assovetro.it](http://www.assovetro.it)

### ATIV - ASS. TECNICI ITALIANI DEL VETRO

Via Marchesi 26 D  
C/O MV Congressi S.p.A.  
43126 Parma (PR)

**Italy**

Tel.: +39 328-6851552

E-mail: [info@ativ.eu](mailto:info@ativ.eu)

☞ [www.ativ.eu](http://www.ativ.eu)

### GIMAV - VITRUM SRL

Viale Fulvio Testi 128  
20092 Cinisello Balsamo (MI)

**Italy**

Tel.: +39 02-33007032

E-mail: [gimav@gimav.it](mailto:gimav@gimav.it)

☞ [www.gimav.it](http://www.gimav.it)

### STAZIONE SPERIMENTALE DEL VETRO

Via Briati 10  
30141 Murano - Venezia (VE)

**Italy**

Tel.: +39 041-2737011

E-mail: [spevetro@spevetro.it](mailto:spevetro@spevetro.it)

☞ [www.spevetro.it](http://www.spevetro.it)

 **JAPAN**

### JAPAN GLASS BOTTLE ASSOCIATION

1-9 Shimbashi 3-chome  
Nihon Garas Kogyo Center, 6th Floor  
Minato-ku - Tokyo 105

**Japan**

Tel.: +81-3-35913698

E-mail: [info@glassbottle.org](mailto:info@glassbottle.org)

☞ [glassbottle.org/](http://glassbottle.org/)

 **MALAYSIA**

### MALAYSIA GLASS ASSOCIATION - AFGM / PERSATUAN KACA MALAYSIA

No. 28-2, Jalan Sulaiman Satu  
Taman Putra Sulaiman  
68000 Ampang, Selangor

**Malaysia**

Tel.: +60-03-4270 7616

E-mail: [malaysiaglassassociation@gmail.com](mailto:malaysiaglassassociation@gmail.com)

☞ <http://>

[malaysiaglassassociation.com](http://malaysiaglassassociation.com)

 **POLAND**

### POLISH GLASS MANUFACTURERS FEDERATION

ul. Pasteura 6A/16  
02-093 Warsaw

**Poland**

Tel.: +48-22-8287091

E-mail: [biuro@zpps.pl](mailto:biuro@zpps.pl)

☞ [www.polish-glass.pl](http://www.polish-glass.pl)

 **PORTUGAL**

### AIVE - ASSOCIAÇÃO INDUSTRIAS VIDRO DE EMBALAGEM


Av. Duque de Loulé 72  
1050-091 Lisboa

**Portugal**

Tel.: +351-213-549810

E-mail: [aive@aive.pt](mailto:aive@aive.pt)

☞ <http://aive.pt>

 **RUSSIA**

**STEKLOSOUZ - NATIONAL UNITED COUNCIL OF GLASS INDUSTRY**

Square Zhuravlev d. 2/1  
107023 Moscow

**Russia**

Tel.: +7-495-4116840

📄 [www.steklosouz.ru](http://www.steklosouz.ru)

 **SPAIN**

**ANFEVI - ASOCIACIÓN NACIONAL DE EMPRESAS DE FABRICACIÓN AUTOMÁTICA DE ENVASES DE VIDRIO**

C/ General Oraa, 26 2º Dcha  
28006 Madrid

**Spain**

Tel.: +34-91-5610175

E-mail: [asociacion@anfevi.com](mailto:asociacion@anfevi.com)

📄 [www.anfevi.com](http://www.anfevi.com)

 **THAILAND**

**GLASS MANUFACTURERS IND. - FTI / FEDERATION OF THAI INDUSTRIES**

8th Flr, Creative Technology Bldg.  
2 Nang Linchi Rd  
Thung Maha Mek  
10120 Sathon, Bangkok

**Thailand**

Tel.: +66-2-3451000

📄 [www.fti.or.th/glass%20manufacturers%20industry%20club/home](http://www.fti.or.th/glass%20manufacturers%20industry%20club/home)

 **UNITED KINGDOM**

**BRITISH GLASS**

9 Churchill Way  
Chapelton  
Sheffield - South Yorkshire  
S35 2PY

**United Kingdom**

Tel.: +44-114-2901850

E-mail: [webqueries@britglass.co.uk](mailto:webqueries@britglass.co.uk)

📄 [www.britglass.org.uk](http://www.britglass.org.uk)

**GLASS FUTURES**

James Roby Way  
St Helens, Merseyside, WA9 5DT

**United Kingdom**

📄 [www.glass-futures.org](http://www.glass-futures.org)

 **UNITED STATES**

**AMERICAN SCIENTIFIC GLASSBLOWERS SOCIETY**

12110 N. Pecos St #220  
Westminster CO 80234

**USA**

Tel.: +1-716 3538062

E-mail: [natl-office@asgs-glass.org](mailto:natl-office@asgs-glass.org)

📄 [www.asgs-glass.org](http://www.asgs-glass.org)

**GLASS PACKAGING INSTITUTE**

4250 North Fairfax Street  
Suite 600  
Arlington, VA 22203

**USA**

Tel.: +1-703-6846359

E-mail: [info@gpi.org](mailto:info@gpi.org)

📄 [www.gpi.org](http://www.gpi.org)

**GMIC - GLASS MANUFACTURING INDUSTRY COUNCIL**

3950 Sunforest Ct - Suite 200, Office  
209 - Toledo OH, 43623

**USA**

Tel.: +1-614-5233033

E-mail: [rwilpetz@gmic.org](mailto:rwilpetz@gmic.org)

📄 [www.gmic.org](http://www.gmic.org)

**THE AMERICAN CERAMIC SOCIETY**

550 Polaris Parkway, Suite 510  
Westerville, Oh 43082 - **USA**

Tel.: +1-614-8904700

E-mail: [customerservice@ceramics.org](mailto:customerservice@ceramics.org)

📄 <http://ceramics.org>

 **VIETNAM**

**VIETNAM GLASS ASSOCIATION - VIEGLASS**

Viglacera Exim Building, No. 2  
Hoang Quoc Viet, Cau Gay  
Ha Noi - **Vietnam**

Tel.: +84-91-2872081

E-mail: [vierglass@yahoo.com](mailto:vierglass@yahoo.com)

📄 [www.vieglass.com.vn](http://www.vieglass.com.vn)

## SUPPLIERS GUIDE Yellow Pages online

Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com) | Reserved for advertisers | [www.glassonline.com](http://www.glassonline.com)

**Hollow Glass Products**

Product

HOLLOW GLASS

Search Company

Search



**ACH - Advanced Container Handling**

Strada Pedemontana per Vignolo, 2 -  
43029 - Traverserolo (PR) - Italy  
Tel: 0039-0521-1745014

Website

Email

**Flat Glass Products**

Product

FLAT GLASS

Search Company

Search



**Vincent - Surfaces Group**

Via dell'Electronica, 6 - 36016 - Thiene  
(VI) - Italy  
Tel: 0039-0445-359911

Website

Email

Products





# Review

March / May

# 2024

PAGES 144 - 154



## March 2024

### MANIFESTO 2024-2029: GLASS FOR EUROPE PRESENTS POLICY RECOMMENDATIONS

Glass for Europe has unveiled a two-page Manifesto outlining its priorities and policy recommendations for the 2024-2029 mandate of the European institutions.

With the European elections taking place in less than 70 days, from June 6 to 9, Glass for Europe released a new document which came as a complement to the five-part video series in which industry leaders introduce the industry's realities. The Manifesto outlines the key areas of work that newly elected policy makers should address to



ensure that the flat glass sector can effectively contribute to the EU's climate neutrality goal, but also to improve the economic resilience and competitiveness of the Union.

Considering the efforts to be made during the next mandate for the EU to achieve its 55 percent reduction in CO2 emissions and the significant headwinds faced by Europe's economy and industry, Glass for Europe invites policy-makers to focus on four work streams:

- Boost windows replacement,
- Support energy and carbon efficiency of industrial process,
- Incentivise the recycling of old glazing and,
- Strengthen Europe's industrial base.

To help supporting these ambitions, Glass for Europe has made concrete policy proposals which should serve as a basis for discussions with newly elected MEPs, European officials, and civil society. The Manifesto was presented to incumbent and new policy makers throughout the following months.

### NSG RECOGNIZED CDP SUPPLIER ENGAGEMENT LEADER FOR 3 CONSECUTIVE YEARS

NSG Group announced that it was recognized as a Supplier Engagement Leader, the highest rating in the Supplier Engagement Assessment,



for the third year in a row by CDP, an international non-governmental organization that promotes disclosure of information on environmental impacts.

The CDP Supplier Engagement Rating (SER) is an indicator that assesses a company's supply chain engagement on climate change issues and promotes collaboration among companies in the supply chain. Companies' efforts are scored based on their responses to questions in the four areas of the CDP Climate Change Questionnaire (Governance, Targets, Value Chain (Scope 3) and Value Chain Engagement) and their assessment of the overall Climate Change Questionnaire. In this year's survey, 458 companies around the world, including 109 companies in Japan, were selected as Supplier Engagement Leaders.

NSG Group has established a Supplier Code of Conduct and is working with suppliers to achieve the goals set. Furthermore, in September 2023, the company established the NSG Group Sustainable Supply Chain Charter to strengthen and accelerate actions to achieve the Group's sustainability goals in cooperation with its suppliers.

"NSG's supply chain partners play an increasingly vital role in helping NSG Group meet our sustainability targets" said John Wilgar, Chief Procurement Officer at NSG. "Only with the support and commitment of our suppliers can we achieve the CO2 reductions required to address climate change but also to promote positive social impact on labour and human rights and other ESG goals as set out in our Supply Chain Charter."

### AGC GLASS EUROPE'S HORTICULTURAL BUSINESS AWARDED HORTIQ CERTIFICATION

The HortiQ certificate was awarded to AGC Glass Europe at last week's HortiContact show in Gorinchem in the Netherlands.

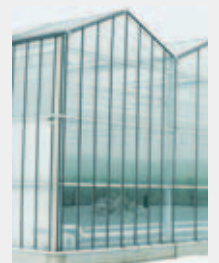


Thanks to its recent, but promising, horticultural division AGCULTURE, AGC Glass Europe is the only glass manufacturer to be able to boast HortiQ certification.

#### Continued innovation with glass

The food requirements linked to the explosion in the world's population, the energy crisis and the desire to decarbonise greenhouses at European level are all factors driving innovation in the horticulture sector.

AGCULTURE is positioning itself as a pioneer in terms of developments. Geysir glass is a good example of this:



marketed for cold and temperate climates, this single-glazed glass offers remarkable energy savings thanks to its low-emissivity (low-E) coating, while maximising light transmission thanks to its two anti-reflective coatings.

The results of tests carried out on tomato and aubergine production by Wageningen University & Research (Netherlands) over the last two years are impressive. For equivalent yields, Geysir glass reduced energy consumption by around 25 percent compared with standard horticultural glass. It is because of this excellent energy performance that many countries, such as France and the Netherlands, now offer financial aid to encourage the purchase of this insulating glass.

#### Growing demand for quality

Michiel van Spronsen, Sales Adviser at AGCULTURE, sees a growing awareness of glass quality, "Customers are demanding, especially when it comes to major international projects. Horticultural glass can, of course, be bought at a lower cost, but there are risks. The HortiQ certificate is our guarantee of quality. It demonstrates that our production is controlled and meets a long list of demanding criteria".

#### BRL 8001 certificate

At the HortiContact show, the Chairman of the HortiQ certification body, Hans van der Salm, awarded the BRL 8001 certificate to AGCULTURE, making it the 27th horticultural supplier to receive this distinction. BRL 8001 certification, which covers both the process and the product, guarantees the company's general quality policy. This quality label is aimed at companies that supply greenhouse installations, systems and services to the horticulture sector in the areas of transport, CO<sub>2</sub>, control, heating and water technology.

### AGC: SUCCESSFUL DEMONSTRATION TEST OF SOLAR PANEL GLASS RECYCLING

AGC Group announced that it had succeeded for the first time in Japan in a demonstration test to recycle cover glass for solar panels into float glass. With the success of this test, following the test for recycling into figured glass announced in November 2023, AGC expects that cover glass can be used to make float glass, which has been considered technically difficult to achieve.

The test was conducted on March 18 at the AGC Kashima Plant's float glass production furnace. Approximately 5 tonnes of cover glass used in this test was refined and supplied using the low-temperature thermal decomposition technology of Tokuyama Corporation.

The service life of solar panels is estimated at 20 to 30 years, and hundreds of thousands of tonnes of panels are expected to be disposed of annually starting in the late 2030s. Cover glass accounts for approximately 60 percent of the total weight and there are concerns about the serious environmental impact of disposing of it in landfills as industrial waste.

Recycling cover glass into float glass has been challenging due to the presence of components that enhance glass

transmission. With the success of this test, it is expected that float glass, which has a high production volume, will serve as a suitable outlet for the horizontal recycling of cover glass.

AGC is actively working to conserve (for every tonne of recycled raw cullet used, 1.2 tonnes of raw materials derived from natural resources are expected to be conserved) raw materials derived from natural resources, such as silica sand and soda ash, and to reduce greenhouse gas emissions in its production processes through recycling initiatives (by replacing raw materials derived from natural resources with raw cullet, the thermal energy required for melting can be reduced, resulting in an expected reduction of 0.5 to 0.7 tonnes of CO<sub>2</sub> emissions per tonne of glass from raw material sourcing to production).

In its medium-term management plan, AGC plus-2026, the AGC Group has defined "three social values" to be created through its products and technologies. In the "Blue planet" value, the Group contributes to the sustainability of the global environment by reducing the environmental impact of its products, from the sourcing of raw materials to their use by customers. The Group will continue to create value for society by accelerating the efficient use of resources.



### NSG GROUP: EARLY CLOSURE OF A FLOAT LINE IN WEIHERHAMMER SITE

NSG Group announced the decision to cease the production on a float line at the Weiherhammer plant, in Germany, ahead of the cold repair planned next year.

The decision is as a consequence of the review of the current demand and supply situation in the Central European Architectural Glass market, while expecting steady market growth in the long term.

It was anticipated that production would cease in the summer 2024, around 12 months prior to the planned repair which will commence in June 2025. The Group did not expect any material additional one-off costs nor redundancies as a result of the early closure of the float line.





**GUARDIAN AND VELUX TO JOINTLY DEVELOP TEMPERED VACUUM INSULATED GLASS**

Guardian Glass and the VELUX Group have entered a joint development agreement concerning tempered vacuum insulated glass (VIG).



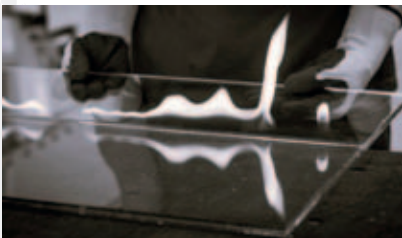
This agreement will allow Guardian and VELUX to develop manufacturing processes and capabilities together to meet the growing, evolving demand for VIG.

“We are very pleased to enter into this agreement with Guardian Glass,” said Lars Petersson, CEO of VELUX Group. “Glass is a key material in VELUX roof windows and we are keen to investigate together with Guardian how to advance its capabilities and integrate this into our products to benefit our customers.”

Ron Vaupel, President of Guardian Industries, added, “The VELUX Group’s leadership in architectural roof windows and decades of expertise in high volume fabrication of window systems makes the company the ideal partner for us to make VIG technology available to a broader market. Combined with Guardian’s years of proven tempered VIG expertise, we expect to propel VIG into a new era.”

With more than 170 years combined innovation and experience, Guardian and VELUX will leverage their collective technical teams, intellectual property and additional tools to advance tempered VIG technology.

**GFE: THE EC BUILDS PLAN FOR INDUSTRIAL LEADERSHIP IN ADVANCED MATERIALS**



Recently, the European Commission (EC) published a communication on Advanced Materials for Industrial Leadership to outline its strategy for

“advanced material” research, innovation and production in the EU.

The EC outlined its intention to keep the current EU leadership in this sector, reach strategic autonomy regarding advanced materials and attain Green Deal objectives with the help of research and production of advanced materials.

Glass for Europe is pleased to observe that the EC has acknowledged glass as an example of material for which research and innovation must be supported to enable greater well-being in buildings.

Within the numerous other sectors and priorities for boosting research and innovation on advanced materials, glazing material can play a key role, for instance on:

- improving energy efficiency in buildings by using high-performance glazing,
- improving circularity and addressing environmental performance in both the construction and mobility sectors. Flat glass is infinitely recyclable, and there is space to increase the amount of end-of-life flat glass recycled in closed-loop.
- contributing to renewable and low carbon energy conversion and generation through innovation and development of solar glass and mirrors to contribute to the objective of renewing the EU solar PV value chain.

As argued by the journal Nature, glass is really the hidden gem in a carbon-neutral future.

Glass for Europe’s members stands ready to take their part in the research, innovation and production needs for advanced glass to contribute to the objective communicated by the EC and welcome the will to sustain the advanced material industry in the EU for the achievement of the Green Deal’s objectives.

**GC GLASS EUROPE RENEWS PARTNERSHIP WITH VAN HUËT GLASS LOGISTICS**

The partnership between AGC Glass Europe and Van Huët Glass Logistics will be formally extended till 2029.

Van Huët has been taking care of AGC Glass Europe’s glass logistics with the Logiglass concept for a range of years already. The company specializes in transporting glass with modern, lightweight glass inloaders that haul large sizes of unpacked glass directly from the factory.



However, Van Huët also has a solution for transporting all kinds of sizes of (un)packed glass without a stillage or packing material. The Logiglass trailer is the solution with an built-in crane, making loading and unloading quick and easy. No packaging material means no waste, and the glass is transported safe and secured.

**ŞİŞECAM TO INVEST USD 114 MILLION IN THREE NEW COATED GLASS LINES**

Şişecam announced its decision to invest USD 114 million in three new coated glass lines. These cutting-edge lines with a total capacity of almost 20 million square metres will be located in Turkey, Italy and Bulgaria.

As part of the investments planned to commence opera-

tions in 2025, the company will invest in a coated glass line with an annual capacity of 7 million square metres at its flat glass production facility under construction in Tarsus, Turkey. Additionally, Şişecam will invest in a coated glass line with an annual capacity of 6.5 million square metres at its flat glass facility in Northern Italy. Şişecam will also invest in a line with an annual capacity of 6 million square metres at its flat glass facility in Bulgaria.



These investments, totalling USD 114 million including working capital requirements, will bring the total number of Şişecam's glass coating lines to seven worldwide. The objective is to elevate Şişecam's existing coated glass capacity, currently around 22 million square metres based on an average product mix across four different lines, to approximately 42 million square metres through these strategic investments.

Ahmet Kirman, Şişecam's Chairman and Executive Member of the Board of Directors, said, "Each strategic investment we undertake enhances our ability to grow and progress. Our most recent decision, aimed at addressing the rising demand for coated glass within the flat glass sector, marks a significant milestone. This initiative will almost double Şişecam's production capacity for coated glass. While strengthening our leadership in the architectural glass market in Turkey, it will also facilitate our access to a broader customer base globally with higher competitiveness.

"These investments will elevate the share of high-value products within our total production volume and augment our product portfolio. Additionally, the investments will facilitate Şişecam in achieving a more flexible management of its supply chain, leading to heightened operational efficiency."

### GLAS TRÖSCH: KANTONALBANK HALL, A VERSATILE VENUE

At the beginning of 2024 a new building was introduced to St. Gallen, Switzerland: the Kantonalbank Hall. Designed by Ilg Santer Architekten and built to meet the infrastructural requirements of the popular trade fair location, it impresses with its straightforward and spacious design. Located close to the A1 motorway, this



top-class exhibition and event hall can accommodate up to 12,000 people and is suitable for a wide range of uses: From congresses and trade fairs to sporting events, concerts and cultural events.

Glas Trösch supplied two of its top products for the construction, featuring the coatings SILVERSTAR SUPERSELEKT 35/14 and SILVERSTAR COMBI NEUTRAL 51/26. SILVERSTAR SUPERSELEKT 35/14 is a glass solution characterized by strong solar control properties and high light transmission, perfect for roof glazings. SILVERSTAR COMBI NEUTRAL 51/26 is used in the façade, protecting against the sun and allowing plenty of light into the room, while also being a top thermal insulation glass.

### NSG: SUCCESSFUL START TO EUROPE'S FIRST CARBON CAPTURE TRIAL

NSG Group announced that Europe's first carbon capture trial on a flat glass manufacturing plant has successfully started in the business' UK Group, Pilkington United Kingdom, as part of a national project led by C-Capture. The trial forms part of the 'XLR8 CCS – Accelerating the Deployment of a Low-Cost Carbon Capture Solution for Hard-to-Abate Industries' project. Led by C-Capture, developers of next generation technology for CO2 removal, XLR8 CCS aims to demonstrate that a low-cost carbon capture solution is a reality for



difficult-to-decarbonize industries in the race to net zero. XLR8 CCS is funded by the UK Government's Department of Energy Security and Net Zero with GBP 1.7 million of funding secured from their GBP 1 billion Net Zero Innovation Portfolio. The funding is part of the GBP 20 million Carbon Capture, Usage and Storage (CCUS) Innovation 2.0 programme, aimed at accelerating the deployment of next-generation CCUS technology in the UK. Additional private sector contributions support a GBP 2.7 million total for this multi-industry project.

One of C-Capture's carbon capture solvent compatibility units (CCSCUs) has now been deployed at Pilkington UK's float furnace at the Greengate glass manufacturing site in St Helens, part of NSG Group. Following pre-installation commissioning at C-Capture, the unit was connected at the base of UK5 furnace chimney. The CCSCU is now successfully separating CO2 from the waste flue gas.

The trial at the Greengate site will continue for several months to assess the compatibility of C-Capture's proprietary solvent-based technology with real-world flue gases from an industrial glass making furnace. A further five carbon capture trials will take place across the UK as



part of the XLR8 CCS project at industrial sites owned by project partners Glass Futures, Heidelberg Materials and Energy Works Hull – in conjunction with leading consulting and engineering company, Wood. Carbon capture solvent compatibility units (CCSCUs) designed and built by C-Capture and Wood will be installed and operated on partners' sites.

Project success will see C-Capture and its project partners well placed for deployment of commercial-scale carbon capture facilities across the three industries by 2030 which could capture millions of tonnes of CO<sub>2</sub> per year. NSG Group is actively working on environmental issues and successful of manufacturing experiment by using hydrogen energy and 100 percent biofuel.

### LOW-CARBON, ENERGY-EFFICIENT LOW-E GLASS FROM VITRO ARCHITECTURAL GLASS

As part of U.S. President Biden's Investing in America agenda, the General Services Administration (GSA) recently awarded over USD 10 million to select windows made of low embodied carbon (LEC) glass to be featured in an existing renovation project at the Lewis F. Powell Jr. U.S. Courthouse and Annex buildings in Richmond, Virginia, USA.



Lewis F. Powell Jr. U.S. Courthouse in Richmond, Virginia

Vitro Architectural Glass is pleased to announce that its Solarban® 60 solar control low-e glass was selected by the GSA for the Powell Courthouse and Annex renovations. Solarban® 60 glass meets one of the limits (top 40 percent) established in GSA's IRA Low Embodied Carbon Material Requirements for flat glass. Additionally, Solarban® 60 glass meets the courthouse's efficiency, performance, and aesthetic needs while generating fewer emissions from manufacturing, with a third-party verified global warming potential (GWP) of 1,350 kilograms of carbon dioxide equivalent per metric tonne, which is 6 percent lower than North America's flat glass industry standard figure.

With its ability to transmit 70 percent of the available visible light while blocking 62 percent of the sun's heat energy, Solarban® 60 glass offers year-round comfort for occupants, significant energy savings and a clear, colour-neutral appearance.

Vitro's production teams have taken several significant steps to lower embodied carbon generated during glass production, which is challenging because flat glass manufacturing makes up more than 75 percent of the GWP of double-pane insulating glass units (IGUs).

Strategies to lower embodied carbon include using batch material more efficiently, implementing furnace control systems to reduce the variability of melting temperatures and fuel consumption, adding low-NOx burners and variable frequency drives on cooling fans to reduce energy use, installing energy-efficient LED lighting and driving supplier improvements.

A highlight of these efforts is Vitro's pioneering use of oxy-fuel technology at three plant locations in the U.S. Vitro's patented oxy-fuel furnace technology melts glass raw materials such as sand and silica carefully, mixing pure oxygen (instead of air) with natural gas, significantly improving our energy and environmental performance. This technology and process reduces energy consumption in glass-melting furnaces by as much as 20 percent, cutting greenhouse gas emissions in half.

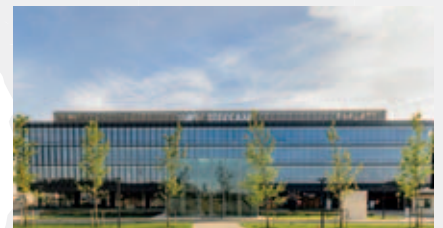
## April 2024

### HIGH DEMAND FOR ŞİŞECAM'S EUROBOND ISSUES

Through its UK subsidiary, Şişecam UK PLC, Şişecam issued USD 500 million and USD 600 million global bonds (Eurobonds) with 5-year and 8-year terms, aimed at institutional investors globally.

These issues attracted demand exceeding USD 3.5 billion from international funds and financial institutions. The issues, authorized by Citigroup Global Markets Limited, HSBC Bank plc, J.P. Morgan Securities plc, and Bofa Securities, had coupon rates of 8.250 percent and 8.625 percent. The bonds, in high demand worldwide, saw 38 percent purchased by funds and financial institutions from the USA, 37 percent from the UK, 15 percent from Europe, and 10 percent from Asia and the Middle East, primarily by institutions based in Hong Kong.

Şişecam's Chairman and Executive Member of the Board, Dr Ahmet Kirman, shared that Şişecam's first Eurobond issue was in 2013, noting that, "Şişecam's bonds have consistently stood out for the strong buying interest from institutional investors both domestically and internationally. Our credit ratings have been evaluated above the country's ratings by Moody's and Fitch at B2 and BB-, powered by Sisecam's global successes. The highest demand for the largest corporate bond issue in the history of the Republic of Turkey confirmed the global confidence in Şişecam once again."



Şişecam's CEO, Gorkem Elverici, also stated their ongoing commitment to effective liquidity management, "In line with our vision of creating sustainable value, we continue our investments supporting the growth of the sectors we provide input to. In the upcoming investment period, we will continue to use a mix of necessary capital market and financing tools. Besides this Eurobond issue, we have also undertaken significant bond issuances in Turkey recently. We will continue this approach tailored to our needs in the respective currencies."

### REVIP DEFENDS RENEWING WINDOWS TO COMPLY WITH REHABILITATION FORECASTS

The Valencian Regional Association of Flat Glass (REVIP) proposed to focus on the renewal of the stock of windows and glass enclosures, to make possible the Government's National Energy and Climate Plan, which seeks to rehabilitate 1,200,000 homes by 2030 in terms of envelope, energy efficiency and to reach 7 million homes in 2050.

Only with the renewal of the window stock in Spain would a "very positive" effect be achieved to move towards the climate neutrality objective planned by the European Union for the next



4 years and in the updating of the national housing stock, as noted by the president of REVIP, Vicente Cervera, at the meeting after the Ordinary General Assembly of the association.

From the sector, it has been explained that these type of actions are "more accessible to citizens and communities of owners" than, for example, the thermal insulation of façades. Furthermore, the president of REVIP recalled that focusing on the building envelope, with special attention to the replacement of glazing and windows, improves the energy efficiency of buildings by reducing the demand for heating and cooling.

According to the planning of the European Parliament, in the next legislature a 55 percent reduction in greenhouse gas emissions should be achieved, as have been recalled by the president of REVIP, who added that, to reach this milestone, the Flat glass sector is strategic for reducing overall CO2 emissions by limiting energy consumption in buildings and providing photovoltaic efficiency.

Vicente Cervera has explained that it is necessary to encourage and promote the replacement of windows to adopt double or triple glazing systems, as well as implement low-emissivity glass and/or solar control, to minimize energy loss in a building by up to 30 percent, according to reports from Glass for Europe.

### SAINT-GOBAIN TO INCREASE CAPACITY OF AIN SOKHNA, EGYPT, FLOAT PLANT

Saint-Gobain' Ain Sokhna float plant in Egypt will see its capacity increased with the construction of a second flat glass production line. With its new solar farm, the site will meet part of its own needs in renewable energy and reduce its CO<sub>2</sub> emissions.

Located 120 kilometres from Cairo on the edge of the Red Sea and inaugurated in 2010, the Saint-Gobain Glass plant in Ain Sokhna is the main flat glass production site in the Middle



East. It produces 230,000 tonnes of glass a year and supplies 30 countries. This strategic facility for the Southern Europe, Middle East and Africa Region is to be equipped with a second production line, increasing its production volume by 85 percent. Ain Sokhna will be able to meet growing demand on the local market while developing its export capacity.

The foundation stone-laying ceremony in March 2024 also saw the inauguration of Saint-Gobain's first ever solar farm in Egypt. Built in 2023 on a 70,000 square metre site, the 7,500 photovoltaic panels will generate 10 MW of renewable energy. This will enable the Ain Sokhna plant to reduce its CO<sub>2</sub> emissions by approximately 5,000 tonnes a year.



### REILING: NEW OSTERWEDDINGEN GLASS RECYCLING PLANT FULLY OPERATIONAL

At Reiling's location in Osterweddingen, Germany, the newly built glass recycling plant was commissioned in February and has successfully completed its first few weeks of operation.

By continuously investing in innovative recycling technologies and plant construction, Reiling is able to go even deeper into value creation and meet the increasing requirements of industries such as bottle glass, flat glass and insulating wool.





The additional recycling plant will further process the rejects and fine-grain cullet as well as the poor-quality incoming cullet produced in the current plants. The innovative technology allows for sorting of heavily contaminated cullet and cullet in the fine-grain range.

For this purpose, the input material is pre-dried in a drum dryer and then processed in various sorting machines so that CSP, glass ceramics, lead glasses, FE and NE metals, organic materials such as foils and labels, but also larger plastic particles are discharged. In addition, colour sorting is also possible.



Due to the significant improvement in the quality of the processed cullet, the glass recycled can be returned to high-quality melting applications and remains in the material cycle.

### PROMAT HELPS ATTAIN RTC DEVELOP UK'S LATEST FIRE TESTING FACILITY

Fire resistant glass and glazing specialist Promat UK has supported the team behind the creation of a new fully-accredited fire testing laboratory in North Yorkshire, UK. Attain RTC's new 40,000 square foot state-of-the-art facility at Church Fenton, near Leeds, provides much-needed additional fire testing capacity for the construction sector, offering a wide range of research, testing and certification services.



In order for the facility to satisfy the stringent requirements of

UKAS accreditation, the team were required to develop a 'test bank' and gain experience of testing various doors, windows and glazing assemblies in their new environment ahead of taking on client projects. Jerry Quayle & Associates approached Promat to support the development process at Attain RTC by providing a timber framed fire resistant door assembly for testing in trial conditions.

The brief from Promat for this par-



ticular exercise was to test the door assembly, which already held a 30-minute accreditation to BS476 part 22, to new criteria that would upgrade its certification to EN1364-1, the standard relating to fire resistance of non-loadbearing walls, and EN1634-1, which is used to determine the suitability of materials used in doors.

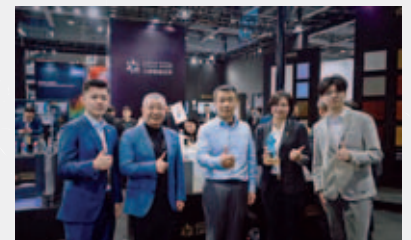
The process involved Promat providing a complete design for the door assembly, which then required build-up and installation within the furnace in accordance with the technical guidance. This was completed by Rated Solutions, one of Promat's approved fire glass installers. On completion of the test, Attain RTC then issued the report confirming the assembly's performance.

Attain RTC's testing was successful both in terms of the way the test was conducted by their team and how the Promat timber frame fire door performed, ensuring that it meets the more demanding requirements of both European standards.

As one of the UK's leading manufacturers and suppliers of fire resistant glass and glazing systems, Promat is highly experienced in the testing and accreditation procedures. In addition to glass and timber frame doors, the company manufactures the SYSTEMGLAS range.

### NORTHGLASS WINS TWO ARCHITECTURAL GLASS AWARDS

At the 2024 National Curtain Wall Industry Annual Conference for Aluminium Doors and Windows, held in Guangzhou on March 10, NorthGlass won the "Top 10 Preferred Brands of Architectural Glass" award for



NorthGlass representative on stage to receive the certificate of the "Supreme Award of the North Star Architecture Award"

the 18th consecutive time. Mr. Gao Qi, Vice President of NorthGlass, presided over the meeting.

At the North Star Architecture Award ceremony hosted by the Alpha Architecture Conference, in the Brisbane New Theatre in Australia, the application of NorthGlass "ultra-high forward and reverse curved small radius glass" won the "Supreme Award of the 10th North Star Architecture Award" with the highest score due to its high technology and process and its excellent presentation effect.

As a high-tech enterprise engaged in research and development, design and manufacturing of glass deep processing equipment and products, NorthGlass' main products include glass tempering equipment, low radiation coating lines, glass automation wiring, building curtain wall glass, luxury house glass, etc.

Based on 20 years of technological accumulation in the glass deep processing industry, NorthGlass has devel-



oped flat glass with lengths from 3.6 metres, 6 metres, 12 metres, 18 metres to 24 metres; the arc lengths from 1.2 metres, 2.4 metres, 4.2 metres to 8 metres; and achieving intricacies with a minimum radius of 175 millimetres. NorthGlass continuously creates its own records.

In recent years, NorthGlass has produced excellent works and received much attention. NorthGlass has undertaken more than 100 projects, including the Shanghai Grand Opera House, Brisbane New Theatre, Beijing City Library, Sichuan Guanghan Sanxingdui Museum, Lingang Glory Ring, Huawei flagship store in Taikoo Li, Guangshang Building, Yangtze River Center Phase II, and Zhipu 1-chome.

Under the combined force of new opportunities and new patterns, NorthGlass will continue to strive, innovate and live up to expectations, helping to present a more diversified quality of architecture.

### NSG STARTS WORKS ON FIRST ON-SITE SOLAR PROJECT OF THE GROUP IN JAPAN

NSG Group announced entering into a long-term power purchase agreement (PPA) for renewable electricity generated from solar panels installed on the premises of the plant in Maizuru, Kyoto Prefecture, Japan, as the first on-site solar project of the Group in Japan, when the installation work had just started.

According to the project, a total of 3,064 solar panels with the capacity of 1.15 MWp, manufactured by First Solar, a leading global manufacturer of thin-film solar panels that has a long-standing partnership with NSG Group, will be installed on unused land in the Maizuru plant. The solar modules contain TCO (transparent conductive oxide) glass made by NSG Group using its proprietary on-line coating technology.

The facility will be installed and operated by BayWa r.e. Japan, a renewable energy provider. The construction began on March 1, and the facility was expected to be operational in October 2024. 90 percent of the electricity generated will be purchased by NSG Group over a period of 25 years at a contracted fix price. The facility is expected to supply 1,411MW of renewable energy annually with carbon reduction effect of about 541 tonnes of CO<sub>2</sub> per year.



NSG Group's plant in Maizuru

The introduction of this renewable energy will lead to a reduction in carbon emissions for NSG Group and contribute to the promotion of sustainability in the manufacturing process.

While the demand for renewable electricity in the market

is increasing in the background of global carbon reduction, there is a risk of soaring electricity prices. The introduction of on-site PPAs utilizing idle land like this project in Maizuru will help stabilize the procurement of renewable energy for medium to long term.

NSG Group has set a target of reducing Scope 1, 2 and 3 greenhouse gas emissions by 30 percent by 2030 compared to 2018 levels through an approved Science Based Target. At the same time, the Group aims to achieve carbon neutrality by 2050. This project is part of the Group's efforts to shift to renewable energy.

Through these initiatives, NSG Group will accelerate the activities toward the decarbonization of the business and strive to realize a sustainable society.

## May 2024

### SMOKEGUARD - PYROGUARD'S SMOKE CONTROL SOLUTION

As the world's leading independent provider of fire safety glass solutions for timber, steel and aluminium applications, Pyroguard has been helping architects to achieve safe and beautiful living and working spaces for over 35 years.

When it comes to smoke control, an important part of a building's passive fire protection strategy, the industry is increasingly moving away from mechanical or obstructive smoke control curtains to contemporary glazed solutions. Smokeguard is Pyroguard's smoke control solution, offering 30 to 60 minutes of fire protection. Manufactured from a sheet of toughened glass, it's designed to be suspended from the ceiling to offer a contemporary and visually appealing solution.

The new brochure is designed to be an informative resource for architects and specifiers and is available to download.

Containing all the latest product information, technical drawings and details on fixings, the brochure also features recent project case studies from around the world. Speaking about the brochure, Andy Lake, Pyroguard's UK & IRE Sales Director, said, "While the conversation around passive fire protection often focuses on fire safety glass, smoke control is just as important, having a





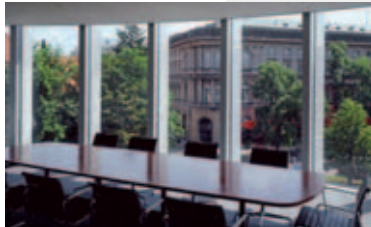
real impact on the ability of occupants to safely evacuate a building. With this in mind, Smokeguard is the ideal solution, helping architects to meet the required safety regulations without compromising on design.

“Our new brochure provides architects and specifiers with easy access to the information they need and is just one example of the comprehensive technical and product support we offer to our customers.”

Available in 8 millimetre thicknesses and with glass pane sizes up to 2,500 by 1,200 millimetres, Smokeguard can seamlessly blend into the background of a building. Available as a complete system – supplied with the glass, slim-line steel brackets and fixings – once installed it can form a channel that stretches the length of a corridor or building.

### NSG PILKINGTON: TEN TOP TIPS FOR BETTER SOUND INSULATION

NSG Pilkington sees a greater demand for glazing that can help block out noise. Here are some simple tips to help maximise sound insulation with glazing.



Following these tips will help to create peace and quiet.

1. Generally, the thicker the glass, the better the sound insulation.
2. Laminated glass used for safety applications provides better sound insulation compared to monolithic (float) glass, as the presence of the interlayer introduces a damping effect.
3. If one pane of the insulating glass unit (IGU) is laminated, then face this towards the warmer side, usually the inside of a building. The warmer the interlayer in the laminated glass, the softer it is and the greater the damping effect.
4. For IGUs, using panes of different thicknesses can offset the dip in sound insulation due to individual resonance effects.
5. The wider the gap between the panes of glass, the better. However, there is little variation in acoustic performance in the range of 6 to 20 millimetres for IGUs.
6. Secondary glazing with large cavity widths can provide high performance, but only if all air gaps are sealed properly.
7. Contrary to popular belief, triple-glazing is not always better than double glazing at insulating against noise. Careful selection of the glass types is necessary to optimise sound insulation in triple glazing.
8. Enhanced performance can be achieved by specifying laminated glass with a special acoustic PVB (poly-

vinylbutyral) interlayer. The Pilkington Optiphon™ range of acoustic laminated glass, for example, has been given the seal of approval by Quiet Mark, the international mark of approval from the Noise Abatement Society Charitable Foundation.

9. Know your noise source. Glass performs differently against different types of noise. For example, a product effective at reducing road traffic noise transmission may not be effective against human speech (and vice versa).
10. If you're not convinced of the acoustic performance of a product, refer to a specification tool like Pilkington Spectrum (available as a free app for iPhones and iPads and for Android devices), and request a copy of the test report.

### GLASS FOR EUROPE: WINDOWS REPLACEMENT IS A PRIORITY

Windows replacement is among the priorities of Glass for Europe's 2024-2029 Manifesto. When asked about how to improve energy



efficiency in buildings, European citizens call for:

- Increasing the number of renovations with a focus on residential buildings,
- For the EU to continue to support Member States in implementing existing legislation,
- Supporting low-income households.

These recommendations were made by 150 randomly selected citizens representing all 27 Member States as part of the European Citizens' Panel on Energy Efficiency. Citizens want more effort on buildings renovation, not less.

### DOW ANNOUNCES CAPACITY EXTENSION IN SAS CHEMICALS GMBH

Dow announced a capacity expansion from its minority equity investment in SAS Chemicals GmbH, a German-based specialty chemical producer of sealants and components used in insulating glass manufacturing, to create a more holistic façade offering.

With the capacity expansion at SAS Chemicals GmbH,



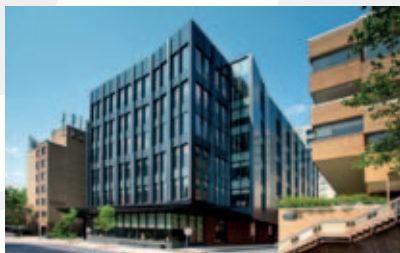
Dow has a broader range and capacity of high-performance adhesives and sealants solutions for insulating glass manufacturers.

Dow has a minority equity investment in SAS Chemicals GmbH, a company that produces and supplies adhesives and sealants that are used to manufacture insulating glass windows. As part of this capacity expansion, SAS Chemicals will strengthen its operations in Germany and expand production in Turkey, which is ideally situated to efficiently serve the global market and complement existing SAS operations. SAS Chemicals' Turkey plant is expected to start up in June 2024.

"With expanded capacity and products, our customers will benefit from a total-system solution of sealant and adhesive technologies that meet the performance, productivity and quality needs of the façade and window segments," said Jean-Paul Hautekeer, global strategic market director for Building & Infrastructure at Dow Consumer Solutions. "This investment is reinforcing our position as a leading materials science supplier in the global façades industry."

### VITRO ARCHITECTURAL GLASS: SOLARBAN 60 ACUITY FOR PENN UNIVERSITY

As Penn State's first ground-up building in down-town State College, Pennsylvania, USA, the new LEED® Gold-targeting Eric J. Barron Innovation Hub, formerly known as the James Building,



Ph: Jim Cunningham



maximizes daylighting with precisely sized openings and a ground-floor curtain-wall system.

In selecting the glazing for the windows and curtain-wall, the project team carefully evaluated options based on glass performance, glass clarity and visual flatness, in addition to other qualitative aspects of the glass. After consulting with the construction management team and

design assist trade partners, the architect selected Vitro Architectural Glass' Solarban® 60 Acuity® glass with a 5/16-in. outer lite which offered a high level of performance and aesthetics at the best value for the project. Designed specifically to deliver ultimate transparency and visual clarity combined with energy efficiency, Solarban® 60 Acuity® glass provides visible light transmittance (VLT) of 73 percent and a solar heat gain coef-

ficient (SHGC) of 0.41, making it the ideal choice to maximize daylighting and enable connectivity between the interior and exterior environments without sacrificing energy performance.

The all-glass curtain-wall at the building's base maximizes visual connectivity between the building's public spaces—the lobby, co-working and fabrication space—and the side walk pedestrian experience.

Enhancing the glazing's solar control, folds in the metal skin deliver both passive window shading and cast ever-changing shadows to animate the façade.

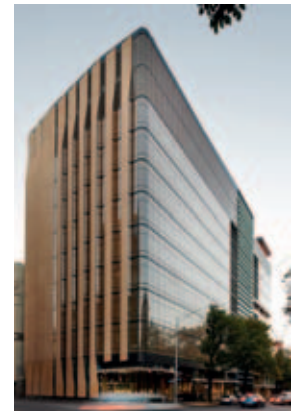
### OKALUX - CURVED DESIGN IN MELBOURNE

At the prestigious corner of Royal Parade in Melbourne, Australia, The Peter Doherty Institute for Infection and Immunity speaks softly yet captures attention.

The addition to the University of Melbourne's medical precinct houses advanced immunology research facilities is designed to consume a good 20 percent less electricity and produce 50 percent fewer greenhouse gases than a comparable building.

These savings are achieved through combined heat and power generation, the use of grey water, the greening of the roof surfaces and high-performance glazing – such as Okalux's OKAWOOD insulating glass with functional timber insert. Okalux has been an expert in the intelligent use of daylight as a valuable resource for decades. Their functional glass with special inserts in the space between the panes is used wherever the highest demands are placed on the lighting conditions in the interior.

Used extensively in the façade, this insulating glass with wooden louvers in the space between the panes is characterized by strong solar control, which enables glare-free, adjustable use of daylight.



Ph: Peter Bennetts





## SKYLINE WINDOWS ATTRACTS MINORITY INVESTMENT FROM SCHÜCO INTERNATIONAL



At the prestigious corner of Royal Parade in Melbourne, Australia, The Peter Doherty Institute for Infection and Immunity speaks softly yet captures attention.

The addition to the University of Melbourne's medical precinct houses advanced immunology research facilities is designed to consume a good 20 percent less electricity and produce 50 percent fewer greenhouse gases than a comparable building.

These savings are achieved through combined heat and power generation, the use of grey water, the greening of the roof surfaces and high-performance glazing – such as Okalux's OKAWOOD insulating glass with functional timber insert. Okalux has been an expert in the intelligent use of daylight as a valuable resource for decades. Their functional glass with special inserts in the space between the panes is used wherever the highest demands are placed on the lighting conditions in the interior.

Used extensively in the façade, this insulating glass with wooden louvers in the space between the panes is characterized by strong solar control, which enables glare-free, adjustable use of daylight.

## SAINT-GOBAIN: RENEWABLE ELECTRICITY AGREEMENT SIGNED IN ROMANIA

Saint-Gobain has signed a 5-year renewable electricity supply agreement (Power Purchase Agreement or PPA) in Romania with OMV Petrom.

This contract covers the purchase of green electricity from wind and photovoltaic sources provided by OMV Petrom and will start in January 2026.

OMV Petrom will provide around 800 GWh of green electricity for a period of 5 years. This contract, combined with



a photovoltaic park currently in the final stage of development at the Călărași glass plant, will cover 100 percent of Saint-Gobain's electricity needs in Romania.

Saint-Gobain Romania has 14 industrial sites in the country, covering glass, insulation, plasterboard and construction chemicals activities.

This contract is the second PPA signed by Saint-Gobain in Romania and will contribute to Saint-Gobain's strategy of reducing its carbon footprint in the country in line with the Group's net zero carbon emissions goal by 2050.

## AGC GLASS EUROPE: NEW LAMINATING LINE STARTS UP AT OSTERWEDDINGEN PLANT

AGC Glass Europe announced the start-up of the new laminating line at its plant in Osterweddingen, Germany. This major investment offers long-term potential in this growing market.

Following a multi-month production ramp-up phase, the line was officially inaugurated on April 26 in the presence of local authorities, customers and AGC representatives.

The addition of this new line will make Osterweddingen into a fully integrated plant where the standard and extra-clear glass produced by the existing float line can be directly processed into added-value products on the coater and new laminating line.



With this high-capacity state-of-the-art laminating line, AGC has a flexible tool capable of producing the full range of laminated products in sizes ranging from DLFs (half Jumbo size) to Custom sizes and even Jumbo XXL sizes (up to 7 metres) – with or without high-performance coatings.

AGC's Architectural Glass Division is seeing growing demand for 'wellbeing' in buildings. Customers are increasingly looking for safety, security, acoustic comfort, daylight and high-performance glazing. AGC's Osterweddingen plant is strategically located in the heart of Europe, delivering additional laminated glass capacity to the German-speaking market (Germany Austria and Switzerland) as well as the rest of Europe. Osterweddingen's fully integrated plant takes the sustainable approach even further, since the new laminating line will also help to optimise truck transport across Europe, thereby reducing AGC's carbon footprint by preventing 1,100 tonnes of CO2 emissions per year. The plant is also slated to start producing Low-Carbon Glass in the months ahead.

### An investment that meets customer needs

AGC's Architectural Glass Division is seeing growing demand for 'wellbeing' in buildings. Customers are increasingly looking for safety, security, acoustic comfort, daylight and high-performance glazing.















AGC's Osterweddingen plant is strategically located in the heart of Europe, delivering additional laminated glass capacity to the German-speaking market (Germany Austria and Switzerland) as well as the rest of Europe.

Osterweddingen's fully integrated plant takes the sustainable approach even further, since the new laminating line will also help to optimise truck transport across Europe, thereby reducing AGC's carbon footprint by preventing 1,100 tonnes of CO2 emissions per year. The plant is also slated to start producing Low-Carbon Glass in the months ahead.

Enrico Ceriani, Vice President AGC Architectural Glass Europe & Americas – Upstream, said, "This investment in a brand-new laminating line in Germany confirms our strong commitment to continue delivering a world-class customer experience while pursuing our ambitious sustainability targets. In response to customers' growing demand for well-being in buildings and anticipating an upturn in demand for glass, we inaugurated this new line at our integrated plant in Osterweddingen and we are stepping up laminated glass production capacity at our plant in Cuneo, Italy."

## ALPHABETICAL INDEX A - E

Section for advertisers,  
with presentations of their machinery  
and accessories, and technical data sheets

COMPANY	website	pages	COMPANY	website	pages
 <b>A+W Software</b> for Glass, Windows & Doors	<b>A+W SOFTWARE</b> www.a-w.com	156-157	 <b>CUGHER</b> Plants for glass screen printing	<b>CUGHER GLASS</b> www.cugher.com	184-188
 <b>LATTUADA</b> LATTUADA NA	<b>ADELIO LATTUADA</b> www.lattuada-na.com	158-160	 <b>DELTAMAX</b> we see it	<b>DELTAMAX AUTOMAZIONE</b> www.deltamax.eu	190-191
 <b>B Solution</b> ON THE PLUS SIDE	<b>B SOLUTION</b> www.bsolutionsrl.com	162-163	 <b>ECOL</b>	<b>ECOL INGENIERIA INDUSTRIAL</b> www.grupoecol.com	192-194
 <b>bestmakina</b>	<b>BEST MAKINA</b> www.bestmakina.com	164-165	 <b>Edgetech</b> A SUBSIDIARY OF Quanex	<b>EDGETECH EUROPE</b> www.superspacer.com	195
 <b>BOTTERO</b>	<b>BOTTERO</b> www.bottero.com	166-172	 <b>EMAR GROUP</b>	<b>EMAR</b> www.emar.it	196-199
 <b>BOVONE</b> BOVONE S.p.A.	<b>BOVONE</b> www.bovone.com	173-175	 <b>EUROTECH WAY</b> High end for the industrial machinery	<b>EUROTECH-WAY</b> www.eurotech-way.com	200-203
 <b>Cms</b> glass technology	<b>CMS</b> www.cms.it	176-183			

## Glass Magazines

1989

### *Glass-Technology International*

**GLASS-TECHNOLOGY INTERNATIONAL** is the leading international magazine for professionals involved in the flat and bent glass industry, from building to automotive, and from furniture to household appliances. G-TI is useful for those working in float glass plants as well as glass processors/fabricators, glazing contractors, automotive glass installers, window and door manufacturers, glass merchants, wholesalers, etc. With about 100 pages per issue, it is the bi-monthly tool for keeping abreast of new technology, new products, company life and all innovations in the world of flat and bent glass.





## A+W SOFTWARE GMBH

Siemensstraße 3 - 35463 Fernwald - Germany  
Tel.: +49-641-96620 0  
E-mail: info@a-w.com • www.a-w.com

### A+W BUSINESS

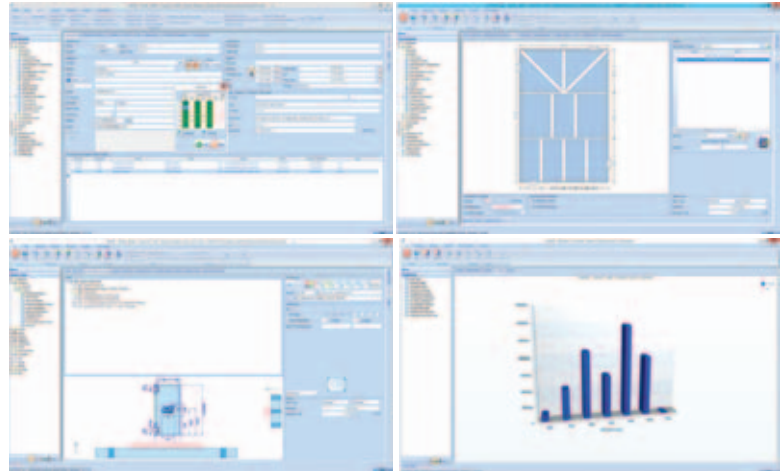
#### THE PERFECT SOLUTION THAT GROWS WITH YOU

A+W Business is a complete ERP system for small and medium-sized companies in the flat glass industry. The A+W commercial solution allows not just the entry of quotations, orders, credit notes, complaints, delivery notes, and the management of purchase orders and inquiries, but also control of other company areas (e.g. stock, purchasing, dispatch, etc.).

The main functions are master data management, quotation creation, order processing, the creation of partial deliveries and complaints, and all associated documents and evaluations. With its graphic interface, A+W Business is easy and quick to use, and it simplifies all company-internal processes relating to order processing.

#### FUNCTIONS AND BENEFITS

- Modern look & feel like MS Outlook: multi tasking, multi dialogue, easy usage, everything graphical
- Construction & processing via BOM Concept: every level and part of a product can be processed (processing = article number)
- Easy order handling: copy documents (order -> P.O.), automatic purchasing
- User and/or automated order/P.O. processing: define work flows and user rights, time and cost savings thanks to automation
- Interconnection with A+W Production: transfer of orders & P.O.'s, production status & feedback



- Full integration of CAD Designer (Shapes & Bars): easy Technical Order Entry (TOE)
- Integration of A+W standard shape & standard processing catalogue
- Simple master data replication (in the case of several subsidiaries)

### A+W PRODUCTION

#### EVERYTHING PERFECTLY PLANNED AND OPTIMIZED

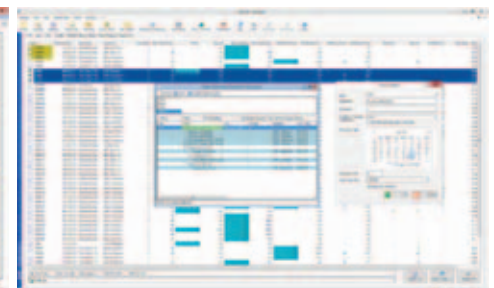
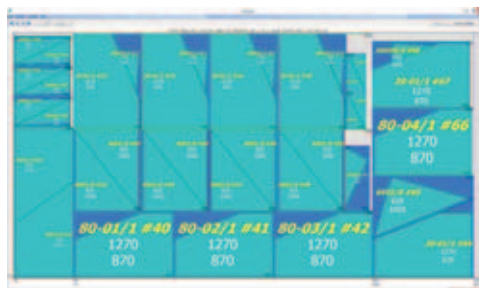
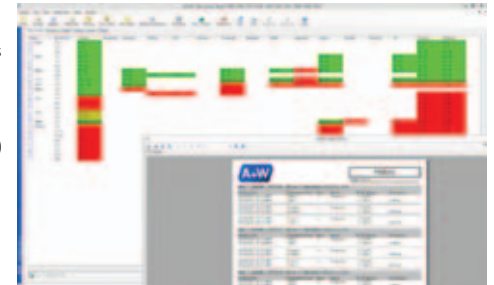
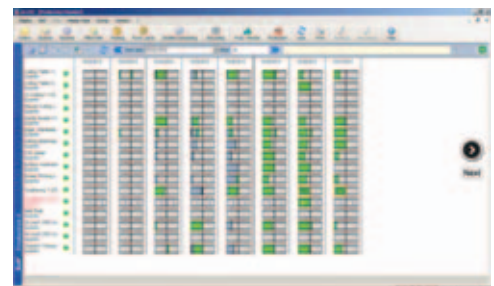
An expanded product line and state-of-the-art machines are placing ever-higher demands on organizational concepts, as well as planning and control software. These machines, which are highly complex and sensitive high-tech systems, enable high cycle rates and thus quick throughput times, but only if the overall concept is right and the production process is optimally planned and controlled. Therefore, scalable software systems and integrated solutions are the key to an optimized production environment.

A+W Production is an extremely flexible PPS solution for complete rough and detailed scheduling for insulated glass, tempered glass, and laminated glass production. The system allows planning and control of even the most demanding multi-level production flows.

The latest improvements within capacity planning and scheduling such as campaign planning, simplified rescheduling possibilities, and improved scheduling algorithms have expanded A+W Production's functions and simplified the daily business of production management and work preparation.

#### FUNCTIONS AND BENEFITS

- Production planning and control by means of various restrictions (machines, process sequence ...)
- Job management using predefined and self-defined views thanks to open database and views
- Yield optimization by state-of-the-art optimization kernel
- Sequence optimization, rack and stacking organization and optimization
- Optimization directly onto racks and boxes in despatch sequence (Add-On A+W Rack Optimizer)
- Cutting plan visualization and modification
- Easy machinery management and direct machine control
- Efficient and graphical Capacity Planner (Add-On)
- Full integration of barcoding and tracking (Add-On A+W Barcode Manager)
- Always up to date statistics using Crystal Reports or QLIK
- Printout of production papers, bender texts and barcode labels
- Possibility to grow with your company based on add-ons such as Capacity Planner, Barcoding, Production Terminal





## A+W IQOTE

### GLASS ORDERS 24/7

A+W iQuote brings your online shop into the future. Your customers can enter and manage quotations and orders 24/7 and view quotation/order status – even when they're on the road. This not only gives you an additional sales channel, it also provides competitive advantages. It reduces the work involved in recalculating quotations and orders and making changes, for, depending on the status, your customers can make these changes themselves and also enter notes (for example, different delivery address or requested delivery date).

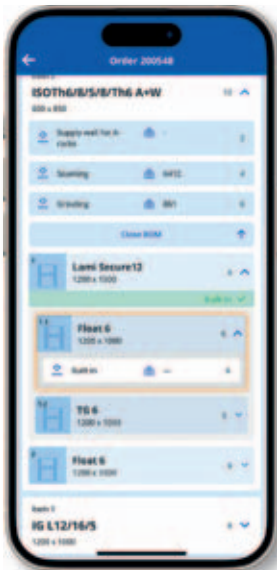
A+W iQuote relies on your ERP system, which means that the data comes directly and online from your database. There are no more delays due to e-mails or telephone calls only to find out that a customer inquired about a product that cannot be built. The products and prices that your customers see online are always up-to-date and you can manage them in your ERP system. A+W iQuote follows the rules of your A+W ERP system, with the same prices, feasibility and plausibility checks that you have defined there. Functions and Benefits

### BROWSER-BASED PRODUCT CONFIGURATION

- Online construction and price calculation
- Data directly calculated and saved in A+W ERP
- Products, prices and discounts from your A+W ERP System
- Integrated authorization based on A+W ERP
- Paperwork done by ERP
- Interface for touch screen
- Order history
- Attractive design
- Responsive Design: made for modern and portable devices (tablets)
- Creation of orders and quotes
- Restrictions and prices from ERP for that customer (login)
- Entry of single glass, Lami and IG (including exchange of glasses and spacer), stock sizes and boxes (cases)



## A+W SMART COMPANION



### SCAN SMARTER WITH SMART DEVICES

Barcode scanners have established themselves as indispensable tools in the flat glass industry. From incoming goods receipt in the warehouse to status registration in production, on through to delivery confirmation; data is recorded via barcode scanning and transmitted to ERP and production systems. However, the industrial scanner as we know it is quickly becoming obsolete. Smart devices, equipped with the A+W Smart Companion app, great computer power, and outstanding algorithms for handling graphics, is taking its place. The A+W Smart Companion assists along the entire value-creation chain and contributes to its digitalization, saving time and money.

With its A+W Smart Companion app, A+W is demonstrating where software development is heading. Scanning via a smart device app is easier than with customary scanners, it offers a multitude of possibilities, and is cheaper too.

### FUNCTIONS AND BENEFITS

- Scan, inform, evaluate – securely and efficiently
- Use on mobile, user-friendly devices
- No learning required – familiar hardware that everybody uses every day
- Runs with iOS and Android
- Depending on requirements, can be used on different smart devices
- Scanning of several bar codes in continuous mode
- Easier work for employees – higher productivity





## ADELIO LATTUADA Srl

Via Abbondanza, 11/13 - 22070 Carbonate (CO) - Italy  
Tel: +39-0331-832713

E-mail: info@adeliolattuada.com - www.adeliolattuada.com

### AUTOMATIC MACHINES

All Lattuada edgers can be equipped with **A-WR** and **i-AL** packages to increase machine automation to the top level.

The exclusive A-WR System introduces a completely automatic wheels setting management, which includes:

1. Automatic pre-setting "ZERO" procedure of diamond and resin wheels, without glass in less than one minute
2. Automatic recover of the polishing wheels' wear
3. Automatic positioning for the wheel's replacement
4. Jog increase/decrease of the spindle position (accuracy 0.01 mm)
5. Automatic positioning on setpoint
6. Automatic backlash recovery
7. Automatic spindle cleaning procedure
8. Wheels wear warning
9. Spindle's problems warning
10. Manual unlocking for any situation
11. Motorized adjustable inlet conveyor
12. Digital ammeters and automatic alert system for the polishing wheels wear
13. Automatic detecting and compensating procedure of the inlet conveyor belt wear

Advantages of the Lattuada A-WR system:

- Wheels setting in less than 1 minute, instead of an average 20/30 minutes manual setting.
- Homogeneous wheels setting regardless of the work shift and the operator on the machine.
- Extremely simple to use, no sample glass needed.



- Homogeneous wheels wear and consistent processing quality.
- Increased spindles cleaning thanks to the automatic cleaning function.
- Reduced exit conveyor belt wear or damaging due to an incorrect wheels "zero" setting.
- Early warning on potential maintenance issues.
- 3. Automatic management of wheels pressure, glass removal and speed according to the thickness
- 4. Proportional valves for pressure regulation of the polishing spindles
- 5. Glass length measurement
- 6. Remote assistance

i-AL is a comprehensive pack of mechanical, electronic and software systems especially designed to deliver the maximum possible automation in glass processing and a full integration with your entire production system.

i-AL pack includes:

1. Digital ammeters displayed on the touch-screen panel
2. Motorized glass removal setting with portable push-button panel

The main advantages of i-AL are:

- Reduced machine set-up time
- Constant quality and productivity throughout the shift or day, regardless of different operator's skills.
- Early warning on potential maintenance stops.
- Remote management
- More quality, more productivity, less maintenance, less errors... more marginality.



### TLR 13 AV C

Electronic straight-line edging machine for the processing of flat edges with arris, and with variable angle from 0 up to 45°, polished by liquid cerium oxide.

Read-outs placed on the control panel enable to set adjustments such as glass thickness, working speed, mitre inclination and edge thickness. A centralized lubrication system avoids wheel wear and tear. The conveyor is composed of pads, made of a special material, which are mounted on precision chains. Mechanic glass clamping system. Automatic polishing wheel intervention thanks to PLC-control. Automatic adjustment of the arris wheels when the glass thickness changes. Adjustable inlet conveyor with which glass removal can be adjusted up to 5 mm.

### VERTICAL EDGE POLISHERS (PETRA SERIES)

PETRA by Adelio Lattuada: a line of vertical edge polishers dedicated to the processing of stone, ceramic and composite materials.

Thanks to decades of experience in the processing of these types of materials, the PETRA series of machines can perform high precision and quality processing in an extremely simple way: flat edges, mitres up to 45° or 60°, grooves for drips or other uses and alternate arrises for perfect coupling of two angled slabs. All these processes can also be performed on very small strips or pieces.

Available in standard versions from 9 to 13 spindles, with many options and accessories available (including innovative automation solutions and robotic integrations) and with the possibility of including customized features according to customer needs.

PETRA machines are strong, reliable and easy to use, designed to work continuously for many hours a day in continuous cycles. Maintenance is extremely simple and economical, with immediate and customized assistance.





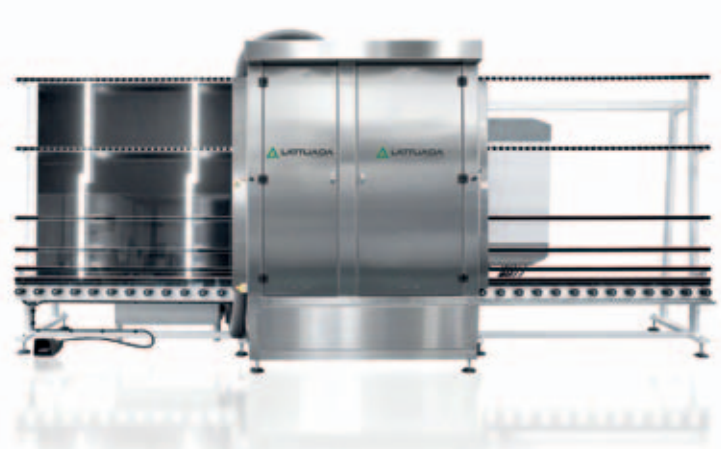
[www.adeliolattuada.com](http://www.adeliolattuada.com)



## OT 1600/500/4S

Open top vertical washing and drying machine for glass with a thickness from 3 up to 25 mm and with minimum dimensions of 350 mm.

The body of the machine and all parts in contact with water are made of stainless steel while an anti-corrosion covering is granted by epoxy and polyurethane paints. The machine is equipped with four brushes which are also available in the special version for low-E coated glass. Hot water can also be required. Drying is carried out by a pair of blowers powered by a high-pressure soundproof ventilator. The inlet and outlet conveyors, as well as glass thickness adjustment, are motorized, thus guaranteeing improved washing quality on every thickness. A black panel with inspection lamps can be applied on the outlet conveyor.



## LATTUADA ROBOTIC SOLUTIONS

Adelio Lattuada, together with its strategic partner Knittel Glass, is offering robotic solutions for any type of need and application.

Increased automation levels, higher flexibility, big increase of the productivity, production optimization, costs reduction and increased safety are only few of the main characteristics.

Any kind of robotic application related to the glass industry can be evaluated (CNCs, double-edgers, cutting, tempering or IG lines, etc.).

Regarding the pre-processing area, many different solutions and configurations can be offered: from the most sold solution with 2 edgers and 1 robot to fully automated cells with 2 machines and 2 or 3 robots. Also other configurations can be offered like 1 machine and 1 robot or 4 machines and 3 robots, for example.

Lattuada vertical washers as well as other new or already existing (Lattuada or third party) machines can be added to the lines.

Lattuada Robotic Solution is part of Lattuada's cyberAL project, which includes also A-WR and i-AL packages to increase machines automation to the top level.



The advantages of this solution are many, some examples:

- The quickest solution available on the market, a couple of real examples
  - 44 pieces/hour (1000 x 2000 mm)
  - 375 m/hour (1000 x 2000 mm) including dubbed corners
  - Up to 5 m/min
- The most sold and installed (more than 150 projects already installed by Knittel Glass)
- The widest experience in this field (since 2000 Knittel supplies robotic application in the glass industry)
- Easy use and reduced maintenance. What happens if the line stops? Our lines can, in most of the situations, continue from the point they have been stopped or resume and empty the line automatically
- Integration with third party software and many different ways to receive or read glass dimensions to be processed

## TL 10

Straight-line edging machine for the processing of flat edges with arris, polished by cerium wheels. Read-outs placed on the control panel enable to set adjustments such as working speed and glass thickness. Mechanic glass clamping system. A centralized lubrication system avoids wheel wear and tear. The conveyor is composed of pads, made of a special material, which are mounted on precision chains. Automatic adjustment of the arris wheels when the glass thickness changes. The wheels are fitted on spindles to which the movement is transmitted via toothed belts linked to the motors. Automatic polishing wheel intervention thanks to PLC-control. Adjustable inlet conveyor with which glass removal can be adjusted up to 5 mm.



[www.adeliolattuada.com](http://www.adeliolattuada.com)



## AL 10 M

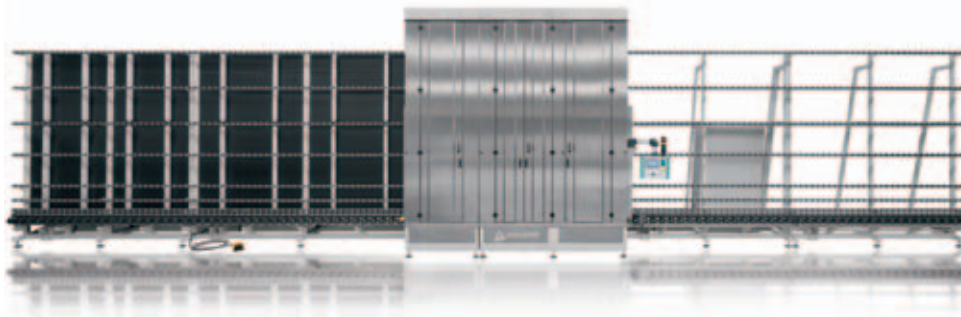
Electronic straight-line edging machine for the processing of flat edges with arris, polished by cerium wheel. Read-outs placed on the control panel enable to set adjustments such as working speed and glass thickness. Mechanic glass clamping system. A centralized lubrication system avoids wheel wear and tear. The conveyor is composed of pads, made of a special material, which are mounted on precision chains. Automatic adjustment of the arris wheels when the glass thickness changes. The wheels are fitted on spindles to which the movement is transmitted via toothed belts linked to the motors. Automatic polishing wheel intervention thanks to PLC-control. Adjustable inlet conveyor with which glass removal can be adjusted up to 3 mm.



## CTS 3300/1000/6S

Closed-top vertical washing and drying machine for glass with thicknesses from 3 up to 80 mm and minimum dimensions of 400 mm. The body of the machine and all parts in contact with water are made of stainless steel, while an anti-corrosion covering is granted by epoxy and polyurethane

paints. The machine is equipped with six brushes, which are also available in the special version for low-E coated glass. Hot water can also be required. Drying is carried out by a pair of blowers powered by a high-pressure soundproof ventilator. The inlet and outlet conveyors, as well as glass thickness adjustment, are motorized, thus guaranteeing improved washing quality on every thickness. A black panel with inspection lamps can be applied on the outlet conveyor.



## GAMMA 713 WITH A-WR

The first beveller in the world with A-WR system for a fully automatic management of the diamond wheels adjustment. Straight-line bevelling machine for the processing of bevels polished by liquid cerium oxide.

This machine, conceived in order to satisfy the medium production levels, is equipped with all the devices that are necessary to simplify its use and maintenance. Read outs placed on the control panel enable to set adjustments such as glass thickness, bevel inclination and edge thickness in order to process the desired bevel. The wheels are fitted on spindles in order to allow rotation homogeneity and to avoid vibrations; movement is transmitted thanks to toothed belts linked to the motors. The mechanical seal, an essential element of the spindle, is obtained thanks to the application of diaphragms. The conveyor is composed of pads, made of special material, which are mounted on precision chains.





# CHINA GLASS 2025

## The 34<sup>th</sup> China International Glass Industrial Technical Exhibition

China International Exhibition Center(Shunyi Hall)  
May 26<sup>th</sup>-29<sup>th</sup>, 2025 · Beijing

**Host:** The Chinese Ceramic Society  
**Organizer:** Beijing Zhonggui Exhibition Co., Ltd.  
**Supporter:** China Building Materials Federation  
China Architectural & Industrial Glass Association  
China National Association For Glass Industry

**Tel:** +86-10-57811261, 57811409  
**Fax:** +86-10-57811262  
**E-mail:** [ceramsoc@chinaglass-expo.com](mailto:ceramsoc@chinaglass-expo.com)  
**http://www.chinaglass-expo.com**



WeChat ID: CHINAGLASSEXPO



## B SOLUTION Srl

Via Spallanzani 6 - 24061 Albano S. Alessandro (BG) - Italy

Tel.: +39-035-4521234

E-mail: sales@bsolutionsrl.it - info@bsolutionsrl.it - www.bsolutionsrl.com

### SPEED ARRIS FOR INSULATED AND TEMPERED GLASS

Arrissing or rough grinding in continuous cycle by two spindles follow-system.

Equipped with transport system with suction-cups for high performance glass types.

Automatic survey of glass sizes and thickness.

High-productivity guaranteed for double-glazing and tempering lines.

System with oscillating spindles which ensures the regular execution of threads.

Possibility of stand-alone installation or integrated with existing lines.



#### OPTIONAL TURBO-BLOWER

High pressure blower positioned on the outlet conveyor, provides high efficiency laminar air flows that allow the pushing of the processing water. By applying this optional the movement speed is significantly reduced.



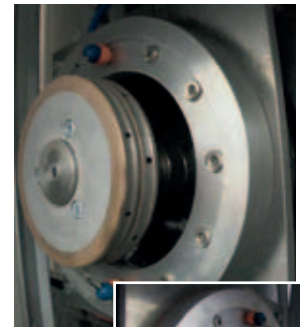
#### OPTIONAL CENTRIFUGAL SYSTEM

System suitable for purifying the water through the use of a centrifuge by mechanical rotation, which divides solids from liquid.



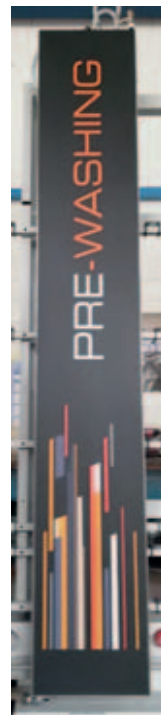
#### OPTIONAL: Z AXIS DOUBLE-TRIPLE TOOL

Flexible automatic system with tool holder cone which houses up to two/three wheels allowing to work float or laminated glass with different thicknesses.



#### OPTIONAL: SOFTWARE FOR SHAPED GLASS

Optiway (Optima) software it's a CAM program provided with functions for the two-dimensional drawing and with a 3D graphic simulator of the working process allowing generation of arrissing/rough grinding cycles.

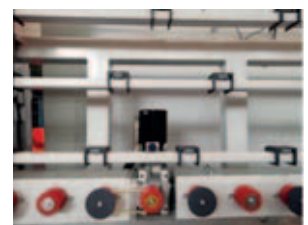


#### OPTIONAL: PRE-WASHING

Stainless steel pre-washing device by pressure sprayed clean water washes the front and rear faces of the glass sheet, eliminating the glass powder produced during the processing.

#### TURBO OUTLET CONVEYOR WITH DOUBLE MOTORIZATION

Turbo outlet conveyor is divided in two section allows an accelerated transport speed in the second section for a quick evacuation of the glass.



## SPEED EDGE

High-production vertical grinding machine for rough or polished grinding, round or flat edges, low-E glass with the possibility of performing shaped glasses with a straight horizontal support side and a maximum vertical angle of 90°.



The innovative suction cup system guarantees the locking of the entire sheet to be machined, allowing higher processing of squaring and respect of the size of the glass being machined.

Processing of big glass sheets in a limited space thanks to the compact system that integrates the loading and unloading in a single solution.

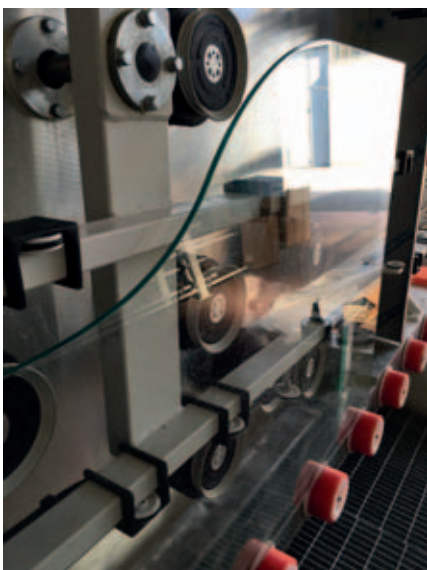
Ideal for series and to be combined with drilling lines or as stand-alone machines.



Mod.	Min glass size mm.	Max. Glass size mm.	Glass thickness mm.	Max. Tool ø	Spindle	Kw	Rapid tool holder	Process
VAS 2.0.3	420x500	2000x3200	4-19	1 ÷ 50	1	7.5	ISO 40	Arrissing - Rough grinding - Polishing
VAS 2.5.4	420x500	2600x4000	4-19	1 ÷ 50	1	7.5	ISO 40	Arrissing - Rough grinding - Polishing
VAS 3.2.5	420x500	3200x5000	4-19	1 ÷ 50	1	7.5	ISO 40	Arrissing - Rough grinding - Polishing
VAS 3.2.6	420x500	3200x6000	4-19	1 ÷ 50	1	7.5	ISO 40	Arrissing - Rough grinding - Polishing

## OPTIONAL: SOFTWARE FOR SHAPED GLASS

Optiway (Optima) software it's a CAM program provided with functions for the two-dimensional drawing and with a 3D graphic simulator of the working process allowing generation of arrissing/rough grinding cycle.



## OPTIONAL: PRE-WASHING

Stainless steel pre-washing device by pressure sprayed clean water washes the front and rear faces of the glass sheet, eliminating the glass powder produced during the processing.

bestmakina

## BEST MAKINA SAN. VE TIC. A.S.

Makine Ihtisas OSB, 15. Sk, No:5, 41455, Dilovasi/KOCAELI/Turkey  
Tel.: +90-262-7540232  
E-mail: info@bestmakina.com - www.bestmakina.com

### BWPG -AUTOMATIC WASHING AND COMBINING LINE WITH SERVO MOTOR DRIVEN -GAS FILLING PRESS

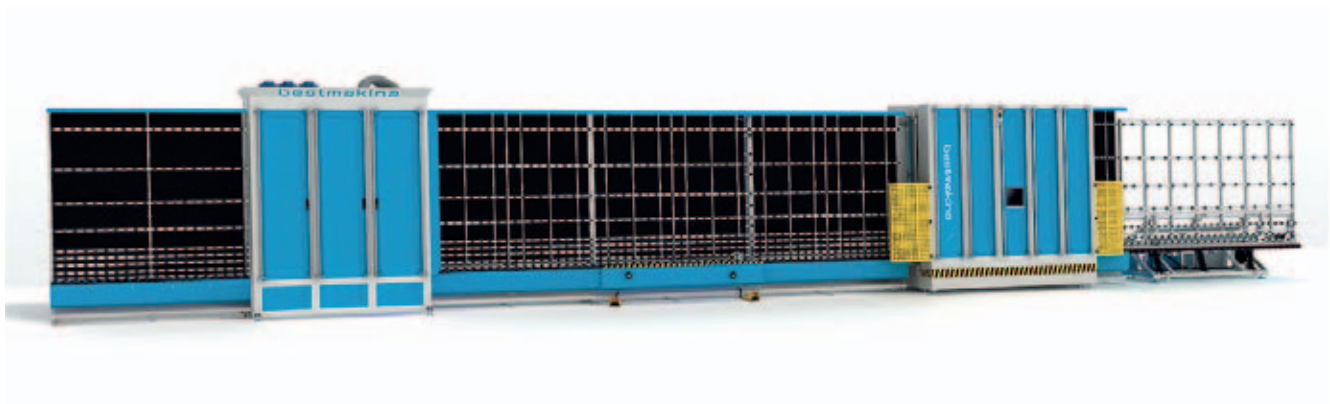
BWPG type lines are produced in various sizes and combinations of the stations. Optional features can be added in the scope of line in order to make it user friendly. Machine has rigid construction and durable components for a longer life time.

Thanks to servo motor-controlled press unit; highest precision for unit thickness, assembly geometry and offsetting is guaranteed.

#### Available Options:

- Coating detection and control function
- Glass thickness detection and positioning of brushes
- Compatibility and adoption of quality scanners
- Synchronized water purification system
- Pre-washing zone for chipped processing
- Extra long conveyors for longer panes
- Multiple inert gas lines
- Tandem press units
- Tilting and transfer solutions

Height of Glass Pane (mm)	1700-2000-2250-2500-2800-3000-3300mm
Length of Glass Pane	3000-4000-6000mm
Gas Filling Length	4000mm (upto H:2500mm) 4500mm (H:2800mm to 3300mm) 6000mm or more (by tandem press)
Gas Concentration	Min 90%
Press and Positioning of Axes	By Servo Motor
Offset For Stepped Glass	70mm Standard Max 120mm (Optional)
Glass Thickness	3-19mm Standard 3-30/40/50/60 mm (Optional)
Unit Thickness	90mm Standard 120mm Optional
Payload	200kg/m Standard 300kg/m Optional

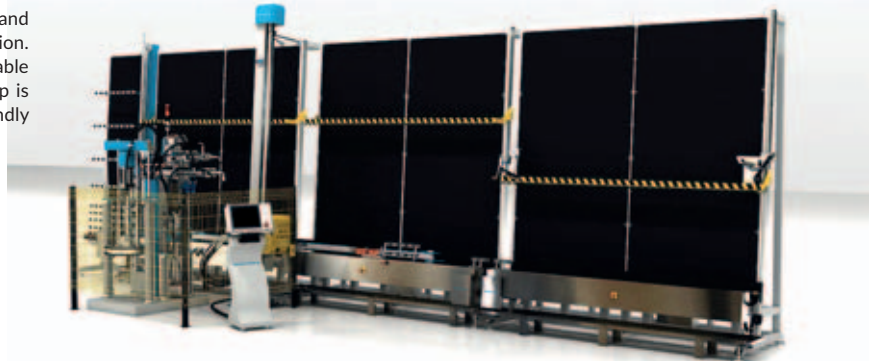


## BLS-S - AUTOMATIC TWO COMPONENT EXTRUDER WITH SERVO MOTOR DRIVEN PUMP

BLS-S is a full size automatic extruder having glass thickness and air cavity detection station, sealing station and off-loading station. Machine comes with single work material extrusion system. Durable transfer system minimizes the operational costs. Purging pump is delivered with machine to secure the mixing quality. User friendly HMI allows operator to set all parameters

### Available Options:

- Secondary extrusion and metering line
- Slave barrel for base material line
- 200Lt barrel for catalyst line
- Additional conveyors for longer lengths than 5000mm
- Stepped glass sealing



Height of Glass Pane (mm)	1700-2000-2250-2500-2800-3000-3300mm
Length of Glass Pane	3000-4000-6000mm
Sealing Length	3000mm(standard) 4000mm (optional with single conveyors) 5000mm or more (by additional conveyors)
Mixing Ratio	Digitally controlled
Feeding Pumps (barrel to metering pumps)	Hydraulic
Metering Pumps	Servo Motor Driven
Unit Thickness	90mm Standard 120mm Optional
Payload	200kg/m Standard 300kg/m Optional

## BLM - LAMINATED GLASS PRODUCTION LINE

BLM - LAMINATED GLASS PRODUCTION LINES are designed on a modular platform which gives flexibility for speed and size optimization.

BLM has solid syructure for the highes speed and sustainable accuracy.

BLM gives highest precision for coupling of glass panes througk servo motor controlled axes.

BLM has heating chambers with zone control; this system allows precise control of temperatures and energy saving. BLM has a great advantage of consumption level compared to equivalent size of competing machines.

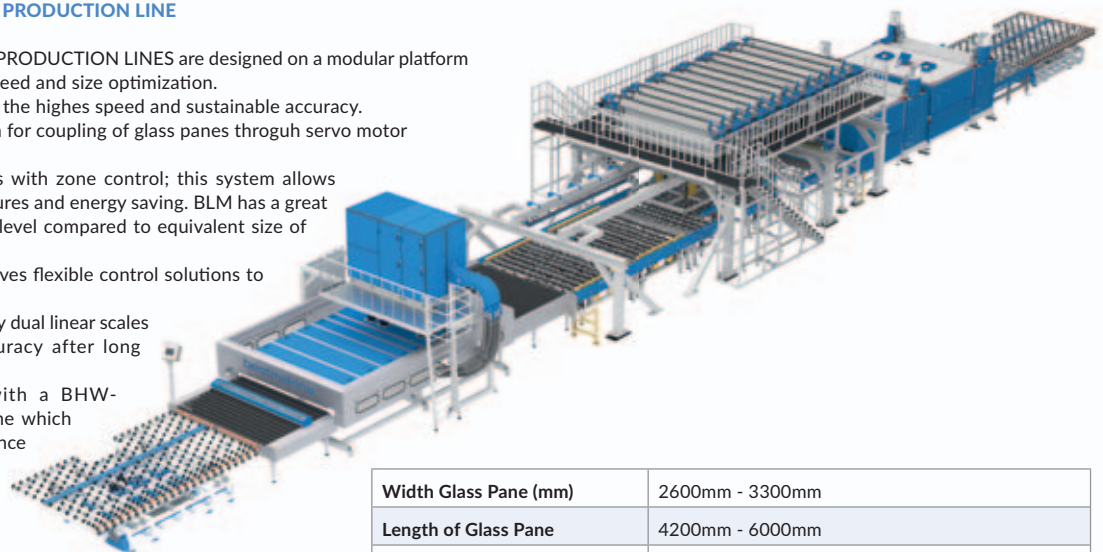
The dual command panel gives flexible control solutions to operators.

Nip rolls can be controlled by dual linear scales which give the same accuracy after long working periods.

BLM can be installed with a BHW- Horizontal Washing Machine which gives the highest performance for the pre-lamination process.

### Available options:

- Additional heating chamber
- Additional nip rolls
- Quality control through thermal camera



Width Glass Pane (mm)	2600mm - 3300mm
Length of Glass Pane	4200mm - 6000mm
Number of Furnace	according to application lenght and process speed
Number of Nip Rolls	1
Press and Thickness Control	By Servo Motor
Multiple Layers	Possible
Thickness Control	Position and/or Pressure control
Number of PVB Rolls	Standard 5 (Optionally 10)



## BOTTERO SpA

Via Genova 82 - 12100 Cuneo (CN) - Italy

Tel.: +39-0171-310611

E-mail: bottero@bottero.com - www.bottero.com

### CNC PRATICA PLUS

#### PRACTICALLY PERFECT IN EVERY SITUATION

Bottero machining centres are extremely powerful and flexible machines that can perform many processing operations with precision and reliability, such as profiling, drilling, edge finishing, cutting and much more. The ease and intuitiveness of the software are a great strong point for these machines that can be used in any high-tech glass factory.

Bottero machining centres can operate both on glass and on stone, making their use even more flexible.

After the success of the first version, the Bottero Pratica CNC workcentres have evolved with the new PLUS version.

Both 3- and 4-axes versions are equipped with the new high performance pressurised spindle.

Electro spindle		2500	3300	4000
Maximum rotation speed	rpm	10.000	10.000	10.000
Power in continuous service (S1)	Kw	9,2	9,2	9,2
Torque in continuous service (S1)	Nm	30,3 up to 3.000 rpm	30,3 up to 3.000 rpm	30,3 up to 3.000 rpm
Power in intermittent service (S6)	Kw	11,04	11,04	11,04
Torque in intermittent service (S6)	Nm	36,4 up to 3.000 rpm	36,4 up to 3.000 rpm	36,4 up to 3.000 rpm

Tools magazines		2500	3300	4000
Magazine type	-	fixed	fixed	mobile
Without C axis	pos.	10 + 10	13 + 13	18 + 18
With C axis	pos.	max. 8 + 8	max. 11 + 11	max. 15 + 15
Maximum tool diameter	mm	150	150	150

Weight		2500	3300	4000
Weight		3.990 Kg	4.180 Kg	4.800 Kg

Maximum glass processing *		2500	3300	4000
Standard configuration **	mm	2545 x 1620	3300 x 1620	4300 x 2320

\* With 100 mm tool diameter

\*\* Standard configuration for 3300 = left fixed tools storage / 3 axis

Standard configuration for 4000 = left mobile tools storage / 3 axis. For all the other configurations check the technical specifications



#### THE STANDARD VERSION OF THE MACHINE IS ABLE TO PERFORM THE FOLLOWING OPERATIONS ON GLASS SHEETS:

- Milling on the sheet with a rectilinear and/or curvilinear path.
- Edging and radial polishing on a straight and/or curved path on the edge of the sheet.
- Drilling and/or countersinking perpendicular to the surface of the sheet.
- Writing and drawing on the top side of the sheet.

#### BY USING OPTIONAL EQUIPMENT, THE POSSIBILITIES ARE EXPANDED TO:

- Cutting with a straight diamond disc.
- Cutting with a straight diamond disc angled at 45°.
- Writing and drawing on the side surface of the sheet.
- Straight and/or curved bevelling on the top side of the sheet.
- Straight and/or curved engraving on the top side of the sheet.
- Straight and/or curved cup grinding on the side surface of the sheet.
- Drilling on the underside of the sheet.





[www.bottero.com](http://www.bottero.com)

## DOUBLE EDGERS FLAT EDGE

### THE IDEAL CHOICE FOR INTENSIVE APPLICATIONS

Bottero produces a complete range of solutions for flat edge bilateral grinding, which can satisfy the requirements of small-, medium- and large glass factories with fixed or flexible production, thanks to the vast possibilities of choice and configuration of the products. Bottero machines are ideal for processing structural glass, partition walls, shower cubicles, shelves, balustrades, steps and furnishing elements, providing productivity, precision and reliability over time to operate on multiple shifts, up to 24/7 service. The Bottero flat edge bilateral machines are designed to support the high production flows

#### Titan Evo 4.0

The new released Bottero Titan EVO 4.0 flat edge double edger grinding line, typically used in construction, interior/exterior design and shower doors sectors, is the ideal machine for processing at high production rate with the uncompromised quality, reliability and long lifetime typical of Bottero S.p.A. products. The machines can be adapted to one's own production requirements thanks to the possibility of choosing not only the number of spindles but the grinding wheel configuration as well. On demand, the double edger can be equipped with a corner dubbing system, consisting of two peripheral wheels which process the four corners of the glass.

#### Highlights:

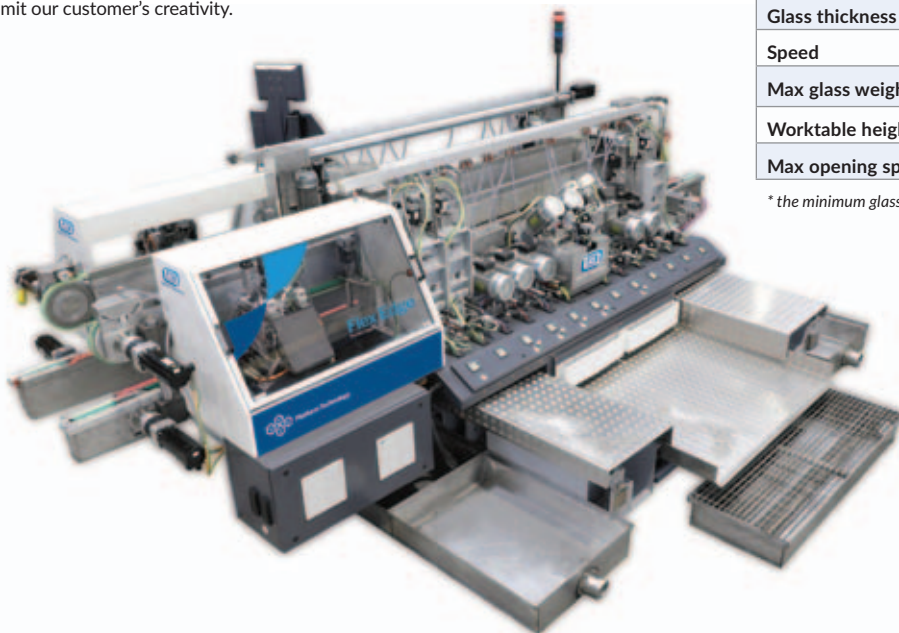
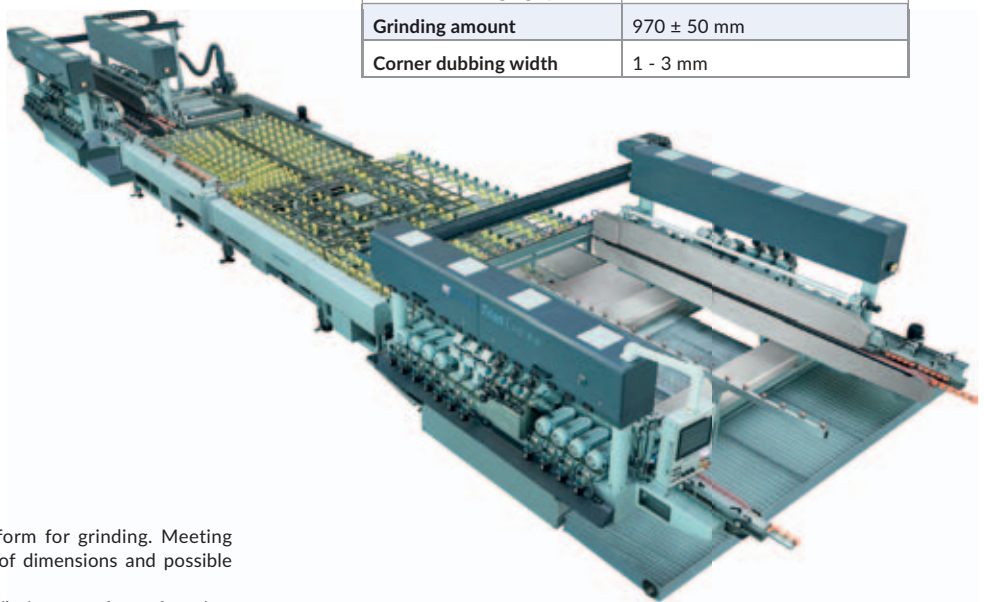
- Belts transmission speed up to 20 m/min
- Width changing speed up to 15 m/min
- Up to 25mm glass thickness
- Available in different sizes: 2 / 2.5 / 3 / 4.2 / 5 / 6m
- Available in different configuration: In-line with rotator / In-line with 90° rotator / "L" shape

#### Flex-Edge

Flex-Edge represents the first and unique platform for grinding. Meeting the customer's needs, it can be set up in terms of dimensions and possible processing opportunities. The dimensional level can have openings up to 9m while; in terms of manufacturing, it can be set up as the customer wishes with up to 17 spindles. The possibility to insert the finishing unit allows the radius corner up to 5mm. The extreme configurability of the product is demonstrated by the possibility to insert pencil or flat edge processing opportunities on the same machine, in order not to limit our customer's creativity.

typically required by the industry. Thanks to the significant flexibility, however, these machines are effective and profitable even when applied in small- and medium glass factories with flexible production.

Minimum glass dim*	230x230mm - 320X320mm
Maximum glass dim:	2m - 2,5m - 3m - 3,5m - 4,2m - 4,5m - 5m - 6m
Glass thickness	3 - 30 mm
Speed	1 - 20m/min (1 - 30 m/min opt.)
Maximum changing speed	1 - 4 mm
Grinding amount	970 ± 50 mm
Corner dubbing width	1 - 3 mm



Minimum glass dim*	115 x 115 mm
Glass thickness	3 ÷ 40 mm
Speed	up to 12 m/min
Max glass weight	1000 Kg
Worktable height	970 ± 50 mm
Max opening speed	30 m/min

\* the minimum glass dimension can change depending on options included

## DOUBLE EDGERS PENCIL EDGE

### TECHNOLOGY AT THE SERVICE OF THE INDUSTRY

Bottero pencil-edge bilateral machines are the ideal machines for processing at high production rates, typical of the household appliance, automotive, industrial refrigeration, TV screen and solar panel production sectors. In these contexts, where the demand for productivity is accompanied by the need for reliability and automation, the solutions offered by Bottero have been chosen by some of the largest industrial groups in the world for the implementation of plants that can treat thousands of square metres of product per day.

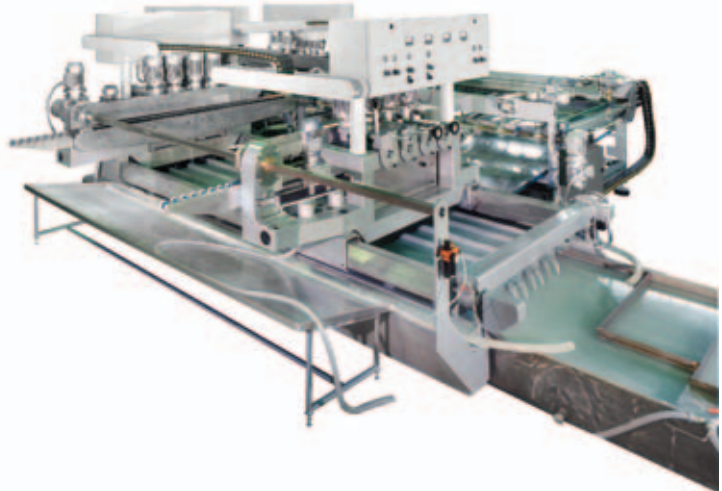
Bottero's pencil-edge bilateral machines contribute to the treatment of glass elements used in numerous industrial manufacturing products. The Bottero range of double edgers for pencil edge machining has been designed to guarantee high precision and to minimise maintenance.

#### Gemini

The Gemini double edger is a safe and reliable machine, designed to guarantee high precision and limit maintenance as much as possible.

Gemini	306 N	306 HP	308 N	308 HP
Minimum glass dim	80 x 80 mm	80 x 80 mm	80 x 80 mm	80 x 80 mm
Glass thickness	2 ÷ 12 mm	2 ÷ 12 mm	2 ÷ 12 mm	2 ÷ 12 mm
Speed	1 ÷ 12 m/min	2 ÷ 20 m/min	1 ÷ 12 m/min	2 ÷ 20 m/min
Installed power	24,5 KVA (19,2 KW)	47,5 KVA (38KW)	28 KVA (22,4KW)	47,5 KVA (38KW)
Weight	2420 Kg*	2420 Kg*	2500 Kg*	2500 Kg*
Worktable height	900 ± 50 mm	900 ± 50 mm	900 ± 50 mm	900 ± 50 mm

\*Max glass 1600 mm



## FLEX LAMILINES

### FLEX LAMILINES - PRODUCTIVITY AND FLEXIBILITY AT THE HIGHEST LEVELS

Bottero's Flex lines offer high performance and great flexibility, thanks to the possibility of laminating jumbo sheets with particularly short production cycles that laminate already shaped glass of up to 10 layers.

Bottero technology, chosen by the world's largest laminated glass producers, is now available to all state-of-the-art glassworks thanks to the Flex lines.

Laminated glass finds new and ever more interesting applications every day, offering architects and designers unique and expressive opportunities. Bottero is committed to supporting the development and diffusion of this material, constantly researching and developing technologies to improve its processing, thus widening its horizons of use.

#### Bottero experience

Since its first line in 1989, Bottero has always been partner of companies worldwide for laminated glass production.

In 35 years, Bottero has reached and maintained an undisputed technological leadership in laminated glass processing, serving all multinational companies and developing top-performance devices for maximum productivity and the highest quality.

Today, all this know-how is also available in custom-sized production at an affordable price.

- 35 years of experience
- 52 lines worldwide
- Complete process know-how

Bottero flex Lamelines are the most advanced custom-sized laminated assembly systems in the market today. The nip rolls and furnaces, which are provided as standard, are the same ones up and running all over the world by the most important glass manufacturers.

The IR furnace and the patented mechanical press system on the nip rolls are just two of the several patents and innovations which guarantee the best final result in lamination.

Bottero produces laminated glass lines both for stock sheets, high capacity production, as well as for the custom market of cut-to-size laminated glass. These lines are capable of easily manufacturing different product types irrespective of dimensions, shape and make-up. This key factor is achieved



by implementing a strategy focusing on quality, reliability and total flexibility of the manufacturing plant.

#### Unique features

Flex Lamiline is equipped with the most advanced solutions for the pre-lamination process, such as the nip roller with anti-torsion system and forced air convection furnaces. Moreover, it can easily be adapted according to customers' needs with optional equipment and accessories such as automatic loaders, additional PVB rolls, automatic PVB foil application, cutting and trimming... Bottero is capable of providing complete turnkey packages, including autoclaves, climatic rooms and all accessories required.

#### Technical features

Bottero Flex Lamiline is a modular system which is completely configurable, according to each customer needs from small to large glass sheets.

Most options and upgrades can also be added later with a simple and effective intervention.

	Metric
Glass sizes (min)	350 x 180 mm
Glass thickness	3 - 19 mm
Type of glass allowed	Float   Low-e   Tempered   Coated
Glass thickness output (max)	100 mm
Glass weight output (max)	1350 kg
Interlayers thickness	0,38 mm   0,76 mm 1,14 mm   1,52 mm
Type of interlayers allowed	Interleaved PVB   EVA   SentryGlass Plus



www.bottero.com

## FLOAT CUTTING BKM

### BKM, THE ART OF CUTTING GLASS

Designed for glassmakers who want to evolve their business by adopting automated and flexible cutting systems, BKM tables offer all the quality and ease of use typical of Bottero products.

Thanks to the shared single development platform, common to all cutting systems, BKM tables use technological solutions and components that are also adopted on top of the range Bottero systems, thereby ensuring uncompromising performance and reliability.

BKM cutting systems can perform linear cuts and shapes on sheets with a thickness of up to 19 mm, thereby offering the possibility of carrying out small and medium production runs in series, as well as special pieces.

Working speed	
Maximum bridge speed	150 m/min
Maximum carriage speed	150 m/min
Maximum grinding speed with Easy deletion	80 m/min

Accuracy	
Cutting accuracy on straight processes	± 0,15 mm

Thicknesses which can be cut	
Glass thickness	2 ÷ 19 mm

Work table	
Worktable height	930 ± 40 mm



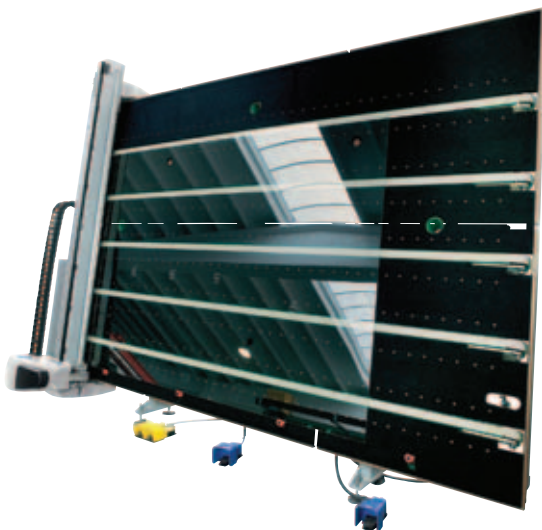
BKM cutting systems are available both in stand-alone versions, for loading, cutting and breakout of material on the table, as well as in fixed structure version for high productivity in-line integration. All models can be equipped with a wide range of accessories.

Each constructive and functional feature of the BKM range is designed to ensure extreme processing precision and maximum productivity, at the service of each specific production requirement.

### Performance

A complete, modular and versatile range, fully configurable according to each specific production requirement.

Bottero tables guarantee top performances at 360°: cycle execution speed, accuracy and reliability over time.



## FLOAT CUTTING BCS

### BCS: THE HIGHEST PRODUCTIVITY AND QUALITY STANDARDS IN THE INDUSTRY

BCS cutting tables are designed to withstand the high workloads typically adopted during single- or even multiple-shift production of windows or panels in the furniture sector, as well as components for household appliances, in the automotive industry and in many other areas. BCS cutting tables are among the most popular and sought-after in the world, representing a major benchmark in terms of production capacity and reliability in today's market.

The BCS range stands out due to its modularity and versatility, thanks to which the float cutting tables can be configured completely according to specific customer requirements: from stand-alone cutting tables intended for small production runs, up to intensive high automation level production systems, fully integrated with low-E grinding devices and

marking, as well as loading and breakout modules. With the aim of meeting all production needs, the BS cutting tables also enable the fitting of the cutting carriage with one of the numerous accessories available.

Each constructive and functional feature of the BCS range is designed to ensure extreme processing precision and maximum productivity, at the service of each specific production requirement.

### Performance

A complete, modular and versatile range, fully configurable according to each specific production requirement. Bottero tables guarantee top performance at 360°: cycle execution speed, accuracy and reliability over time.

Working speed	
Maximum bridge speed	140 m/min
Maximum carriage speed (*)	200 m/min
Maximum grinding speed with Easy deletion	80 m/min
Maximum grinding speed with LMT	160 m/min

(\*) the maximum carriage speed is 160 m/min in the presence of LMT, PPL or LAM Shape set-ups.

Thicknesses which can be cut	
Standard thicknesses	2 ÷ 19 mm
Optional thickness	19 ÷ 25 mm

Accuracy	
Cutting accuracy on straight processes	+/- 0,15 mm

Work table	
Worktable height	930 ± 40 mm



[www.bottero.com](http://www.bottero.com)

## FLOAT CUTTING EVO

### EVO, THE PLATFORM THAT GOES BEYOND CUTTING

The EVO cutting platform is the top of the range of Bottero cutting systems, offering exclusive performance and flexibility. Thanks to the option of equipping the machines with two additional tools besides the cutting tool, EVO systems can, in addition to low-E glass grinding, also be equipped with laser cutting or labelling of the processed pieces. This option makes EVO systems ideal to form part of automated and controlled production flows, typical in high-tech glass factories and indicated in "Industry 4.0" regulations.

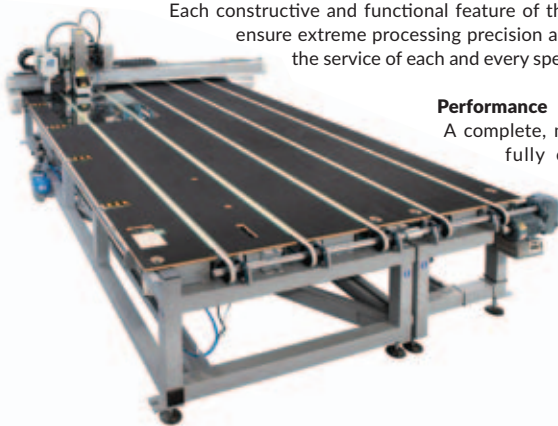
The EVO range stands out due to its modularity and versatility, thanks to which the float cutting tables can be configured totally according to specific customer requirements: from stand-alone cutting tables intended for small production runs, up to intensive high automation level production systems, fully integrated with low-E grinding devices and marking, as well as loading and breakout modules.

Each constructive and functional feature of the EVO range is designed to ensure extreme processing precision and maximum productivity, at the service of each and every specific production requirement.

#### Performance

A complete, modular and versatile range, fully configurable according to each specific production requirement.

Bottero tables guarantee top performance in terms of cycle execution speed, accuracy and reliability over time.



Working speed	
Maximum bridge speed during cutting	160 m/min
Maximum carriage speed during cutting	200 m/min
Maximum carriage speed during cutting	200 m/min*
Maximum carriage speed with 2 tools (Cut + PPL)	200 m/min
Maximum carriage speed with 2 tools (Cut + Laser)	160 m/min
Maximum cutting bridge speed with 2 tools	160 m/min*
Maximum cutting bridge speed with 3 tools	160 m/min*

(\*):100 m/min with TPF

Thicknesses which can be cut	
Standard thicknesses	2 ÷ 19 mm
Optional thickness	2 ÷ 25 mm

Accuracy	
Cutting accuracy on straight processes	± 0,15 mm

Work table	
Worktable height	930 ± 20 mm

## LAMINATED CUTTING MACHINE

### THE VALUE OF A UNIQUE EXPERIENCE

Bottero was among the first companies in the industry to believe in the potential of laminated glass, and started developing automatic cutting machines as early as the 1970s. For over 25 years, Bottero has been, and still is, the only company in the world with the know-how and organisation required to manufacture both machines and lines for the production of laminated glass, and can therefore provide its customers with a unique experience, which turns into excellent processing results and extremely reliable solutions.

Bottero's range of applications of laminated glass is becoming more and more interesting and diverse, thus offering architects and designers unprecedented expressive opportunities. Bottero is committed to promoting the development and popularity of this material by constantly researching and developing new technological solutions able to improve processing opportunities and thus increase its possible range of applications.

All manufacturing and running features of the laminated glass series have been designed in order to grant top level accuracy in glass processing and the highest production level aimed at meeting any production need.

#### Dual Line

Combined lines for cutting laminated and float glass.

#### Semi-Auto

##### 520 LAMe + 353 BCS

The 520 LAMe cuts and breaks trims with a minimum width of 20 mm. In addition to scoring the float glass, the BCS cutting bridge can be used to label, cut the laminated glass to shape, remove low-E on all types of sheets based on the chosen set-up (see specific BCS catalogue) and, when combining the two machines, can assist the 520 LAMe during sheet positioning, thanks to a specific suction cup system.



	515 LAMe	520 LAMe	548 LAM
Cutting speed	100 m/min	100 m/min	140m/min
Grinding speed with Easy deletion	N/A	up to 80 m/min*	N/A
Grinding speed con opt. Low-E	N/A	N/A	140m/min
Max cut	3700   4600 mm	3700   4600 mm	3800   4950 mm 6100mm
Min cut	250 mm	250 mm	150 mm
Min thickness	2.2.0,38 PVB mm	2.2.0,38 PVB mm	2.2.0,38 PVB mm
Max thickness	8.8.4,56 PVB mm	8.8.4,56 PVB mm	8.8.4,56 PVB mm
Opt. thickness	N/A	10.10.2,28 PVB mm	12.12.2,28 PVB mm
Max squaring length	3210 mm	3210 mm	6100 mm**
Max weight loadable on arms	450 Kg	450 Kg	700 Kg
Tolerance	+/- 0,5 mm	+/- 0,5 mm	+/- 0,5 mm
Height of working table	930 +/- 20 mm	930 +/- 20 mm	930 +/- 20 mm

(\*): Depending on type of glass and quality requirements. (\*\*) With optional unloading table.



[www.bottero.com](http://www.bottero.com)

### Fully-Auto

#### 548 LAM + 363 BCS/EVO

The 548 LAM can be combined with a belt loading table. Breakout and detachment of 20 mm trims and automatic positioning for diagonal cuts ensure fully automatic, high production levels. If combined with the float glass cutting table, the bridge can also be used to label, cut the laminated glass to shape, remove low-E on all types of sheets based on the chosen set-up (see specific BCS/EVO catalogues).

### Performance

Bottero tables provide 360° top level performance in all areas: cycle time speed, accuracy and reliability in the long term.

## GLASS STOCK MANAGEMENT SYSTEMS

### THE SOLUTION TO ALL REQUIREMENTS

Bottero solutions for material storage and handling are the answer to the requirements of all glass factories that want to make the connection between material storage areas and production lines more efficient and rapid. Bottero systems make warehouses compact and optimised, and speed up the connection between the storage area and processing lines, while offering the possibility of quickly managing sheets that differ in material, format and thickness.

Automation or optimisation of the warehouse management system is an important development element for any glass factory.

The widest range of products for any production and storage management requirement with any automation level. Whether you have large or small spaces, whether you process numerous types of glass in variable formats, or whether you produce a single product, Bottero can provide the machine or combination of machines that is suitable to improve work flows.



### 605 Movable racks

An extremely cost-effective and flexible solution for compact automated glass storage. The comprehensive range of racks keeps floor space requirements to a minimum.

### 636 Rack system

Reliable and practical stand-alone, or automated overhead loader integrated warehouse systems. Every rack system is made up of one fixed rack and one motorized rack, whereas the following are movable racks.

### 620|630|640 Loaders

These machines are recognized worldwide for their high degree of flexibility, reliability and ease of use. They can handle glass from 2 up to 25 mm with a Glass rack depth of 1200 mm.

Unique system for pneumatically assisted glass detachment, with mechanically actuated arm movements.

### 621|631 Loaders

These loaders are suitable for standard line configuration to handle glass sheets from 3 up to 19 mm with a Glass rack depth of 1000 mm.

### 650 Shuttle system

Ideal system for the management and storage of different types of glass and for buildings with restricted height not suitable to accommodate overhead type loaders. The ultimate solution to manage an unlimited number of racks feeding an unlimited number of cutting lines.



### 695 Gantry system

A unique telescopic frame system allows to organize a very flexible storage area with a combination of jumbo and regular sized glass positions: in particular it is possible to load only one regular glass size, when needed, from racks with two rows of regular sheets placed at the side. This system provides the most versatile solution for warehouse management and is designed to load glass sheets from any rack with any pack depth.



[www.bottero.com](http://www.bottero.com)

## STRAIGHT LINE EDGING & BEVELLING

### UNCOMPROMISED QUALITY

Bottero's vertical edge grinding and beveling machines allow the highest quality results to be achieved when processing edges, thereby guaranteeing perfect finish in the most elegant applications, in which quality is considered an essential element.

Bottero's vertical edge grinding and beveling machines offer great expressive possibilities and are well suited to produce sophisticated finishing elements.

These vertical edgers and beveling machines are designed to ensure maximum production and maximum reliability. The availability of numerous machine set-up configurations allows to choose the right product for both simple and extremely advanced processing operations.

#### Victralux

Victralux is Bottero's range of Straight Line Edgers.

The five models available within this range of machines enables to process edges with arrisses, as well as the possible dubbing system.



Victralux	108 FX	110 FX	111 FX	109 CDX	112 FX
Minimum glass dim	100x100mm (40x40mm opt.)	100x100mm (40x40mm opt.)	100x100mm (40x40mm opt.)	100x100mm (40x40mm opt.)	100x100mm (40x40mm opt.)
Glass thickness	3 ÷ 30 mm	3 ÷ 50 mm	3 ÷ 50 mm	3 ÷ 30 mm	3 ÷ 30 mm
Speed	0,6 ÷ 6 m/min	0,6 ÷ 6 m/min	0,6 ÷ 6 m/min	0,6 ÷ 6 m/min	0,6 ÷ 6 m/min
Installed power	23,5 KVA	27 KVA	27 KVA	23,5 KVA	29 KVA
Weight	3200 Kg	3600 Kg	3600 Kg	3200 Kg	3600 Kg

#### Variant

Variant is Bottero's range of variable angle Straight Line Edgers.

The eight models available within this range of machines allows to process the flat edges of an angle up to 45° as well as to remove arrisses.

Variant	810 BC-BR	810 BCS-BRS	810 CD	810 CDS
Minimum glass dim	100 x 100 mm	40 x 40 mm	100 x 100 mm	40 x 40 mm
Glass thickness	3 ÷ 55 mm	3 ÷ 55 mm	3 ÷ 55 mm	3 ÷ 55 mm
Speed	0,4 ÷ 6 m/min	0,4 ÷ 6 m/min	0,4 ÷ 6 m/min	0,4 ÷ 6 m/min
Processing angle	0 ÷ 45°	0 ÷ 45°	0 ÷ 45°	0 ÷ 45°
Installed power	27 KVA	27 KVA	27 KVA	27 KVA
Weight	4600 Kg	4600 Kg	5200 Kg	5200 Kg



#### Vision

The five models available within this range, produce bevels on the front face of the glass and either simple pencil edge profiles on the edge of the glass, or with the 913T, full flat edges and arris profiles.

Vision	907	910
Minimum glass dim	40 x 40 mm	40 x 40 mm
Glass thickness	3 ÷ 30 mm	3 ÷ 30 mm
Speed	0,4 ÷ 6 m/min	0,4 ÷ 6 m/min
Processing angle	3 ÷ 45°	3 ÷ 45°
Max corner edge dim.	40 mm (50 mm opt.)	40 mm (60 mm opt.)
Installed power	23,5 KVA	32 KVA
Weight	3600 Kg	4600 Kg



## BOVONE Srl

Via Molare 23/C - 15076 Ovada (AL) - Italy

Tel.: +39-0143-837511

E-mail: sales@bovone.com • www.bovone.com

### EDGING MACHINES

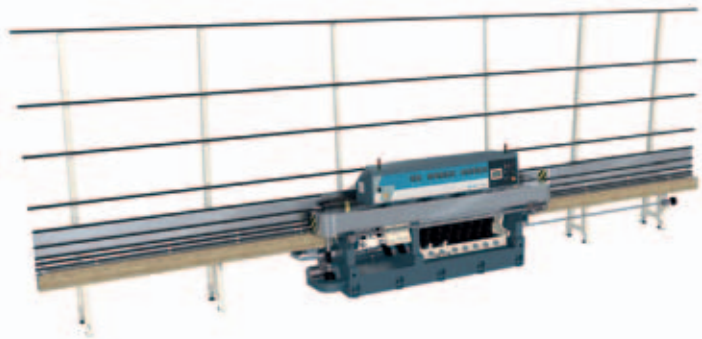
The Bovone ELB series straight-line edging machines guarantee the highest quality of both flat and inclined edges, even at the highest working speeds, optimizing customers' production. Most machine models are also equipped with Cerium oxide processing, elevating polishing quality to the utmost.

The machines' solid cast iron base and cutting-edge construction solutions are integrated with high-end electronics, while the dedicated software allows a very intuitive use of the machine.

The wide range of models enables to satisfy each and every need, from the processing of 'micro' pieces with extraordinary finish, up to large panels for outdoor architecture. The very high customization potential of each individual model is then oriented towards maximizing the response to specific customer needs.

The edging machines of the ELB series can be integrated into fully automated robotic systems: the Bovone Robotic Systems - BRS.

Machine type	Wheels number	Min piece dimension	MAX Speed	MAX thickness
Straight	10 to 14	35 x 35 25 x 50	from 5.4 m/min to 10 m/min	From 30 mm to 100 mm
45° miter	10 to 17	65 x 65 at 0° 105 x 105 at 45°	Up to 5.4 m/min	From 30 to 90 mm



Wheels number	Min piece dimension	MAX Speed	MAX thickness
From 8 to 12	35 x 35 25 x 50	from 5.4 m/min to 10 m/min	25 mm



### BEVELLING MACHINES

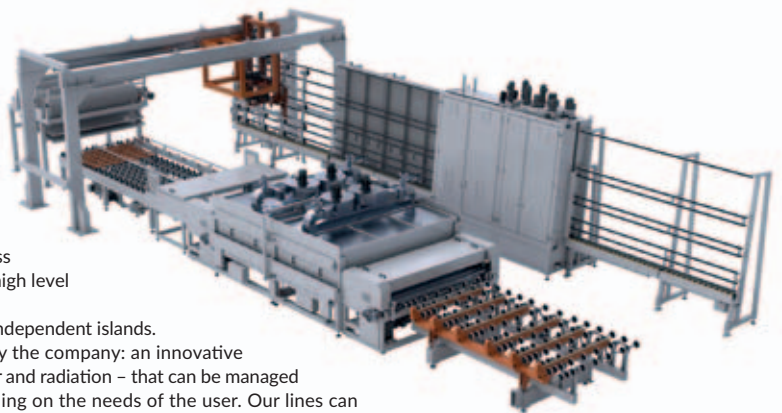
On the market since 1974, Bovone's range of straight-line beveling machines have, since then, been unbeaten for quality, performance and durability – the trend setter and reference point for the whole market, always a step ahead of competition. Bovone beveling machines are internationally recognized for their extreme reliability: they are, in fact, solid machines capable of ensuring minimum maintenance levels and reduced downtime. The finishing quality obtained with a Bovone machine is first-rate: this aspect is in synergy with the very fast execution times, the versatility of the models and the high customization potential work to guarantee the final customer higher productivity. The beveling machines, like the whole range of Bovone machines, are driven by dedicated software for simple and immediate use.

### LAMINATING LINES

In the 1980's Bovone introduced its first laminated glass lines, which, right from the start, were already one of the most accurate and fastest lines manufactured, and also by far the most reliable – as always with Bovone products. The lines are:

- **Modular:** in fact, they are configured according to the customers' specific needs, who can also gradually integrate their line in different steps;
- **Versatile:** ensuring excellent performance both in the production of large numbers and for those in which high flexibility is required;
- **Reliable:** with minimal maintenance, they allow very short machine down-times; they guarantee high precision and quality of the finished glass sheets, thus increasing the productivity of the system together with the high level of automation;
- **Automated:** they can be integrated with robotic elements, configured in independent islands.

The lines are equipped with the latest generation of furnaces developed by the company: an innovative technology that integrates two heating systems – convection of forced hot air and radiation – that can be managed either completely independent from each other or in combination, depending on the needs of the user. Our lines can process 'sandwiches' of glass and PVB up to 80 mm and glass width from 1600 mm up to 3300 mm and length up to 6000 mm.



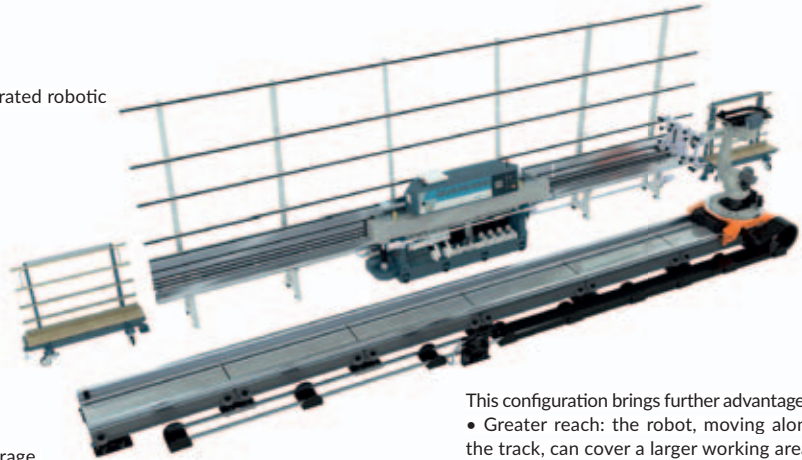
## BRS

The Bovone Robotic System (BRS) is a highly advanced integrated robotic solution for flat glass processing that provides:

- High productivity
- Reduced operating costs
- Accuracy to the millimetre
- Constant quality of the finished product
- Production flexibility
- Complete customisation
- Increased operator safety

The slabs are handled by anthropomorphic robotic arms that feed the Bovone edging machines to automatically carry out the various edge processing stages.

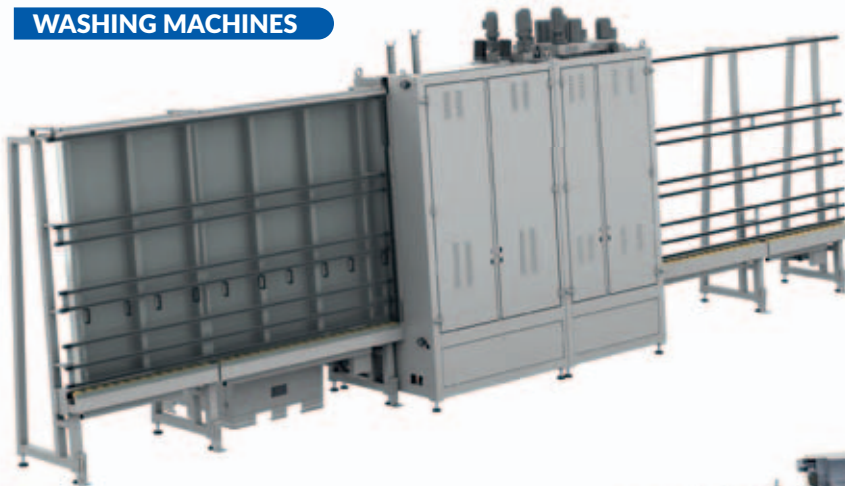
The latest 7-axis layout of BRS includes an anthropomorphic robotic arm mounted on a linear track moving on 7 axes, a straight edging machine, two dedicated supports for slab storage, and can be integrated with the optional BVR vertical washing machine for a complete edging and washing process.



This configuration brings further advantages:

- Greater reach: the robot, moving along the track, can cover a larger working area.
- Optimisation of layout and footprint: BRS is able to operate in extremely small spaces, adapting to specific customer requirements.
- Flexibility: the robot can access multiple workstations or machines within the layout.
- Modularity: production capacities can be easily expanded.
- Optimisation of workflows: the robot moves nimbly between machines, reducing waiting times and making the most of their capabilities.

## WASHING MACHINES



Bovone offers a full and complete range of glass washing machines for every need and purpose. The company's product range includes both vertical and horizontal washing machines that can be stand-alone or integrated with other machinery such as robotic systems, laminating or silvering lines, all with high quality, especially with regards to finishing – which is, as with all Bovone products, a fundamental strong point.



	Speed	Maximum glass size	Minimum glass size	Glass thickness	Electrical power	Brushes	Air-knives
2LAS 30	1,5 m/min (optional 2 m/min)	300 mm	30 x 45 mm	1,5 ÷ 8 (optional 4 ÷ 12)	5 Kw	2	2 ÷ hot air
2LAS 130 VE	4 m/min	1300 mm	80 x 150 mm	2 ÷ 12 (optional 2 ÷ 19)	9 Kw	2	2
BMW 1.6	0,4 ÷ 12 m/min	1600 mm	150 x 300 mm	2 ÷ 25 mm	19 ÷ 27 Kw	2-3	2-3
BMW 2.3	0,4 ÷ 12 m/min	2300 mm	250 x 390 mm	3 ÷ 25 mm	21 ÷ 40 Kw	2-3	2-3
BMW 2.6	0,4 ÷ 12 m/min	2600 mm	250 x 390 mm	3 ÷ 25 mm	23 ÷ 43 Kw	2-3	2-3
BMW 3.3	0,4 ÷ 12 m/min	3300 mm	250 x 470 mm	3 ÷ 25 mm	37 ÷ 60 Kw	2-3	2-3





E-mail: [sales@bovonediamond.com](mailto:sales@bovonediamond.com)  
[www.bovonediamond.com](http://www.bovonediamond.com)

## HIGH SPEED WHEELS FOR CNC MACHINES BY BDT



Three types of wheels are available: flat edge wheels, trapezoidal wheels and routers.

The particular feature of the flat profile wheels is the new design of the sectors, which are smaller and set more closely together; as a result, they can reach speeds of 10 metres/minute, operating at 7,500 RPM.

Trapezoidal wheels are made differently compared with traditional ones and have a different grit size.

Accordingly, they can reach speeds of up to 8 metres/minute, again at 7,500 RPM.

New routers also feature the modified sector design and can reach speeds 50% higher than traditional ones, being estimated to operate at around 12,000 RPM.

## GOLDNET ROUTERS FOR LAMINATED GLASS OR HIGH THICKNESSES - BDT PATENTED



- Less Chips And Breakages
- Even Wearing
- Noiseless
- No Vibrations
- High Cutting Power
- Longer Life

## CUP RESIN BOND WHEELS

Cup resin bond wheels for bevelling and edging machines are supplied with band 10-12-15-20 mm and with different band thicknesses and can be continuous, open segments or closed segments.

Customer can also ask for standard wheel thickness or, to improve life, can find other two types with higher diamond band. We think that the advantage of finding by only one supplier so many kinds of wheels and the possibility of asking for special tools for special production is very important, giving the opportunity of having a very high quality of the final product.

## ARRIS POLISHING WHEELS - MADE IN BDT

Our range is available for all machines in the market equipped with these tools.

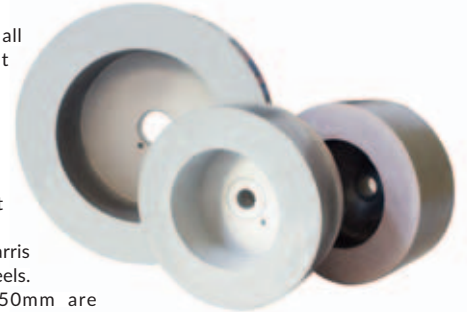
Two kinds are offered: wheel SD and wheel CD.

Diameter 150mm and 100mm. Wheel SD: it is suitable for arris processing without diamond wheels.

Wheel CD: it is suitable for arris polishing after diamond wheels.

The wheels diameter 150mm are mounted on aluminum plate granting maximum rigidity and duration of the geometric tolerances.

These characteristics are fundamental for the high performances of the wheels in terms of life and process quality.



## CUP DIAMOND METAL BOND WHEELS AND PERIPHERAL WHEELS FOR ALL BEVELLING AND EDGING MACHINES



BDT produces wheels for all machines for flat glass working.

The cup metal bond wheels for bevelling and edging machines have diamond band from 4 to 20 mm and the band is continuous or segmented, open or closed segments.

The peripheral wheels for bevelling machines, edging machines and double edgers are produced in diameters going from 100 to 200 mm, with different shapes and grits accordingly to their position on the spindle.

Also in this case we can supply special wheels on request.





## CMS SpA

Via A. Locatelli, 123 - 24019 Zogno (BG) - (Italy)  
 Tel.: +39-0345-64111  
 E-mail: info@cms.it • www.cms.it

### GEA

#### 3-4-AXIS HORIZONTAL MACHINING CENTER

3 or 4-axis (optional) Numerically Controlled machining center to **machine both thin and thick flat glass**, whether thick, thin, float or laminated. GEA can perform all types of **grinding, polishing, drilling, milling, sawing with diamond blade, V-Grooving, engraving, and 5° bevelling.**

- gantry system on the Y-Axis provides the bridge motion via two brushless servo motors synchronized by the Numeric Control, in order to ensure extreme accuracy by reducing positioning errors caused by mechanical elasticity
- large duraluminum work surface.** The 780 mm worktable height makes it easier to load and unload
- monoblock, ribbed, electrically welded, and stress relieved ultra-thick steel base guarantees sturdiness and rigidity for difficult machining work and the longevity of the machine
- pre-setting is integrated into the tool magazine**
- dynamic compensation of the polishing wheels for excellent machining quality



X AXIS STROKE	3800 mm	
Y AXIS STROKE	2550 mm	
Z AXIS STROKE	420 mm	
MAXIMUM WORKABLE PART SIZE	3700 x 2000 mm	
ROTARY AXIS (OPTIONAL)	C = 360° stepless	
TOOL CHANGE STATIONS	12 ÷ 120	
ELECTROSPINDLE	13,5 KW (S1) – 21 KW (S6) 0 ÷ 15000 rpm	30 KW (S1) – 36 KW (S6) 0 ÷ 12000 rpm



### ELECTA

#### 3-4-AXIS HORIZONTAL MACHINING CENTER

CMS electa is the new 3- or 4-axis (optional) CNC machining center for processing flat glass, whether thick, thin, float or laminated. CMS electa features **the smallest footprint and the largest work area in its category**, and can perform many types of machining: the 3-axis version performs grinding, edge polishing, drilling and milling, while the 4-axis version can also perform cup wheel polishing, diamond disc cutting, engraving and 5° chamfering.

The high inertia and thickness of the **exclusive Metal Synthetic Technology (MST) worktable**, which replaces the conventional aluminum worktable, dampens vibrations and helps to improve the quality of the machined glass.

With a maximum axis speed of 72 m/min, CMS electa guarantees top performance and is the perfect machine to increase productivity since it performs high-speed grinding and can machine multiple workpieces on the same worktable.

X-AXIS STROKE	3450 mm
Y-AXIS STROKE	1800 mm
Z-AXIS STROKE	350 mm
ROTARY AXIS (OPTIONAL)	360° continuous
TOOL CHANGE POSITIONS	13 + 13
ELECTROSPINDLE	11,5 KW 0 ÷ 12000 rpm ISO 40 18.5 Nm 6000 rpm



X AXIS STROKE	3800 mm	
Y AXIS STROKE	2610 ÷ 7200 mm	
Z AXIS STROKE	520 mm	
MAXIMUM WORKING DIMENSIONS	It changes according to the configuration	
ROTATING AXIS C (4° AXIS OPTION)	360° stepless	
ELECTROSPINDLE POWER (S1 / S6) SPEED ROTATION	13,5 kw / 21 kw 0 ÷ 1500 rpm	30 kw / 36 kw 0 ÷ 1200 rpm

## SPEED

### 3-4 INTERPOLATED AXES MACHINING CENTER

- 3-4 axes (on request) Numerically Controlled machining center for the **processing of thin and thick flat glass sheets** for both float or laminated. It carries out any type of **grinding, polishing, drilling, milling, cutting with disk, engraving, writing and 5° beveling operations.**
- Y-axis gantry system provides the crossbeam motion via two brushless motors synchronized by the NC, in order to ensure maximum accuracy and reduction in positioning errors that are due to mechanical elasticity
- large-sized duralluminum work surface. The above ground height of 500 mm facilitates access to the machine and makes the glass sheet loading/unloading operations easier
- **ultra-thick and normalized electrowelded ribbed steel monolithic base** ensures sturdiness and rigidity for heavy-duty operations and durability
- the machine is adaptable to any need due, thanks to the high configurability of the tool rack
- **dynamic compensation of the polishing wheel** for better machining quality
- working water collection tank integrated with the base which reduces the machine's footprint

## MAXIMA

### 5-AXIS CNC MACHINING CENTER

CMS maxima is the 5-axis interpolated numerical control machining center with automatic tool change. It is extremely robust, and that makes it ideal for machining flat and bent glass. It carries out all types of edge **grinding and polishing, arising, milling, cutting with disk, drilling, contouring, engraving, writing, variable-angle beveling operations and special machining.** It's the sturdiest machining center in the field, which makes it ideal for any type of working condition.

- **wide rotation of axes C (4th axis) and B (5th axis)** for the realization of 0-90° variable-angle beveling and dynamic variation of the bevel depth. The configuration with diamond disk is also available for straight and inclined cuts
- **Z-axis stroke from 460 to 900 mm for the most demanding works** on bullet-proof, military, aerospace and special glass sheets
- thanks to the high configurability of the machine, it is possible to process glass sheets in massive sizes



X AXIS STROKE	3800 mm	
Y AXIS STROKE	2400÷7200 mm (configuration available Y>7200 mm)	
Z AXIS STROKE	460÷900 mm	
MAXIMUM XY WORKING DIMENSIONS	It changes according to the configuration	
ROTATING AXES (OPTIONAL)	B = ± 100° / C = ± 270° (540°)	
TOOL CHANGE POSITION	13÷180 + 1 blade holder Ø 500 mm	
ELECTROSPINDLE	13,5 KW (S1) - 21 KW (S6) 0÷15000 rpm	30 KW (S1) - 36 KW (S6) 0÷12000 rpm



## TAKTIKA

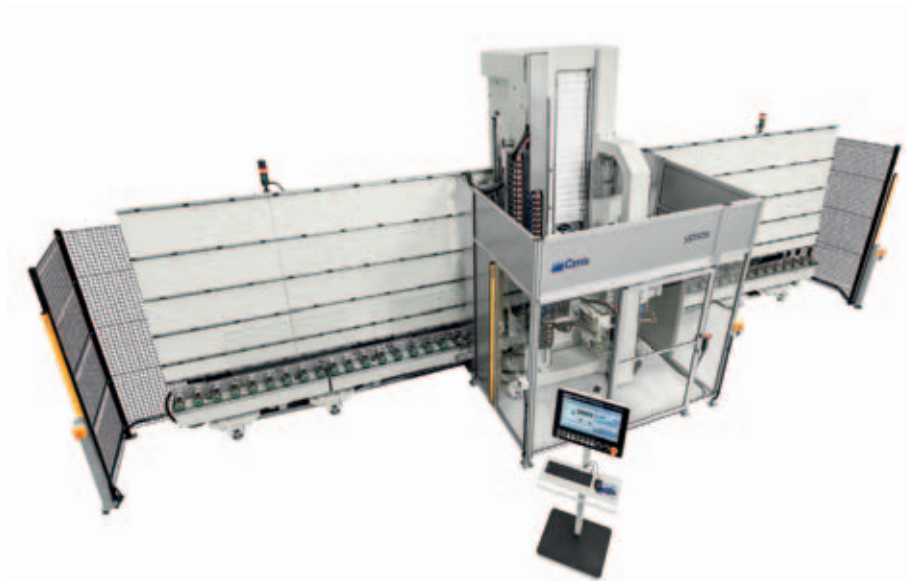
### VERTICAL MACHINING CENTER

Taktika is the **compact vertical machining center developed by CMS for the greatest flexibility in small spaces**. The project was conceived for small and medium-sized glass factories that need to increase their efficiency, and is also ideal for larger companies that need the flexibility to manage small batches of glass.

The new Cms Active software has been designed to make **the user interface more efficient and user-friendly than ever**.

Taktika can perform **seaming, grinding, polishing, milling and coaxial drilling**; it can be used **stand-alone or in line with a vertical washing machine** to wash the glass immediately after processing.

MAXIMUM WORKPIECE DIMENSIONS	3100 x 2000 x 15 mm
MAXIMUM THROUGH-HOLE HEIGHT	2500 mm
MINIMUM WORKPIECE DIMENSIONS	320 x 220 x 4 mm
TOOL CHANGE STATIONS (FRONT + REAR)	12 + 11
MAXIMUM GRINDING WHEEL DIAMETER	100 mm
MAXIMUM CORE DRILL BIT DIAMETER	50 mm
ELECTROSPINDLE	6 kW front head 6 kW rear head 12.000 rpm ISO 40



## YPSOS

### CNC VERTICAL MACHINING CENTER

Ypsos is the newest vertical machining center developed by CMS, ideal to **process float and laminated glass sheets**, entirely designed thanks to many decades of experience in the glass industry. This is the first and only vertical CNC machining center capable of grinding and polishing with two heads at the same time. This project was conceived to **reach the best reliability ever in the vertical CNC category**. The new software has been designed to make the user interface more efficient and intuitive than ever. Based on the configuration selected. Ypsos can carry out **seaming, polished and industrial grinding, milling and coaxial drilling operations**. This machine provides absolute accuracy and quality, accompanied by the classic benefits in terms of productivity and versatility given by the vertical machining process. Available in 3 standard sizes, it allows the **processing of small and large-sized parts up to 6000x3300 mm max.** (additional maximum processable sizes available upon request). Ypsos can be used as a stand-alone machine, in line with a drilling-milling machine or inside an insulating line.

SHEET MAXIMUM LENGTH	3.200 - 4.500 - 6.000 mm
SHEET MAXIMUM HEIGHT	2.200 - 2.800 - 3.300 mm
SHEET MINIMUM LENGTH	420 mm
SHEET MINIMUM HEIGHT	270 mm
SHEET THICKNESS	3÷30 mm
GRINDING WHEEL PACK MAXIMUM THICKNESS	50 mm

## VERTEC

### CNC VERTICAL DRILLING MACHINE

CNC vertical machine for **drilling, countersinking, milling and notching** operations on monolithic, laminated and Low-E glass.

- possibility to work both **rectangular and shaped glass** sheets (one rectilinear side required)
- **two coaxial opposed electrospindles** and tool cooling system with internal and external water, which enables a higher finishing and machining quality
- **two 9+9 stations** NC-controlled rotating tool crib installed on a carriage fixed to the electrospindle, ensure tool change operations in the shortest time
- **high-pressure water cushion** (patented)



MAXIMUM WORKABLE LENGTH	3200 - 4500 - 6000 mm
MAXIMUM WORKABLE HEIGHT	2220 - 2600 - 3300 mm
MINIMUM WORKABLE DIMENSION	420x180 mm
GLASS WORKABLE THICKNESS	3 ÷ 30 mm
DRILLING BITS DIAMETER	3 ÷ 70 mm
ELECTROSPINDLE	3,7 KW (S1) - 4,4 KW (S6)

## AGIL TR

### CUTTING TABLE

Agil tr is the **most compact and versatile** cutting table ever made by CMS.

It is a table that can automatically cut monolithic (float) glass sheets and semi-automatically cut laminated glass sheets thanks to the double-zero system.

- The table is equipped with **4 arms** for loading/unloading the sheets and a c-axis to perform both straight and shaped cuts.
- Easy to install and compact in size, it can cut large sheets up to 3810 mm x 2600 mm.
- The table can be equipped with an **automatic tool change** and a **low-e coating removal grinding wheel**, and a **vinyl removal system**.



MAX. WORKABLE SHEET DIMENSIONS	3810 x 2600 mm
WORKABLE SHEET THICKNESS	2 - 19 mm
MAXIMUM POSITIONING SPEED	200 m/min
MAXIMUM ACCELERATION	10 m/s <sup>2</sup>
AXIS POSITIONING ACCURACY	± 0,15 mm
STRAIGHT AND SHAPED CUT OPTIMISATION SOFTWARE	Yes
BREAKOUT BARS	2+1
MAXIMUM UNLOADABLE SHEET	350 kg
WORKING SURFACE HEIGHT	925 mm (-25 + 30)

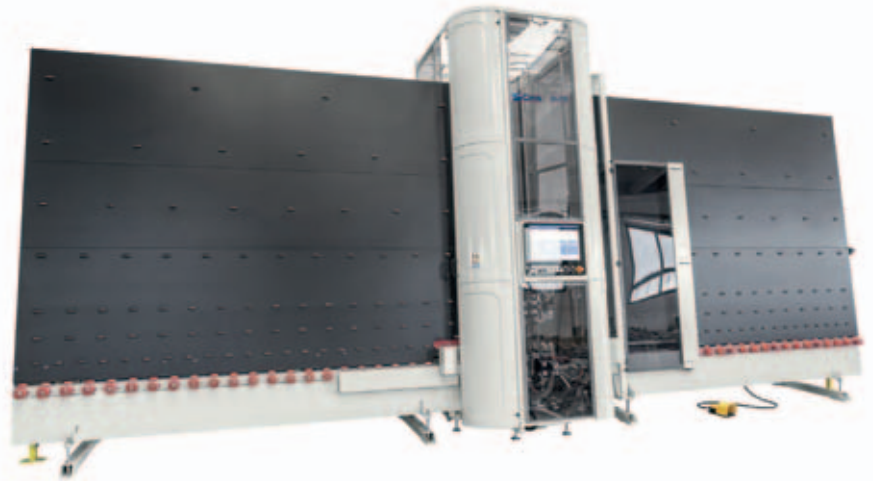
## AURA

### VERTICAL SEAMING MACHINE

aura is the vertical dry seaming machine specially developed to machine edges without the use of water (dry seaming). Aura can be used as a stand-alone machine, in line with a vertical washing machine and is **the perfect machine to be part of a double glazing line.**

**Aura can seam monolithic, laminated or low-e treated glass.** Aura is designed to meet the needs of customers who demand **ease of use, quick installation, reliability and low cost of system ownership.**

The operator loads the glass and starts the processing cycle, the machine automatically measures the incoming glass (height, length and thickness) and machines the edge. Aura also adapts its operating units to different thicknesses.



MAXIMUM HEIGHT	3845 mm with roller height 450 mm from the ground 4045 mm with roller height 650 mm from the ground
MAXIMUM LENGTH	8250 mm (without additional modules)
MINIMUM SHEET HEIGHT	240 mm
MAXIMUM SHEET HEIGHT	2700 mm
MINIMUM SHEET LENGTH	450 mm
MAXIMUM SHEET LENGTH	4000 mm 6000 mm (with additional modules)
MACHINABLE THICKNESS RANGE	3 - 22 mm

## PROXIMA

### AUTOMATIC HORIZONTAL SEAMING MACHINE

The Cms proxima automatic horizontal seaming machine is the **ideal solution for all small-medium glass factories that need to venture into seaming with a modest investment.** This machine has been designed to be **combined with both tilting float glass cutting tables and laminated glass cutting tables.**

#### KEY BUYER BENEFITS

- Dry solution [operating cost savings]
- Installation and set-up in one day [savings and ease of use]
- Maximum length machinable in one pass: 2.6 m.  
No limit with multiple passes [flexibility]

MACHINE DIMENSIONS	765 x 3830, H1365 mm
WORKING HEIGHT	880 - 980 mm
SHEET LENGTH MACHINABLE IN A SINGLE PASS	2600 mm
MACHINABLE GLASS THICKNESS	4 - 19 mm
SEAMING SPEED	20 m/min
EXTRACTORS	1
DRY GRINDERS	2



## KART

### AUTOMATIC LOADING SYSTEM

CMS Glass Technology offers a wide range of Kart model loaders/unloaders for the automatic handling of glass sheets. All such systems are easily integrated into any straight line edger (vertical or horizontal), machining centers. They enable the operator to carry out loading/unloading operations in complete safety, minimizing all risks of breakage and increasing productivity.

- the movements (approach, pick-up, lifting, tilting, release, etc.) are managed by a CMS designed PLC
- the glass sheet is picked up by a suction cup group connected to the vacuum circuit through a Venturi system or a liquid ring pump; according to the sheet dimensions, the software decides on the number of suction cups to use
- it is possible to load/unload two or more glass sheets simultaneously from butted rows and/or overlapping surfaces
- the (optional) brushless motors make movements smoother and faster
- they can be easily integrated into other manufacturers' plants

MODEL	Max loading dimensions	Min Loading dimensions	Max loading weight
50	2200x1200 mm	300x200 mm	50 kg
150	3000x1600 mm	300x200 mm	150 kg
200	4000x2200 mm	500x200 mm	200 kg
400	4800x2800 mm	500x200 mm	400 kg

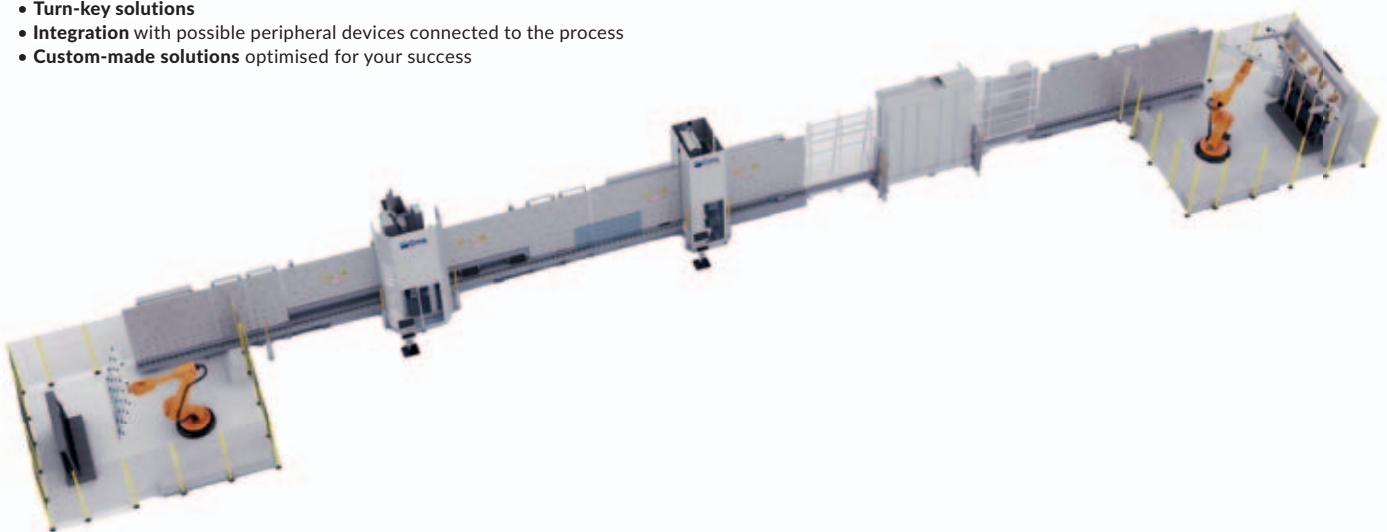


## AUTOMATION

### CMS SOLUTIONS FOR AUTOMATION

CMS is your partner for full automation: at CMS you can find complete solutions, from the design to the delivery of the finished production line.

- Integration with all CMS machine types
- Turn-key solutions
- Integration with possible peripheral devices connected to the process
- Custom-made solutions optimised for your success





## EASYLINE

### 3- and 5-axis water jet cutting system

Easyline is a high-performance, versatile, modular water jet cutting system - either pure or hydroabrasive - which can be employed in a number of application fields for the most diverse production demands.

- the cantilever structure, with a separate tank, allows an easy access to the worktable. Loading and removing material is quick and easy.
- all axes' motions are carried out through hardened and ground rack and pinion.
- the thermowelded bellows provide complete protection of the guides and the rack from water and dust.
- the steel structure undergoes an anti-rust treatment through sandblasting and ceramic painting, which results in a higher resistance against corrosion.
- the tank is set up for the installation of a dredge system for the abrasive removal

MODEL	1010	2020	2040	2060
ASSE X	1000 mm	2000 mm	4000 mm	6000 mm
ASSE Y	1000 mm	2000 mm	2000 mm	2000 mm
ASSE Z	220 mm (150 mm with 5-axis head)	220 mm (150 mm with 5-axis head)	220 mm (150 mm with 5-axis head)	220 mm (150 mm with 5-axis head)
ASSE B	±60°	±60°	±60°	±60°
SUPPORT PLANE	1210x1225 mm	2210x2225 mm	4210x2225 mm	6210x2225 mm
OVERALL DIMENSIONS WITH LIGHT BARRIERS	4680x4174 mm	5680x5174 mm	5689x7208 mm	5680x9242 mm

## SMARTLINE

### 3- AND 5-AXIS WATER JET CUTTING SYSTEM

Smartline is designed to redefine industry standards of excellence by improving operating efficiency, while maintaining CMS' renowned reputation for unparalleled construction and working quality. It includes all the safety and performance features typical of CMS Waterjet machines, in a brand new, **innovative, and compact design**.

- The open frame structure with electric gantry and linear guides integrated in a sturdy tank allows an **easy access to the worktable**. Loading and removing material is quick and easy.
- All axes' motions are carried out through hardened and ground rack and pinion.
- The **thermowelded bellows provide complete protection of the guides** and the rack of x-axis from water and dust. On Y-axis, instead, the protection is guaranteed by a set of sheet metal panels.
- The steel structure undergoes an anti-rust treatment through sandblasting and ceramic painting, which results in a **higher resistance against corrosion**.
- The tank is set up for the installation of a **chain system for the exhausted removal**.



MODEL	2040
X AXIS	4000 mm
Y AXIS	2000 mm
Z AXIS	250 mm (150 mm with 5-axis head)
B AXIS	±60°
SUPPORT PLANE	4150x2080 mm
OVERALL DIMENSIONS WITH LIGHT BARRIERS	5595x7400 mm



## PROLINE

### HYDRO-ABRASIVE WATERJET CUTTING SYSTEM

The ultimate machine tool specifically conceived and designed with advanced technical solutions for the waterjet cutting technology, in order to achieve unmatched performance. Proline is built around a **stainless-steel frame ready for integration with the "Dredge"**, a fully automated and **maintenance free abrasive removal system, an automatic water level control** for submerged cutting. This innovative, easy configurable concept has not only the abrasive tank installed on-board, but also the electric servodriven high-pressure pump is integrated with the machine frame, a **big saving in terms of overall layout**. The overall machine structure, especially the rugged gantry system, offers unmatched rigidity and thus consistent cutting accuracy over time, thanks also to the ground helical rack and pinions, combined with high precision gearboxes.

The linear guides are protected by the innovative "Powder free" system composed of overlapping way covers, which ensures the highest protection against moisture, dirt and dust.

- **More versatility:** new models and extensive supply of accessories and standard arrangements for faster, less costly retrofits
- **More reliable:** NC and digital drivers for full control of the cutting parameters
- **More compact:** accessories integrated into the base structure for easy, fast installation and re-commissioning



MODEL	1730	2040
X AXIS STROKE (1 HEAD)	3250 mm	4250 mm
Y AXIS STROKE	1700 mm	2000 mm
Z AXIS STROKE (3-AXIS HEAD)	300 mm	300 mm
Z AXIS STROKE (5-AXIS HEAD)	200 mm	200 mm
C AXIS (5 AXIS ONLY)	Infinite	Infinite
B AXIS (5 AXIS ONLY)	± 62°	± 62°
XY AXIS RAPID SPEED	40000 mm/min	40000 mm/min
WORKTABLE SIZE	3820 x 1920 mm	4820 x 2220 mm
WORKTABLE LOAD CAPACITY	1000 kg/m2	1000 kg/m2
POSITION ACCURACY	± 0,035 mm	± 0,035 mm
POSITION REPEATABILITY	± 0,025 mm	± 0,025 mm

## EPUMP

### HYBRID INTENSIFIER

**E-PUMP** is the latest innovation in the range of CMS Glass Technology intensifiers created as a continuation of the quest by CMS for efficiency, performance, energy consumption and low environmental impact in the world of pressure intensifiers for waterjet cutting applications. This new project was carried out entirely in the CMS engineering department and has given rise to an innovative product that combines the power density of a hydraulic pump with the energy efficiency of a direct-drive mechanical architecture. The simplicity of the system translates into a significant reduction in components: up to 95% compared to a conventional hydraulic intensifier. E-pump exploits an electrohyrostatic unit connected directly to long-stroke pressure multiplier cylinders, achieving an operating efficiency of more than 31% compared to hydraulic intensifiers. The intensifier has an on-board intelligence with portable tablet (Wi-Fi) and touch display for monitoring and controlling operating parameters and performing diagnostics on hydraulic and high-pressure components.



TECHNICAL SPECIFICATIONS *	30 kW
POWER CONSUMPTION (0.38 ORIFICE AT 3800 BAR)	2.4 kW
MAXIMUM POWER CONSUMPTION WITH CLOSED HEAD	4130 bar
MAXIMUM OPERATING PRESSURE	5 l/min
MAXIMUM WATER FLOW RATE AT 3700 BAR	0.40 mm
MAXIMUM ORIFICE DIAMETER AT 3700 BAR	1666x906x1529 mm
OVERALL DIMENSIONS L X W X H	1400 Kg
WEIGHT	400 V 50/60 Hz
VOLTAGE (THREE-PHASE)	13 L
OIL TANK CAPACITY	1.15 L
PRESSURE ATTENUATOR CAPACITY	200 mm
CYLINDER STROKE	5 - 25 °C
REQUIRED INLET WATER TEMPERATURE (ACCEPTABLE MIN - MAX)	5 - 40 °C
NOMINAL ENVIRONMENT TEMPERATURE (ACCEPTABLE MIN-MAX)	70 db
NOMINAL NOISE	

\* BFT Technology. The technical data may vary with different configurations

E-pump can be installed on any cutting table, even third-party ones.



## CUGHER GLASS Srl

Via Giuseppe di Vittorio, 70 - 20026 Novate Milanese (MI) - (Italy)  
 Tel.: +39-02-66207762  
 E-mail: info@cugher.com • www.cugher.com

### J SERIES

The fully automatic silk-screen printing machine is composed of an entry/pre-alignment conveyor, the printing machine body and an exit synchronized conveyor. The machine has a firm structure with the printing table made by a specially treated aluminum and it is equipped with a belt transport system and an auto-centering. It is ideal for glasses of medium and large dimensions, typical of Automotive and Architectural sectors.



Glass size: from 400x300 mm to 6000x3200 mm

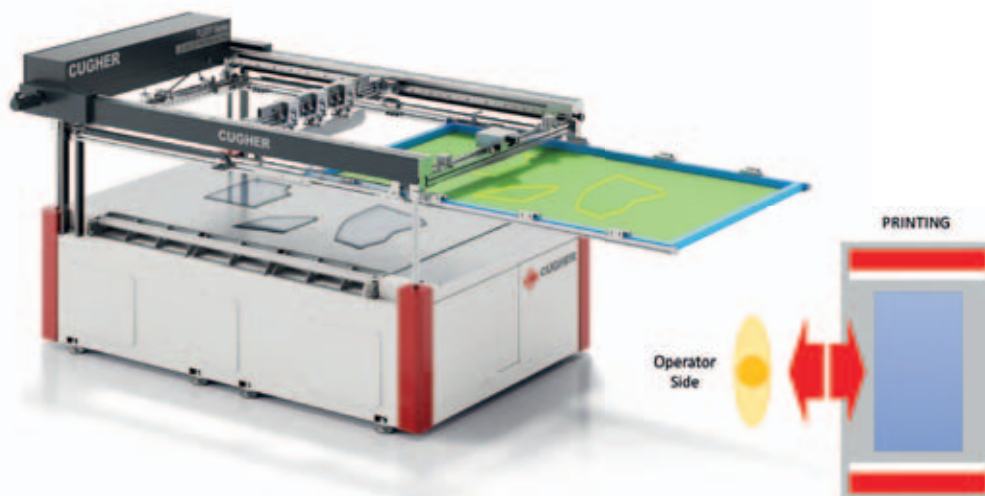
### G SERIES

The printing machine transports the glasses through a shuttle with two independent cross shaped holders and centring out of the printing table. The system consists in one cross shaped holder with a vacuum cups system. The glass is collected by the walking beam while it is still in the centring device of the inlet conveyor; thanks to this operation it is possible to transport the glass with great accuracy. This solution enables reaching the maximum speed of the printing process for glasses with small and medium dimensions, guaranteeing high productivity required in the Automotive sector.

Glass size: from 250x150 mm to 2500x1600 mm

### FLEXY SERIES

The printing machine manages multiple glasses type (thin, standard, coated, polycarbonate) and it is extremely versatile for small and different lots. The stainless-steel magnetic table, worked with micro holes, is equipped with vacuum and blow system for easy nesting. The Flexy Series is a stand-alone machine with manual loading/unloading and finds application in all type of sectors. Max glass dimensions 1300x2000 mm – Min. printing size 200x200 mm



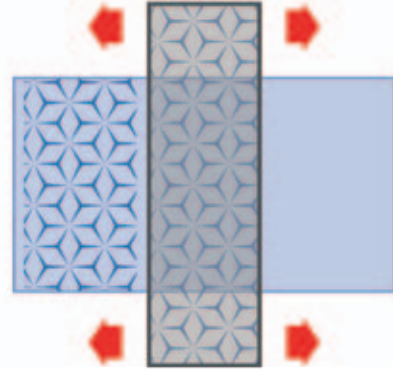
[www.cugher.com](http://www.cugher.com)



## SKETCH SERIES

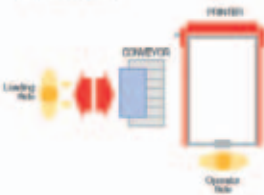
The printing machine is completely stand-alone and ready for in line operations. The frame is usable for several glass dimensions with reference on left-front side and the movable screen allows to personalize the print. In fact the image can be printed on different parts of the glass. It is Ideal for interior design sector, in particular for shower doors.

From small to big glasses with rectangular shape - from 500x200 mm to a maximum of 2700x1600 mm

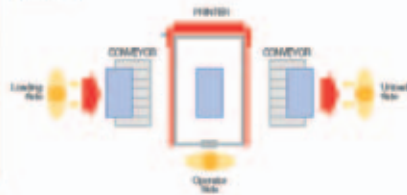


### Stand-Alone

Version 1  
Manual loading and unloading, on the same side.

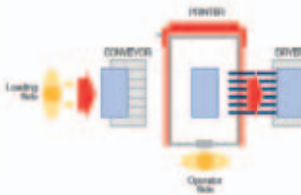


Version 2  
Manual loading upstream, manual unloading downstream.



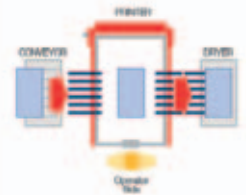
### Semi-Automatic

Manual loading of the glass on the loading side. Automatic rear discharge with transport belts.



### Full-Automatic

Automatic glass loading and unloading by a belt transportation system.



## COMPACT SERIES

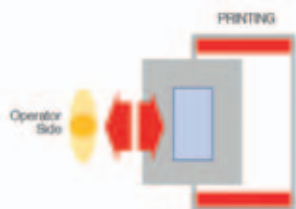
The printing machine has the flexibility to be used as a stand-alone printing machine or to become the heart of a full automatic printing line. A real solution for the high productivity demands, being, at the same time easy to use. The Compact Seires is able to satisfy specific production needs and represents the perfect solution for huge batches and squared/rectangular glasses that have to be printed quickly and precisely, characteristic of home appliance sector.

Glass size: from 100x35 mm to 1300x700 mm



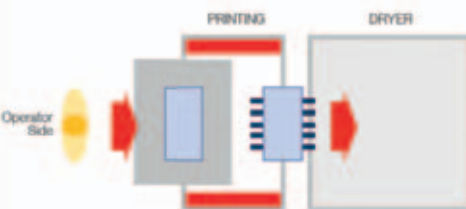
### Stand-Alone

Manual loading and unloading, on the operator side, with extractable printing table.



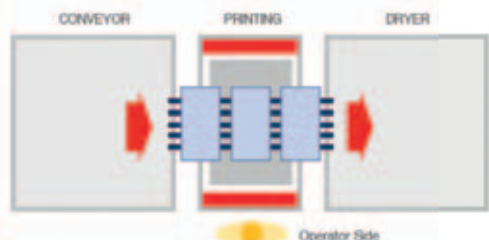
### Semi-Automatic

Manual loading and unloading of the glass, on the operator side, with extractable printing table. Automatic rear discharge with transport belts.



### Full-Automatic

Automatic glass loading and unloading by a belt transportation system.



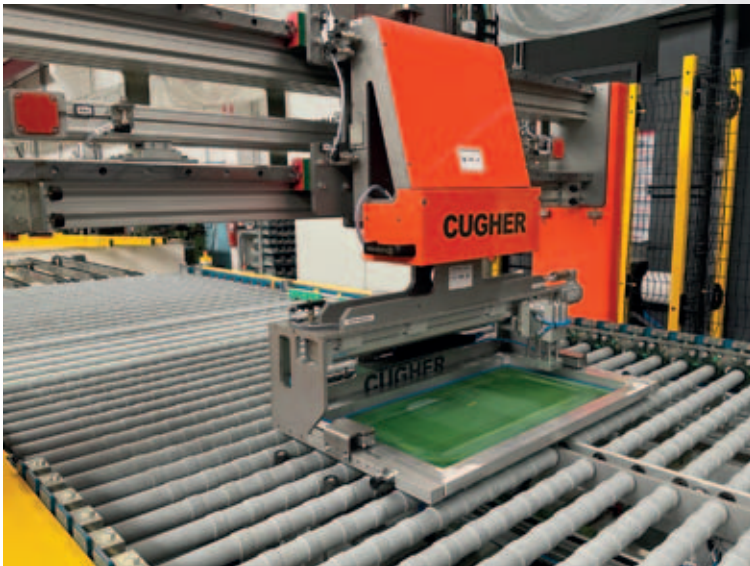
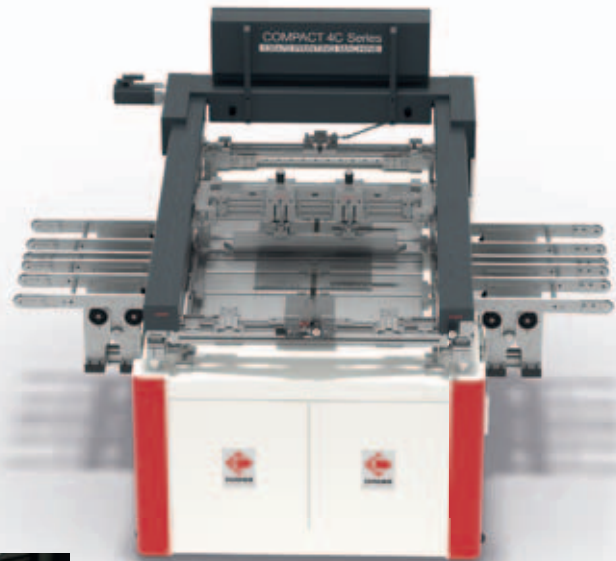
[www.cugher.com](http://www.cugher.com)



## COMPACT 4C

The fully automatic Compact 4C screen printing machine is the evolution of the consolidated Compact Series, able to process bigger squared and rectangular glasses for cooktops and glass for household appliances, also drilled, ensuring high productivity, thanks to its 4 columns which sustain wider printing head. The printing head is able to accommodate the E2E system for printing right up to the edge and the frame can be extracted for cleaning without losing the register.

Glass Size: from 150×50 mm – to 1300×700 mm



## LOGO PRINT STATION

The Logo Print Station is a special equipment composed by a booking conveyor and a logo print system that, working jointly, are able to center and print the logo on the underneath glass. The movement is given by pneumatic linear guide. It is possible to adjust the squeegee and flood bar speed independently. The up and down vertical movements of the Squeegee /Flood bar group are obtained by dedicated cylinder. The Logo Print Station is equipped with its own PLC.

## DRYERS

Cugher Dryers (IR, UV or combined) with specific features and flexibility are able to satisfy both silk screen printing and digital printing on glass. Indeed, adapting air recirculation, dryers can accurately dry ink thickness from 15 to 100 microns. Moreover, dryers are able to accelerate the drying process through the efficient transfer of energy to the ink/enamel and the capability of evacuating vapours generated by solvents during the drying process.



[www.cugher.com](http://www.cugher.com)



## SYMPHONIA

The Automated Harps Rack System is the ideal glass handling solution for small and medium glassworks. Symphonia is created to facilitate the loading and/or the unloading of glass sheets onto vertical production lines, such as those for insulating glass, for glass dimensions up to 3000 mm x 1500 mm. The solution enables:

- Eliminate the need for manual loading/unloading
- Modularity: it includes as many positions as the production needs of each customer
- Customized engineering as per the available space in the warehouse and the processed glass dimensions



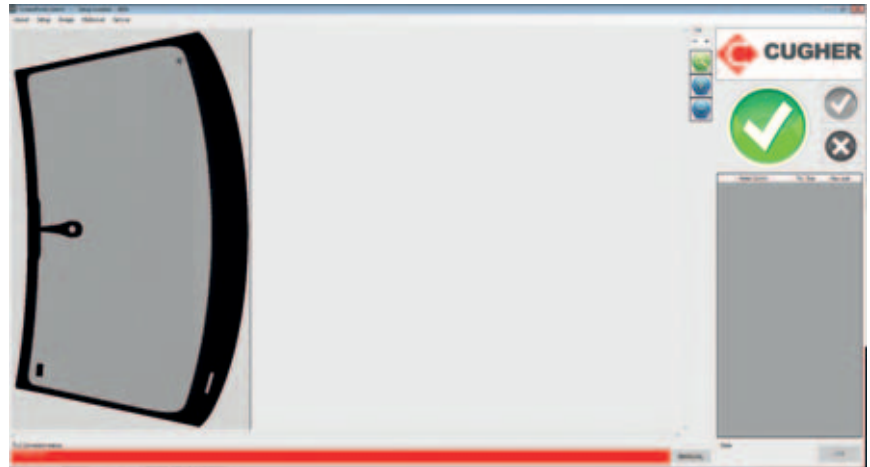
## VISION SYSTEMS

### AUTOMATIC GLASS QUALITY INSPECTION VISION SYSTEM

The system, typically installed downstream the washing machine, is able to scan the whole glass and detect any defect present on the raw glass such as scratches, breakages, air bubbles, chips, contaminations, water drops, wet edges.

### AUTOMATIC PRINT QUALITY VISION SYSTEM

The system, installed immediately after the printing machine, recognizes any "slaving" or "widening" of the design's details due to an excess of ink coming from the screen.

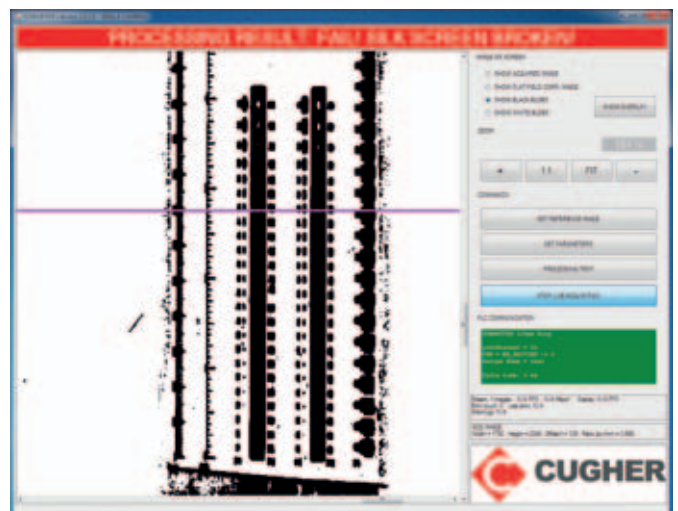


### AUTOMATIC SCREEN REGISTRATION SYSTEM WITH CAMERAS

The system allows to to automate the register of the screen with the glass to be printed, performing a complete model changeover in an extremely short time.

### BROKEN SCREEN DETECTION SYSTEM

This unit is positioned just downstream the printing machine; it detects automatically if there is a broken screen, by controlling the presence of ink spot on the lower surface of the glass.





# glasspro

FLAT GLASS PROCESSING, PRODUCTS & ACCESSORIES

INDIA

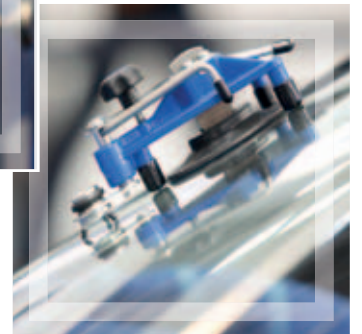
## 5<sup>th</sup> Join us for the edition of glasspro INDIA

**10 11 12**  
SEPTEMBER 2025

Hall 3  
Bombay Exhibition Center  
Mumbai, India

[www.glassproindia.com](http://www.glassproindia.com)

**BOOKINGS  
ARE NOW  
OPEN!**



For more details, please contact

Messe Düsseldorf India Pvt. Ltd.

**VIVEK BOHRA**

Mob.: +91 96543 93213 | Email: BohraV@md-india.com

Glass Bulletin

**LAKHAN SINGH**

Mob.: +91 9310562488 | Email: editor@glassbulletin.com

Powered by

**glasstec**  
INTERNATIONAL TRADE FAIR FOR GLASS  
PRODUCTION • PROCESSING • PRODUCTS

Concurrent events

**glasspex**  
GLASS PRODUCTION TECHNOLOGIES & PROCESSES  
INDIA

**fenestrationpro**  
DOORS, WINDOWS & FACADE  
INDIA

Organised by

**GB GLASS BULLETIN**  
The Premier Magazine For Global Glass Industry

**M**  
Messe  
Düsseldorf  
India



## DELTAMAX AUTOMAZIONE Srl

Via Kufstein, 5 - z.i. Spini di Gardolo 38121 Trento (TN) - Italy  
 Tel.: +39-0461-042301  
 E-mail: info@deltamax.eu - www.deltamax.eu

### Vision Inspection Solutions for Flat Glass

#### CUTTING LINES SOLUTIONS

From the very initial stages the system has been conceived to be versatile and flexible enough to easily adapt to any cutting process without needing any alteration.

OPT inspects glass sheets during the transit from the loader to the cutting. The software elaborates the image, detects its defects (bubbles and inclusions) and excludes those of acceptable dimension. Clients have full control on the minimal dimension parameters they wish to assign to defects.

OPT makes it possible to waste just a limited area around the defect, instead of the whole sheet. Only sheets without defects will proceed with further processing. This will reduce machinery wear, the whole processing time as well as the need to cut again defective sheets.

#### ADVANTAGES

Detects structural defects such as bubbles and inclusions in monolithic and laminated glass

Compatible with the cutting table for fully automatic management

Checks unwashed glass sheets before starting the cutting process

Reduces the glass refuse area because defects are placed in the shrinkage areas provided by the cutting pattern of each sheet

Saves energy and prevents excess machinery wear because non-compliant sheets will not be processed  
 Rationalizes cycle time thanks to reduced waste on the line and increased time saved for their management



#### TECHNICAL FEATURES

- Can work with any kind of transparent glass, apart from sandblasted, mirrored, frosted sheets.
- Usable with both regular and jumbo format, but also, with different various widths.

- Images resolution: 0,2 mm\pixel.
- Minimum dimension of detectable defects: 0,4 mm.

#### DETECTABLE DEFECTS

Structural defects (bubbles, inclusions)  
 Scratches that affect the glass surface

#### IG LINES SOLUTIONS

Deltamax is constantly improving its solutions which have multiplied to meet the different needs over the time and which can now be installed in various places along the production line.

The extreme care devoted to the design phase has made it possible to combine simplicity of installation, maintenance and use with a high level of customization. System parameters can be programmed according to the desired quality level of defect evaluation, so that every scanner becomes an invaluable support to production quality improvement.

#### • GLASSINSPECTOR

Over 300 installations across the world are proof of the versatility and reliability of GLASSINSPECTOR. Developed in 2007, this technology has constantly evolved to meet different needs, thereby improving its defects detection performance to the highest levels, for example at the time of replacing the only component subject to wear, the lighting unit.

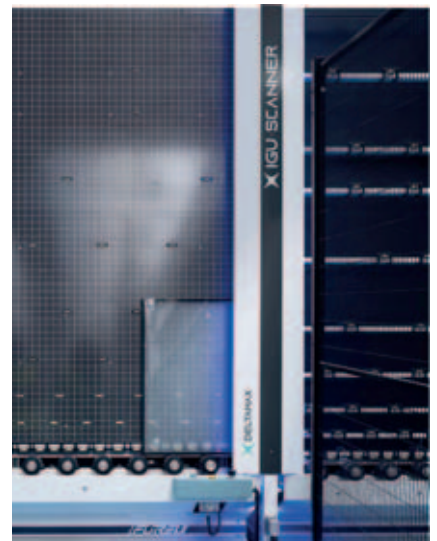
This is the result of Deltamax's mission to seek an innovative solution that could also be applied to previously installed products  
 Easy to install, easy to use, easy to maintain  
 GlassInspector is the easiest way to start working with an automatic system for glass control to improve the whole production quality.

#### TECHNICAL FEATURES

- Can work with any kind of transparent glass (including low-e, selective and colored paste glass).
- Can inspect any glass shape.
- Image resolution: 0,2mm/pixel.
- Minimum dimension for defect detection: 0,4mm/pixel.
- Maximum thickness for defect detection: 50mm.
- Maximum line speed: 60mt/min.

#### DETECTABLE DEFECTS

Glass defects: bubbles, inclusions, knots  
 Process defects: scratches, stains, prints  
 Coating defects: holes, abrasions, scratches, burns





● **Q+**

Released in 2019, Q+ represents a considerable step forward in the world of glass inspection systems, as it has defined a new standard in the field of flat glass defects detection.

**ADVANTAGES** (as compared with GlassInspector)

- More precise and sensitive in the detection of defects
- Double inspection channel with a single camera array that guarantees performance at an affordable price

**TECHNICAL FEATURES**

- Integrates two systems in one solution, by improving the standard system with a second inspection channel.
- High precision in detecting the most difficult defects such as halos, slight stains, roller scrapes on tempered glass, thin scratches.
- Makes it possible to customize parameters for each defect class.

- Does not slow down production thanks to the new 64-bit technology.
- The Production Analyzer software enables the processing of the data collected by the scanner to obtain production statistics, personalized reports and an insight into the different defect categories identified.

**DETECTABLE DEFECTS**

(in addition to the defects detectable with GlassInspector)

- Halos cause by water / incomplete drying
- Halos caused by the tempering process
- Prints of suckers in laminated glass
- Remains from insulated tape, oils or other substances.
- Prints or light stains
- Thin scratches

● **IGU SCANNER**

Any manufacturing company's goal is to certify the quality of a finished product and of the whole production line before delivering it to the client. The entire IG production sector has undergone incredible innovation which has resulted in a great variety of finished products, made of different types of glass and of spacers. Thanks to the IGU Scanner, Deltamax can offer a versatile solution for the control of single, double and triple glazing.

**CONTROLS CARRIED OUT**

Visual defects in the transparent area, or detection of bubbles, inclusions, scratches, dirt, remains of various kinds including butyl  
Correctness of the spacer position, i.e. detection of bulging or out of square  
Correctness in the laying of the Georgian bars, comparison with the drawing for the verification of the position as well as of the offset between the bars and the offset between the single glazing.

## FLAT GLASS CONTROL SOLUTIONS

A standard but highly customizable solution. It may sound like a contradiction but that's the perfect description of EVO. The system can easily adapt to various defect detection needs by changing the number and type of video cameras or lighting unit while at the same time being based on a reliable and well-tested software enabling clients to choose among different quality levels by setting different parameters. Thanks to the interface with the production line and with the different ERP software, EVO is fully integrated with the production line thereby improving its automation.

**ADVANTAGES**

The scalability guaranteed by the system enables clients to obtain the best quality/price ratio, while still giving the possibility of a hardware and software upgrade to increase performance and functionalities at a later stage.

**TECHNICAL FEATURES**

- Defect detection on glass, coating, printing, sheet edges.
- Highly customizable: clients can set different levels of quality and control parameters.
- High adaptable to any production line, be it horizontal or vertical, small in volume and with minimal maintenance.
- Can interface with the production line e.g., can manage an automatic discard system of non-compliant products.
- Can save results and defect images.
- Can generate personalized statistics and production reports.
- Offers a full support and software update service.

● **DEFECTS DETECTION**

The high customization degree permit to adapt the sensitivity of the control, changing both the type and/or the minimum dimension of the detectable defects. Thanks to this characteristic, Evo could be installed on any processing line to improve the quality of each process, from lamination to tempering.

● **DIMENSIONAL CONTROL**

The increasing use of glass in various sectors with an increasing demands of non-conventional shapes has resulted in more and more meticulous processing of the sheets. Particular outlines request high levels of precision in processing if they are to become part of complex products. The speed of modern production together with the peculiarity of processing often make human control impossible to perform, thereby we must rely on automated systems.

**CONTROLS CARRIED OUT**

- External dimension control
- Shape control
- Hole position and diameter control
- Processing control



● **PRINTING CONTROL**

The use of glass in particular sectors, such as the automotive, household appliance or interior design industries, has dramatically increased the use of serigraph or digital printing in glass production processes. A careful and precise quality control is a time-demanding process which is hardly compatible with the cycle times of the production process and requires the use of optical systems enabling the detection of repetitive irregularities due to machinery wear or damage

**BLACK BAND CONTROL**

- Completeness
- Position and rotation
- Scratches, void or lack of ink detection

**LOGO CONTROL**

- Completeness
- Position and rotation
- Character legibility
- Presence of traces
- Drop of ink in the transparent area



## ECOL INGENIERIA INDUSTRIAL, S.L

Poligono Industrial Guarnizo P17 - 39611 Guarnizo / Cantabria (Spain)  
Tel.: +34-942-566-196  
E-mail: comercial@grupoecol.com - www.grupoecol.com

### FLOAT FURNACE PERIPHERALS

Batch chargers, burner injectors, electroboosting, stirrers, coolers, side sealings, top roll, dross box, dedrossing pocket, lip plate, Lehr, hood and courtains.

### CONVEYORS AND TRANSFERS

Belt, roller and wheel conveyors  
Aerial and terrestrial transfers



### ACCUMULATION BUFFERS (STOCKERS)

Customizable up to jumbo size  
Number of places as per request



### LOADERS/UNLOADERS

Aerial and tilting automatic loaders  
Customizable up to jumbo size  
Compact design for footprint optimization



### CUTTING LINES

Straight and diagonal cuttings  
High speed - High precision  
Customizable up to jumbo size



### WASHING MACHINE FOR BENT GLASS

Enhanced cleaning and drying  
High speed up to 18m/min  
Customizable sizes and features



### CRUSHERS AND CULLET LINES

Automatic disposal and storage of class cullet  
Customizable to the glass size and cellar layout



## WASHING MACHINE FOR FLAT GLASS

Enhanced cleaning and drying  
High speed up to 26m/min  
Customizable sizes and features



## PVB WIRING DRUM

Heatable PVB for defrosting laminated automotive glass  
High-speed using up to 6 heads per row  
Double drum with 2 parallel working areas.  
Continuous wiring in straight and trapezoidal shapes



## SERIGRAPHY LINES (LOGO PRINTING)

Customizable to the glass size  
High speed up to 2.5 seconds per piece



## PRELAMINATION VACUUM BAGS FURNACE

100% automated with minimal operation cost  
Cycle time up to 225 pieces per hour  
Lamination of thin glass with complex shapes



## PACKING LINES

Customizable to the glass size  
High speed up to 2.5 seconds per piece  
Cutting and laying of interleave protection paper  
Automatic exit of package pallets

[www.grupoecol.com](http://www.grupoecol.com)

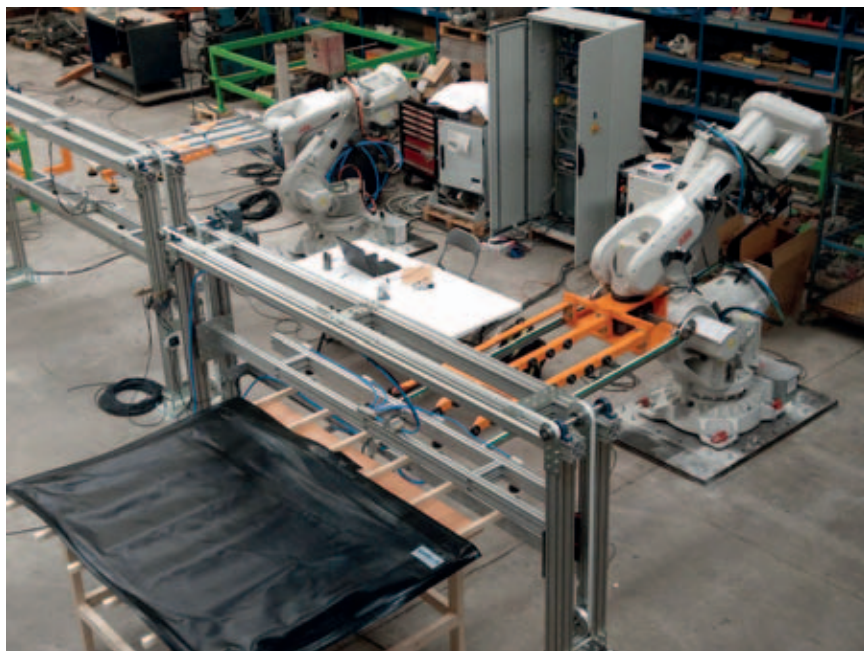
## SMART WAREHOUSE

Customizable up to jumbo size  
Number of places as per request  
Compact design for footprint optimization



## ROBOTIC CELLS

Loading/unloading conveyors and furnaces  
PVB trimming for laminated glass  
Glass packing with paper/separators  
Component assembly (AVO) of pins, spacers, holders, etc.



## PVB TRIMMING MACHINES

Cross belt with fast changeover  
Dust aspiration system





## EDGETECH EUROPE GMBH

Gladbacher Strasse 23 - 52525 Heinsberg - Germany

Tel.: +49-2452-964910

E-mail: info@edgetech-europe.com - www.superspacer.com

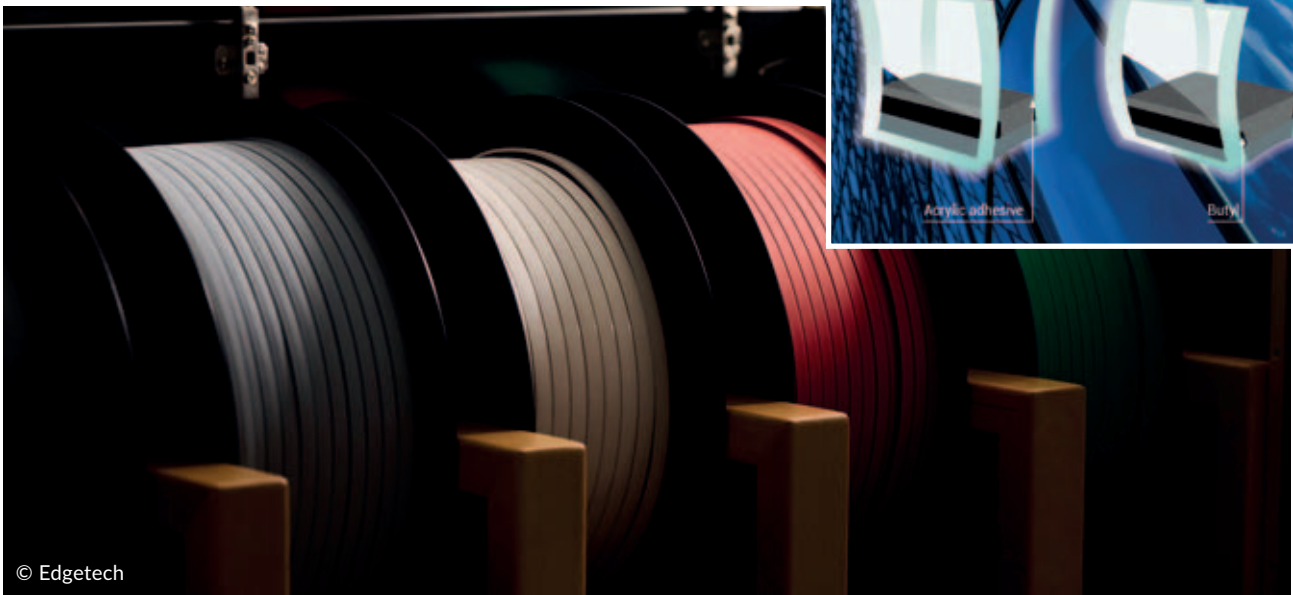


© René Müller

### THE ADVANTAGES OF THE SUPER SPACER®

- low thermal conductivity
- fast dew point drop
- durable edge seal, continuous vapour barrier at corners
- moisture-adsorbing, flexible foam matrix
- high desiccant content adsorbs more moisture than two-sided and generally also more than four-sided filled conventional systems
- no chemical fogging\*
- various widths between 3.2 and 32mm
- new colour variants
- high-quality silicone for superior resistance to UV-light and oxidation
- very good gas-loss rate values according to EN 1279 part 3
- optimum values for energy efficiency (Psi-Values up to 0.029 W/mK)
- enhanced comfort and well-being near windows
- excellent condensation resistance, shape retention and colour stability
- excellent durability for sustainable performance
- higher productivity through ease of processing (only three process steps)
- North America ASTM E2188/E2189/E2190
- Passive House ph A+ certificate for Arctic Climate
- Europe EN 1279
- Canada CGSB 12.8
- CEKAL - certified for France
- RAL Quality Label
- ISO 5001 Energy Management
- ISO 9001 Quality Management
- ISO 14001 Environmental Management
- P1 Industry standard USA

\* safe up to approx. +80°C, higher depending on the test method



© Edgetech



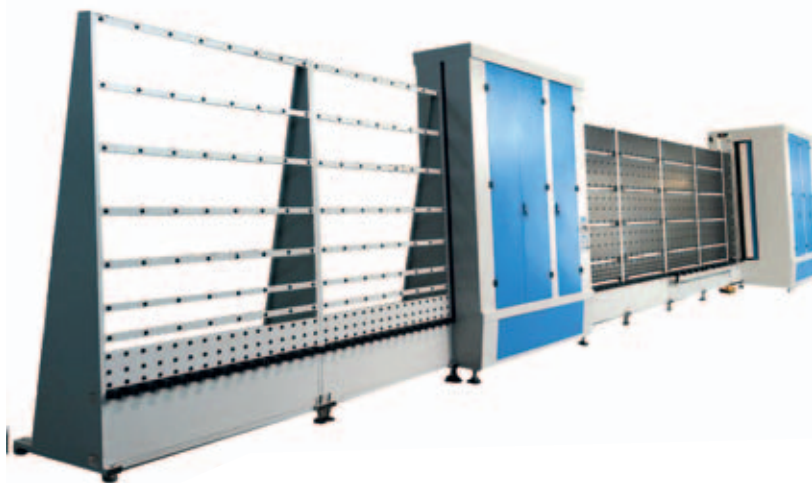


## EMAR Srl

Via del lavoro 2/b - 20060 Pozzo D'Adda (MI) - Italy  
 Tel.: +39-02-90967625  
 E-mail: diego@emar.it - www.emar.it

## AUTOMATIC LINES WITH GAS LOAD

### M2501PAGAS AS STANDARD AUTOMATIC LINE 2500 - 6 BRUSHES - PANEL PRESS - FIXED EXIT - GAS LOAD



- All double-glazing production lines adopt a modular concept and can, therefore, be adapted to the needs of the individual customer.
- Made up of 3 m modules, the glass is transported via a system of anti-cut rollers with frictional components to increase the safety of the operator.
- The washing machine body is in powder-coated stainless steel and is 2.6 m long. All components in contact with water are corrosion resistant and equipped with 6 x 160 mm diameter brushes with steel shafts and aluminum supports.
- The water management unit is made up of three washing areas with tanks, pumps, filters and internal parts in stainless steel. Thanks to the shape of the tanks, water consumption has been reduced to a bare minimum reusing wastewater from one sector to another. The thermostat-controlled heating system is standard over the entire range.
- A fan for drying has been installed in an insulated box to reduce noise, with a damper to manage the air flow allowing for greater energy saving during processing stops. The working speed is adjustable and controlled exclusively by an electronic system that maintains the torque constant even with different weights.
- The output module is equipped with a new continuous LED light system to allow better control of the washing quality.
- The motorised assembly is made up of double anti-cut rubber rollers mounted on friction systems. The transport is managed by an inverter which allows the processing speed to be increased during the movement of the glass, reducing waiting time to a minimum. Thanks to the LED light system it is possible to identify any imperfections on the glass.
- A laser sensor guarantees high positioning precision of the profile. The pneumatic movement pistons are controlled by oil-filled clearance adjusters, and managed by sensors that read the thickness of the glass to allow the operator to position the groove without any adjustment while working on different glass thicknesses.
- The measurement module allows you to automatically detect all the quantities to calculate the volume of gas needed.
- The 3.15 m long panel press is equipped with anti-cut friction rollers. The work surface moves via a sliding system mounted on recirculating ball bearings, controlled by spiral clamps connected to each other by a high-precision belt, maintaining perfect parallelism with both small and large glass panes.
- The pressing force is controlled by an electronic system which guarantees the correct result through the micro torque adjustment of the Brushless motor which controls the movement. The press automatically regulates the pressing force via sensors that read the dimensions of the glass, and through the new self-management software.
- The EASY TOUCH control panel with a simple touch screen allows the operator to control the working process, adjust the machine parameters and check the individual operation of each component.
- The fixed exit is made up of a 3 m module. The glass is transported via a system of anti-cut rollers mounted on frictional components to increase operator safety.
- Self-learning system of the measurements of the glass being processed for automatic gas loading, with ad hoc adjustments on the control panel
- The machine has been designed to be connected to other work modules

Other model:

### M2001PAGAS AUTOMATIC LINE FROM 2000, 6 BRUSHES, WITH PANEL PRESS, FIXED EXIT AND GAS LOAD

## AUTOMATIC LINES

### M2501PA AUTOMATIC LINE FROM 2500 / 6 BRUSHES / PANEL PRESS / FIXED EXIT / TILTING TABLE



- The washing machine body is in powder-coated stainless steel and is 2.6 m long. All components in contact with water are corrosion resistant and equipped with 6 x 160 mm diameter brushes with steel shafts and aluminum supports.
- The water management group is made up of three washing areas with tanks, pumps, filters and internal parts in stainless steel. Thanks to the shape of the tanks, water consumption has been reduced to a bare minimum reusing wastewater from one sector to another. The thermostat-controlled heating system is standard over the entire range.
- A fan for drying has been installed in an insulated box to reduce noise, with a damper to manage the air flow allowing for greater energy saving during processing stops. The working speed is adjustable and controlled exclusively by an electronic system that maintains the torque constant even with different weights
- The output module is equipped with a new continuous LED light system to allow better control of the washing quality.
- The motorised assembly is made up of double anti-cut rubber rollers mounted on friction systems. The transport is managed by an inverter which allows the processing speed to be increased during the movement of the glass, reducing waiting time to a minimum. Thanks to the LED light system it is possible to identify any imperfections on the glass.
- A laser sensor guarantees high positioning precision of the profile. The pneumatic movement pistons are controlled by oil-filled clearance adjusters, and managed by sensors that read the thickness of the glass to allow the operator to position the groove without any adjustment while working on different glass thicknesses.
- The 3.15 m long panel press is equipped with anti-cut friction rollers. The work surface moves via a sliding system mounted on recirculating ball bearings, controlled by spiral clamps connected to each other by a high-precision belt, maintaining perfect parallelism with both small and large glass panes.
- The pressing force is controlled by an electronic system which guarantees the correct result through the micro torque adjustment of the Brushless motor which controls the movement. The press automatically regulates the pressing force via sensors that read the dimensions of the glass, and through the new self-management software.
- The EASY TOUCH control panel with a simple touch screen allows the operator to control the working process, adjust the machine parameters and check the individual operation of each component.
- The fixed exit is made up of a 3 m module. The glass is transported via a system of anti-cut rollers mounted on frictional components to increase operator safety.

Other model:

### M2001PA AUTOMATIC LINE FROM 2000, 6 BRUSHES, WITH PANEL PRESS AND FIXED EXIT



## SEMI-AUTOMATIC LINES

### **M2501** SEMI-AUTOMATIC STANDARD LINE FROM 2500 / 6 BRUSHES / FIXED EXIT



- All double-glazing production lines adopt a modular concept which can be adapted to the needs of the individual customer. Made up of 3 m modules the glass is transported via a system of anti-cut rollers, with frictioned components to increase operator safety. The washing machine body, in powder-coated stainless steel, is 2.6 meters long.
- All components in contact with water are corrosion resistant. The machine is equipped with 6 brushes with a diameter of 160 mm with steel shafts and aluminum supports. The water management group is made up of three washing areas with tanks, pumps, filters and internal parts in stainless steel. Thanks to the shape of the tanks water consumption has been reduced to a minimum, reusing wastewater from one sector to another.
- The thermostat-controlled heating system is standard over the entire range. Drying is served by a fan mounted in an insulated box to reduce noise with a damper to manage the air flow and therefore allow greater energy saving during processing stops. The working speed is adjustable and controlled exclusively by an electronic system that maintains the torque constant even with different weights.
- The output module is equipped with a new system of continuous LED lights to allow better control of the washing quality. The transport of the glass takes place via a system of anti-cut rollers, mounted on frictioned components to increase operator safety. Thanks to the LED light system it is possible to identify any imperfections on the glass.
- High profile positioning precision is guaranteed thanks to a laser sensor. The pneumatic movement pistons are controlled by oil-filled clearance adjusters managed by sensors to read the thickness of the glass, so that the operator can position the channel without any adjustment while working on glass of different thicknesses. The 1 m roller press is equipped with anti-cut friction supports and moves via pneumatic pistons made of material treated with bushings.
- The machine can be adjusted by the operator to vary the pressing thrust. The fixed exit is made up of a 3 m module with the glass transported via a system of anti-cut rollers mounted on frictioned components to increase operator safety.
- The machine, as standard, has been set up for connection to other work modules.

Other models:

### **M2001** SEMI-AUTOMATIC STANDARD LINE FROM 2000, 6 BRUSHES, WITH FIXED EXIT

### **M1501E** SEMI-AUTOMATIC ECO LINE FROM 1500, 4 BRUSHES, WITH FIXED EXIT

### **M2001E** SEMI-AUTOMATIC ECO LINE FROM 2000, 4 BRUSHES, WITH FIXED EXIT



Model M2001



## VERTICAL WASHING MACHINES

### **M3300** STANDARD VERTICAL WASHING MACHINE FROM 3300 / 6 BRUSHES



- Double glazing washers adopt a modular design, so they can be adapted to the needs of the individual customer. Washing machine composed of 4 m input and output modules. The glass is transported via a system of anti-cut rollers with friction components to increase operator safety. Washing machine body in stainless steel and powder coated. Length 3.2 m.
- Corrosion-resistant components in contact with water. Machine equipped with 6 brushes with a diameter of 180 mm with stainless steel shafts and aluminum supports. Water management group composed of 4 washing zones with tanks, pumps, filters and internal parts in stainless steel. Thanks to the shape of the tank, water consumption is reduced to the bare minimum, reusing waste water from one sector to another. Possibility of connecting the last rinsing zone directly to the demineralizer. Thermostat-controlled heating system as standard on the entire range. Drying served by a fan mounted in an insulated box to reduce noise, with a shutter to manage the air flow and therefore allow greater energy savings during work stops. Adjustable working speed and controlled exclusively by electronic systems to maintain constant torque even with different weights. Output module equipped with a new system of continuous LED lights to allow better control of the washing quality. The glass is transported via a system of anti-cut rollers, mounted on friction components to increase operator safety. Machine set up as standard for connection to other work modules.

Other models:

**M2000** STANDARD VERTICAL WASHING MACHINE FROM 2000, 6 BRUSHES

**M2500** STANDARD VERTICAL WASHING MACHINE FROM 2500, 6 BRUSHES

**M2800** STANDARD VERTICAL WASHING MACHINE FROM 2800, 6 BRUSHES

**M1500E** ECO VERTICAL WASHING MACHINE FROM 1500, OPEN TOP, 4 BRUSHES, WITH MOTORIZED OUTPUT

**M2000E** ECO VERTICAL WASHING MACHINE FROM 2000, OPEN TOP, 4 BRUSHES, WITH MOTORIZED OUTPUT

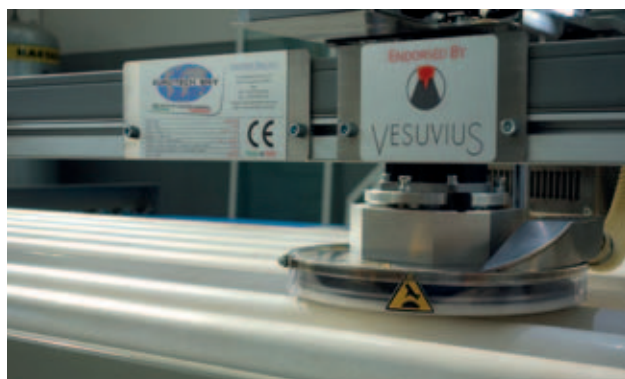


## EUROTECH-WAY Srl

Via Benedetto Croce, 14 - 42014 Castellarano (RE) - (Italy)  
 Tel.: +39-0536-823563  
 E-mail: info@eurotech-way.com - www.eurotech-way.com

### ROBOCLEAN

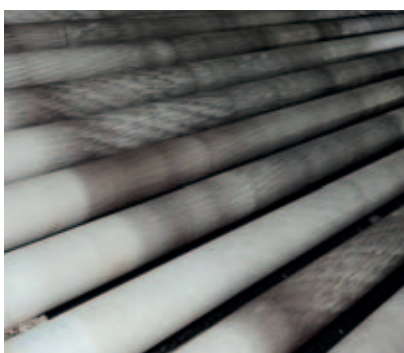
IS THE ONLY WAY to clean and polish rollers fully automatically, perfectly guarantee 100%, with high final cleaned result, and ENDORSED BY VESUVIUS



SET OF DISCS FOR ROBOCLEAN

ROLLAERS DIRTY WITH PAINT

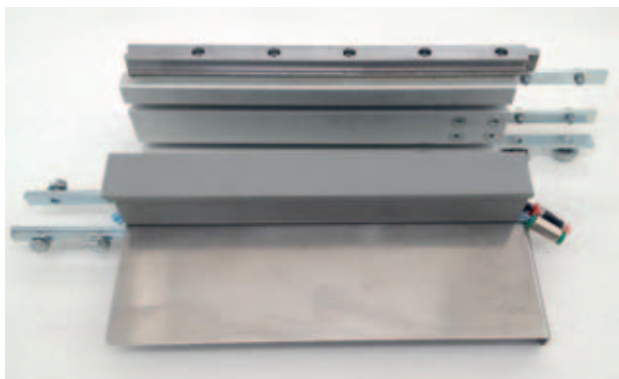
CLEANED WITH ROBOCLEAN



#### MAIN ROBOCLEAN PERFORMANCE

- With the same RoboClean, and proper kits, you can clean multiple roller furnaces and of any type !!
- With this kits you can change the RoboClean set-up in a very fast and simple way.
- Using the RoboClean you save manpower, reduction productions stop time, and avoid any defect on the glass, coming from dirty rollers.
- The RoboClean could be equipped with different type of discs able to remove any kind of dirty materials from rollers surface.

EXTENSION KIT



ROLLERS KIT PITCH





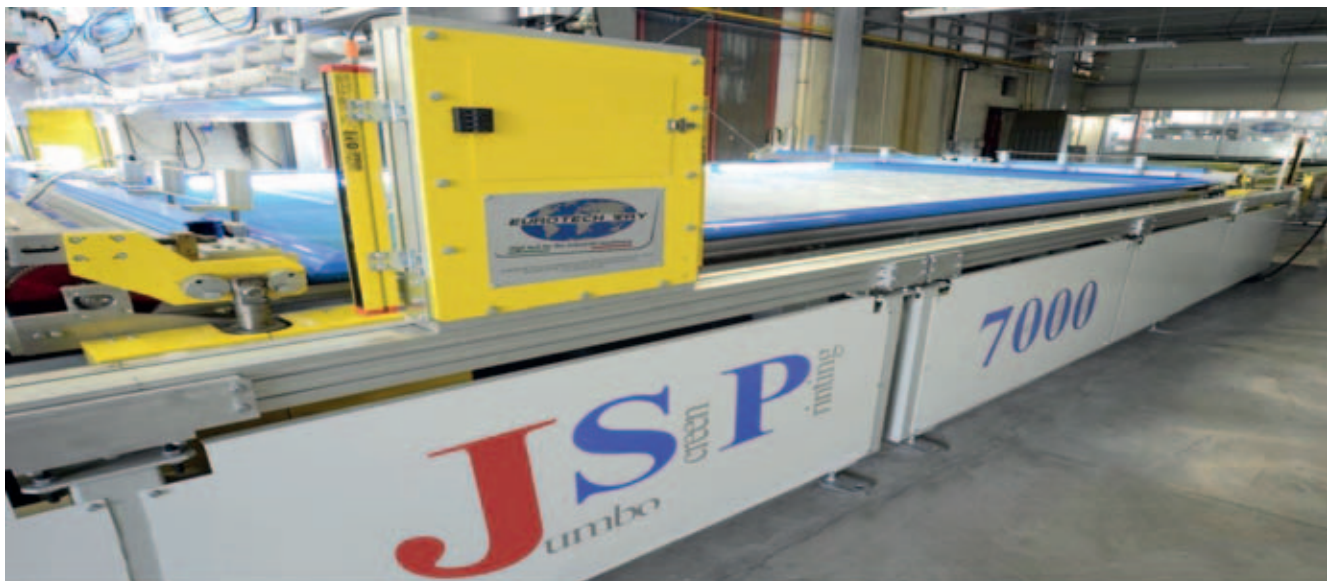
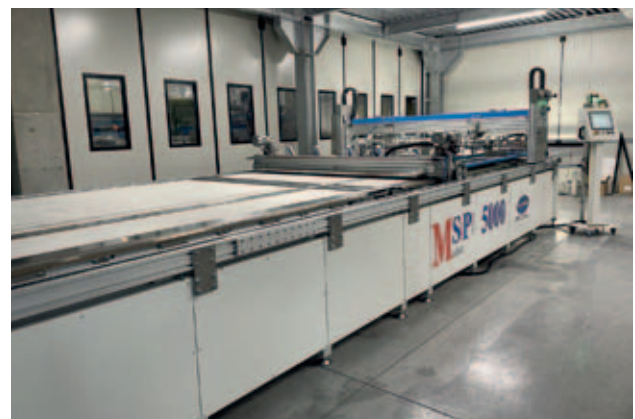
[www.eurotech-way.com](http://www.eurotech-way.com)

## AUTOMATIC SCREEN PRINTING MACHINE

This new series of screen printing machines with bridge technology has been developed from Eurotech Way team to have more flexible and fast machines with large free spaces for the operator and to make production changeover easier and faster with very low maintenance using high quality materials confirmed from our customer.

Indeed, when changing production, the operator only has to position by hand the spatulas and the screen.

The positions of all the other parts of the machine are stored in the recipe, therefore by recalling the recipe all the parts of the machine automatically position themselves in the correct position.

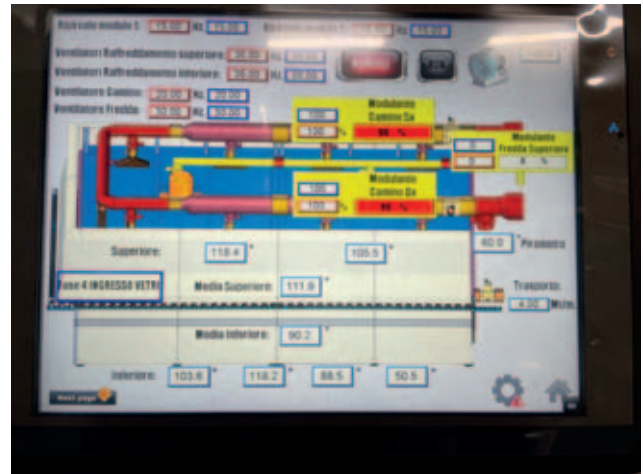




[www.eurotech-way.com](http://www.eurotech-way.com)

## DRYER

The conveying system is equipped with ground and polished ceramic aluminium rollers. Motorization takes place by means of dry bevel gear, with quick rollers coupling/release, controlled by an inverter. The heating elements are IR lamps positioned in the upper part and lower part of heating chamber. Temperatures are controlled separately on each heating element, and between the upper and lower parts of the rollers, by means of special thermocouples and related self-regulators.



The thermal insulation of the heating elements is made of high quality 100 mm thick insulation matter, which allows the machine to work at a temperature of 250°, ensuring maximum thermal insulation. The internal insulation panels are positioned in such a way that they do not create any contact with the external structure, avoiding the normal passage of heat and, therefore, natural dissipation towards the outside.

A capillary suction system placed on the entire perimeter of the heating elements prevents leakage of drying fumes generated by the paints, thanks to separate regulation at each suction point.

The cooling system consists of a set of separate high-pressure electro-fans for the system above the glass and for the system below the glass.





[www.eurotech-way.com](http://www.eurotech-way.com)

## EDGE ROLLER COATING MACHINE

This machine can be equipped with applicator roller for different enamels and processes.

The head is fitted with devices for manual or automatic enamel feeding, with a closed protective case for operator safety.

There is installed a new system developed by Eurotech Way allows to deal with the problem of enamel overlapping during the intersection of edges, solving it almost completely.

The roller conveyor is equipped with a lifting bench, which guarantees free movement of the glass panels by means of supporting free spheres.

Close attention has been paid to the applicator and dosing rollers, as well as to the enamel containment system that allows to keep the inside of the rollers perfectly clean without damaging them.



# glassOnline

The World's Leading Glass Industry Website

HOME NEWS PUBLICATIONS ▾ OUR EVENTS ▾ EXHIBITIONS YELLOW PAGES ▾ NEWSLETTER CONTACT ▾ VIDEOS ▾

## DAILY NEWS

Tuesday, June 18, 2024

Follow us on our social networks!



Search



Verallia commits to transition to renewable and sustainable



HEGLA boradent: Antibacterial glass with clear ion finish



Vetropack: Echoval bottle wins WorldStar Award



POLFLAM at FeuerTrutz 2024 - Where innovation meets fire



glasstec: Interview with Prof. Knarik on glass technology

Company news  
**LISTEN LISEC podcast Season 1**  
6 June 2024

Company news  
**Falorni Tech: New development projects in Iraq**  
6 June 2024

Company news  
**CMS Open House New Technologies 2024**  
6 June 2024

## Linked in: Glass Industry Network

**Glass Industry Network**  
World Glass News  
21.822 Followers



Glass Industry Network  
14.196 Impressions



14.196 Impressions



Customers involve IOCCO in feasibility studies for whole car glass sets

Among IOCCO's contribution in the manufacture of systems for the air extraction during the lamination of windshields, laminated sidelights and sunroofs is the notable improvement for both concept and fabrication of vacuum bag furnaces...



*GlassOnline.com offers a full multi-media experience across channels and platforms*

## DAILY NEWS

Daily news from around the world of glass: industry, economy and finance, management, projects, systems, innovations, products, events, etc.

## DAILY NEWSLETTER

Over 7,600 registered users receive the newsletter - with a worldwide news service - five days a week.

## VIDEO INTERVIEW

GlassOnline, Glass Industry Network (LinkedIn page) and our channel Youtube, will host and promote your company videos and video interviews to a large professional audience

## FOCUS ON

A service dedicated to companies that want to publish articles in real time on case histories, special company events and celebrations, business agreements and production innovations, etc.

## OUR PUBLICATIONS

All our publications are available free-of-charge in digital desktop format, iPhone / iPad and Android mobile systems or in pdf format



# Review

June / September

2024

PAGES 206 - 216

glass  **Online**.com



## June 2024

### GLASS FOR EUROPE: A NEWS-PACKED AND FRUITFUL GENERAL ASSEMBLY

On March 20, 2024, Glass for Europe held its annual General Assembly in Brussels, bringing together senior executives and committee chairs from EU-based float manufacturers.

The General Assembly was marked by the welcome of a new member. Şişecam operates four float glass production lines in the EU, two in Italy and two in Bulgaria, and is a major global player in flat glass production. With this new member, Glass for Europe now represents around 90 percent of EU flat glass production in Europe, strengthening the association as the representative voice of the sector in Europe.



The General Assembly also saw the election of a new Chairperson and Vice-Chairperson of the Board of Glass for Europe. Davide Cappellino, Chairman of the Board and President of Architectural Glass of AGC Glass Europe, was elected Chair, succeeding Joana Arreguy of Saint-Gobain. Dr Christian Quenett of the NSG Group was elected Vice Chair of Glass for Europe. Cappellino thanked all members for their confidence and underlined the importance of the work carried out in Glass for Europe to help the industry meet the many challenges of the times and navigate the increasingly complex implications and obligations arising from EU policies and legislation.

A special session of the General Assembly was dedicated to a discussion on the enormous technological and economic challenges associated with accelerating the reduction of CO<sub>2</sub> emissions from flat glass production in order to follow the EU's path towards climate neutrality.

The fruitful exchange led to a reaffirmation of Glass for Europe's vision '2050 I Flat Glass in a Climate Neutral Europe' and the sector's ambition to maximise its contributions to the EU's climate neutrality target. Due to today's economic, geopolitical and technological realities, the realisation of this vision requires the development of a comprehensive and supportive industrial policy.

Cappellino said, "Products that are essential to the EU's path to climate neutrality, such as flat glass, must continue to be produced in Europe in a sustainable and affordable way. The EU needs to create the right industrial conditions to achieve its climate neutrality goal, as the difficulties to be overcome remain tentacular."

To enable the necessary sustainable transformation, Glass for Europe has developed a policy manifesto for 2024-2029, which sets out concrete policy proposals for EU policy-makers to consider. Advocating for these policies will be a priority for Glass for Europe in the coming months.

### GC GLASS EUROPE: SUSTAINABILITY UPDATE 2024

All the details and figures of AGC Glass Europe's decarbonisation journey in 2023 can now be found in the updated Sustainability section of the corporate website.

#### Leading the glass industry to decarbonise

AGC Glass Europe is committed to reaching the AGC Group objective to reduce its carbon footprint by 30 percent in 2030 (FY2019) and achieve carbon-neutral glass production by 2050.

It is estimated that in 2023 the Carbon Footprint of AGC Glass Europe was 2.7 million tonnes of CO<sub>2</sub> equivalent,

which represents a reduction of 13 percent versus 2019. Results show that the main CO<sub>2</sub> emissions hotspots are mainly attributed to



fuel combustion and raw material decarbonization, raw materials production from the company suppliers and electricity purchased for the production sites.

Decarbonisation highlights of 2023

#### Recycling

- AGC Glass Europe recycles around 700,000 tonnes of cullet per year, saving about 840,000 tonnes of raw material and 490,000 tonnes of CO<sub>2</sub> emissions.
- The average cullet ratio in the company's raw materials was close to 30 percent in 2023 and AGC aims to increase this ratio to 50 by 2030.

#### Use of green energy

- In 2023, the total electricity production from low-carbon sources (wind, solar, cogeneration and heat recovery) reached 42,917 MWh. As a result, close to 3,120 tonnes of CO<sub>2</sub> were saved in 2023.
- The total output of photovoltaic installations reached 11,166 MWh. This is a remarkable increase close to 80 percent vs 2022 production

#### Using highly efficient melting furnaces

- Electro-boosting.
- An interdisciplinary AGC team is in the process of installing electro-boosting on our float production lines to partially electrify production lines all over Europe.
- Design of a hybrid mid-sized pilot furnace for flat glass. AGC's Bavevka production line in the Czech Republic will be entirely refurbished in 2024 into a high performing



and state-of-the-art line that aims to be 50 percent electrified, and 50 percent fired by a combination of oxygen and gas. The hybrid furnace is expected to reduce the pilot site's scope 1 and 3 emissions by 75 percent compared to the reference scenario. The used electricity will be 100 percent produced by renewables technologies.

**Glass at the heart of sustainable architecture – Low-Carbon Glass**

The first Low-Carbon glass was successfully produced at the AGC plant in Moustier, Belgium. In 2023, the AGC plant in Seingbouse, France, also started producing Low-Carbon Glass. Other AGC float plants are likely to follow.

**GFE: POSITION PAPER ON DISMANTLING OF END-OF-LIFE AUTOMOTIVE GLASS**

The latest trends and issues in automotive glass recycling were discussed June 19 to 21, in Antwerp, Belgium, at the International Automotive Recycling Congress 2024, with a focus on the work on the End-of-life of vehicles Regulation (ELVR).



June 21, to contribute to this broad discussion, Glass for Europe published a paper explaining how dismantling automotive glass an essential step is to enhance the recycling of end-of-life vehicles.

The proposals from the European Commission (EC) on glass dismantling could increase the availability of high-quality automotive glass cullet and boost recycled content in glazing.

To improve circularity and sustainability in glass manufacturing, Glass for Europe calls on policy-makers to maintain the EC proposal on glass dismantling and recycling in the future ELVR.

**SAINT-GOBAIN: SHAREHOLDERS' AND BOARD OF DIRECTORS' MEETINGS**

June 6, 2024, Saint-Gobain held its Shareholders' Meeting, at the close of which it also held a Board of Directors' meeting in the composition resulting from the Shareholders' Meeting.



**Implementation of the new governance structure**

At the meeting, which was attended by 75.63 percent of the voting rights, all the proposed resolutions were adopted by a very large majority.

Shareholders approved the appointment of 3 new Independent Directors:

- Sophie Brochu, former Chairman and Chief Executive Officer of Hydro-Québec (Canada);
- Hélène de Tissot, Chief Financial Officer of Pernod Ricard Group;
- Geoffroy Roux de Bézieux, entrepreneur.

Shareholders also approved the renewal of Jean-François Cirelli as a Director.

The proposal to amend the by-laws to make the appointment of a Lead Independent Director compulsory was approved.

The Board reiterated its unanimous decision of November 23, 2023, to combine the functions of Chairman and Chief Executive Officer and to appoint Benoit Bazin as Chairman and Chief Executive Officer with effect from today.

The Board also decided, as per its intention announced in November 2023, to appoint Jean-François Cirelli as Lead Independent Director and Vice-Chairman of the Board. In particular, he will be responsible for ensuring the proper functioning of the Company's corporate governance bodies and will be a point of contact for shareholders on all these matters. The Board of Directors also reiterated its decision, taken on November 23, 2023, to amend the Board's Internal Regulations to enhance the powers of the Lead Independent Director.

**GUARDIAN GLASS: COATED GLASS FOR HIGH PERFORMANCE PANORAMIC SUNROOFS**

Guardian Glass and Webasto Luxembourg announced entering an agreement for Guardian to supply a new coated glass solution from the Guardian SilverGuard™ product family for Webasto panoramic sunroofs.

With innovative high performance glass Webasto increases maximum comfort and joy in all types of vehicles. Electric vehicles especially do not have a thermal engine; the energy required to heat or cool the interior takes away energy needed to propel the vehicle. This makes heating and cooling efficiency critical to prolonging battery life.



Webasto Roof Ambient light - Photo Webasto

Guardian Glass has developed its new SilverGuard glass using an innovative, low-reflectivity, low-E coating for the surface of the roof inside the car, combined with a solar control coating for the surface facing the laminated glass interlayer. Together these coatings enhance the total solar factor and the thermal insulation of the glass roof, while providing clear views for the advanced oversized roof glass of Webasto. These coatings also help



enhance the special features offered by the Webasto products, such as integrated ambient light, light effects, switchable glazing or solar cells.

“We are very pleased to enter into this agreement with Guardian Glass,” said Axel Berning, Managing Director at Webasto Luxembourg. “With the coatings from Guardian, we will start series production of our first high performance glass roofs this year.”

Guardian’s Bascharge plant, in Luxembourg, with the company’s most energy efficient furnace, has already started delivering prototypes, and will start to deliver pre-series SilverGuard glass products in the second half of 2024. The proximity to Webasto Luxembourg helps to bring more efficiency to the manufacture of this product. Guus Boekhoudt, Executive Vice President of Guardian Glass, added, “Webasto proven, international success providing leading solutions for high performance roofs makes this a mutually beneficial partnership. Guardian Glass looks forward to applying our advanced technology and knowledge to future automotive glass applications in the automotive market.”

### CORNING LAUNCHES CORNING® GORILLA® GLASS 7I

Corning Incorporated announced the launch of Corning® Gorilla® Glass 7i, a new cover glass engineered to deliver improved durability for intermediate and value-segment mobile devices. Gorilla Glass 7i broadens Corning’s tough cover glass portfolio, offering better drop and scratch performance compared to competitive lithium aluminosilicate glasses from other manufacturers.



“Durability remains a primary concern for anyone with a mobile device,” said David Velasquez, vice president and general manager, Corning® Gorilla® Glass. “Purchasing a smartphone is a significant investment, and Gorilla Glass 7i allows more consumers to protect their purchase by providing advanced toughness for value and intermediate devices at an affordable price point.”

In Corning lab tests, Gorilla Glass 7i survived drops of up to one metre on surfaces replicating asphalt. Competitive lithium aluminosilicate glass from other manufacturers typically failed when dropped from half a metre or less. Additionally, Gorilla Glass 7i is up to two times more scratch resistant than competitive lithium aluminosilicate cover glasses.

“We remain committed to helping our customers solve their toughest technological challenges across all market

segments – from entry-level phones to their premium flagship devices,” Velasquez said. “Gorilla Glass 7i is the latest example of Corning’s vital role in developing glass technology that helps meet the evolving needs of every consumer.”

### VITRO ARCHITECTURAL GLASS TO CLOSE SALEM, USA, PLANT

Vitro Architectural Glass plant located in Salem, Oregon, USA, will cease operation June 28, 2024, due to lower demand for its products. The



plant is a glass coating facility that celebrated its 20th year of operation in 2017 and was producing more than 50 million square feet of glass each year.

According to Bill Haley, vice president of U.S. operations at Vitro, the decision was made by Vitro’s operations leadership team based on current and projected market conditions resulting in lower demand for flat glass products.

The plant has 37 employees, some of whom are being considered for open positions at other Vitro facilities. The company is also working with other local companies and the state Employment Department to help others find jobs.

### AGC GLASS EUROPE: NOW AVAILABLE - LOW-CARBON PYROBEL GLASS

With a view to meeting growing market demand and reducing the environmental impact of its production processes in line with its Roadmap to



Carbon Neutrality, AGC Glass Europe launched its Low-Carbon Glass range in 2022. The company announced the launch of Low-Carbon Pyrobel Glass, its new fire-resistant glass product featuring significantly reduced embodied



carbon. To reduce greenhouse gas emissions when producing Low-Carbon Pyrobel Glass, a holistic approach is applied across the entire value chain. Not only is the recycled content of Low-Carbon Glass above 50 percent, but it is produced with sustainably sourced raw materials in highly efficient melting furnaces with electro-boosting and renewable energy. Moreover, transport between

AGC Group sites for finishing processes has been optimised.

Low-Carbon Pyrobel Glass delivers the same aesthetics, quality, technical performance and fire-resistant properties as AGC's standard Pyrobel.

**Developing sustainable buildings with EPD-certified products**

AGC has a large portfolio of products featuring third-party verified Environmental Product Declarations (EPDs). Pyrobel's environmental performance has been available in a third-party verified EPD since 2018 and Pyrobel delivers best-in-class results in terms of Global Warming Potential. For example, the embodied carbon of Pyrobel 16 is 60.5 kgCO<sub>2</sub>eq/m<sup>2</sup> (kilogramme of carbon dioxide equivalent per square metre) while that of Pyrobel 25 is 98.1 kgCO<sub>2</sub>eq/m<sup>2</sup>.

Today, Low-Carbon Pyrobel Glass combines the performance of AGC's Low-Carbon Glass (verified EPD published in May 2024), the use of green electricity and the optimisation of the manufacturing process to achieve a 45 to 50 percent reduction in embodied carbon compared to standard Pyrobel<sup>3</sup>. The verified EPD for Low-Carbon Pyrobel Glass will be issued within the next few months after third-party verification.

Professionals can use these EPD documents to help them make informed choices when developing more sustainable buildings having lower environmental impacts.

**FGIA AND NGA: UPDATED TECHNICAL RESOURCE JOINTLY PUBLISHED**

The Fenestration and Glazing Industry Alliance (FGIA) and the National Glass Association (NGA) are proud to announce the joint publication of an updated technical resource: NGA/FGIA TB-1601, Guidelines for Use of Capillary Tubes.



This eight-page guide addresses the use of capillary tubes in insulating glass units, including proper manufacture and design, glazing methodologies, as well as advantages and disadvantages of their use. It can be downloaded from the FGIA Online Store or the NGA Store.

"This is an excellent resource covering the use of capillary tubes; everything from design guidance to glazing considerations," said Aaron Thompson, Principal Research Engineer at Viracon. "The volunteers comprising the task group have worked over the past two years to bring the material up to date and in line with expanded knowledge and use since its original publication in 2014."

The resource further expands on environmental condi-

tions, discussing how gas fill, temperature and pressure impact IGU behaviour.

"The use of capillary tubes in insulating glass units (IGUs) has long been established as a means to accommodate changes in elevation of an IGU from the point of IGU manufacture to the point of installation," said Amy Becker, FGIA Glass Products Specialist. "Such elevation changes create pressure differentials between the IGU cavity and the exterior environment that, unless alleviated, can cause glass deflection, excessive edge seal stress, and/or glass breakage."

**July 2024**

**GLAS TRÖSCH: INTERCULTURAL EXCHANGE**

Situated on the picturesque Rhine and connected to France by the nearby Pierre-Pflimlin Bridge, the European Forum on the Rhine strengthens



cross-border cooperation and Franco-German cultural exchange as a multifunctional building.

Designed by the Grossmann Group, the Forum fulfils several purposes: it houses the unique bi-national theatre BAAL, offices for members of the European Parliament from both countries and a permanent exhibition space – making it a lively place for a variety of interactions.

One of Glas Trösch's tried and tested glass solutions played a decisive role in the design of the building's ecological standards: the insulating glass with SILVERSTAR EN2plus ensures optimum thermal insulation and adapts to the building's modern energy concept. Visually the glass surfaces, which are inclined at different angles, appear both lively and futuristic.

**NSG: GLASS CENTER OF EXCELLENCE TO BE ESTABLISHED IN OHIO, USA**

The Governor of Ohio recently announced the Northwest Ohio Innovation Consortium (NOIC) will receive a USD 31.3 million grant from the Ohio Department of Development's Innovation Hubs program to establish a Northwest Ohio Glass Innovation Hub.



NSG Pilkington North America is a member of NOIC, a



non-profit born out of local industry, with a vision to make Northwest Ohio a national leader in innovation, creating new jobs and business opportunities and supporting world-class research aligning with the needs of local industries.



The innovation hub will establish a Glass Center of Excellence in Northwest Ohio as a shared space for a collaborative effort between the University of Toledo, Bowling Green State University and local private sector companies to expand world class glass research for the solar panel, container, automotive, architectural, and fiber glass products. The centre will be located at O-I in Perrysburg, Ohio.

“The collaboration between local industries and education partners will provide great support for workforce development, sustainable manufacturing, and also spark glass industry innovation,” said Kyle Sword, R&D Director of NSG Pilkington North America.

**VITRO ARCHITECTURAL GLASS: 60-YEAR EVOLUTION OF SOLARBAN® GLASS**

Vitro Architectural Glass marked 60 years of evolution and innovation of Solarban® glass, the flagship brand for one of the industry’s most environmentally advanced lines of solar control, low-emissivity (low-e) glasses. Solarban® glass, one of the earliest coated energy-efficient glass brands, has driven the sustainable building movement with significant energy savings and transparency. This has enabled architects and designers to achieve and exceed eco-friendly design goals.



The Health Sciences Innovation Building (HSIB) at the University of Arizona  
Photography: Tom Kessler

Introduced in 1964, Solarban® glass was a pioneer among coated glasses designed to deflect heat from buildings. Its innovative design improved occupant comfort, reduced utility expenses related to HVAC systems and laid the



The Watershed in Seattle, Washington, features Solarban® 60 glass by Vitro  
Photography: Built Work Photography, LLC

foundation for sustainable design and construction. Over the past six decades, Solarban® glass and its precursors have been at the forefront of multiple ground-breaking advancements, continuously reshaping architectural glass performance. In the 1980s and early 1990s, single-silver and double-silver glasses were introduced, which helped enhance year-round comfort in homes and buildings while saving on heating and cooling costs. In 2000, the world was introduced to the first double-silver vacuum temperable low-e glass that allowed for post-manufacturing fabrication, Solarban® 60 glass.

The world’s first triple-silver low-e glass, Solarban® 70 glass (formerly Solarban® 70XL glass), was introduced at Greenbuild in 2005 and rapidly became the most commonly specified triple-silver low-e coated glass in the industry, with more than 700 million square feet shipped since its inception. In 2015, the first-ever quad-silver low-e glass, Solarban® 90 glass, was introduced as Vitro’s highest-performing solar control low-e coating.

**SAINT-GOBAIN COMPLETES ACQUISITION OF CSR IN AUSTRALIA**

Saint-Gobain has announced completing the acquisition of CSR Limited, establishing a strong presence in the attractive Australian construction market.

CSR is a leading player in building materials in Australia, consisting principally of Building Products (AUD 1.9 billion in sales and an EBITDA margin of 18 percent for the fiscal year ending March 31, 2024), with some of Australia’s most trusted and iconic brands. The acquisition fits extremely well with Saint-Gobain’s worldwide offer on light and sustainable construction.



Benoit Bazin, Chairman and Chief Executive Officer of Saint-Gobain, said, “We are delighted with the timely completion of this major transaction in Australia’s attractive high-growth construction market which is underpinned by solid macroeconomic fundamentals. The acquisition will strengthen our presence in the fast-growing Asia-Pacific markets and is fully aligned with our “Grow & Impact” strategy and our worldwide leadership in light and sustainable construction. We see a tremendous opportunity to build on CSR’s strengths to further accelerate its growth in the region.

“I am very impressed by the CSR teams’ expertise, know-how, and commitment at every level. It is truly a great pleasure to officially welcome them all into Saint-Gobain.”

### Management update

Following the delisting of CSR on completion of the transaction, Julie Coates has decided to step away from her role as Managing Director and Chief Executive Officer. Julie will continue to serve as a member of the newly established CSR board to ensure a smooth and successful transition.

Paul Dalton, currently CSR Executive General Manager, Interior Systems, will be appointed Chief Executive Officer at the time of delisting.

Bazin stated, "I would like to take this opportunity to thank Julie for her exceptional contribution and commitment to CSR and to congratulate her for the impressive journey of CSR under her leadership both strategically and in terms of financial results.

"Paul's appointment as Chief Executive Officer, leading the existing highly-experienced management team, bodes very well for the long-term success of the business, and the continuity of culture, performance and customer-focus as it enters this exciting new chapter. I commend Julie and the CSR Board for having such a seamless succession plan in place."

### GLAS TRÖSCH: SUMMER HEAT PROTECTION

Since glass façades can now insulate just as well as solid façade elements, the amount of beneficial daylight can be increased while also reducing the consumption of cooling energy.



Glas Trösch's highly effective solar protection coatings (thermal insulation glass combined with solar control) and glass solutions with blinds, capillary tubes or liquid crystals integrated in the space between the panes provide effective heat protection. The video shows how the advantages of glass as a transparent material can be combined with the requirements of modern climate management – and at the same time be aesthetically pleasing.

### SANCO: TWO NEW PARTNER COMPANIES IN EASTERN EUROPE

SANCO Group welcomes two new partner companies to its ranks: Glass manufacturers and processors Izoglass from the Czech Republic and Szkłoland from Poland. With these latest additions to its membership roster, the alliance is maintaining its position as the largest association of insulating glass companies in Europe.

Izoglass, head-quartered in Kladno near Prague, is one of the leading glass processors in the Czech Republic. The company was founded in 1999 and offers a wide range of products – from insulating glass to laminated safety glass

and glass for indoor use. Services such as the installation of aluminium façades are also part of the company's range of services.



Szkłoland is one of the leading companies for building, decorative and furniture glass in the Warmia-Masuria Province in north-eastern Poland. The company was founded in 1992, has grown dynamically since then and currently employs around 170 people.



Both companies are convinced that the challenges faced by the glass industry can best be mastered as a team and value the professional exchange of information within the group. In addition, SANCO provides targeted support in sales, for example with certifications, test certificates or through international marketing activities.

Antonio Gioello, Head of SANCO Consulting, is delighted at the new additions to the SANCO family, "In Izoglass and Szkłoland we have been able to gain two strong companies that are an excellent fit for us due to their dynamic development and high quality standards." According to Gioello, the role of an alliance like SANCO is of great value in particular in the Czech market, where there is no comparable organisation.

### GLASS FOR EUROPE: BAN ON IMPORTS OF FLAT GLASS FROM BELARUS

Glass for Europe welcomed the decision from the European Council to include flat glass products as part of the extension of the scope of sanctions on



Belarus to fight circumvention. In a Regulation adopted on 29 June, the European Council decided take further actions to prevent the circumventions of sanctions placed on Russia.

The import of float glass originating from Russia has been banned since the first round of economic sanctions following the invasion of Ukraine in 2022. However, since then, important flows of flat glass kept entering the European Union via Belarus. Glass for Europe had already alerted the institutions of this situation in July 2023.

With this new decision – already entered into force – it is prohibited to purchase, import or transfer into the European Union the list of following flat glass products if they originate in Belarus or are exported from Belarus:



- Float glass and surface ground or polished glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked,
- Safety glass, consisting of toughened (tempered) or laminated glass.

The package of sanctions also includes measures to allow EU operators to claim compensation from damages caused by Belarusian individuals and companies due to sanctions implementation and expropriation, provided that the member state national or company concerned does not have effective access to remedies, for example under the relevant bilateral investment treaty.

The Regulation also requires that EU exporters insert in their future contract the so-called 'no-Belarus clause,' through which they contractually prohibit the re-exportation to Belarus or re-exportation for use in Belarus of sensitive goods.

## August 2024

### VITRO ARCHITECTURAL GLASS: BIOPHILIC DESIGN FOR MIDWEST FIRE STATION

Embracing biophilic design principles for the Marion Fire Station in Marion, Iowa, USA, daylighting and views were a major aspect of OPN Architects' vision for the project.



To maximize exposure to daylighting and views, OPN's team generously designed and strategically placed storefront and curtain-wall systems, and operable window units throughout the two-story, 21,214 square foot station. To ensure occupant comfort and thermal efficiencies, the architects selected Vitro Architectural Glass' Solarban® 60 Starphire® glass for its high visible light transmittance and low solar heat gain coefficient. The solar control, low-emissivity (low-e) glass blocks 59 percent of solar energy while allowing 74 percent of visible light to pass through.

After completing a daylighting analysis and reviewing elevation data, the storefront ribbon windows and punched openings were sized at 10 feet high while the curtain wall incorporates larger units. Typical glass panel sizes measure 10 feet by 3 feet, 6 inches and 10 feet by 3 feet, 4 inches, with a few variations.

The Marion Fire Station incorporates dynamic and diffuse light, which addresses variations in light intensity, color and shadow. This pattern has been shown to positively impact circadian systems, which is very important for firefighters – Photography: Cameron Campbell)

One of the 14 Patterns of Biophilia, Visual Connections with Nature, established by Terrapin Bright Green in their well-regarded Economics of Biophilia work, has been proven to lower blood



pressure and positively impact mood. To optimize this, the building design maximizes lasting visual connections from all hallways and regularly occupied spaces.

Another biophilic design principle is Dynamic and Diffuse Light, which addresses variation in light intensity, color and shadow. This pattern has been shown to positively impact circadian systems, which is very important for firefighters. To incorporate this, shading was a key part of the design.

OPN's façade design also indirectly impacts several other biophilic principles including Non Visual Connection with Nature and Thermal and Airflow. Firefighters can see manicured grass, prairie, a tree grove, retention pond and wildlife through the Solarban® 60 Starphire® glass. And the operable windows introduce cool breezes and natural ventilation into the space.

Another important aspect of the glass design is the incorporation of ceramic frit in key locations to prevent bird collisions.

### PROMAT LAUNCHES NEW FIRE-RATED PRIVACY VISION PANEL

Promat UK has introduced a new privacy vision panel which can be incorporated into fire doors within healthcare and secure environments to balance functional and aesthetic objectives with assured fire safety.



Promat Custodia is an E30 fire rated triple-glazed cassette featuring an interstitial 'hit and miss' blind which can be retrofitted as part of refurbishment projects or installed into new FD30 doors. The glazing cassette has been tested to provide integrity-only fire resistance for 30 minutes, making it suitable for the majority of fire doors within care and custodial environments.

The cassette is formed of three layers of glass, with an inner pane moving up and down using a thumb or key operated knob to give the effect of a blind opening and closing. This provides a vision panel complete with a blind which can be adjusted easily to enable visibility inside rooms for monitoring and observational purposes when required, whilst providing privacy the rest of the time.

Available in white frost, black or white, Promat Custodia is designed for smooth trouble free operation and available in two sizes – 400 by 400 millimetres and, for taller vision panels 250 by 800 millimetres. Encased within a back to back stainless steel frame are three layers of glass to form the glazing cassette. The outer layers are a 19 millimetre pane of toughened safety glass and a pane of 19 millimetre PYROSEC®, Promat's high performance monolithic fire rated glass.

Sandwiched within these is a pane of 4 millimetre toughened safety glass which moves when the knob is turned and has been tested to 100,000 cycles. The result is a durable glazing cassette that meets the requirements of DOH Annex B, type 1, 2 & 3 for impact resistance, as well as BS EN1363-1:2020 Fire Pt. 1 Fire Resistance FD30 (Test Ref: R240015).

The design of the control knob has also been tested to comply with anti-ligature requirements under DHF TS001(2013), offering resistance level Grade A4.

Promat Custodia is the latest addition to a range of high quality fire resistant glazing solutions available from Promat. This includes the Promat SYSTEMGLAS® range of fire rated glazing systems, which are tested as a complete system to provide resistance of up to EI120 minutes (integrity and insulation) and available in four framing types. Its range also includes a fire resistant walk-on glass floor system and several glass doors providing protection up to EI60, plus bespoke timber fire door sets.

### NIPPON ELECTRIC GLASS: VPPA FOR SOLAR POWER SIGNED IN MALAYSIA

Nippon Electric Glass (Malaysia), a subsidiary of Nippon Electric Glass, has entered into a Virtual Power Purchase Agreement (VPPA) with Res Hijau Sdn. Bhd., a



special purpose company of Ditrolic Energy Holdings, a renewable energy power generation company.

A VPPA is a means for consumers to virtually procure only the environmental value of renewable energy electricity generated off-site, and in Malaysia it can only be implemented by companies approved under the Corporate Green Power Programme (CGPP), a program launched by the government in 2023. NEGM will procure the environmental value derived from Ditrolic Energy's new solar power plant in Kedah, in the northern Malaysia Peninsula, which will effectively reduce CO<sub>2</sub> by approximately 41,000 tonnes per year.

Managing Director of NEGM, Kubo, said, "NEGM is honoured to collaborate with Ditrolic Energy on this project in Malaysia, a country that has introduced various

policies toward decarbonization. This project is also an important and significant step forward for NEG group's commitment to carbon neutrality."

To achieve carbon neutrality by 2050, NEG Group has prepared an action plan for reducing CO<sub>2</sub> emissions and is promoting various initiatives. The conclusion of this VPPA is part of those efforts. The group will continue to expand the use of all-electric melting to more products and promote the development of technologies that contribute to carbon neutrality, as well as help prevent global warming by procuring renewable electricity and obtaining environmental values both internally and externally.

### DÜZCE CAM OPENS SOLAR GLASS PRODUCTION LINE

Turkish glass manufacturer Düzce Cam took an important step towards the renewable energy sector opening the DCS Solar Glass Line into production with a ceremony.

Many guests from the business world and project partners attended the opening ceremony. The new production line once again proved Düzce Cam's environmentally friendly production approach and leadership in the sector.



The new production line is equipped with the latest technology and is designed to produce high-quality solar glass. With this investment, Düzce Float Glass aims to contribute to both the local economy and the energy independence of our country.

The new line, the third production line at the plant, has a capacity of 300 tonnes per day of solar glass.

Kasım Aktaş, Düzce Cam Chairman, and Ma Liyun, CTIEC CEO, talked about the importance of solar glass production.

## September 2024

### AGC GLASS EUROPE ANNOUNCES COLLABORATION WITH DOVISTA

AGC Glass Europe's Low-Carbon Glass was selected by DOVISTA, a prominent industrial window maker, to produce and supply specific end-products in 2024.

This new agreement underscores the growing interest in and recognised value of low-carbon glass, which helps industries reduce their carbon footprint and support their sustainability objectives.



By integrating low-carbon glass products into its manufacturing processes, DOVISTA is taking a decisive step towards reducing its Scope 3 emissions and advancing its comprehensive sustainability roadmap.



AGC Low-Carbon Glass features a reduced Global Warming Potential of 5.5 kilograms CO<sub>2</sub> equivalent per square metre (for 4 millimetre float glass). This represents a significant reduction compared to standard float glass, which has a GWP of 10.3 kilograms CO<sub>2</sub> equivalent per square metre (for 4 millimetre float glass). When integrated into the manufacturing process of industrial companies, Low-Carbon Glass can effectively address Scope 3 emissions, which include indirect emissions that occur in their value chain. This approach is crucial for industries striving to meet stringent environmental regulations and sustainability targets.

“We are extremely proud of this collaboration with DOVISTA,” said Bart Welvaert, Sales & Marketing Director AGC Glass Europe. “This collaboration is a clear validation of the effectiveness and importance of products with a reduced carbon footprint. We are committed to supporting our partners in their sustainability journeys and helping them achieve their environmental goals.”

## GFE: OP-ED SHEDS LIGHT ON REALITY FACING THE FLAT GLASS INDUSTRY

On September 16, Glass for Europe chairman Davide Cappellino published an opinion piece in Euractiv entitled “Time for the flat glass industry’s decarbonisation efforts to pay off.” The op-ed sheds light on the current reality facing the flat glass industry and the solutions which can be implemented to accelerate the decarbonisation and ensure competitiveness.



In its recently released report on the Future of European Competitiveness, Mario Draghi concludes that the EU can “pursue its decarbonisation path while preserving the competitive position of its industry.” However, this is only possible if the European Union is making fundamental choices. This is the message echoed in Davide Cappellino’s opinion piece.

The reality of the flat glass industry is that “2023 saw our sector’s worst year on record, below that of even the COVID-19 pandemic or 2013 crisis.” If this situation has

not undermined the industry’s commitment to contribute to the emission reduction objectives, it will only be possible with swift actions from policy-makers.

At the moment, the flat glass industry in Europe faces higher energy prices than the rest of the world, very limited demand for lower carbon glass and increasing imports on key market segment such as automotive glass. The promises of the Green Deal are yet to materialise. Some of these preoccupations seem to be on the agenda of the next European Commission, but it remains to be seen how they will be addressed.

Davide Cappellino recalls the priorities set in the Glass for Europe 2024-2029 Manifesto:

- Maintain and strengthen Europe’s industrial base
- Significantly boost window replacement
- Properly support energy and carbon efficiency of our industrial processes
- Strongly incentivise the recycling of old glazing.

The next couple of months should provide clarity on the Commission’s actions over the next few years, especially with the Clean Industrial Deal, expected in the first 100 days of the mandate. Glass for Europe is eager to start contributing to the debate.

## AGC GLASS EUROPE PARTNERS WITH PHOTOVOLTAIC RECYCLING PIONEER ROSI

AGC Glass Europe, part of the global AGC Group, and ROSI, a frontrunner in the recovery and recycling of high-value raw materials from the photovoltaic industry, have entered into a strategic partnership agreement. By drawing on AGC Glass Europe’s extensive glassmaking experience and ROSI’s expertise in transforming end-of-life photovoltaic modules into high-purity raw materials, this partnership will contribute to more circular, low carbon production practices and the long-term success of both industries.



Signed on September 13 in Saint Honoré, France, in the presence of Itochu, a major investor in ROSI, this partnership agreement marks an important step in creating a more sustainable and circular value chain for flat glass and photovoltaics.

Glass recycling requires 25 percent less energy than the production of virgin glass. With solar panels consisting of 70 percent glass, end of life panels have the potential to become a major component in the glass supply chain. Through this collaboration, AGC Glass Europe and ROSI aim to recycle and reuse high volumes of photovoltaic glass in the production of flat glass.



This not only provides necessary raw material for the glass industry, but also reduces the end-of-life environmental impact of photovoltaic panels. The collaboration marks a great milestone in the journey towards creating a more sustainable and circular glass and photovoltaic value chain.

In addition to supporting the circular economy both companies can significantly reduce the carbon emissions associated with glass manufacturing. The use of 1 tonne of glass cullet as a secondary material in float glass production saves 0.7 tonnes of CO<sub>2</sub> and 1.2 tonnes of new raw materials.

Research and development teams have already conducted successful tests on the use of glass cullet from photovoltaic panels in the production of flat glass, demonstrating the feasibility of using recycled glass without compromising the quality or performance of the final product. The results indicate that the incorporation of recycled glass has potential to become a standard part of AGC's production process.

**VACUMAX™ EARNs THE ARCHITECT'S NEWSPAPER'S "BEST OF PRODUCT" HONOURS**

Vitro Architectural Glass is pleased to announce one of its highest-performing products, VacuMax™ Vacuum Insulating Glass (VIG), received a 2024 Best of Products Award from The Architect's Newspaper (AN), in the Building Materials + Facades: Glass Category.



Hugel Welcome Center in Markle Hall on the campus of Lafayette College in Easton, PA, the first project in the U.S. to feature VacuMax™ VIG - Photography: Jim Cunningham

A jury of architects, designers, educators, curators, manufacturers and AN editors reviewed Best of Products Award submissions for innovation, aesthetics, performance and value.

In early 2024, Vitro made significant advancements to VacuMax™ VIG, enhancing its thermal performance and aesthetics. The latest iteration of VacuMax™ VIG is now specifically manufactured using Solarban® 70 solar-control, low-e glass by Vitro. This cutting-edge upgrade has led to a substantial 79 percent improvement in U-values, delivering world-leading R-values of up to R20, rivalling the performance of traditional walls. Furthermore, in addition to the notable thermal improvements, recent visual enhancements have improved appearance by eliminating vacuum ports and discreetly concealing "getters."

Consisting of two fully tempered lites of glass separated

by a non-lead metal seal and a vacuum air space, a VacuMax™ VIG unit's slim construction and light weight allow it to be typically incorporated into any traditional glazing system, window frame or curtain-wall application. It can often replace monolithic glazing in older buildings, making it ideal for retrofit projects.

**IB VOGT AND CORNING ANNOUNCE COLLABORATION ON 88.78 MWP SOLAR VPPA**

International solar developer platform ib vogt has signed a virtual Power Purchase Agreement (vPPA) with Corning Incorporated, one of the world's leading innovators in material science, for a capacity of 88.78 MWp. The deal will supply electricity from the Pato solar power farm, located in the eastern region of Segovia, Spain, to the grid.

Under the agreement, power consumption by Corning's facilities will be offset with renewable electricity from the solar plant, eliminating the need for the physical delivery of energy directly from the farm to these facilities. The PV project was developed by ib vogt and will reach its commercial operation date by Q2 of 2025.

The Pato solar farm will produce about 215.6 GWh of clean solar power per year using bifacial single portrait tracker solar panels. This project will provide the equivalent of 55,000 households with green energy and prevent up to 47,000 tons of CO<sub>2</sub> emissions every year over the project's lifespan.

In addition, ib vogt is engaging in a number of measures to mitigate risks to the environment on site. This includes the creation of two ponds to provide water for wildlife, as well as to conserve the amphibian population. ib vogt is setting up a provision of nest boxes for owls and nest-boxes hidden in stone cairns for owlets, as well as erecting stands of native flora throughout the site.

Anton Milner, CEO of ib vogt, expressed his appreciation to everyone who contributed to the successful completion of this PPA, especially Corning for their cooperation in advancing the energy transition in Europe.



The Pato solar farm is part of the Segovia cluster that totals 513 MWp with several projects in their final stages. Projects like Pato help to move Spain's 2050 goals of reaching national climate neutrality, 100 percent renewable energy in the electricity mix, and 97 percent renewable energy in the total energy mix.



## GUARDIAN GLASS AND PRIVACY GLASS SOLUTIONS LAUNCH LYTO

Guardian Glass and Privacy Glass Solutions have entered into an agreement for the commercialization of Lyto™, the full blackout, between-the-glass, automated micro-shade technology designed and developed by Guardian Glass.



© Privacy Glass Solutions

The innovative Lyto technology provides complete blackout in just a few seconds for windows, doors, privacy glazing in bedrooms and bathrooms, skylights and entry doors. The solution also has huge potential in buildings where control of daylight and the comfort and privacy of occupants is particularly important, such as healthcare and educational facilities.

Privacy Glass Solutions will produce and commercialize the product in the United States. Lyto™ is expected to be available by the end of 2024, initially available in one colour combination, white/off white. Additional colour combinations to follow after launch.

Main benefits of Lyto technology

- Fast and quiet: Lyto technology offers blackout at the touch of a button in just a few seconds. The shade is embedded between the glass and deploys motorlessly and quietly using electrostatic forces. Unlike other integral blind solutions, it has no mechanical parts that can fail due to wear.
- Easy to implement and control: with extremely low power demands, Lyto technology does not need to be hard-wired into the main power supply but can be battery-powered. Batteries can be upgraded with optional PV-solar power recharging. It can be activated by a manual switch, dedicated wireless remote controls or through connected smart home apps. Various levels of automation are available.
- Low solar heat gain: when deployed, the shade provides

a very low solar heat gain. In most configurations, it can block over 95 percent (<5 percent SHGC) of the sun's energy when closed, to help maintain a comfortable indoor temperature. How does Lyto technology work

- The technology is sleek, adaptable and the shade is completely contained within a double or triple insulating glass unit. With no mechanical parts, this new shade solution isn't subject to the mechanical failures. The shade is activated in seconds by passing a small current through the conductive layers creating an electrostatic attraction between the ultra-thin shade and the glass surface.

## NSG GROUP PLANS PIONEERING HYDROGEN PLANT IN UK

NSG Group announced that Pilkington United Kingdom Limited, part of the Group, intends to use green hydrogen at its site and scale its production of low carbon glass from 2027, under pioneering new plans with Grenian Hydrogen.



The new hydrogen plant at Pilkington UK's Greengate Works site in St Helens would provide the furnace of the

site with up to seven tonnes of zero-emission hydrogen each day. This would enable the company to eliminate 15,000 tonnes of carbon from its direct emissions each year, paving the way for the expanded production of low carbon architectural glass for buildings.

Plans to build the hydrogen plant powered by renewable electricity were put forward for public consultation last month ahead of Grenian Hydrogen submitting a planning application this Summer. It aims to start construction at Greengate Works in 2025 should the project be awarded funding under UK Governments Hydrogen Allocation Round 2 (HAR2), and to begin decarbonising Pilkington UK and the surrounding industry by 2027. The project at Pilkington UK is the first that Grenian will submit for planning permission.

## The world's leading glass publications!



## ALPHABETICAL INDEX F-L

Section for advertisers,  
with presentations of their machinery  
and accessories, and technical data sheets

COMPANY	website	pages	COMPANY	website	pages
	<b>FOREL</b> www.forelspa.com	218-224		<b>HORN GLASS INDUSTRIES</b> www.hornglass.com	243
	<b>FUCHONG GLASS MACHINERY</b> www.fuchongglass.com	226		<b>ITALCARRELLI</b> www.italcarrelli.eu	244-245
	<b>GIARDINA GROUP</b> www.giardinagroup.com	227		<b>ITALMATIC PRESSE STAMPI</b> www.italmatic.eu	246-247
	<b>GLASS COMPANY</b> www.glasscompany.com	228-233		<b>ITALMOLE</b> www.italmolesrl.com	248
	<b>GPM AUTOMATION</b> www.gpmautomation.com	234-240		<b>KERAGLASS</b> www.keraglass.com	249
	<b>HELIOS QUARTZ</b> www.heliositalquartz.com	242		<b>LISEC</b> www.lisec.com	250-252



## Glass Magazines

1990



### GLASS MACHINERY PLANTS & ACCESSORIES

Is the leading international magazine for the production and processing of hollowware and special glass (bottles, containers, tableware, lighting, technical, scientific, industrial and medical glassware)



## FOREL SpA

Via per Monastier 4 - 31056 Vallio di Roncade, Treviso - Italy  
 Tel.: +39-0422-840507  
 E-mail: info@forelspa.com • www.forelspa.com

### Arrissing Machine

#### ART. EG ARRISSING MACHINE

The vertical arrissing machines series Art. EG remove the sharp edges of glass sheets by eliminating irregularities, ensuring safe and smooth finishes.

Art. EG significantly increases the productivity of arrissing operations as it is equipped with **two operating heads**, that are capable of working simultaneously on two different sheets of glass, or by synchronizing both operating heads onto one sheet of glass.

The **"self-learning"** mode automatically acquires the dimensions for the square shapes, while a separate device measures the thickness of the glass being processed. During the arrissing process, **the double suction cup carriages** secure the sheets of glass and move them forward. Depending on the sizes of the glass sheets being processed, the suction cup carriages automatically move to the correct position.

The presence of two independent suction cup carriages allows Art. EG to **reduce processing cycle time, guaranteeing high productivity.**

**Art. EG** can also process different shapes of glass sheets. (shape must be linear, such as triangles, trapezium, etc.).

Art. EG is equipped with two operating heads with **"V" shape diamond tools ø 200 mm.**

The arrissing machine is able to process **glass thickness between 3 and 21 mm with processing speed up to 300 mm/sec.**

This innovative machine now combines **filleting and rough wire grinding operations in a single process**, optimizing production time and ensuring the highest quality results.

With larger spindles and increased stroke, the new EG with the 70 mm wheel pack with various configurations (V, trapezoidal, flat) can perform precise and uniform filleting, preparing the glass for subsequent processing. Rough wire grinding is performed with flat grinding wheel (with the entry operating head) along with filleting with both operating heads.



	EG04020HT	EG04025HT	EG05028HT	EG06033HT
Height (mm)	3.670	4.170	4.470	4.970
Length (mm)	9.650	9.650	9.650	9.650
Depth (mm)	3.260	3.260	3.260	3.260
MAX glass length (mm)	4.000	4.000	5.000	6.000
MAX glass height (mm)	2.000	2.500	2.800	3.300
MAX glass weight (kg/linear meter)	200			

## Edging -Drilling -Milling Line

### ART. EM EDGING MACHINE

The edging machine Art. EM, one of the most appreciated of the Forel range, is for the edge processing of monolithic and laminated glass sheets.

The machine can perform three different processing operations: arrossing, grinding, polishing. Thanks to the different technological measures used, Art. EM guarantees total stability and high processing speed during the different processes. It can also process low-E glass without damaging the coating.

The operating head of the **Art. EM** edging machine is equipped with a **patented system for the localized holding of the glass sheets**.

The device consists of **two self-adjusting glass-pressing wheels** that rest on the glass sheet and hold it in place. The system guarantees a perfect hold, centring with respect to the tool, as well as the absence of vibrations during processing. Thanks to this device, **Art. EM** offers precise processing even when the glass sheet is not perfectly flat.

The **Art. EM** vertical edge processing machine is equipped with an exclusive feeler that controls the edge of the sheet locally during processing, 'guiding' the grinding wheel.

It can therefore operate in **dynamic self-learning mode for rectangular glass**, guaranteeing consistently uniform results in both arrossing and edging.

The edging machine is equipped with a pre-setting system that controls consumption and the contact of the tool.

The new automatic cone and tool change functionality of Forel's EM grinding machine is a complement to the vertical edge processing machine.

Thanks to the 8-position storage, it is possible to quickly and automatically manage the exchange of cones with the grinding wheel pack, optimizing set-up time and increasing production flexibility. This solution is particularly suitable for glassworks working with high volumes of glass and facing frequent job changes.



	EM04020HT	EM04525HT	EM05028HT	EM06033HT	EM09033HT
Height (mm)	4.000	4.000	4.300	4.800	4.800
Length (mm)	10.800	10.800	10.800	11.900	20.170
Depth (mm)	2.600	2.600	2.600	2.600	3.180
MAX glass length (mm)	4.000	4.500	5.000	6.000	9.000
MAX glass height (mm)	2.000	2.500	2.800	3.300	3.300
MAX glass weight (kg/linear meter)	200	200	200	200	200

## ART. DM DRILLING AND MILLING MACHINE

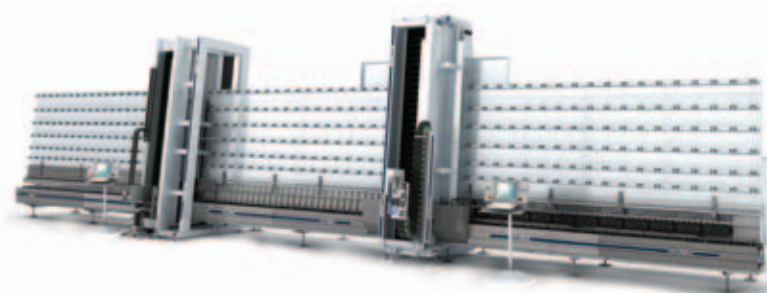
Enriched with specific features to guarantee precision and stability, the vertical drilling and milling machine art. DM represents an irreplaceable resource, both for stand-alone use and in line with an edging machine art. EM. The quality of processing of the glass sheets depends mostly on the stability of the glass while the various tools are being used. For this reason, the art. DM is equipped with **two opposite operating heads (which are independent and equipped with an automatic tool change system, with 6 rear positions + 8 front positions) and two exclusive suction cups systems**, both patented. The first group of **fixed suction cups** offers a strong grip on the glass sheet, while a



	DM04020HT	DM04525HT	DM05028HT	DM06033HT	DM09033HT
Height (mm)	3.950	3.950	4.250	4.750	4.750
Length (mm)	12.085	12.085	13.185	15.085	21.920
Depth (mm)	3.500	3.500	3.500	3.500	3.450
MAX glass length (mm)	4.000	4.500	5.000	6.000	9.000
MAX glass height (mm)	2.000	2.500	2.800	3.300	3.300
MAX glass weight (kg/linear meter)	200				
Automatic tools change	8 tools (front) + 6 tools (rear)				

second group of smaller **adjustable suction cups** offers greater stability close to the processing tools. These suction cups can be positioned differently depending on needs.

An additional system of suction cups can be applied directly on the rear spindle. In addition to ensuring greater stability during drilling and milling, the rear suction cup group holds the cuts and releases them in the bottom tank. Alternatively, a **buffer** can be set in contrast to the tool for the execution of particular processing operations. This tool can be applied **both on the rear spindle and on the front spindle**.



## Sorting System

### ART. SS SORTING SYSTEM

The **Art. SS Sorting System** is the complete solution for the automation of the handling, storage and reordering of products in glass factories.

The **Art. SS Sorting System** consists of highly customizable handling and sorting units.

Its modularity allows it to adapt to the specific needs of glass factories. However, it is not just a matter of 'moving' the glass sheets: **Art. SS organizes and manages the progression of outgoing pieces** depending on the work programs (both previous and subsequent lines), contributing immediately in terms of productivity, speed and efficiency. Made up of glass sheet handling shuttles and storage units, the Sorting System solves the problem of so-called 'bottlenecks'.

In fact, different production lines often have different production times: thanks to its automated storage system, **Art. SS** guarantees order within the glass factory and allows to **optimize available space**.

Several advantages are obtained by decreasing manual **handling** of the glass sheets in favour of **automated** handling:

- **more rapid flow**, with time saving in supplying processing lines.
- **less risk of breakage or damage**.
- reduction of **waste**.
- **fewer risks for operators**.

The installation of the Sorting System results in a clear improvement in the order and efficiency of glass factories.

In fact, the Sorting System assigns a **unique ID (identification number)** to all glass sheets: **the sheets are constantly tracked, localised and managed according to the program**. The position of each single sheet can be monitored at any time from a PC station and the progress of each single order is therefore always known.

### ART. EM-DM COMBINATION

**Art. DM** vertical drilling and milling machine can work together with the **Art. EM** vertical edging machine. This configuration, by far one of Forel's most popular solutions, combines the **arrrising, rough or polished edging, drilling and milling** processes in a single line. The line can be completed with an Art. VW vertical washing machine. As well as demonstrably improving the quality of the finished product, spreading the workload of edge processing over more machineries also over offers significantly better productivity than other solutions: indeed, while a glass sheet is being grinded or polished, another one is already being drilled and another one is being washed.



	SS04028HT	SS05028HT	SS05033HT
Shuttle height (mm)	3.570	3.570	4.070
Shuttle length (mm)	4.200	5.270	5.270
MAX glass length (mm)	4000	5000	5000
MAX glass height (mm)	2800	2800	3300
MAX glass weight (kg/linear meter)	200		

## Vertical Cutting For Laminated Glass

### ART. VC VERTICAL CUTTING LINE FOR LAMINATED GLASS

The vertical cutting line for laminated glass Art. VC combines high productivity and excellent quality: equipped with two cutting bridges and an automatic sheet rotating element, it has been designed to process Jumbo size sheets, optimizing cutting on X, Y, Z axes. The Art. VC offers precise, fast and safe processing. During cutting, the sheet remains in a vertical position throughout the duration of the production cycle, for high productivity in a reduced space. Cutting optimization is elaborated by means of a special software that reorganizes data, speeding up processing and assisting operators.

The line offers absolute precision, showing to be a true top product for the cutting of laminated glass. Each of the two cutting bridges has **two opposite ripping units** for the scoring of the glass and two breaking bars (front and rear), to also allow the uniform opening of the sheet along its

	VC04533HT	VC06033HT
Height (mm)	5500	7000
Length (kg)	26000	26000
MAX glass length (mm)	6000	
MAX glass height (mm)	3300	
MAX glass thickness	from 6,3 mm to 20,5 mm	



entire length. In the case of Low-E glass, the cutting bridges can also be equipped with a **special coating removal system**. After scoring, the two pieces of the sheet are pulled, uncovering the PVB film. A **special infrared emitter** heats and softens the PVB film without heating the glass. A **patented motorized drawing system** totally or partially detaches the two panes. In the case of thick interlayer, a blade can also operate.

#### COMPLEMENTARY EQUIPMENT

The art. VC cutting line can be combined with:

- The automatic stock selector unit **Art. ST** has been developed for a quick and safe handling of the Jumbo size glass sheets, up to 12 tons each one. The shuttle is also equipped with a clamping system for the glass packs, allowing fast and safe positioning. Art. ST is equipped with an automatic glass storage with multiple racks.
- **Art. VL** automatic glass loader manages large size sheets, up to Jumbo size (6,000 x 3,300 mm).
- **Art. TT** tilting table at the end of the line.

## IG Lines

The extensive choice of insulating glass solutions is the pride of the Forel range. Versatile and configurable to cater to a wide variety of needs, these machines are the result of over 45 years of research and development in this sector. Boasting a host of exclusive, patented technological solutions, Forel's products are a strategic choice, helping businesses attain the highest possible productivity and process quality. Forel offers four different series of solutions for insulating glass production: 'Essential', 'High Tech', 'No Limits' and 'High Speed'.

### THE ESSENTIAL IG LINE

The Essential IG line is mainly designed for the production of double- and triple insulating glass units, with sizes, thicknesses and conveying weight capacity suited to residential architecture. This range consists of Forel's classic offering of machines for the industrial production of insulating glass. Designed to offer Forel quality in a version focused on a specific goal: IG units in commonly-used sizes, with rigid or flexible spacers.

Compact but still with outstanding performances, this is the ideal solution for standardised production. The line is capable

MAX glass length (mm)	4.000
MAX glass height (mm)	2.500
IG unit thickness (mm)	65
IG unit weight (kg/linear meter)	200
Number of chambers	up to 2 (triple glazing)
Spacer	rigid/flexible
Gas filled	argon
Sealing products	up to 2



of working with individual glass sheets of up to 4.000 mm length and 2.500 mm height, weighing up to 200 kg/linear meter. It can also process up to two chambers and using up to two different sealing products.

## THE HIGH TECH IG LINE

The cornerstone of Forel's product range for insulating glass. The result of Forel's decades of experience in this field, the "High Tech" range is complemented by a choice of exclusive devices and systems for work with offset and shaped glass

MAX glass length (mm)	6.000
MAX glass height (mm)	3.300
IG unit thickness (mm)	100
IG unit weight (kg/linear meter)	400
Number of chambers	up to 3 (quadruple glazing)
Spacer	rigid or flexible
Gas filled	argon and krypton
Stepped unit	up to 100 mm (leading and lower edge) up to 300 mm (trailing and upper edge)
Sealing products	up to 3



sheets, as well as for double, triple and quadruple IG units. This line can process assembled glass units up to 6.000 x 3.300 mm in size, weighing up to 400 kg per linear metre (assembled panel), and thicknesses up to 100 mm. Equipped with a flat plate coupling press with gas filling function (argon/krypton) and sealing machines, the High Tech line can process rigid or flexible spacers and can use up to three different sealing products. Special technology also enable the management of possible curvatures of the glass sheets.

## THE NO-LIMITS IG LINE

The "No Limits" IG line meets all requisits for the ultra large sizes and facade markets: capable of managing the pane curvatures, weights and stepped units required by the extra-jumbo format, "No Limits" IG line goes beyond the restrictions of commercial architecture. It can process extra-Jumbo units up to 12 meters of length and 3,3 meters of height, with a capacity per linear meter of up to 350 kg for single panes and 550 kg for assembled panes, with thicknesses up to 40 mm single glass and 100 mm single glass. "No Limits" IG Line can also assemble units with up to 3 chambers and is able to handle offsets up to 250 mm on the upper and lower edge and 1.000 mm on the leading and trailing side, thanks to the dynamic support of the coupled panes. Each machine that makes up the line is equipped with devices developed specifically to handle large dimensions, substantial weights and any non-planarity throughout every phase. The line can process both rigid and flexible spacers and the sealing robot can use up to 3 different sealing products in a "continuous sealing" mode, offering an astonishing quality.

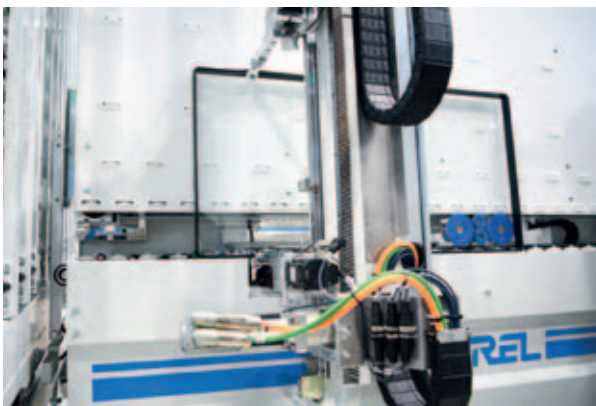


MAX glass length (mm)	12.000
MAX glass height (mm)	3.300
IG unit thickness (mm)	100
IG unit weight (kg/linear meter)	550
Number of chambers	up to 3 (quadruple glazing)
Spacer	rigid or flexible
Gas filled	argon and krypton
Stepped unit	up to 1.000 mm (leading and trailing edge) up to 250 mm (upper and lower edge)
Sealing products	up to 3



## BS-BUFFER SYSTEM WITH ALIGNMENT STATION OPTION FOR THERMOPLASTIC PROFILE

The production control **Buffer** is a revolutionary innovative solution, strategically placed between the thermoplastic applicator and the coupling press. This component has the task of **consolidating the newly extruded thermoplastic profile**, making it more stable and compact. In this way, faster and safer pressing can be achieved. As of this year, thanks to the **new exclusive countermeasure option accessory (international patent pending)**, it is possible to optimize the process even in the case of profiles with increased widths **over 20 mm and up to 25 mm**, returning the extruded material to the optimal geometric condition and without any deformation.



## THE HIGH SPEED IG LINE

The "High Speed Insulating Glass" project had a precise aim right from the start: slashing insulating glass production times while still maintaining the high-quality levels of the finished unit. The new High Speed line optimises every single processing stage without renouncing anything at all in terms of precision. It's designed to produce insulating glass primarily for residential use, in units measuring up to 2,000 x 2,500 mm and with single or double chamber, shaped units and Georgian bars if required. The spacer is a flexible profile and the panel sealing is hot melt. During the development of this solution, it was decided not to accelerate the processing time, so as not to compromise the final quality: rather, the entire line process was optimized, reducing downtime and making the sequences smoother, so as to gain in productivity.

The flexible spacer applicator offers a non-stop working continuity, thanks to devices like the buffer for the automatic preparation of the profile to be applied and the automatic reel changeover system. The coupling press is a special compact version, so the transit of glass through this station is as fast as possible. In the sealing robot, indeed, a new axis has been introduced with a second (rear) suction cup, which replaces the master (front) one during sealing. In this way, the master suction cup can release the glass earlier and move for the next panel. The high speed of the High Speed line is not due to accelerations on the single machinery but to the optimizing of the overall cycle: in this way, Forel can offer a fast production, while keeping the same final quality.



MAX glass length (mm)	2500
MAX glass height (mm)	2000
IG unit thickness (mm)	65
IG unit weight	200 kg / linear meter
Chambers	1-2
Spacer	Flexible (high speed mode) – rigid (manual mode)
Gas filled	argon and krypton
Sealing products	up to 3

## Lamination Line

### ART. LL LAMINATION LINE

The Lamination Line Art. LL is Forel solution for the production of laminated glass with PVB and SentryGlas® interlayer. The line is capable of a flexible production, processing different sizes, shapes and types of glass. Like the entire Forel range, the Lamination Line Art. LL follows the company's product philosophy, offering automation, innovation and quality. Forel's Art. LL line can process multi-layer panels up to a maximum thickness up to 80 mm, size up to Jumbo (6,000 mm x 3,300 mm), whether rectangular, stepped or

shaped units. The automatic unloader can manage a finished panel weight up to 1,500 kg. The glass sheet is loaded onto the tilting table, which carries the sheet horizontally. From here, it proceeds to the horizontal washing machine. Thanks to a system of self-learning sensors, the washing machine detects the size, thickness and presence of Low-E coating on the incoming glass. The machine automatically adjusts the action of the brushes, avoiding the use of hard bristles on the Low-E coating. Then, the glass pane proceeds down the line, where a system of belts and rollers brings it into proper alignment and then positions it in the center of the line. Once aligned and brought to the center, the glass sheet is picked up by system of suction cups, which transports it to the assembly area, where the PVB roll storage (capable of holding up to 8 PVB rolls) is located. The positioning of the PVB over the glass is fully automatic, and takes advantage of the movement of the suction cup, when it gets back to pick up the second glass. Thanks to the automatic pane centering system, the positioning of the two panes is perfect. The lamination oven consists of two zones, pre-heating and reheating, which operate with progressive temperatures. Two sets of pressing rollers are in operation inside and at the end of the oven. They're conical-shaped to facilitate the expulsion of air to the outside.



	LL04526HT	LL05026HT	LL06033HT
MAX pane length (mm)	4600	5000	6000
MAX pane width (mm)	2600	2600	3300
Max laminated unit thickness (mm)	80 mm		
PVB Storage	up to 8 Roll		

\*Forel is constantly working on the development of new solutions.  
Some data present in this report may differ from the models available on the market.



**JULY 16-18, 2025**

**MEXICO CITY**

**CENTRO CITIBANAMEX**

**5TH**

**ORGANIZED BY**



**Y.T International  
Enterprise Inc**

**MEDIA PARTNERS**

**vidrioperfil.com**  
EL PORTAL DEL VIDRIO Y LA CARPINTERIA

**VidriO**

**Ventanas  
puertas**

**glassOnline**  
The World's Leading Glass Industry Website

**ALUMINIC**  
Magazine

**China Glass  
Network**  
www.GlassinChina.com

**asianglass**

**IWay  
MAGAZINE**

**glassglobal  
Group**

**CONSEJOS  
TIPS**

**WORLD  
OUTDOOR**

**AMERICAN  
INVESTMENT MAGAZINE**

**CONSTRUCTION  
SUPPLY MAGAZINE**

**GLASS BULLETIN**  
The Premier Magazine For Global Glass Industry

[info@glasstechmexico.com](mailto:info@glasstechmexico.com) [www.glasstechmexico.com](http://www.glasstechmexico.com)



## LUOYANG FUCHONG MACHINERY Co., Ltd.

2-701, 1st Bldg, Yeci Garden, No.121 Glass Factory South Road,  
471000 Luoyang, China - Tel.: +86-379-62202882  
E-mail: sales@fuchongglass.com - www.fuchongglass.com



FC-SQWG Series Double-direction Double-curvature / Bent Glass Tempering Furnaces  
FC-SSQWG Series Double Heating Chamber Double-direction Double-curvature / Bent Glass Tempering Furnaces



### MAIN PURPOSE:

With one machine, the double curvature glass, single curvature glass and unequal-arc could be processed, such as: backlit or sidelit of car, bus, and other vehicle, and also furniture glass, household appliance glass, architecture glass, etc.

### MAIN TECHNICAL FEATURES:

The whole process is controlled by 7-8 multiple imported servo motor systems which are stable and reliable. Glass could be automatically unloaded from the cold ring.  
Glass forming under the high temperature condition ensures smooth and perfect spherical glass surface. Special glass forming chamber reduces energy consumption and improves the product quality.  
Various window shield with small/big radius, and irregular curved glass can be processed.  
The forming system is driven and controlled by imported servo motor. Glass positioning is made without any deviation. The product repeatability is high.  
Special spiral screw matrix heating method and professional oven-temperature intelligent control ensure the equilibrium and high speed for glass heating.  
Top quality insulating materials, special heat-preservation layer design and reasonable process technology guarantee the lowest energy consumption.  
Arc-changing and transmission adopts imported servo system with faster arc-changing speed, higher arc precision and better consistency and repeatability.  
Heating elements equipped with automatic detecting function.  
Equipped with the electricity metering device. can display the energy consumption and the production directly.

Model 01	Max. size (mm)	Thickness (mm)	Min. Radius (mm)	Max BentDepth (mm)	Max size (mm)	Thickness (mm)	Radius (mm)	Yield (Load/Hour)			
FC-SQWG1610/10A	1600 x 1000	3.5-6	120	150	1600 x 1000	4-6	≥ 600	35-65			
FC-SQWG1610/15A					1600 x 1500		≥ 700				
FC-SQWG1610/18A					1600 x 1800		≥ 1000				
FC-SQWG2010/10A	2000 x 1000	4-6			2000 x 1000	5-6	≥ 600		30-60		
FC-SQWG2010/15A					2000 x 1500		≥ 750				
FC-SQWG2010/18A					2000 x 1800		≥ 1000				
FC-SQWG2210/10A	2200 x 1000	5-6			2200 x 1000	5-6	≥ 600			60-65	
FC-SQWG2210/15A					2200 x 1500		≥ 750				
FC-SQWG2210/18A					2200 x 1800		≥ 1000				
FC-SQWG2212/10A	2200 x 1200	5-6			2200 x 1000	5-6	≥ 600				50-60
FC-SQWG2212/15A					2200 x 1500		≥ 750				
FC-SQWG2212/18A					2200 x 1800		≥ 1000				
FC-SQWG2315/10A	2300 x 1500	5-6	2300 x 1000	5-6	≥ 600	50-60					
FC-SQWG2315/15A			2300 x 1500		≥ 750						
FC-SQWG2315/20A			2300 x 2000		≥ 1000						

Note: The above types are the normal ones, we can design the machine according to your special requirements.

Model 02	Max. size (mm)	Thickness (mm)	Min. Radius (mm)	Max BentDepth (mm)	Max size (mm)	Thickness (mm)	Radius (mm)	Yield (Load/Hour)
FC-SSQWG1710/10A-IV	1700 x 1000	4-6	120	150-280	1700 x 1000	5-6	≥ 600	60-65
FC-SSQWG1712/12A-IV	1700 x 1200				≥ 700			
FC-SSQWG1715/15A-IV	1700 x 1500				≥ 850			
FC-SSQWG1715/18A-IV	1700 x 1800				≥ 1000			
FC-SSQWG2010/10A-IV	2000 x 1000				≥ 600			
FC-SSQWG2012/12A-IV	2000 x 1200				≥ 700			
FC-SSQWG2015/15A-IV	2000 x 1500				≥ 850			
FC-SSQWG2015/18A-IV	2000 x 1800				≥ 1000			
FC-SSQWG2210/10A-IV	2000 x 1000				≥ 600			
FC-SSQWG2210/15A-IV	2000 x 1500				≥ 850			
FC-SSQWG2212/10A-IV	2000 x 1200				≥ 600			
FC-SSQWG2212/15A-IV	2000 x 1500				≥ 850			
FC-SSQWG2315/10A-IV	2300 x 1000	≥ 600	50-60					
FC-SSQWG2315/15A-IV	2300 x 1500	≥ 850						

Note: The above types are the normal ones, we can design the machine according to your special requirements. Configuration may change according to glass thickness.



## GIARDINA GROUP

Via Vico Necchi 63 - 22060 Figino Serenza (CO) - Italy  
 Tel.: +39-031-7830801  
 E-mail: info@giardinagroup.com - www.giardinagroup.com

### SPRAYING MACHINE DUALTECH 400 SBC GLASS

The machine has been designed to spray on glass surfaces. The conveyor system consists of a PVC belt which is protected by a paper film unwound from the infeed reel and wound at the outfeed by a drive unit, which ensures its constant speed. The "Dualtech" spraying technology is guaranteed by two opposite reciprocating arms joined together. The system can accommodate up to 4 spray guns and includes the lacquer feeding and lacquer return, in order to make easy and quick the flushing and to minimize the quantity of the cleaning solvent. The spraying parameters are independent for each gun. A reading bar at the infeed of the machine manages the spray control. The air distribution plenum box ensures efficient air flow, thus reducing the paint overspray.



### ROLLER COATING LINE FOR GLASS ROLLTECH G05-GL

The line is designed for roller painting and drying of small or large glass sheets (working widths from 1300 to 3300). The line consists of a Heavy-duty roller coater G05-GL, a Drying Tunnel GP/JET IR with Cooling GP/Cool. The connection roller conveyors are equipped with transversal bars with revolving wheels installed on a pneumatically liftable frame for workpiece alignment. The roller coater G05-GL it's a machine for the application of water-based coating products both organic and ceramic on glass.

The Drying Tunnel Mod. GP/JET IR with Cooling GP/Cool has a conveyor made by high temperature resistant rollers. After the passage in the preheating section the IR lamps optimize the curing of the coating product: the air is blown on the coated glass as high-speed air blades. The ambient air cooling section, by means of high-speed air blades, ensures a quick and homogenous temperature drop of the glass.





## GLASS COMPANY Srl

Via Brigata Garibaldi 33 - 61122 Pesaro - Italy

Tel.: +39-0721-283519

E-mail: cb@glasscompany.com - www.glasscompany.com

### LASERMEK BEAM

LASERMEK with Beam technology, is a Laser machine designed for the straight and shaped engraving and ablation of the electroconductive coating, pfor all those sector where heating glass is requested. By micro-ablation of Low-E glass for both hard and soft coating is suitable for:

- Refrigeration  
Processing of electro-resistive tracks on coating for various types of anti-fog heating glass such as fridge doors and so on.
- Transport  
Low-E coating ablation to increase the radio waves permeability for personal passengers devices, in trains, campers, aeroport facades, etc.
- Heating

Engraving of invisible heating coils on heating glass products for heated towel rails. Sophisticated laser process which allows to set the glass temperature with decorative effect

Available in diverse dimensions even on specific customer request.

Type	Useful dimensions
Beam	1000 x 2100mm
	1500 x 3000mm
	2000 x 3000mm
	Others on request



### LASERMEK ALL-IN-ONE

LaserMek All-in-One is the latest Laser machine proposal by Glass Company Srl.

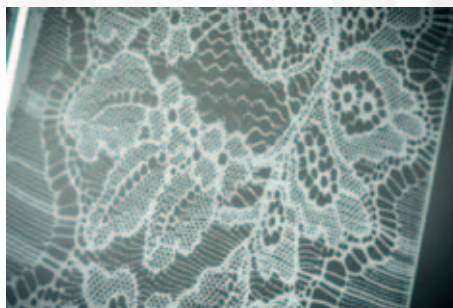
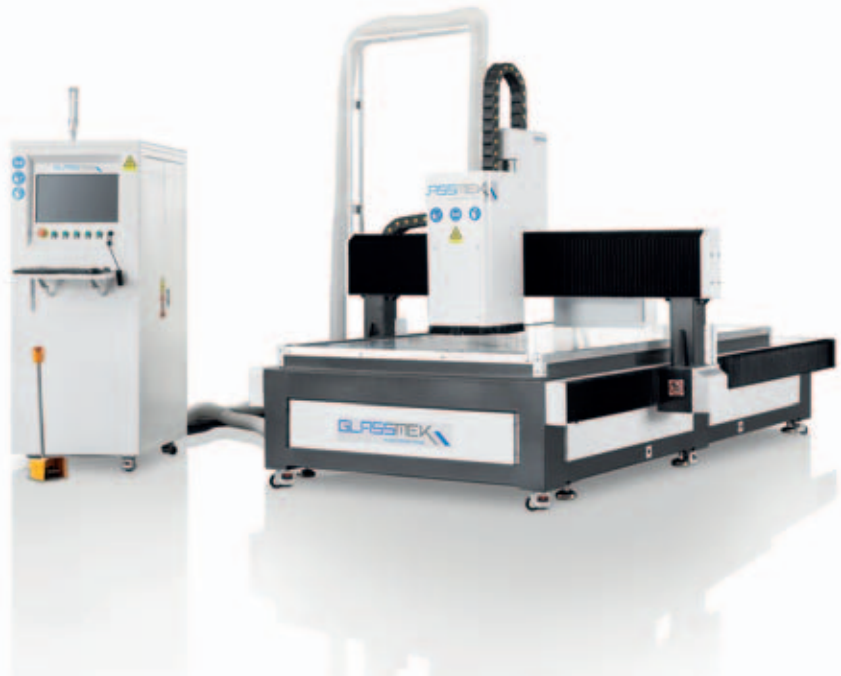
A single laser head performs multiple processes such as sandblasting effect, ablation and drilling, providing a complete solution for all your glass and mirror processing needs.

Sandblasting effect: creates intricate and detailed translucent effects on glass and mirror.

Ablation: Easily removes all types of coatings from the glass using advanced ablation capabilities without damaging the glass surface, leaving it completely transparent.

Drilling: The laser can drill holes of various geometric shapes with exceptional accuracy on any thickness of monolithic glass.

Type	Useful dimensions
All-in-One	1300 x 2500mm
	1500 x 3000mm
	2000 x 3000mm
	Others on request



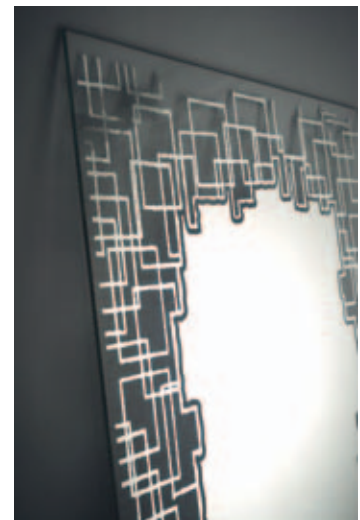
## LASERMEK SCANNER

LASERMEK SCANNER, laser developed for engraving and ablation of any kind of coating on glass surface.  
 Able to remove by ablation portions of coatings, including Low-E, which vary from 0.05mm to several tens of millimeters in a single step  
 For the furniture sector, in particular bathroom furniture and in general where the mirror is required, the laser is able to remove the silvering from the mirror leaving the glass completely transparent, to enhance decorations, for the insertion of TVs, etc.

By choosing an adequate laser source, it is possible to create graphic and decorative workings on the glass surface with matt effect, particularly appreciated for the furniture and building sector, to create logos on already tempered glass, to create partitions, glass doors, windows, etc. .  
 Ultra fast process, it is an innovative technology for all those companies that are looking for quality and perfection.  
 Available in various sizes, also on specific customer request.



Type	Useful dimensions
Scanner	1300 x 2500mm
	1500 x 3000mm
	2000 x 3000mm
	Others on request



## LASERMEK DRILL

LASERMEK DRILL is the Laser Drilling machine specifically designed from Glass Company for flat glass drilling for glass thickness up to 15mm and suitable for various sectors such as automotive, medical, furniture, photovoltaic etc.

The machine is managed by CNC and can be customized on the customer needs. LaserMek Drill allows any shape of holes creation starting from the classic round hole to holes of any geometrical shape with a perfect drilling result and without chippings, suitable even to glass tempering, with a maximum size of 80x80mm that can reach 120x120mm using very sophisticated optics

The Glass Laser Drilling machine offers a great advantage compared with the traditional glass processing machine, since it works in the absence of water and abrasive, do not generate waste to be disposed of and above all works with a power of about 3Kw offering over 60% of energy saving.

Type	Useful dimensions
Cut	1300 x 2500mm
	1500 x 3000mm
	Others on request



## LASERMEK CUT

LASERMEK CUT is Glass Company's new technology for float glass straight and shaped CUTTING for thickness from 1 to 15mm and in some cases even chemically tempered with the following advantages:

- Laser processing minimizes defects on the glass, ensuring excellent quality of the cutting profile, thus facilitating the tempering and bending process of the glass;
- The glass cutting is processed without mechanical stress, facilitating an increase in the quality of the tempering, tested in the automotive sector;
- LaserMek Cut reduces the subsequent finishing processes needs, such as grinding;
- Cutting is performed without the use of external fluids (water) and abrasive and without producing dust or fumes (an extraction system is not necessary);
- The low power absorbed and used by the sources ensure consumption that can reach up to 70% less than a water jet cutting machine.



Type	Useful dimensions
Cut	1500 x 3000mm
	2000 x 3000mm
	Others on request

## FIREMEK FIRE RESISTANT GLASS PRODUCTION SYSTEM

FireMek is a turnkey Fire resistant glass production system for the production of fire resistant glass appreciated for its innovative technology and its ease case of use that combined to its affordable price makes the EI glass production no longer exclusive but suitable even for medium/small business.

An intumescent and extremely transparent mixture based on Silica is prepared using a vacuum mixer following a process controlled by PLC, then by a special dispensing pump is poured between two or more glass sheets according to the fire resistance to be obtained EI30, EI60, EI90, etc. The process is completed in the oven, where cross-linking takes place by means of a specially designed technology. The Silica intumescent gel under normal conditions is perfectly transparent but in case of fire the intumescent gel swells creating a rigid and opaque thermal insulation foam that guarantees both fire and mechanical resistance (stability).

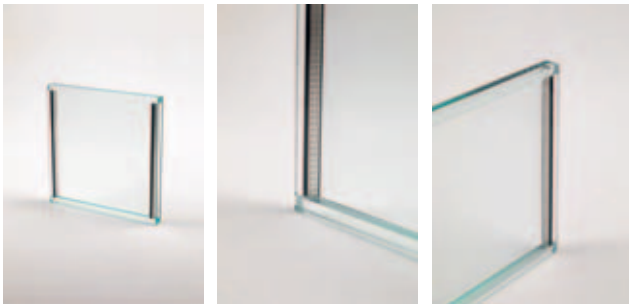
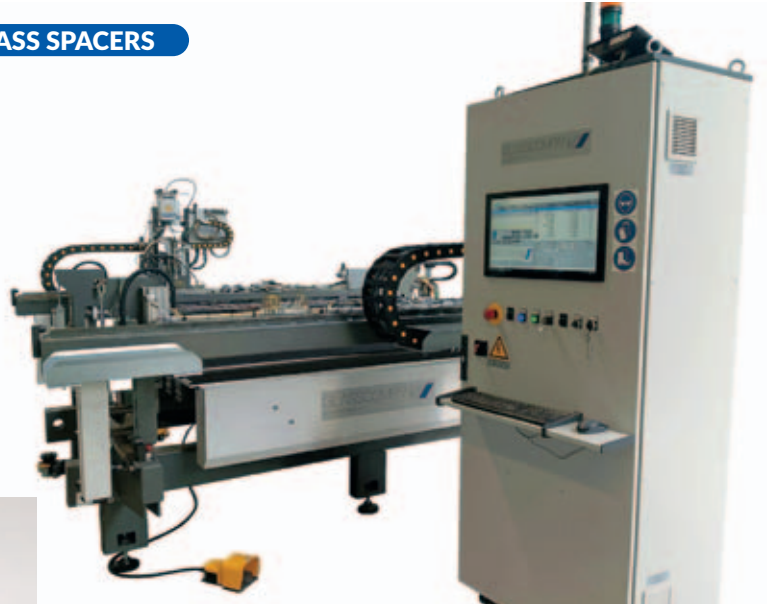
The Fire resistant glass produced by FireMek protects by flames, smoke and toxic gases, prevents the heat transmission through the glass surface and meets the European standards on Fire resistant glass.





## FULL VISION - DOUBLE GLAZING LINE WITH GLASS SPACERS

The line is composed of a Glass Spacer processing machine which performs the simultaneous processing of two or four glass spacers, smoothing and polishing the edges with precision. Then the process continues by a special machine designed to assemble the double glass with which the already processed glass spacers are glued onto the glass sheet intended for insulating glass. The fully automated processing cycle initially prepares the surface of the glass spacer and the glass sheet for gluing via plasma treatment to improve their adhesion, followed by a micro-doser that applies the ultra-transparent resin and the glass spacers will be positioned and pressed to adhere to the glass sheet through UV lamp passage. The glass spacers are normally applied on the long sides of the glass, while the short sides retain the standard spacers equipped with desiccant. For both the machines a patent pending have been filled.

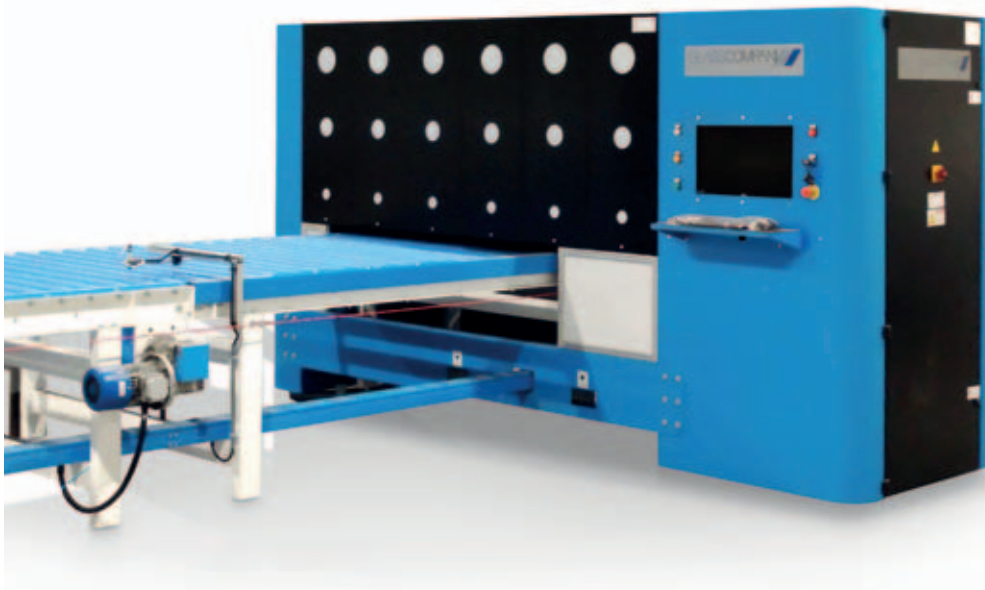


## PLASMEK

Plasmek uses atmospheric pressure plasma for flat glass surface treatment.

It is a cleaning and treatment cell that allows an alteration of the surface tension of the glass in a single step, increasing the adhesion of the products applied in the immediate subsequent stages of processing. Among its many applications, the cleaning and preparation of glass, fundamental prior to digital printing or spray painting, as well as coating of any kind such as antibacterial, antiviral, etc. with the use of technical gases if necessary, in addition to compressed air, are the most impressive characteristics of this technology.

This processing is, also essential for certain gluing and adhesion processes with other materials, or in flat glass lamination processes to obtain highly performing finished products compared to standard ones.

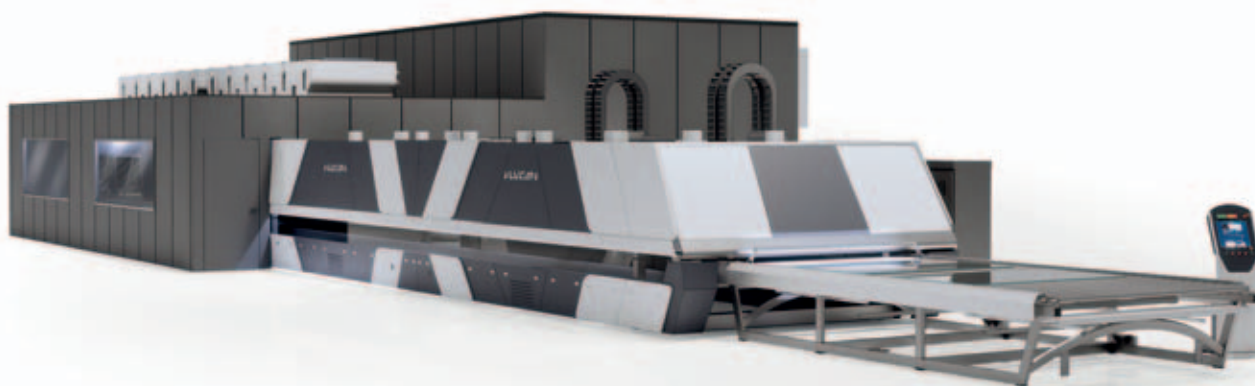


## FLAT AND BENT GLASS TEMPERING FURNACES

Glass Company Srl has been continuing for over 15 years its collaboration with Jinglass for flat and bent glass Tempering furnaces and proposes tempering furnaces for all the glass types in the market, also for thin glass sheets of 2.5mm and semi-tempering for 2.2mm glass, used in the solar and furniture sectors. The furnaces are also suitable for large-sized glass sheets compared to the glass thickness. Our furnaces can be supplied in different sizes and models, for both flat and bent glass.

The tempering furnaces proposed by Glass Company carefully take into consideration the technical needs of the customers and are equipped with a patented real convection Matrix technology suitable for all Low-E glass including triple-silver coating

The new tempering furnace VULCAN combines excellent glass optical quality with very low energy consumption thanks to a very high technology.



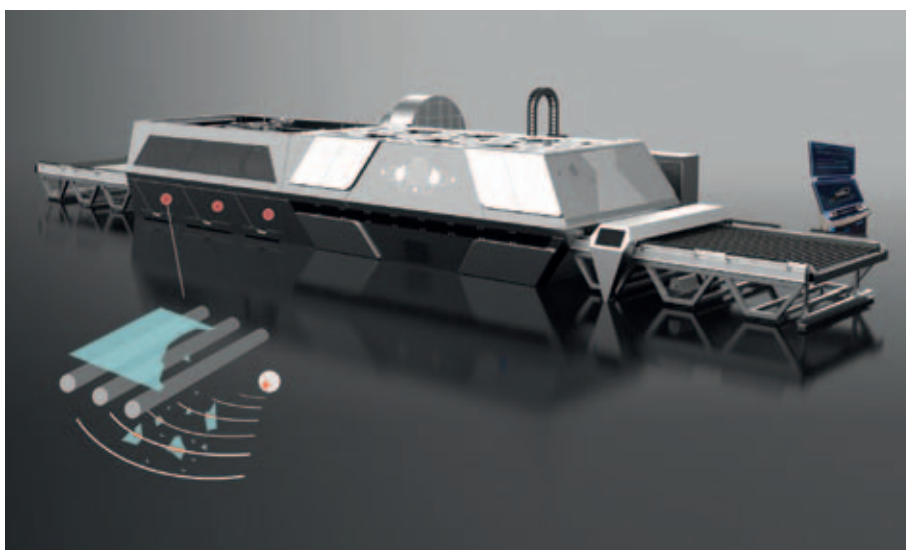
## GLASS BREAK ALERT

Glass Company has developed "Glass Break Alert" system (patent pending) for broken glass detecting in the quenching and coolong sections of the glass tempering furnaces.

The system can mainly use three types of sensors: **acoustic sensor, infrared barrier and vibration sensor.**

The Glass Break Alert system is equipped with a specially developed software that can visualize the areas where the glass is broken allowing to the furnace operators to rapidly identify the blower zone where the breaking of the glass is happening without losing time especially when the hardening cycles are very short. Another function of the SW is to analyze also the quantity/percentage of the broken glass during the process and it can gather statistical data for different thicknesses.

The system "**Glass Break Alert**" is available as optional function for the new VULCAN furnace or as update for the existing hardening lines of any kind of manufacturer.



## HORIZONTAL AND VERTICAL GLASS WASHING AND DRYING MACHINES

Glass Company Srl, knows how excellent glass cleaning and drying are fundamental in the glass processing and offers horizontal and vertical Washing and Drying machines that combine high-performance technology with ease of use and competitive price.

Both manufactured with water-resistant construction materials (stainless steel), controlled by PLC and with an intuitive touch screen system.

The **Horizontal Glass Washing** is designed for noise reduction and energy saving, both in terms of the drying fan power consumption and for the water use. Especially suitable for float, reflective, Low-E (soft coating) glass and solar glass, can be equipped with disc brushes or cerium oxide pads ensure a deep cleaning before digital printing, silk screen printing or enameling, lamination both with PVB and EVA

The **Vertical Glass Washing** is equipped with:

- Minimum three pairs of soft nylon brushes whose distance can be adjusted by PLC
- Independent water tank and recirculation tank
- At request with a pre-washing unit
- For special applications can be equipped with an easy-to-clean coating spray section

The working speed is controlled by inverter and the air blade inclination can be manually adjusted. The software allow to detect the Low-E coating glass side and washing.



## MEASUREMENT INSTRUMENTS FOR THE GLASS INDUSTRY

GLASS COMPANY Srl does not stop at supplying machinery, but also provides a range of instruments for quality control of finished products, particularly:

For tempered glass:

- **LevelMek** – Measures roller wave distortions in tempered glass.
- **Portable Polariscopes** – Identifies residual stress in tempered glass by exploiting light polarization.
- **Digital Polariscopes** – Analyzes internal residual stress in tempered glass, transmitting data directly to a computer.

For insulated glass units (IGU), Glass Company offers:

- **Thickness Gauge** – Measures the thickness of glass and the internal air layer, useful for laminated architectural glass, insulating glass windows, etc.
- **Digital Spectrophotometer** – Measures solar spectrum transmission and evaluates transmission parameters such as light transmittance, UV transmittance, and infrared transmittance at 940nm and 1400nm wavelengths. Additional coefficients, such as SHGC and TSER, are available for photovoltaic or insulating applications.

For coating inspection on Low-E glass and for detecting defects such as scratches and imperfections in processing for quality control, the essential instrument is:

- **Digital Microscope** – Equipped with a measurement grid, it allows verification and recording of the dimensions of laser-made micro-engravings or defects.





## GPM AUTOMATION Srl

Via Tommaso Salsa, 9 - 31030 Carbonera (TV) - Italy

Tel.: +39-0422-606015

E-mail: info@gpmautomation.com - www.gpmautomation.com

### HORIZONTAL AND VERTICAL WASHERS

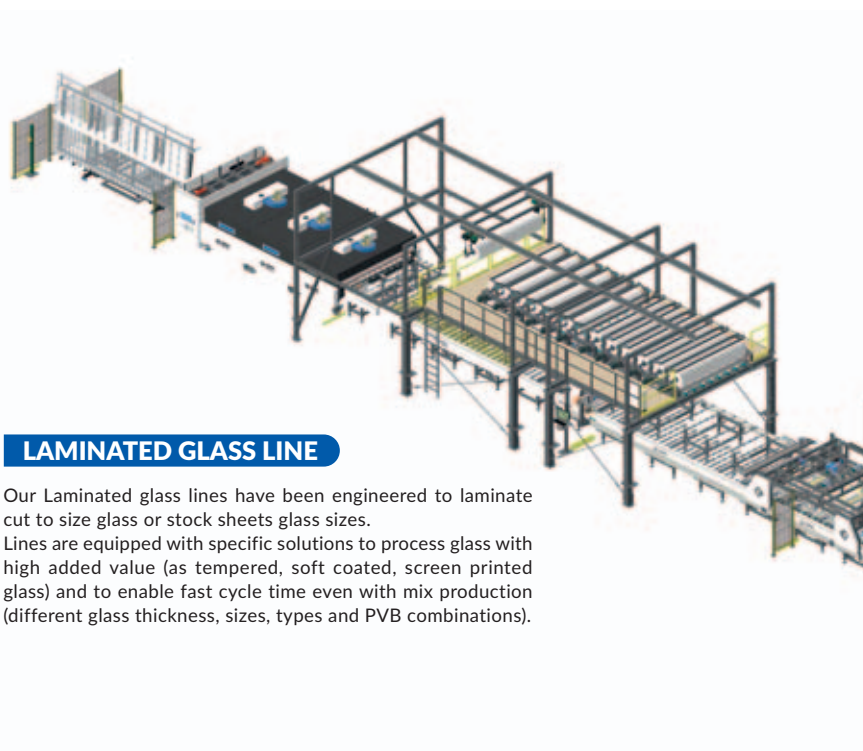
Washers are specifically designed to wash and dry flat glass after grinding or edging process (double edger, vertical arising, CNC lines) or before processing lines as insulating glass line, laminating, tempering or printing lines.

- Washing frame totally stainless steel made
- High pressure pumps 150-180 bar to remove glass dusts and residuals after edge or surface processing
- Each brush is driven by specific motor
- Motorized opening system for glass thickness adjustment
- Soft Coated brushes for washing sensitive coated glass
- Automatic glass thickness checking and opening adjustment
- Conductivity system to check water quality on tanks
- Electronic components (PLC, I-O boards, HMI and inverters) easy to find in the market



HORIZONTAL WASHERS			
MODEL	MAX GLASS WIDTH	GLASS THICKNESS	BRUSHES
HW 2000	2000 mm	3-25 mm	4-6-8
HW 2600	2600 mm	3-25 mm	4-6-8
HW 2800	2800 mm	3-25 mm	4-6-8
HW 3300	3300 mm	3-25 mm	4-6-8

VERTICAL WASHERS			
MODEL	MAX GLASS HEIGHT	GLASS THICKNESS	BRUSHES
VW 2000	2000 mm	3-40 mm	4-6-8
VW 2500	2500 mm	3-40 mm	4-6-8
VW 2800	2800 mm	3-40 mm	4-6-8
VW 3300	3300 mm	3-40 mm	4-6-8



LAMINATED GLASS LINE		
MODEL	MAX GLASS SIZES	SHAPE
LPS 2636	2600 x 3600 mm	STRAIGHT, U, Z
LPS 2651 LPA 2651	2600 x 5100 mm	STRAIGHT, U, Z
LPS 2860 LPA 2860	2800 x 6000 mm	STRAIGHT, U, Z
LPS 3360 LPA 3360	3300 x 6000 mm	STRAIGHT, U, Z
LPA 3390	3300 x 9000 mm	STRAIGHT, U, Z
LPA 33120	3300 x 12000 mm	STRAIGHT, U, Z

### LAMINATED GLASS LINE

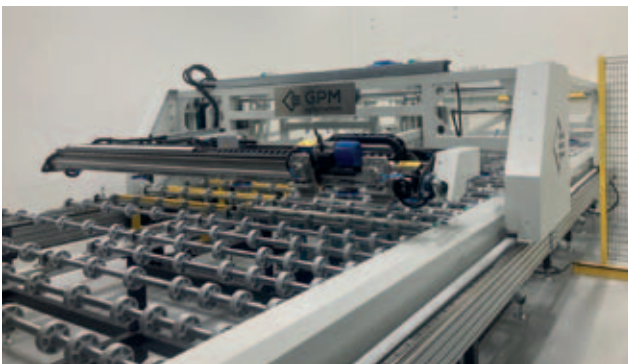
Our Laminated glass lines have been engineered to laminate cut to size glass or stock sheets glass sizes. Lines are equipped with specific solutions to process glass with high added value (as tempered, soft coated, screen printed glass) and to enable fast cycle time even with mix production (different glass thickness, sizes, types and PVB combinations).

[www.gpmautomation.com](http://www.gpmautomation.com)



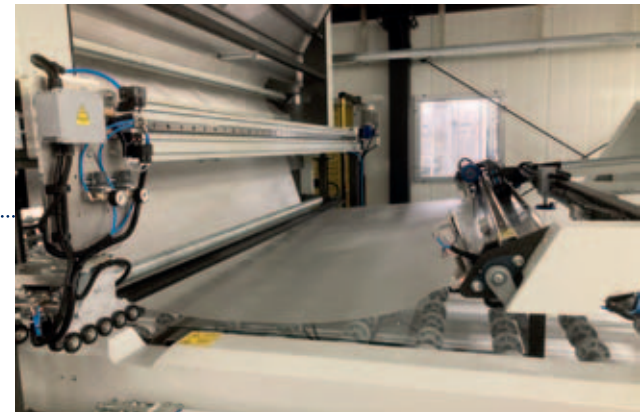
- LPS model includes fully automatic glass squaring and assembly; PVB laying and trimming process is done manually by operator.
- LPA model includes fully automatic glass squaring, assembly, PVB laying, PVB cross cutting and PVB trimming on leading glass edge; as option we can offer automatic loading/unloading with gantry system or with robots, and fully automatic PVB trimming on all glass sides.

- Accurate glass squaring system by means of pop-up tables with belts system to push glass on reference locators and laser beam sensors for precise glass stop on the reference positions. Multiple glass squaring option for squaring and assembly 2/3/4 glass panes simultaneously.



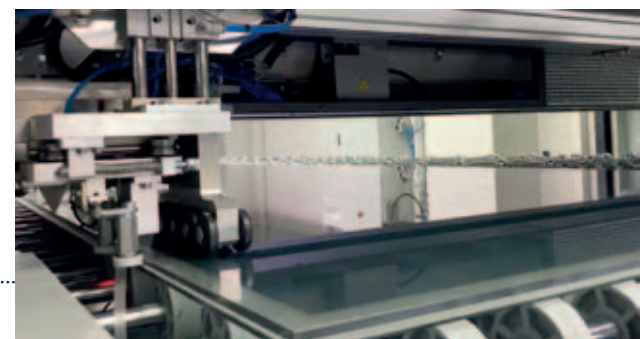
- Suction cups transfer lifts and lowers with motorized belts system, it ensures fast speed and accurate glass assembly, since speed and releasing positions are controlled by encoder to avoid glass floating during the assembly process.

- Automatic PVB laying on the glass through specific motorized bridge or with clamps system integrated on the suction cups transfer (for straight line configuration).

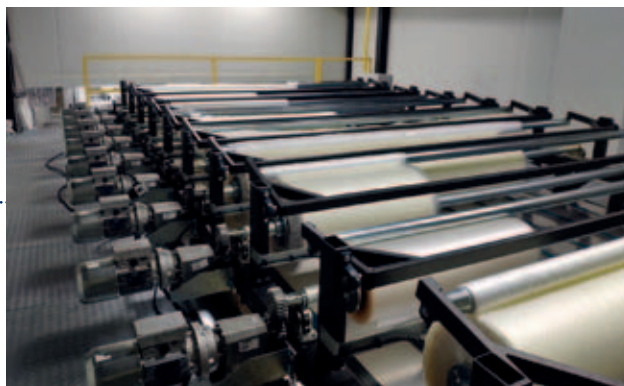


- Innovative system for PVB cross cutting, that is done after the assembly and over the leading glass edge to enable simultaneous PVB trimming on the leading glass side (low PVB waste and faster trimming cycle time).

- Automatic PVB trimming on all glass edges, by means of specific cutting heads that adjust according to glass sizes.



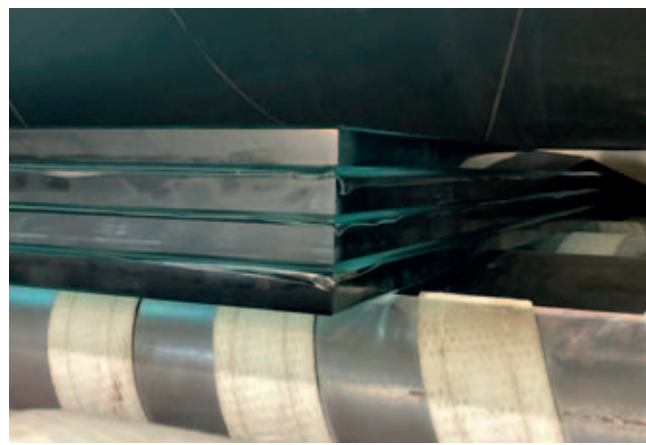
- PVB UNWINDER 6÷18 ROLLS; overhead platform for easy PVB rolls change, loading and maintenance (standard in the LPA line, option for LPS line).



- Heating furnaces work with combination of infrared lamps (with SCR power regulation) and forced air convection system by means of top and bottom fans, that blow and recirculate the air through specific designed channels. Forced air convection system ensures to uniformly heat soft coated, reflective or painted glass, heavy thickness glass panes. Infrared lamps heating ensures fast adjusting speed during the lamination of clear and extra clear glass with thin thickness. Each module is equipped with accurate temperature control sensors and exhaust fan on top part in case of overheating.

- Nip roll has been designed to laminate tempered glass and shape glass with sharp corners, very easily in fully automatic mode according to set recipes by means of accurate control system.
- Press top roll adjusts automatically through Bosch Rexroth ball screws, servomotor and gear system.

- Servomotors work in electric axis and check continuously the flatness positioning of the top roll in order to ensure correct and uniform pressing distribution and to avoid different pressing power force on the working width size. Pressing power with very accurate control and synchronization for processing shape glass without breaking the tight corner.



[www.gpmautomation.com](http://www.gpmautomation.com)



- Hydraulic tilting table for loading/unloading glass up to 12 m (no. 2 tables working together).



- As option gantry loader for automatic loading/unloading glass up to 9 m.

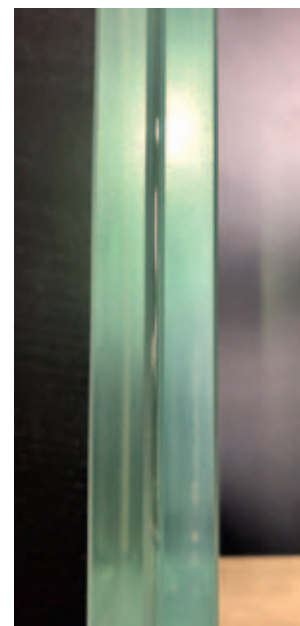
## ROBOTIC TRIMMING FOR LAMINATED GLASS FINISHING

Robotic line enables to trim PVB, Sentryglas and EVA film that overhangs glass edge after laminating process.

- Max processing glass size: 2700x4000 mm (bigger sizes can be designed if require).
- Complete line including inlet and outlet conveyors (as alternative rotating conveyors system can be supplied for a square layout configuration).
- Vertical trimming conveyor with back supporting suction cups to let robot trim bottom glass edge.



- Blade and engraving tool for removing the inner interlayer on grinded edges.



## TURNKEY SOLUTIONS FOR AUTOMATIC LOADING/UNLOADING

Features	Sizes
Max glass sizes	3.300x6.000 mm
Max glass weight	700 Kg

Glass process	Application
Cutting line	Loading/Unloading
Insulating glass line	Loading/Unloading
Double edgers	Loading/Unloading
Vertical arrising/grinding line	Loading/Unloading
Tempering oven	Loading/Unloading
Printing/painting line	Loading/Unloading
CNC vertical/horizontal	Loading/Unloading

### a) IG AND GRINDING LINE AUTOMATIC LOADING/UNLOADING

- Turnkey solutions for automatic loading: including vertical motorized conveyors, that are synchronized to vertical arriser, grinder, or integrating our vertical washer.



- Turnkey solutions for automatic unloading; including vertical motorized conveyors, that are synchronized to sealing robot.

- Suction cups gripper with bottom brackets for supporting heavy IG units up to 500 kg and size 2,7x5 m.



- Automatic shutter door and safety gate enable to replace racks without stop robot loading/unloading process.



[www.gpmautomation.com](http://www.gpmautomation.com)



## b) DOUBLE EDGER AND PAINTING LINE AUTOMATIC LOADING/UNLOADING

- Double edger configuration: «U» shape with one robot or «L» shape with 2 robots.



- Loading conveyor with automatic adjustable reference line.

- Including horizontal washer and unloading conveyor with glass aligning system.
- Rotating platform for storing 2 racks and enabling to replace racks without stopping robot loading/unloading process.
- Paper strips applicator for separating glass sheets.

## SORTING SYSTEM FOR IG UNITS WITH ROBOTIC LOAD

- Sorting system by means of high speed shuttle (100 mt/min).
- WMS – warehouse management software.
- No. 110 storing slots (more slots can be added according to available space).
- 90° turning station enables to transfer the IG unit on PVC window assembly line.



- Robotic loading into the storage.
- Barcode/QR code reader enables to track IG units ID with our WMS.
- Underfloor rotating platform enables to turn A shape rack automatically.

## HARP RACK AND AUTOMATIC LOADING/UNLOADING SHUTTLE

- harp rack with 46 slots for max glass up to 2.000x2.500 mm;
- heavy capacity up to 2 tons;
- specific protections avoid that glass slides out of the harp rack during transport;
- handle and big wheels makes easy harp manual pulling;
- arrangement for forklift picking;
- automatic shuttle could be combined to harp racks for automatic loading of the glass into IG line or other vertical processing line; glass can be also placed automatically into the harp by specific shuttle solution.



## STOCKING SYSTEM FOR CERAMIC TILES AND GLASS

Features	Sizes
Max glass/ceramic tiles sizes	3.000x3.300 mm
Max glass/ceramic tiles weight	600 Kg



- Glass and ceramic tiles are automatically unloaded from delivery racks to storage slots through the robot and shuttle system.
- No. 70 storage slots (more can be added according to available space); each slot with capacity 3 t.
- Integration with cutting/processing line: robot unloads the glass/ceramic tiles from the storage and load into the cutting/processing line.

Take a glance at details enhancing the living spaces!

# WINDOW

Eurasia



26<sup>th</sup> International Window, Window Shade, Facade Systems & Accessories, Profile, Production Technologies & Machinery, Insulation Materials & Auxiliary Products Fair

[www.eurasiawindowfair.com](http://www.eurasiawindowfair.com)



### Special Section

Aluminium Profile, Facade Systems and Accessories

### Special Section

Shading, Protection and Closure Systems

# GLASS

Eurasia



15<sup>th</sup> Glass Products and Applications, Production Processing Technologies and Machinery, Auxiliary Products and Chemicals Fair

[www.eurasiaglassfair.com](http://www.eurasiaglassfair.com)

# DOOR

Eurasia



17<sup>th</sup> International Interior Door and Door Systems, Lock, Panel, Board, Partition Systems and Accessories Fair

[www.eurasiadoorfair.com](http://www.eurasiadoorfair.com)

Scan the QR code for more information!



# November 15 - 18, 2025

Saturday - Tuesday



Window and Glass Fairs  
Supported by



## TÜYAP FAIR AND CONGRESS CENTER ISTANBUL | TÜRKİYE

THESE FAIRS ARE ORGANIZED WITH THE AUDIT OF TOBB (THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TÜRKİYE) IN ACCORDANCE WITH THE LAW NO. 5174.

**helios quartz**



## HELIOS ITALQUARTZ Srl

Viale delle Industrie, 103/A - 20040 Cambiago (MI) - Italy

Tel.: +39 02-95349318

E-mail: italy@heliosquartz.com • www.heliosquartz.com

### INTEGRATED EFFICIENT SOLUTIONS

#### INFRARED MODULES



Complete infrared solutions, designed and customized according to customer needs, and ready to be integrated in existing machines and production lines;

#### QUARTZ INFRARED HEATERS

In short, medium and fast medium wavelength, in single and twin tube, with or without gold reflector for:

- Laminating lines (plastic film coupling);
- Screen printing lines;
- Bending furnaces;
- Fusion furnaces;
- Laminated glass cutting tables;



#### UV POLYMERIZATION EQUIPMENT

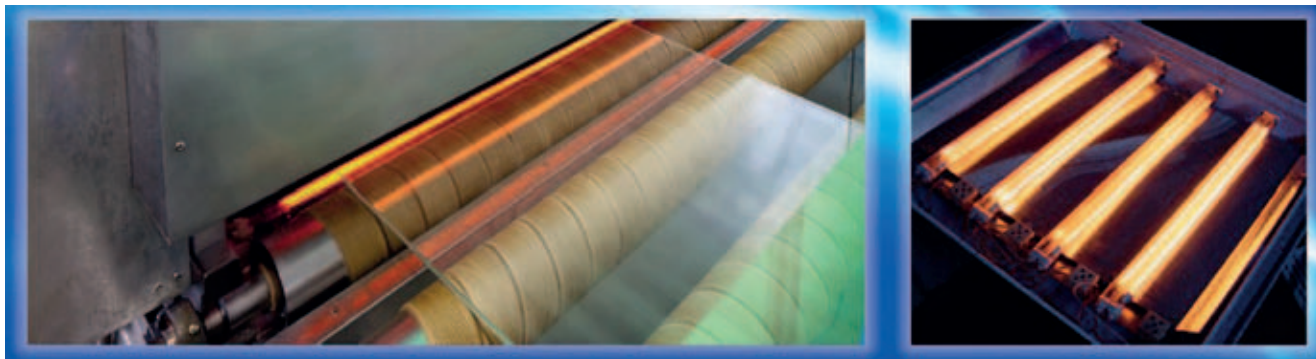


UV high and medium pressure lamps for drying screen printing of reactive inks, paints, coatings and adhesives for the decorating and furnishing sector;

#### AUTOMATIC TIN SIDE DETECTOR



Compact automatic version of this device. It can be fixed directly on the glass transportation line, before the production process, in order to check each and every piece of glass. A user-friendly PLC helps the operator in calibrating and managing the different recipes.





## HORN GLASS INDUSTRIES AG

Bergstrasse 2 - D-95703 Plössberg - Germany

Tel: +49-9636-92040

E-mail: [info@hornglas.de](mailto:info@hornglas.de) • [www.hornglass.com](http://www.hornglass.com)

### GLASS PLANTS

HORN Glass Industries AG is the industry leader in turn-key plants.

HORN's objective is to realise your project both economically and ecologically in accordance with your requirements. Your schedule as well as local requirements and conditions are important influencing factors. HORN® supports you from the first rough draught, over realisation up to and including the permanent support of production, even after your glass plant is finished.

HORN is a specialist for realization of the following turn-key glass plants:

- Float Glass Plants
- Container Glass Plants
- Cast Glass Plants
- Sodium Silicate Glass Plants



### PROJECT MANAGEMENT

HORN is in the glass market since 1884 and has gained a reputation for working accurately, expeditiously, and in a proper manner. The HORN® project management team takes care of all matters and leads the customer from the first conversation till the first glass flow. Even after commissioning, the experts ensure a trouble-free furnace operation through technical advice and training of your operations staff.

HORN treats every customer based on individual needs.

HORN offers project management service as:

- Feasibility Study
- Basic Engineering
- Detailed Engineering
- Site Management
- Training
- Operational Support





## ITALCARRELLI SpA

Via Monte Rosa, 9 - 36072 Chiampo (VI) - Italy  
Tel.: +39 0444-623393

E-mail: [info@italcarrelli.eu](mailto:info@italcarrelli.eu) • [www.italcarrelli.eu](http://www.italcarrelli.eu)

### PLATFORM TRANSPORTERS

Self-propelled transporters with loading capacity ranging from 5 to 60t and beyond, used for handling flat glass on stillages.

They find application in the handling of glass racks from the stackers to processing lines and warehouse handling.



### INLOADER TRANSPORTERS

Vehicles for transporting glass on jumbo size stillages from the stackers of the float line to the warehouse, as well as for performing normal handling within premises.

They are usually equipped with a 33t loading capacity; upon request, versions with a loading capacity of 45t and over can be made available.



### SIDE-LOADERS

Machines for transporting glass packs within the factory. They have independent PLC-controlled wheels for moving in all directions.

Versions with loading capacity ranging from 3 to 20t and more are available, which can transport all glass sizes, from DLF or LES to jumbo and XXL jumbo sheets.



### SPECIAL-APPLICATION SIDE-LOADERS

By continuing to design innovative vehicles that are applied in different sectors of the glass industry including laminated and solar glass, Italtcarrelli develops tailored side loaders with hydraulic equipment, attachments and clamping devices, for handling packed glass or on special racks.





## CONTAINER LOAD / UNLOAD

The patent by Italcarelli for the loading and unloading of box glass from closed top containers thanks to its hydraulically extensible arm which can rotate by 90° to the right or to the left. This machine finds application in the handling of glass from containers and 40ft containers, on warehouse racks, from containers on loading deck or on truck.

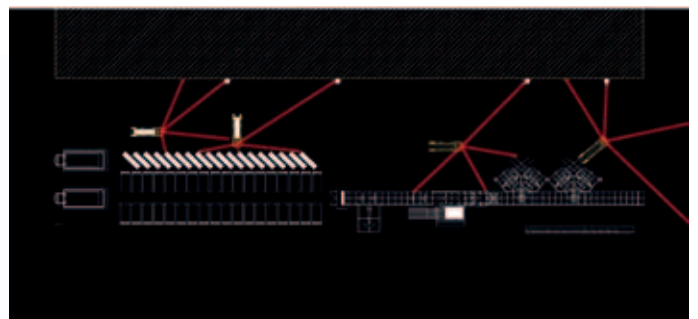
## LAMINATED GLASS HANDLING

Available with load capacity beyond 60t, these lift trucks can be used in the handling of laminated glass within the autoclave, depositing the rack with glass inside the autoclave and moving it again once the process is finished.



## AGVS/LGVS

Italcarelli can transform its machines into Automated Guided Vehicles, featuring inductive and optical guidance systems, yet above all Laser Guided Vehicles.



The laser guidance is an innovative and smart system that can be installed on any vehicle to turn it into a self-driving machine. This system provides very high accuracy, even more than 5 mm in terms of positioning. It is very flexible since the routes can be easily generated, modified or extended, without particular impact on the facilities.

**italmatic**<sup>®</sup>  
AUTOCLAVES OVENS & PRESSES

## ITALMATIC Srl

Via Tazio Nuvolari S.N. - 55061 Fraz. Carraia - Capannori (LU) (Italy)  
Tel.: +39-0583-981166  
E-mail: [info@italmatic.eu](mailto:info@italmatic.eu) • [www.italmatic.eu](http://www.italmatic.eu)

### AUTOCLAVES AIV SERIES 3.000 - 3.300 - 3.800



The new line of autoclaves, "Industry 4.0 ready", designed to process curved and flat glass with the best loading flexibility both horizontally and vertically, with silicone bags or disposable bags.

The autoclave can be placed on the floor without needing to be pits and can produce laminated glass up to 3210mm sheets.

The vacuum is controlled automatically by means of an advanced control system that satisfies the most restrictive process requirements.

The plant can be supplied with automatic or manual loading systems complete with all operating safety devices.

### AUTOCLAVES AIV SERIES 4.000 - 4.200 - 4.400

Where production needs become important Italmatic presents the new line of autoclaves for large glass production "Industry 4.0 ready", with load capacity up to 40 tons.

The autoclave is pits into the floor and served by an automatic loading system that allows effective handling of the glass to be processed and processed, in the shortest time and in complete safety.

Laminated glass up to 3210mm sheets can be treated in both curved and flat versions. The lamination cycle is controlled automatically by an advanced control system **ICS (Italmatic Control System)** which allows the complete traceability of the process with identification of the production batches.

The plant can be supplied with integrated MES systems for interfacing with factory management systems.

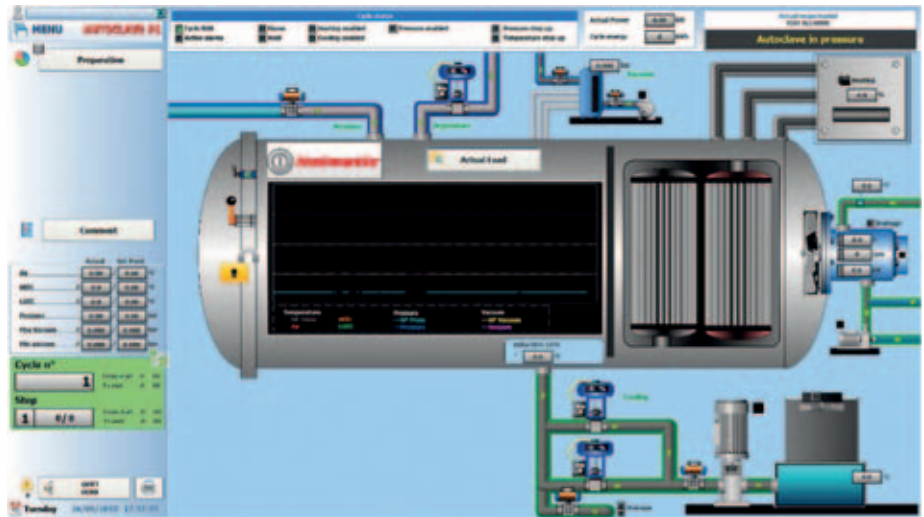






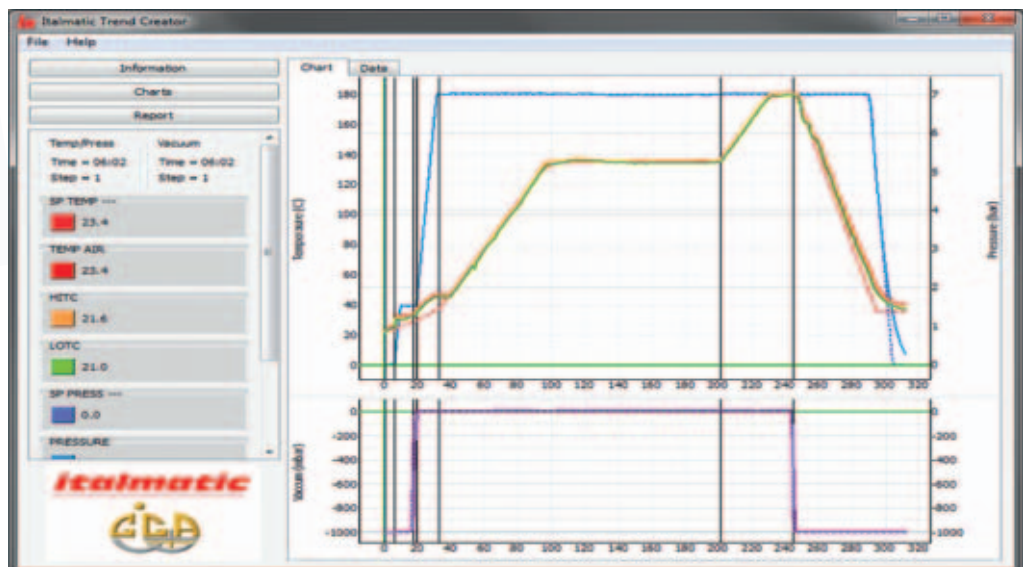
## ICS (ITALMATIC CONTROL SYSTEM)

ITALMATIC has its own "software house" which develops all the control systems for all its machines. This means that ITALMATIC always ensures direct assistance and possible customized development to all its customers, not having to resort to third-party companies that can create delays or even waivers to assist customers. The ITALMATIC advanced control system **ICS (Italmatic Control System)** consists of a software application package dedicated to the application of glass lamination with PVB and EVA, which fully satisfies the most restrictive regulations on the market in terms of quality and traceability. All our software is "Industry 4.0 ready" and interfaceable with company management systems with dedicated MES, and all our machines are assisted with remote assistance from our dedicated technical service, which supports all our customers anywhere in the world.



## ITW (ITALMATIC TREND VIEWER)

ITALMATIC offers its customers free of charge a special software called "Viewer" that can be installed on any PC, which allows you to view all the cycles carried out in the autoclave in order to carry out qualitative tests and / or in-depth reporting for each batches produced.





## ITALMOLE Srl

Via Carducci, 10/12/14 - 20072 Fizzonasco di Pieve Emanuele (MI) - (Italy)  
 Tel.: +39-02-90426141  
 E-mail: info@italmolesrl.com • www.italmolesrl.com

### ASTRA

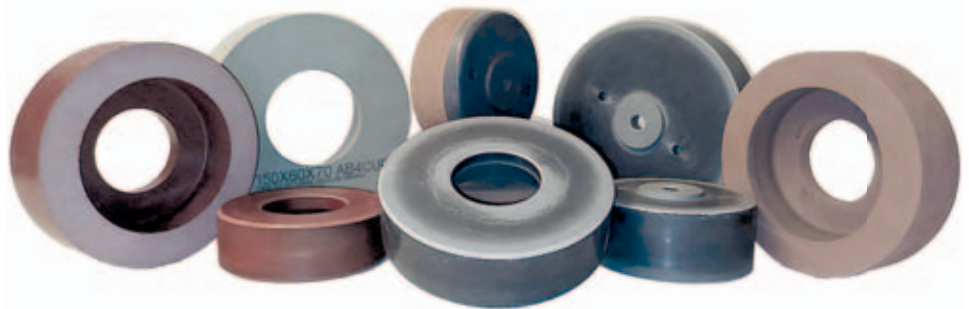
A new technology wheel: high performance, super polishes with excellent adaptability, excellent durability with much lower price. Available with internal cooling and in peripheral form, excellent on vertical CNC machines such as Vertmax, CMS, Skillglass and horizontal machine such as Master, CMS and Bottero-Bimatech.



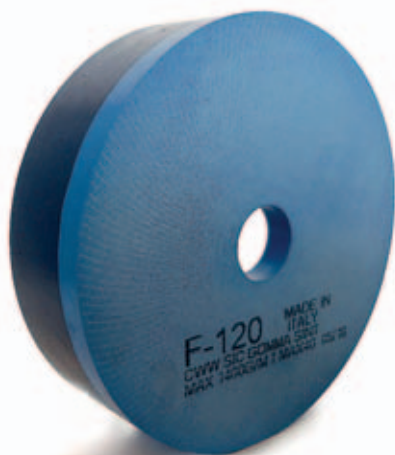
### ARRIS WHEELS LINE

Types BLACK/AR2 are advised to polish the arris after diamond wheel, types RED/AR1 are advised to make the arris without diamond wheel. All types it can be supplied with any type of plate for all type of machines.

AB4 type, becomes very famous in recent times, is advised to polish arris on double edger and straight machine. It guarantees a perfect and brilliant result.



### CUP WHEELS LINES



Wheels product for all type of machines in grit 40-60-80-120, available with rigid plastic plate, aluminium plate and special plate J40 for Bavelloni. On request with slots for laminated glass.





**keraglass**

a **voilàp** company

## KERAGLASS Srl

Via Sassogattone 13/A - 42031 Baiso, Reggio Emilia - Italy

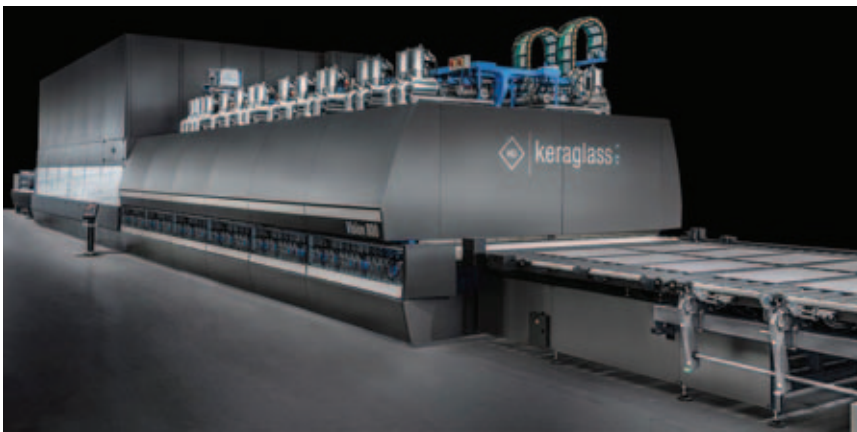
Tel.: +39-0522-993027

E-mail: [info@keraglass.com](mailto:info@keraglass.com) • [www.keraglass.com](http://www.keraglass.com)

### VISION 800

#### OSCILLATING TEMPERING FURNACE TO TEMPER THE LATEST GENERATION GLASS SHEETS

Regarded as a revolutionary machine in the flat glass tempering sector due to its high quality and efficiency standards (particularly its ability to produce low-E and large panes with an emissivity of 0.01), combined with an aesthetic profile that ensures functionality, high performance and visual appeal all in one. This marvel of innovative technology is the result of long-term research backed up by ongoing dialogue and discussion with client companies. The heart of the machine is the Supervision Intelligent system with live-sight control, which allows the operator to clearly see and precisely monitor each stage of the process. The result is a glass end-product without any hidden defects that is made to measure and tailored to clients' requirements, with all the requisites needed to decorate the walls of modern buildings while ensuring energy saving and environmental sustainability. Numerous installations around the world confirm the immense success of this machine, which is recognised as a best-seller in the production of the latest generation tempered glass.



#### CHARACTERISTICS

- Big size low-E glass sheets E=0.01
- Tronik System: modular convection system based on blowing air preheated to 700°C
- Minimises optical distortion of the glass
- Dynamic heating cycle (DHC)
- Thermal insulation up to 1250°C
- Scanner control for constant monitoring of glass surface temperature, with storage of loads and product certification
- Supervision Intelligent: live-sight control system with large touchscreen monitor providing perfect visibility, plus a simple and intuitive user interface for fast and accurate diagnostics
- Kerasoft: software interface to control power consumption and scheduled maintenance
- Compatibility with RCK, an extremely precise roller cleaning machine with a rapid system of interchangeable pads

### VIVIDA

#### HIGH-DEFINITION DIGITAL PRINTER WITH CERAMIC INK

Vivida combines flexibility, practicality, and quality.

Vivida is a high-definition digital printer that uses ceramic ink. It is ideal for reproducing any kind of image on the glass surface and can be used in all sectors, especially in furnishing, architecture and automotive.

The innovative software can process the graphical designs to be printed on the glass in a simply and intuitive manner. The propriety software and industrial computer installed on the machine manage all of its operating parameters through a simple and direct user interface.

#### CHARACTERISTICS

- a glass cleaning system can be installed upstream of the print room to remove contaminants and dust from the glass surface before printing
- the glass is transported through the printing process on calibrated belts driven by a brushless motor controlled with absolute precision
- an electromechanical system allows automatic glass centring of various types without requiring operator actions
- the head is moved by a linear motor

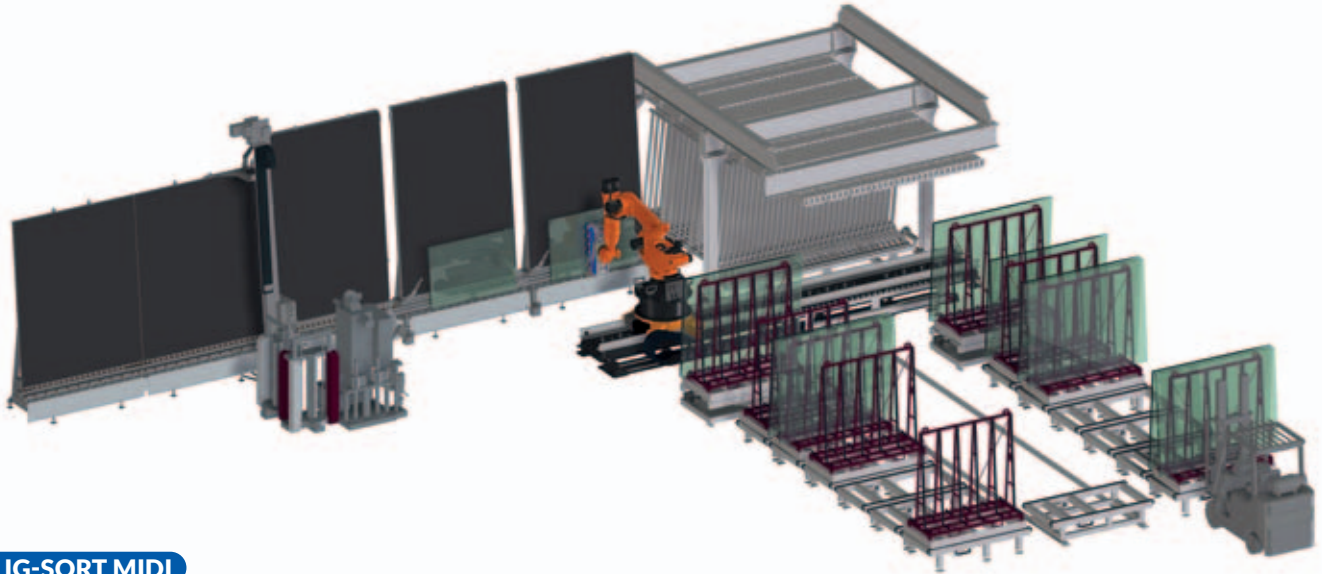
- rapid colour change and tank cleaning, automatic colour mixing system with motor and magnets
- use of xaar heads
- option of working with various ink makers
- an exclusive system mounted below the printing heads magazine allows operation of the heads to be paused without necessitating unscheduled maintenance actions





## LISEC AUSTRIA GMBH

Peter-Lisec-Strasse 1 - 3353 Seitenstetten - Austria  
 Tel.: +43-7477-405-0  
 E-mail: sales@lisec.com - www.lisec.com



### IG-SORT MIDI

#### UNSTACKING OF INSULATING GLASS UNITS USING A ROBOT

A robot is used to place insulating glass units from the removal position onto a glass storage rack. The glass racks are located on a turning station and can therefore be loaded on both sides without interruption. Once the glass blocks have been loaded in the specified sequence, they are moved from the turning station to a designated storage area or taken directly to the dispatch hall. If a production error occurs on the insulating glass line or if panes are missing in the planned sequence, the glass racks optimised for the customer cannot be completed in the optimum sequence. These units have to be re-produced (remake).

#### New

All subsequent IG elements of a glass rack with a gap due to a broken disc are placed in an element buffer. The glass rack with a gap is automatically removed from the turning station and moved to a waiting position. The glass storage racks are only completed in the specified sequence once the remake has been produced and also placed in the element buffer.

This means that the manual manipulation of remake elements on the glass racks can be automated by IG-Sort. Another new feature is that freshly sealed ISO elements, which are still unstable in their structure, are placed in compartments. This means that there is no movement between the panel and the rods or rollers as with other systems. The elements are set down absolutely gently.

Thanks to a pallet station, unfinished IG racks do not have to be manually removed from the turning station, but are picked up from the turning stations by a rack shuttle and transferred to a designated parking position.

Once all the necessary remake elements have been stored in the IGB element buffer, the unfinished racks are taken to the loading position (turning station) and fully loaded. This means that only empty and fully loaded racks need to be added to and removed from the pallet station by the operator.

#### Highlights

- Only ready-to-ship racks leave the IG line
- No manual sorting of remakes
- Start of incomplete runs possible
- Ensures continuous output
- Reduces physical strain on the employee
- Eliminates search times in dispatch
- Automatic ejection of reject discs
- Autonomous handling of remakes
- Low space requirement
- Access for cleaning the cassettes
- Patented insulating glass handling sequence/process
- Ensuring complete racks
- Operator is only responsible for rack management
- Autonomous operation for a period of 2-3 hours
- Only racks ready for dispatch leave the IG line
- Start of incomplete runs
- Cycle time-neutral buffering and rack management to the IG line

TECHNICAL DATA	IGB 25/20	IGB 40/27
Maximum length	2,500 mm	4,000 mm
Maximum height	2,000 mm	2,700 mm
Minimum length	400 mm	400 mm
Minimum height	200 mm	200 mm
Maximum thickness	60 mm	60 mm
Minimum thickness	12 mm	12 mm
Max. load per compartment	500 kg	800 kg
Max. weight load of racks	2,000 kg	2,000 kg
Number of compartments IGB	32/64	24/48

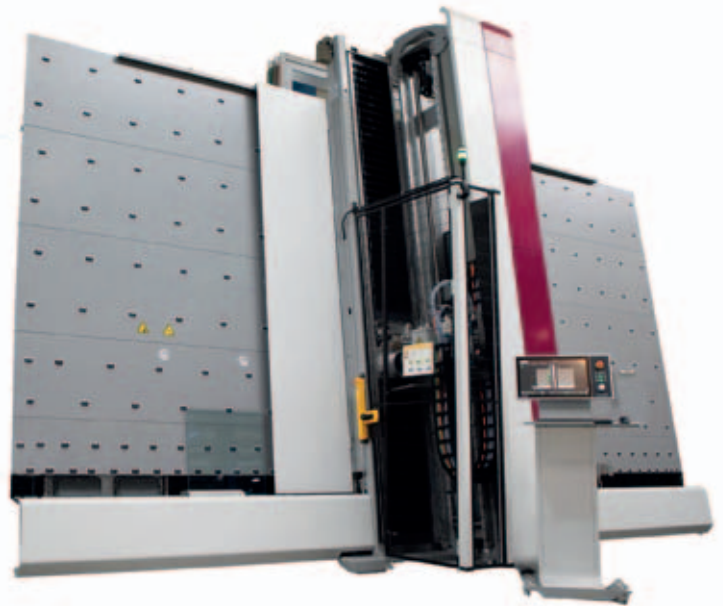
## KSD-A

### VERTICAL EDGE SEAMING AND GRINDING MACHINE WITH LITEC SLIDER TECHNOLOGY

The new KSD-A from LiSEC is currently the fastest vertical seaming and grinding machine with peripheral wheels. The machine combines massive processing flexibility with stable and reliably high quality. Depending on the machine length, the KSD-A consists of several elements in a modular construction. At the heart of the system is the processing tower with a high-speed X-axis for glass transport and optionally one or two processing heads mounted on separate vertical axes. The perfect waterproofing of the axes ensures long-term stability and easy accessibility.

The KSD-A was developed for the fastest possible cycle times and the greatest possible flexibility. For even faster cycle times, the system is also available as an High Speed (HS) version with two machining heads. The sheet is received by HS axis with suction cups, which measures the position of the sheet at all times. After automatic measurement of the height of the glass sheet „on the fly“, the edge is seamed or ground in an arbitrary number of cycles. The flexible tool configuration allows processing of different glass thicknesses without changing tools. The two greatest advantages of the system are the perfect seaming quality - independent of the quality of the cut glass - and the outstanding processing flexibility.

The newly developed and patent-pending floating tool of the LiTEC slider series ensures perfect edge seaming and grinding results even with poorly cut or faulty glass. LiTEC slider seaming and grinding tools use water pressure to feed the tool. This enables highly ergonomic and efficient feeding of the processing tool to the glass.



TECHNICAL DATA	KSD-A20/ KSD-A20HS	KSD-A25/ KSD-A25HS	KSD-A30/ KSD-A30HS	KSD-A33/ KSD-A33HS
Maximum glass height (mm)	2,000	2,500	3,000	3,300
Maximum glass length	Modular			
Minimum glass dimension	Seaming 350x180 mm/ grinding with material removal 700x180 mm			
Glass thickness	4-19 mm (optional 2-21mm )			
Number of processing heads	One processing head is standard, with the option of second head			
Transport height	520 mm / other transport heights on request			
Tilt angle for glass transport	6°			
Tools	LiTEC slider - diameter: 150 mm / holder: HSK-50			

#### Highlights

- Perfect seaming quality every time, thanks to the use of LiTEC slider technology
- Rapid seaming and grinding of a wide variety of glass lites sheets in one machine
- Maximum dynamics and speeds of all axes
- Optimised for use in insulating glass lines and after glass cutting
- Automatic measurement of rectangles possible as standard.
- Flexible tool configuration for processing without tool change
- Tool holder change directly from the front side of the machine Tool set-up on the tool holder is possible during processing
- Modular extension of the glass length possible with additional transport sections
- Perfect waterproofing of all axes for maximum system availability
- Easy access to all components for service and maintenance work

	L (MM)	B (MM)	H (mm)	Power consumption (kW)	Operating air pressure (bar)	Air consumption (l/min)	Operating water pressure (bar)	Water consumption (l/min)*
KSD-A20 KSD-A20HS	6,672	4,300	3,460	22 37.7	6	700	4	1
KSD-A25 KSD-A25HS	6,672	4,300	3,960	22 37.7	6	700	4	1
KSD-A30 KSD-A30HS	6,672	4,300	4,460	22 37.7	6	700	4	1
KSD-A33 KSD-A33HS	6,672	4,300	4,760	22 37.7	6	700	4	1

\*\* Water consumption if used with a water treatment system

## IGD

### SIMPLE, SAFE DISASSEMBLY OF INSULATING GLASS

**To facilitate time-consuming insulating glass cutting, we developed IG-D.** IG-D allows the easy separation of insulating glass, regardless of whether rigid or soft spacer is applied.

Especially for inexperienced employees, the system reveals its added value due to the low effort required and safe operation. The maximum cutting depth is set by means of a clamp quick-release fastener. Separation is achieved easily using the specially developed oscillation knife. In combination with the **Fein Multimaster MM700 1.7Q**, it ensures a clean cut without the risk of damaging the visible, often coated glass surface.

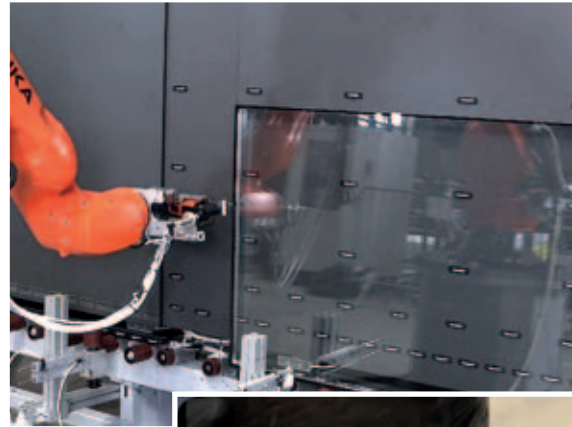
Attachable vertical guide rollers enable horizontal and vertical guidance along the edge of the glass, important for guided central separation of soft spacers such as TPS. IG-D is suitable for the separation of newly produced insulating glass, the repair of existing insulating glass and, in particular for the reworking of complex facade insulating glass units (IGUs).

#### Can be used fully automatically with a robot arm.

The system is also available as a fully automatic solution. With this version, the cutter is moved by a robot arm and is positioned in front of a vertical glass transport system, which enables automated separation. The system separates the edges of double and triple glazing units in turn. Thanks to a special glass detection system, cutting takes place precisely along the edge. The system is designed such that it can process glass sizes from 500 x 500 mm. The maximum dimension is only limited by the reach of the robot or the glass transport length.

#### Highlights

- Safe and simple dismantling of insulating glass
- Easy operation
- Safe working
- Little effort required
- No damage to visible glass surfaces



## Annual Guides

1990

### Glass Industry Directory 2024

The **GLASS INDUSTRY DIRECTORY** is a unique international annual guide which gives a complete overview of international glassworks and suppliers involved in hollowware and special glass manufacturing. About 300 pages of complete company profiles: addresses, management, sister companies, plants, number of employees, turnover, banks, year of company foundation, capital, trademarks, areas of activity, innovations, product-by-product and country-by-country breakdowns. The **GLASS INDUSTRY DIRECTORY** is the annual reference point for the international glass manufacturing industry comprising bottles and containers, domestic glassware, tubing, vials and ampoules, lighting glassware, technical and industrial glassware, scientific, laboratory and medical glassware and much more.





# Review

October / December

2024

January

2025

PAGES 254 - 267



## October 2024

### SAINT-GOBAIN: COLD REPAIR OF THE PLANT IN BAREVKA STARTED

The existing furnace for manufacturing patterned glass in Barevka, Czech Republic, was halted for the scheduled cold repair. The line will undergo major



AGC Brevka plant in the Czech Republic

revamping to accommodate brand-new furnace design, aiming to reduce direct CO<sub>2</sub> emissions by 75 percent.

As announced in 2023, in the frame of this joint development project, Saint-Gobain Glass and AGC have combined their best available complementary technologies to design the best possible hybrid furnace of the future for flat glass manufacturing. This innovative technology will be tested in Barevka, Czech Republic, and aims to create a high-performing, state-of-the-art production line that is 50 percent electrified and 50 percent powered by a combination of oxygen and gas. The plant designated for the project is currently undergoing a significant revamping to host the new technologies. Most of the studies and procurement processes have already been completed, and the team is actively coordinating the various professionals working on-site to construct the new furnace.



Copyright: AGC / Saint-Gobain / Stocksy - Monica Murphy

While the revamp continues, preparations for production start-up are in progress. This includes a comprehensive and detailed commissioning and testing plan for all equipment and process components to ensure the proper start-up of the new furnace. Additionally, it involves thorough training for the production team, who will be operating an entirely new industrial tool.

The new furnace is expected to be operational by early 2025. This R&D project called "Volta" project is funded by the Innovation Fund of the European Union.

### DOW TO EXPAND TECHNOLOGY PORTFOLIO FOR INSULATING GLASS

Dow exhibited at Glasstec 2024, Düsseldorf, in Hall 11, Stand B70, where the company presented an expanded range of organic technologies to address the

performance, productivity and quality needs of the façade and window segments. The new materials complement Dow's highly successful portfolio of structural glazing, insulating glass, weatherproofing and fire safety bonding options for building façades.



"For over five decades, silicone sealants from Dow have helped inspire unique architectural possibilities for glass façades," said Jean-Paul Hautekeer, Global Strategic Marketing Director, Building & Infrastructure at Dow.

"Dow is excited to announce an expansion of its technology range with DOWSIL™ Organics for Insulating Glass to offer a comprehensive edge-sealing solution comprising of silicone and organics. This introduction underpins our position as a leading global materials science supplier and will allow customers to conveniently secure their sealing requirements from one source.

"This development also reinforces Dow, a backward integrated company, as a reliable supplier for formulated products with increasing requirements on circular and low carbon feed-stock."

#### Highlights

Dow highlighted the following technology sealant options that address key needs in façade applications:

- DOWSIL™ 336 Soft Butyl Sealant, for primary sealing of insulating glass units manufactured with flexible spacers.
- DOWSIL™ 250 Polysulfide Insulating Glass Sealant for secondary edge sealing
- DOWSIL™ 993 Structural Glazing Repair Kit for factory and on-site bonding
- DOWSIL™ 375 Construction & Glass Embedding for securing frameless glass balustrades
- DOWSIL™ PanelFix System, now approved by the German Institute for Building Technology (DIBt)

Dow's carbon-neutral silicones service for structural glazing, insulating glass and weather sealing projects for high-performance façades were also featured.

#### Live dialogues

There were four live dialogue sessions at the Dow booth, where Dow's experienced specialists discussed the hot topics of glasstec. Two dialogues took place daily on October 23 and 24 at 11:00 and 15:00, respectively, titled "Silicones & their role in sustainability explained" and "Expanded technologies & advanced engineering expertise."



**NSG TO STOP PRODUCTION AT A FLOAT LINE IN GLADBECK, GERMANY**

NSG Group announced the decision to cease production at one of its two float glass lines at Gladbeck, Germany, from January 2025.

This decision is a direct consequence of a review of the current and medium-term weak demand situation in the German and wider European glass market, and adds to the previous announcement, made in March this year, notifying the early closure of one of the Group's float lines in Weiherhammer, Germany.

The Group is confident the European markets will recover over the medium-to-long term, however the exact timing of a potential restart of the line will be decided at a later date.



This measure will result in a reduction of the workforce at the site of more than 100 employees. The Group's subsidiary in Germany, Pilkington Deutschland, is in continuous contact with employee representatives to implement this process in a fair and transparent manner.

As a result of this decision, the Group expects to record an exceptional cost of approximately JPY 1.7 billion for the financial year ending 31 March 2025, representing redundancy and other one-off costs. The Group's full-year forecast for the financial year ending 31 March 2025, including this exceptional cost together with the positive resulting impact of an improved level of capacity utilization, will be disclosed after review.

**GUARDIAN GLASS: NEW EPDS FOR GLASS PRODUCTS MANUFACTURED IN EUROPE**

Guardian Glass published six new Environmental Product Declarations (EPD) for its flat unprocessed glass, sputter (vacuum) coated glass, and laminated glass products produced in Europe. One of the new EPDs covers Guardian ExtraClear™ float glass, which is the standard (mid-iron) float glass with the lowest embodied carbon value produced in Europe.

Third-party verified by an independent external verifier (UL), the six EPDs cover the following products:

- Guardian NEXA™ 6 lower carbon glass
- Guardian NEXA™ 9 lower carbon glass
- Guardian UltraClear™ low-iron float glass
- Guardian ExtraClear™ float glass
- Guardian LamiGlass™ and Guardian Bird1st Lami™ laminated glass product ranges
- Coated glass, including (but not limited to) SunGuard™, ClimaGuard™ and Guardian Sun™ products.

The new unprocessed flat glass EPD, which covers Guardian ExtraClear standard float glass produced in Europe, has a cradle-to-gate (A1-A3) embodied



carbon value of 9.64 kilograms CO<sub>2</sub> equivalent per square metre for 4 millimetre glass. This new value confirms that Guardian ExtraClear is the standard (mid-iron) float glass with the lowest embodied carbon value produced in Europe. A new EPD for Guardian UltraClear™ low-iron float glass produced at the Guardian Glass Bascharage, Luxembourg plant, in Guardian Glass' most energy efficient furnace, is anticipated to be available in mid-2025. EPDs are also now available for the new lower carbon glass range of products. Guardian NEXA 6 and Guardian NEXA 9 each have their own EPD, with embodied carbon values for 4 millimetre glass of 6.38 kilograms CO<sub>2</sub> equivalent per square metre and 8.58 kilograms CO<sub>2</sub> equivalent per square metre, respectively. Compared to the average European float glass dataset, this represents a reduction in embodied carbon of more than 40 percent for Guardian NEXA 6 and 20 percent for Guardian NEXA 9.

**Embodied carbon estimation tool**

In parallel with these documents, available for download on the Guardian Glass website, the recently added feature to the Performance Calculator tool (part of Glass Analytics™ software) allows glass processors and specifiers to obtain an estimate of the embodied carbon equivalent for a wide range of glazing combinations. Guardian Glass developed the Performance Calculator tool to help demonstrate the benefits of high-performance glass in building façades.

**JOSKO BUYS GLASTECH**

The Josko-Scheuringer Group, Upper Austrian premium manufacturer of windows and doors, is buying Glastech, a producer of insulating glass based near Amstetten, Austria. Glastech will be integrated into the group alongside its sister companies Josko Fenster & Türen and Eurosun Sonnenschutz.



The managing directors within the Josko-Scheuringer Group. From left to right: Gerhard Kasbauer (COO), Johann Scheuringer (CEO and majority shareholder, Stefan Wagner (CSO & CFO) -© Josko

The Josko-Scheuringer Group is growing and increasing its own added value by making an investment in the future. Previously, Glastech was a subsidiary of Lisec.



### A huge opportunity for Josko

With the purchase of Glastech, the strategic goal of Josko is to produce first-class insulating glass for high-quality window construction that meets the high demands of end customers in this segment.

“We attach great importance to producing everything essential that determines the design and quality of our products ourselves,” said CEO and majority owner Johann Scheuringer. “The fact that we now have more of the production of insulating glass in our own hands is a logical step for us.”

### LiSEC focusses on its core business

“LiSEC’s roots were originally in glass processing, even though machines and systems including software solutions for flat glass processing quickly became the company’s core business,” said Gottfried Brunbauer, CEO of the LiSEC Group. “We are therefore delighted to have found an ideal partner in Josko that can exploit the potential of Glastech in the future and further develop the company in a purposeful way.”

As the world’s leading full-service provider of machines, automation solutions, software and services for flat glass processing, LiSEC is pursuing a clear growth strategy. To implement this strategy, LiSEC is withdrawing from glass processing and focussing its resources on expanding its core business of mechanical and system engineering, as well as software solutions for flat glass processing.

### Takeover on October 1, 2024

The news became official as of October 1, 2024. The entire site and all the employees of Glastech were taken over by the Innviertel-based family business.

Gerhard Kasbauer, COO of the Josko-Scheuringer Group, will assume the management of Glastech. In his role, he became responsible for the production of windows and doors (Josko), as well as the production of the two sister companies, Eurosun (sun protection) and Glastech (insulating glass). Even though Glastech is now 100 percent owned by Josko, it will continue to exist as an independent company.

# November 2024

### SAINT-GOBAIN AND BORALEX SIGN LONG-TERM RENEWABLE ELECTRICITY PPA

Boralex Inc. and Saint-Gobain announced the signing of a 20-year renewable electricity purchase agreement (“Power Purchase Agreement” or PPA) in France, involving three power plants developed, built and operated by Boralex.

The combination of wind and solar technologies will provide Saint-Gobain’s industrial operations in France with a renewable electricity supply, offering greater stability through these two energy sources.

Thanks to this PPA, two solar power plants and one wind farm will come online between the first quarter of 2026 and the first quarter of 2027. These three parks will produce approximately

110 GWh per year, which is equivalent to the annual electricity consumption of more than 50,000 inhabitants and are expected to cover 10 percent of Saint-Gobain’s electricity needs in France.



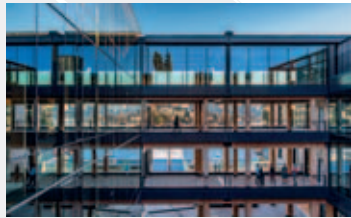
Claire Pedini, Senior Vice-President, Human Resources and Corporate Social Responsibility for Saint-Gobain, said, “This agreement marks a further step in our strategy to decarbonize our operations in France. Thanks to this collaboration with Boralex, we will not only be able to secure a long-term supply of renewable energy, but above all support our industrial sites across the country in their energy transition. This agreement is a further illustration of our commitment to leading industry towards a more sustainable future.”

Nicolas Wolff, Executive Vice President and General Manager of Boralex in Europe, stated, “This PPA illustrates our ability to offer tailored solutions to our customers, based on our diversified wind and solar portfolio. We are delighted with this new partnership, which is based on a relationship of trust. It will enable Saint-Gobain to secure competitive and sustainable energy over 20 years whilst contributing to a successful energy transition.”

### GUARDIAN GLASS ATTAINS THIRD-PARTY VERIFIED HEALTH PRODUCT DECLARATIONS

Guardian Glass has announced that it has attained third-party verified Health Product Declarations (HPD) for three product categories: uncoated float glass, vacuum (sputter) coated glass and Guardian UltraMirror™.

By publishing HPDs, Guardian supports architects and designers' ability to achieve points in various environmental building certifications for their building products.



Ph: Built Work Photography

The HPDs can contribute 1.5 LEED® credits under LEED v4.1 MR Credit: Building Product Disclosure and Optimization- Material Ingredients Option 1 (Material Ingredient Reporting)– 0.5 credits more than Guardian's previous non-third party verified HPD versions. They can also contribute to satisfying features under the WELL Building Standard v1 (e.g., Feature 97: Material Transparency).

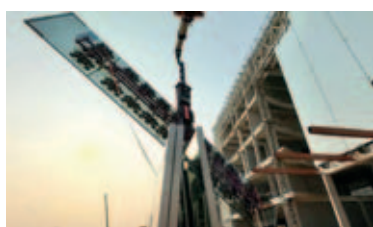
The Health Product Declaration (HPD) Open Standard provides a framework for product manufacturers to disclose the materials used in their products and the associated health information. Guardian Glass prepared the HPDs according to the ingredients used to manufacture the products. Each ingredient disclosed was screened against the HPD Priority Hazard Lists and the GreenScreen® for Safer Chemicals tools. These tools evaluate the ingredients as present in the manufacturing stage only; they do not assess the chemistry of the product across all stages of a product's lifecycle. An HPD does not evaluate the exposure or health risk of using or handling the product. These documents, available for download on the Guardian Glass website, complement life-cycle-based reports such as Environmental Product Declarations (EPDs).

### The benefits of third-party verified HPDs

Not all HPDs are third-party verified. Manufacturers can choose to have 'unverified' or 'self-declared' HPDs. The verification process involved an independent, third-party (in this case GreenCircle Certified is an approved verifier by the Health Product Declaration Collaborative) evaluating supporting documentation from Guardian Glass and its suppliers, including purchase orders, safety data sheets, certificates of analysis, supplier declarations, and laboratory testing. The process verified the accuracy and completeness of the ingredient disclosures in the prepared HPDs.

## NORTHGLASS' FIRST "SUPER GLASS" CURTAIN WALL SUCCESSFULLY INSTALLED

The "super glass" curtain wall of the NorthGlass R&D Centre Building, a landmark project of the NorthGlass High-end Equipment Industrial Park,



has been recently successfully installed.

The oversized, extra-thick and overweight glass is neatly embedded in the centre of the building, like a giant silver screen.

### Maximum height of a single piece – 18.3 metres

A total of 31 pieces of glass were installed on the façade of the R&D centre building. There are 19 pieces on the south façade, with the largest height of 18.3 metres and 3 metres wide, 5-layer laminated insulating glass, and the heaviest single piece is 8.8 tonnes, achieving the highest comprehensive area, coating and number of layers in the industry; 12 pieces on the north façade, with the largest height of 12 metres; the lobby entrance area is equipped with 8 pieces of 8-layer thick glass ribs, with a thickness of 126 millimetres. At the same time, there is a 20-metre-long and 6-metre-wide full-glass corridor connecting the building to the factory.



### The latest glass tempering furnace technology

NorthGlass continues to promote technological innovation, especially for the control of wind spots and stress spots of super-large glass. NorthGlass actively developed the latest tempering furnace technology by refining the glass heating partition, increasing the temperature control distribution, accurately controlling the heating of each piece of glass and adding a round-trip speed intelligent algorithm during cooling to ensure that the quality of glass tempering is further improved.



### High-reflection bright silver coating

NorthGlass has also made breakthroughs in high-reflection bright silver coating and high-transparency double-silver Low-E energy-saving technology, developing ultra-large unidirectional perspective coating products with a maximum of 24 metres. While ensuring privacy for the interior, it achieves high light transmittance.



### Pedestal structure

The industrial park project is the second super-large glass project independently installed by NorthGlass after the installation of a 19 metres of self-supporting polygonal



structural glass in the Culture and Art Centre of Anji “Two Mountains” Future Science and Technology City. During the installation process, in addition to the glass rib support structure on the front, the two sides contain the floor area, and the pedestal connection cleverly used by North-Glass is designed as a spring bearing to reduce the deformation of the panel under wind load in the later stage, which has better cushioning and adaptive characteristics.



## ŞİŞECAM RECEIVES THE AI25 AWARD

As a global player in the glass and chemicals industries, Şişecam once again demonstrated its success in digital transformation by earning the 2024 AI25 award from UiPath. Şişecam has joined the 25 companies honoured this year in UiPath’s Annual AI25 Awards, further establishing its pioneering position in the field.

Şişecam’s awarded project used UiPath’s artificial intelligence and automation solutions to improve document management in hiring processes, increase classification accuracy and maximize efficiency.



Through UiPath’s Document Understanding and Robotic Process Automation (RPA) solutions, over 50,000 documents were classified within the OpenText system. These documents were in 12 different languages and included structured, semi-structured, and unstructured formats. This automation increased Şişecam’s daily document classification capacity by six times.

The project achieved an impressive 87.5 percent efficiency increase in document management, enabling employees to focus on more strategic tasks by delegating routine work to artificial intelligence. By minimizing errors and data inconsistencies caused by manual processes, the system provides reliable and compliant data management, providing effective solutions for regulatory and industry compliance.

Focusing on its goal to become even more integrated and digital, Şişecam continues to integrate artificial intelligence solutions into its business processes. These solutions are applied in Şişecam’s various functions, from production to sales and human resources to logistics, aiming to achieve the highest levels of efficiency and performance.

## VITRUM 2025: SUSTAINABILITY CHALLENGES IN EMISSIONS AND RECYCLING

The construction sector represents a critical focal point for environmental sustainability. According to data from the European Commission, it accounts for 40 percent of energy consumption and 36 percent of total emissions. As highlighted at the VITRUM25 conference, Building as Green as Glass, sustainability concerns extend beyond emissions from operational energy use – named operational carbon and responsible for about two-thirds of total building emissions – to embodied carbon, the remaining third of emissions arising from the materials used in construction, including glass.



Data from Assovetro shows that Italy is the second-largest flat glass manufacturer in Europe by volume. While glass production is generally considered sustainable, it still emits 10-11 kilograms of CO<sub>2</sub> per square metre, posing an environmental challenge.

To address these issues on a European scale, Glass for Europe, the association representing flat glass manufacturers, is actively promoting flat glass as an eco-friendly solution and working to reduce the sector’s environmental impact. Over the past 25 years, emissions from glass production have dropped by 43 percent. 75 percent of these emissions stem from the fossil fuels – primarily natural gas – used in the melting process, with the remaining 25 percent linked to CO<sub>2</sub> released from carbonates in raw materials. Reducing, let alone eliminating, the 75 percent of emissions from the melting process is highly complex. The most effective solution would be an energy switch to renewable sources, such as biogas, hydrogen, or electricity. In the Czech Republic, a collaboration between multinational corporations Saint-Gobain and AGC has led to the development of a pilot line for flat glass production that will significantly cut CO<sub>2</sub> emissions by using a hybrid power system, combining 50 percent electric energy with 50 percent oxygen and gas. This presents a dual challenge: it requires both accelerated technological advancements and the establishment of economically viable conditions, particularly access to competitively priced green energy. To address the remaining 25 percent of emissions from raw materials, recycled glass, known as cullet, can be used. Cullet lowers the melting point of the glass mixture, reducing energy requirements and CO<sub>2</sub> emissions by limiting the need for virgin raw materials. Currently, cullet makes up an average of 26 percent of the glass mixture used in European flat glass production.

Compared to container glass recycling – where Italy is a leader thanks to the 1997 Ronchi Decree, which fos-

tered effective public-private partnerships – recycling flat glass for building purposes is more complex. This is due to stringent requirements for quality, transparency, and purity. Eurovetro, which currently recycles around 18 percent of Italy’s glass (about 700 million bottles), has made flat glass recycling a primary growth driver over the past five years. The company now recycles over 100,000 tonnes of flat glass annually and opened a new facility in San Vito al Tagliamento (PN) in late 2023.

Eurovetro has also developed Isomix, a new product in collaboration with the glass research centre Stazione Sperimentale del Vetro. Isomix is a refined, white glass sand created to purify recycled flat glass, offering consistent quality without impurities, even after prolonged periods in melting furnaces.

The main challenge remains integrating recycled flat glass into the market as new products usable within the same production cycle. This requires significant technological investment and close collaboration across the industry to understand standards, needs and operational constraints, all while ensuring quality, durability and sustainability.

The path forward involves strengthening collaboration within the glass industry, creating an efficient circular model that can reduce emissions and optimize resource use. This, among other topics, will be a focal point at VITRUM, scheduled to take place at Fiera Milano from September 16 to 19, 2025.

### APOGEE ENTERPRISES COMPLETES ACQUISITION OF UW SOLUTIONS

Apogee Enterprises completed acquisition of UW Interco, LLC (“UW Solutions”), a vertically integrated manufacturer of high-performance coated substrates used in graphic arts, building products and other applications, for USD 242 million in cash.



Ty R. Silberhorn, Apogee’s Chief Executive Officer, said, “I am excited to welcome the UW Solutions team to Apogee. This acquisition expands the capabilities and market opportunity of our Large-Scale Optical segment, leveraging the combined strengths of both businesses to create a new engine for growth.”

In fiscal 2025, the company expects the acquisition to contribute incremental net sales of approximately USD 30 million and a decrease in adjusted diluted EPS of approximately USD 0.10, primarily due to increased interest and amortization expense. In fiscal 2026, the acquisition is expected to be accretive to adjusted diluted EPS, contributing approximately USD 100 million of revenue with an adjusted EBITDA margin of approximately 20 percent.

## December 2024

### SAINT-GOBAIN GLASS WINS “SUSTAINABILITY INITIATIVE OF THE YEAR”

The UK glass manufacturer was recognised for its leadership and investment in advancing industry-wide sustainability initiatives, in addition to implementing and supporting its pioneering Glass Forever pre- and post-consumer flat glass recovery and recycling programme.



Saint-Gobain Glass was named the winner of the “Sustainability initiative of the Year” category at the prestigious G24 awards.

Glass Forever is a circular economy approach to sustainability, and by collaborating with its customers and partners, Saint-Gobain Glass actively diverts waste glass, known as cullet, from landfill and re-manufactures it into high-performance flat glass at a specialised facility in Eggborough.

The Glass Forever programme aims to increase the volume of cullet used in Saint-Gobain Glass’ production and help the company achieve carbon neutrality by 2050.

Mike Butterick, Marketing Director at Saint-Gobain Glass, said, “Glass Forever embodies our dedication to minimising CO<sub>2</sub> emissions throughout the lifecycle of the product to help reduce resource consumption, and preserve natural resources through long-term sustainable practices. Supported by our state-of-the-art cullet recycling plant at Eggborough, completed in 2023, this EUR 4.5 million facility transforms waste glass into high-quality, reusable glass, ready for re-manufacturing into new high-performance windows. This process significantly reduces our reliance on virgin raw materials, enhances resource efficiency, lowers CO<sub>2</sub> emissions, and sets a benchmark for sustainability in the flat glass industry.”

Saint-Gobain Glass’s efforts demonstrate a clear commitment to sustainable innovation and collaboration, establishing the company as a leader in environmentally conscious practices within the glazing sector.

### GLOBAL FLAT GLASS GIANT AGC GROUP JOINS GLASS FUTURES

The AGC Group took another significant step toward sustainable glass production by becoming members of Glass Futures. AGC produces many products that play an essential role in maintaining the global environment and supporting society.

AGC Inc. is one of the world leaders in flat glass, producing, processing and distributing glass for the building and auto-



motive industries, solar and high-tech sectors, as well as electronics, chemicals, life science, ceramics, and other products.

Glass has a positive impact on people and the planet. As a truly sustainable material, it is at the heart of sustainable architecture, and AGC has stated a commitment to being at the forefront in developing new glass products with better environmental performance.

To achieve CO<sub>2</sub>-neutral glass production by 2050, all parts of the value chain need to be taken into consideration. The international glass producer joined Glass Futures to collaborate with its membership network across the entire glass supply chain toward a sustainable future.

Glass Futures is a not-for-profit research and technology organisation with a Global Centre of Excellence facility in St Helens, part of the Liverpool City Region, which allows the glass and foundation industries to trial and demonstrate disruptive technologies and generate ideas that will support industry to decarbonise and become more sustainable, faster.

Dave Fordham, Global Engagement Lead at Glass Futures, said, "We were pleased to welcome members of AGC's innovation team from Japan and Belgium to our pilot facility where we're currently installing an industrial scale 30 tonnes per day pilot furnace to explore the technical foundations for achieving carbon neutral glass melting. We're delighted the global glass giant has joined our growing network of members to help the industry achieve its sustainability goals."

Dr Terutaka Maehara, Leader of the Hot Process team at the AGC Innovative Technology Laboratories in Yokohama, said, "AGC's glass business encompasses a wide range of products, including flat glass, display glass, and specialty glass, with manufacturing sites located around the world. Therefore, the requirements for achieving carbon neutrality vary depending on each business segment and each production site, necessitating the development and focus on various technologies. We believe that joining Glass Futures will be meaningful for this purpose."



Dr Terutaka Maehara (centre) of AGC with Glass Futures' Dave Fordham, Rob Ireson, Steve Cook and Aston Fuller.

## MY THIRD ACT, A MESSAGE FROM NICOLE HARRIS, PRESIDENT & CEO OF THE NGA

June 21, 2025, marks my 11th year as President & CEO of the National Glass Association. It is also the date I will retire after 35 years at NGA. By next Spring, the NGA Board of Directors will have selected my successor, who will work with the Board and our members to continue building NGA as a highly responsive and effective trade

association representing the entire glass and glazing industry. I am very proud of what we've accomplished together. The NGA is at its strongest in its 76-year history and executing daily on its purpose, vision, mission and strategic goals at the highest levels of energy and excellence. This has everything to do with the NGA staff who show a deep commitment to our mission, the industry we proudly serve and each other.

This is the time of year for staff performance reviews. At NGA, the first step of the process is a self-reflection, an opportunity to articulate what we've each done in a year to benefit NGA members. As you'd expect, I am doing mine with a longer lens, spurred by my peers, staff, friends and family asking what I'd want my legacy to be.

I've already touched on one of my proudest accomplishments. Several of NGA's top staff leaders started with me 30+ years ago, growing in responsibilities and authority. Others I hired over the last decade as NGA grew stronger. They in turn have hired, mentored and grown an excellent team of 46 people who live our staff values every day. We have overcome multiple challenges over the years, a show-stopping hurricane and a world-wide pandemic, to name two. The NGA and our team emerged stronger after each crisis, forged by common purpose, focus and deep care.

Another personal legacy milestone is the NGA-GANA combination in 2018, resulting in a new, and more impactful trade association for the glass and glazing industry. For me, it was more than the culmination of two years of visioning, articulating a different future and persistent persuasion. Leading up to those two years were two decades of interacting with the likes of Bill Birch and Greg Carney and the tightest-knit group of dedicated member volunteers I've ever known. In mid-2016 when I learned their executive director stepped down, I pushed very hard to forge a single, unified glass and glazing trade association, ensuring that the unrivalled technical and advocacy work and the people producing it—GANA staff, consultants and engaged members—would carry on and ultimately expand their vital work on behalf of our industry. NGA's Annual Reports tell the story of compounding results.

The clock is ticking as I write this; this news deadline, my first meeting of the day, year-end reviews, and my keen awareness of the quickly passing days between now and June 21, 2025. If that last bit reads nostalgic, it is. My writing journal has two lists: career milestones and ideas for my "third act" pursuits. I haven't decided on what those will be yet, but this I do know: by every measure, the National Glass Association is ready for whatever comes next.



We received the following press release from Nicole Harris, NGA President & CEO of the National Glass Association.

## GLASS AND THE ENERGY TRANSITION: FROM CAMS TO NEW PRODUCTS AND TECHNOLOGIES

As highlighted during the launch conference of VITRUM25 on September 17, titled Building as Green as Glass, adopting Minimum Environmental Criteria (CAMs) begins with careful design considerations, particularly in material selection.

Materials must not only ensure long-term performance but also, where possible, be derived from recycled sources.

Tools for certifying product quality, features and installation methods play a crucial role in achieving these goals.

The UNI conformity mark is a voluntary quality certification that verifies a product's compliance with technical standards through rigorous testing and regular monitoring of production processes and finished products. In the glass sector, this mark has been in place since the early 2000s, predating the CE marking, and currently includes 103 member companies across Italy, with 118 production lines certified.

In Italy, approximately 200 million square metres of windows are installed. With an estimated 40 percent drop in their performance over 30 years, compensating for the resulting efficiency loss would require an additional 130 Terawatt-hours of energy per year, equating to 30 million tonnes of CO<sub>2</sub> emissions. The UNI conformity mark aims to address this challenge by certifying not just compliance but also product durability. This is achieved through thorough production testing, high-quality materials and proper installation practices, ensuring sustained energy performance over time.

To ensure the quality of installation, the Posa Qualità Serramenti Mark has been introduced. This certification, recognized and endorsed by all Italian industry associations, provides tangible assurance of window performance, guaranteeing it for up to 10 years post-installation.

Given the importance of maintaining performance over time – relying on both product quality and proper installation – it is desirable for UNI and Posa Qualità Serramenti Marks to become increasingly integrated into CAMs.

The push for sustainability must also be supported by innovation in product development. Notable examples already exist, such as ORAÉ by Saint-Gobain and MIRAI by Pilkington, which are low-carbon products offering equivalent performance while halving emissions during production. This is achieved by exclusively using renewable energy and recycled materials. Complementary innovations, such as carbon capture projects and renewed glass initiatives, are also under development.



These explore the use of hydrogen and increased recycling in manufacturing processes.

For the glass industry, the path to achieving the 2050 sustainability goals is clear: durable materials, expert installation, innovative products and cutting-edge technologies will significantly reduce environmental impact and enhance the energy efficiency of buildings in the long term.

VITRUM25, taking place at Fiera Milano from September 16 to 19, 2025, will serve as the perfect platform to explore innovation, growth and sustainability opportunities across the glass supply chain.

## AGC GLASS EUROPE: THE VOLTA PROJECT AT A GLANCE

The objective of the Volta project is to design and build a novel hybrid glass furnace combining electric melting and oxygen/gas combustion. The integrated design provides an alternative to the mostly natural gas fired flat glass industry. Marc Foguene, VP Sustainability at AGC Glass Europe and responsible for the Volta Project, explains more about the project, covering the context, objectives, technical solutions and the ongoing cold repair.



- Volta: accelerating the flat glass industry's decarbonization
- The objective of the Volta project is to design and build a novel hybrid glass furnace combining electric melting and oxygen/gas combustion. The integrated design provides an alternative to the mostly natural gas fired flat glass industry.
- The new design is invented through a partnership with Saint-Gobain in AGC's existing patterned glass furnace in Brevka, Czech Republic. Once entirely refurbished, the production line will be 50 percent electrified and 50 percent fired by a combination of oxygen and gas, while the industry standard is close to 100 percent natural gas. Material consumption will be strongly reduced thanks to a high ratio of recycling.

## SAINT-GOBAIN: BOARD OF DIRECTORS PROPOSES RENEWAL OF BENOIT BAZIN'S MANDATE

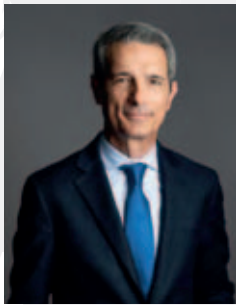
Following the appointment in June 2024 of Benoit Bazin as Chairman and Chief Executive Officer, Saint-Gobain's Board of Directors unanimously decided at its meeting of November 28, 2024 to submit the following governance resolutions to the General Shareholders' Meeting of June 5, 2025:



- Renewal of Benoit Bazin's mandate, it being specified that, in this case, the Board will reappoint Benoit Bazin as Chairman of the Board of Directors and Chief Executive Officer of Saint-Gobain and will maintain the role of Jean-Francois Cirelli as Lead Independent Director and Vice-Chairman of the Board, in accordance with the bylaws.
- Appointment of three new independent directors following the expiry of three mandates: Maya Hari, a Singaporean national, Chief Executive Officer of Terrascope, Antoine de Saint-Affrique, a French national, Chief Executive Officer of Danone, and Hans Sohlström, a Finnish national, President and Chief Executive Officer of Stora Enso. In the event of a positive vote, the proportion of independent directors will be increased from 82 to 93 percent (excluding employee directors and directors representing employee shareholders in accordance with the Afep-Medef Code), i.e. 100 percent excluding the Chairman and Chief Executive Officer.

### Renewal of Benoit Bazin's mandate

If the General Meeting re-elects Benoit Bazin as a Director, the Board of Directors will reappoint him as Chairman of the Board of Directors and Chief Executive Officer of Saint-Gobain. In accordance with the bylaws, Jean-François Cirelli will continue to act as Lead Independent Director and Vice-Chairman of the Board of Directors, with the same enhanced powers and resources that have been granted to him since June 2024. The reappointment of Benoit Bazin ensures continuity and is a recognition of the success of Saint-Gobain's strategy implemented since 2019 through the "Transform & Grow" and then "Grow & Impact" plans, and of the Group's strong financial and operational performance, despite a difficult geopolitical and macroeconomic environment.



### FINEO BY AGC: FIRST AND ONLY VACUUM INSULATING GLASS WITH CE MARKING

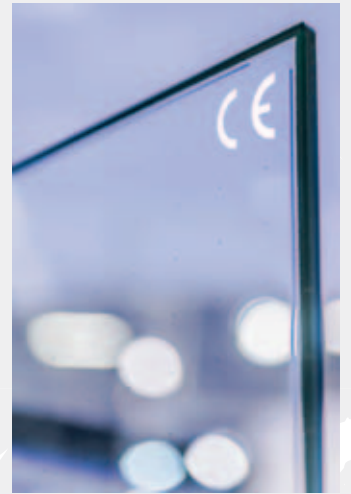
With the entry into force of the European Construction Products Regulation (CPR) 305/2011, the CE marking became mandatory for construction products covered by a harmonized technical specification, published in the Official Journal of EU. Being an innovative product, and consequently not standardized, vacuum insulating glass is not covered by any harmonized EN standard and was therefore not subject to CE marking. CE marking ensures compliance

with EU safety, health, and environmental protection standards, thereby facilitating market access and consumer trust within the European Economic Area. For that reason, in 2018 AGC Glass Europe, part of the AGC Group, started the long and complex EOTA route. While the European Technical Assessment for Fineo (ETA 20/00481) was published in 2020, the European Assessment Document (EAD 300021-00-04042) was published on 20/11/2024. FINEO by AGC is now the first and only European manufacturer to live up to its pioneering role and obtained the world's first voluntary CE marking for its vacuum insulating glass.

High-performance vacuum insulating glass is increasingly coming to the fore. For renovation, it enables to exchange glass for existing single and double glazing, while retaining the original frames. For new constructions, the increasing demand for energy efficiency in buildings requires intelligent and innovative solutions in terms of sustainability, technology and design for which FINEO by AGC paves the way. It competes with the energy performances of triple glazing while achieving a lighter solution and an acoustically better performance.

In the case of FINEO by AGC, features such as reaction to fire, resistance to loads, sound and thermal isolation performance, and durability have been assessed by UBAtc, the Belgian Association for Technical Approval in Construction, and have been proven in the ETA 20/0048.

It should be highlighted that FINEO by AGC is manufactured in Europe, with production in Lodelinsart, Belgium. "We have made a major step forward to the market penetration of our innovative glass technology. With the CE marking, we are also making it easier for manufacturers of window profiles and façade systems to integrate FINEO vacuum glazing," said Louis Dellieu, PhD, Head of Product Management at FINEO by AGC. "Last but not least, the CE marking is an internationally recognized quality proof that ensures construction customers of the high degree of quality, reliability and safety of our products."





## ŞİŞECAM CELEBRATES 89TH ANNIVERSARY

A global leader in the glass and chemicals industries, Şişecam celebrated its 89th year of life. The company started its journey in 1935



with only 400 employees in Türkiye and has now become a global powerhouse. With its expertise, innovative approach, and advanced technologies, the company is one of the world's leading players in its fields.

Şişecam's CEO Görkem Elverici shared his thoughts on this significant milestone: "Şişecam was founded in 1935 as a bold step by the young Turkish Republic to meet the urgent glass needs of the nation. The first task was to produce kerosene lamps and medicine bottles which were the priority production needs of the time. Today, we are the only global player operating in all core areas of glass production. We are the largest player of glassware in the world, one of the top three in soda ash, and among the top five in glass packaging and flat glass. We also lead globally in chromium chemicals.

"Şişecam was established by Türkiye İş Bankası under the vision of Mustafa Kemal Atatürk, a global leader respected worldwide. We proudly celebrate our 89th anniversary as a diverse global family of more than 24,000 employees representing 35 nationalities and speaking 23 different languages."

Elverici highlighted Şişecam's continuous progress and commitment to its founding principles. "Our journey, which started with 400 employees 89 years ago, now spans 14 countries across 4 continents. As we mark this milestone in 2024, we have successfully completed the digital transformation phase of our growth, enhancing our abilities to make fast and strategic decisions using data.

"At Şişecam, sustainability is not a choice but a responsibility. Under our CareforNext sustainability strategy, we launched many impactful projects in 2024, focusing on combating climate change, using resources efficiently, adopting innovative technologies, and reducing energy consumption. These initiatives not only help us shape a better future but also lead the way in transforming the glass industry. In line with our sustainability and digitalization aspirations, we have recently introduced a new platform that we call 'Plant of The Future.'

"We believe that this platform will drive technological advancements in the industry while creating opportunities for collaboration through an open innovation model. Together, we aim to shape the future of the glass industry by creating next-in-class solutions and build a sustainable world for future generations."

## January 2025

### VITRO ARCHITECTURAL GLASS TO EXPAND PATTERNED SOLAR GLASS PRODUCTION

Vitro Architectural Glass initiated a significant investment plan to expand its Wichita Falls, Texas, location to allow for the annual production of up to 25 million patterned solar



glass lites upon completion. A USD 67.6 million investment tax credit allocation from the Internal Revenue Service (IRS) will enable this investment.

The Wichita Falls expansion will establish a new patterned solar glass facility, including a new furnace, a roll-forming chamber, and a cooling and production line.

"Today marks a significant milestone in Vitro's future," said Adrian Sada, CEO of Vitro. "We've completed several Department of Energy (DOE) and General Services Administration (GSA) awards and are ready to fulfil this new award at our Wichita Falls location, which has the necessary infrastructure, supply chain, glass operations and maintenance expertise to support current architectural glass production and a new patterned solar glass facility. We're proud to be the only well-established and reputable company to receive an investment tax credit allocation of this type."

This initiative demonstrates Vitro's commitment to innovation and addresses the rising demand for American-made solar glass products. By expanding its Wichita Falls location to accommodate a new patterned solar glass facility in the U.S., Vitro would be setting the industry standard, contributing to economic growth in Wichita Falls and creating approximately 290 new full-time jobs. Vitro would also collaborate with local and state agencies to provide apprenticeship opportunities for students from diverse economic backgrounds.

Vitro is in ongoing discussions with U.S.-based solar photovoltaic module manufacturers about sourcing patterned solar glass and is confident that it will shortly finalize binding agreements with customers seeking a reputable partner with more than a century of glass-making experience.

"Current partners and potential clients are enthusiastic about supporting the production of patterned solar glass made in America," said Ricardo Maiz, President of Vitro Architectural Glass. "Sourcing this crucial component for solar modules domestically will reduce supply chain complexities and ensure product delivery reliability. This will also help U.S. installers meet the requirements for the Domestic Content Bonus of the Investment Tax Credit (ITC)."



## GLASS FOR EUROPE: RECOMMENDATIONS ON THE CLEAN INDUSTRIAL DEAL

Ahead of the publication of the Clean Industrial Deal – expected on February 26 – Glass for Europe presents its recommendations for this initiative,



which should link the EU's industrial climate transformation to ambitious competitiveness.

The Clean Industrial Deal was announced by the Commission President at the start of her second term. This initiative is meant to be the cornerstone of a new plan for Europe's sustainable prosperity and competitiveness. It aims to support and create the right conditions for businesses to meet the EU's common goals on decarbonisation and development.

The publication of the Deal will be accompanied by an "Omnibus package" of proposals to simplify the reporting requirements of some legislation such as the Taxonomy and an Action Plan on affordable energy will be released. Given the key role of flat glass products in reducing greenhouse gas emissions, the Clean Industrial Deal must help address the challenges currently facing the flat glass sector, namely:

- Record low demand for flat glass products due to the economic downturn in the construction and automotive sectors,
- High energy costs and increased operational and regulatory costs affecting the sector's global competitiveness.

To steer the Clean Industrial Deal in the right direction and ensure that it pays sufficient attention to all energy-intensive industries, Glass for Europe has formulated recommendations around three main blocks:

- Care for industrial competitiveness to support decarbonisation efforts
- Boost strategic sectors as flat glass manufacturing with support measures
- Give sustainable construction the central role it deserves in a new industrial policy

## NSG GROUP: NEW U.S. SOLAR GLASS PRODUCTION LINE STARTS OPERATION

NSG Group announced the warm up of a newly converted TCO (transparent conductive oxide) facility in the United States.

An existing float line at the Rossford, Ohio, factory of Pilkington North America, a member of NSG Group, has been converted to begin producing TCO glass from March 2025. The conversion represents a significant

investment by the Group, resulting in the retention and creation of jobs at the site.

This investment is to support the expansion strategy of First Solar, America's leading photovoltaic (PV) solar technology and manufacturing company. The only U.S.-headquartered company among the world's largest solar manufacturers, First Solar is focused on competitively and reliably enabling power generation needs with its advanced, uniquely American thin film PV technology. First Solar and NSG share a long-standing strategic partnership.



The ceremonial furnace lighting on 14 January, 2025

Manufactured with the online coating technology, in which a conductive oxide on the glass surface is formed during its passage through the float line, NSG's TCO glass is very durable with a wide range of applications. Online coating also enables cost-effective production of coated glass in high volume.

## MALTA GLASS RECYCLING INVESTS IN LAMINATED GLASS RECYCLING

Maltha Glass Recycling, a European leader in glass recycling and subsidiary of waste-to-product company Renewi, announced an investment in PVB (polyvinyl butyral)



New production line to drive recycling rates towards 100 percent

recycling on its site in Lommel, Belgium. This investment marked a significant milestone for Maltha, enabling the company to continue fostering the circular economy in various industries across Europe. This investment will also result in an increase of Maltha's recycling rate.

PVB is a type of resin mainly used in laminated glass for automobile wind-shields. Maltha is providing a more sustainable solution for a stream that until now has generally been destined for landfill. In doing so, The company is increasingly positioning itself as a partner for upstream customers, helping them to achieve their long-term environmental objectives as part of their sustainability journey. In addition, Maltha can bring back to the market a product for which there is strong demand and which can be used in high-quality end-products.

Through a new process and technology, additional glass can now be extracted from PVB, preventing it from going to landfill, improving the glass-to-glass circular economy further.

“We are thrilled to make this investment in PVB recycling,” said Kevin Bell, Managing Director at Maltha Glass Recycling. “Maltha is committed to help advancing the circular economy across a range of industries in Europe. This achievement is also perfectly aligned with our waste-to-product strategy and our focus on recycling.”

Maltha processes around 6,000 tonnes of PVB per year at its Lommel site and this milestone is deemed to increase the site’s recycling rate by 4,2 percent. Overall, Maltha’s recycling rate is set to increase by 0.4 percent, from 97.4 to 97.8 percent and with this inching closer to the 100 percent mark.

The total investment amounts to EUR 2.89 million, 30 percent of which is supported by the Flemish Government.

### GUARDIAN CELEBRATES 30<sup>TH</sup> ANNIVERSARY OF SUNGUARD COATING

Guardian Glass is marking the 30th anniversary of the SunGuard™ architectural low-E coated glass product line in 2025.



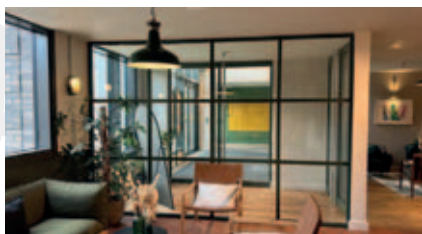
In 1995, Guardian

Glass launched the SunGuard brand in the United States, bringing its first high-performance glass coater online in Carleton, Michigan. Today the company operates 16 glass coaters around the world, bringing high-quality commercial glass to every continent.

### PROMAT PROVIDES PROTECTION FOR SHEFFIELD’S KANGAROO WORKS

Fire resistant glazing and fire-rated glass door-sets manufactured by Promat UK have been installed to provide assured passive fire protection whilst maintaining high levels of natural light in key communal areas within a major new build-to-rent (BTR) development in South Yorkshire.

Kangaroo Works in Sheffield is a mixed-use development that is a key part of the Heart of the City II regeneration masterplan. The Whittam Cox Architects designed scheme, constructed by Henry Boot Construction, has

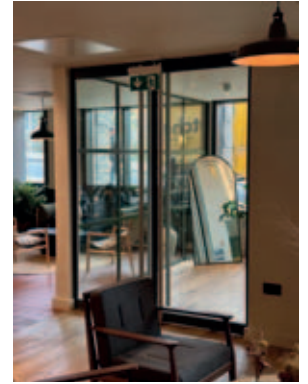


Fire resistant screens designed in a Crittall-style at Kangaroo Works - Photo provided by Selina Hodgson © 2024

transformed a former industrial site in the city centre into 365 dwellings, offering a mix of 1, 2 and 3 bedroom apartments, as well as commercial space at ground floor

level. The new residential development features a range of high quality shared facilities and amenities, including a roof terrace, gym, reception and co-working spaces.

One of the co-working areas is located on the ground floor, and it was here where Promat SYSTEMGLAS fire resistant glazing and Promat PYROSEC Slimlite fire rated doors were



specified to provide the necessary passive fire protection.

The Promat Pyrosec Slimlite door system was used at Kangaroo Works to meet the project’s fire resistance rating – Photo kindly provided by Selina Hodgson © 2024. Fit-out contractor Whitehead Commercial Interiors awarded the internal fire rated glazing project to MD Glass Partitions, who are experienced Promat recommended installers. The brief was to provide two large screens and two double door sets – all with minimal framing and maximum glass to ensure natural light levels would be optimised. They also had to meet a 1B1 safety rating and provide a high level of acoustic insulation.

The design, including an industrial look and feel, sought by the interior designers along with high levels of EI fire performance concluded that the Promat SYSTEMGLAS Ferro screens and Promat Pyrosec SLIMLITE Doors with Crittall effect bars would provide an effective solution.

The larger of the two screens features Promat SYSTEMGLAS F1 double glazed units specified with EI120 fire resistance (120 minutes integrity and insulation protection) and acoustic insulation to a 47dB (Rw) sound reduction level. The second screen offers EI60 fire protection rating and a 45dB (Rw) sound reduction.

The two double door-sets were created using the Promat SLIMLITE steel framed glass door system were specified to provide EI60 fire resistance, featuring slim side panels at either side to keep within tested evidence and full height back to back handles.

### GUARDIAN CELEBRATES 30<sup>TH</sup> ANNIVERSARY OF SUNGUARD COATING

SunGuard glass helps elevate the look and performance of some of the most ambitious, iconic structures – including the Burj Khalifa, erected in 2004 and still world’s tallest building more than 24 years later, a vertical oasis for commerce and culture that manages light and heat in the sunny desert climate of down-town Dubai.

In 2018, Guardian Glass installed its first jumbo coater in Carleton, making oversized SunGuard low-E coated glass available in more places – with 130” x 204” jumbo and 130” x 240” super jumbo coated sheets of glass (com-



pared to standard 96" x 130" coated glass sheets). Guardian Glass jumbo coating capabilities also include the application of coatings on glass lites up to 12mm thick.

People are also a big part of the SunGuard brand. In 2007, Guardian Glass introduced its Guardian Select™ Fabricator program – identifying and supporting expert partners capable of achieving the most exacting standards in fabricated commercial glass.

SunGuard glass innovation continues to lead the way on aesthetic trends. In 2023, the brand introduced SunGuard™ SNX 70+ coated glass to a North American market eager for extremely clear, colour neutral glass that meets increasingly stringent energy codes. SNX 70+ preserves a low solar heat gain coefficient (SHGC) of 0.28 and a winter night U-value of 0.28 while achieving a transparent, neutral aesthetic with low exterior reflectivity. This launch further enhanced "neutrality" as it was known across the industry by providing a more consistent visual appearance whether the glass is viewed directly or at an angle.

"I'm proud of the ways the SunGuard product family has helped empower architectural innovation and creativity over the past 30 years," said Alan Kinder, Director of Demand Creation, Guardian Glass. "I'm even more excited about what we'll achieve in partnership with architects, fabricators and glaziers in the months and years ahead."



## AGC GLASS EUROPE ACQUIRES SGT (GERMANY)

Effective as of January 1, 2025, AGC Interpane (a 100 percent affiliate of AGC Glass Europe) expanded its activities through the acquisition of one of Europe's largest manufacturers of safety glass, Sicherheitslasttechnik Oelsnitz GmbH (SGT), as well as the Verwaltungsgesellschaft Schuler & Weiß OHG and its subsidiary SG Transport GmbH in Germany.

With a team of around 270 employees, SGT in Oelsnitz in the Vogtland region is manufacturing high-quality



From the left: Martin Uwe (lawyer Squire Patton Boggs), Dr. Matthias Kuballa (Partner und notary lawyer NEON), Sebastian Schmidt (Member of the Executive Board AGC Interpane), Armin Kessler (Managing Partner Kessler Steuerberatungsgesellschaft and General Representative Schuler & Weiß), Dominik Waldeyer (Member of the Executive Board AGC Interpane), Volker Heidbüchel (Partner and lawyer Squire Patton Boggs)

safety glass, which is used worldwide in glass façades and building interiors. With this acquisition AGC Glass Europe enlarges its European network, enhances its value chain, and strengthens its position as a leading provider of innovative glass solutions. The operations of the SGT production facilities in Oelsnitz will continue seamlessly, ensuring the supply of high quality products to all its customers.

By integrating SGT operations, AGC is also reinforcing its worldwide leadership position in the façade projects business, enabling AGC Interpane to supply all kinds of complex structures and coatings, as dreamed of by architects and building owners.

"With the acquisition of our long-standing partner SGT, we are increasing our European market share and strengthening our worldwide position, sending a strong signal to the global stakeholders of building project business," said Mr. Dany D'Hont, AGC's Vice President Downstream, Architectural Glass Europe and Americas. "We have enjoyed an extraordinarily pleasant and successful collaboration with SGT for some decades, for which we would like to sincerely thank in particular Wolfgang Weiß and Joachim Schuler. They have created a solid company that stands for high quality, innovation and reliability – values that we at AGC fully share," said Sebastian Schmidt, Member of the Executive board of AGC Interpane.

## SAINT-GOBAIN CELEBRATES 360 YEARS WITH "360 YEARS YOUNG" CAMPAIGN

In 2025, Saint-Gobain celebrates its 360th anniversary, marking the Group's global influence, pioneering spirit and



holistic, circular approach. On this occasion, Saint-Gobain is launching an unprecedented international communication campaign entitled "360 Years Young", designed to honour its heritage while asserting its bold vision for the decades ahead.

Starting in January 2025, Saint-Gobain will roll out a rich program of activations for its 160,000 employees and external stakeholders throughout the year. This ambitious plan will spotlight the Group's core values, iconic achievements and commitment to building a healthier, fairer and more inclusive world. It will also reaffirm the role of sustainable construction as a strategic solution to contemporary global challenges.

The campaign has multiple objectives: celebrating Saint-Gobain's legacy, strengthening its image as a global leader in sustainable construction, and uniting employees

around a shared vision. It also aims to attract tomorrow's talent, engage with strategic stakeholders, and deepen ties with the Group's clients and partners.

**FIRST SOLAR GENERATION PROJECT IN VITRO**

The first Solar Generation project in Vitro was successfully launched, located on the roof of Coater 8 in Mexicali, Baja California, Mexico.



It is a system of 1,135 solar panels of 550 W each, whose total installed generation capacity is 629 kW, which will allow the generation of 1,091,700 kWh/year of renewable energy that will be consumed within the same plant. This project will mitigate the emission of 478 tonnes of CO<sub>2</sub> annually, equivalent to planting 39,800 trees to reduce the same impact.

This system has a lifespan of approximately 25 years, which reinforces Vitro's commitment to the environment and the search for sustainable and more efficient solutions in its energy consumption.



Currently, two other renewable solar generation projects are being managed for the same capacity as the one in Mexicali, at the CLT Laminate and CLT Templado plants in the city of Mexico, which are awaiting authorization by CFE (electricity distribution company) so that they can later be put into operation.

**SAMSUNG GALAXY S25 ULTRA INTRODUCES CORNING® GORILLA® ARMOR 2**

Corning Incorporated and Samsung Electronics Co., Ltd. announced that the Galaxy S25 Ultra will feature Corning® Gorilla® Armor 2, the industry's first scratch-



resistant, anti-reflective glass ceramic cover material for mobile devices. Samsung's Galaxy S25 Ultra devices showcase this revolutionary innovation on their front displays, marking an impressive milestone in mobile display technology.

Gorilla Armor 2 is a landmark achievement in glass ceramic technology, combining superior toughness with excellent clarity on a smartphone display.

"The Galaxy S25 Ultra represents significant progress toward providing our users with the most resilient mobile experience yet," said Kwangjin Bae, EVP and Head of the Mechanical R&D Team of Mobile eXperience Business at Samsung Electronics. "Our partnership with Corning continues to push boundaries in display performance, ensuring that we meet the evolving needs of consumers worldwide."

Compared to first-generation Corning® Gorilla® Armor, Gorilla Armor 2 offers enhanced durability – devices equipped with Gorilla Armor 2 are even better able to withstand the rough and unpredictable nature of daily life. Specifically, when dropped on rough, challenging surfaces, Gorilla Armor 2 is engineered to better resist damage, such as breakage, more effectively than ever before.

Gorilla Armor 2's anti-reflective properties dramatically reduce surface reflections in both indoor and outdoor ambient settings. These properties can enhance the display contrast ratio, delivering an exceptional user experience in various lighting conditions.

**SAINT-GOBAIN: CIRCULARITY CHECKS IN TO A HOTEL IN ROMANIA**

The Ana Hotels Group's Europa hotel in Eforie, a seaside resort in Romania, wanted to modernize its façade. Saint-Gobain Romania was able to demonstrate its expertise by responding to the project and utilizing all the potential of its Călărăși plant.



70 tonnes of glass were removed, recovered and remelted to create new glazing. A concrete demonstration of the Group's commitment to its purpose of "Making the World a Better Home," in perfect harmony with customer expectations.

"We've demonstrated that our concern for the environment goes beyond words and is reflected in concrete action, whether recycling achieved with the help of Saint-Gobain, or adopting energy-saving systems to reduce our impact on the environment and the local community," said Iuliana Tasie, General Manager of Ana Hotels Europa.

In 2021, Călărăși commissioned a facility to process and sort cullet, with a view to its recycling and reuse in the production process. By the end of 2024, this initiative had already avoided more than 8,000 tonnes of CO<sub>2</sub> emissions.



# FLAT GLASS

## 2025 world directory



High Tech Insulating Glass Line with Thermoplastic profile applicator

The High Tech line is the strategic choice for businesses that will significantly increase both productivity and process quality.

**DOWNLOAD THE 2025 EDITION**

At the Forel Glass Automation

- > **Supplier Profiles**
- > **Products & Yellow Pages**
- > **Suppliers Guide - Data Sheets**
- > **Supplier Sales Networks**
- > **Review A year of News**

www.forelspa.com



Suppliers • Yellow Pages • Sales Network • Data Sheets

## ALPHABETICAL INDEX M - Z

Section for advertisers,  
with presentations of their machinery  
and accessories, and technical data sheets

COMPANY	website	pages	COMPANY	website	pages
 <b>MAPPI INTERNATIONAL</b> www.mappi.it		270-271	 <b>OFF. MECC. SCHIATTI ANGELO</b> www.schiattiangelosrl.com		295
 <b>MARPOSS</b> www.marposs.com		272-274	 <b>SCHIAVO</b> www.schiavotech.it		296-297
 <b>MARVAL</b> www.marvalgl.com		275	 <b>SI.STE TRADING</b> www.sisteitaly.it		298-299
 <b>MAZZAROPPI ENGINEERING</b> www.mazzaroppi.com		276-279	 <b>SKILL GLASS</b> www.skillglass.it		300-302
 <b>MOLE MORESCHI</b> www.molemoreschi.com		281	 <b>STUDIO 1 AUTOMAZIONI</b> www.studio1srl.it		303-305
 <b>NEPTUN</b> www.neptunglass.com		282-284	 <b>TALAMONI</b> www.talamoni.com		306-307
 <b>OPTRIS GMBH</b> www.optris.com		285-287	 <b>TECGLASS DIGITAL PRINTING</b> www.tecglasdigital.com		308-310
 <b>R.C.N. SOLUTIONS</b> www.rcnsolutions.it		288-289	 <b>TEXPACK</b> www.texpack.it		311
 <b>ROLLMAC DIVISION OF GEMATA</b> www.rollmac.it		290-291	 <b>TUROMAS</b> www.tuomas.com		312
 <b>SATINAL</b> www.satinal.it		292-294			



## MAPPI INTERNATIONAL Srl

Via Fieramonti, 1 - 04012 Cisterna di Latina (LT) - Italy

Tel.: +39-06-96873284

E-mail: info@mappi.it • www.mappi.it • www.mappi.us

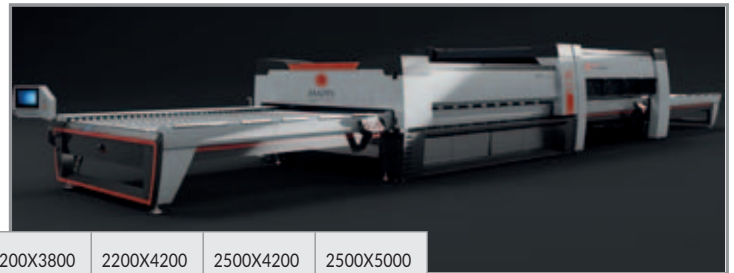
### MAPPI ATS 4.0 | ALL THE POWER YOU NEED, WHEN YOU NEED IT

ATS 4.0 is the series of furnace for tempering architectural glass that includes all Mappi International technology: their use guarantees great production results and quality thanks to innovative solutions that meet the most demanding market standards.

This tempering furnace has been designed for medium and large glassworks, which want to add an extremely flexible and efficient machine into their production. Some of the features that make each ATS 4.0 furnace unique:

- **Minimize the tempering cycle and maximizes productivity:** ATS 4.0 guarantees high production volumes, as set-up times for each workload are nearly zero. Equally important, the time required to cold start the tempering furnace is minimized to just an hour. This translates into many more production hours saved each year which, when multiplied by the lifetime of the Mappi furnace (estimated at least 20 years) - best expresses its superb production efficiency.
- **GHBS Xtreme Profile Convection:** Real Convection, top and bottom, is the State of the Art in Convection Systems allowing reliable processing of "Low E" glasses down to 0.01. The new GHBS Xtreme Profile Convection was developed following an in-depth study on the upcoming coated glass that will be soon on the market. There is precise control of convection air distribution in the upper and lower heating chambers separately.
- **Extraction of the heating chamber:** allows maintenance operations quickly and efficiently.
- **ATI Active Thermal Insulation:** No energy loss thanks to **Hi-Tech 350mm State of the Art Insulation.** The furnace is perfectly insulated thanks to excellent insulation materials and state-of-the-art construction - so much so that you can even touch it with your hands while it is in operation.
- **Energy saving:** Thanks to the coordinated use of software solutions (such as MHS, ESS, IHS etc.) the furnace only heats up to the right temperature in the area where the glass is located. Here energy saving can be up to 40%.

- **Advanced Cooling:** a new quench cooling nozzle design and a new angle empathize the already very low anisotropy and iridescence of the glass.
- **Use of the best components on the market:** we use the best components and the latest technology to be unrivalled in quality and product life cycle. This is also great for the customer who can source components from any market.
- **First in the glass industry to be appointed "POWERED BY SIEMENS":** As glass tempering technology leader, Mappi and Siemens with MEC (MAPPI EDGE COMPUTING) enhances communication, efficiency, control and data security for tempering furnaces. The innovation ensures higher productivity, better quality, optimum consumption and improved maintenance - all while revolutionising security in glass manufacturing.
- **Safety first:** Mappi furnaces do not use SO<sub>2</sub>, a material that is harmful to the health of the workers and the furnace. In fact, being dangerous and corrosive, the use of SO<sub>2</sub> causes the deterioration of the rollers handling the glass and makes it necessary to stop the machine for maintenance every 15 days.
- **Made in Italy:** Completely manufactured at Mappi's Cisterna di Latina headquarters
- **ATS 4.0 equipped with the Supertemper Option opens new horizons to fire resistant glass and others applications. Today glass can be over 2 times harder than regular tempered glass.**



LOADING AREA	1500x3800	1800x3000	1800x3800	1800x4200	2200x3800	2200x4200	2500x4200	2500x5000
mm	1500x3800	1800x3000	1800x3800	1800x4200	2200x3800	2200x4200	2500x4200	2500x5000
inches	60x150	70x120	70x150	70x165	86x150	86x165	98x165	98x196
thickness	3 to 19 mm	3 to 19 mm	3 to 19 mm	3 to 19 mm	3 to 19 mm	3 to 19 mm	3 to 19 mm	3 to 19 mm

### MAPPI MTH MONOLITH | THE BIGGEST WAY TO TEMPER GLASS



MAPPI MTH series furnaces are designed for those who need to handle high-volume loads and process exceptionally large glass slabs without compromising quality, flexibility, or energy efficiency. With a maximum load area of 3300 x 6000 mm, MTH Monolith truly stands as a "giant" in the world of glass tempering. Its impressive dimensions benefit even more from Mappi's exclusive innovations, ensuring excellent results and optimal energy usage. The new MTH is also a sight to behold: its angular lines, highlighted by LED accents, introduce a distinctive style never-before-seen in glassworks.

- **Minimize the tempering cycle and maximizes productivity**
- **GHBS Xtreme Profile Convection**
- **ATI Active Thermal Insulation**
- **Energy saving**
- **Advanced Cooling**
- **Use of the best components on the market**
- **First in the glass industry to be appointed "POWERED BY SIEMENS"**
- **Safety first**
- **Made in Italy**

LOADING AREA	2500x6000	2700x5000	2700x6000	3300x6000
mm	2500x6000	2700x5000	2700x6000	3300x6000
inches	98x236	110x196	110x236	130x236
thickness	4 to 19 mm	4 to 19 mm	4 to 19 mm	4 to 19 mm



## MAPPI FOX | SMALL IN SIZE, GREAT IN RESULTS

Fox is a series of compact tempering furnaces, with loading dimensions starting from 1050x2300 mm, designed for medium and small glass processing companies. The Fox series has the most advanced features offered by technology in the industry.

Some of the features that make each Fox series furnace unique:

- Minimize the tempering cycle and maximizes productivity
- GHBS Xtreme Profile Convection
- ATI Active Thermal Insulation
- Energy saving
- Advanced Cooling
- Use of the best components on the market
- First in the glass industry to be appointed "POWERED BY SIEMENS"
- Safety first
- Made in Italy



LOADING AREA	1050X2300	1250X3200	1500X3200
mm	1050X2300	1250X3200	1500X3200
inches	41X90	49X126	60X126
thickness	3 to 19 mm	3 to 19 mm	3 to 19 mm



## MAPPI HST | QUALITY ALWAYS FIRST

The heat soak test is used to minimize the risk of spontaneous breakages of heat-treated glass caused by nickel sulfide inclusions. In this process, glass panels are placed inside a chamber and subjected to a furnace temperature of 290°C for two hours (with a tolerance of  $\pm 10^\circ\text{C}$ ) to accelerate the expansion of the nickel sulfide. This causes the glasses containing nickel sulfide inclusions to break in the heat soak chamber, thus reducing the risk of potential in the field breakages. The full heat soaking process involves testing all glass in order, virtually eliminating any possibility of nickel sulfide breakage. Heat soak testing is recommended for all tempered glass intended for outdoor applications subject to variable temperatures. It is not normally required for interior applications.

The furnace is manufactured in accordance with European standard EN 14179-1.



## MAPPI SUPERTEMPER™ | The superpower you need

**SUPERTEMPER™** the latest technical solution we have developed to meet a precise market requirement for fire-resistant glass (Certified E30). The higher mechanical resistance required for this type of glass (160 MPa) led us to study a unique and innovative solution.

Thanks to **SUPERTEMPER™**, through the use of a different management of heating and cooling phases, anyone with a MAPPI furnace will be able to:

- Enter a niche market with high profit margins.
- Offer fire resistant glass with the same production costs of normal tempering.
- Open new commercial horizons as this type of glass is making its way into a wide range of applications (Construction and Interior Design)

All this without adding boosters or compressors, changing the layout of the furnace or needing more electrical capacity.

## MARPOSS



### MARPOSS SpA

Via Saliceto 13 - 40010 Bentivoglio (BO) - Italy

Tel.: +39-051-899111

E-mail: [marposs@marposs.com](mailto:marposs@marposs.com) • [www.marposs.com](http://www.marposs.com)

#### MAESTRO

**MAESTRO™** is a flexible, non-contact robotized solution that measures the shape, edge and thickness of any type of glass in a single sweep. The measuring head integrates several types of sensors and technologies to inspect all glass characteristics simultaneously.

High metrological characteristics:  $\pm 50 \mu\text{m}$  of repeatability and  $\pm 25 \mu\text{m}$  of localisation ensure a highly accurate measurement. MAESTRO can perform fast measurement cycles. It is suitable for both laboratory and production environments and can be customized according to the application requirements (i.e. number and model of robots).

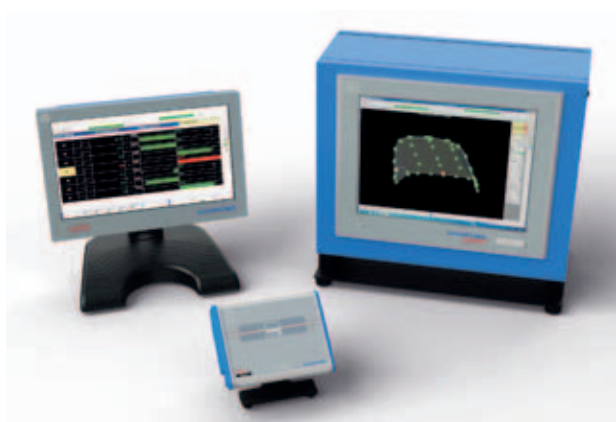
#### BENEFIT

- Fast cycle time
- Creation of part programs from the 3D drawing of the glass
- Robot trajectory is automatically defined by the part program and is always perpendicular to the glass surface
- Automatic part program selection
- Glass positioning error-free thanks to the automatic alignment of the robot on the measuring fixture
- Master integrated into the fixture
- Data collection and statistical analysis
- One software to manage both contact and non-contact sensors
- Taylor made solutions



#### E9066™

**E9066™** line of Industrial Computers is designed from the ground up to withstand harsh working environments and day-to-day operational abuse. Fanless, maintenance-free industrial PCs housed in factorytested enclosures ensure the durability and reliability needed to meet any factory requirement.

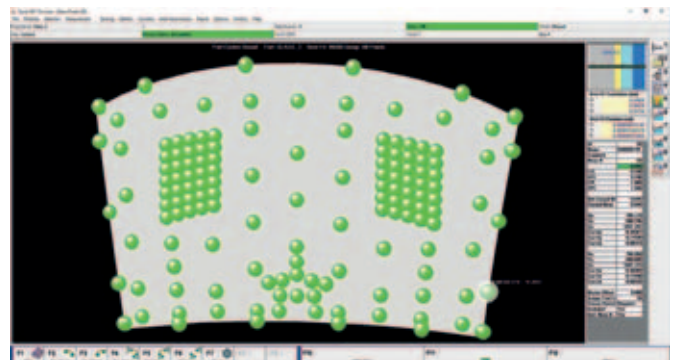


#### QUICK SPC™

**QUICK SPC™** is a suite of software products designed to comply with any SPC / Quality Control requirement, ranging from simple measurement acquisitions to complex gauging applications. It can manage all types of sensors. Framed in a simple, wizard driven, common user interface it is possible to complement the base product by means of software Add-ons.

The Glass ADDON quickly and intuitively displays the measurement made on the glass thanks to the ability to import the 3D file. The Best-fit algorithm overcomes the incorrect positioning of the glass on the measuring fixture.

Measurement elaborations (rate-of-change, attack angle, etc.) can be easily implemented and displayed in dedicated pages.



## CL-MG / OP / ENDO™ chromatic confocal sensors

Are the lines of optical sensors we can offer to meet any application requirement. Different body diameters (including 8mm for use in existing fixtures) and a huge mix of measuring ranges ensure that the right combination can always be found to measure any type of glass.



## ZENITH™

ZENITH™ is the new reference in chromatic confocal controllers adapted to industrial environments. Based on standard Ethernet communication, it enables high-precision measurements. The non-contact technology ensures that the part is not scratched or moved during the measurement cycle. Available with 1 or 2 channels, blind or with display, it can measure all types of surfaces and materials, including reflective surfaces



## LIGHTMASTER™

LIGHTMASTER™ is a multi-channel modular controller for chromatic confocal sensor heads. It is available in two versions 16 or 48 channels with modules (lightslots) with 4 channels inputs. LIGHTMASTER 48CH is a 19" 3U rack with a universal Ethernet GigE@interface compatible with PC or PLC.



## NCG™

NCG™ is a thickness gauge based on interferometric technology using an infrared light source. The gauge has been designed to control the thickness of various types of parts, glass, plastics and foils. NCG is a high-speed gauge that can be connected to any machine for accurate and fast part thickness control.



[www.marposs.com](http://www.marposs.com)

**MARPOSS**



## REDCROWN2™

**REDCrown2™** is the latest generation of pencil probes, designed to provide the highest level of metrological performance in any application. The compact shape, measurement accuracy, sturdy design and easy clamping make this type of sensor the basic element for creating customized solutions. The ultra-soft touch version with 0.05N measuring force and plastic contact is the ideal solution to avoid scratches and glass deformation during measurement.



## GAGEPOD™

**GAGEPOD™** is a modular distributed data acquisition system designed for simple manual gauging to fully automated measurement and inspection systems.



## DIGICROWN™

**DIGICROWN™** is a modular system that can be configured in networks. It can be connected to PC and PLC via Ethernet interface. The modularity of the system makes this product ideal for any application layout.



## ALL-IN-ONE MEASURING STATION

**ALL-IN-ONE MEASURING STATION** combines all the elements (sensors, interfaces, industrial PC, measuring software, pneumatic circuit) in a single cabinet that is easy to manage and move. It is suitable for both 100% in-line inspection and laboratory use. It can be customized with dedicated commands, keyboards, lamp indicators, etc.





## MARVAL

Via Milano, 16 - 22079 Villa Guardia (CO) - Italy  
 Tel.: +39-031-2741355  
 E-mail: info@marvalgl.com - www.marval.glass

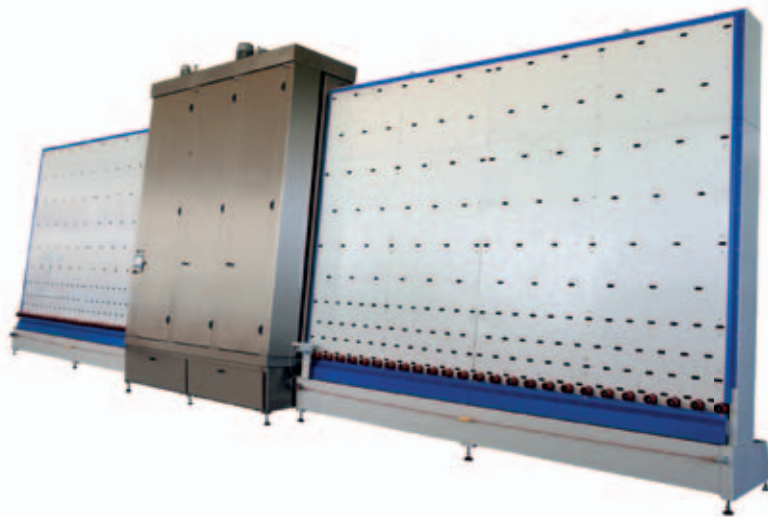
### PANEL PRESSES

Marval panel presses allow to couple and press double and triple glasses thanks to the action of two panels, one fixed at the rear and the other, movable, at the front.

These are fully automated solutions, managed by plc and equipped with a convenient touch-screen panel from which it's possible to control the entire process, view and diagnostics of each work cycle and set the values of all machine function quickly and easily.

The machine is equipped with:

- Automatic infeed frame with special reference bars for precise positioning of the butylated frame;
- "coupling body" and press capable of producing double-glazing up to 80 mm thick;
- Cleaning and maintenance facilitated by the possibility of opening the front movable table;
- Outlet foldin table or conveyor.



### WASHING MACHINES

The vertical washing machines "made in Marval" are the best the market has to offer today in the glass washing sector, thanks to a particularly solid structure and brushes with large diameter. These machine boasts a solid structure, which is indispensable to guarantee high production on shifts from 2 to 50 mm thick.

The motorization of the drive and brushes is entirely located in the upper part; the inner part is made of stainless steel, the same material used for the three tanks equipped with pumps. These washing machines are structured in three sections: inlet, washing body with fan and outlet.

The Marval washing machines - available in 1,600, 2,000, 2,500, 2,800 and 3,200 mm versions - are fully motorized and the speeds are adjustable with inverters up to 10 meters per minute. The process could be fully automatic and easily managed thanks to a plc with touch-screen.

### AUTOMATIC SEALING ROBOT

The automatic sealing robot designed by Marval performs the final sealing of rectangular insulating glass panels, previously laminated and pressed, ensuring perfect corner sealing and maximum speed.

A chain transport system, separated with dowels supporting the glass, prevents contact with the sealed parts, while a front suction cup allows precise and correct movement of the glass. The sealant is fed through a hydraulic extruder supplied with the machine.

A numerically multi-axis controller allows programming and control of every step of the process.





## MAZZAROPPI ENGINEERING Srl

Via Cagliari 49 - 04011 Aprilia (LT) - Italy

Tel.: +39 06-92854602

E-mail: sales@mazzaroppi.com • www.mazzaroppi.com

### TP COMPACT

Try to imagine a glass tempering machine so compact that it can enter in a small glassworks.

It shall let the owners of the business to manage the whole tempering productive system without outsourcing it.

This machine is so **efficient** and **adaptive** that it can guarantee you the best quality on the market combined with the **lowest energy consumption** of the category.

Now try to imagine that you can use this machine whenever and however you want and also you do not need to be an engineer or a specialized technician. To use this machine proficiently, you just need to handle a user-friendly touch screen interface as you do every day with your smartphone.

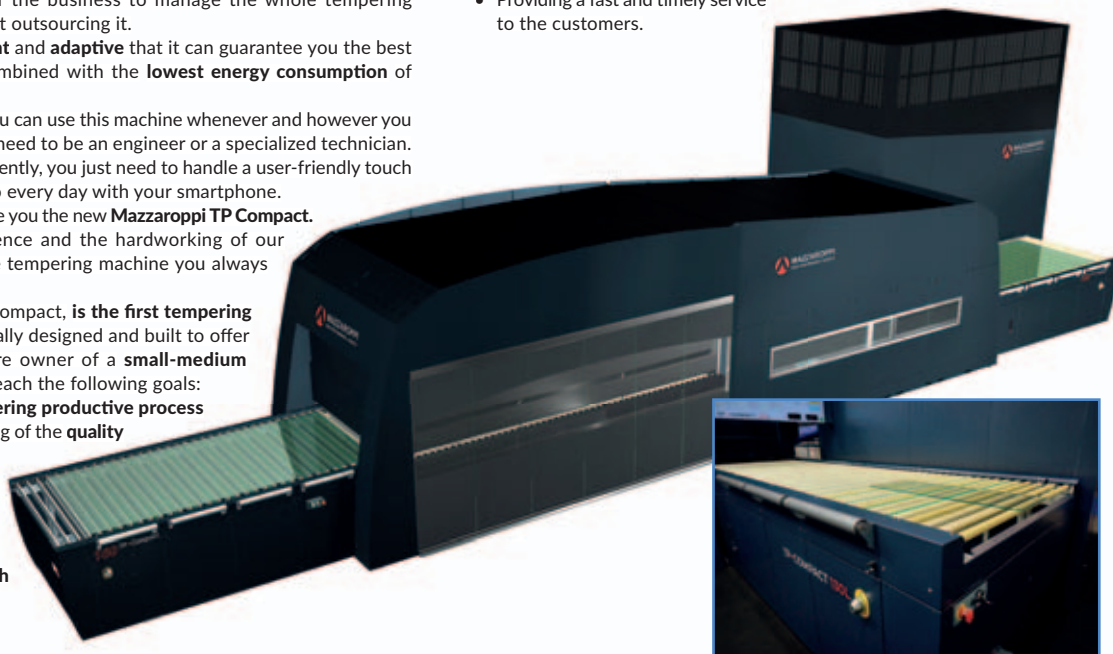
We are pleased to introduce you the new **Mazzaroppi TP Compact**.

The result of the experience and the hardworking of our creative atelier, is just the tempering machine you always wanted and even more.

The new Mazzaroppi TP compact, is the **first tempering machine** which is specifically designed and built to offer to our customers who are owner of a **small-medium glassworks** and want to reach the following goals:

- **Internalizing the tempering productive process**
- Combining the improving of the **quality** of the final product and the **lowest price** of the market
- Tempering their own glasses with an **average consumption of 100 kWh**

- Streamlining and speed up the whole manufacturing process without upsetting your business structure.
- Providing a fast and timely service to the customers.



Model	Loading area	Minimum dimensions	Thickness	Plant dimension	Avarange consumption	Load/hour
	mmxmm	mm	mm	mt	kWh	4mm
TP 130L	1300x3200(3600) mm 51x125 inch	Ø 200 mm 7,87 inch 140x140 mm 5,5x5,5 inch	3.8-19 mm 5/32 - 3/4 inch	17,15 x 5,8 x 4,2 mt 56 x 19 x 13 ft	100	≈20
TP 160	1600x3200(3600) mm 60x125 inch	Ø 230 mm 9 inch 160x160 mm 6,30x6,30 inch	3.8-19 mm 5/32 - 3/4 inch	18 x 6,13 x 4,6 mt 60 x 20 x 15 ft	130	≈20
TP 190	1900x3600 mm 74x141 inch	Ø 230 mm 9 inch 160x160 mm 6,30x6,30 inch	3.8-19 mm 5/32 - 3/4 inch	18,75 x 6,5 x 4,6 mt 61 x 21 x 15 ft	170	≈20

### TP ADVANCED

**Tp advanced** is a tempering machine for processing flat glass.

It has been specifically designed for **medium-big glass making companies** which produce glass panes for different fields (furniture, architectural glass, household appliances, shower stalls and automotive glasses).

This machine has been built for those glassmakers who are planning to buy a tempering oven for reaching the following goals:

- **Cutting the energy cost up to 70%**
- Increasing the productivity
- Increasing the **quality** of the final product
- Streamlining and speed up the whole manufacturing process.

The machinery has a minimum size of 1900mm x 4200mm and a maximum size of 3200mm x 6000mm.



Thanks to the "Ultimate Convection" a Mazzaroppi Engineering patented system, this machine can process every kind of hardenable glass with a thickness by 2,8mm up to 19mm, including the Low-e glasses which have emissivity e=0,01. TP Advanced, can also be customized in many ways according to the requirements of individual customers in order to let them to meet their needs.

We are going to offer you the best technical option that can guarantee you the **highest level** of performance with the **lowest energy consumption** of the glass field.

Model	Loading area	Minimum dimensions	Thickness	Plant dimension	Consumption	Load/hour
	mmxmm	mm	mm	mt	kWh	4mm
TP 1942	1900x4200 74x165	Ø 230 mm 9 inch 160x160 mm 6,30x6,30 inch	3.8-19 mm 5/32 - 3/4 inch	21 x 5,5 x 3 68 x 18 x 10 ft	200	≈20
TP 2242	2200x4200 mm 86x165 inch	Ø 250 mm 9,84 inch 175x175 mm 6,89x6,89 inch	3.8-19 mm 5/32 - 3/4 inch	21 x 5,8 x 3,4 mt 68 x 19 x 11 ft	230	≈20
TP 2550	2500x5000 mm 86x165 inch	Ø 260 mm 10,24 inch 185x185 mm 7,28x7,28 inch	3.8-19 mm 5/32 - 3/4 inch	24,35 x 6 x 3,5 80 x 19,5 x 12 ft	330	≈20
TP 2851	2800x5100 mm 110x200 inch	Ø 280 mm 11,02 inch 198x198 mm 7,79x7,79 inch	3.8-19 mm 5/32 - 3/4 inch	26,7 x 6,2, x 4mt 85 x 20 x 13 ft	370	≈20
TP 3162	3100x6200 126x244 inch	Ø 350 mm 13,77 inch 250x250 mm 9,84x9,84 inch	3.8-19 mm 5/32 - 3/4 inch	28,7 x 6,6 x 4 mt 94 x 21,6 x 13 ft	550	≈20

## T+C (TEMPERING AND BENDING MACHINES FOR FLAT GLASS)

The tempering and bending machine for flat glasses have always been one of the **flagships of the Mazzaroppi's product portfolio**, as demonstrated by the **several machines installed** all over the world.

This range of product needs a very deep and **accurate preliminary study** case in order to meet the specific productive needs of the customer.

In this way, every T+C machine is **tailored** to each individual customer.

The tempering and bending machineries can be of three different types:

- Transversal bending by means of rollers with regular radius and CNC-controlled.
- Longitudinal sector bending by means of rollers with regular radius and CNC-controlled.
- Bending by means of press with variable radius and CNC-controlled.

The target of this machines are all those companies that operate in the field of shower stalls, refrigeration, automotive, furniture, solar panels, architectural glass, household appliances.

These machines have been built for those glassmakers who are planning to buy a tempering oven for reaching the following goals:

- Cutting the energy cost up to 50%
- Increasing the productivity
- Increasing the quality of the final product
- Streamlining and speed up the whole manufacturing process.



Model	Loading area	Minimum dimensions	Thickness	Max glass arrow	Min. bending radius	Plant dimension	Consumption	Load/h
	mmxmm	mm	mm	mm	mm	mt	kWh	4mm
TCP 2212 2C	2200 x 1200 mm 86 x 47 inch	250 x 500 9,84 x 19,68 inch	4 - 8 mm 5/32 - 5/16 inch	300 mm 12 inch	100 mm	20 x 9,5 x 3,6 mt	350	≈20
TCP 2518 1C	2500 x 1800 98 x 70 inch	350 x 600 mm 13,77 x 23,62	4 - 8 mm 5/32 - 5/16 inch	300 mm 12 inch	100 mm	15 x 10 x 3,6 mt	380	≈20
TCR 2212 2C	2200 x 1200 mm 86 x 47 inch	250 x 400 9,84 x 15,74 inch	4 - 8 mm 5/32 - 5/16 inch	300 mm 12 inch	100 mm	23 x 6,5 x 3,6 mt	350	≈20
TCR 2518 1C	2500 x 1800 98 x 70 inch	300 x 550 mm 11,81 x 21,65 inch	4 - 8 mm 5/32 - 5/16 inch	300 mm 12 inch	100 mm	14 x 7 x 3,6 mt	380	≈20

## CS

The bending oven CS allows to bend the glass resting on moulds by heat. A lot of shapes can be realized in order to differentiate the production. The oven consists of several workstation called "Box" in which are positioned the moulds and the related glass package.

The special features of this machine are:

- The ground of each Box is covered by heat proof metal grid which make it possible to walk on it.
- The height of the perimetral walls allows the moulding process to be carried out completely inside the box.

This limits any thermal shocks that may occur at the beginning of the cooling phase.

- Vision system: special portholes are positioned on the side of the box to check the laying of the glass on the mould during the heating process.
- Heating section: This module is mobile and moves on the boxes by means of special rails, so that the moulds that support the glass are not affected by any movement or vibration during positioning. The closing system of the heating section has been designed for reducing the friction to a minimum and therefore having a longer lifespan.

These machineries are designed for those companies that operate mainly in the architectural glass field and are planning to purchase a moulded glass bending system for the following reasons:

- Reducing the energy consumption
- Increasing the quality of the final product
- Simplify and speed up the entire production process
- Increasing their productive capacity.



The CS, moreover, like all the machines produced by Mazzaroppi, can be customised according to the customer's needs. In this way we can offer the best technical option that allows our customers to satisfy their production requirements with the lowest operating costs of the glass field.



## HST: HEAT SOAK TEST OVEN

This oven is used for checking the tempered glass panes. The test consists in heating the glass panes up to  $290^{\circ}\text{C} \pm 10^{\circ}\text{C}$  and then keeping those glasses at that temperature according to the European reference standards.

This oven uses an advanced temperature control system that allows it to regulate both the internal air of the oven and the real temperature of the glass panes.

At the end of each process the machine generates a detailed report like the ones the authority draws up at the end of the preliminary calibration test of the oven.

The heating system consist of several independent sections and each of them is equipped with its own resistor, thermocouple, a fan for the air circulation system and another set of fans for the cooling cycle at the end of the test. Another important feature of this HST machine is the archive of all the reports generated at the end of the thermal tests in a printable format, so whenever you want you will be able to examine all the parameters of each test you run in the past and sharing this documents with your customers.

Thanks to all these special features Mazzaroppi HST fully complies the European standards for the heat soak test and offers an efficient and reliable solution.



## CUSTOM MACHINERY

The special machineries are the **highest expression** of the **technology**, of the **creativity** and the **experience** of the **Mazzaroppi Engineering** in the field of the glass industry.

These are machines that have been designed from scratch, thanks to the joint venture between our skills and the specific needs of our customers.

In fact, these are **tailored machines** and even the single **detail** can be **customizable**.

The great international glass corporations often chose Mazzaroppi as partner to realize their projects.

Our technical staff cooperate with the customer for drawing up a technical specification that includes: the size of the machine, the maximum and the minimum size of the glass that can be processed, the capacity of the machine, which kind of process the machine will do or if the machine will be able to do more than one kind of process.

For example, one of the customised machinery made by Mazzaroppi Engineering is called **"Multifunction"** and was created from a specific customer request: the need to have a single machinery made up of several production lines to allow the customer to have a roller bending line, another die bending line and finally a line for flat tempering, in a "all in one" solution.

Another type of machinery we find in this section is that of furnaces with **several heating chambers**.

These systems with two or more independent heating chambers make it possible to **reduce the thermal shock** during the tempering process significantly, in order to obtain an **unrivalled quality** of the final product in terms of glass flatness, absence of optical distortions and, above all, a **97% decrease** in the phenomenon of **anisotropy**.

These machines are regarded by **Europe's largest glass manufacturers** as the only way to **achieve** the very **high quality standards** to which they aspire.

The machines in the "custom" section are suitable for those who **cannot find the best solution** for their production needs on the **market**, and therefore are looking for a **product designed exclusively** for their specific needs, unique in its kind.



## LM

LM Revolution is the new glass laminating furnace patented by Mazzaroppi Engineering and indicated for all companies that need to produce laminated glass with different thicknesses. Laminated glass complements tempered glass in an important way, giving greater resistance to impact and safety against falling/shattering, given by the ability of glass to retain fragments even after breakage.

LM Revolution allows us to laminate 2 or more sheets of glass with one or more sheets of EVA plastic in order to achieve a higher degree of safety in full compliance with regulations.

With our **2 patented systems** we have a **higher speed** in the production cycle and we obtain a product with **low plastic spillage**.

With regard to this type of product, our team of engineers has upgraded the standard LM revolution model by creating the "LM Tower" oven, which offers, in addition to the features described above, the possibility of **optimising production** thanks to **two or more independent worktables**, capable of laminating different types of product at the same time.

Model	N° Platform	Platform dimension	Glass dimension	Max weigh on platform	Machine dimension (LxWxH)	Power
		mmxmm	mmxmm	kg	mm	kW
LM Revolution 1.1	1	1750 x 3400 69 x 134 inch	1600 x 3250 63 x 128 inch	200	2350 x 4300 x 1500 7,7 x 14 x 4,9 ft	16
LM Revolution 2.1	2	2200 x 3400 86 x 134 inch	2050 x 3250 80 x 128 inch	250	2450 x 4300 x 1500 8 x 14 x 4,9 ft	30
LM Tower 2.2	2+	2350 x 4350 92 x 171 inch	2200 x 4200 86 x 165 inch	500	4554 x 3000 x 2600 15 x 9,8 x 8,5	26+26
LM Tower 2.2	2+	2750 x 4650 108 x 183 inch	2600 x 4500 102 x 177 inch	600	4850 x 3100 x 2650 16 x 10 x 8,7	35+35
LM Tower 2.2	2+	3000 x 5000 118 x 196 inch	2850 x 4850 112 x 190 inch	650	5580 x 3470 x 2700 18 x 11 x 8,8	40+40

# The world's leading glass publications!



SINCE 1988



SINCE 1989



SINCE 2013



SINCE 1990



WEB PUBLICATIONS

WWW.GLASSONLINE.COM



## MOLE MORESCHI

Via Palazzetti, 5 - 40068 S. Lazzaro di Savena (BO) - Italy  
Tel.: +39-051-6255919

E-mail: sales@molemoreschi.com • www.molemoreschi.com

### TOOLS FOR GLASS ONLY

The company started its activities 103 years ago, with artisan based production, and now has more than 75,000 different items in its product range.

We are probably the only company that produces diamond wheels exclusively for the glass sector and so we can certainly be defined as 'specialists'! In fact, our entire R&D, production etc., are focussed totally on glass and - in some cases - materials very similar to glass, aiming at supplying the complete range of glass grinding tools.



### PERIPHERAL WHEELS

Mole Moreschi has invested a lot in the development of a complete and performing range of peripheral wheels.

In addition to the traditional, widely tested products, we have added new ranges capable of effectively covering all areas of use.

We have developed solutions and services able to support even the most demanding customers, we are today confident of being able to offer a highly performing product, capable of satisfying any type of need.



### CUP WHEELS

Diamond and resin cup wheels Mole Moreschi has a very wide range of cup wheels among which you can surely find the most suitable tools for your machine and your specific processing. A wide variety of binders, grits, geometries are available, each of which can be completed with a specific fixing body for each individual machine model. In addition to domestic production, we also sell the polishing wheels of the main international manufacturers. Moreschi cup wheels are products of the highest quality, widely tested, known and appreciated all over the world.



### POLISHING WHEELS

The polishing wheels were created to replace the felt wheels with cerium where management is much more complex; in fact, the management of a normal polishing wheel has no type when it is managed except to be replaced when the ability to use the wheel ends. In this area, then, the water must not be particularly hard and contain a saline concentration that must not exceed certain parameters.



### ROUTERS

In addition to a complete range of products able to effectively meet the most common needs, in terms of speed, finish, durability, we offer "customized" tools, optimized to the specific needs of the customer. To the sintered tools we add tools with electroplated diamond, to offer solutions also to the requests of geometries not achievable with more traditional technologies (diameter 4,5)





## NEPTUN Srl

Via Mazzini 63 E/F, 22070 Rovello Porro - Italy

Tel.: +39-02-96979011

E-mail: sales@neptunglass.com • www.neptunglass.com

### ROCK 10-45

Straight-line edger with 10 wheels, for flat edge, polished arrises and wide chamfer up to 54 mm with variable angle  $0^{\circ} \div 45^{\circ}$ . Neptun's line also propose Rock 14-45 with variable angle, Rock 8 and Rock 11.

Rock stands out for its extraordinary production speed combined with high precision and processing quality. The structure is fully made of cast iron and high thickness steel processed with innovative technological solutions aimed to maintain precision and reduce mechanical wear and thus maintenance costs. This also leads to an unprecedented low noise level. Many advanced and patented solutions, such as the conveyor pad in double material, the ETS squaring system and the RC-4 system for parallelogram shaped glass, are the result of a consolidated know-how and heavy investment in R&D.



### ROCK 11 AWA

The Rock AWA version is added to the vertical straight-line edging machine segment, which now has automatic management of both diamond and polishing tools AWA (Automatic Wheels Adjustment), in order to guarantee constant quality and also be used by non-expert operators. AWA system is applicable to all Rock models.

Rock AWA allows:

- Automatic adjustment of diamond and polishing wheels
- Management of processing recipes in order to immediately set different sets of wheels which, require different settings: tool sets for standard glass, for laminated glass, or for small thickness



- Possibility of storing specific processing recipes
- The peculiarity of the AWA system is the hydraulic spindle management system without electrical and electronic components in the spindle area, with a water resistance class IP68, thus ensuring high reliability.
- Indication on the control panel of the need to replace a tool when worn
- Clear and accurate diagnostics with online troubleshooting guide

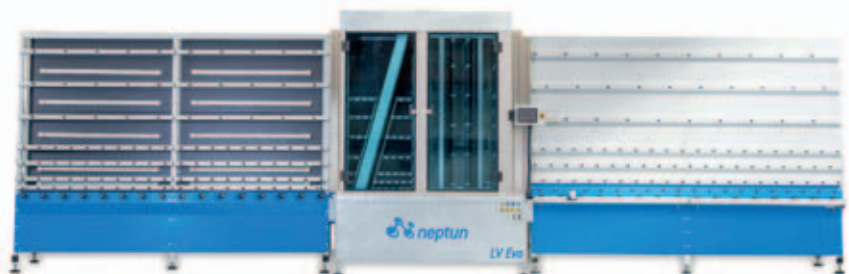
### LV EVO

In the washing machine segment, the entry level range is now enhanced with the new LV EVO series which, while maintaining the simplicity of the well-known LV Top, it has a high level of automation and superior performance with processing speed increased by 50%.

The new peculiar features are:

- Machine body entirely in stainless steel and with base frame in hot-dip galvanized steel
- Touch screen with PLC for managing all functions
- Workable thicknesses  $3 \div 30$ mm with automatic adjustment by means of an input thickness reading sensor
- Speed regulation  $1 \div 8$  m / min by inverter
- Brushes  $\varnothing 140$ mm with 350 RPM speed (500 RPM with brush inverter option)
- Automatic water quality management and relative replacement

- PLC interface for in-line integration with other upstream or downstream machines via ethernet and production data export that can be integrated with Industry 4.0
- Energy consumption control with precise and graphic indication of the last 8hrs
- Available in 1600 Open Top, 2200 and 2600mm sizes.





[www.neptunglass.com](http://www.neptunglass.com)



## WAVE HP

The main strength of Wave HP is its maximal flexibility of configuration. The entry-level Wave comes with a very robust structure, suitable for intensive processing. Controlled by PLC, this version can be enriched with several solutions, up to the full-optional model, Wave HP, for total automation and superior performances in all fields: output, washing quality, integration in business processes. In both cases, the construction and components ensure the highest reliability over time. Wave can meet the requirements of each specific production context, respecting the required level of investment.

**Wave HP** is equipped with a powerful touch screen control unit for managing machine functionality, remote diagnosis, scheduled maintenance and numerous innovative functions: **A-Qual** water quality control, **Ecosave** energy saving, **SmartSpeed** for differentiated speed management and optimal drying of the tail of the glass, **NightCare** for water heating pre-ignition and automatic water change programming out of order. Wave can be supplied in Heavy Duty configuration for Jumbo sheets up to 3.3 x 6 meters size and 80 mm thickness.

## TORNADO HP

**Tornado HP** is ideal for intensive industrial processing where **maximum production efficiency** is required in terms of quality and speed. The total management, even remotely, of the production and maintenance parameters, makes it suitable for the Industry 4.0 environment. Tornado HP is equipped with a powerful PLC with touch screen that allows the management of numerous advanced functions, for glass with thickness up to 38mm and width from 1 to 3.3 meters.. The high level of **automation and flexibility** places no limits on integration into all existing production lines of different manufacturers. Lamination, tempering, painting, screen printing, double edger grinding, all processes become smooth with Tornado washers.



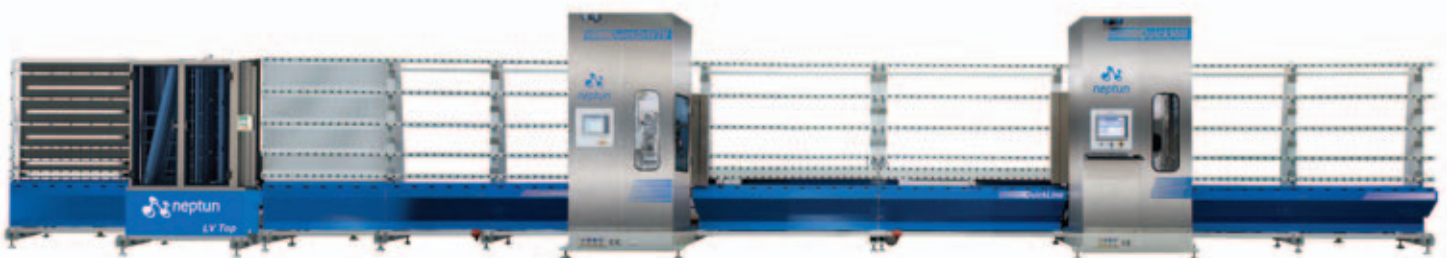
## QUICKLINE

QuickLine consists of two Quick modules combined according to the type of production required:

- QuickDrill with QuickMill to perform milling, drilling and countersinking on the entire work area, without any shadow area;
- QuickEdge with Quick2 to have a complete cycle of polished grinding, milling and drilling.

The Quickline has 3 working modes: in line for maximum productivity, in single mode with the processing of two different production batches simultaneously for maximum flexibility, or you can work with a single machine when the other has no work or is in maintenance, for maximum return on investment. Although there is an optimal working direction, glass loading / unloading can take place at any point on the line depending on the operator's needs of the day. The Quickline can be combined with our wide range of vertical washing machines type LV or Wave and completed with loading and unloading automatic for an unmanned work island.

The investment is also flexible because the line can be completed in steps as production needs grow.



## QUICK 2 T10

Powerful vertical NC for drilling/milling and grinding operation.

The even more performing evolution of the previous models that marked a milestone in vertical glass processing.

Available in various sizes, stand alone or in line with other machinery.

- Fast tool change less than 10 seconds thanks to 2 rotary tool magazines with 10 positions mounted directly on spindles
- Higher drilling speed and zero glass breakage due to DCS (Dynamic Control System), the innovative tool management system for automatic control of the feed rate in function of the cutting capacity
- The best accuracy (+/- 0,15 mm) in the market, constant over time, thanks to the system for measuring the actual position of glass by means of linear encoder
- High quality and speed due to still glass mill/grind process, thanks to the proven glass locking system with suction cup positioned always close to processing area.



- Axes speed up to 30 mtr/min
- PLC interface for in-line integration with other up-stream or down-stream machines. Industry 4.0 ready
- Quickservice module for safe pier-to-pier remote assistance
- Workable glass dimension 1,7 or 2,3 x 3,2 mt or for larger size 2,8 x 4,5 mtr

## QUICKMILL 100

The smallest three-axis machining center for milling, grinding and one side drilling. Quickmill 100 has as its primary processing the milling and grinding of notches and cut-outs, but is also able to perform holes with high quality finishing. Programming on the machine with a simple and fast CAD / CAM. Possibility of having the optional CAM WAY with over 1000 parametric shapes and the work station for programming in the office.

Derived from the famous best seller model Quickmill 160-30, despite being the entry level version for milling, it is designed with industrial solutions and a high degree of automation.

Compact and robust construction, the main features are:

- Automatic handling of the slabs
- Possibility of in-line insertion with upstream or downstream machines
- Maximum glass size 1800x3200 mm in open top configuration
- Workable dimensions 1000x2400 / 3200mm open top for 15 mm thickness
- Simple and parametric programming from touch screen
- Made mostly of stainless steel and galvanized steel.
- Convenient glass scrap extraction drawer





## Optris GmbH & Co. KG

Ferdinand-Buisson-Str. 14 - 13127 Berlin - Germany  
 Tel.: +49-(0)30-500 197 0  
 E-mail: sales@optris.com • www.optris.com

### BOTTOM UP GIS 640i G7

High resolution Bottom up glass inspection system for process control in glass tempering machines.

#### Features

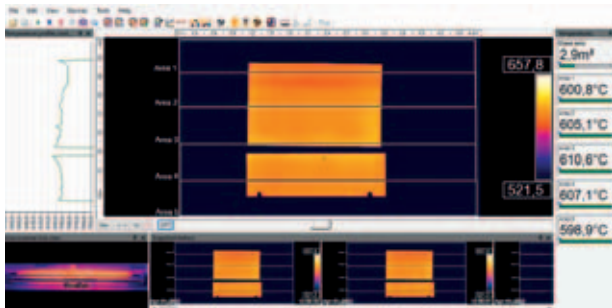
- Compact bottom up system for coating independent underneath measurement
- Excellent 1600 px resolution on maximum 4.3 m scan width (@ 90 cm distance)
- Integrated ultra-fast glass breakage detection combined with Digitally controlled lens protection system (DCLP)
- No cooling or air purge requirement
- Glass area calculation
- Pre-assembled system for easy installation on glass tempering furnaces



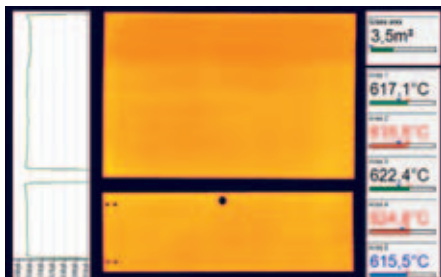
#### Scope of supply Bottom Up GIS 640i G7

- 2x PI 640i G7 imager with 90° or 60° FOV
- 2x Industrial Process Interface
- CTlaser 4ML glass breakage sensor with USB interface
- 2x DCLP Shutter system with mounting brackets for imagers
- 2x USB Server Gigabit
- Control cabinet with cable set (10 m each) and remote control box
- Software package
- 100-230 V AC/ 24 V DC power supply for initial start-up

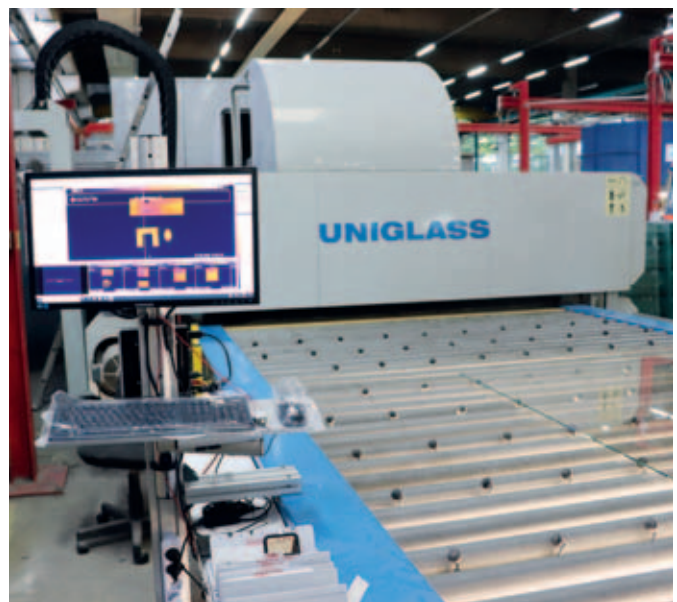
#### Software PIX Connect



Exemplary software layout with thermal profile, IR live view, snapshot history, five measurement zones and glass area calculation.



The software provides excellent image quality and manifold analysis features as profiles, measurement areas and alarm indication.



## COOLINGJACKET ADVANCED

The universal protection for optris PI series, CTlaser, CSlaser, CTVideo and CSVideo under harsh industrial environments.

### Features

- Operation at ambient temperatures up to 315 °C
- Water cooling with optional protective windows
- Modular concept for easy installation of different devices and optics
- Trouble-free sensor disassembling on site with quick release chassis
- Integration of additional components like PI NetBox, USB Server Gigabit and Industrial Process Interface (PIF) in extended version



## CT G5

Precise noncontact temperature measurement of glass from 100 °C to 1650 °C.

### Features

- Accurate temperature measurement of flat glass, container glass, light bulb manufacturing, car glass production and manufacturing of photovoltaic cells from 100 °C to 1650 °C
- Applicable up to 85 °C ambient temperature without cooling

## CTLASER G5

Infrared thermometer with double laser aiming for temperature measurements on glass from 100 °C to 1650 °C.

### Features

- Precise temperature measurements on flat glass, container glass, light bulbs, car glass and solar panels
- Temperature ranges from 100 °C to 1650 °C, measurement fields from 1.0 mm and exposure time 10 ms
- Innovative double laser aiming for exact marking of measuring field
- Compact size of sensing head
- Suitable for ambient temperatures of up to 85 °C without additional cooling
- Cooling and protection accessories for rugged environments





[www.optris.com](http://www.optris.com)



## CTLASER G7

Non-contact temperature measurement of ultra-thin glass sheets from 100 °C to 1200 °C (212 °F ... 2390 °F)

### Features

- Accurate temperature measurement of ultra-thin flat glass used for touch displays of smartphones, tablets etc.
- Double laser aiming for exact marking of measurement spot
- Optics 45:1 with selectable focus, compact sensor head size
- Suitable for ambient temperatures of up to 85 °C without additional cooling
- Cooling and protection accessories for rugged environments

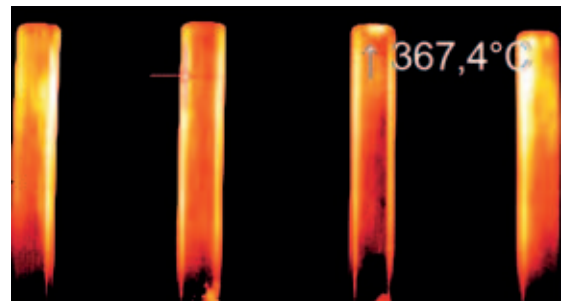
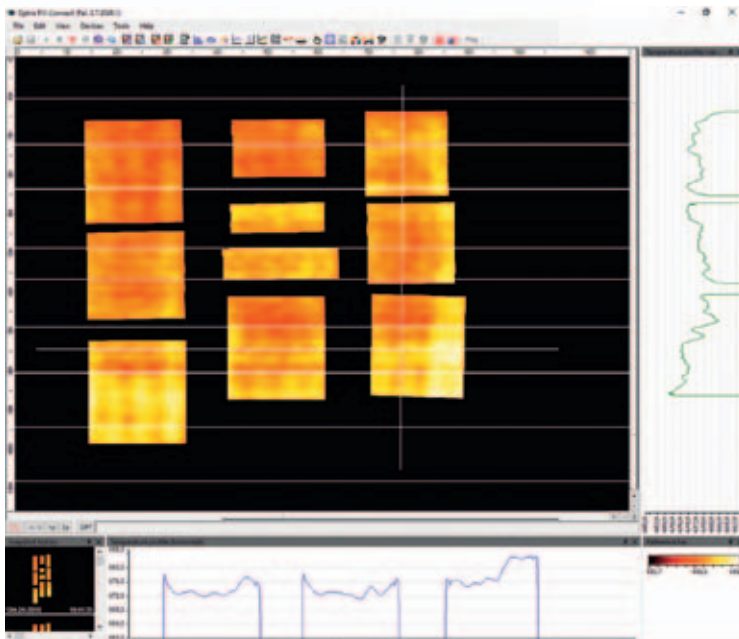


## PI 450i G7

Thermal imaging solution for the glass industry.

### Features

- Line scan function through license-free analysis software PIX Connect
- Compact in size of 46 x 56 x 68 - 77 mm
- Frame rate of 80 Hz
- Withstands ambient temperatures of up to 70 °C without additional cooling





## R.C.N. SOLUTIONS Srl

Via Marcatutto 7, 20080 Albairate (MI) - Italy

Tel.: +39-02-94602434

E-mail: office@rcnsolutions.it • www.rcnsolutions.it

### LIA - LAMINATING INTEGRATED AUTOMATION

#### Automatic or semi-automatic version

One chamber, two shelves OR two chambers, four shelves – with storage unit as optional for both machines.

Standard active sizes:

2100mmx3600mm

2100mmx4500mm

2500mmx5000mm

2600mmx5000mm

2800mmx5000mm

Other sizes available

LIA can be delivered with RD CLEAN CONCEPT, patented system for clean edges, or other option.



### LOADING CONVEYOR

Important complementary equipment of the laminating lines, this semi-automatic conveyor facilitates the loading of the glass sandwiches to be laminated directly into the bag.

Glass is loaded on the conveyor that will move over the shelf positioned on the lifting platform, going back the conveyor will tilt to release and position the glass sandwiches directly into the bag.

It reduces time for handling and manipulation of the glass sandwiches to be laminated, so that the operator just needs to seal the bag.

Any size available.



### ROTARY BENDING SYSTEM

A self-excluding twin-axled system, equipped with four working positions, controlled movement in size of 4000x5500xH2000 millimetres.

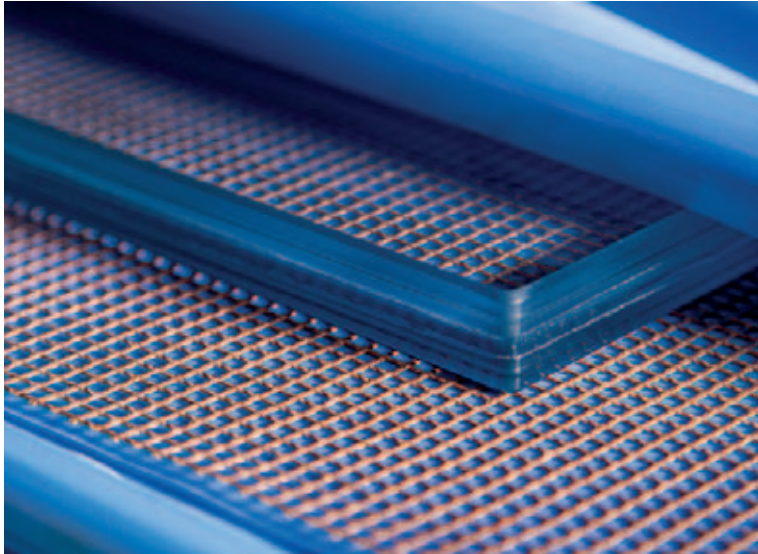
Suitable for special and complex curves.

Other sizes and layout available

All RCN's machines are manufactured in Albairate – Milan, and aim to facilitate operations, save energy, time and labor costs.



## RD CLEAN CONCEPT - PATENTED SYSTEM



Laminating furnaces in multiple combinations, customization and oversized dimensions



The innovative post-lamination, clean-edges system based on a laminating bag of last generation. It is a real system manufactured with special materials, selected to respond to a particular scope: to limit the excesses of the laminating interlayer from the glass edges after lamination.

This system provides several benefits in production among which:

- Saving time and labor by removing one step in lamination
- Safety of the operator who does not need to use sharp tools
- Installed in different kilns with excellent results

## RIVA BY RCN

### CHEMICAL TEMPERING FURNACES

"Riva by RCN" is a double winning solution if we consider the possibility of customizing the machines along with the technical expertise of Gianfranco Rivaroli who has, in fact, more than 40 years of top level professional activity

Model	Active Size (mm)	Handling	KW
CT 320	700 x 450	Manual	16+6
CT 330	700 x 450	Automatic	16+6
CT 331	1000 x 1000	Automatic	39+12
CT 900	2000 x 1000	Automatic	60+24
CT 950	3200 x 2200	Automatic	100+40



## 'EASY CONNECT APPLICATION'

Latest generation man/machine interface:

- product process checked from smartphone, tablet or PLC
- exclusive FTP Cloud for automatic download of the daily production process
- chat and technical assistance with RCN from remote





## ROLLMAC A DIVISION OF GEMATA SpA

Via Postale Vecchia 77 - 36070 - Trissino (VI) - Italy

Tel.: +39-0445-492711

E-mail: rollmac@rollmac.it • www.rollmac.it

### GLASSLINE

#### ROLLERCOATER MACHINE FOR THE ENAMELING OF FLOAT GLASS EDGES

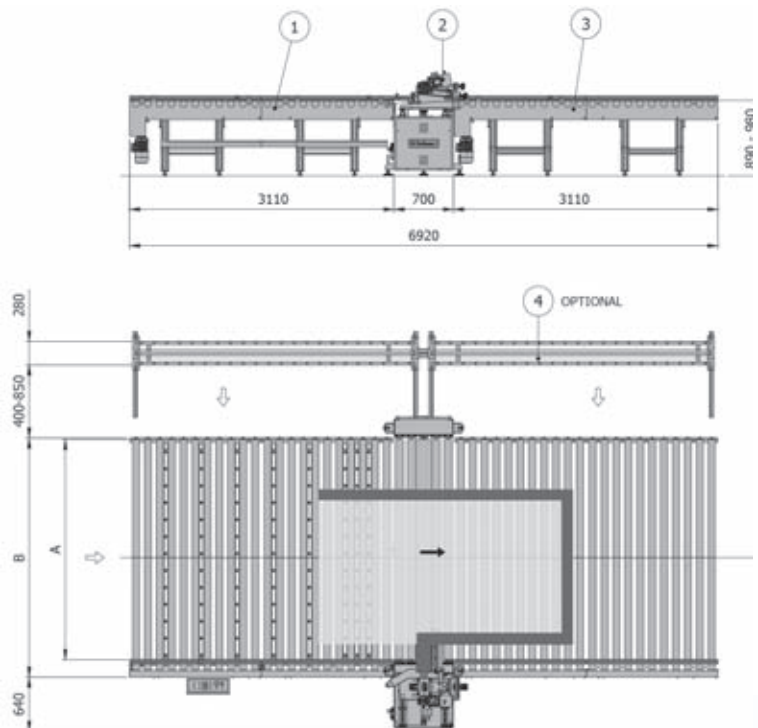
GlassLine is a machine based on the technologies of enameling the edges of float glass sheets by means of a reverse roller.

It has been designed in response to a special need of glasses for building and interior decoration, i.e. the coating of a frame on the four edges of the sheet. Frame sizes: min. 5 mm max. 300 mm.

This operation is performed in 4 passes with the return and 90° rotation of the sheet between one pass and the next. After all four sides have been processed, the sheet is sent to the oven for drying.

The machines grant enable to enamel sheets with thicknesses from 2 mm. to 25 mm. and sizes up to 2,600 mm. A constant and uniform quantity of enamel can be applied up to 400 g/sq.m. in a single pass. It is possible to coat by ceramic enamels and organic paints.

Working Width
1300
1800
2200
2600
3400



[www.rollmac.it](http://www.rollmac.it)

## COLORGLASS

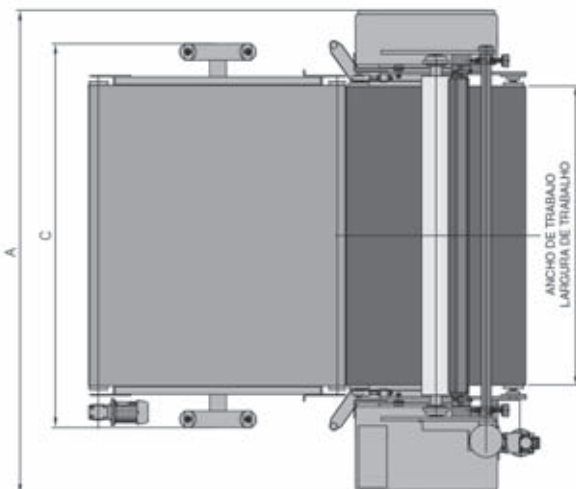
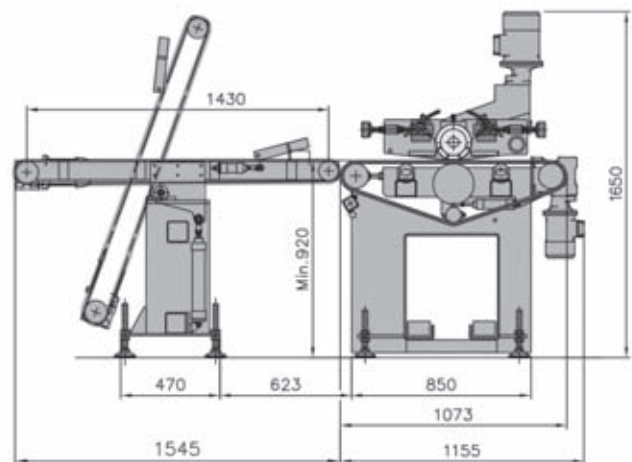
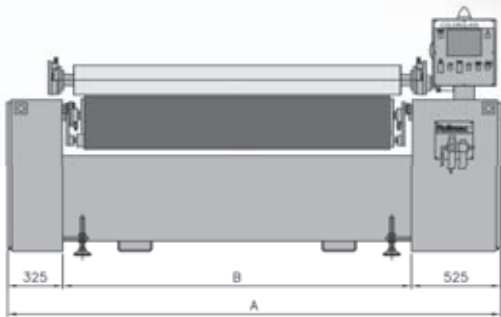
### QUICKER AND EASIER ENAMELLING AND DESIGN PRINTING

COLORGLASS is the single-roller machine for the enamelling and design printing of glass sheets by means of an engraved cylinder. It is suitable from small dimensions such as tiles and decorations to big sizes such as internal walls, doors and façades.

Its single-roller design makes it particularly suitable for companies that work with large production quantities and do not need frequent articulation changes.

With COLORGLASS it's possible to easily enamel and print any kind of flat glass on the market with sheet thicknesses from 2 mm to 25 mm and sizes from 600 mm to 2600 mm; in addition, it is the ideal working tool for in-house laboratory and production lines.

Working Width
600
1000
1300
1800
2200
2600





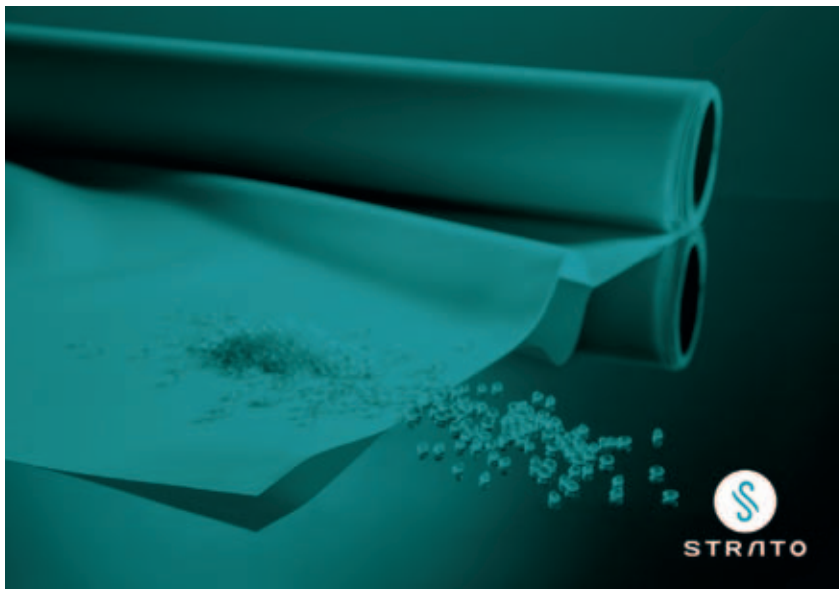
## SATINAL SpA - TK - STRATO

Via del Lavoro, 1 - 22036 Erba (CO) - (Italy)

Tel.: +39 031-870573 • E-mail: [info@satinal.it](mailto:info@satinal.it) • [www.satinal.it](http://www.satinal.it)

Tel.: +39 031-3574873 • E-mail: [ask@tkitaly.com](mailto:ask@tkitaly.com) • [www.tkitaly.com](http://www.tkitaly.com)

### STRATO®



STRATO® is an **innovative, ductile and versatile** EVA film which finds application in architecture and interior design as well as in the photovoltaic sector. The insertion of coloured films or other materials (such as textiles, wire meshes, marble, etc.) in the assembly of the film interlayer and the glass plates allows to achieve chromatic and decorative effects.

In the architectural industry the use of STRATO® is **synonym of safety and security**. In case of glass breakage, STRATO® EVA glass interlayers avoid potentially harmful glass splinters.

In photovoltaic industry, it stands for innovation, protection and savings.

STRATO® cross-linking chemical composition allows the internal molecules to generate **tridimensional links**, thus guaranteeing an additional degree of protection for all architectural elements exposed to exceptional conditions – such as high temperatures, high humidity and weather extreme conditions.

Being applied between two sheets of glass, STRATO® EVA also offers a **full protection against UV-radiations** (over 99%), preventing interior furnishings from fading.

STRATO® glass interlayers product range:

#### STRATO® CLEAR

The highest degree of transparency for the architectural glass market.

#### STRATO® FROST

Different frosted finishings to perfectly blend into any architectural or interior design project.

Exceptional durability.

#### STRATO® BIRD FRIENDLY

The EVA interlayer that combines the benefits of laminated safety glass with a bird-friendly design.

Several patterns available.

#### STRATO® SOLAR CONTROL

Innovative high-performance EVA film. It eliminates UV and NIR energy allowing the highest visible light transmission.

#### STRATO® COLOUR

When it comes to design and total opacity, solid colours are the perfect solution. The range also offers transparent colours designed for contemporary times and to reflect global color trends.

STRATO® BIANCO

STRATO® NERO

STRATO® AZZURRO MEDITERRANEO

STRATO® BRONZO SICILIA

STRATO® GRIGIO DOLOMITI

STRATO® VERDE TOSCANA

STRATO® LAVA

STRATO® FOG

STRATO® STORM

STRATO® ROSE

STRATO® SAND

STRATO® TANGERINE

STRATO® OCEAN

STRATO® MOONSTONE

STRATO® AQUAMARINE



#### STRATO® STRUCTURAL

Special structural interlayers that guarantee rigidity and post-breakage resistance.

[www.tkitaly.com](http://www.tkitaly.com)

## TK

TK ovens are designed and manufactured to meet customers' requirements about quality standards, production volumes and cost efficiency. TK ovens features high-safety characteristics for a wide range of applications. TK ovens have a low energy consumption compared to the average of ovens produced and marketed internationally.

### TK LAMIJET

Range features:

- self-tuning heating system with infrared resistances
- temperature control on many independent zones
- temperature control through thermocouples connected to a programmable thermo-computer
- hydraulic retractable loading and unloading lifter for space optimization
- support surface in aluminium sheet and silicone bags with quick closing system



### TK CONVECTION

Innovative laminating oven with convection heating system and fast cooling for high production volumes, interlayer flexibility and lower operating cost. The modular system allows quick and easy loading of the trolleys for laminating. Possible adjustment of the temperature with thermocouple connected to a digital temperature controller/PLC. Up to a maximum of 6 trays.

### TK BREVA

The design of Lamijet Brevia is the synthesis of technical knowledge acquired through years of design and construction of glass laminating ovens.

The peculiarities of this system are the speed of lamination which allows to quickly meet any production requirement. With the new technology applied to Lamijet Brevia cycle times can be reduced by 50%.

This oven is suitable for those customers who do not have high productive capacity but however want to keep an adequate production.



### TK CHEMICAL TEMPER

Automatic oven for the glass chemical temper with specific technical characteristics: electrical heating, programmable operator's panel, salt melting tank in stainless steel, power failure security system-UPS, pre-heating hood, electromechanical glass lifting system, maximum temperature 500°C.

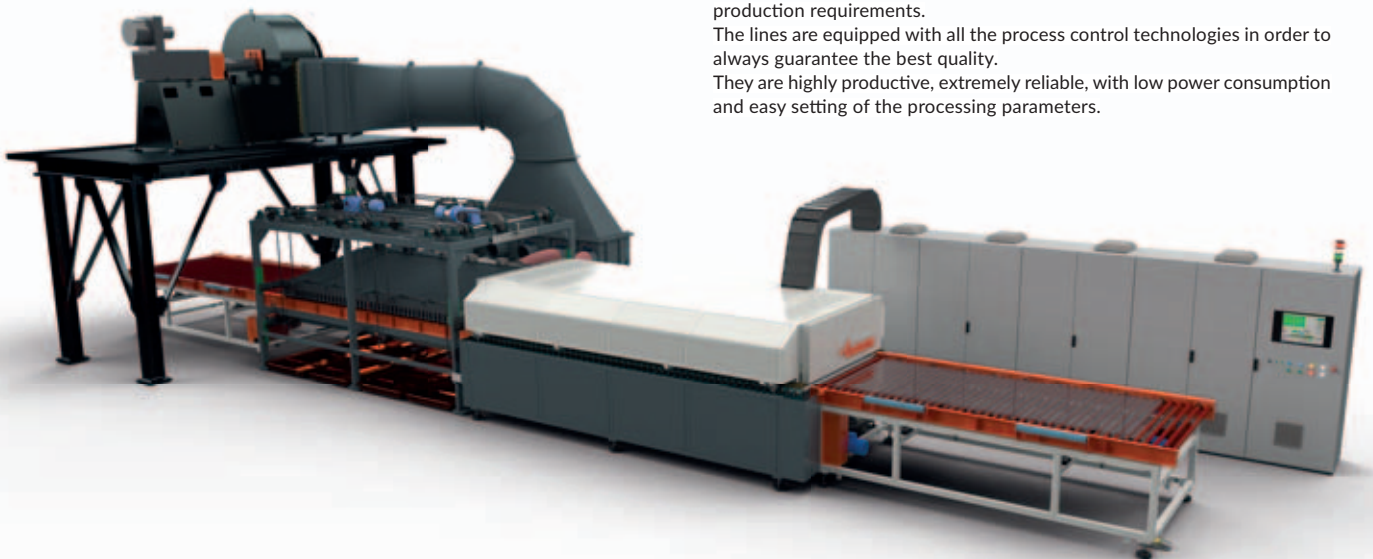
### TK HST

The oven is manufactured in accordance with EN 14179-1 European standard. The presence of nickel sulfide NiS inclusions may cause the spontaneous breakage of the glass sheets after the tempering process. The Heat Soak Test is used to minimise the risk of these breakages of heat-treated glass.



### TK TEMPER

The oscillating TK temper ovens cover a size range suitable to meet any production requirements. The lines are equipped with all the process control technologies in order to always guarantee the best quality. They are highly productive, extremely reliable, with low power consumption and easy setting of the processing parameters.



### TK SERVICES

				
DESIGN	ON-SITE CONSTRUCTION	INSTALLATION	TESTING	REMOTE TECHNICAL ASSISTANCE





## OFF. MECC. SCHIATTI ANGELO Srl

Via alla Porada 188 - 20831 Seregno (MB) - Italy

Tel.: +39-0362-238496

E-mail: info@schiattingelosrl.com • www.schiattingelosrl.com

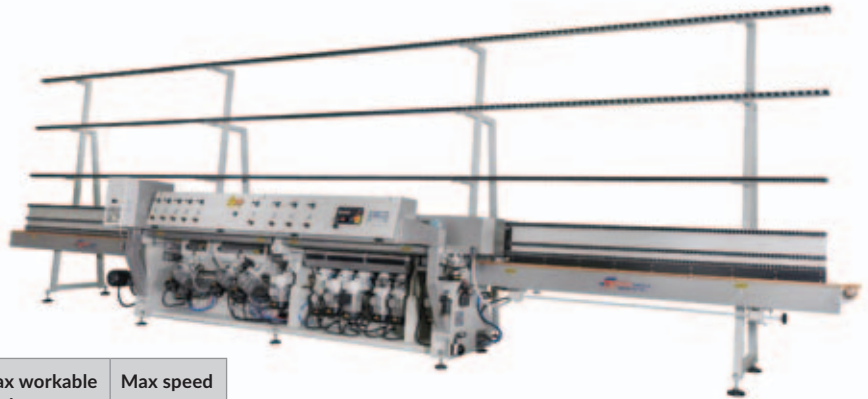
After more than 50 years, we can say that Schiatti Angelo srl has a tradition as a manufacturer of machines for the glass processing. Over the years, it has acquired the necessary experience to manufacture innovative, reliable and quality machines.

The company's core business is the production of straight- and double edgers for the processing of the flat and pencil edges, as well as drilling machines.

### EDGING MACHINES

The FPS range of vertical edgers is able to process the finest flat edges and arrisses. The most important part of these machines is the conveyor-track composed of rubber pads-bearings-chain that assure high performance in terms of glass holding and durability, without requiring continuous lubrication.

Some models are equipped with cerium oxide polishing on the edge and the arrisses for extra bright finishing, while all models are equipped with a PLC touch screen to adjust and display the machines' working parameters and diagnosis fault situation.



	Wheels number	Min workable dimension	Max workable thickness	Max speed
<b>Straight</b>	From 4 to 13	45x60mm	Up to 90mm	5 m/min
<b>45° miter</b>	From 8 to 14	50x100mm	Up to 55mm	5 m/min

A wide range of optional equipment is available for machine customizing, including the automatic adjustment of the diamond wheels and Industry 4.0 solutions as to interconnection to remote control and maintenance.

### DOUBLE EDGING MACHINES



Since 1969, main improvements have been made both in mechanical and software developments in order to enhance the machine's performances. In this age of 'digital manufacturing', Schiatti Angelo srl would like to highlight its Industry 4.0 solutions with particular attention on the BFT and BFP ranges of double edging machines. Complete lines can be integrated in smart factories production process. The software offered by Schiatti provide smart solution in order to optimize the production cycle and increase customer satisfaction by reducing operational costs and increasing productivity; thanks to the continue technological improvements and digitalization in manufacturing, it has been developed to improve automation machine-to-machine and human-to-machine.

	Wheels number per side	Min /max workable dimension	Max workable thickness	Max speed
<b>BFT</b>	From 2 to 6	80 - 3000mm	Up to 12mm	10 m/min
<b>BFP</b>	From 5 to 11	100- 6000mm	Up to 35mm	10m/min

### DRILLING MACHINES

	Max workable thickness	Max drilling Ø
<b>Horizontal</b>	28mm	3 - 200 mm
<b>Vertical</b>	19mm	3 - 40 mm

Also the drilling is an important part of the Schiatti's production. The offered solutions are various in order to satisfy any customer's need; from the small/ medium to large glassworks of furnishing, construction and photovoltaic sectors. In the drilling range you find drillers with opposite heads, multi heads drillers, drilling centres and vertical drilling/milling machines.





## SCHIAVO Srl

Via Cave Ticino, 10 - 20020 Robecchetto con Induno (MI) - Italy  
 Tel.: +39-0331-890645  
 E-mail: info@schiavotech.it • www.schiavotech.it

### Washing Machines

Customisation, long working life and high quality have always been the features that make Schiavo washing machines stand out in the market. The company's range of glass washing machines includes vertical and horizontal machines, those for straight line grinders, as well as machines for special applications.

#### VERTICAL WASHING MACHINES

EASY is Schiavo's entry-level series of vertical washing machines, with good quality and an affordable price. These machines are suitable for small glassworks or low production runs, and are available with 4 or 6 brushes, and for maximum glass heights of 1,600 or 2,000 mm.

TOP is a high-quality range of vertical washing machines. These machines, made entirely in stainless steel, to process glass thickness from 3 up to 40mm, and glass heights from 1600 up to 3300 mm.

HYDRO is a no-compromise series of full-option, made entirely of stainless steel, to process glass thickness from 3 up to 40mm, and glass heights from 1600 up to 3300 mm. The HYDRO series is equipped with touchscreen, and can work in-line with vertical, work centres, drillers, as well as straight line millers and grinders. This machine adjust both speed and glass thickness automatically, depending on the previous machine. HYDRO washing machines are equipped with remote assistance and are Industry 4.0 ready.

HYDRO - Technical features

- High quality of materials
- High energy efficiency motors

- Long working life
- 24/7 intensive machine use
- Low maintenance
- Low noise levels
- Low water consumption
- High quality washing and drying

**HYDRO**



**Horizontal glass washing machine HTL2600**



#### HORIZONTAL WASHING MACHINES

HTL is Schiavo's series of horizontal flat glass washing machines, with structure and casing entirely made of stainless steel. The HTL series has been designed for intense production runs, ensuring high washing quality. This machine can work stand-alone and inline, such as, for example, in-line bilateral grinding, lamination lines and digital printing. HTL is available from 4 up to 8 brushes, glass width from 500 to 3,400 mm.

#### WASHING MACHINES FOR STRAIGHT-LINE EDGERS

The LVM400 washing machine can be installed on the output rack of any type of beveller or straight-line edger. This machine washes glass heights up to 400 mm, and is equipped with a fan to dry the glass sheets. This compact washing machine is the ideal solution to remove cerium from the glass immediately after polishing, without taking extra space.

#### SPECIAL WASHING MACHINES

FIRE is a series of washing machines designed especially for washing fire-resistant glass, which requires machines with special technical features. Schiavo is, and has always been, in the forefront in offering special machinery for all types of application.



[www.schiavotech.it](http://www.schiavotech.it)

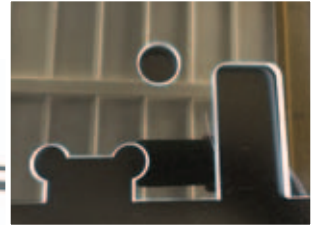


## Vertical milling and drilling machine

### FV1000

FV1000 is a CNC vertical milling and drilling machine, equipped with four CNC-controlled axes that enable any type of drilling, milling and countersinking operation on glass sizes of 200x1000 mm. This machine is equipped with an automatic response system, and includes a memory base of editable shapes.

With the optional for fast remove spindle you can change tools in 30 seconds, cutting wasted time and allowing faster and smoother operation while changing tools.



## Storage systems

### CLO

The CLO Series is a sideways-moving storage system available in manual or semi-automatic version and it could be made with countless racks according to customers' requirements. Sturdy anti-overturn system with underneath bearing allow it to operate even in case of unbalanced weight.

## Vacuum lifters

### LIFTER SERIES

Schiavo boasts a wide range of vacuum devices that cover many of the application where it's required a lifter. We have the fixed, manual operated, motorized or even the hydraulic one or manipulators. All of that to be able to supply to our customer, every single time, the perfect machine to do their job. Our machine are well designed and well produced, each one of our machine are tested before leaving our warehouse to ensure that each machine that goes to our customer are always perfect.





## Si.Ste Trading Srl

Via Lega Lombarda 38 - 20040 Bonate Sopra (BG) - Italy  
 Tel.: +39 035-4947048  
 E-mail: info@sisteitaly.it • www.sisteitaly.it

### EVASHINE - INTERLAYER FILM FOR LAMINATED GLASS

EVASHINE is an EVA (Ethylene Vinyl Acetate) "thermoset" interlayer product with cross-linking capabilities. EVASHINE was born from the experience and knowledge acquired from the highest standard of glass lamination. EVASHINE aims to make the lamination process easy, resulting in a long lasting, resistant and aesthetically beautiful product. It's excellent for external processing, safety applications and decorations with PET and other type of inserts. The new formula also allows lamination of curved glasses and glasses with LED/ LCD.



#### EVASHINE quality and features:

- Very high transparency
- High cross-linking capability
- Absence of plasticizers and therefore low level of humidity absorption
- Excellent in both indoor and outdoor applications
- Very high adhesion to both glass and inserts
- Little leaking from the edges after lamination



#### AVAILABLE SIZES:

Cod.	Colour	Width	Thickness	Length
EVASHINE-040-13X100	clear transparent	1.300 mm	0,38 mm	100 mt
EVASHINE-040-22X100	clear transparent	2.200 mm	0,38 mm	100 mt
EVASHINE-080-13X50	clear transparent	1.300 mm	0,76 mm	50 mt
EVASHINE-080-16X50	clear transparent	1.600 mm	0,76 mm	50 mt
EVASHINE-080-18X50	clear transparent	1.800 mm	0,76 mm	50 mt
EVASHINE-080-22X50	clear transparent	2.200 mm	0,76 mm	50 mt
EVASHINE-152-22X35	clear transparent	2.200 mm	1,52 mm	35 mt

EVASHINE range is also completed by EVASHINE milky white, EVASHINE jade white, EVASHINE opaque white and EVASHINE opaque black.

Cod.	Colour	Width	Thickness	Length
EVASHWC2-H38-2X50	milky white	2.000 mm	0,38 mm	50 mt
EVASHWD-H38-2X50	jade white	2.000 mm	0,38 mm	50 mt
EVASHWY-H38-2X50	opaque white	2.000 mm	0,38 mm	50 mt
EVASHWBL-38G-2X50	opaque black	2.000 mm	0,38 mm	50 mt



[www.sisteitaly.it](http://www.sisteitaly.it)



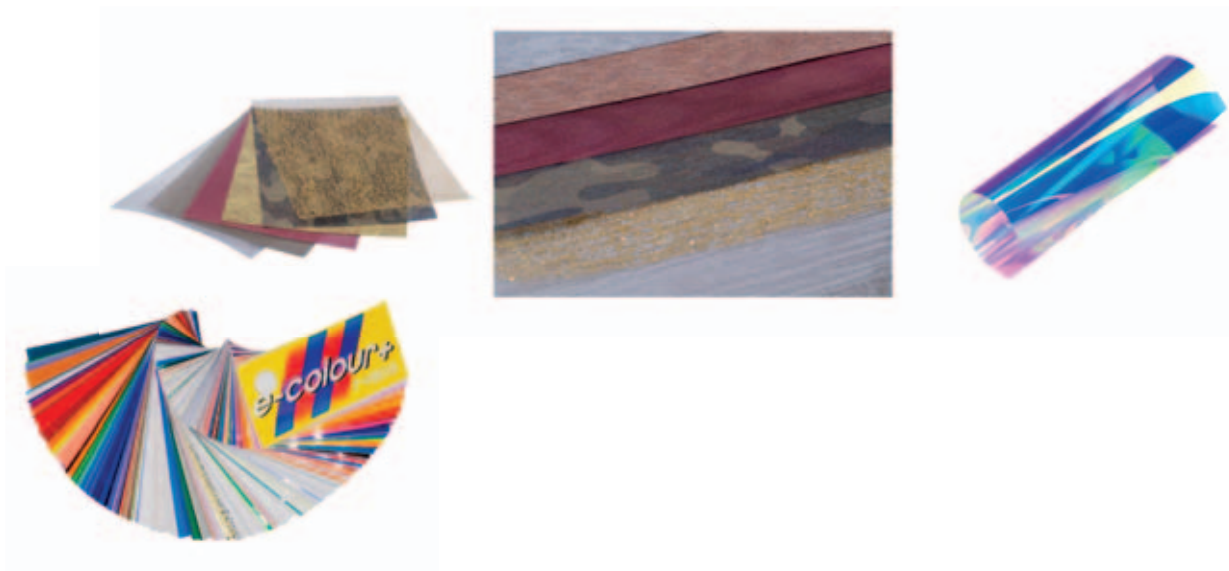
## THERMOCUTTERS AND BLADES

BLACK, BLUE and station thermocutters are light and handy tools used to cut, with a hot blade, EVA or PVB that comes out from the edges after lamination process. Equipped with potentiometer to regulate the temperature and air cooling (BLUE type). Available also the spare blades.



## INSERTSHINE LAMINATION INSERTS

INSERTSHINE lamination inserts are used with the EVASHINE film, for the decoration of glass, doors, tables etc... The complete range of inserts are available from the INSERTSHINE catalogue.



## GREEN POLYESTER TAPE

Green polyester tape with silicone adhesive, suitable for high temperatures of 180°/200°. Recommended to close the edges of glass sheets to be laminated with EVA film, thus avoiding leaking.

Cod.	Format	Width	Length
LA-NV 2066	roll	20 mm	66 mt
LA-NV 2566	roll	25 mm	66 mt
LA-NV 3066	roll	30 mm	66 mt
LA-NV 4066	roll	40 mm	66 mt
LA-NV 5066	roll	50 mm	66 mt





## SKILL GLASS

Via Egidio Gregori, 2 - 36015 Schio (VI) - Italy

Tel.: + 39-0445-500202

E-mail: [info@skillglass.it](mailto:info@skillglass.it) - [www.skillglass.it](http://www.skillglass.it)

### NEW PERSPECTIVES OF PERFECTION

#### Vertical CNC Centers

##### SKILL E-D

**SKILL E-D** is the vertical CNC center for grinding, milling, drilling and polishing rectangular and shaped flat sheet glass. The machine can process both rectilinear and shaped flat sheet glass and combines all the technology for vertical drilling and milling with the features of a vertical grinding machine. Its main feature is its versatility, which allows for different types of processes at high speeds and optimal precision.



##### E-D 101

**E-D 101** is the new vertical CNC center for grinding, milling, drilling and polishing flat sheet glass. This machine has all the technology of SKILL E-D but it is designed to process pieces with a thickness from 3 to 20mm.

On these centers, the double working heads process the long sides of the pieces at the same time saving a lot of time on the grinding and polishing; The tool magazines, one rack of 10/12 positions for each working head, are placed in vertical columns close to the working head and allow a faster automatic tools change.

**SKILL E-D** and **E-D 101** work with 150mm diamond wheels grinders on sheet glass also laminated or treated. Polishing can be performed on large surfaces with 150mm wheels as well as on small inserts with diameters of 30 or 50 mm. Oppositely placed heads ensure drilling is at maximum speed with top quality

and precision, and countersinking can be performed with individual diamond tipped tools or with accessories mounted on the drill bits.

The vacuum belts system is one of the best advantages of these machines because, besides guarantees the drilling and milling without any limitation, it allows to work in continuous mode without idle time that is a big issue on the solution with a suction cups carriage that has to wait the unloading of the finished piece before to load the new one.



[www.skillglass.it](http://www.skillglass.it)

## Drilling and Milling

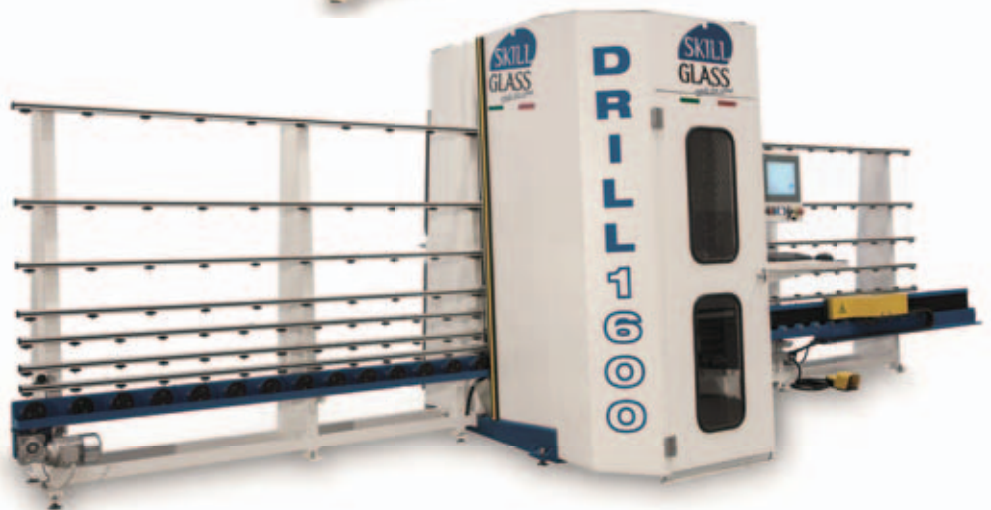
### DRILL 101FF

**DRILL 101FF** is a 6-axis CNC drilling and milling machine designed for drilling and milling in continuous mode on rectangular and shaped flat sheet glass. Thanks to his special vacuum belts system it guarantees a very high speed of the cycles and no limits on the drilling and milling because there are not the high limitations that the others systems has due by the presence of the suction cups where is not possible to make holes or notches. These vertical drilling and milling centers are able to operate with extreme speed and precision thanks to the management of all the processes by numerical control and also thanks to the support of the double tool change. The milling on this machine is a simple and quick operation and by using multiple tools can mill and grind an insert in just a few seconds like the polishing that can be carried out in small inserts with 50 or 30 mm grinders.



### DRILL 1600FF

**DRILL 1600FF** is a 5-axis CNC drilling and milling machine designed for producing holes, inserts and countersinks on rectangular flat sheet glass with a thickness of 3-20 mm. The machine is composed of five axes, X Y V Z W, and two electro-spindles which, as opposite drilling heads, create a double-sided drilling system that drills perfect holes.



### MILL 1600

**MILL 1600** is a 4-axis CNC milling machine designed for producing inserts and holes on rectangular flat sheet glass with a thickness of 4-20 mm. The machine consists of 4 axes, X X1 Y Z, and is extremely advantageous in that the process is performed by a single electro-spindle on the front side, which is well protected from water. The machine can perform multiple machining processes:

**MILLING:** This operation is simple and fast thanks to the multiple tools: the machine can mill and grind an insert in just a few seconds.

**DRILLING:** thanks to the use of multiple tools, drilling and subsequent countersinking of the holes can be carried out automatically.

Available for sizes 3200 x 1600. The machine is equipped with a proper water recirculation system and the back of the rollers for added safety protection.



[www.skillglass.it](http://www.skillglass.it)

## Grinding, Arrissing and Polishing

### SKILL SFILL

**SKILL SFILL** is the vertical center for arrissing, grinding and polishing straight and shaped glass panes.

The machine is composed of nine axes and two electro-spindles mounted in parallel, allowing to process the pieces with two heads at the same time. Edging is done using diamond wheels with a diameter of 150mm and can be carried out on straight and shaped glass, including laminated or treated glass.

SKILL SFILL has the possibility to process pieces with different heights, widths and thicknesses without any intervention by the operator and with also the top quality of polishing achievable even with several passes and a different pressure of the polishing wheels on the glass managed automatically by the numerical control.



### SFILL 101ML

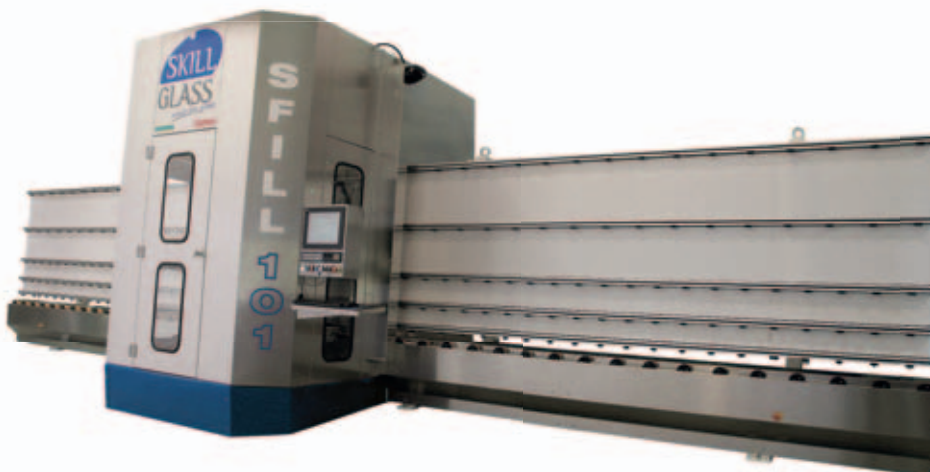
**SFILL 101ML** is a 9-axis numerical control vertical machine for the automatic arrissing, grinding and polishing flat sheet glass with a thickness of 4-20 mm. The machine is composed of nine axes and two electro-spindles mounted side by side that allow to process at the same time the horizontal sides of the glasses. The machine can perform multiple machining processes

**ARRISSING:** completely automatic with peripheral V-shaped diamond grinding wheels.

**GRINDING:** this process is carried out using diamond wheels with a diameter of 150 mm on flat glass, even if layered or treated.

**POLISHING:** it can be carried out on large surfaces with 150 mm diameter grinders with heads simultaneously.

The machine for all the above processes will always work with two heads.



## Washing

### SKILL WASH

**SKILL WASH** is a vertical washing machine, ready for Low-E glasses, to wash and dry in automatic, squared and also shaped flat glass sheets from 4 to 20 mm thickness. The machine is available in 3 height-sizes.

The machine operation consists of 3 sections: a pre-washing and washing section composed of 4 brushes (2 pairs), the final drying with a couple of high-pressure blowers and an inspection zone at the exit, equipped with lamps. The machining can perform the following operations:

**WASHING:** is carried out using brushes with 180mm diameter, with different thickness of brushes-wires, whose drive motor is located on top of the cabin, well protected from the water.

**DRYING:** by means of a pair of high-pressure blowers a complete and fast drying of the slabs is guaranteed.







## STUDIO 1 AUTOMAZIONI INDUSTRIALI Srl

Via Cà del Miele 8 - 42013 Casalgrande (RE) - Italy

Tel.: +39-0536-851243

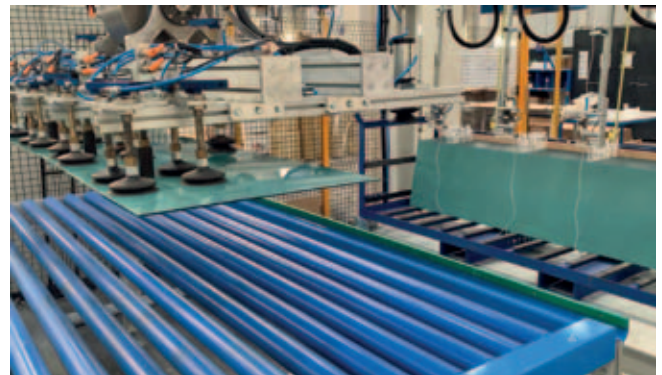
E-mail: [studio1@studio1srl.it](mailto:studio1@studio1srl.it) - [www.studio1srl.it](http://www.studio1srl.it)

### AUTOMATION - ROBOTICS - HANDLING - SORTING - PACKAGING

Industrial production through the use of robots and automation involves the use of latest generation technologies which, in addition to operator safety and ease of use, take into account the environment and energy savings, the possibility of creating a 'smart factory' in line with the 4.0 and 5.0 plan through the use of KET (key enabling technology), solutions or technological improvements within the production plant, which contain a lot of research and development and are able to "revitalize the production system". This means that by exploiting these solutions,

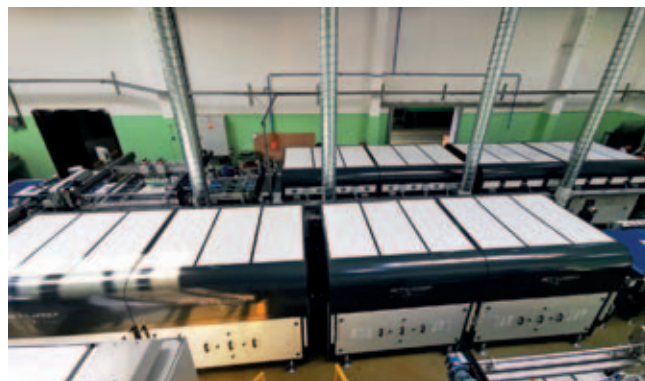
the processes related to industry will have a fast, clear and direct interconnection between all company assets. Productivity increases, waste decreases, operators are safeguarded.

Studio 1 can provide customized complete automatic handling lines with loading/unloading systems through gantry and anthropomorphic robots, buffering systems, latest innovation (patented) automatic storage with dynamic sorting, automatic unloading of cutting tables.



## SILK SCREEN PRINTING LINES - IR DRYERS

Automatic multi color silk screen printing lines for home appliances, architectural, building and interior design.



## LOADING/UNLOADING EQUIPMENT

### ACCUMULATORS AND BUFFERING SYSTEMS

Studio 1 has a wide range of automatic machines for production lines and furnaces loading/unloading both for regular and shaped glass as well as several solutions of vertical accumulators and buffers for lines optimization, SKUs organization and sorting for final order composition.

The equipment is designed according to the requested speed, dimensions and weights to be handled, floor space available and can be integrated on existing lines for processing flows optimization.



[www.studio1srl.it](http://www.studio1srl.it)



## DYNAMIC VERTICAL WAREHOUSE (PATENTED)

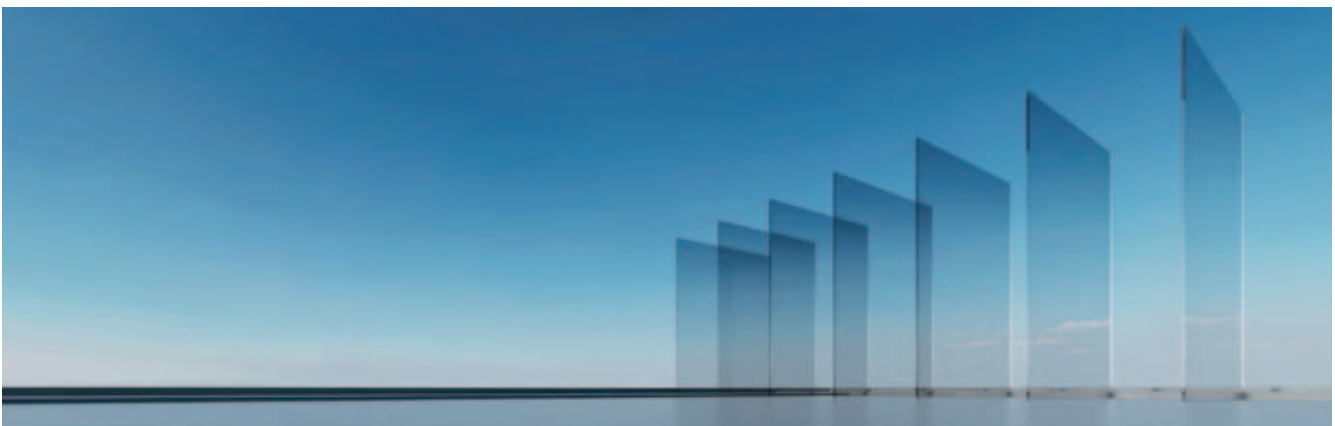
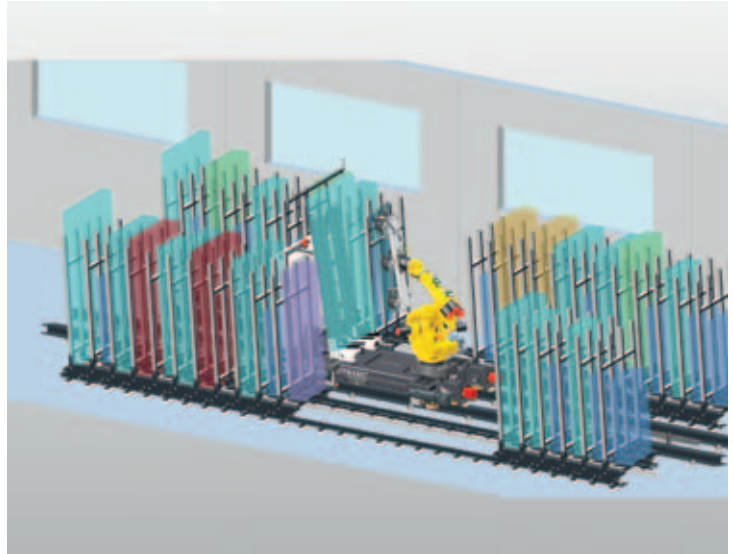
### THE INNOVATIVE WAREHOUSE FOR STORAGE AND MULTI-REFERENCE DYNAMIC SORTING

Studio 1 Automazioni Industriali consolidates the technological proposal for the management of large surfaces with the DVW Dynamic Vertical Warehouse

The combined use of translating shuttles that run at 6 meters per second and high-performance robotics allows rapid management of filling and picking cycles, for a just-in-time service for the final preparation of orders, including multi-references/rainbow orders. Each translating shuttle can be equipped with PE-S System, SUPERCAPACITOR to increase energy efficiency with devices capable of regenerating energy, reusing it and reducing voltage peaks with consequent energy savings and significant reduction of Co2 in line with industry 5.0

DVW is characterized as a highly modular and scalable system, which can be configured according to the customer's needs and spaces. No dedicated structural works are required and it can be integrated, if required, with pre-existing WMS and ERP systems. Great attention is paid to saving on warehouse management costs and to the quality of the services provided in terms of reliability, repetitiveness and final finish of the shipping units (crates, vertical frames, bundles).

The strong point of the DVW, in addition to the high storage intensity per occupied surface, is the flexibility and high speed in SORTING with the possibility of preparing multiple orders at the same time, including multi-references. Input and output control systems guarantee control of the integrity of each individual piece and the dedicated and integrated finishing, provides a further guarantee of quality for the final customer.





## TALAMONI Srl

Via Menconi 3 - 28877 Ornavasso (VB) - Italy

Tel.: +39-0323-836198

E-mail: info@talamoni.com • www.talamoni.com

### WHEEL HOLDERS

Steel and metal wheel holders: our holders guarantee a perfect cut.

Talamoni holders are made of high quality metal alloy - precision worked and compatible with all cutting tables models. The right wheel and axes are in hard metal or diamond.

For Armatec, Bavelloni, Bottero, Bystronic, Hegla, Intermac, Laser Lisecc, MacoTec, Maver, Pannkoke, Tecnometal, Tuomas.



Hard metal and diamond wheels - totally "made in Italy".

Cutting wheels are available in a variety of different dimensions, cutting angles and grinds. A range of the most commonly used types is listed below. Other sizes and angle are produced to order.

For Bystronic, Bavelloni, Bottero, CMS, Hegla, Intermac, Lisecc, MacoTec, Maver, Pannkoke Tecnometal, Tuomas, etc.

#### Wheel Holder Module with h.m.wheel

For Bystronic Bavelloni Bottero Hegla Intermac Lisecc MacoTec Pannkoke Tecnometal Tuomas...



### CSHM METAL HOLDERS WITH WHEELS

CSHM series: The new metal wheel holder can be used with all the cutting tables, that normally use the plastic clips. By using this product it is possible to optimize the cutting tolerance of your wheel due to it being more precise than a plastic model. The special wheel type in diamond are used to ensure a perfect cut whether its cutting straight, shape, laminated or float glass.

#### TALAMONI METAL CSHM HOLDERS ARE UNIVERSAL

Plastic coloured rings helps to identify the cutting angle of the wheel, we can supply it as a spare part as the axes.

The CSHM holder can be used on the following cutting tables: Bystronic Bavelloni, Bottero, Copmes, CMS, GFPMeccanica, Lisecc, MacoTec, Hegla, Tuomas etc...



### PLASTIC HOLDERS WITH WHEEL (CLIPS)

CSM clips with hard metal wheels allow to work precisely and give outstanding results - float, laminated, shaped, stratified... This model fits all shapes and glass types to be cut.

CSM clips, made of high quality plastic to ensure wheel slide and ideal lubrication, have the further advantage of being colour-coded to identify the respective cutting angle.

The internal part of CSM wheels have a diameter of 5.8 mm, which is the perfect choice for all glass thickness.

CSM is suitable for Bavelloni, Bottero, Bolla, CMS, GFP Meccanica, Intermac MacoTec, Hegla, Tuomas, etc...



### CUTTING FLUIDS FOR AUTOMATIC CUTTING

Use of the correct oil is essential to have the perfect cut.

The formation of dust and glass particles is an unavoidable part of glass processing. A cutting oil is the ideal solution to keep residual pieces of cut glass together. Using cutting oil does not only reduce dust formation, but also helps maintain the tension of the glass surface by entering into the cutting trace. The

oil helps keep the opening cut of the glass clean and safe.

Talamoni fluids are formulated to ensure perfect lubrication of your cuts, also giving longer life to your cutting wheels, by cooling and protecting them from erosion.

Choose from our four different types of cutting liquids

<b>T-OIL3125</b>	Slow	For straight and shaped cuts. Facilitates the opening of the cut and the removal of the glass does not damage washing machines. Maintains glass pieces while cutting, the wheels are cooled. <b>Technical sheet of product T-OIL3125</b>
<b>T-OIL3130</b>	Medium	For straight and shaped cuts in thick glass. Facilitates the opening of the cut and maintains glass pieces. Solid breaking edges thanks to its low surface tension. Synthetic bases and tension-decreasing substance, optimizing processing quality. <b>Technical sheet of product T-OIL3130</b>
<b>T-OIL3132</b>	Super fast	Synthetic bases and tension-decreasing substances, optimizing processing quality. Especially suitable for coated glass • evaporates after use without leaving residues • small glass particles are bound • low surface tension • for mirrors, patterned and float glass as well as painted or printed glass. Odourless, neutral to glass, residue-free. <b>Technical sheet of product T-OIL3132</b>
<b>T-OIL3133</b>	Fast	100% evaporation, Appropriate for use in processing lines, (screen printing, automotive glass etc.) The low surface tension allows a better break and reduces the formation of small particles of glass. <b>Technical sheet of product T-OIL3133</b>

[www.talamoni.com](http://www.talamoni.com)



### Manual glass cutting: oil glass cutters

Talamoni's product range includes a selection of products for manual glass cutting.

Our hard metal tool production experience guarantees the quality of our manual glass cutters

Proper cuts requires cutting fluids – to open the cut more easily (the cutting fluid penetrates into the fissure) and to lubricate the wheel and axle.

Talamoni produces the following model of manual oil glass cutters



### MANUAL CUTTING

The company produces a complete line of oil-reservoir cutters for manual cutting. Various models of oil-reservoir hand-held cutters with handles in blue or transparent plastic or blue or grey anodised aluminium all rigorously "Made in Italy". Talamoni glass cutters are produced with wheels sharpened to different angles to satisfy diverse cutting requirements – the manual tools are destined for professional use in glassworks or artistic workshops.



### EXAMPLE OF CUTTING WHEELS DATA

**CUTTING WHEELS FOR:** Bystronic, Bavelloni, Bottero, CMS, Hegla, Inytermac, MacoTec, Maver, Pankoke, Tecnometal and Tuomas tables

	Wheel Part. No.	Ø x hole bore x thickness	Angle	Holder Part No.
<b>RO5614</b>				
	RO5614R135	5.6 x 1.42 x 1.08 mm	135°	CP4, T245 or B50
	RO5614R140	5.6 x 1.42 x 1.08 mm	140°	CP4, T245 or B50
	RO5614R145	5.6 x 1.42 x 1.08 mm	145°	CP4, T245 or B50
	RO5614R150	5.6 x 1.42 x 1.08 mm	150°	CP4, T245 or B50
	RO5614R155	5.6 x 1.42 x 1.08 mm	155°	CP4, T245 or B50
	RO5614R160	5.6 x 1.42 x 1.08 mm	160°	CP4, T245 or B50
	RO5614R165	5.6 x 1.42 x 1.08 mm	165°	CP4, T245 or B50

**CUTTING WHEELS FOR:** Bystronic, Bavelloni, Bottero, CMS, Hegla, Inytermac, MacoTec, GFP, Meccanica, Maver and Tuomas tables

	Wheel Part. No.	Ø x hole bore x thickness	Angle	Holder Part No.
<b>RO6015</b>				
	RO6015R135	6.0 x 1.50 x 1.06 mm	135°	CSH
	RO6015R140	6.0 x 1.50 x 1.06 mm	140°	CSH
	RO6015R145	6.0 x 1.50 x 1.06 mm	145°	CSH
	RO6015R150	6.0 x 1.50 x 1.06 mm	150°	CSH
	RO6015R155	6.0 x 1.50 x 1.06 mm	155°	CSH
	RO6015R160	6.0 x 1.50 x 1.06 mm	160°	CSH
	RO6015R165	6.0 x 1.50 x 1.06 mm	165°	CSH

**CUTTING WHEELS FOR:** Lisec tables

	Wheel Part. No.	Ø x hole bore x thickness	Angle	Holder Part No.
<b>RO5013</b>				
	RO5013R135	6.0 x 1.3 x 1.0 mm	135°	T45
	RO5013R145	6.0 x 1.3 x 1.0 mm	145°	T45
	RO5013R155	6.0 x 1.3 x 1.0 mm	155°	T45
	RO5013R160	6.0 x 1.3 x 1.0 mm	160°	T45
	RO5013R165	6.0 x 1.3 x 1.0 mm	165°	T45

**CUTTING WHEELS FOR:** Bystronic, and Bottero tables

	Wheel Part. No.	Ø x hole bore x thickness	Angle	Holder Part No.
<b>RO6016</b>				
	RO6016R127	6.22 x 1.60 x 3.05 mm	127°	T255
	RO6016R135	6.22 x 1.60 x 3.05 mm	135°	T255
	RO6016R145	6.22 x 1.60 x 3.05 mm	145°	T255
	RO6016R155	6.22 x 1.60 x 3.05 mm	155°	T255
	RO6016R160	6.22 x 1.60 x 3.05 mm	160°	T255



## Tecglass Digital Printing by Fenzi Group

Pol. Ind. Lalin 2000 / P8a 3ª Fase - 36500 Lalin - Spain

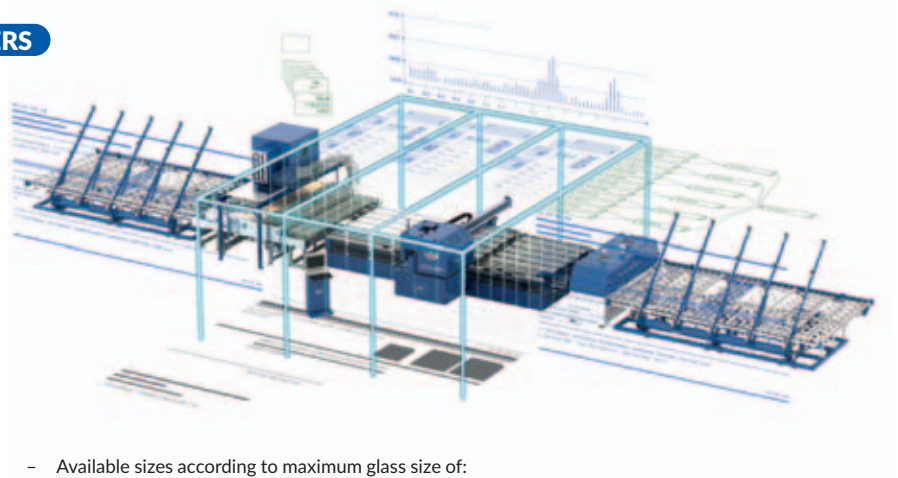
Tel.: +34-986-787-627

E-mail: comercial@tecglass.es • www.tecglasdigital.com

### MULTI-PASS VITRO-JET DIGITAL PRINTERS

From stand-alone to fully automated digital printers' solutions, Tecglass offers a vast range of Vitro-Jet multicolor digital printers intended for the main flat glass business sectors.

- TECGLASS T-28 dual color print-head with 720 dpi native resolution, 9 levels of drop size management from 6 to 240 pl and 2.000 fully optimized high frequency nozzles
- Patented High Flow Recirculation System
- Overall resolution up to 2.880 dpi for hyper realistic jobs.
- Options from full multicolor option to perform all type of printing jobs to spot colors for only traditional serigraphy patterns like frames, lines, dots...
- Fully automatic glass positioning with an absolute positioning tolerance of +/- 0,4 mm.
- Exclusive patented SIDE KINETIX technology, making the Vitro-Jet machines print on the longitudinal size of the glass.
- Simultaneous Dry Technology - SDT System including IR lamps on board for particular and specific complex jobs like the double vision (dot on dot).



- Available sizes according to maximum glass size of:

- 16/35 → 1.600 x 3.500 mm
- 22/40 → 2.200 x 4.000 mm
- 25/45 → 2.500 x 4.500 mm
- 28/45 → 2.800 x 4.500 mm
- 28/60 → 2.800 x 6.000 mm
- 33/60 → 3.300 x 6.000 mm
- 33/90 → 3.300 x 9.000 mm
- 33/120 → 3.300 x 12.000 mm
- 33/150 → 3.300 x 15.000 mm
- 33/180 → 3.300 x 18.000 mm

### SINGLE-PASS VITRO-JET DIGITAL PRINTERS

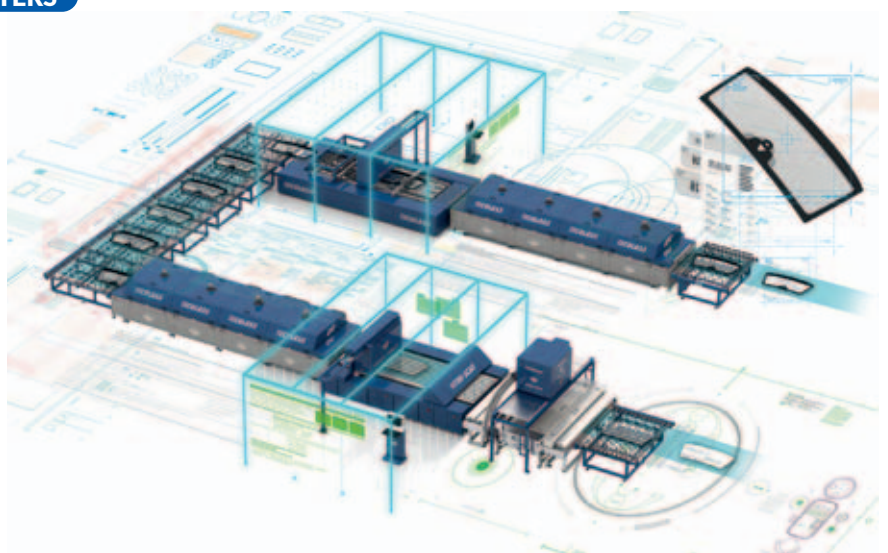
TECGLASS is the only global manufacturer, that offers integral digital printing solutions focused and conceived for provide high-productive capabilities through our SINGLE PASS systems.

Unique digital printing solutions in the market mainly intended for:

- Original Equipment Manufacturers (OEM)
- Aftermarket Fabricators (ARG)

Our SINGLE PASS digital printing systems are customized in size and possibilities according to the particular requirements and specifications of each project. There are several types of single pass machine designs that we manufacture, depending on the process for which they are intended as:

- Printing speed and cycle time required, from 9 meters to 12 meters linear speed
- Number of color channels
- Maximum and minimum glass size
- Positioning Tolerance from 0.1 mm to 0,4 mm
- Single or paired glass application
- Specific requirements for machine-integrated quality inspection scanners



[www.tecglasdigital.com](http://www.tecglasdigital.com)



## JETVER CERAMIC INKS

Supply and development of various ceramic inks have always been one of the main research and development activities of Tecglass. This has led the company to have the widest range of JETVER CERAMIC INKS that are compatible with every modern technology. High resistance to climatic stressors and humidity, excellent duration of chromatic effects over time, superior resistance to abrasion in high traffic areas and ideal adaptability to the most advanced glass coatings are just some of the features of Tecglass inks, demonstrated by exceptional results in all the tests.

You can choose the exact shade of color you want. The whole range of RAL, Pantone, NCS and many other already-formulated colors are always available, as well as unique colors that no one else can guarantee: like gold, platinum, magenta, subtle shadings and all kinds of luminous effects. Tecglass JETVER CERAMIC INKS are custom-designed and developed exclusively for use on glass, based on the needs of our clients. No matter what kind of glass you have and whatever your application, we always have the right ink for you.

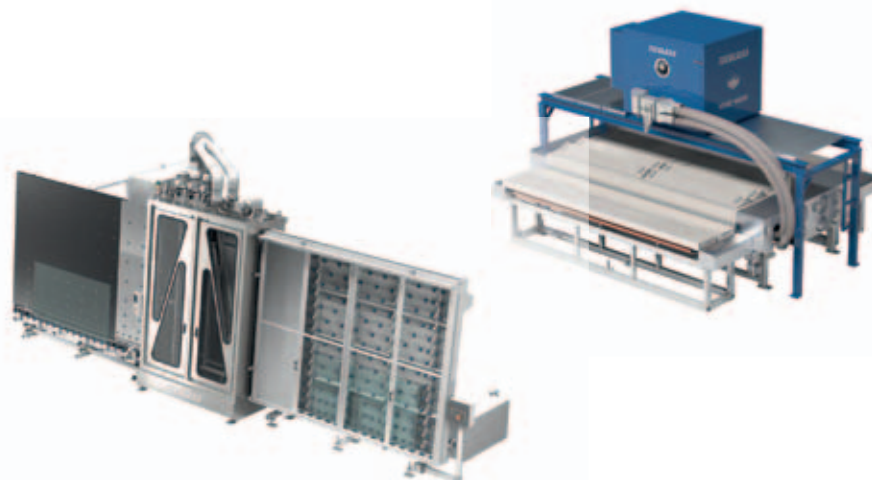


## LINE COMPONENTS AND AUXILIARY MACHINERY - TURNKEY SOLUTION MANUFACTURED IN HOUSE

Once single supplier for your digital printing project. Tecglass not only focuses on the manufacture of digital printers, but also on all the auxiliary machines that make up a digital line, providing its customers with a complete Turn-key solution under a single supplier.

### Vitro MBT and MTT conveyors:

- Glass transport and transfer conveyor systems for receiving sending the glass from or to previous/next machine.
- Rigid machine frame structure to avoid any vibration during the transfer and printing of heavy glass sheets.
- Fully automatic conveyors with transport speed synchronized with previous/post machines.
- Conveyors size adaptable to the customers' requirements.
- Rollers driven by a 3-phase motor controlled with frequency inverter.
- Control sensor located at the end of the table to control de automatic feeding of next machine.
- Automatic horizontal transport, hydraulic tilting function available, XY movements available.



### Horizontal and vertical washing machines:

- Designed for washing and drying glass sheets before the printing process, at the maximum quality levels required for the glass industry.
- Al parts in contact with water are constructed of stainless steel.
- Constructed from precision steel rollers coated with a special plastic layer to prevent wear and damages on the glass.
- Frequency controller to adjust the transport directly from the control panel or through an automatic signal to an eventual following machine.
- Equipped with specially designed brushes system adaptable to low-e glass.

[www.tecglasdigital.com](http://www.tecglasdigital.com)



### Vitro-HIT-CFT IR Dryers:

- IR Dryers combined with hot air designed for a better and faster ink curing, leaving the printed glass ready for the firing process.
- High hot air volume
- Hot air temperature of around 120 °C
- Infrared MW 40%
- Drying capacities up to 10.000 mm/ minute
- Different configurations available attending to customer's requirements.

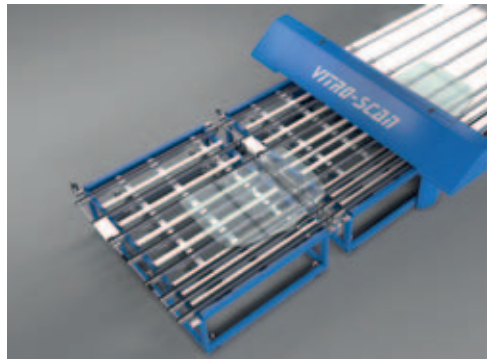


### Vitro-Clima Clean Room:

- Complete climatic room to house the digital printer to ensure the correct environmental conditions to obtain the highest quality prints.
- Special insulating panel construction.
- Controlled filtered overpressure
- Temperature and humidity control
- Slots for entering and exiting the glass on the conveyors with automatic opening and closing.

### Vitro-Scan and Vitro-Scan inspection:

- Ideal tool to fully automate the process of positioning the glass on the printing table without the need of any mechanical elements.
- Scale and adjust the print size to the actual size of the glass, absorbing any variations that have occurred during the glass manufacturing.
- Reduces the positioning time from 5 to 10 seconds, depending on the glass size.
- Inspection systems intended for identification and detection of any possible defects in the glass, both in the printed and unprinted areas.
- Possible to integrate in-line with the digital printer.



### Vitro-Roll:

- Roller coater designed for perfect enamel application on glass
- Integrable within the digital printing line, enabling easy regulation of the operating speeds as well as automatic synchronization .
- 3 independent speeds
- Separate monitorization of the dosing, spreading and conveyor rolls.
- Machine conveyance by rubberized rolls.





## TEXPACK Srl

Via Galileo Galilei, 24 - 25030 Adro - (BS) - Italy  
 Tel.: +39-030-7480168  
 E-mail: info@texpack.it - www.texpack.it

### COD. 1204T TENACK SQUARE PACKING

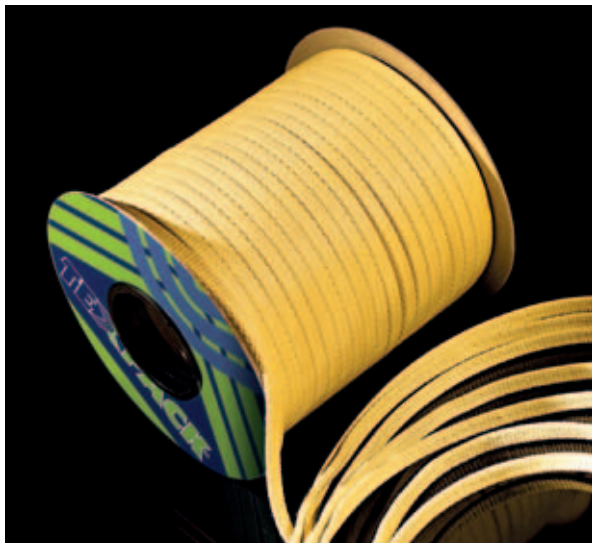
Tenack square packing is made by braiding wires of AISI 316 L stainless steel. This type of packing, which withstands high temperatures and has excellent mechanical properties, is suitable for the glass industry as protection for parts that may come into contact with hot glass that is still soft, to prevent thermal shock and microcracks. The packing is very flexible, elastic and easy to handle, and is an excellent substitute for Aramtex® products when temperatures exceed 350°C.



### COD. 1204CM TENACK KNITTED SLEEVES

Tenack sleeves are made by braiding AISI 316 L stainless steel wires. These sleeves, which withstand high temperatures and have excellent mechanical properties, are suitable for the glass industry as protection for parts that may come into contact with hot glass that is still soft, to prevent thermal shock and microcracks. They are an excellent substitute for Aramtex® products when temperatures exceed 350°C.

### COD. 12010N ARAMTEX® DISCONTINUOUS FILAMENT TAPES



Aramtex® tapes are produced using 100% pure paraaramidic yarns with continuous filaments, and are usually woven in several layers, using particularly fine yarns that render the positioning surface extremely homogeneous and smooth, thus preventing the still hot sheets of glass from being scratched. Aramtex® tapes have excellent mechanical characteristics (excellent resistance to cutting, abrasion, tearing and compression) while their heat resistance characteristics remain unaltered.

### COD. 1203N PBI TAPES

PBI tapes are fire-retardant textile products made of PBI yarns, which are particularly suitable for high temperatures. To improve the use of this tape, a double-sided adhesive has been added, which helps to ensure correct positioning.



**TUROMAS**  
OUR PASSION, YOUR PROGRESS

## TUROMAS

Carretera Estación Km. 15,8 - 44415 Rubielos de Mora - Spain  
Tel.: +34 - 978 - 804158  
E-mail: [info@tuomas.com](mailto:info@tuomas.com) • [www.tuomas.com](http://www.tuomas.com)

TUROMAS is a global reference in the manufacture of machinery for storing, loading and cutting glass, thanks to its continuous investment in R&D and its support to the customer during the whole purchase process. It is something that it has committed to since the first contact: trust to obtain a close relationship. No two factories are the same. For this reason, the Spanish company promises a tailor-made solution for every need, from semi-automatic equipment to fully automated cutting lines for all glass sizes.

### FLOAT GLASS CUTTING



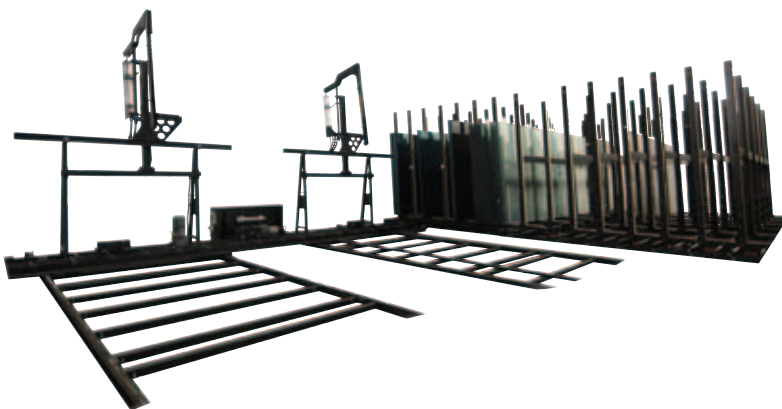
RUBI monolithic glass cutting tables are high-performance machines that offer exceptional cutting quality, meeting the requirements of low-emission glass manufacturers. There is a specific solution for each company, from independent and flexible cutting units to fully automated cutting lines.

### LAMINATED GLASS CUTTING



LAM laminated glass cutting tables are autonomous machines that satisfy medium production needs or machines designed to be integrated into a mixed cutting line that responds to demand for maximum automation. Both types of machines are compatible with Low-E glass and guarantee a very high quality cut.

### SMART STORAGE



TUROMAS smart storage systems can be ground-based, aerial or 'shuttle', for glass sheets of any size and thickness, supplying one or more cutting lines, depending on available space, current production needs and future projections.

### SOFTWARE APPLICATIONS

**TUROMAS**  
Software

Designed for exponential productivity growth, reduced energy and human costs and improved cycle times.

- Complete automation of the line, including non-automated warehouses in the plant.
- Information available and updated in real time.
- Compatibility with the main software on the market.
- Generation of reports in spreadsheet format (MS-Excel)
- Preventive management of stocks, breakdowns and maintenance.

Fiera Milano Rho, Pav. 9-11, 16th-19th Sept. 2025

# VITRUM 25

## at the heart of glass

### Solutions

Dealers

Staff

Glaziers

Manufacturers

Suppliers

### Vision

Innovation

Trend

Technologies

Best practice

Networking

## MILAN GLASS WEEK

13-21 sept 2025

ARE YOU AN  
EXHIBITOR?



SCAN ME FOR  
MORE INFO

ARE YOU A  
VISITOR?



SCAN ME FOR  
MORE INFO

ARE YOU A  
JOURNALIST?



SCAN ME FOR  
MORE INFO



Ministry of Enterprises  
and Made in Italy



Ministry of Foreign Affairs  
and International Cooperation



ITALIAN TRADE AGENCY



FIERA MILANO

[www.vitrumlife.com](http://www.vitrumlife.com)



# Boost your profitability by up to 30% with Glaston

Increase your profitability significantly with Glaston equipment. Our solutions lower operating costs by delivering higher yield, better energy efficiency and more consistent quality. And you can keep enjoying these benefits over the lifetime of your machinery – with our innovative product development, efficient technology and continuous support.

Ask us more!

> All about glass processing: [www.glastory.net](http://www.glastory.net)

**glaston**  
seeing it through®

Machinery, services and solutions designed with the future in mind for the architectural, mobility, display, solar and appliance industries.

[info@glaston.net](mailto:info@glaston.net) | [glaston.net](http://glaston.net) | [glastory.net](http://glastory.net) | [gpd.fi](http://gpd.fi)

